

# VERMONT DEPARTMENT OF PUBLIC SERVICE

## Energy Efficiency Potential in Vermont

prepared for  
Vermont Department of Public Service

**FINAL REPORT**

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*prepared by*



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# 1 Executive Summary

## 1.1 BACKGROUND & STUDY SCOPE

Every three years, the Vermont Public Service Board conducts a Demand Resources Plan (DRP) proceeding to identify short- and long-term energy efficiency budgets and savings goals, as well as other compensation matters related to the delivery of energy efficiency services by Vermont's Energy Efficiency Utilities (EEUs).<sup>1</sup> As part of the DRP, the Vermont Department of Public Service ("DPS" or "Department") commissioned the GDS/Cadmus team to conduct a joint assessment of electric and natural gas energy efficiency potential to help inform and establish future energy efficiency savings goals.

The scope of this study includes assessing the energy efficiency potential associated with the State's three designated EEUs. This study assesses both electric and natural gas energy efficiency potential throughout Vermont for a period of 20 years (2018-2037).

The main objectives of the study include:

- Evaluating the electric and natural gas energy efficiency technical and economic potential savings throughout Vermont, and more specifically within the service areas of the three Vermont EEUs;
- Evaluating the achievable potential savings for each EEU per two defined scenarios;
- Calculating the Vermont Societal Test benefit-cost ratio for the achievable potential savings scenarios and determining the associated EEU budgets;
- Providing the results of the potential analysis in a format useful for supporting the development of individual EEU DRP modeling;
- Providing the achievable potential results in a format capable of supporting the rate and bill impact analysis being completed by the Department as part of the DRP proceeding.

## 1.2 TYPES OF POTENTIAL ESTIMATED

The scope of this study distinguishes three types of energy efficiency potential: (1) technical, (2) economic, and (3) achievable.

- **Technical Potential** is the theoretical maximum amount of energy use that could be displaced by efficiency, disregarding all non-engineering constraints such as cost-effectiveness and the willingness of end users to adopt the efficiency measures. Technical potential is constrained only by factors such as technical feasibility and applicability of measures. Under technical potential, GDS assumed that 100% of new construction and market opportunity measures are adopted as those opportunities become available (e.g., as new buildings are constructed they immediately adopt efficiency measures, or as existing measures reach the end of their useful life). For retrofit measures, implementation was assumed to be resource constrained and that it was not possible to install all retrofit measures all at once. Rather, retrofit opportunities were assumed to be replaced incrementally until 100% of stock were converted to the efficient measure over a period of no more than 20 years.
- **Economic Potential** refers to the subset of the technical potential that is economically cost-effective as compared to conventional supply-side energy resources. Economic potential follows the same adoption rates as technical potential. Like technical potential, the economic scenario ignores market barriers to ensuring actual implementation of efficiency. Finally, economic potential only considers the costs of efficiency measures themselves, ignoring any programmatic costs (e.g., marketing, analysis, administration) that would be necessary to capture them.<sup>2</sup>
- **Achievable Potential** considers real-world barriers to encouraging end users to adopt efficiency measures, the non-measure costs of delivering programs (for administration, marketing, tracking

<sup>1</sup> Efficiency Vermont delivers EEU services throughout most of the state. The City of Burlington Electric Department ("BED") delivers EEU services in its service territory. Vermont Gas Systems (VGS) delivers natural gas EEU services in its service territory.

<sup>2</sup> National Action Plan for Energy Efficiency, "Guide for Conducting Energy Efficiency Potential Studies" (November 2007), page 2-4.

systems, and monitoring and evaluation), and the capability of programs and administrators to boost program activity over time.<sup>3</sup> This analysis provides two scenarios of achievable potential: maximum achievable, and realistic achievable potential.

- **Maximum Achievable Potential (MAP)** is the amount of energy use that efficiency can realistically be expected to displace, assuming the most aggressive program scenario possible (e.g., providing end users with payments for the entire incremental cost of more efficient equipment).
- **Realistic Achievable Potential (RAP)** is based on historical incentive levels and corresponding program adoption rates estimates based on several publicly available willingness-to-participate market research surveys as well as observed adoption levels from the Vermont EEs.

### 1.3 APPROACH SUMMARY

The GDS/Cadmus team used a bottom-up approach to estimate energy efficiency potential in the residential sector. Bottom-up approaches begin with characterizing the eligible equipment stock, estimating savings and screening for cost-effectiveness first at the measure level, then summing savings at the end-use and service area levels. In the commercial and industrial sectors, GDS utilized the bottom-up modeling approach to first estimate measure-level savings and costs as well as cost-effectiveness, and then applied cost-effective measure savings to all applicable shares of energy load.

### 1.4 STUDY LIMITATIONS

As with any assessment of energy efficiency potential, this study necessarily builds on various assumptions and data sources, including the following:

- Energy efficiency measure lives, savings, and costs
- Projected penetration rates for energy efficiency measures
- Projections of electric and natural gas avoided costs
- Future known changes to codes and standards
- EEU load forecasts and assumptions on their disaggregation by sector, segment, and end use
- End-use saturations and fuel shares

While the GDS/Cadmus team has sought to use the best and most current available data, there are often reasonable alternative assumptions which would yield slightly different results.<sup>4</sup> Furthermore, while the lists of energy efficiency measures examined in this study represent most commercially available measures and select emerging technologies, these measure lists are not exhaustive. GDS/Cadmus acknowledge that new efficient technologies may become available over the course of the 20-year study timeframe that could produce efficiency gains and costs at different levels than those currently assumed.

### 1.5 ENERGY EFFICIENCY POTENTIAL

Figure 1-1 provides the statewide electric technical, economic, MAP and RAP results for the 3-yr, 10-yr, and 20-yr timeframes. The 3-yr technical potential is 10.1% of forecasted sales, and the economic potential is 9.4% of forecasted sales, indicating that most technical potential is cost-effective. The 3-yr MAP is 10.3% and the RAP is 5.6%. The reason MAP exceeds technical and economic potential in the early years of the study is due to the need to accelerate the achievable potential towards the early years to more appropriately align the estimates with the historical achievements in the state. This does not change the total amount of achievable potential, but instead simply means that it will occur earlier in the timeframe than our models would have projected absent historical participation levels.

<sup>3</sup> Ibid.

<sup>4</sup> For example, the timing and scope of the EISA backstop provision for screw-based lighting is evolving. The approach used for this analysis is discussed in Section 2.3.5. Following our initial analysis, the electric EEs, in coordination with the VT DPS, revised their planning approach for screw-based lighting. The impacts of the revised lighting approach are presented in Appendix D.

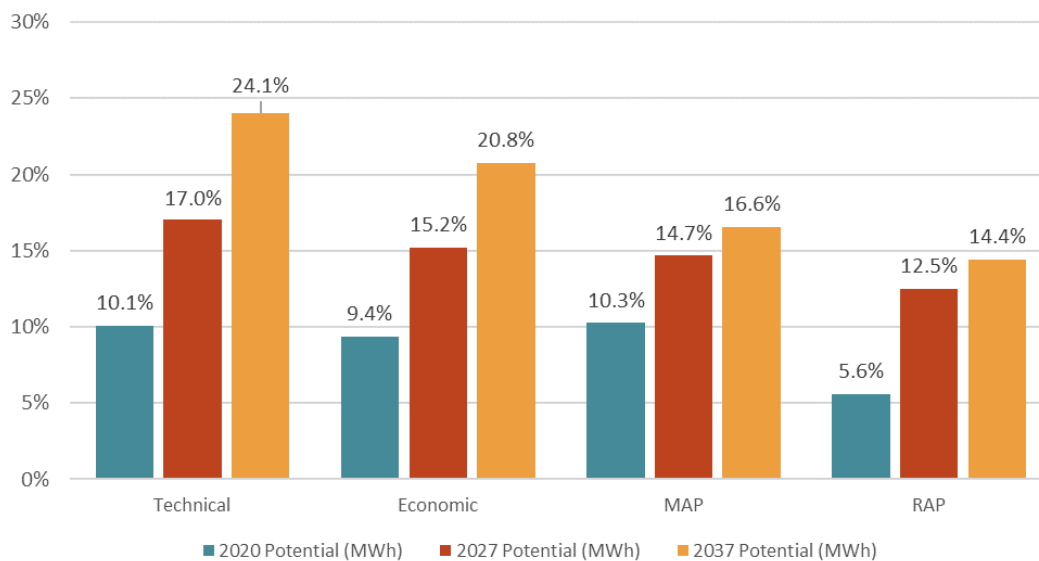
**FIGURE 1-1 ELECTRIC ENERGY (MWH) CUMULATIVE ANNUAL POTENTIAL (AS A % OF SALES)**

Figure 1-2 provides the statewide natural gas technical, economic, MAP and RAP results for the 3-yr, 10-yr, and 20-yr timeframes. The 3-yr technical potential is 9.2% of forecasted sales, and the economic potential is 8.4% of forecasted sales, indicating that most technical potential is cost-effective. The 3-yr MAP is 12.5% and the RAP is 3.1%.

Table 1-1 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual technical, economic, MAP and RAP results for energy, summer peak demand, winter peak demand, and natural gas. The technical potential rises to more than 1.5 million MWh by 2037, and the RAP is more than half of that total, rising to more than 900,000 MWh by 2037. Summer peak demand savings approach 240 MW in the technical potential and nearly 135 MW in the RAP scenario.

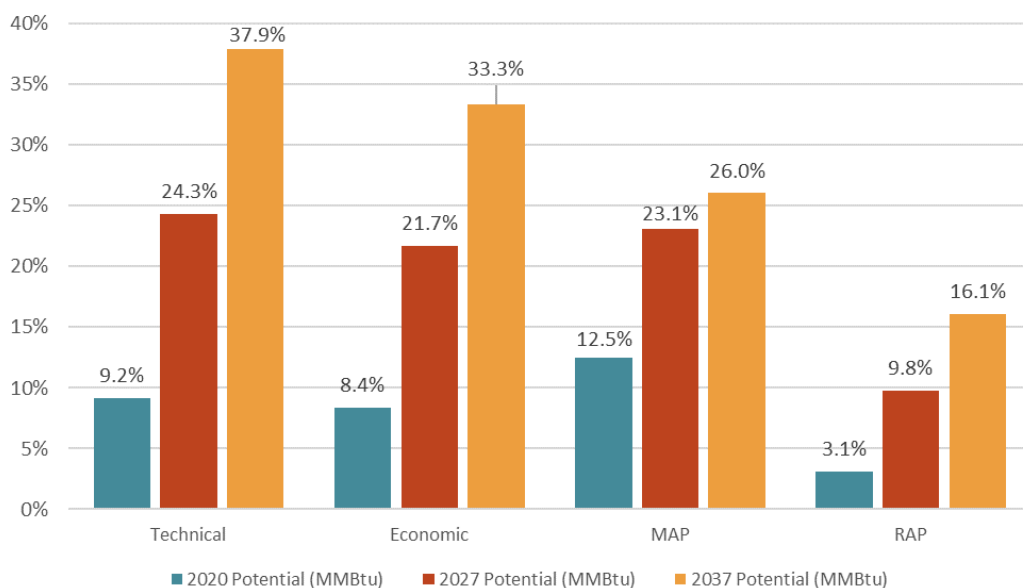
**FIGURE 1-2 NATURAL GAS ENERGY (MMBTU) CUMULATIVE ANNUAL POTENTIAL (AS A % OF SALES)**

TABLE 1-1 ELECTRIC AND NATURAL GAS ENERGY EFFICIENCY POTENTIAL SUMMARY

	2018 Potential	2019 Potential	2020 Potential	2027 Potential	2037 Potential
<b>Annual Energy (MWh)</b>					
<b>Technical</b>	251,637	479,806	533,808	1,027,665	1,542,521
<b>Economic</b>	240,738	457,685	496,911	917,210	1,331,378
<b>MAP<sup>5</sup></b>	240,086	454,223	543,063	884,748	1,062,094
<b>RAP</b>	106,494	206,269	295,100	752,686	925,166
<b>Summer Peak Demand (MW)</b>					
<b>Technical</b>	67.9	54.4	65.9	164.2	238.8
<b>Economic</b>	27.4	52.0	61.6	149.5	206.9
<b>MAP</b>	28.6	54.2	68.8	132.6	153.1
<b>RAP</b>	14.5	28.2	40.8	114.9	134.9
<b>Winter Peak Demand (MW)</b>					
<b>Technical</b>	43.8	84.9	73.6	128.0	196.8
<b>Economic</b>	42.7	82.5	69.5	113.9	170.3
<b>MAP</b>	40.5	77.9	76.7	115.0	137.5
<b>RAP</b>	16.1	31.5	41.9	97.5	118.9
<b>Annual Natural Gas (MMBTU)</b>					
<b>Technical</b>	337,651	614,852	886,741	2,522,111	4,275,456
<b>Economic</b>	321,013	565,143	805,586	2,252,307	3,755,508
<b>MAP</b>	455,799	833,858	1,207,827	2,393,681	2,934,147
<b>RAP</b>	103,252	193,114	300,507	1,015,807	1,816,672

Table 1-2 provides annual budgets (i.e. EEU incentive and non-incentive resource acquisition costs) by EEU for the MAP and RAP scenarios. The MAP budget ranges from \$72 million to \$137 million over the study timeframe. The RAP budget ranges from \$39 million to \$55 million over the study timeframe.

TABLE 1-2 MAP AND RAP BUDGETS BY EEU AND STATEWIDE TOTALS (\$, IN MILLIONS)

	MAP				RAP			
	Total	EVT	BED	VGS	Total	EVT	BED	VGS
2018	<b>\$136.9</b>	\$101.0	\$7.6	\$28.3	<b>\$44.8</b>	\$38.5	\$2.1	\$4.1
2019	<b>\$133.3</b>	\$99.2	\$7.0	\$27.1	<b>\$46.6</b>	\$39.6	\$2.2	\$4.8
2020	<b>\$115.3</b>	\$82.5	\$5.8	\$27.0	<b>\$49.2</b>	\$41.0	\$2.3	\$5.9
2021	<b>\$114.3</b>	\$82.1	\$5.7	\$26.6	<b>\$52.1</b>	\$43.1	\$2.4	\$6.5
2022	<b>\$110.9</b>	\$79.4	\$5.7	\$25.8	<b>\$52.6</b>	\$43.5	\$2.5	\$6.6
2023	<b>\$72.7</b>	\$51.1	\$2.7	\$18.8	<b>\$52.1</b>	\$42.2	\$2.5	\$7.3
2024	<b>\$75.4</b>	\$54.0	\$2.7	\$18.7	<b>\$55.2</b>	\$45.2	\$2.6	\$7.3
2025	<b>\$71.8</b>	\$50.9	\$2.6	\$18.3	<b>\$51.7</b>	\$41.8	\$2.6	\$7.3
2026	<b>\$74.0</b>	\$52.9	\$3.0	\$18.1	<b>\$48.4</b>	\$38.4	\$2.7	\$7.3
2027	<b>\$72.6</b>	\$51.7	\$3.0	\$18.0	<b>\$43.5</b>	\$33.4	\$2.7	\$7.4
2028	<b>\$72.4</b>	\$54.2	\$3.2	\$15.1	<b>\$38.7</b>	\$29.5	\$1.7	\$7.5
2029	<b>\$72.6</b>	\$54.4	\$3.2	\$15.0	<b>\$38.8</b>	\$29.6	\$1.7	\$7.5
2030	<b>\$75.7</b>	\$56.2	\$3.4	\$16.1	<b>\$40.6</b>	\$30.9	\$1.9	\$7.8
2031	<b>\$74.0</b>	\$54.4	\$3.2	\$16.4	<b>\$39.9</b>	\$30.3	\$1.8	\$7.9
2032	<b>\$74.9</b>	\$55.5	\$3.1	\$16.3	<b>\$39.7</b>	\$30.1	\$1.7	\$7.9
2033	<b>\$87.0</b>	\$64.6	\$4.5	\$17.9	<b>\$49.9</b>	\$38.8	\$2.9	\$8.2
2034	<b>\$88.3</b>	\$66.3	\$4.4	\$17.5	<b>\$50.1</b>	\$39.0	\$2.8	\$8.2
2035	<b>\$85.4</b>	\$64.9	\$4.1	\$16.3	<b>\$48.6</b>	\$37.8	\$2.6	\$8.2

<sup>5</sup> MAP exceeds technical and economic potential in the early years of the study due to the need to accelerate the nonresidential achievable potential towards the early years to more appropriately align the estimates with the historical achievements in the state.

	MAP				RAP			
	Total	EVT	BED	VGS	Total	EVT	BED	VGS
2036	<b>\$87.4</b>	\$66.7	\$4.0	\$16.7	<b>\$49.1</b>	\$38.4	\$2.4	\$8.3
2037	<b>\$86.7</b>	\$66.1	\$4.0	\$16.7	<b>\$48.1</b>	\$37.6	\$2.3	\$8.2

Figure 1-3 provides the budgets for the MAP and RAP scenarios. The budgets are broken into incentive and admin budgets for each year of the 2018-2037 timeframe. MAP incentives peak at nearly \$100 million in 2018 and decrease to the \$50 million to \$60 million range for the last 15 years of the timeframe. The reason that MAP incentives and admin budgets decrease significantly after 2022 is that the achievable potential is “front-loaded” to more appropriately align achievable potential with historical savings achievements by the EEU. This front-loading affects RAP as well, but to a lesser extent, and is drawn out over a longer time-period.

FIGURE 1-3 ANNUAL STATEWIDE BUDGETS FOR MAP AND RAP (\$ IN MILLIONS)

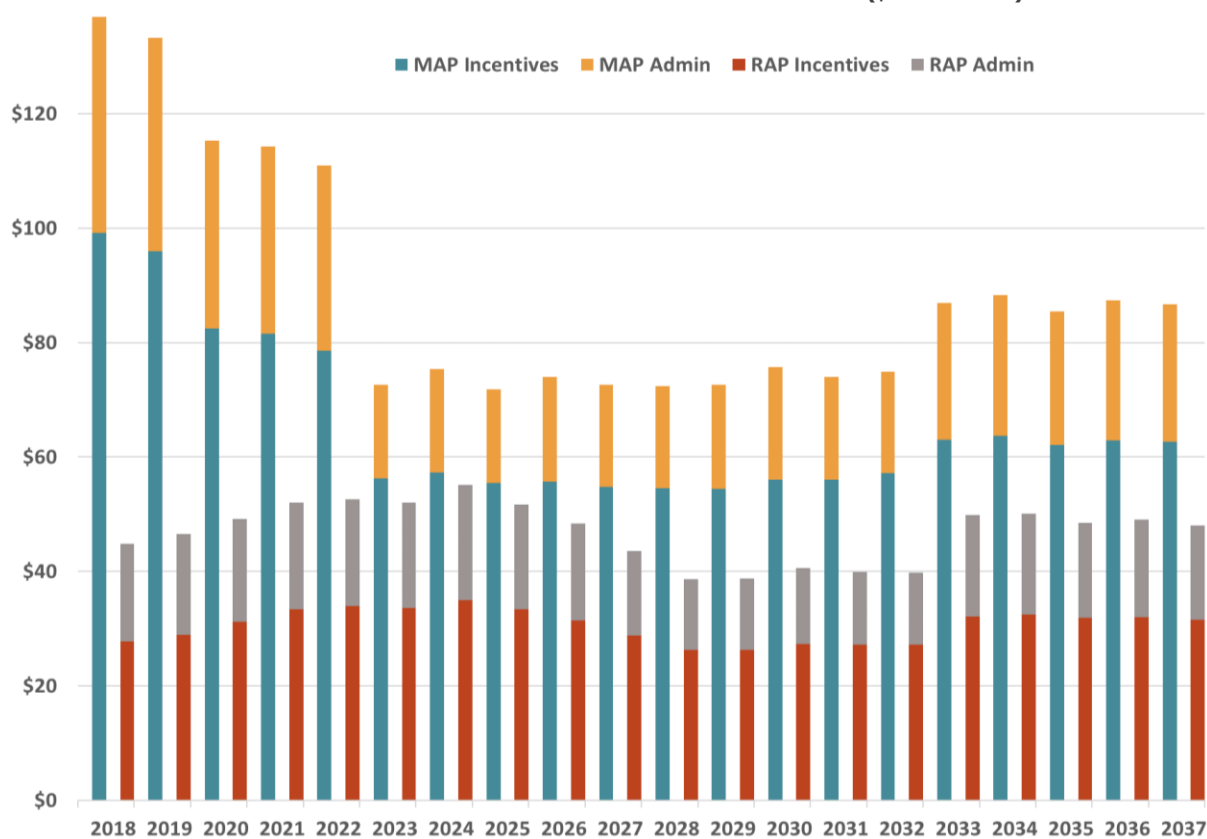


Table 1-3 provides the summary benefit/cost data for each achievable potential scenario. The is shown for each EEU, all sectors combined, and is also aggregated at the statewide level. The benefit-cost ratio exceeds 4.0 for each EEU in both scenarios. The RAP scenario has a benefit-cost ratio of 4.5 and includes more than \$3 billion in NPV savings over the 20-year study period.



TABLE 1-3 SOCIETAL TEST NPV BENEFITS, COSTS, NET SAVINGS, AND RATIOS FOR RESIDENTIAL STATEWIDE RAP  
(\$ IN MILLIONS)

All Sectors	NPV Lifetime Benefits	NPV Program Costs	NPV Savings (Benefits - Costs)	Societal Test Ratio
<b>MAP</b>				
EVT	\$4,158	\$1,012	\$3,147	4.1
BED	\$364	\$78	\$287	4.7
VGS	\$820	\$204	\$616	4.0
<b>Total</b>	<b>\$5,343</b>	<b>\$1,293</b>	<b>\$4,050</b>	<b>4.1</b>
<b>RAP</b>				
EVT	\$3,349	\$745	\$2,604	4.5
BED	\$259	\$51	\$208	5.1
VGS	\$450	\$114	\$337	4.0
<b>Total</b>	<b>\$4,058</b>	<b>\$910</b>	<b>\$3,148</b>	<b>4.5</b>

## 1.6 ORGANIZATION OF REPORT

The remainder of this report is organized in seven sections as follows:

*Section 2 Analysis Approach* details the methodology used to develop the estimates of technical, economic, and achievable for electric and natural gas energy efficiency savings.

*Section 3 Characterization of Vermont EEU Service Areas* provides an overview of the Vermont EEU service areas and a brief discussion of the forecasted energy sales by sector.

*Section 4 Residential Energy Efficiency Potential* provides a breakdown of the technical, economic, and achievable potential in the residential sector by EEU.

*Section 5 Nonresidential Energy Efficiency Potential* provides a breakdown of the technical, economic, and achievable potential in the commercial and industrial sectors by EEU.

*Section 6 Portfolio Summaries and Conclusions* provides detailed information on the combined residential and nonresidential potential for each EEU and for Vermont, as well as concluding remarks on the potential analysis applications.

*Appendices* presents additional detailed information on measure assumptions and sources, annual savings and costs, and other global assumptions that were summarized in the report.

- Appendix A – provides a glossary of terms
- Appendix B – provides measure level assumptions
- Appendix C – provides measure level savings and costs for the MAP and RAP scenarios
- Appendix D – provides a comparison of the 2017 report to the updated final report for BED and VGS
- Appendix E – provides the avoided costs used in the study



## 2 Analysis Approach

This section describes the overall methodology GDS Associates, Inc. (GDS) and the Cadmus Group (Cadmus) utilized to assess the electric and natural gas efficiency potential in Vermont. The main objectives of this energy efficiency potential study were to estimate the technical, economic, maximum achievable potential (MAP) and realistic achievable potential (RAP) for energy efficiency for Efficiency Vermont (EVT), Burlington Electric Department (BED) and Vermont Gas Systems (VGS) from 2018-2037; and to provide potential MWh, MW, and/or MMBtu savings estimates for each level of energy efficiency potential. This study does not specifically examine potential peak load reduction and energy reductions from demand response programs but does estimate demand savings and peak load reductions<sup>6</sup> associated with different types of energy efficiency potential.

This electric and natural gas energy efficiency potential study provides residential and nonresidential sector results that are both specific to each of the three energy efficiency utilities (EEUs) noted above, as well as at the statewide level. To accomplish this objective, GDS created a series of unique energy efficiency potential models for each primary market sector and EEU.

### 2.1 OVERVIEW OF APPROACH

The GDS/Cadmus team used a bottom-up approach to estimate energy efficiency potential in the residential sector. Bottom-up approaches begin with characterizing the eligible equipment stock, estimating savings and screening for cost-effectiveness first at the measure level, then summing savings at the end-use and service area levels. In the commercial and industrial sectors, GDS utilized the bottom-up modeling approach to first estimate measure-level savings and costs as well as cost-effectiveness, and then applied cost-effective measure savings to all applicable shares of energy load. Further details of the market research and modeling techniques utilized in this assessment are provided in the following sections.

### 2.2 FORECAST DISAGGREGATION

The initial step in the analysis was to gather a clear understanding of the current market segments and EEU service areas in Vermont. The GDS/Cadmus Team coordinated with the VT DPS and EEUs to gather utility sales and customer data and existing market research to define appropriate market sectors, market segments, vintages, saturation data and end uses for each EEU service territory. This information served as the basis for completing a forecast disaggregation of both the residential and nonresidential sectors.

In the residential sector, GDS calibrated its building energy simulations with each EEU forecast. This process began with the construction of building energy models, using the BEopt<sup>TM</sup> (Building Energy Optimization)<sup>7</sup> software, which were specified per the most currently available data describing the residential building stock in Vermont. Models were constructed for both single-family and multifamily homes, as well as various types of heating and cooling equipment and fuel types. Key characteristics defining these models include conditioned square footage, typical building envelope conditions such as insulation levels and air leakage rates, and average appliance and HVAC efficiency levels. The simulations yielded estimated energy consumption for each building prototype, including estimates of each key end use. These end use estimates were then multiplied by the estimated proportion of customers that applied to each end use, to calculate an estimated service territory total consumption for each end use. For

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<sup>6</sup> Estimated peak load reductions are estimated, to the extent practicable, in a manner consistent with the coincident summer and winter peak periods as defined in the 2016 Vermont TRM, and as defined by the ISO-NE performance hours for the forward capacity market, (i.e., 1:00 to 5:00 PM on non-holiday weekdays in June, July, and August for summer generation capacity and 5:00 to 7:00 PM on non-holiday weekdays in December and January for winter generation capacity.)

<sup>7</sup>BEopt can be used to analyze both new construction and existing home retrofits, as well as single-family detached and multi-family buildings, through evaluation of single building designs, parametric sweeps, and cost-based optimizations.

example, when completing this process for the electric EEs, the simulated primary electric heating consumption was multiplied by the proportion of homes which have primary electric heating, to calculate the total primary electric heating load in the respective EVT and BED service territories.

The simulation process required several iterations. GDS collaborated with the EEs to verify and modify certain assumptions about the market characteristics, such as the heating fuel and equipment types and housing types. GDS adjusted its assumptions about key market characteristics and revised its BEopt models to ultimately calibrate its building energy models to within 5% of each EE forecast in 2018.

In the commercial and industrial sectors, disaggregated forecast data provides the foundation for the development of energy efficiency potential estimates. The GDS/Cadmus team disaggregated the nonresidential sector for each EE into building or industry types using each EE's 2014 to 2016 non-residential customer data. This disaggregation involved two steps. First, the GDS team used rate codes to determine whether the customer was captured in either the EE's commercial or industrial load forecast. Next, the GDS team determined the appropriate industry for industrial customers and the building type for commercial customers. We used the following information, when available in the EEs' customer data, to determine the appropriate building or industry type:

- **Building description or Standard Industrial Classification (SIC) Description.** This is the EE's description of the building or industry type for an individual customer.
- **SIC Code.** A standardized four-digit code used to classify industries. The GDS team mapped SIC codes to the building and industry types considered in this study.
- **Square footage (when available).** The GDS team used square footage to determine whether a building belonged in a "small" or "large" category (e.g. small or large retail).

Using these fields, The GDS team assigned each customer in the EEs' non-residential data sets to one of the commercial or industrial segments listed in Table 2-1.

TABLE 2-1 NON-RESIDENTIAL SEGMENTS

Commercial		Industrial	
Assembly	Apparel	Plastics Rubber Products	
Grocery	Beverage and Tobacco Products	Primary Metal Manufacturing	
Health Care Other	Chemical Manufacturing	Printing Related Support	
Hospital	Electrical Equipment Manufacturing	Textile Mills	
Large Office	Fabricated Metal Products	Textile Product Mills	
Large Retail	Food Manufacturing	Transportation Equipment Manufacturing	
Lodging	Furniture Manufacturing	Wood Product Manufacturing	
Miscellaneous	Industrial Machinery		
Restaurant	Instruments		
School K-12	Leather and Allied Products		
Small Office	Miscellaneous Manufacturing		
Small Retail	Nonmetallic Mineral Products		
University	Paper Manufacturing		
Warehouse	Petroleum and Coal Products		

While the GDS/Cadmus team's approach was generally consistent for each EE, some differences should be noted:

- In reviewing BED's customer data, the GDS team could not always distinguish between universities and primary/secondary schools. Therefore, we rolled-up analysis and reporting into a single segment for education. Similarly, the GDS team combined all health care customers into a single segment.

- While VGS could provide a breakout of commercial and industrial customers in their customer data, they could not identify the specific segments for those customers. In absence of building type or SIC code information, the GDS team used combined BED and EVT data as a proxy for VGS' customers.
- In EVT's customer data set, some customers did not have a SIC code or SIC description that identified the building or industry type. The GDS team identified the 20 highest-consuming customers without building type information and performed research on each customer to determine the building or industry type (where possible). If the GDS team could not determine the industry type, we grouped the customer into a "miscellaneous" building type or industry.

The GDS team further disaggregated sales for each of the segments into end uses. For commercial segments, The GDS team primarily used EIA's 2012 Commercial Building Energy Consumption Survey (CBECS) for the Northeast Census region to determine energy use intensities, expressed in kWh or MMBtu per square foot, for each end use within each segment.<sup>8</sup> We then used data compiled from metering studies, EM&V, and engineering algorithms to further disaggregate energy intensities into more granular end uses and technologies. For the industrial sector, the analysis relied on the EIA's Manufacturing Energy Consumption survey to disaggregate industry-specific estimates of electric and natural gas consumption into end uses.<sup>9</sup>

Table 2-2 and Table 2-3 lists the electric end-uses and natural gas end-uses, respectively, considered in the forecast disaggregation and subsequent potential assessment.

TABLE 2-2 ELECTRIC END USES

Residential	Commercial	Industrial
Behavioral	Computers	Fans
Clothes Washer/Dryer	Compressed Air	HVAC
Dishwasher	Cooking	Indirect Boiler
Electronics	Cooling	Lighting
Hot Water	Dryers	Motors Other
HVAC Equipment	Flat Screen Monitors	Other
HVAC Shell	Freezers	Process Air Compressors
Lighting	Lighting Exterior	Process Electro Chemical
Pool/Spa	Lighting Interior Fluorescent	Process Heat
	Lighting Interior Other	Process Other
	Lighting Interior Screw Base	Process Refrigeration and Cooling
	Other	Pumps
	Photo Copier/Printers	
	Plug Load	
	Pool Heat	
	Refrigeration	
	Servers	
	Space Heat	
	Vending Machines	
	Ventilation and Circulation	
	Water Heater	

<sup>8</sup>U.S. Energy Information Agency. *Commercial Buildings Energy Consumption Survey (CBECS)*. May 20, 2016. <https://www.eia.gov/consumption/commercial/>. The GDS team used EIA CBECS to derive energy use intensities for broad end use categories, such as space heating, cooling, water heating, cooking, and refrigeration. We relied on EM&V reports, metering studies, and technical reference manuals to further disaggregate energy intensities into specific technologies.

<sup>9</sup> U.S. EIA. *Manufacturing Energy Consumption Survey (MECS) 2010*. March 2013. <https://www.eia.gov/consumption/manufacturing/data/2010/>.

TABLE 2-3 NATURAL GAS END-USES

Residential	Commercial	Industrial
Clothes Washer/Dryer	Cooking	HVAC
Hot Water	Dryer	Indirect Boiler
HVAC Equipment	Other	Motors
HVAC Shell	Pool Heat	Other
	Room Heat - Gas	Process Heat
	Space Heat	Process Other
	Water Heat	

## 2.3 MEASURE ANALYSIS

### 2.3.1 Summary

Energy efficiency measures considered in the study include all electric savings measures in the 2016 Vermont Technical Reference Manual (TRM), as well as other energy efficiency measures based on the GDS' knowledge of current databases of electric end-use technologies and energy efficiency measures in other jurisdictions. The study includes measures and practices that are currently commercially available, including select emerging technologies, and of the most immediate interest to energy efficiency program planners in Vermont. While this analysis does not make any explicit assumption about unknown future technologies, the methodology assumes that subsequent equipment replacement that occurs over the course of the 20-year study timeframe, and at the end of the initial equipment's useful life, will continue to achieve similar levels of energy savings at similar incremental costs.

### 2.3.2 Number of Measures Evaluated

In total, GDS analyzed 397 measure types for EVT, 355 for BED, and 134 for VGS. Many measures required multiple permutations for different applications, such as different building types, efficiency levels, and replacement options. GDS developed a total of 16,988 measure permutations for this study, and tested all measures for cost-effectiveness under the Vermont Societal Cost Test (VT SCT). The parameters for cost-effectiveness under the VT SCT are discussed in detail later in Section 2.6.1, "Vermont Societal Cost Test." Of the permutations analyzed, 77% of residential measures and 56% of nonresidential measures had a VT SCT benefit-cost ratio of 1.0 or higher.<sup>10</sup>

TABLE 2-4 NUMBER OF MEASURES EVALUATED

	# of Measures	Total # of Measure Permutations	# with VT SCT ≥ 1
<b>EVT</b>			
Residential	139	569	445
Commercial	258	6,502	3,556
<b>Total</b>	<b>397</b>	<b>7,071</b>	<b>4,001</b>
<b>BED</b>			
Residential	139	569	452
Commercial	216	6,069	3,089
<b>Total</b>	<b>355</b>	<b>6,638</b>	<b>3,541</b>
<b>VGS</b>			
Residential	37	422	307
Commercial	97	2,857	1,974
<b>Total</b>	<b>134</b>	<b>3,279</b>	<b>2,281</b>

<sup>10</sup> Measures with a VT Societal Test benefit-cost ratio below 1.0 were excluded from estimates of economic and achievable potential.

### 2.3.3 Measure Characterization

A significant amount of data is needed to estimate the electric and natural gas savings potential for individual energy efficiency measures or programs across the residential and nonresidential customer sectors in Vermont. GDS utilized data specific to each EEU or the State of Vermont at large when it was available and current. GDS used the 2016 Efficiency Vermont Technical Reference Manual (VT TRM), the 2016 NMR Residential Baseline Study, the 2016 Vermont Business Sector Market Characterization and Assessment Study, and the most recent program evaluations as the main sources of data for measure assumptions. GDS also conducted secondary research to develop reasonable and supportable assumptions for measures not included in the VT TRM and which were not modeled with simulation software.

**Measure Savings:** GDS utilized the 2016 VT TRM to inform calculations supporting estimates of annual measure savings as a percentage of base equipment usage. For custom measures and measures not included in the VT TRM, GDS estimated savings from a variety of sources, including:

- Mid-Atlantic TRM, Illinois TRM, Maine TRM, Minnesota TRM and other existing deemed savings databases
- Building energy simulation software (BEopt) and engineering analyses
- Known changes in federal codes and standards
- Secondary sources such as the American Council for an Energy-Efficient Economy (ACEEE), Department of Energy (DOE), Energy Information Administration (EIA), ENERGY STAR®, and other technical potential studies
- Program evaluations of behavioral programs conducted for Efficiency Vermont

**Measure Costs:** Measure costs represent either incremental or full costs. These costs typically include the incremental cost of measure installation, when appropriate based on the measure definition. For purposes of this study, nominal measure costs held constant over time. One exception is an assumed decrease in costs for light emitting diode (LED) bulbs over the study horizon. LED bulb consumer costs have been declining rapidly over the last several years and future cost projections indicate a continued decrease in bulb costs.<sup>11</sup> GDS' treatment of LED bulb costs and market penetration are discussed in greater detail in Section 2.3.5, "Review of LED Lighting Assumptions."

GDS obtained measure cost estimates primarily from the 2016 VT TRM. GDS used the following data sources to supplement the VT TRM:

- TRMs in other states
- Secondary sources such as the ACEEE, ENERGY STAR, National Renewable Energy Lab (NREL), California Database for Energy Efficient Resources (DEER) database, Northeast Energy Efficiency Partnership (NEEP) Incremental Cost Study, and other technical potential studies
- Retail store pricing (such as websites of Home Depot, Lowe's, and Grainger) and industry experts
- Program evaluation and market assessment reports completed for utilities in other states

**Measure Life:** Measure life represents the number of years that energy using equipment is expected to operate. GDS obtained measure life estimates from the 2016 VT TRM, and used the following data sources for measures not in the VT TRM:

- TRMs in other states
- Manufacturer data
- Savings calculators and life-cycle cost analyses
- The California DEER database
- Other consultant research or technical reports

<sup>11</sup>LED Incremental Cost Study Overall Final Report. The Cadmus Group. February 2016

**Baseline and Efficient Technology Saturations:** To assess the potential electric energy efficiency savings available, estimates of the current saturation of baseline equipment and energy efficiency measures are necessary. GDS primarily obtained up-to-date measure or end-use and equipment saturation data from the following recent studies:

- 2016 NMR VT existing single-family residential baseline study
- 2013 NMR VT existing single-family residential baseline study
- 2013 NMT VT existing multifamily baseline study
- 2016 Vermont Business Sector Market Characterization and Assessment Study
- BED residential customer heating and cooling characteristics data (customer database)
- Latest (2010) EIA Manufacturing Energy Consumption Survey (MECS)
- Latest (2003) EIA Commercial Buildings Energy Consumption Survey (CBECS)

### 2.3.4 Treatment of Codes & Standards

Although this analysis does not attempt to predict how energy codes and standards will change over time, the analysis does account for the impacts of several known improvements to federal codes and standards. Although not exhaustive, key adjustments include<sup>12</sup>:

- The baseline efficiency for air source heat pumps (ASHP) is anticipated to improve to 14 SEER/8.2 HSPF<sup>13</sup> in 2015. As the existing stock of ASHPs was estimated to turn over and allowing for a sell-through period, the baseline efficiency was assumed to be the new federal standard, beginning in FY18.
- In 2015, the DOE makes amended standards effective for residential water heaters that required updated energy factors (EF) depending on the type of water heater and the rated storage volume. For electric storage water heaters with a volume greater than 55 gallons, the standards effectively require heat pumps for electric storage products. For storage tank water heaters with a volume of 55 gallons or less, the new standard (EF=0.948) becomes essentially the equivalent of today's efficient storage tank water heaters.<sup>14</sup>
- In March 2015, the DOE amended the standards for residential clothes washers. The new standards will require the Integrated Modified Energy Factor (MEF) (ft<sup>3</sup>/kWh/cycle) to meet certain thresholds based on the machine configurations. The ENERGY STAR specifications for residential clothes washers will also be amended to increase the efficiency of units that can earn the ENERGY STAR label. Version 7.0 of the ENERGY STAR specification is scheduled to go into effect in March 2015. These amended federal and ENERGY STAR standards have been factored into the study.
- In line with the phase-in of 2005 EPA regulations, the baseline efficiency for general service linear fluorescent lamps was moved from the T12 light bulb to a T8 light bulb effective June 1, 2016.

### 2.3.5 Review of LED Lighting Assumptions<sup>15</sup>

To recognize the increasing market adoption of LED bulbs and an increased focus on LED technologies in Efficiency Vermont's retail lighting energy efficiency program, GDS coordinated with the VT DPS and the EEU to develop critical assumptions regarding the future market acceptance and assumed baselines for LED screw base omnidirectional, decorative, and directional lamps over the study timeframe.

<sup>12</sup> Key adjustments for LED screw-in lighting are addressed separately later in this section.

<sup>13</sup> SEER: Seasonal Energy Efficiency Ratio; HSPF: Heating Seasonal Performance Factor.

<sup>14</sup> Ultimately, GDS did not incorporate the requirements for large capacity water heaters into the analysis due to recent legislation that allows grid-enabled water heaters to remain at lower efficiency levels.

<sup>15</sup> Following the release of this draft report, The VT DPS and EEU developed revised planning assumptions regarding residential screw-in lighting to acknowledge the expanded definition of general service lighting and lower than previously expected performance standard. The revised approach reflects a more gradual exit from support of residential lighting, particularly in 2020 and 2021. The impact of these revised assumptions, along with other modifications to the analysis are discussed in Appendix D.



**Market Acceptance:** LED screw base omnidirectional and decorative lamps are impacted by the EISA 2007 regulation backstop provision, which requires all non-exempt lamps to be 45 lumens/watt, beginning in 2020. Based on this current legislation, the federal baseline in 2020 will be roughly equivalent to a CFL bulb. However, more recent proposed rulemaking would make the 2020 standard considerably more stringent, effectively making the baseline consistent with LED efficacies. Following discussions between the VT DPS and EEU, this analysis offers a conservative outlook on future general service lighting potential, and assumes the new DOE rulemaking proposal would be enacted. Thus, all screw base omnidirectional and decorative lamps were modeled to end as an upstream rebate program measure after 2019, with a small fraction of direct install program lamps installed through 2021.

LED screw base directional lamps are currently exempt from the EISA 2007 regulation and the subsequent backstop provision. However, DOE also recently proposed a change in scope for exempt general service lamps, suggesting directional lamps will also be subject to EISA efficacy levels in 2020. Accordingly, and consistent with EEU resource planning, this analysis assumes directional LED lamps would only be offered via an upstream rebate program through 2022, and through direct install programs through 2024. Beginning in 2025, LED screw-in lamps were removed from the modeling parameters.

Table 2-5 shows the assumed annual applicability of LED bulbs assumed in residential sector-based programs.

TABLE 2-5 ASSUMED ANNUAL APPLICABILITY OF LED BULBS

Bulb Technology	2018	2019	2020	2021	2022	2023	2024	2025
<b>Omnidirectional &amp; Decorative (Upstream)</b>	X	X	-	-	-	-	-	-
<b>Omnidirectional &amp; Decorative (DI)</b>	X	X	X	X	-	-	-	-
<b>Directional (Upstream)</b>	X	X	X	X	X	-	-	-
<b>Directional (DI)</b>	X	X	X	X	X	X	X	-

**Savings:** Savings for LED bulbs were derived from the Efficiency Vermont TRM as the average savings across the various wattage bins. As the analysis assumes limited annual eligibility of LED bulbs, and the phase-out of LED bulbs prior to the enactment of new standards, energy savings represent the difference between the LED technology and the 2015-2019 baseline. The analysis also assumes that savings from installed LED lamps will only achieve savings through the projected phase-out year.<sup>16</sup> As a result, savings from screw-base lighting technologies diminishes significantly starting in 2019 and is nearly non-existent by 2025.

**Costs:** LED bulb costs are widely projected to decrease significantly over the next decade, though industry projections vary. This analysis utilized Cadmus' 2016 *LED Incremental Cost Study* to inform initial estimates of LED bulb prices through 2020.<sup>17</sup> The analysis further assumed that general service LED lamps would decline to \$2.00 per lamp by 2030, while LED reflector lamps would decline to \$3.00 per lamp over the same timeframe. Table 2-6 shows the annual projections of LED lamp costs for various LED lamp technologies and delivery channels (upstream rebate vs. direct install). The cost of avoided incandescent/halogen/CFL bulb purchases resulting from the longer lifetime of LED lamps were included as benefits in the determination of cost-effectiveness.

<sup>16</sup> An omnidirectional LED bulb attributed to the upstream delivery approach in 2019 only produces savings for 1 year, a directional bulb attributed to the upstream delivery approach in 2019 would produce savings through 2022.

<sup>17</sup> LED Incremental Cost Study Overall Final Report. The Cadmus Group. February 2016. The Cadmus report assessed LED lamp prices using three approaches: interviews, point of sale metrics, and web-scraping. This analysis used the web-scraping projections for LED lamp prices, but included a 15% adder to reflect the typically lower prices projections of the web-scraping technique relative to interviews and point of sale pricing.

TABLE 2-6 PRICE PROJECTIONS FOR RESIDENTIAL LED LIGHTING

Bulb Technology	2018	2019	2020	2021	2022	2023	2024
<b>A-Type</b>	\$5.42	\$4.30	\$3.42	\$3.07	\$2.77	\$2.49	\$2.24
<b>Candle/Flame</b>	\$6.81	\$6.06	\$5.39	\$4.85	\$4.37	\$3.93	\$3.54
<b>Globe</b>	\$8.97	\$8.27	\$7.61	\$6.85	\$6.17	\$5.55	\$4.99
<b>Omni/Decorative Average</b>	\$7.06	\$6.21	\$5.47	\$4.93	\$4.43	\$3.99	\$3.59
<b>Omni/Decorative DI</b>	\$10.06	\$9.21	\$8.47	\$7.93	\$7.43	\$6.99	\$6.59
<b>Directional</b>	\$9.68	\$7.72	\$6.15	\$5.54	\$4.98	\$4.49	\$4.04
<b>Directional DI</b>	\$12.68	\$10.72	\$9.15	\$8.54	\$7.98	\$7.49	\$7.04

## 2.4 POTENTIAL SAVINGS OVERVIEW

Potential studies often distinguish between several types of energy efficiency potential: technical, economic, achievable, and program. However, because there are often important definitional issues between studies, it is important to understand the definition and scope of each potential estimate as it applies to this analysis.

The first two types of potential, technical and economic, provide a theoretical upper bound for energy savings from energy efficiency measures. Still, even the best-designed portfolio of programs is unlikely to capture 100% of the technical or economic potential. Therefore, achievable potential attempts to estimate what savings may realistically be achieved through market interventions, when it can be captured, and how much it would cost to do so. Figure 2-1 illustrates the types of energy efficiency potential considered in this analysis.

FIGURE 2-1 TYPE OF ENERGY EFFICIENCY POTENTIAL<sup>18</sup>

<i>Not Technically Feasible</i>	<b>TECHNICAL POTENTIAL</b>		
<i>Not Technically Feasible</i>	<i>Not Cost Effective</i>	<b>ECONOMIC POTENTIAL</b>	
<i>Not Technically Feasible</i>	<i>Not Cost Effective</i>	<i>Market Barriers</i>	<b>ACHIEVABLE POTENTIAL</b>

## 2.5 TECHNICAL POTENTIAL

Technical potential is the theoretical maximum amount of energy use that could be displaced by efficiency, disregarding all non-engineering constraints such as cost-effectiveness and the willingness of end users to adopt the efficiency measures. Technical potential is only constrained by factors such as technical feasibility and applicability of measures. Under technical potential, GDS assumed that 100% of new construction and market opportunity measures are adopted as those opportunities become available (e.g., as new buildings are constructed they immediately adopt efficiency measures, or as existing measures reach the end of their useful life). For retrofit measures, implementation was assumed to be resource constrained and that it was not possible to install all retrofit measures all at once. Rather, retrofit opportunities were assumed to be replaced incrementally until 100% of stock were converted to the efficient measure over a period of no more than 20 years. One hundred percent of low income, direct

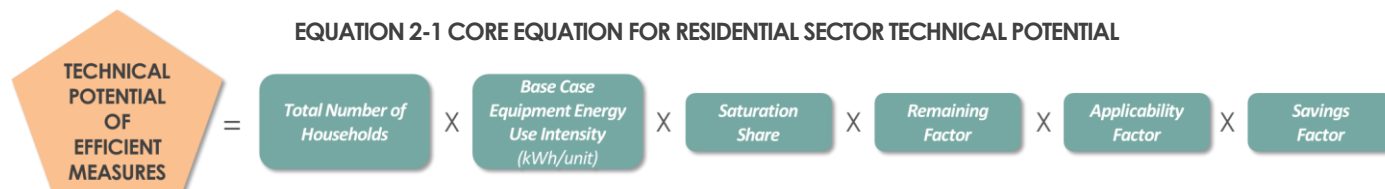
<sup>18</sup> Reproduced from "Guide to Resource Planning with Energy Efficiency." November 2007. US Environmental Protection Agency (EPA). Figure 2-1.



install measures were assumed to be targeted over a period of 15 years, while early retirement and early replacement opportunities were spread equally over the 20-year study horizon.

### 2.5.1 Core Equation for the Residential Sector

The core equation used in the residential sector energy efficiency technical potential analysis for each individual efficiency measure is shown in Equation 2-1 below.



#### Where

**Base Case Equipment End-Use Intensity** = the electricity used per customer per year by each base-case technology in each market segment. In other words, the base case equipment end-use intensity is the consumption of the electrical energy using equipment that the efficient technology replaces or affects.

**Saturation Share** = the fraction of the end-use electrical energy that is applicable for the efficient technology in each market segment. For example, for residential water heating, the saturation share would be the fraction of all residential electric customers that have electric water heating in their household.

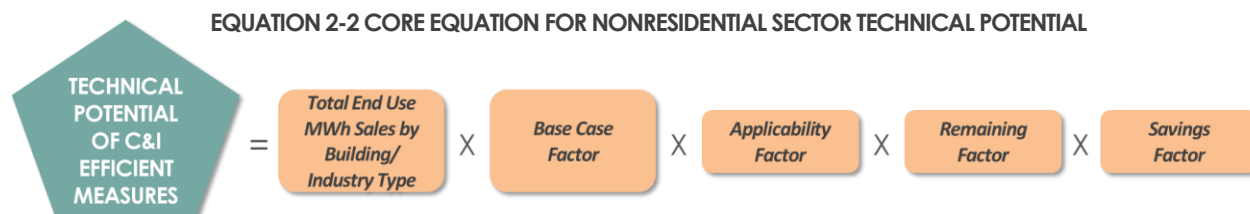
**Remaining Factor** = the fraction of equipment that is not considered to already be energy efficient. To extend the example above, the fraction of electric water heaters that is not already energy efficient.<sup>19</sup>

**Applicability Factor** = the fraction of the applicable units that is technically feasible for conversion to the most efficient available technology from an engineering perspective (e.g., it may not be possible to install CFLs in all light sockets in a home because the CFLs may not fit in every socket).<sup>20</sup>

**Savings Factor** = the percentage reduction in electricity consumption resulting from the application of the efficient technology.

### 2.5.2 Core Equation for the Nonresidential Sector

The core equation utilized in the nonresidential sector technical potential analysis for each individual efficiency measure is shown in Equation 2-2 below.



<sup>19</sup> For purposes of this study, the remaining factor for most market opportunity measures, and select retrofit measures, was 100%. This assumes that all measures, regardless of current efficiency, are eligible to revert to the code baseline at the time of replacement. This is uniquely different from the prior market potential study completed by the Cadmus/GDS Team which removed installed measures that were already energy efficient from the analysis pool. The assumption used in this analysis results in increased potential, but more closely aligns with the EEU's ability to report and track savings at the gross and net savings level.

<sup>20</sup> In instances where there are two (or more) competing technologies for the same electrical end use, such as heat pump water heaters, water heater efficiency measures, high-efficiency electric storage water heaters and solar water heating systems, an applicability factor aids in determining the proportion of the available population assigned to each measure. In estimating the technical potential, measures with the most savings are given priority for installation. For all other types of potential, both total savings and cost-effectiveness were considered as factors in determining the assumed installation priority.

## Where

**Total End Use MWh Sales by Building Type** = the forecasted MWh sales for a given building type (e.g., office buildings).

**Base Case Factor** = the fraction of the equipment electrical energy that is applicable for the efficient technology in each market segment. For example, for room air conditioners, the saturation share would be the fraction of all space cooling kWh in each market segment that is associated with room air conditioner equipment.

**Applicability Factor** = the fraction of the equipment or practice that is technically feasible for conversion to the efficient technology from an engineering perspective (e.g., it may not be possible to install VFDs on all motors in each market segment).

**Remaining Factor** = the fraction of equipment that is not considered to already be energy efficient. For example, the fraction of electric water heaters that is not already energy efficient.

**Savings Factor** = the percentage reduction in electricity consumption resulting from the application of the efficient technology.

## 2.6 ECONOMIC POTENTIAL

Economic potential refers to the subset of the technical potential that is economically cost-effective (based on screening with the Vermont Societal Test) as compared to conventional supply-side energy resources. All measures that were not found to be cost-effective based on the results of the VT Societal Test were excluded from further analysis. GDS then readjusted and applied allocation factors to the remaining measures that were cost-effective.

### 2.6.1 Vermont Societal Test

The Vermont Societal Test is a modified version of the Societal Test as defined by the National Action Plan for Energy Efficiency (NAPEE) and the California Standard Practice Manual. Table 2-7 provides the components of the costs and benefits that are included in the VT Societal Test.

TABLE 2-7 BENEFIT AND COST COMPONENTS OF THE VT SOCIETAL TEST (MEASURE-LEVEL SCREENING)

Benefits	Costs
Avoided Electric Energy Supply Cost	Measure Cost (over baseline)
Avoided Electric Generation Capacity Supply Costs	Increased electric and/or fuel consumption, if any
Avoided Electric Transmission & Distribution Costs	Wholesale risk premium (10% reduction to measure cost)
Avoided Fuel Savings	
Additional Resource Savings (i.e. water savings, O&M benefits)	
Externalities (i.e. compliance costs for SO <sub>2</sub> , NO <sub>x</sub> emissions, and the value of reduced greenhouse gas emissions)	
Non-Energy Benefits (15% adder)	
Low-Income Non-Energy Benefit (Additional 15% adder)	

In an effort to be consistent with the National Action Plan for Energy Efficiency's definition of economic potential as well as the typical practice of the Vermont EEUs for measure-level screening, GDS did not include marketing; analysis; administration; and evaluation, measurement, and verification (EM&V) costs

for the measure cost-effectiveness screening conducted to develop the estimates of economic potential.<sup>21</sup> Although excluded from economic potential, these non-incentive delivery costs are included in the development of estimates of the program costs related to achievable potential savings.

### 2.6.2 Avoided Costs

Avoided energy supply costs are used to assess the value of energy savings. This analysis used avoided costs provided by the VT DPS from the *Avoided Energy Supply Costs in New England: 2016 Update*. This forecast provided the latest available projections of marginal energy supply costs, for each New England state, that will be avoided due to reductions in the use for electricity, natural gas, and other fuels resulting from efficiency programs. The discount rate and inflation rate were provided by the EEU's. Avoided energy costs were differentiated by time and season where possible.

Water savings were valued at 1.41 cents/gallon (in \$2015), based on the value used by Efficiency Vermont in the State Screening Tool. Consistent with the VT Societal Test, we applied a 15% adder for non-energy benefits to each measure's energy benefits. In addition, we included a 15% adder for low-income non-energy benefits, applied only to low-income measures, in addition to the general 15% adder.

## 2.7 ACHIEVABLE POTENTIAL

Achievable potential is the amount of energy that can realistically be saved given various market barriers. Achievable potential considers real-world barriers to encouraging end users to adopt efficiency measures; the non-measure costs of delivering programs (for administration, marketing, analysis, and EM&V); and the capability of programs and administrators to boost program activity over time. Barriers include financial, customer awareness and willingness to participate in programs, technical constraints, and other barriers the "program intervention" is modeled to overcome. Additional considerations include political and/or regulatory constraints. The potential study evaluated two achievable potential scenarios:

- **Maximum Achievable Potential** estimates achievable potential on paying incentives equal to 100% of measure incremental costs and aggressive adoption rates.
- **Realistic Achievable Potential** estimates achievable potential on EEU's paying incentive levels (as a percent of incremental measure costs) closely calibrated to historical levels, but is not constrained by any previously determined EEU spending levels.

### 2.7.1 Incentive Levels and Non-Incentive Resource Acquisition Costs

While many different incentive scenarios could be modeled, the number of achievable potential scenarios was limited to the two scenarios described above. The GDS/Cadmus team analyzed the selected achievable potential scenarios with different anticipated market acceptance models based on incentive levels. In the maximum achievable scenario, the penetration curve is based on a maximum penetration assuming 100% funding of the measure incremental costs. Realistic achievable incentive levels were mapped to the incentive levels currently offered on energy efficiency technologies by the EEU's. In cases where GDS/Cadmus was unable to directly identify a current incentive for a specific technology, a similar technology or rebate was used as a reasonable proxy.

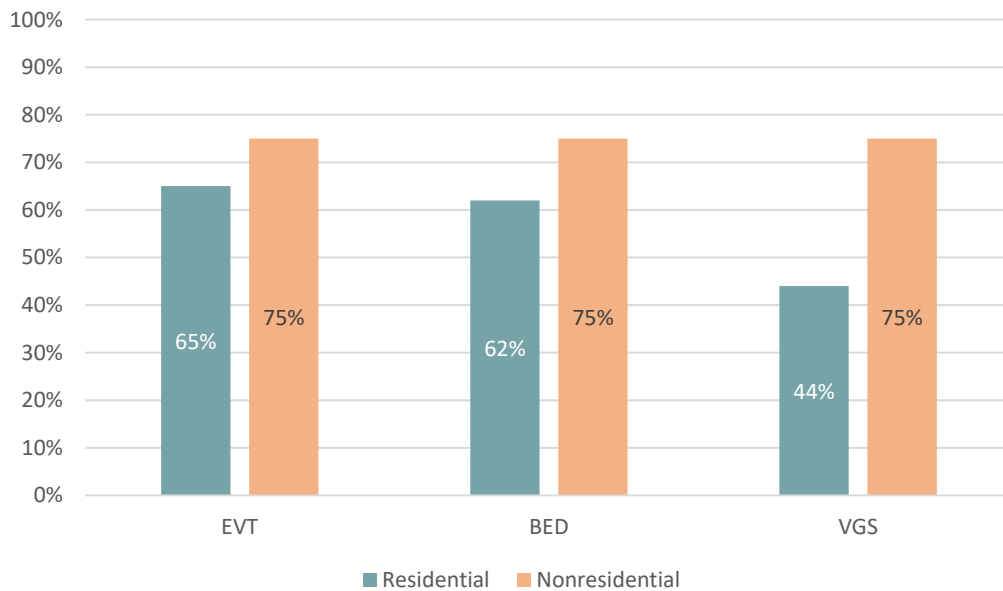
Figure 2-2 below depicts the sector average incentive levels identified for the realistic achievable scenario, by EEU.

In addition to incentive levels, the estimates of achievable potential include an assumed non-incentive resource acquisition cost in the development of EEU budgets and sector-level cost-effectiveness. Non-incentive resource acquisition costs were developed based on historical reported program costs for EEU, and then mapped to individual measures and/or end-uses. Figure 2-3 depicts the range of non-incentive acquisition costs applied across end-uses by EEU and by sector in both the maximum and realistic

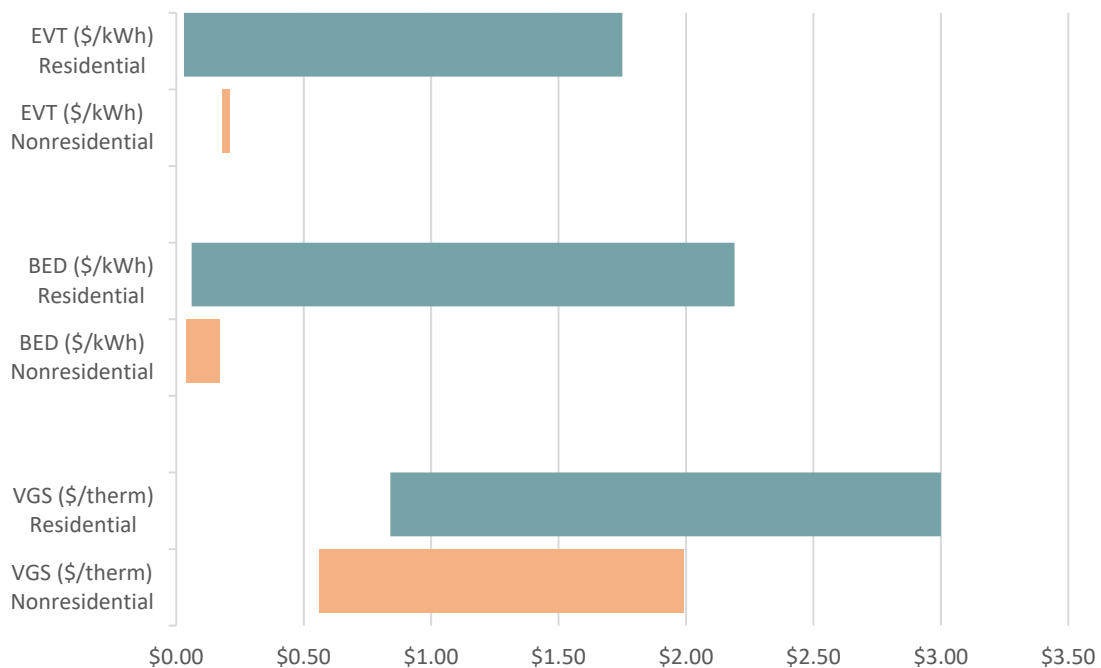
<sup>21</sup> National Action Plan for Energy Efficiency: Understanding Cost-Effectiveness of Energy Efficiency Programs.

achievable scenarios. For example, the residential non-incentive acquisition costs ranged from \$0.03/1<sup>st</sup> Year kWh saved (Behavioral) to \$1.75/1<sup>st</sup> Year kWh saved (New Construction) in the EVT analysis.

**FIGURE 2-2 AVERAGE INCENTIVE LEVELS (AS A % OF INCREMENTAL MEASURE COST) ASSUMED IN THE REALISTIC ACHIEVABLE POTENTIAL SCENARIO**



**FIGURE 2-3 NON-INCENTIVE RESOURCE ACQUISITION COSTS BY SECTOR AND EEU**



Detailed non-incentive resource acquisition costs by measure and EEU are available as part of Appendix B.

### 2.7.2 Market Adoption Rates

GDS assessed achievable potential on a measure-by-measure basis. In addition to accounting for the natural replacement cycle of equipment in the achievable potential scenario, GDS estimated measure

specific maximum adoption rates that reflect the presence of possible market barriers and associated difficulties in achieving the 100% market adoption assumed in the technical and economic scenarios.

The initial step in the market penetration methodology was to assess the long-term market adoption potential for residential energy efficiency technologies. As noted earlier in the report, there are approximately 315 residential and 571 nonresidential measures included in this study. Due to the wide variety of measures across multiple end-uses, GDS employed varied measure and end-use-specific ultimate adoption rates versus a singular universal market adoption curve. These long-term market adoption estimates were based on publicly available DSM research including market adoption rate surveys and other utility program benchmarking.<sup>22</sup> These surveys include questions to residential homeowners and nonresidential facility managers regarding their perceived willingness to purchase and install energy efficient technologies across various end uses and incentive levels. GDS/Cadmus utilized likelihood and willingness-to-participate data to estimate the long-term (10-year) market adoption potential for both the maximum and realistic achievable scenarios. Table 2-8 presents the long-term market adoption rates at varied incentive levels used for both the residential and nonresidential sectors. When incentives are assumed to represent 100% of the measure cost (maximum achievable), the long-term market adoption ranged by sector and end-use from 41% to 91%. For the realistic achievable potential scenario, the incentive levels also varied by measure resulting in measure-specific market adoption rates.

**TABLE 2-8 LONG-TERM MARKET ADOPTION RATES BASED ON SECONDARY WILLINGNESS-TO-PARTICIPATE SURVEY RESULTS**

End-Use	Incentive Level as a % of Incremental Cost			
	0%	50%	75%	100%
<b>Residential</b>				
<b>Appliances</b>	44%	62%	70%	86%
<b>Central AC</b>	27%	45%	58%	77%
<b>CFL</b>	56%	70%	76%	81%
<b>LED</b>	49%	65%	75%	86%
<b>Other</b>	38%	55%	64%	80%
<b>Pool Pump</b>	9%	28%	34%	41%
<b>Space Heating</b>	28%	46%	59%	77%
<b>Water Heaters</b>	39%	54%	64%	77%
<b>Weatherization</b>	32%	51%	60%	75%
<b>Non-Residential</b>				
<b>Appliances</b>	34%	50%	57%	64%
<b>Central AC</b>	34%	58%	69%	80%
<b>Lighting</b>	25%	35%	46%	62%
<b>Other</b>	33%	57%	68%	81%
<b>Refrigeration</b>	53%	83%	89%	90%
<b>Space Heating</b>	23%	51%	62%	78%
<b>Ventilation</b>	33%	62%	71%	90%
<b>Weatherization</b>	28%	50%	65%	80%
<b>Industrial</b>	40%	64%	71%	80%

Once the long-term market adoption rate was determined, GDS estimated initial year adoption rates by calibrating the estimates of 2018 annual potential to recent historical levels achieved by the EEU's current DSM portfolio.<sup>23</sup> This calibration effort ensures that the forecasted achievable potential in 2018 is realistic

<sup>22</sup> Publicly available surveys include willingness-to-participate research conducted as part of the Colorado Springs Utilities 2015 DSM Potential Study, the 2015 Statewide Pennsylvania Potential Study, 2016 Dayton Power and Light Energy Efficiency Potential Study, 2013 Louisville Gas and Electric Potential Study, 2015 Oklahoma Gas and Electric and Public Service of Oklahoma Energy Efficiency Potential Study, and 2015 National Grid Nantucket Residential Energy Efficiency Potential Study.

<sup>23</sup> This approach for initial year adoption rates was used in the estimation of realistic achievable potential only. For maximum achievable potential, it was assumed that the EEUs could achieve the long-term market adoption rate beginning in 2018 to acknowledge the high incentive levels and represent aggressive adoption of energy efficient technologies.

and attainable. GDS/Cadmus then assumed a linear ramp rate over 10 years from the initial year market adoption rate to the various long-term market adoption rates for each specific end-use.

One caveat to this approach is that the ultimate long-term adoption rate is generally a simple function of incentive levels and payback. There are many other possible elements that may influence a customer's willingness to purchase an energy efficiency measure. For example, increased marketing and education programs can have a critical impact on the success of energy efficiency programs. Additionally, other perceived measure benefits, such as increased comfort or safety as well as reduced maintenance costs could also factor into a customer's decision to purchase and install energy efficiency measures. Although these additional elements are not explicitly accounted for under this incentive/payback analysis, the estimated adoption rates and penetration curves provide a concise method for estimating achievable savings potential over a specified timeframe.

### 2.7.3 Net to Gross Energy Savings Assumptions

All estimates of technical and economic potential, as well as measure level cost-effectiveness screening were conducted in terms of gross savings to reflect the absence of program design considerations in these phases of the analysis. The estimates of maximum and realistic achievable potential are, however, presented in terms of net savings to reflect the importance of program design in overcoming market barriers to participation. Net energy savings consider free-riders (participants who would have installed the high efficiency option in the absence of the program) and spillover customers (participants who install efficiency measures due to program activities, but never receive a program incentive). Measure net-to-gross ratios were based on the evaluation findings of historical Vermont efficiency programs and mapped to individual measures in both the residential and nonresidential sectors. Assumed net to gross ratios for each measure can be found in Appendix B.



### 3 Characterization of Vermont EEU Service Areas

Energy efficiency potential studies and other market assessment studies are valuable sources of information for planning energy efficiency programs. To develop estimates of electricity savings potential, it is important to understand the extent to which electricity and natural gas is used by households and businesses in Vermont in the EEU service areas.<sup>24</sup> Data are also presented for the forecasted electric energy sales and system peak demand, and the on-going energy efficiency efforts of EVT, BED, and VGS.

#### 3.1 EEU SERVICE AREAS

This study includes a potential of electric and natural gas potential for the three EEUs in Vermont. EVT delivers electric energy efficiency for the state, except in the BED territory where BED delivers energy efficiency services to its customers. Figure 3-1 maps the numerous electric distribution utilities in Vermont with EVT providing electric energy efficiency services to all electric utilities except BED. In 2016, EVT provided electric energy efficiency services to approximately 318,000 households and 50,600 businesses. BED provided service to an additional 16,800 households and 3,850 businesses.

VGS delivers regulated natural gas energy efficiency services in its existing service footprint (primarily Chittenden, Franklin, and Addison counties) which overlaps with both EVT and BED's service territories. In 2017, VGS projects to serve approximately 45,000 households and 5,900 nonresidential facilities. The VGS service footprint is also expected to increase by more than 10,000 homes and 2,000 nonresidential facilities over the analysis timeframe due to expansion of natural gas services in existing homes and new construction. This expansion is reflected in the current analysis.

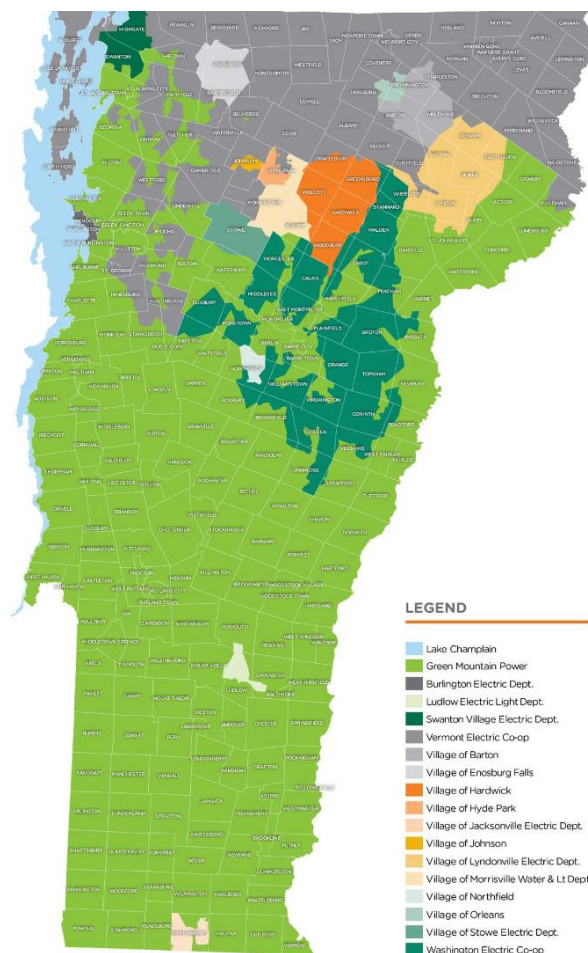


FIGURE 3-1 ELECTRIC DISTRIBUTION UTILITIES IN VERMONT

#### 3.2 EEU LOAD FORECASTS

This analysis of the potential for energy efficiency savings begins with utilizing the most recent and available electricity sales forecasts for each EEU for a period of 20 years beginning in 2018. Following discussions with the Vermont DPS, the EEU forecasts were adjusted to remove the impacts of future electric and natural gas DS, adjust for savings decay from historical DSM achievements, and exclude the industrial opt-out load.

Figure 3-2 shows the electric MWh sales forecast for EVT from 2018-2037. In 2018, 42% of sales are attributable to the residential sector and 58% are attributable to the nonresidential sector. These percentages are calculated by using the sector-level forecast consumption, without future DSM. The total MWh sales forecast for EVT grows at a compound annual growth rate of 1.15% per year.

<sup>24</sup> The Vermont Public Service Board has appointed the Burlington Electric Department (BED) as the EEU for the City of Burlington, and the Board has appointed the Vermont Energy Investment Corporation as the EEU for the remainder of the State, under the name "Efficiency Vermont" (EVT). For purposes of this report, "BED" will be used to refer to the area served by the Burlington Electric Department, and "EVT" will be used to refer to the area served by VEIC.

FIGURE 3-2 EVT ENERGY (MWH) SALES FORECAST FROM 2018-2037

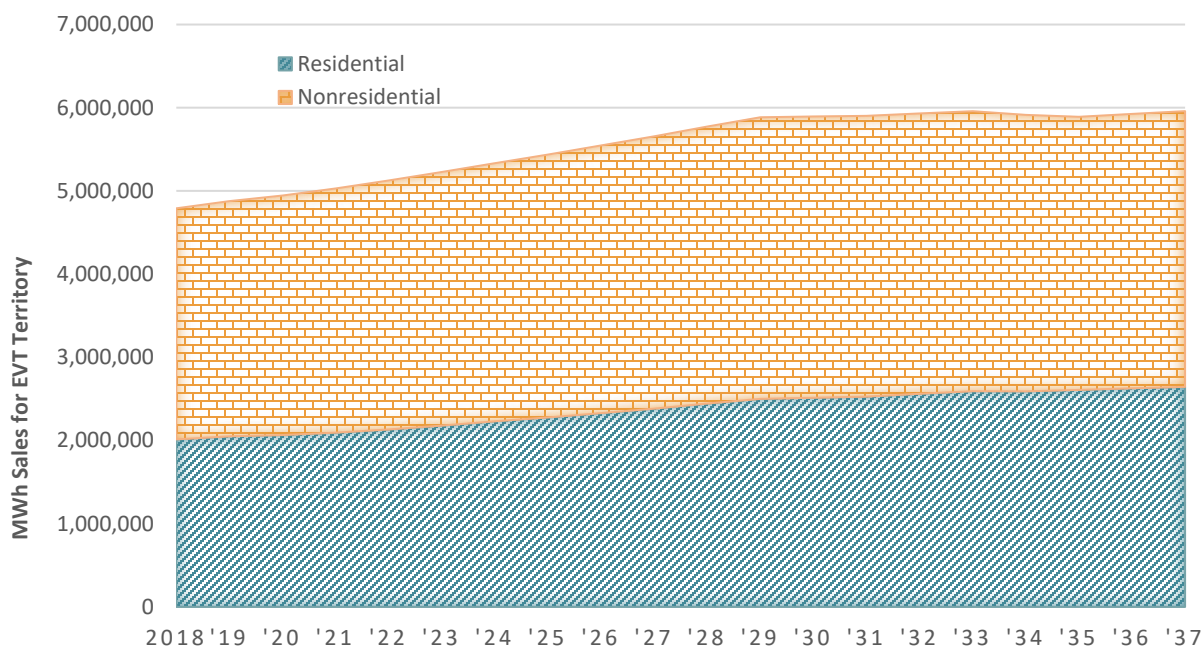
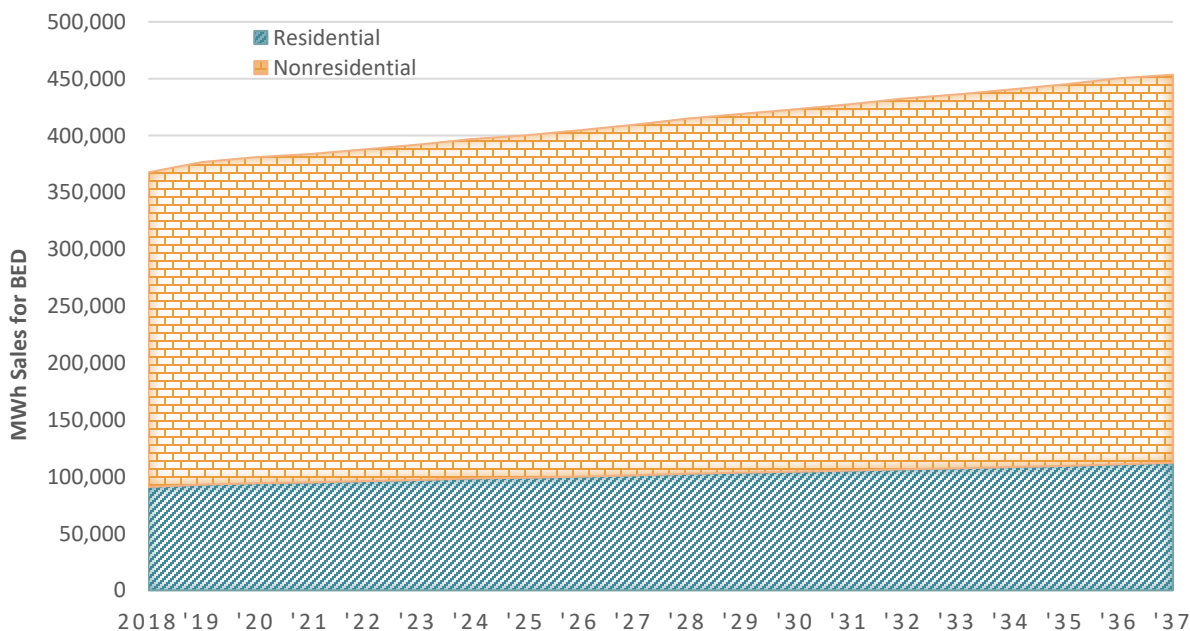


Figure 3-3 shows the MWh sales forecast for BED. A smaller share of the total system sales is attributable to the residential sector in the BED territory compared to the rest of the state. For BED, only 25% of sales are attributable to the residential sector and 75% are attributable to the nonresidential sector. The total MWh sales forecast for BED grows at a compound annual growth rate of 1.11% per year.

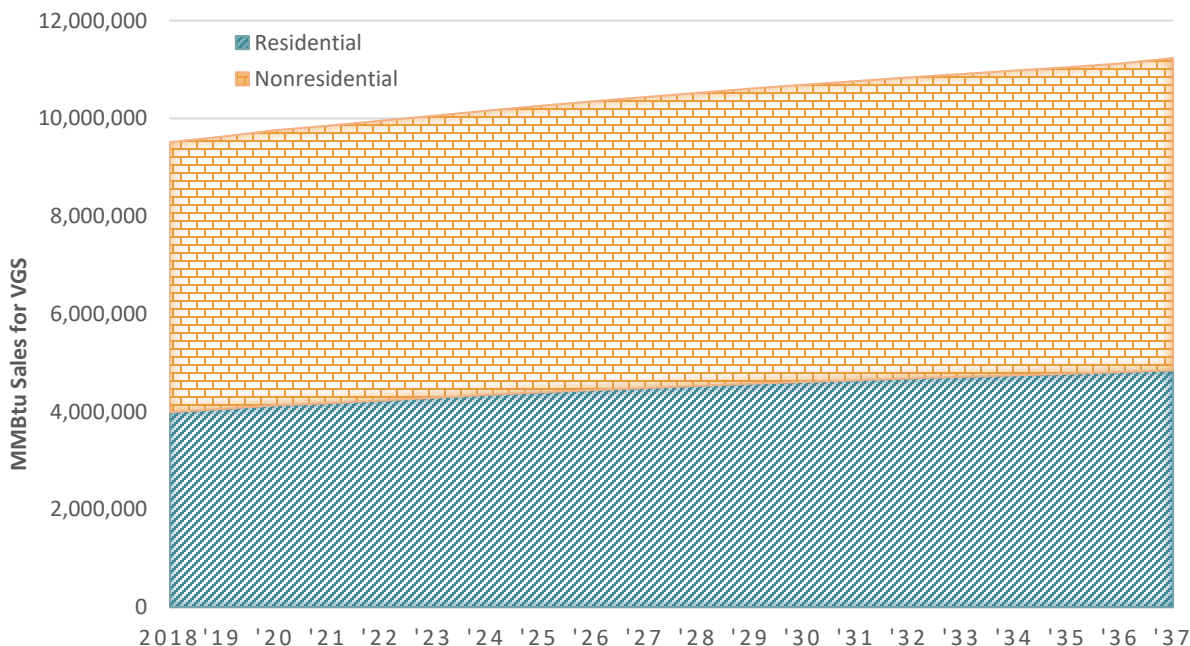
FIGURE 3-3 BED ENERGY (MWH) SALES FORECAST FROM 2018-2037



Last, Figure 3-4 shows the natural gas MMBtu sales forecast for VGS from 2018-2037. Forty-two percent (42%) of sales are attributable to the residential sector and 58% are attributable to the nonresidential sector. The total MMBtu sales forecast for VGS grows at a slower pace than the electric EEU's over the next two decades, with a compound annual growth rate of 0.88% per year.



FIGURE 3-4 VGS NATURAL GAS (MMBTU) SALES FORECAST FROM 2018-2037



### 3.3 SECTOR LOAD DETAIL

#### 3.3.1 EVT Commercial and Industrial Sector Load Detail

Figure 3-5 shows the average annual energy intensities, expressed in kWh per square foot, for each building type characterized in EVT's commercial sector. Figure 3-5, as well as Figure 3-6 and Figure 3-7, show the disaggregation of EVT's commercial forecast by sector and by end use. Energy intensities range from roughly 11 kWh/sq ft in warehouses where lighting is the predominant end use, to nearly 50 kWh/sq ft in grocery stores where most electricity consumption comes from the refrigeration end use. Note that Figure 3-5 compares energy intensities, not total energy consumption, across the different commercial building types. Figure 3-6 shows the EVT forecast in 2037, disaggregated by building type. This disaggregation reflects the mixture of building types and consumption identified in EVT's customer data set. Nearly two-thirds (32%) of projected energy consumption in 2037 comes from the "miscellaneous" building type,<sup>25</sup> followed by offices (15%), retail (13%), and grocery stores (11%).

Figure 3-7 shows the disaggregation of projected commercial for EVT in 2037 by end use. Approximately one-half of commercial consumption comes from lighting end uses, followed by plug load end uses (26%), and refrigeration (12%). Lighting end uses include screw base, linear, high bay, and exterior fixtures. The plug load end use include various appliances, office equipment, and electronics.<sup>26</sup>

<sup>25</sup> A large portion of the EVT customer data did not identify the NAICS, SIC, or segment for a number of customers. Without knowing the type of customer, the GDS Team modeled these customer's as "miscellaneous."

<sup>26</sup> The low cooling portion of the baseline was largely of function of low cooling energy intensities for the climate in VT and a small amount of cooled floor space, derived from the Vermont Non-Residential Baseline Study.

FIGURE 3-5 EVT COMMERCIAL ENERGY INTENSITIES (KWH/SQ FT)

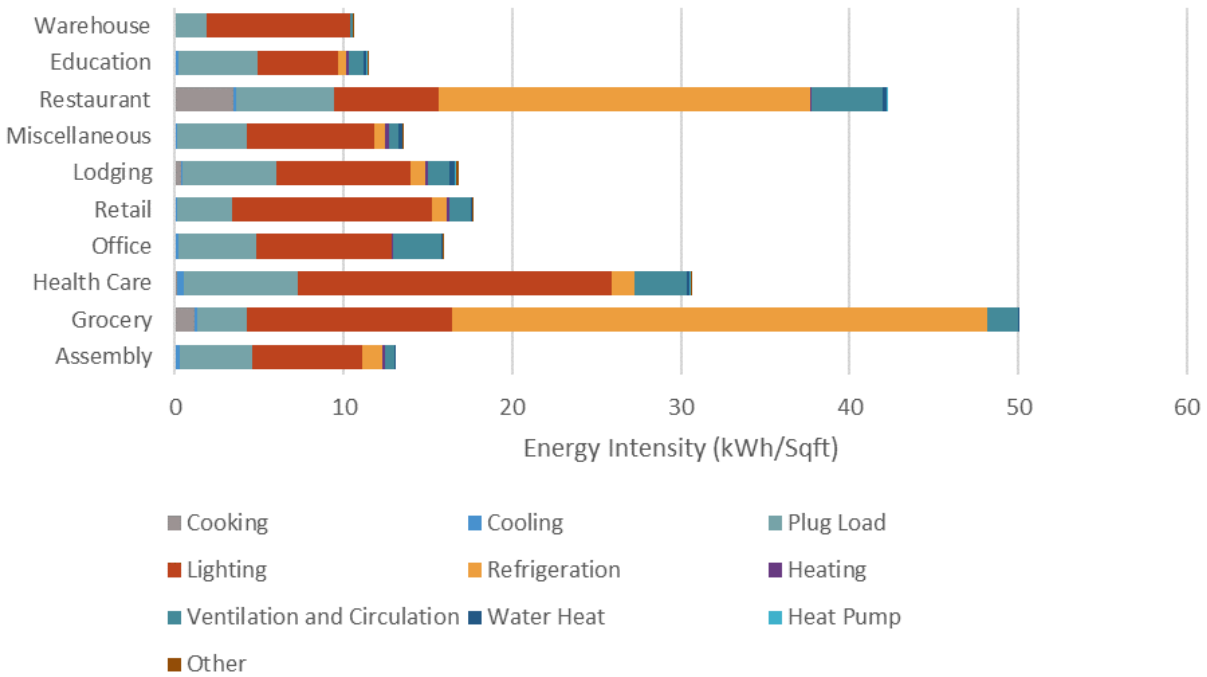


FIGURE 3-6 EVT COMMERCIAL FORECAST DISAGGREGATION BY SEGMENT

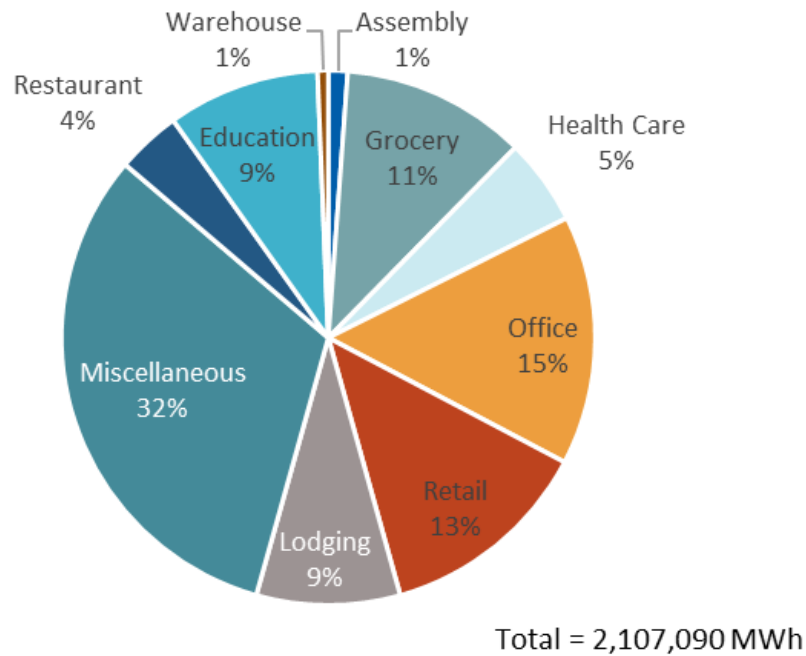
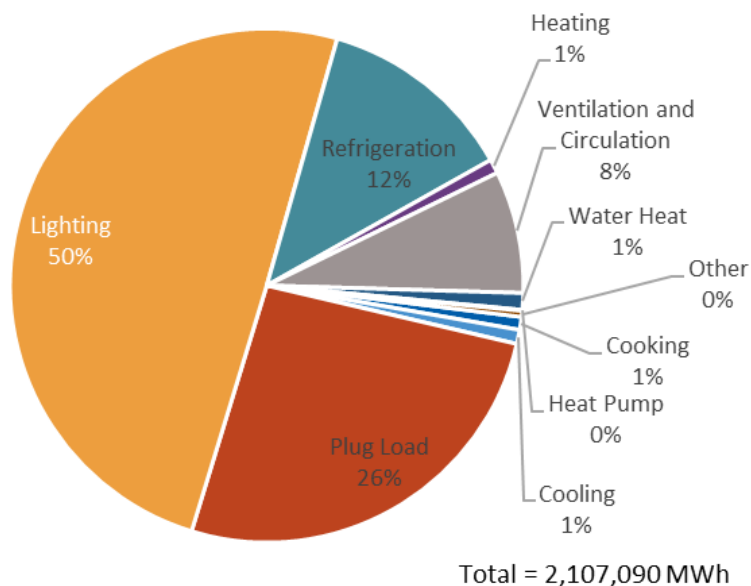


FIGURE 3-7 EVT COMMERCIAL BASELINE SALES BY END USE



Using EVT's customer and forecast data, we disaggregated EVT's C&I forecast into specific industries. Figure 3-8 provides a breakout of projected 2037 industrial sales by industry. Miscellaneous manufacturing represents 30% of industrial sales, followed by nonmetallic mineral products (22%) and paper manufacturing (14%).

FIGURE 3-8 EVT INDUSTRIAL BASELINE BY INDUSTRY

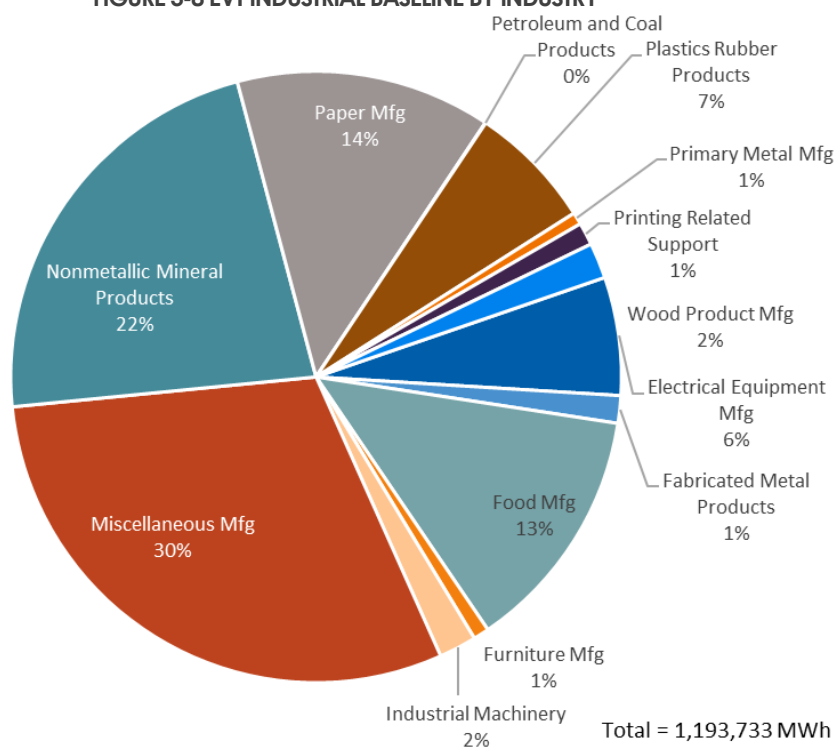
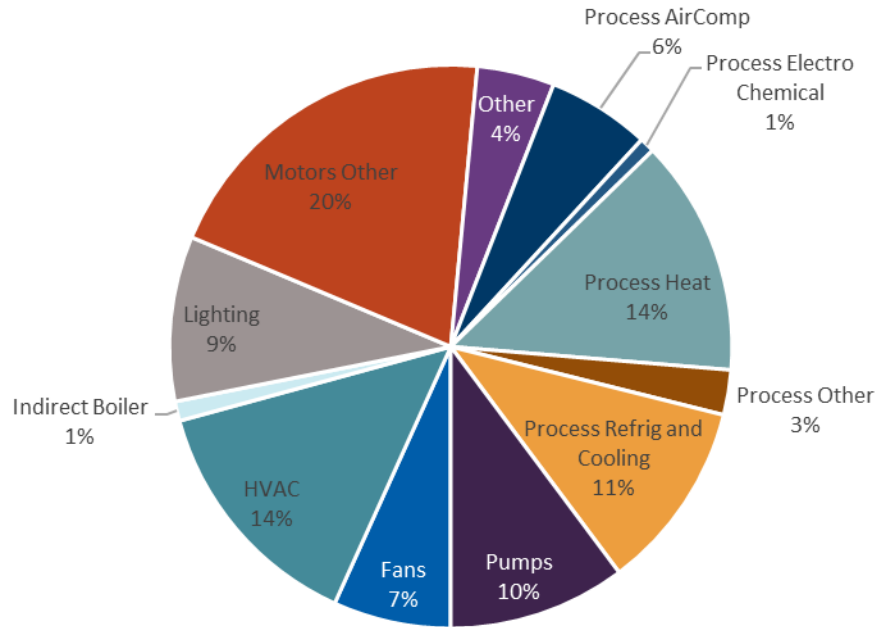


Figure 3-9 shows the distribution of forecasted industrial sales (in 2037) by end use. This distribution reflects the mixture of industries and each industry's respective end use consumption. We determined the distribution of end use consumption for each industry using data from the U.S. Energy Information Agency's (EIA) Manufacturing Energy Consumption Survey (MECS).

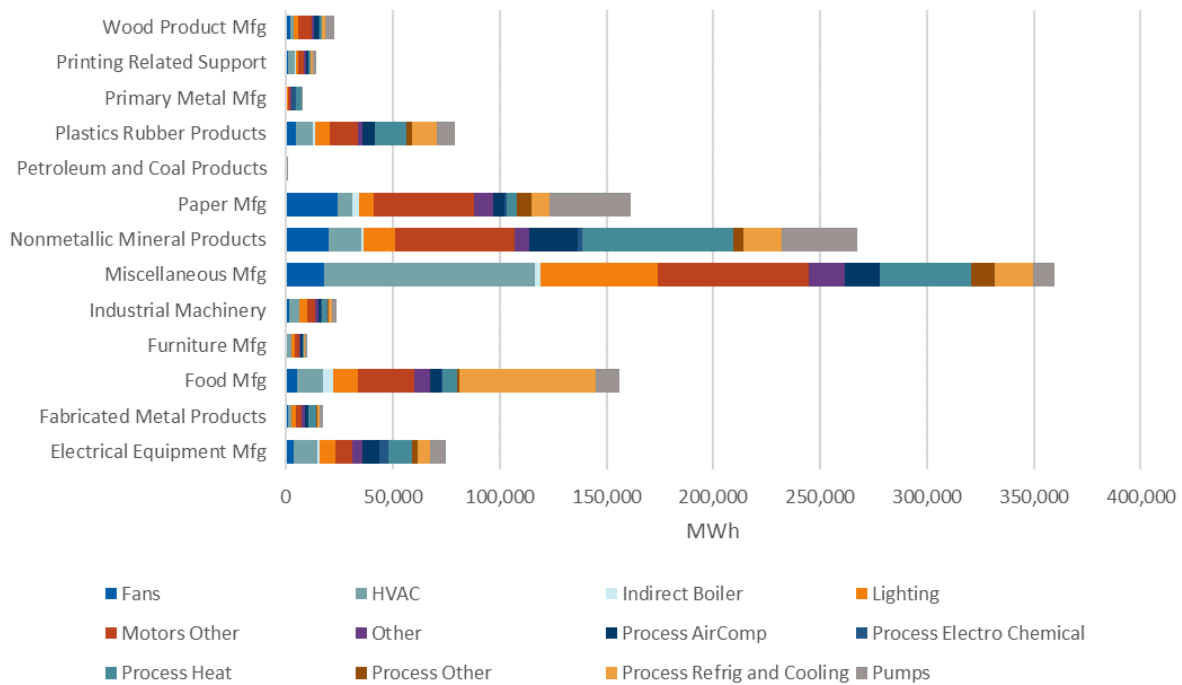
FIGURE 3-9 EVT INDUSTRIAL BASELINE BY END USE



Total = 1,193,733 MWh

End use consumption varies across industries, as shown in Figure 3-10. For instance, the nonmetallic mineral products industry has high usage from heat processes and food manufacturing has relatively high usage in refrigeration and cooling processes.

FIGURE 3-10 EVT INDUSTRIAL BASELINE BY INDUSTRY AND END USE



### 3.3.2 BED Commercial Sector Load Detail

We disaggregated BED's commercial forecast into segments and end uses using the same approach as we did for EVT. However, in reviewing BED's customer data set, we did not identify industrial customers. Therefore, we only characterized the commercial sector for BED. Figure 3-11 shows commercial energy intensities for BED's commercial customers, disaggregated by segment and end use. Restaurants and grocery stores have the highest energy intensity, due to a high saturation of refrigeration equipment.

FIGURE 3-11 BED COMMERCIAL ENERGY INTENSITIES (KWH/SQ FT)

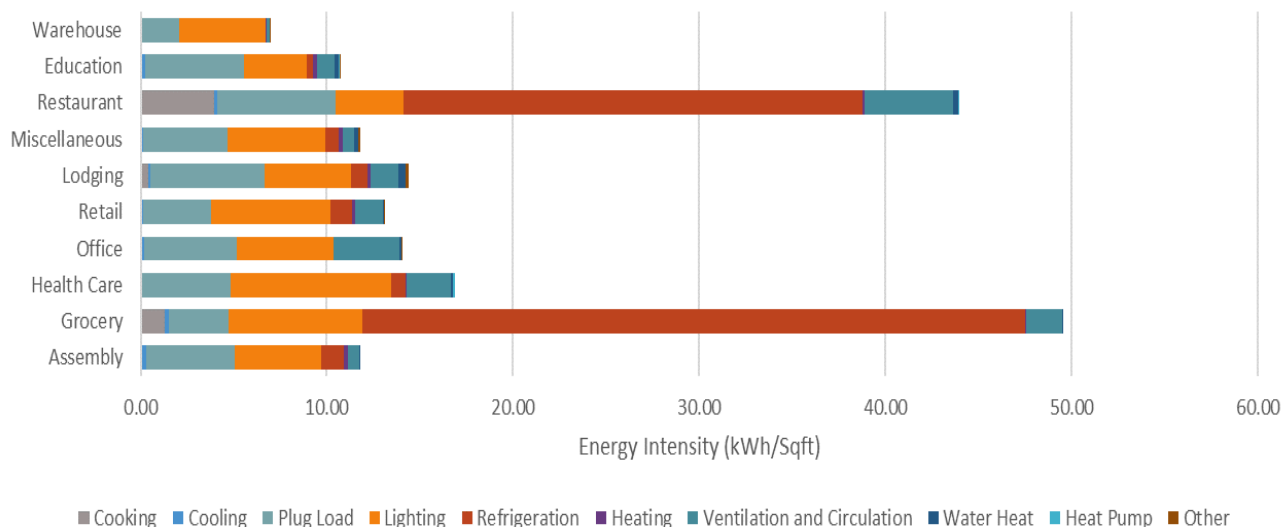
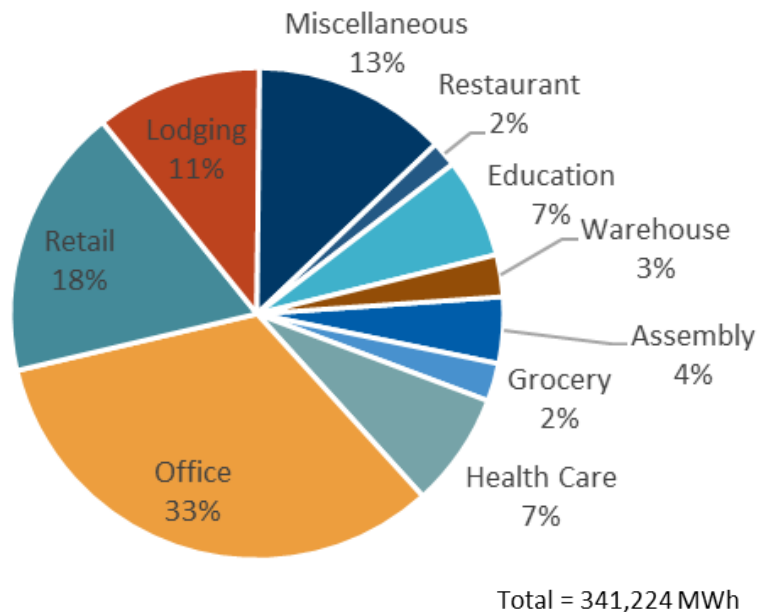


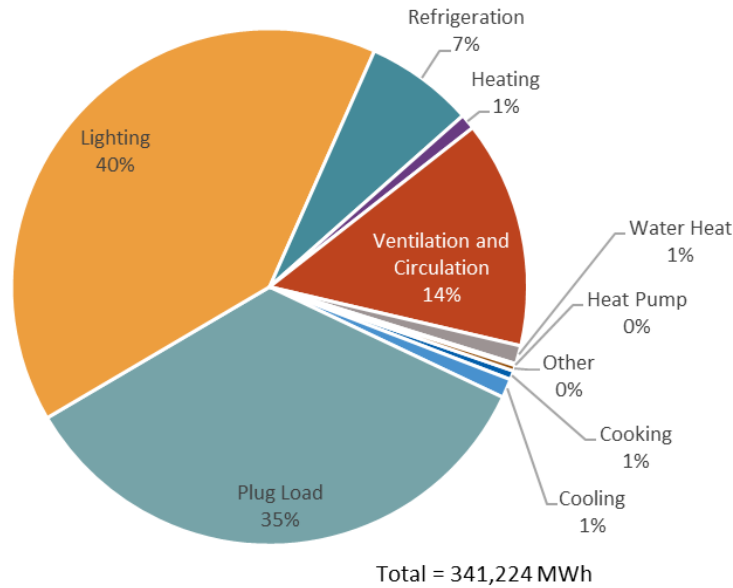
Figure 3-12 shows usage in BED's commercial sector, disaggregated by building type. Offices account for roughly one-third of commercial usage, followed retail (18%), miscellaneous (13%), and lodging (11%).

FIGURE 3-12 BED COMMERCIAL DISAGGREGATION BY SEGMENT



Across all segments, lighting and plug load end uses account for three-quarters of commercial electric consumption. Figure 3-13 breaks out projected BED usage in the commercial sector.

FIGURE 3-13 BED COMMERCIAL DISAGGREGATION BY END USE



### 3.3.3 VGS Commercial and Industrial Sector Load Detail

Figure 3-14 shows energy intensities, expressed in kBtu per square foot, for commercial buildings in VGS' service territory. Energy intensities range from under 5 kBtu/sq ft in warehouses, where boilers and furnaces account for most gas usage, to over 40 kBtu/sq ft in restaurants where cooking accounts for most gas usage.

FIGURE 3-14 VGS COMMERCIAL ENERGY INTENSITIES (KBtu/SQ FT)

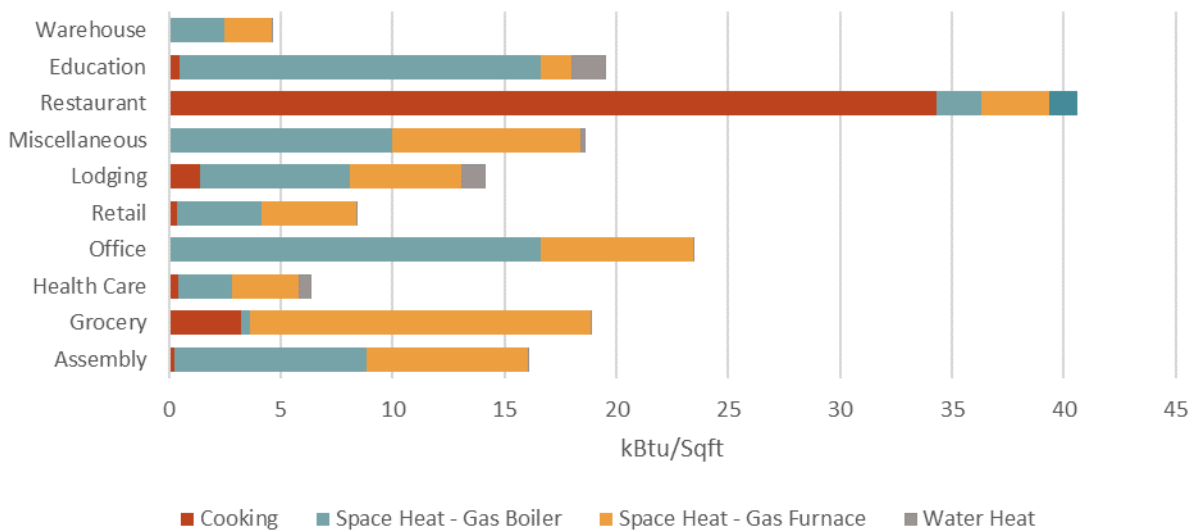


Figure 3-15 shows the distribution of commercial gas usage in VGS' service territory by building type. Nearly one-third (31%) of gas usage is in miscellaneous buildings, followed by offices (16%), retail (14%), and grocery stores (11%).

FIGURE 3-15 VGS COMMERCIAL FORECAST DISAGGREGATION BY SEGMENT

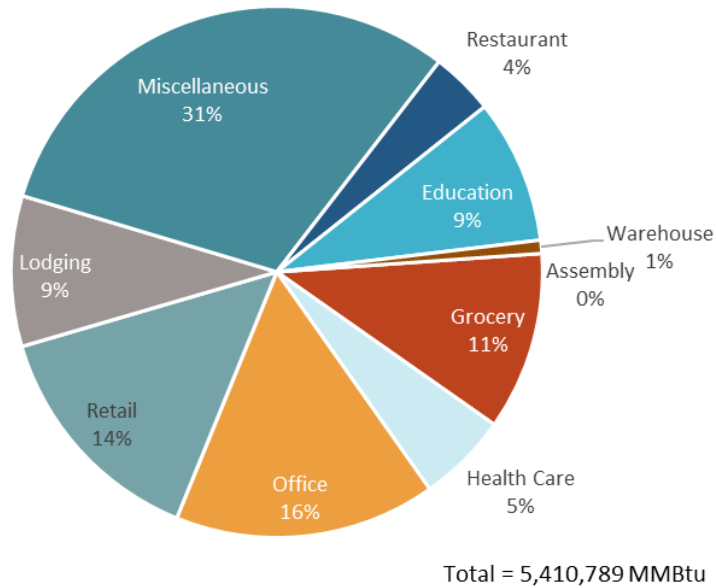
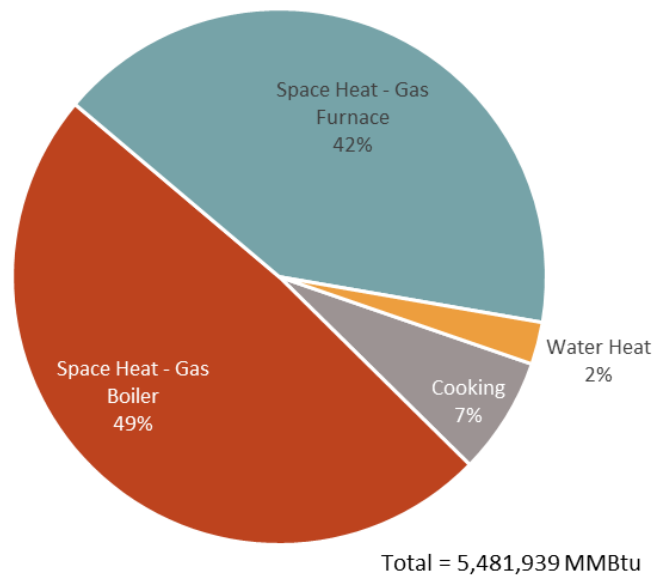


Figure 3-16 shows the distribution of commercial gas usage by end use. Across all building types, boilers and furnaces account for nearly all gas usage (91% of total). Cooking accounts 7% of total gas usage and water heating accounts for the remaining 2%.

FIGURE 3-16 VGS COMMERCIAL FORECAST DISAGGREGATION BY END USE



VGS' industrial sector consists of diverse industries, including a collection of miscellaneous industries which account for 35% of industrial gas usage. Paper manufacturing, food manufacturing, and plastics and rubber products account for 18%, 18%, and 9% of VGS' industrial gas usage, respectively (Figure 3-17).

FIGURE 3-17 VGS INDUSTRIAL FORECAST DISAGGREGATION BY SEGMENT

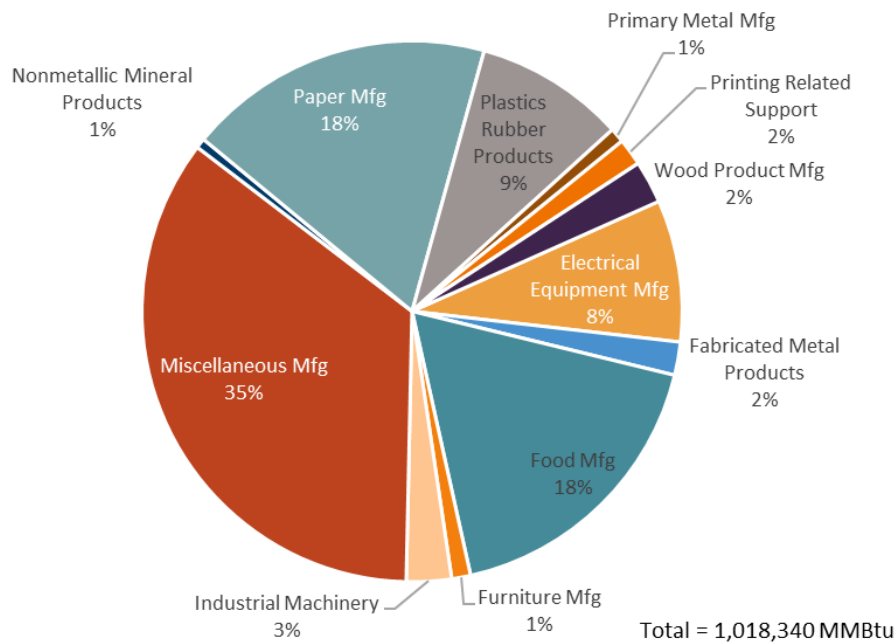


Figure 3-18 and Figure 3-19 shows the distribution of end use gas consumption in VGS' industrial sector. Indirect boilers account for 40% of gas consumption, followed by heat processes (34%), and HVAC (22%). We derived the distribution of end use consumption for each industry using data from EIA's MECS.

FIGURE 3-18 VGS INDUSTRIAL FORECAST DISAGGREGATION BY END USE

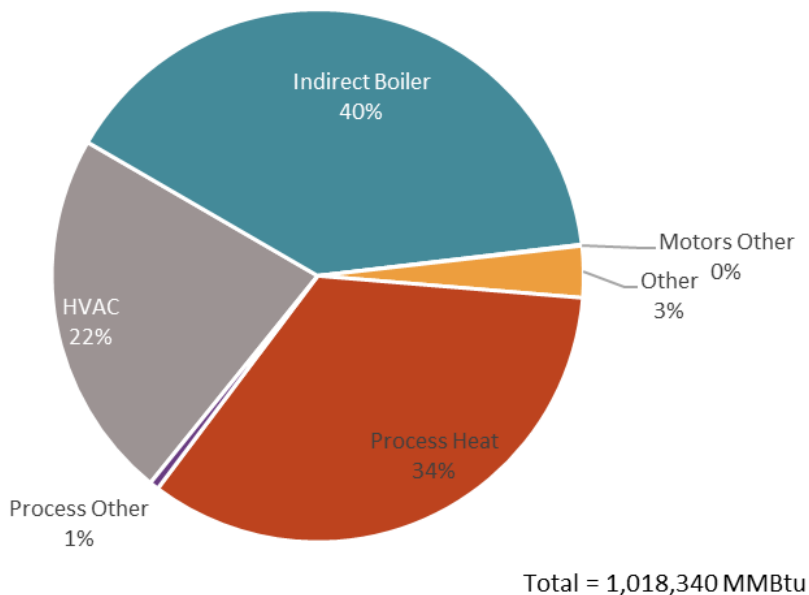
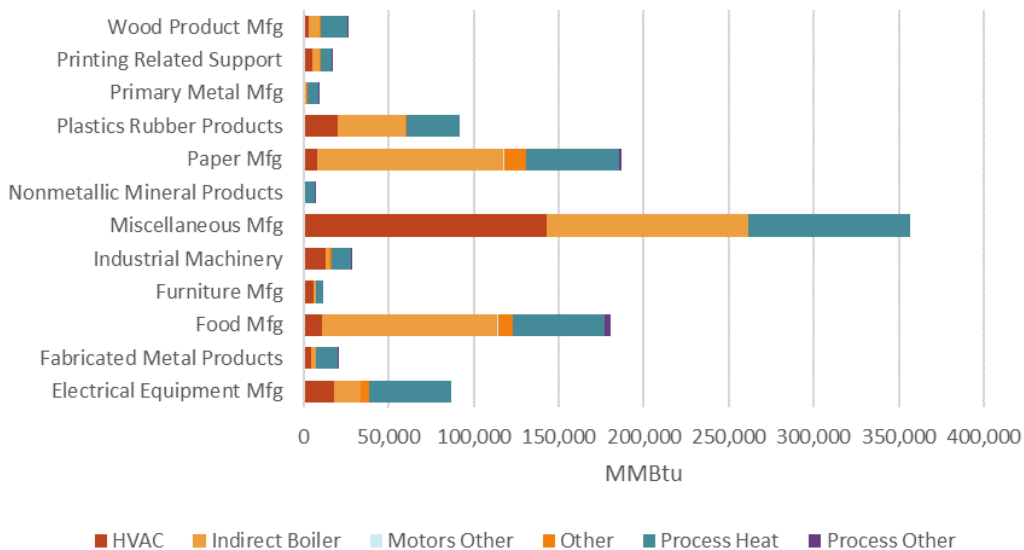




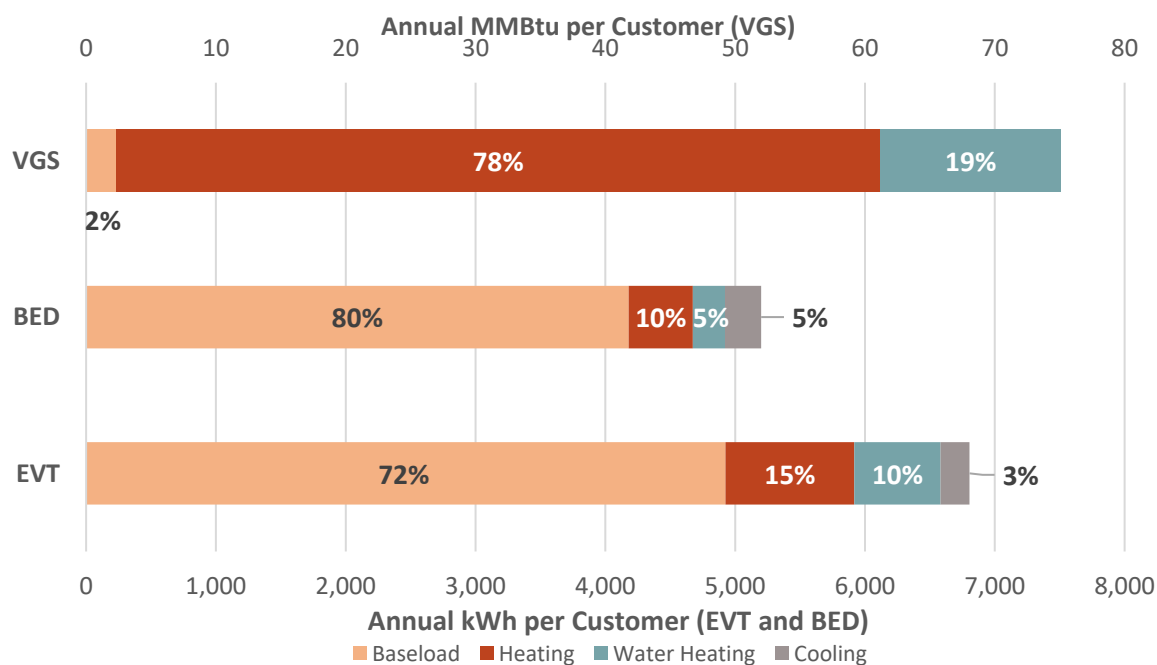
FIGURE 3-19 VGS FORECAST DISAGGREGATION BY SEGMENT AND END USE



### 3.3.4 Residential Sector Load Detail

Figure 3-20 provides the average annual energy consumption in the residential sector by EEU and end-use based on the results of the forecast disaggregation effort discussed in Section 2.2. The average electric consumption per household in the EVT service areas was estimated to be 6,805 kWh per year. BED's residential customers, who may be characterized by a greater density of multi-family units and lower electric heating and water heating loads per customer compared to EVT, consume an average of 5,200 kWh per year per customer. Gas consumption was estimated to be 75.2 MMBtu per year, with the large majority of the annual consumption attributable to space heating and water heating. Cooking and gas drying account for only 2% of the total gas consumption.

FIGURE 3-20 END-USE CONSUMPTION PER CUSTOMER – BASED ON EEU FORECAST DISAGGREGATION



### 3.4 2015-2017 TRIENNIAL PLAN BENCHMARKING

The GDS/Cadmus team conducted a review of the latest available information pertaining to each EEU's historical energy efficiency program performance. Various data points were collected including reported energy savings and resource acquisition costs. The purpose of this step was to understand historical program delivery and performance, and to help calibrate, where possible, our near-term estimates of achievable potential. Table 3-1 shows the 2013-2016 annual MWh/MMBtu savings and annual resource acquisition costs by sector and EEU.

TABLE 3-1 HISTORICAL ANNUAL ENERGY SAVINGS AND RESOURCE ACQUISITION COSTS BY SECTOR, BY EEU

Energy Savings	2016	2015	2014	2013
<b>EVT (MWh)</b>				
<b>Residential</b>	65,070	55,424	35,479	34,723
<b>Nonresidential</b>	64,511	49,573	55,667	50,859
<b>Total Portfolio</b>	129,581	104,997	91,146	85,582
<b>BED (MWh)</b>				
<b>Residential</b>	2,028	2,334	1,840	2,567
<b>Nonresidential</b>	4,074	3,691	3,559	4,400
<b>Total Portfolio</b>	6,102	6,025	5,399	6,967
<b>VGS (MCF)</b>				
<b>Residential</b>	Not available	24,755	29,621	23,579
<b>Nonresidential</b>	Not available	57,722	62,737	61,358
<b>Total Portfolio</b>	Not available	82,477	92,358	84,937
<b>Resource Acquisition \$</b>				
	2016	2015	2014	2013
<b>EVT (MWh)</b>				
<b>Residential</b>	\$19,551,012	\$20,628,832	\$15,679,895	\$13,534,376
<b>Nonresidential</b>	\$22,586,621	\$22,097,782	\$25,283,468	\$16,897,785
<b>Total Portfolio</b>	\$42,137,633	\$42,726,614	\$40,963,363	\$30,432,161
<b>BED (MWh)</b>				
<b>Residential</b>	\$814,708	\$872,957	\$729,315	\$499,895
<b>Nonresidential</b>	\$1,517,993	\$1,386,258	\$1,503,660	\$1,567,555
<b>Total Portfolio</b>	\$2,332,701	\$2,259,215	\$2,232,975	\$2,067,450
<b>VGS (MCF)</b>				
<b>Residential</b>	Not available	\$1,676,939	\$1,536,730	\$1,302,889
<b>Nonresidential</b>	Not available	\$559,347	\$714,124	\$581,235
<b>Total Portfolio</b>	Not available	\$2,236,286	\$2,250,854	\$1,884,124

## 4 Residential Energy Efficiency Potential

This section provides the potential results for technical, economic, MAP and RAP for the residential sector. Results are broken down by EEU as well as end use. The cost-effectiveness results for MAP and RAP are also provided, as are annual budgets for each of these scenarios.

### 4.1 MEASURES EXAMINED

There were 569 total electric measures and 292 natural gas measures included in the analysis. Some measures save both electricity and natural gas, but the designation here is made based on which EEU would be expected to offer the measure. Table 4-1 provides a list of the measures included for each end use in the residential model. The list of measures was developed based on a review of the VT TRM, feedback from the Department and the EEUs, and measures found in other residential potential studies and TRMs from the Northeast. Measure data includes incremental costs, electric energy and demand savings, natural gas savings, and measure life.

TABLE 4-1 RESIDENTIAL ENERGY EFFICIENCY MEASURES IN STUDY

End-Use	Measure Name	Electric or Gas
Refrigeration	ENERGY STAR, CEE Tier 2 and CEE Tier 3 Refrigerators	Electric
Refrigeration	Refrigerator Early Removal	Electric
Refrigeration	Freezer Early Removal	Electric
Refrigeration	ENERGY STAR Freezer	Electric
Clothes Washer/Dryer	ENERGY STAR, CEE Tier 2 and CEE Tier 3 Clothes Washer	Electric
Clothes Washer/Dryer	ENERGY STAR Electric Dryer	Electric
Clothes Washer/Dryer	ENERGY STAR Gas Dryer	Gas
Clothes Washer/Dryer	Vented Hybrid Heat Pump Dryer	Electric
Clothes Washer/Dryer	Ventless Hybrid Heat Pump Dryer	Electric
Clothes Washer/Dryer	Ventless Full Heat Pump Dryer	Electric
Clothes Washer/Dryer	ENERGY STAR Dryer (Fuel Switch)	Electric
Dishwasher	ENERGY STAR Dishwasher	Electric
Electronics	Ultraefficient LCD Monitors	Electric
Electronics	Televisions (ENERGY STAR 7.0 & 4K UHD ENERGY STAR 7.0)	Electric
Electronics	Televisions (4K UHD Energy Star 7.0)	Electric
Electronics	Tier 1 Powerstrips - home offices	Electric
Electronics	Tier 2 Powerstrips - home entertainment centers	Electric
Electronics	ENERGY STAR Desktop Computers	Electric
Electronics	ENERGY STAR Sound Bars	Electric
Electronics	ENERGY STAR Room Air Cleaners	Electric
Hot Water	DHW Tank Wrap (Electric WH)	Electric
Hot Water	DHW Pipe Wrap (Electric WH)	Electric
Hot Water	Tank Temperature Turn Down (Electric WH)	Electric
Hot Water	Low Flow Showerhead (Electric WH)	Electric
Hot Water	Low Flow Faucet Aerator (Electric WH)	Electric
Hot Water	DHW Tank Wrap (Gas WH)	Gas
Hot Water	DHW Pipe Wrap (Gas WH)	Gas
Hot Water	Tank Temperature Turn Down (Gas WH)	Gas
Hot Water	LF Showerhead (Gas WH)	Gas

End-Use	Measure Name	Electric or Gas
Hot Water	LF Faucet Aerator (Gas WH)	Gas
Hot Water	Heat Pump Water Heaters	Electric
Hot Water	Electric Hot Water Fuel Switch (from electric to non-electric)	Electric
Hot Water	Gas Storage Water Heater	Gas
Hot Water	Condensing Gas Storage Water Heater	Gas
Hot Water	Tankless whole-house water heater	Gas
Hot Water	Solar Water Heater	Gas
Hot Water	Thermostatic Shower Restriction Valve (Electric WH)	Electric
Hot Water	Thermostatic Shower Restriction Valve (Gas WH)	Gas
Hot Water	Drain Water Heat Recovery - electric water heating	Electric
Hot Water	Drain Water Heat Recovery - gas water heating	Gas
Hot Water	DHW Water Recirculation Pipe Insulation (Gas WH)	Gas
Hot Water	Boiler Hot Water Distribution Pipe Insulation (Gas WH)	Gas
Pool/Spa	ENERGY STAR Two-speed pool pump	Electric
Pool/Spa	ENERGY STAR variable-speed pool pump	Electric
Lighting	Omnidirectional LED Bulb	Electric
Lighting	Directional LED Bulb	Electric
Lighting	LED Light Fixture	Electric
Lighting	HPT8 Tube Fluorescent	Electric
Ventilation	Residential Fan - Quiet, Exhaust-Only Continuous Ventilation	Electric
HVAC Shell	Air sealing	Electric
HVAC Shell	ENERGY STAR Windows	Electric
HVAC Shell	Ceiling Insulation	Electric
HVAC Shell	Floor Insulation	Electric
HVAC Shell	Basement Wall Insulation	Electric
HVAC Shell	Duct sealing	Gas
HVAC Shell	ENERGY STAR New Home (gas heat)	Gas
HVAC Shell	ENERGY STAR New Home (electric heat)	Electric
HVAC Equipment	ENERGY STAR Dehumidifiers	Electric
HVAC Equipment	ENERGY STAR Room Air Conditioner	Electric
HVAC Equipment	Brushless Permanent Magnet Circulator Pump	Electric
HVAC Equipment	ENERGY STAR Central AC	Electric
HVAC Equipment	Ductless mini-split heat pump	Electric
HVAC Equipment	Advanced Thermostats - Electric Heating	Electric
HVAC Equipment	Gas Boilers	Gas
HVAC Equipment	Gas Furnaces	Gas
HVAC Equipment	Dual-fuel heat pump	Gas
HVAC Equipment	Combination Boiler	Gas
HVAC Equipment	Indirect-Fired Storage Tank	Gas
HVAC Equipment	Advanced Thermostats - Gas Heating	Gas
HVAC Equipment	Efficient Furnace Fan Motor	Electric
Behavioral	Home Energy Report	Electric

Sections 4.2 through 4.4 provide the respective results for EVT, BED and VGS. Section 4.5 provides a statewide aggregated summary of the results.

#### 4.2 RESIDENTIAL POTENTIAL – EVT

Figure 4-1 provides the technical, economic, MAP and RAP results for the 3-yr, 10-yr, and 20-yr timeframes. The 3-yr technical potential is 18.2% of forecasted sales, and the economic potential is 17.6% of forecasted sales, indicating that most technical potential is cost-effective. The 3-yr MAP is 13.6% and the RAP is 6.8%. The difference between MAP and RAP is due to assumptions related to program participation rates.

**FIGURE 4-1 RESIDENTIAL EVT ELECTRIC ENERGY (MWh) CUMULATIVE ANNUAL POTENTIAL (AS A % OF RESIDENTIAL SALES)**

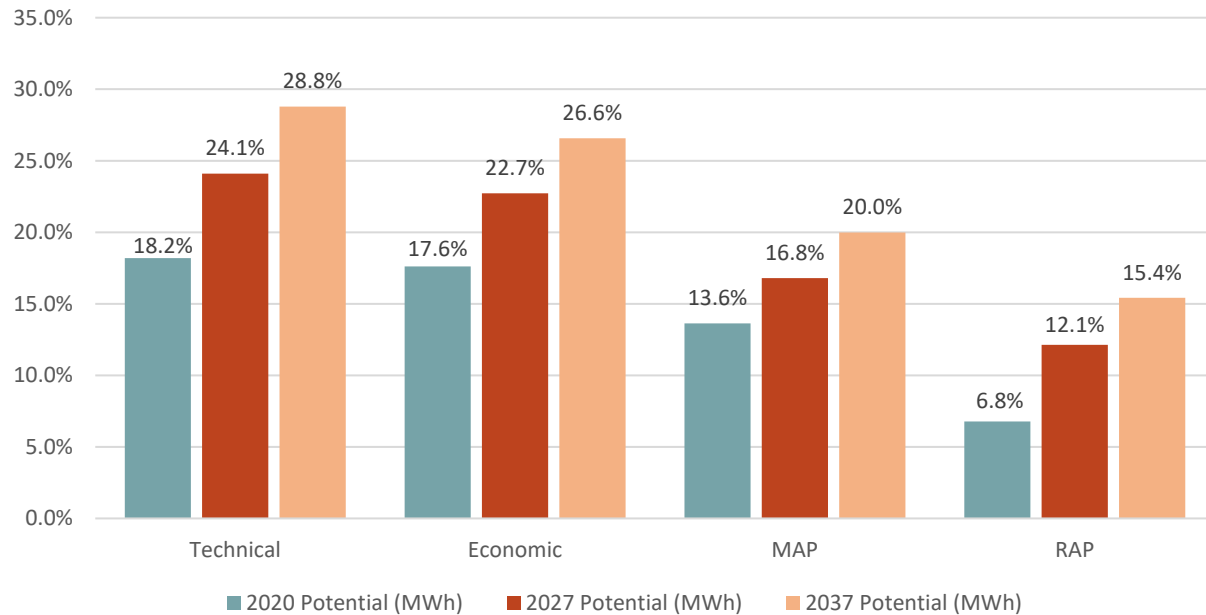


Table 4-2 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual technical, economic, MAP and RAP results for energy, summer peak demand, winter peak demand, and natural gas. The technical potential rises to more than 760,000 MWh by 2037, and the RAP is more than half of that total, rising to more than 400,000 MWh by 2037. Summer peak demand savings exceed 100 MW in the technical potential and more than 40 MW in the RAP scenario.

**TABLE 4-2 RESIDENTIAL EVT ENERGY POTENTIAL SUMMARY**

	2018 Potential	2019 Potential	2020 Potential	2027 Potential	2037 Potential
<b>Annual Energy (MWh)</b>					
<b>Technical</b>	195,396	368,237	375,949	574,133	761,688
<b>Economic</b>	191,303	360,093	363,786	541,411	703,026
<b>MAP</b>	149,062	273,192	281,564	400,159	528,627
<b>RAP</b>	54,392	101,342	140,092	289,083	407,856
<b>Summer Peak Demand (MW)</b>					
<b>Technical</b>	19.7	36.9	40.6	88.1	107.5
<b>Economic</b>	19.3	36.1	39.3	84.2	100.0
<b>MAP</b>	14.1	25.3	26.7	51.8	63.5
<b>RAP</b>	5.9	10.9	15.1	37.9	48.3
<b>Winter Peak Demand (MW)</b>					
<b>Technical</b>	35.7	68.7	52.2	64.7	88.0
<b>Economic</b>	35.3	67.9	51.0	61.1	81.3

	2018 Potential	2019 Potential	2020 Potential	2027 Potential	2037 Potential
<b>MAP</b>	27.3	51.8	40.0	47.1	62.8
<b>RAP</b>	8.8	16.7	20.2	32.8	46.9
<b>Annual Natural Gas (MMBTU)<sup>27</sup></b>					
<b>Technical</b>	40,497	29,340	22,174	-51,374	-105,933
<b>Economic</b>	42,023	32,403	26,785	-36,180	-75,685
<b>MAP</b>	53,804	48,864	46,914	12,444	-9,140
<b>RAP</b>	24,801	27,675	35,414	24,614	6,807

### Technical & Economic Potential

Table 4-3 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual technical potential results by end use for EVT. Lighting is the leading end use in the first three years, and as the impacts of EISA fully take effect lighting potential declines in later years. The electronics, hot water, and clothes washer/dryer end uses become the leading end uses by 2037.

TABLE 4-3 RESIDENTIAL EVT ELECTRIC ENERGY (CUMULATIVE ANNUAL MWH) TECHNICAL POTENTIAL BY END-USE

End Use	2018 Potential (MWh)	2019 Potential (MWh)	2020 Potential (MWh)	2027 Potential (MWh)	2037 Potential (MWh)
<b>Refrigeration</b>	6,065	12,121	18,196	52,620	70,360
<b>Clothes Washer/ Dryer</b>	8,104	16,166	24,280	79,381	109,984
<b>Dishwasher</b>	339	676	1,015	3,331	4,397
<b>Electronics</b>	25,862	51,669	77,583	135,873	160,920
<b>Hot Water</b>	14,481	28,239	41,373	109,115	141,059
<b>Pool/Spa</b>	4,580	9,132	13,706	44,989	46,558
<b>Lighting</b>	101,906	203,526	138,815	9,330	18,071
<b>Ventilation</b>	445	886	1,335	4,203	7,866
<b>HVAC Shell</b>	2,920	5,679	8,313	23,991	43,890
<b>HVAC Equipment</b>	6,497	12,927	19,380	62,381	95,363
<b>Behavioral</b>	19,492	17,834	17,918	17,200	16,702
<b>ER Refrigeration</b>	728	1,457	2,185	4,379	5,433
<b>ER Clothes Washer / Dry</b>	608	1,216	1,825	3,327	5,473
<b>ER Hot Water</b>	621	1,242	1,863	5,916	11,635
<b>ER HVAC Equipment</b>	2,749	5,469	8,163	18,096	23,977
<b>Total</b>	<b>195,396</b>	<b>368,237</b>	<b>375,949</b>	<b>574,133</b>	<b>761,688</b>

<sup>27</sup> MMBTU savings in the MAP scenario (and to a lesser extent, RAP Scenario) greater than technical and economic potential are the result of 1) fewer fuel switching (electric to gas) measures in the achievable potential scenario and 2) less significant interactive effects as a result of lower adoption rates and related impacts.

Table 4-4 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual economic potential results by end use for EVT. As is the case with technical potential, lighting is the leading end use in the first three years, and as the impacts of EISA fully take effect lighting potential declines in later years. The electronics, hot water, and clothes washer/dryer end uses become the leading end uses by 2037.

TABLE 4-4 RESIDENTIAL EVT ELECTRIC ENERGY (CUMULATIVE ANNUAL MWH) ECONOMIC POTENTIAL BY END-USE

End Use	2018 Potential (MWh)	2019 Potential (MWh)	2020 Potential (MWh)	2027 Potential (MWh)	2037 Potential (MWh)
Refrigeration	5,594	11,180	16,784	5,594	60,204
Clothes Washer/Dryer	7,505	14,968	22,483	7,505	98,005
Dishwasher	339	676	1,015	339	4,397
Electronics	25,383	50,711	76,147	25,383	157,099
Hot Water	13,708	26,729	39,163	13,708	128,701
Pool/Spa	4,580	9,132	13,706	4,580	46,558
Lighting	101,906	203,526	138,815	101,906	18,071
Ventilation	445	886	1,335	445	7,866
HVAC Shell	2,275	4,427	6,494	2,275	34,633
HVAC Equipment	6,730	13,370	20,001	6,730	96,583
Behavioral	19,536	17,920	18,047	19,536	17,222
ER Refrigeration	0	0	0	0	0
ER Clothes Washer/Dry	608	1,216	1,825	608	5,473
ER Hot Water	763	1,526	2,288	763	14,293
ER HVAC Equipment	1,932	3,827	5,684	1,932	13,920
<b>Total</b>	<b>191,303</b>	<b>360,093</b>	<b>363,786</b>	<b>541,411</b>	<b>703,026</b>

#### **Maximum Achievable Potential (MAP)**

Figure 4-2 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual MAP results by end use for EVT. Lighting is the leading end use in the first three years, and as the impacts of EISA fully take effect lighting potential declines in later years. Electronics and hot water are the leading end uses, with clothes washer/dryer and HVAC equipment also showing significant potential in the MAP scenario by 2037.

#### **Realistic Achievable Potential (RAP)**

Figure 4-3 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual RAP results by end use for EVT. Lighting is the leading end use in the first three years, and as the impacts of EISA fully take effect lighting potential declines in later years. Electronics and hot water are the leading end uses, with clothes washer/dryer and HVAC equipment also showing significant potential in the RAP scenario by 2037.



FIGURE 4-2 RESIDENTIAL EVT ELECTRIC ENERGY (CUMULATIVE ANNUAL GWH) MAP POTENTIAL BY END-USE

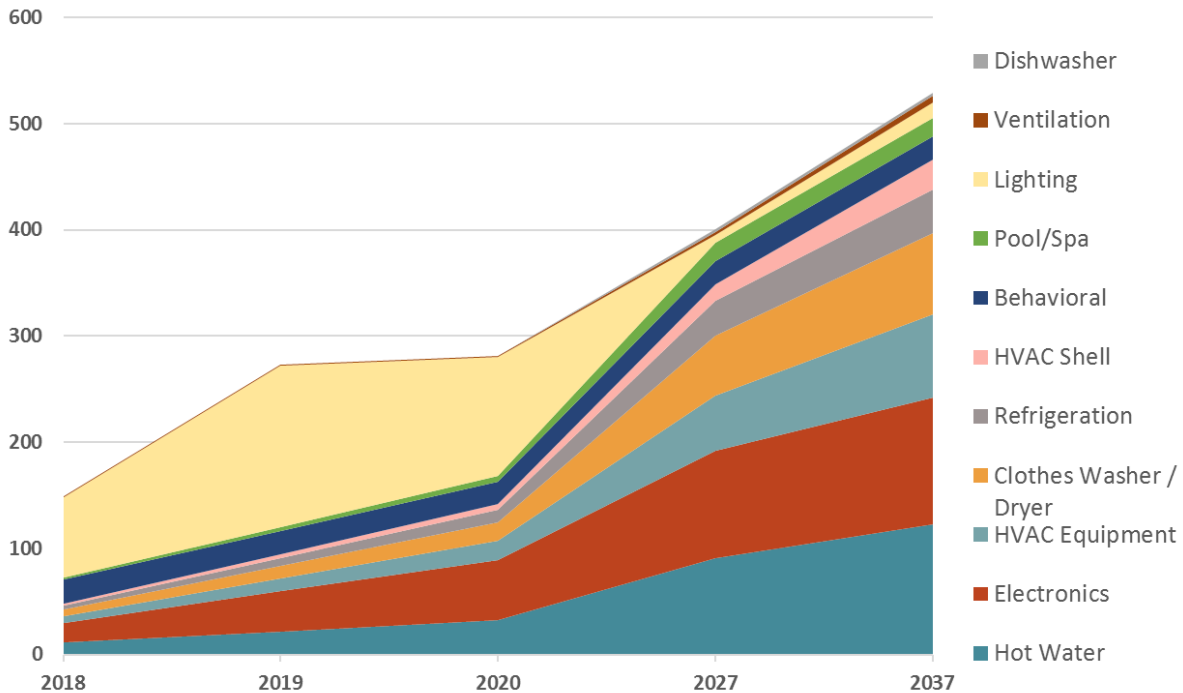


FIGURE 4-3 RESIDENTIAL EVT ELECTRIC ENERGY (CUMULATIVE ANNUAL GWH) RAP POTENTIAL BY END-USE

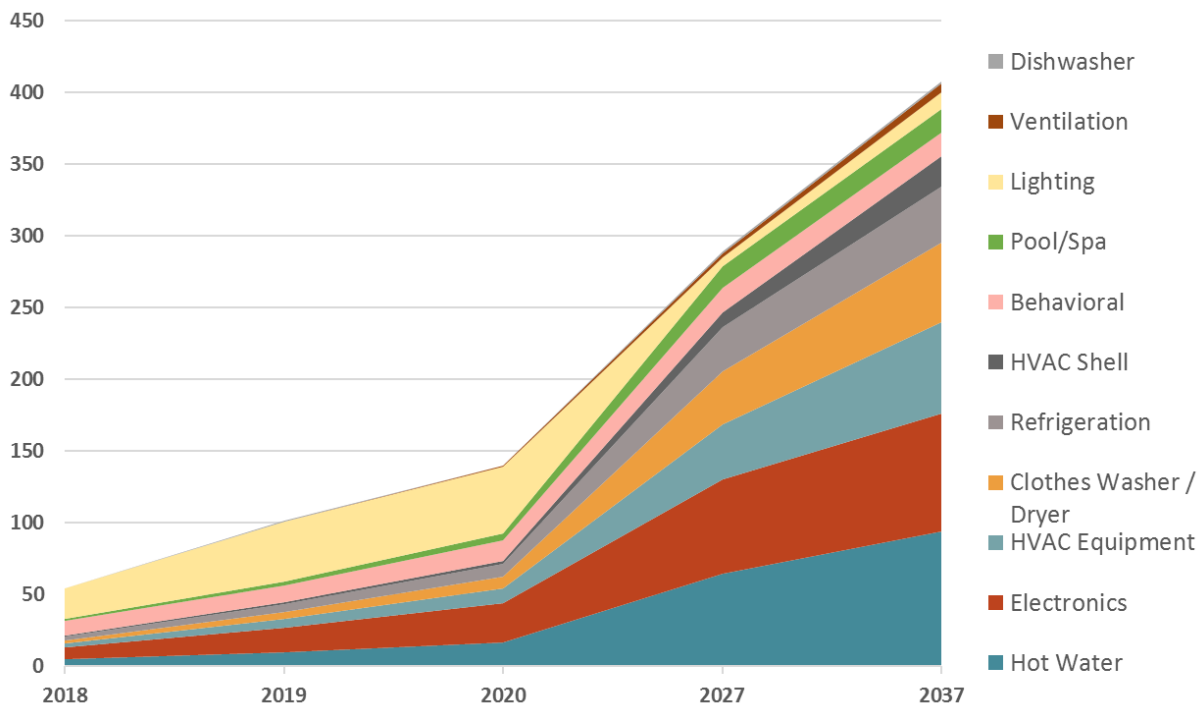
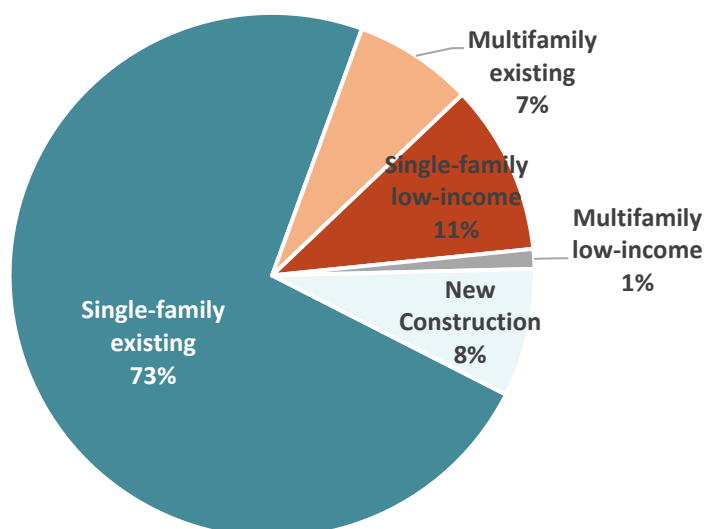


Figure 4-4 illustrates a market segmentation of the RAP in the residential sector by 2037. The leading market segment is single-family existing (not low-income) homes at 73% of total savings. Low-income single-family homes account for 11% of savings. New construction accounts for 8% of savings. Multifamily homes of all income types account for the other 8% of savings for EVT by 2037.

FIGURE 4-4 2037 RESIDENTIAL EVT ELECTRIC ENERGY (CUMULATIVE ANNUAL) RAP POTENTIAL BY MARKET SEGMENT



### Program Benefits & Costs

Figure 4-5 and Figure 4-6 provide the cost-effectiveness results, as calculated using the Vermont Societal test, by end use in the MAP and RAP scenario for EVT. The figures provide NPV benefits and costs for each end use. In the MAP scenario, the overall benefit-cost ratio is 2.9, and there are more than \$1.2 billion in NPV savings. The HVAC shell and hot water end uses each contribute more than \$200 million in NPV benefits. In the RAP scenario, the overall benefit-cost ratio is 3.1, and there are approximately \$400 million in NPV savings. The HVAC shell end use accounts for more than \$160 million in NPV savings, and electronics and water heating also each account for more than \$110 million in NPV savings.

FIGURE 4-5 SOCIETAL TEST NPV BENEFITS, COSTS, NET SAVINGS, AND RATIOS FOR RESIDENTIAL EVT MAP (\$ IN MILLIONS)

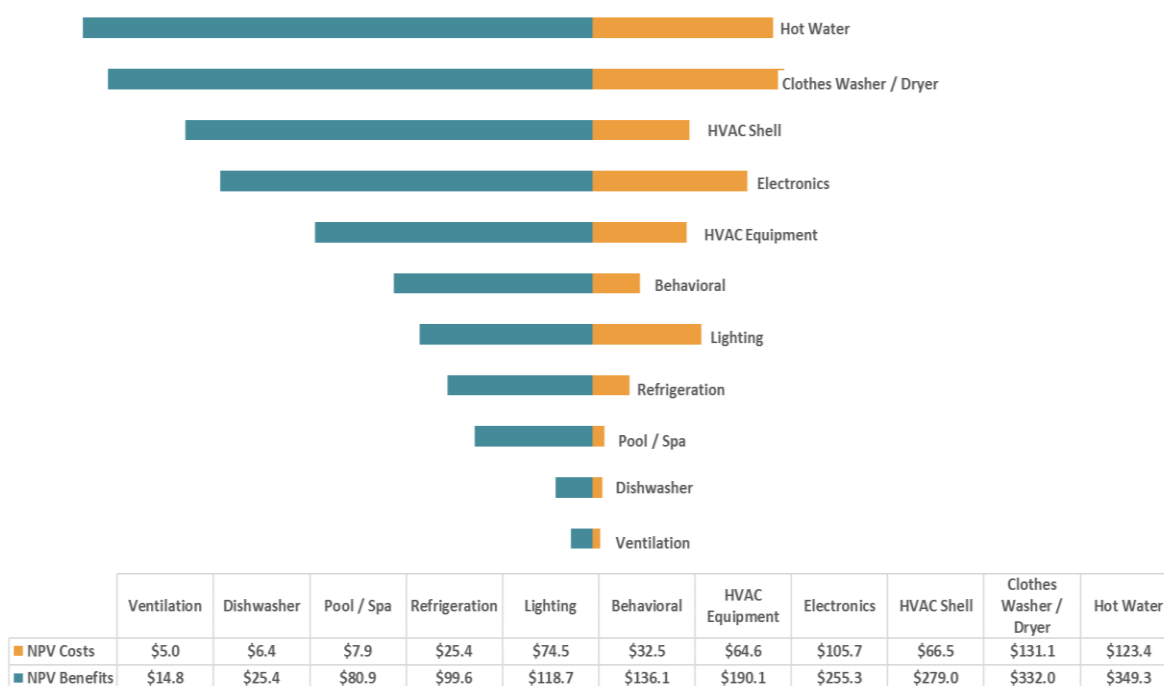


FIGURE 4-6 SOCIETAL TEST NPV BENEFITS, COSTS, NET SAVINGS, AND RATIOS FOR RESIDENTIAL EVT RAP (\$ IN MILLIONS)

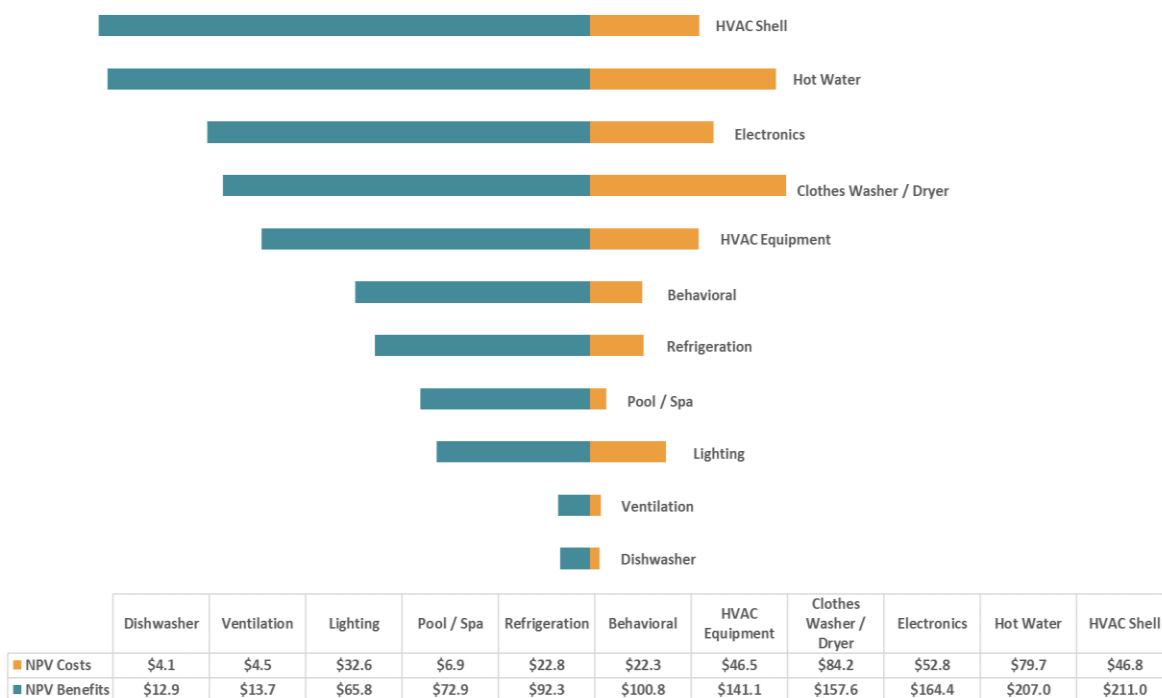
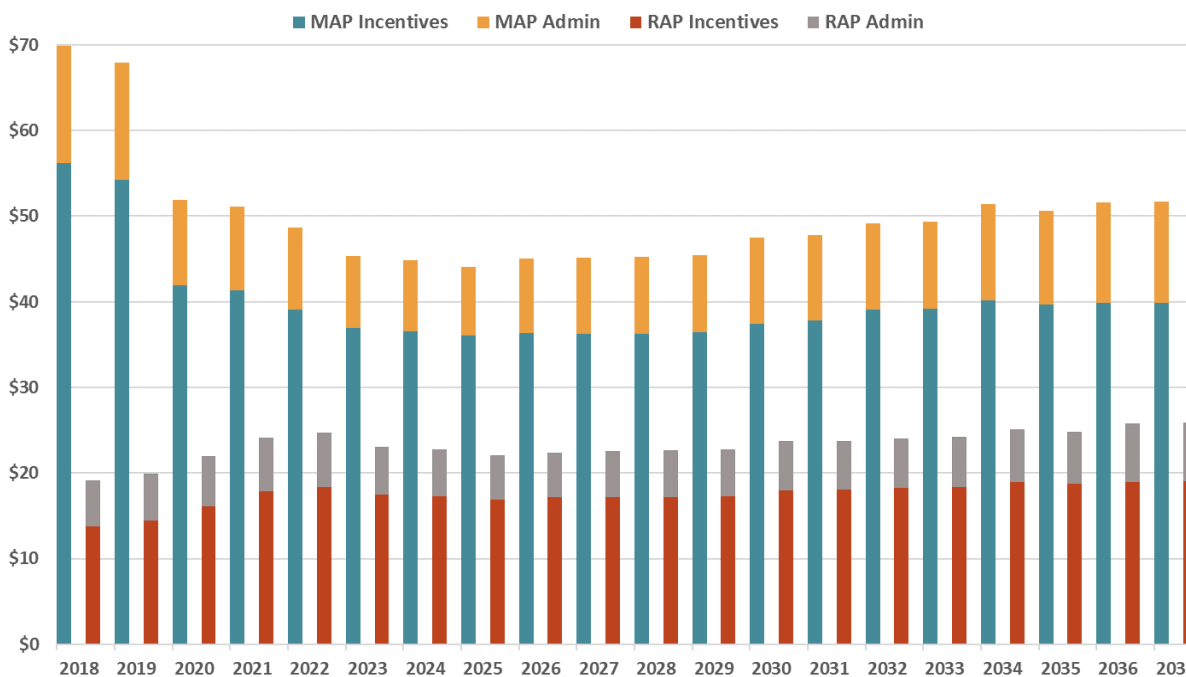


Figure 4-7 provides the budgets for the MAP and RAP scenarios. The budgets are broken into incentive and admin budgets for each year of the 2018-2037 timeframe. RAP budgets for EVT range from \$19.1 million to \$25.9 million.

FIGURE 4-7 ANNUAL EEU BUDGETS FOR RESIDENTIAL EVT MAP AND RAP (\$ IN MILLIONS)



#### 4.3 RESIDENTIAL POTENTIAL – BED

Figure 4-8 provides the technical, economic, MAP and RAP results for the 3-yr, 10-yr, and 20-yr timeframes. The 3-yr technical potential is 17.7% of forecasted sales, and the economic potential is 16.8% of forecasted sales, indicating that most technical potential is cost-effective. The 3-yr MAP is 13.0% and

the RAP is 5.3%. The difference between MAP and RAP is due to assumptions related to program participation rates.

**FIGURE 4-8 RESIDENTIAL BED ELECTRIC ENERGY (MWH) CUMULATIVE ANNUAL POTENTIAL (AS A % OF RESIDENTIAL SALES)**

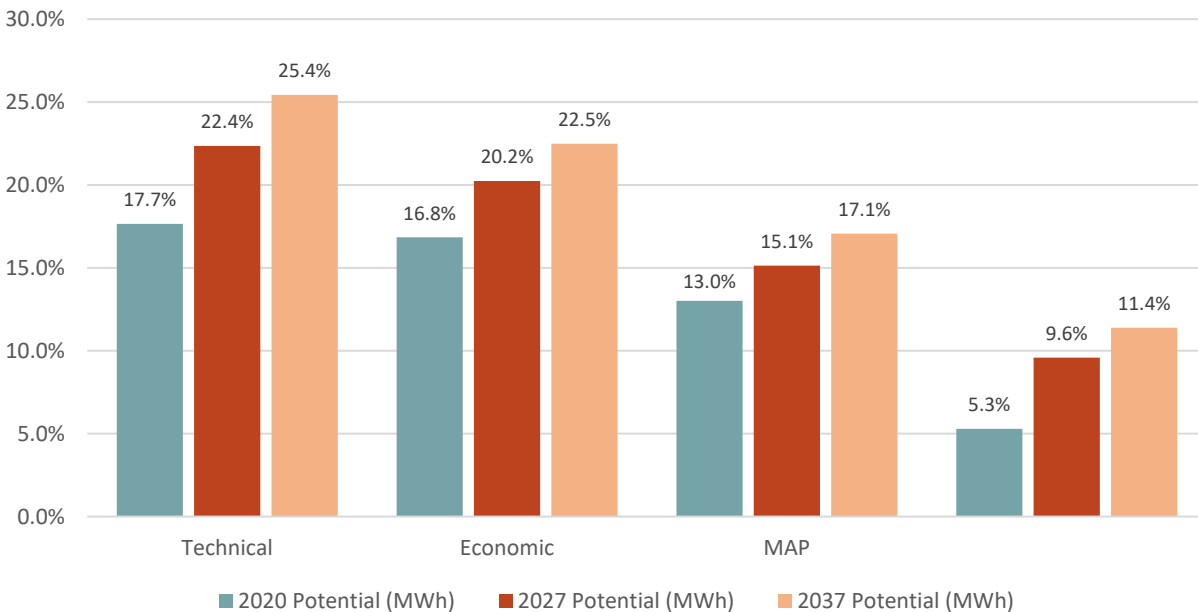


Table 4-5 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual technical, economic, MAP and RAP results for energy, summer peak demand, winter peak demand, and natural gas. The technical potential rises to nearly 29,000 MWh by 2037, and the RAP is nearly 13,000 MWh by 2037. Summer peak demand savings are 4.5 MW in the technical potential and 1.8 MW in the RAP scenario.

**TABLE 4-5 RESIDENTIAL BED ENERGY POTENTIAL SUMMARY**

	2018 Potential	2019 Potential	2020 Potential	2027 Potential	2037 Potential
<b>Annual Energy (MWh)</b>					
<b>Technical</b>	9,068	17,332	16,631	22,610	28,556
<b>Economic</b>	8,805	16,816	15,867	20,472	25,250
<b>MAP</b>	6,622	12,625	12,257	15,305	19,167
<b>RAP</b>	1,728	3,667	4,986	9,693	12,793
<b>Summer Peak Demand (MW)</b>					
<b>Technical</b>	0.9	1.8	1.8	3.6	4.5
<b>Economic</b>	0.9	1.7	1.7	3.4	4.0
<b>MAP</b>	0.7	1.2	1.2	2.3	2.8
<b>RAP</b>	0.2	0.4	0.6	1.4	1.8
<b>Winter Peak Demand (MW)</b>					
<b>Technical</b>	1.7	3.3	2.1	2.9	3.8
<b>Economic</b>	1.7	3.2	2.0	2.6	3.4
<b>MAP</b>	1.3	2.4	1.6	2.0	2.7
<b>RAP</b>	0.3	0.6	0.7	1.2	1.7
<b>Annual Natural Gas (MMBTU)<sup>28</sup></b>					
<b>Technical</b>	4,891	8,140	8,141	6,190	5,107
<b>Economic</b>	4,960	8,302	8,382	6,940	6,179
<b>MAP</b>	5,851	10,113	10,235	9,713	9,462
<b>RAP</b>	1,965	5,468	8,776	11,268	11,404

<sup>28</sup> Ibid

**Technical & Economic Potential**

Table 4-6 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual technical potential results by end use for BED. Lighting is the leading end use in the first three years, and as the impacts of EISA fully take effect lighting potential declines in later years. The electronics, hot water, and clothes washer/dryer end uses become the leading end uses by 2037.

**TABLE 4-6 RESIDENTIAL BED ELECTRIC ENERGY (CUMULATIVE ANNUAL MWH) TECHNICAL POTENTIAL BY END-USE**

End Use	2018 Potential (MWh)	2019 Potential (MWh)	2020 Potential (MWh)	2027 Potential (MWh)	2037 Potential (MWh)
Refrigeration	262	502	720	2,035	2,877
Clothes Washer /Dryer	449	862	1,238	3,861	5,159
Dishwasher	19	36	51	157	205
Electronics	1,485	2,873	4,166	6,572	7,111
Hot Water	548	1,027	1,438	3,599	4,509
Pool/Spa	137	261	373	1,152	1,183
Lighting	5,204	10,015	6,395	361	586
Ventilation	36	61	77	185	327
HVAC Shell	68	127	176	518	1,005
HVAC Equipment	264	502	712	2,163	2,955
Behavioral	385	643	652	626	616
ER Refrigeration	45	90	135	283	351
ER Clothes Washer/ Dry	38	76	114	217	363
ER Hot Water	33	67	100	317	623
ER HVAC Equipment	95	190	283	565	687
<b>Total</b>	<b>9,068</b>	<b>17,332</b>	<b>16,631</b>	<b>22,610</b>	<b>28,556</b>

Table 4-7 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual economic potential results by end use for BED. As is the case with technical potential, lighting is the leading end use in the first three years, and as the impacts of EISA fully take effect lighting potential declines in later years. The electronics, hot water, and clothes washer/dryer end uses become the leading end uses by 2037.

**TABLE 4-7 RESIDENTIAL BED ELECTRIC ENERGY (CUMULATIVE ANNUAL MWH) ECONOMIC POTENTIAL BY END-USE**

End Use	2018 Potential (MWh)	2019 Potential (MWh)	2020 Potential (MWh)	2027 Potential (MWh)	2037 Potential (MWh)
Refrigeration	261	501	719	2,030	2,822
Clothes Washer /Dryer	443	850	1,219	3,800	5,037

End Use	2018 Potential (MWh)	2019 Potential (MWh)	2020 Potential (MWh)	2027 Potential (MWh)	2037 Potential (MWh)
Dishwasher	19	36	51	157	205
Electronics	1,465	2,834	4,107	6,482	6,999
Hot Water	433	806	1,120	2,745	3,289
Pool/Spa	137	261	373	1,152	1,183
Lighting	5,204	10,015	6,395	361	586
Ventilation	36	61	77	185	327
HVAC Shell	52	95	128	359	688
HVAC Equipment	221	415	582	1,662	2,124
Behavioral	386	647	659	643	641
ER Refrigeration	5	11	16	21	27
ER Clothes Washer / Dry	38	76	114	217	363
ER Hot Water	33	67	100	317	623
ER HVAC Equipment	72	140	206	343	339
<b>Total</b>	<b>8,805</b>	<b>16,816</b>	<b>15,867</b>	<b>20,472</b>	<b>25,250</b>

### **Maximum Achievable Potential (MAP)**

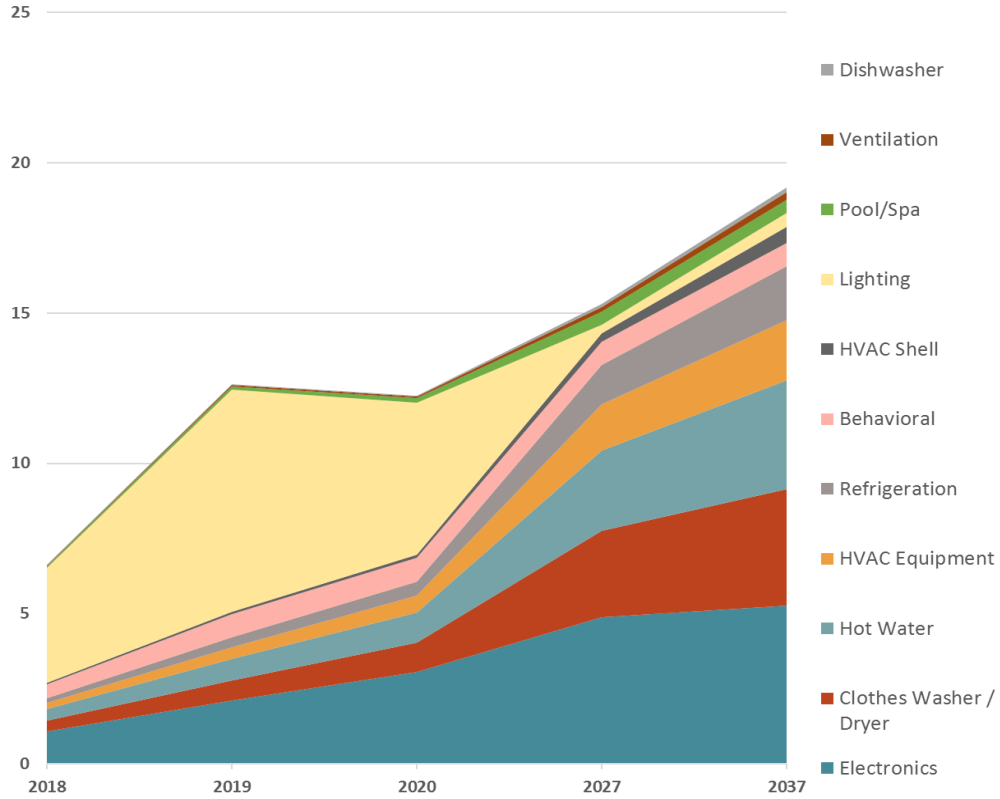
Figure 4-9 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual MAP results by end use for BED. Lighting is the leading end use in the first three years, and as the impacts of EISA fully take effect lighting potential declines in later years. Electronics and hot water are the leading end uses, with clothes washer/dryer, refrigeration and HVAC equipment also showing significant potential in the MAP scenario by 2037.

### **Realistic Achievable Potential (RAP)**

Figure 4-10 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual RAP results by end use for BED. Lighting is the leading end use in the first three years, and as the impacts of EISA fully take effect lighting potential declines in later years. Electronics and hot water are the leading end uses, with clothes washer/dryer, refrigeration and HVAC equipment also showing significant potential in the RAP scenario by 2037.

Figure 4-11 illustrates a market segmentation of the RAP in the residential sector by 2037. The leading market segment is multifamily existing (not low-income) homes at 46% of total savings, followed by single-family existing (not low-income) homes at 44% of total savings. Savings of measures targeting specifically the low-income segment account for 2% of the total in the RAP scenario by 2037. New construction accounts for 8% of savings.

**FIGURE 4-9 RESIDENTIAL BED ELECTRIC ENERGY (CUMULATIVE ANNUAL GWH) MAP POTENTIAL BY END-USE**



**FIGURE 4-10 RESIDENTIAL BED ELECTRIC ENERGY (CUMULATIVE ANNUAL GWH) RAP POTENTIAL BY END-USE**

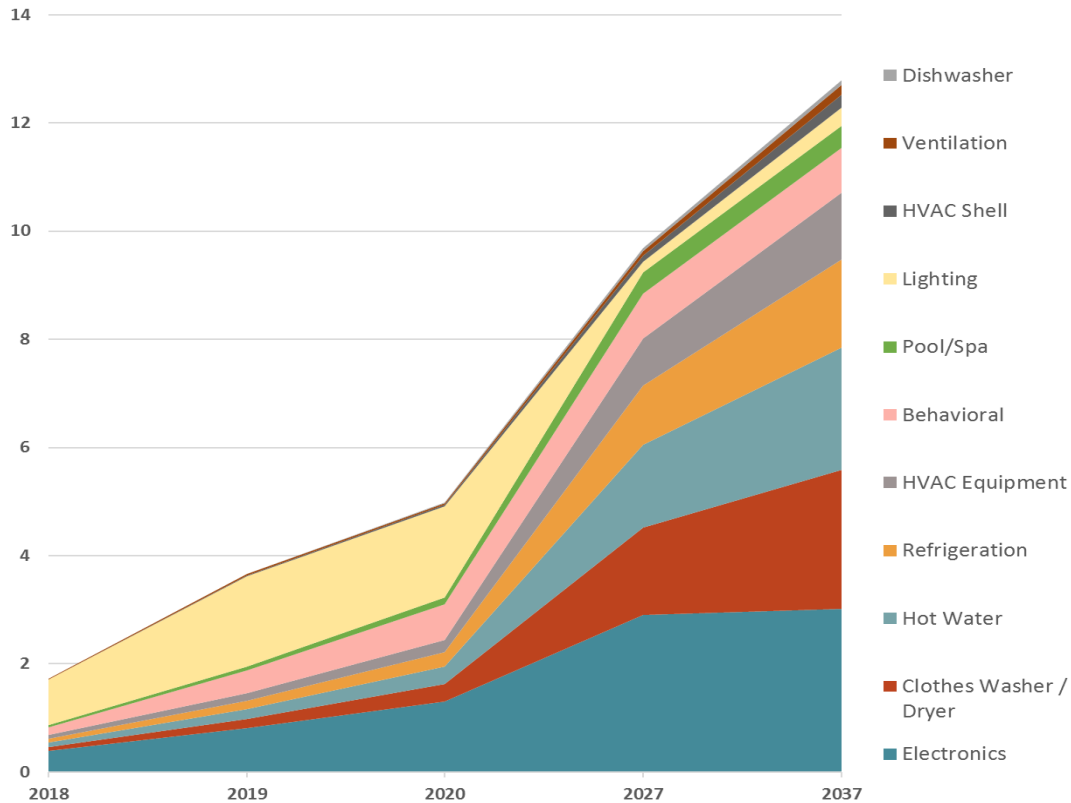
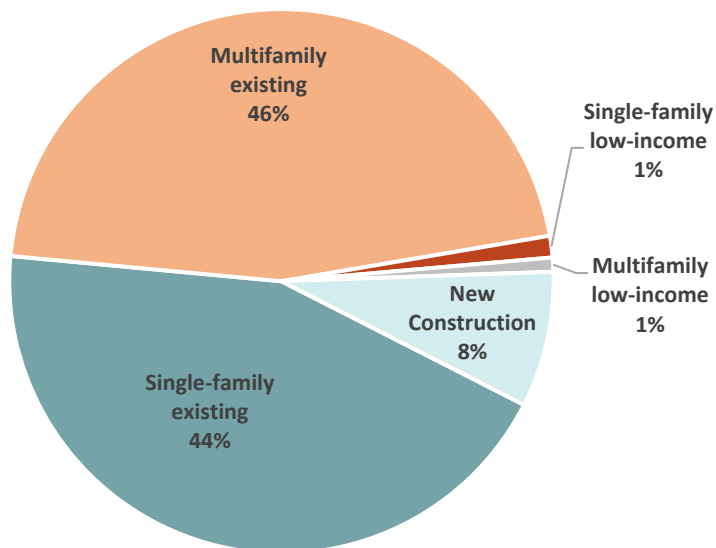




FIGURE 4-11 2037 RESIDENTIAL BED ELECTRIC ENERGY (CUMULATIVE ANNUAL) RAP POTENTIAL BY MARKET SEGMENT



### Program Benefits & Costs

Figure 4-12 and Figure 4-13 provide the cost-effectiveness results, as calculated using the Vermont Societal test, by end use in the MAP and RAP scenario for BED. The figures provide NPV benefits and costs for each end use. In the MAP scenario, the overall benefit-cost ratio is 2.0, and there are more than \$28 million in NPV savings. The electronics and clothes washer/dryer end uses provide approximately \$11 million and \$10 million in NPV benefits, respectively. The HVAC equipment and behavioral end uses each contribute approximately \$6 million in NPV benefits. In the RAP scenario, the overall benefit-cost ratio is 2.3, and there are more than \$20 million in NPV savings. The electronics and behavioral end uses provide approximately \$4 million in NPV savings.

FIGURE 4-12 SOCIETAL TEST NPV BENEFITS, COSTS, NET SAVINGS, AND RATIOS FOR RESIDENTIAL BED MAP (\$ IN MILLIONS)

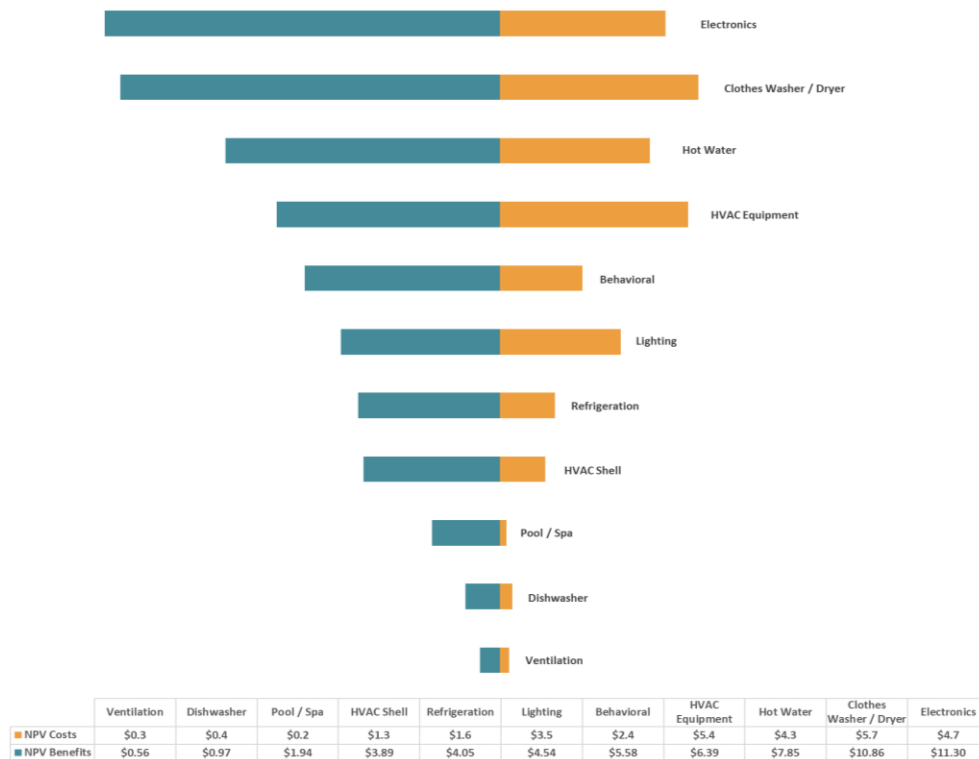


FIGURE 4-13 SOCIETAL TEST NPV BENEFITS, COSTS, NET SAVINGS, AND RATIOS FOR RESIDENTIAL BED RAP (\$ IN MILLIONS)

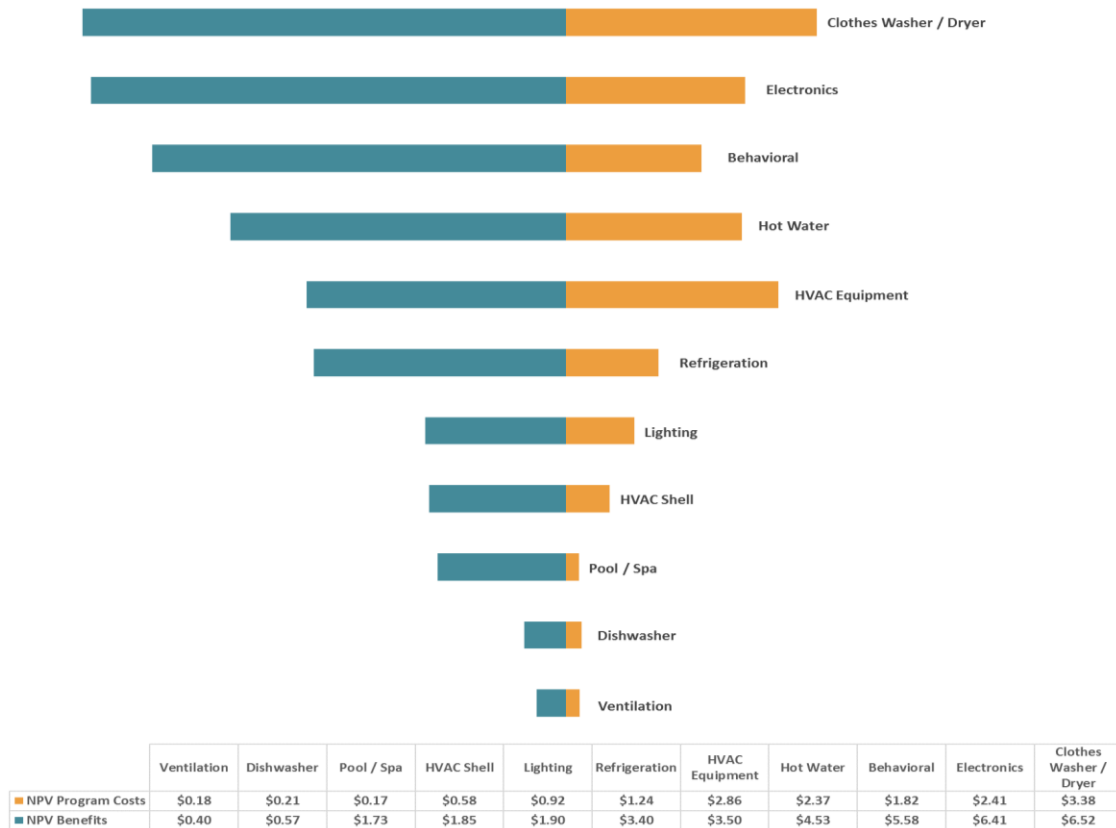
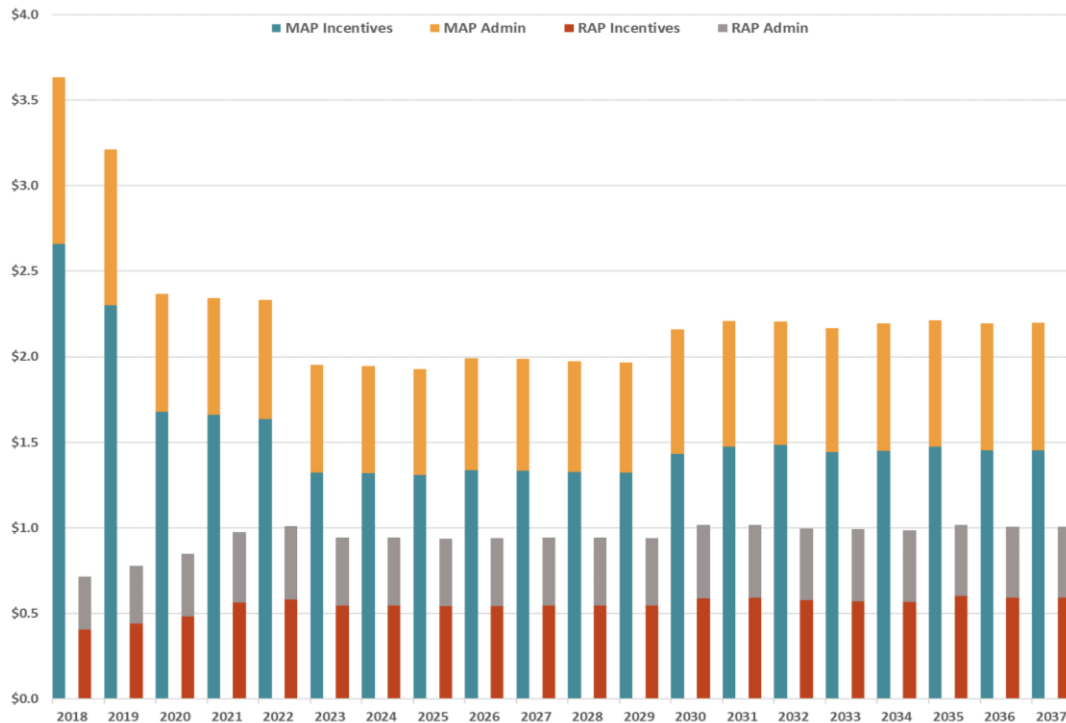


Figure 4-14 provides the budgets for the MAP and RAP scenarios. The budgets are broken into incentive and admin budgets for each year of the 2018-2037 timeframe. RAP budgets for BED range from \$0.72 million to \$1.02 million.

FIGURE 4-14 ANNUAL EEU BUDGETS FOR RESIDENTIAL BED MAP AND RAP (\$ IN MILLIONS)



#### 4.4 RESIDENTIAL POTENTIAL – VGS

Figure 4-15 provides the technical, economic, MAP and RAP results for the 3-yr, 10-yr, and 20-yr timeframes. The 3-yr technical potential is 9.7% of forecasted sales, and the economic potential is 8.5% of forecasted sales, indicating that most technical potential is cost-effective. The 3-yr MAP is 6.5% and the RAP is 2.5%. The difference between MAP and RAP is due to assumptions related to program participation rates.

**FIGURE 4-15 RESIDENTIAL VGS NATURAL GAS ENERGY (MMBTU) CUMULATIVE ANNUAL POTENTIAL (AS A % OF RESIDENTIAL SALES)**

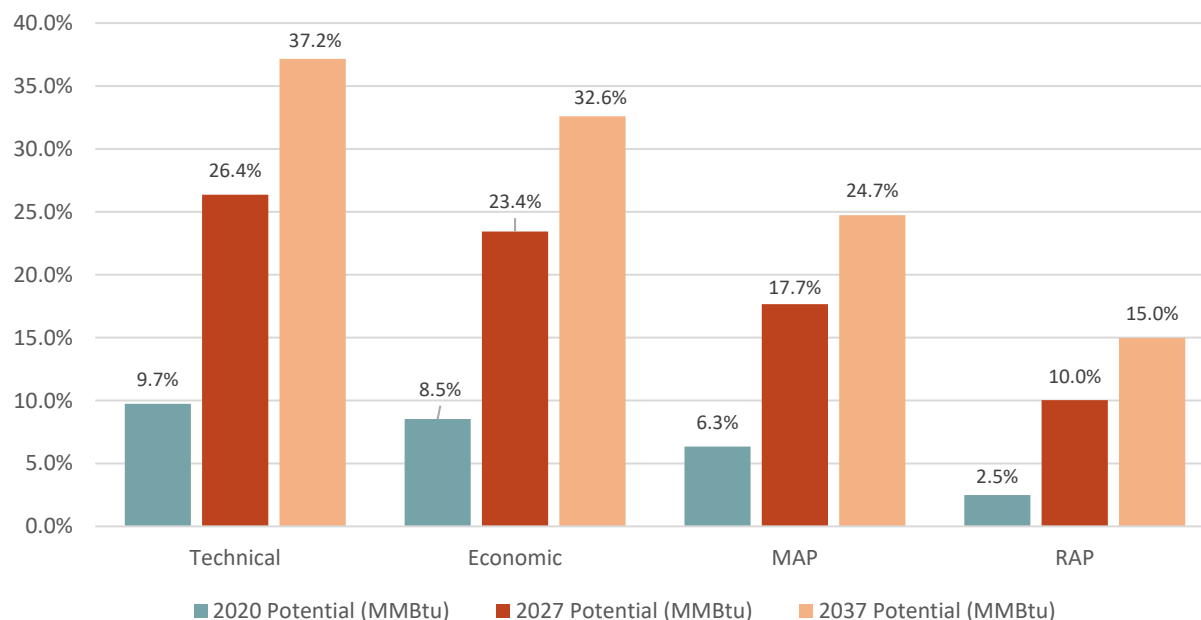


Table 4-8 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual technical, economic, MAP and RAP results for natural gas, summer peak demand, winter peak demand, and electric energy. The technical potential rises to more than 1.8 million MMBtu by 2037, and the RAP is more than 725,000 MMBtu by 2037. Minor peak demand and energy savings accrue in association with the natural gas potential savings estimates.

**TABLE 4-8 RESIDENTIAL VGS ENERGY POTENTIAL SUMMARY<sup>29</sup>**

	2018 Potential	2019 Potential	2020 Potential	2027 Potential	2037 Potential
<b>Annual Energy (MMBTU)</b>					
<b>Technical</b>	140,220	273,283	402,045	1,181,909	1,800,793
<b>Economic</b>	122,598	239,197	352,312	1,051,052	1,579,844
<b>MAP</b>	90,700	177,329	261,730	792,207	1,198,946
<b>RAP</b>	25,980	58,517	102,677	449,679	725,943
<b>Summer Peak Demand (MW)</b>					
<b>Technical</b>	0.20	0.38	0.56	1.64	2.68
<b>Economic</b>	0.09	0.19	0.28	0.87	1.34
<b>MAP</b>	0.07	0.13	0.19	0.61	0.96
<b>RAP</b>	0.01	0.02	0.05	0.24	0.44
<b>Winter Peak Demand (MW)</b>					
<b>Technical</b>	0.09	0.17	0.25	0.70	1.25
<b>Economic</b>	0.07	0.13	0.19	0.52	0.92

<sup>29</sup> Select VGS efficiency measure offerings result in natural gas and electric savings. Though small, the associated electric energy and capacity impacts are included in this table.

	2018 Potential	2019 Potential	2020 Potential	2027 Potential	2037 Potential
<b>MAP</b>	0.05	0.10	0.15	0.43	0.78
<b>RAP</b>	0.01	0.03	0.05	0.26	0.54
<b>Annual Energy (MWh)</b>					
<b>Technical</b>	690	1,271	1,787	4,944	10,127
<b>Economic</b>	351	627	860	1,713	4,015
<b>MAP</b>	347	642	909	2,266	4,897
<b>RAP</b>	131	309	572	2,662	5,389

### Technical & Economic Potential

Table 4-9 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual technical potential results by end use for VGS. HVAC equipment is the leading source of technical potential among the various end uses throughout the timeframe of the study. The HVAC shell and hot water end uses are responsible for the second and third most amount of technical potential.

**TABLE 4-9 RESIDENTIAL VGS NATURAL GAS (CUMULATIVE ANNUAL MMBTU) TECHNICAL POTENTIAL BY END-USE**

End Use	2018 Potential (MMBtu)	2019 Potential (MMBtu)	2020 Potential (MMBtu)	2027 Potential (MMBtu)	2037 Potential (MMBtu)
<b>Clothes Washer/ Dryer</b>	84	168	252	840	1,037
<b>Hot Water</b>	32,381	63,357	93,362	268,293	356,237
<b>HVAC Shell</b>	41,102	78,786	114,312	319,963	563,956
<b>HVAC Equipment</b>	57,043	111,753	165,290	515,490	756,987
<b>ER HVAC Equipment</b>	9,610	19,219	28,829	77,323	122,576
<b>Total</b>	140,220	273,283	402,045	1,181,909	1,800,793

Table 4-10 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual economic potential results by end use for VGS. HVAC equipment is the leading source of economic potential among the various end uses throughout the timeframe of the study. The HVAC shell and hot water end uses are responsible for the second and third most amount of technical potential.

**TABLE 4-10 RESIDENTIAL VGS NATURAL GAS (CUMULATIVE ANNUAL MMBTU) ECONOMIC POTENTIAL BY END-USE**

End Use	2018 Potential (MMBtu)	2019 Potential (MMBtu)	2020 Potential (MMBtu)	2027 Potential (MMBtu)	2037 Potential (MMBtu)
<b>Clothes Washer/ Dryer</b>	84	168	252	840	1,037
<b>Hot Water</b>	26,084	51,054	75,325	217,102	270,664
<b>HVAC Shell</b>	30,749	58,966	85,586	239,291	420,881
<b>HVAC Equipment</b>	58,377	114,403	169,239	528,027	776,217
<b>ER HVAC Equipment</b>	7,303	14,607	21,910	65,792	111,046
<b>Total</b>	122,598	239,197	352,312	1,051,052	1,579,844

**Maximum Achievable Potential (MAP)**

Figure 4-16 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual MAP results by end use for VGS. HVAC equipment is the leading source of MAP among the various end uses throughout the timeframe of the study. The HVAC shell and hot water end uses are responsible for the second and third most amount of maximum achievable potential.

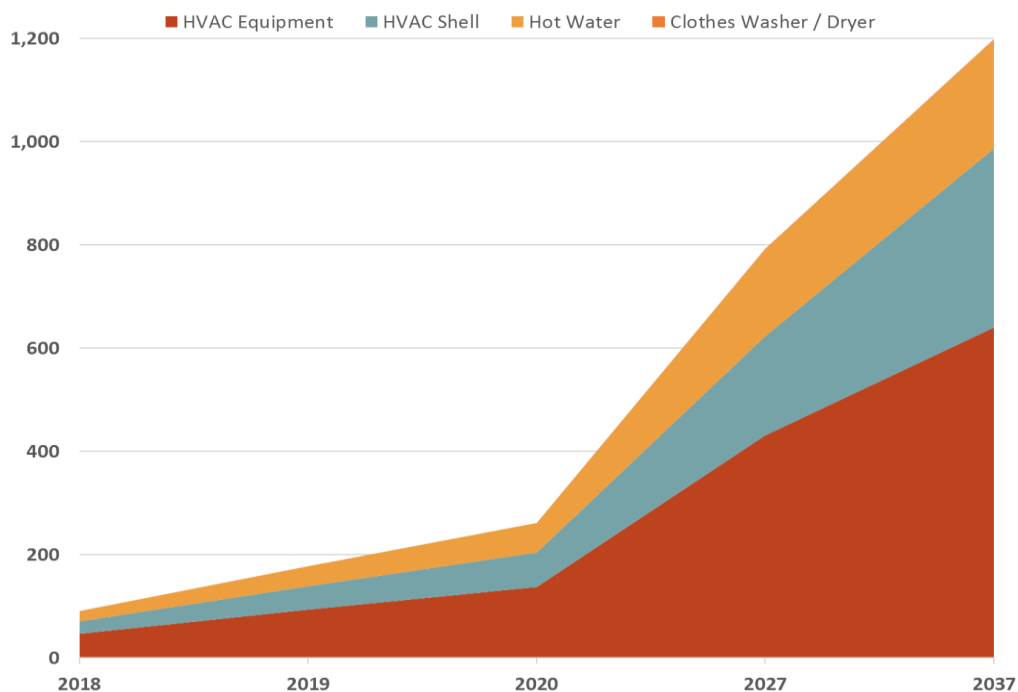
**FIGURE 4-16 RESIDENTIAL VGS NATURAL GAS (CUMULATIVE ANNUAL MMBTU) MAP POTENTIAL BY END-USE****Realistic Achievable Potential (RAP)**

Figure 4-17 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual RAP results by end use for VGS. HVAC equipment is the leading source of RAP among the various end uses throughout the timeframe of the study. The HVAC shell and hot water end uses are responsible for the second and third most amount of realistic achievable potential.

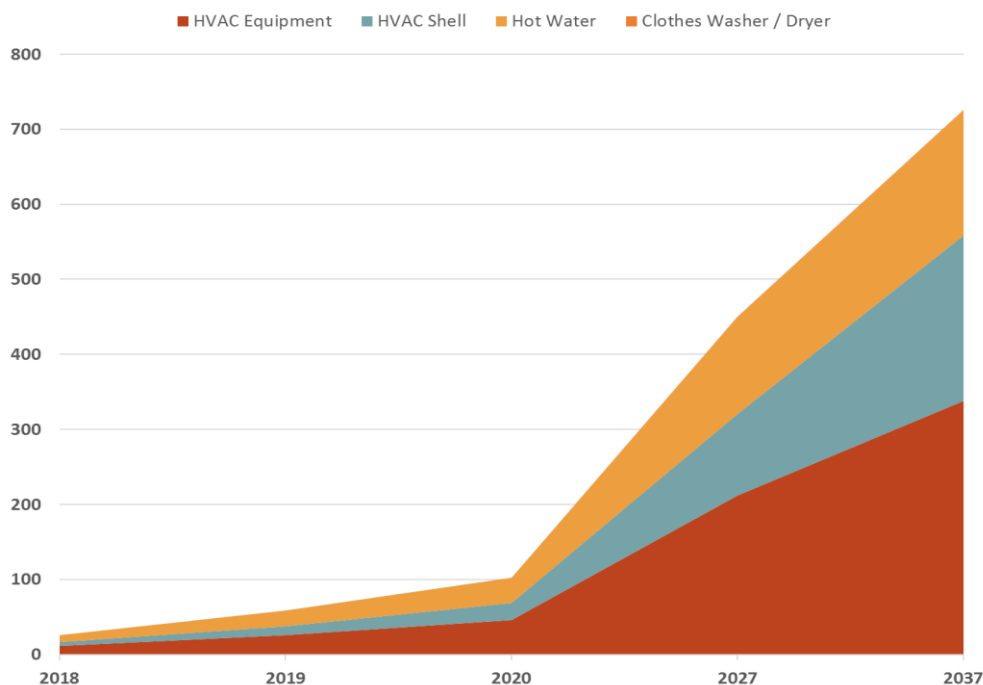
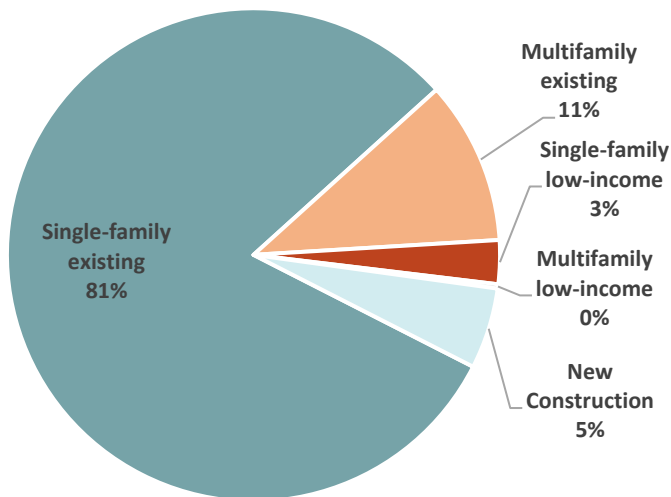
**FIGURE 4-17 RESIDENTIAL VGS NATURAL GAS (CUMULATIVE ANNUAL MMBTU) RAP POTENTIAL BY END-USE**

Figure 4-18 illustrates a market segmentation of the RAP in the residential sector by 2020. The leading market segment is single-family existing (not low-income) homes at 81% of total savings, followed by multifamily existing (not low-income) homes at 11% of total savings. Savings of measures targeting specifically the low-income segment account for 3% of the total in the RAP scenario by 2037. New construction accounts for 5% of savings.

**FIGURE 4-18 2037 RESIDENTIAL VGS ELECTRIC ENERGY (CUMULATIVE ANNUAL) RAP POTENTIAL BY MARKET SEGMENT**

### ***Program Benefits & Costs***

Figure 4-19 and Figure 4-20 provide the cost-effectiveness results, as calculated using the Vermont Societal test, by end use in the MAP and RAP scenario for VGS. The figures provide NPV benefits and costs for each end use. In the MAP scenario, the overall benefit-cost ratio is 1.6, and there are nearly \$18 million in NPV savings. The HVAC equipment and HVAC shell end uses each contribute approximately \$160 million in NPV benefits. In the RAP scenario, the overall benefit-cost ratio is 1.6, and there are nearly \$14 million in NPV savings. The HVAC shell and equipment end uses contribute approximately \$100 million and \$85 million in NPV benefits, respectively.

FIGURE 4-19 SOCIETAL TEST NPV BENEFITS, COSTS, NET SAVINGS, AND RATIOS FOR RESIDENTIAL VGS MAP (\$ IN MILLIONS)

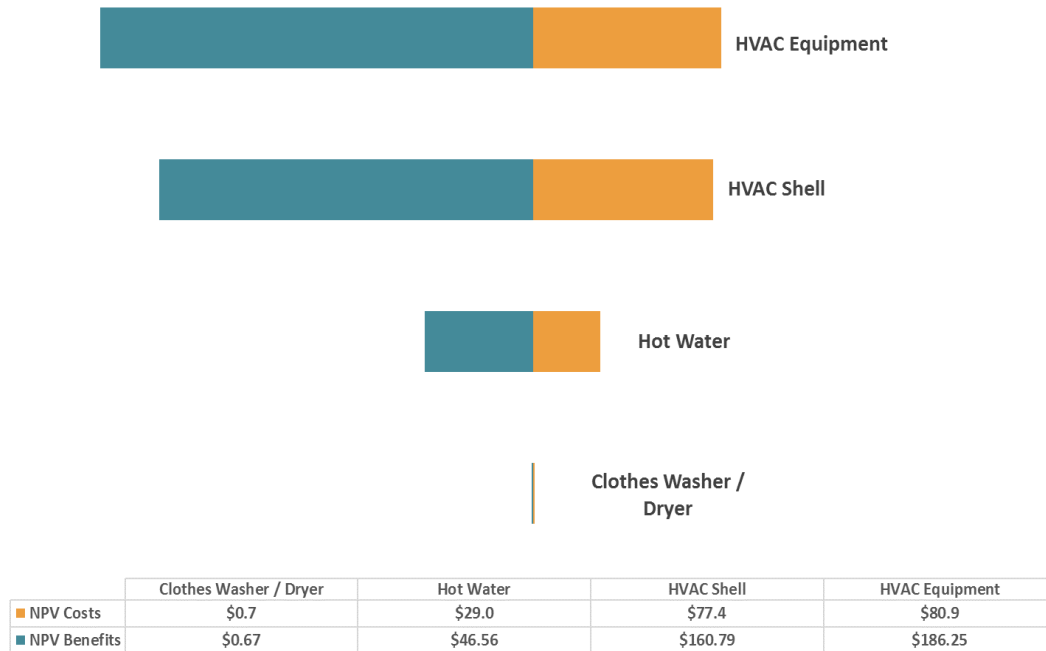


FIGURE 4-20 SOCIETAL TEST NPV BENEFITS, COSTS, NET SAVINGS, AND RATIOS FOR RESIDENTIAL VGS RAP (\$ IN MILLIONS)

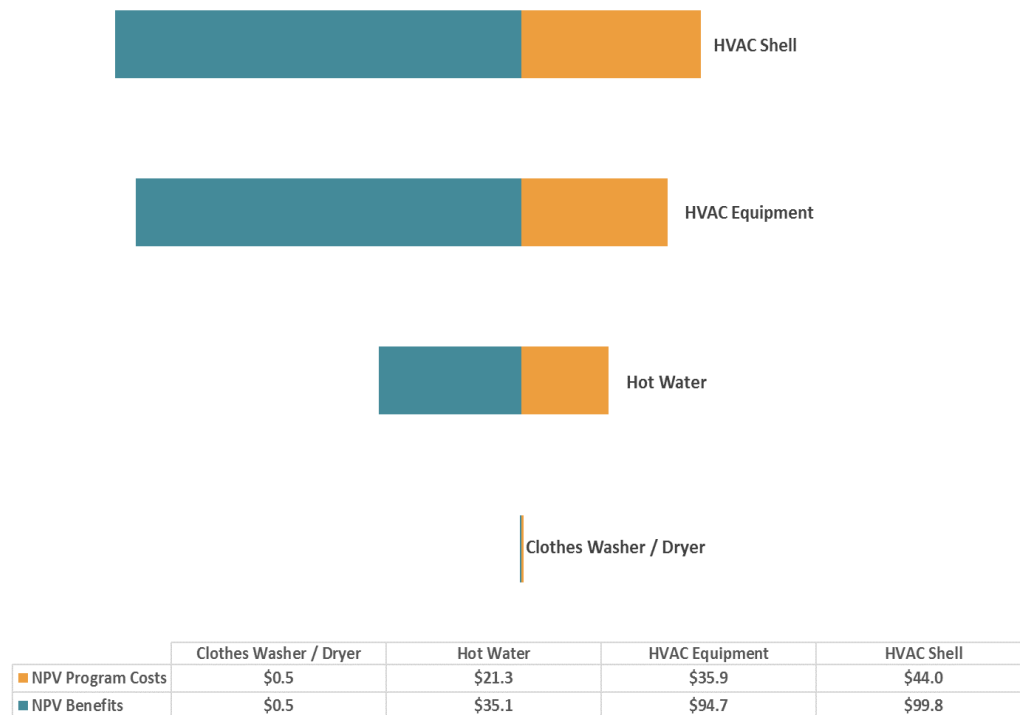
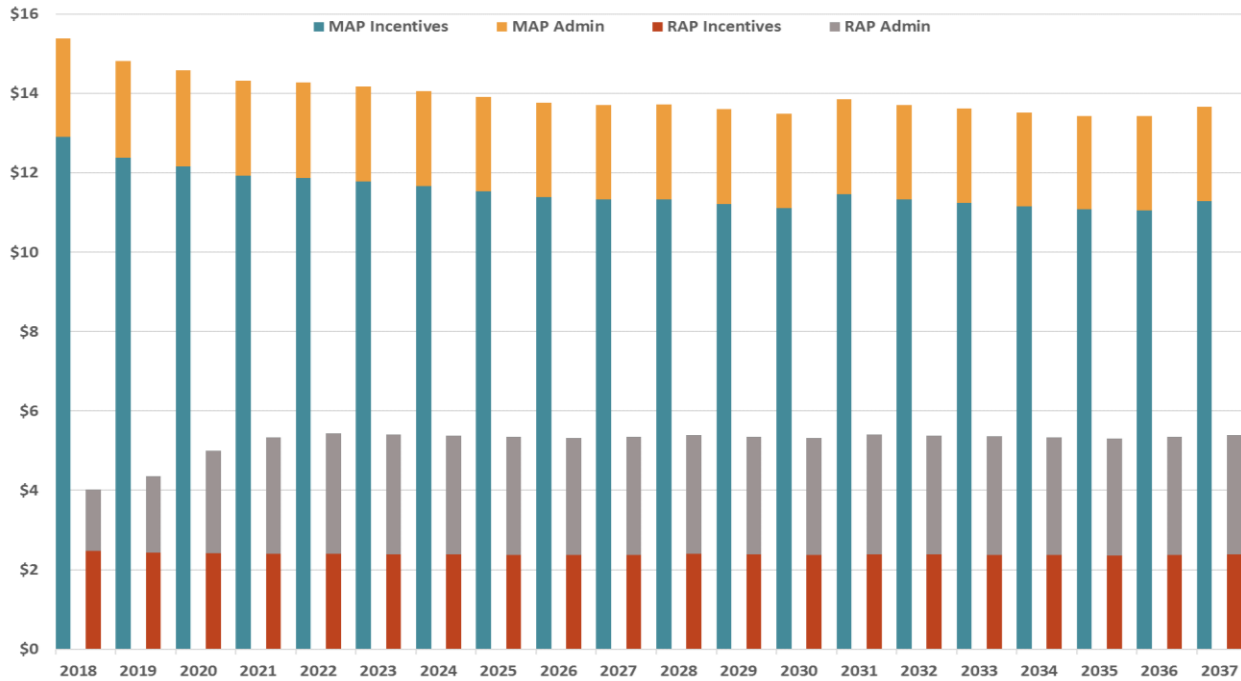


Figure 4-21 provides the budgets for the MAP and RAP scenarios. The budgets are broken into incentive and admin budgets for each year of the 2018-2037 timeframe. RAP budgets for VGS range from \$2.1 million to \$4.6 million.

FIGURE 4-21 ANNUAL EEU BUDGETS FOR RESIDENTIAL VGS MAP AND RAP (\$ IN MILLIONS)



#### 4.5 STATEWIDE RESIDENTIAL POTENTIAL

Figure 4-22 provides the statewide electric potential estimates for the technical, economic, MAP and RAP scenarios across the 3-yr, 10-yr, and 20-yr timeframes. These results are based on an aggregation of the EVT, BED and VGS individual estimates and the statewide electric sales forecast. The 3-yr technical potential is 18.3% of forecasted sales, and the economic potential is 17.6% of forecasted sales. The 3-yr MAP is 13.6% and the RAP is 6.7%.

FIGURE 4-22 RESIDENTIAL STATEWIDE ELECTRIC ENERGY (MWH) CUMULATIVE ANNUAL POTENTIAL (AS A % OF RESIDENTIAL SALES)

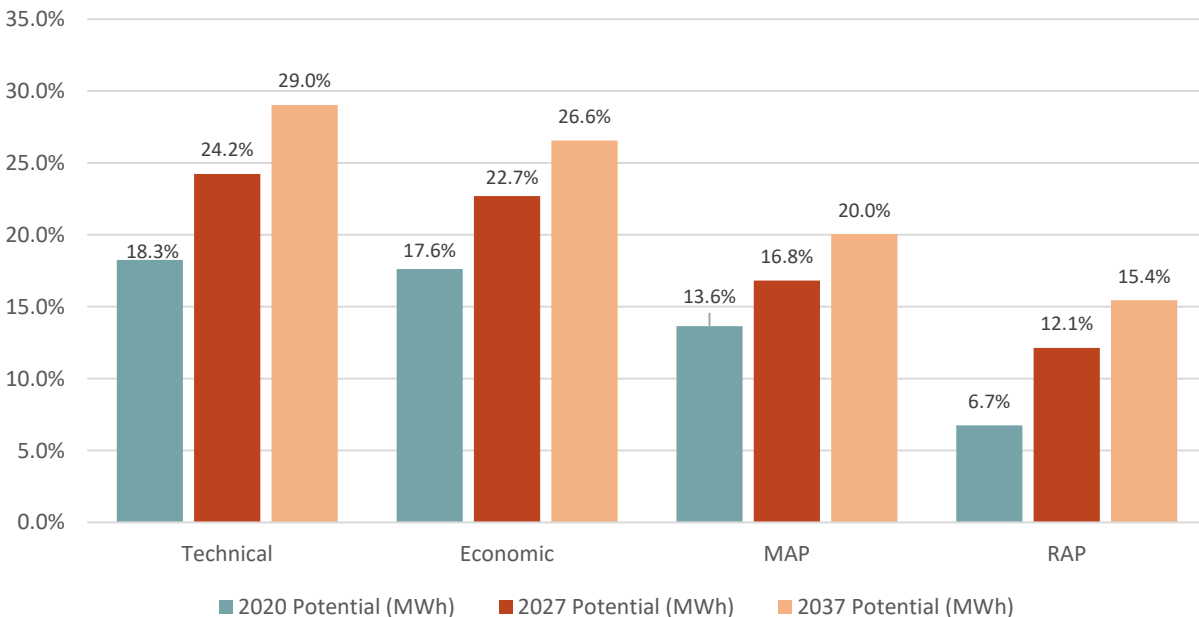




Figure 4-23 provides the statewide natural gas potential estimates for the technical, economic, MAP and RAP scenarios across the 3-yr, 10-yr, and 20-yr timeframes. These results are based on an aggregation of the EVT, BED and VGS individual estimates and the statewide natural gas sales forecast. The 3-yr technical potential is 10.5% of forecasted sales, and the economic potential is 9.4% of forecasted sales. The 3-yr MAP is 7.7% and the RAP is 3.6%.

**FIGURE 4-23 RESIDENTIAL STATEWIDE NATURAL GAS ENERGY (MMBTU) CUMULATIVE ANNUAL POTENTIAL (AS A % OF RESIDENTIAL SALES)**

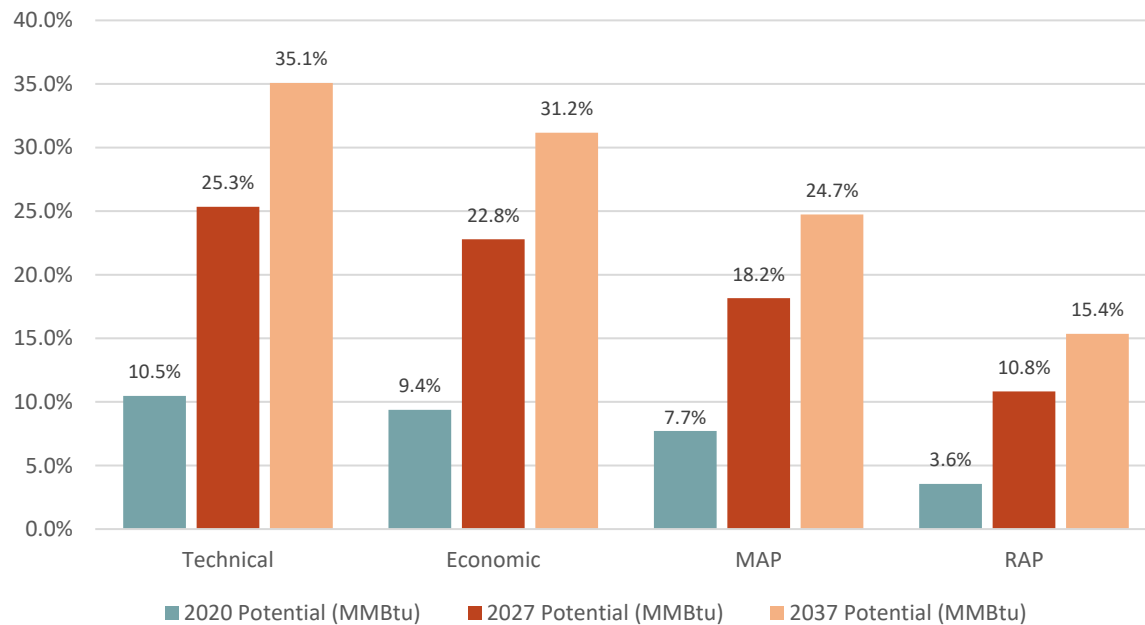


Table 4-11 provides a summary of the statewide residential electric energy, demand and natural gas technical, economic and achievable potential. After accounting for the interactions between the electric and gas potential estimates, the 3-yr electric energy RAP is approximately 146,000 MWh and the 3-yr natural gas RAP is approximately 147,000 MMBtu.

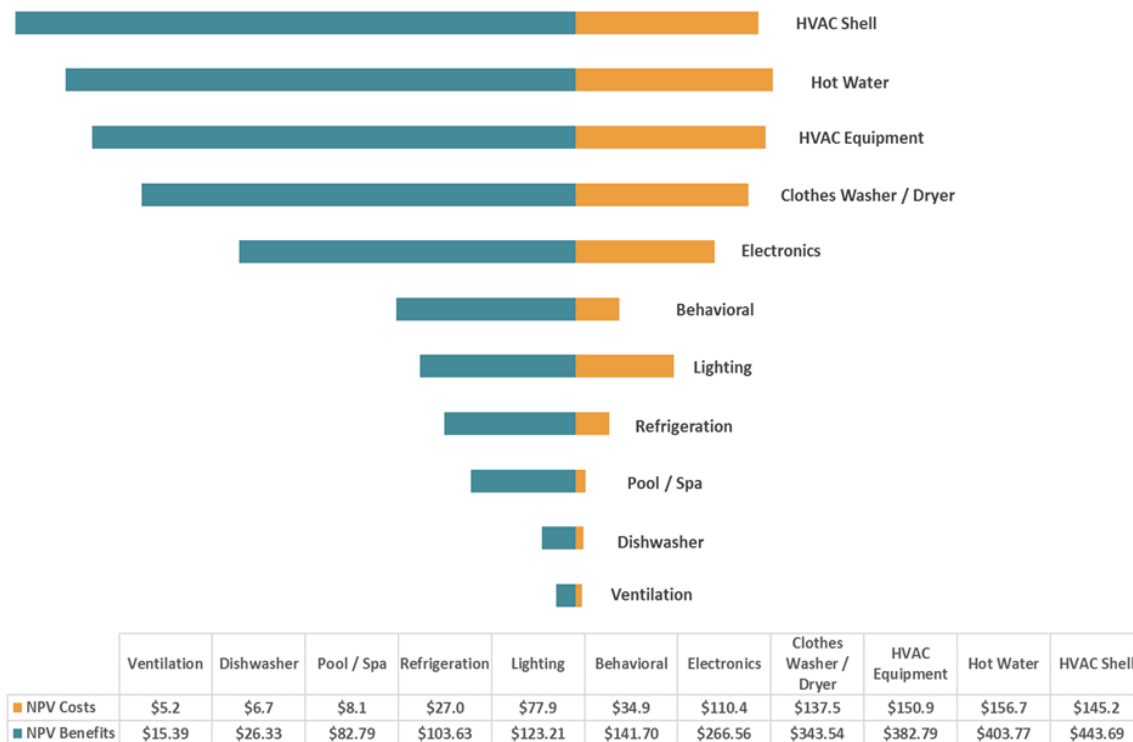
**TABLE 4-11 RESIDENTIAL STATEWIDE ENERGY POTENTIAL SUMMARY**

	2018 Potential	2019 Potential	2020 Potential	2027 Potential	2037 Potential
<b>Annual Energy (MWh)</b>					
<b>Technical</b>	205,155	386,840	394,368	601,688	800,372
<b>Economic</b>	200,460	377,536	380,514	563,597	732,291
<b>MAP</b>	156,030	286,459	294,730	417,730	552,691
<b>RAP</b>	56,251	105,318	145,649	301,438	426,038
<b>Summer Peak Demand (MW)</b>					
<b>Technical</b>	20.9	39.1	42.9	93.3	114.6
<b>Economic</b>	20.3	38.0	41.3	88.4	105.3
<b>MAP</b>	14.8	26.7	28.1	54.7	67.3
<b>RAP</b>	6.1	11.3	15.8	39.5	50.6
<b>Winter Peak Demand (MW)</b>					
<b>Technical</b>	37.5	72.2	54.6	68.2	93.1
<b>Economic</b>	37.0	71.3	53.2	64.3	85.6
<b>MAP</b>	28.7	54.3	41.7	49.6	66.3
<b>RAP</b>	9.1	17.3	21.0	34.3	49.1
<b>Annual Natural Gas (MMBTU)</b>					
<b>Technical</b>	185,607	310,763	432,360	1,136,725	1,699,967

	2018 Potential	2019 Potential	2020 Potential	2027 Potential	2037 Potential
<b>Economic</b>	169,581	279,903	387,479	1,021,812	1,510,337
<b>MAP</b>	150,354	236,306	318,880	814,364	1,199,268
<b>RAP</b>	52,746	91,660	146,868	485,561	744,153

Figure 4-24 and Figure 4-25 provide the statewide cost-effectiveness results by end use in the MAP and RAP scenarios. The figures provide NPV benefits and costs for each end use. In the MAP scenario, the overall benefit-cost ratio is 2.7, and there are nearly \$1.5 billion in NPV savings. The HVAC shell, HVAC equipment and hot water end uses each contribute more than \$200 million in NPV savings. In the RAP scenario, the overall benefit-cost ratio is 2.9, and there are approximately \$1 billion in NPV savings. The HVAC shell, HVAC equipment and hot water end uses account for approximately half of the total NPV savings.

**FIGURE 4-24 SOCIETAL TEST NPV BENEFITS, COSTS, NET SAVINGS, AND RATIOS FOR RESIDENTIAL STATEWIDE MAP (\$ IN MILLIONS)**



**FIGURE 4-25 SOCIETAL TEST NPV BENEFITS, COSTS, NET SAVINGS, AND RATIOS FOR RESIDENTIAL STATEWIDE RAP (\$ IN MILLIONS)**

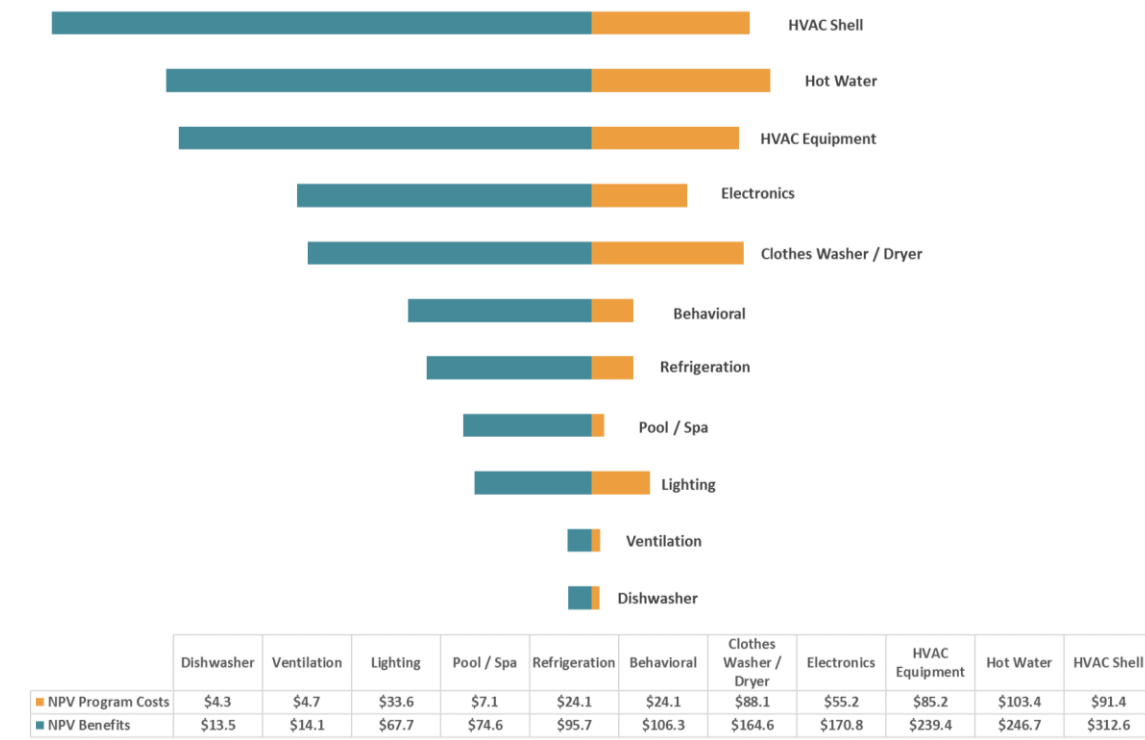


Table 4-12 through Table 4-15 below provide the incremental annual energy, summer demand, winter demand and natural gas savings. These data are shown by EEU and as statewide totals.

TABLE 4-12 RESIDENTIAL INCREMENTAL ANNUAL ENERGY POTENTIAL – STATEWIDE AND BY EEU30

MWh	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
<b>MAP</b>																				
EVT	149,062	147,163	101,667	100,419	89,497	77,350	76,994	72,943	74,435	74,225	74,102	73,880	76,220	76,711	77,233	77,341	79,795	79,052	79,963	79,986
BED	6,622	6,460	4,210	4,178	4,036	3,007	2,972	2,861	2,976	2,934	2,897	2,871	3,092	3,107	3,021	3,001	3,122	3,090	3,075	3,061
VGS	347	303	282	259	250	239	226	212	200	190	198	185	174	164	155	149	142	136	130	139
<b>Total</b>	<b>156,030</b>	<b>153,926</b>	<b>106,159</b>	<b>104,857</b>	<b>93,783</b>	<b>80,596</b>	<b>80,193</b>	<b>76,016</b>	<b>77,611</b>	<b>77,348</b>	<b>77,197</b>	<b>76,936</b>	<b>79,486</b>	<b>79,982</b>	<b>80,409</b>	<b>80,491</b>	<b>83,059</b>	<b>82,278</b>	<b>83,168</b>	<b>83,186</b>
<b>RAP</b>																				
EVT	54,392	57,090	60,138	65,343	66,438	58,453	58,189	54,270	55,617	55,696	55,669	55,566	57,542	57,662	57,913	58,052	60,091	59,671	60,423	60,493
BED	1,728	2,083	2,251	2,553	2,669	2,233	2,224	2,160	2,206	2,187	2,174	2,156	2,272	2,262	2,207	2,204	2,257	2,253	2,248	2,238
VGS	131	179	264	307	319	315	309	303	298	294	300	295	291	287	283	281	278	275	272	277
<b>Total</b>	<b>56,251</b>	<b>59,352</b>	<b>62,654</b>	<b>68,204</b>	<b>69,426</b>	<b>61,001</b>	<b>60,722</b>	<b>56,733</b>	<b>58,121</b>	<b>58,177</b>	<b>58,143</b>	<b>58,016</b>	<b>60,105</b>	<b>60,211</b>	<b>60,404</b>	<b>60,536</b>	<b>62,626</b>	<b>62,198</b>	<b>62,943</b>	<b>63,008</b>

TABLE 4-13 RESIDENTIAL INCREMENTAL ANNUAL SUMMER DEMAND POTENTIAL – STATEWIDE AND BY EEU31

Summer MW	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
<b>MAP</b>																				
EVT	14.1	13.9	10.5	10.4	9.8	9.1	9.0	8.7	8.9	8.8	8.9	8.9	9.1	9.2	9.3	9.3	9.5	9.4	9.5	9.5
BED	0.7	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
VGS	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>Total</b>	<b>14.8</b>	<b>14.6</b>	<b>11.0</b>	<b>10.9</b>	<b>10.2</b>	<b>9.5</b>	<b>9.4</b>	<b>9.2</b>	<b>9.3</b>	<b>9.3</b>	<b>9.3</b>	<b>9.3</b>	<b>9.6</b>	<b>9.6</b>	<b>9.7</b>	<b>9.7</b>	<b>10.0</b>	<b>9.9</b>	<b>9.9</b>	<b>9.9</b>
<b>RAP</b>																				
EVT	5.9	6.1	6.6	7.1	7.3	6.8	6.8	6.5	6.6	6.6	6.7	6.7	6.9	6.9	6.9	6.9	7.2	7.1	7.1	7.2
BED	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
VGS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>6.1</b>	<b>6.4</b>	<b>6.8</b>	<b>7.4</b>	<b>7.6</b>	<b>7.1</b>	<b>7.1</b>	<b>6.8</b>	<b>6.9</b>	<b>6.9</b>	<b>7.0</b>	<b>7.0</b>	<b>7.2</b>	<b>7.2</b>	<b>7.2</b>	<b>7.2</b>	<b>7.5</b>	<b>7.4</b>	<b>7.5</b>	<b>7.5</b>

<sup>30</sup> The data provided in the VGS rows of the table are associated with energy savings resulting from VGS programs. Some measures provide both gas and electric savings.

<sup>31</sup> Ibid

TABLE 4-14 RESIDENTIAL INCREMENTAL ANNUAL WINTER DEMAND POTENTIAL – STATEWIDE AND BY EEU<sup>32</sup>

Winter MW	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
<b>MAP</b>																				
EVT	27.3	27.1	15.0	14.9	11.8	9.3	9.2	8.3	8.4	8.3	8.3	8.3	8.5	8.6	8.7	8.7	8.9	8.8	8.9	8.9
BED	1.3	1.2	0.5	0.5	0.5	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
VGS	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>28.7</b>	<b>28.3</b>	<b>15.6</b>	<b>15.4</b>	<b>12.3</b>	<b>9.7</b>	<b>9.6</b>	<b>8.6</b>	<b>8.7</b>	<b>8.7</b>	<b>8.7</b>	<b>8.7</b>	<b>8.9</b>	<b>9.0</b>	<b>9.1</b>	<b>9.1</b>	<b>9.3</b>	<b>9.2</b>	<b>9.3</b>	<b>9.3</b>
<b>RAP</b>																				
EVT	8.8	9.1	8.4	9.0	8.7	7.0	7.0	6.1	6.2	6.2	6.1	6.1	6.3	6.4	6.4	6.4	6.6	6.6	6.6	6.6
BED	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
VGS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>9.1</b>	<b>9.4</b>	<b>8.7</b>	<b>9.4</b>	<b>9.1</b>	<b>7.3</b>	<b>7.3</b>	<b>6.3</b>	<b>6.4</b>	<b>6.5</b>	<b>6.4</b>	<b>6.4</b>	<b>6.6</b>	<b>6.7</b>	<b>6.7</b>	<b>6.7</b>	<b>6.9</b>	<b>6.8</b>	<b>6.9</b>	<b>6.9</b>

TABLE 4-15 RESIDENTIAL INCREMENTAL ANNUAL NATURAL GAS POTENTIAL – STATEWIDE AND BY EEU<sup>33</sup>

MMBtu	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
<b>MAP</b>																				
EVT	53,804	53,839	56,876	57,184	59,682	63,636	64,544	66,394	67,268	68,092	68,996	69,858	70,612	71,263	72,500	73,238	74,066	74,830	75,669	76,507
BED	5,851	9,979	10,021	9,669	9,579	10,159	10,083	10,077	10,020	9,977	9,945	9,908	9,899	9,895	10,025	9,986	9,954	9,977	10,004	10,033
VGS	90,700	87,193	85,478	83,618	82,864	81,896	81,027	80,547	81,924	81,995	83,212	82,027	81,030	82,758	82,018	81,422	80,710	80,144	80,666	81,693
<b>Total</b>	<b>150,354</b>	<b>151,011</b>	<b>152,375</b>	<b>150,470</b>	<b>152,125</b>	<b>155,692</b>	<b>155,654</b>	<b>157,018</b>	<b>159,212</b>	<b>160,063</b>	<b>162,152</b>	<b>161,792</b>	<b>161,541</b>	<b>163,916</b>	<b>164,543</b>	<b>164,646</b>	<b>164,730</b>	<b>164,951</b>	<b>166,339</b>	<b>168,233</b>
<b>RAP</b>																				
EVT	24,801	28,882	38,147	44,426	47,895	49,958	50,729	52,098	52,823	53,489	54,208	54,919	55,565	56,069	56,869	57,435	58,146	58,764	59,407	60,050
BED	1,965	5,326	8,508	10,208	10,630	10,806	10,748	10,741	10,704	10,676	10,658	10,643	10,640	10,634	10,718	10,691	10,675	10,698	10,725	10,754
VGS	25,980	32,598	44,338	50,528	52,281	51,862	51,403	51,036	50,899	51,597	52,654	52,224	51,779	52,673	52,371	52,099	51,766	51,503	52,115	52,488
<b>Total</b>	<b>52,746</b>	<b>66,806</b>	<b>90,993</b>	<b>105,162</b>	<b>110,807</b>	<b>112,626</b>	<b>112,879</b>	<b>113,875</b>	<b>114,426</b>	<b>115,761</b>	<b>117,520</b>	<b>117,787</b>	<b>117,985</b>	<b>119,376</b>	<b>119,957</b>	<b>120,225</b>	<b>120,587</b>	<b>120,965</b>	<b>122,247</b>	<b>123,291</b>

<sup>32</sup> Ibid

<sup>33</sup> The MMBTU savings provided in the EVT and BED rows of the table are the associated natural gas savings resulting from programs. Some measures provide both gas and electric savings.

## Nonresidential Energy Efficiency Potential

This section provides the potential results for technical, economic, MAP and RAP for the nonresidential sector. Results are broken down by EEU as well as end use. The cost-effectiveness results for MAP and RAP are also provided, as are annual budgets for each of these scenarios.

### 5.1 MEASURES EXAMINED

There were 6,502 total electric measures and 2,857 natural gas measures included in the analysis. Some measures save both electricity and natural gas, but the designation here is made based on which EEU would be expected to offer the measure. Table 5-1 provides a list of the electric measures included for each end use in the nonresidential model. The list of measures was developed based on a review of the VT TRM, feedback from the Department and the EEUs, and measures found in other residential potential studies and TRMs from the Northeast. Measure data includes incremental costs, electric energy and demand savings, natural gas savings, and measure life.

TABLE 5-1 NONRESIDENTIAL ELECTRIC ENERGY EFFICIENCY MEASURES IN STUDY

End-Use	Measure Name	End-Use	Measure Name
Compressed Air	Compressed Air Controller - Pressure/Flow Controller	Compressed Air	Compressed Air Controller - Pressure/Flow Controller
Compressed Air	Compressed Air Heat Recovery	Compressed Air	Compressed Air Heat Recovery
Compressed Air	Compressed Air System Leakage Reduction	Compressed Air	Compressed Air System Leakage Reduction
Compressed Air	Cycling Dryers	Compressed Air	Cycling Dryers
Compressed Air	Engineered Nozzles	Compressed Air	Engineered Nozzles
Compressed Air	Mist Eliminators	Compressed Air	Mist Eliminators
Compressed Air	No Air Loss Drain	Compressed Air	No Air Loss Drain
Compressed Air	VFD Air Compressor Upgrade	Compressed Air	VFD Air Compressor Upgrade
Computers	Computer - ENERGY STAR	Computers	Computer - ENERGY STAR
Computers	Network PC Power Management	Computers	Network PC Power Management
Cooking	Combination Oven	Cooking	Combination Oven
Cooking	Convection Oven	Cooking	Convection Oven
Cooking	Fryers	Cooking	Fryers
Cooking	Griddle	Cooking	Griddle
Cooking	Hot Food Holding Cabinet	Cooking	Hot Food Holding Cabinet
Cooking	Microwave - High Efficiency	Cooking	Microwave - High Efficiency
Cooking	Steam Cooker	Cooking	Steam Cooker
Cooling Chillers	Active Chilled Beam Cooling with DOAS	Cooling Chillers	Active Chilled Beam Cooling with DOAS
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)

End-Use	Measure Name	End-Use	Measure Name
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Cooling Chillers	Chilled Water Piping Loop with VSD Control
Cooling Chillers	Chilled Water Reset	Cooling Chillers	Chilled Water Reset
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Cooling Chillers	Chiller - Pipe Insulation - Above Code
Cooling Chillers	Chiller - Pipe Insulation - Code	Cooling Chillers	Chiller - Pipe Insulation - Code
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)
Cooling Chillers	Commissioning	Cooling Chillers	Commissioning
Cooling Chillers	Convert Constant Volume Air System to VAV	Cooling Chillers	Convert Constant Volume Air System to VAV
Cooling Chillers	Direct Digital Control System-Installation	Cooling Chillers	Direct Digital Control System-Installation
Cooling Chillers	Exhaust Hood Makeup Air	Cooling Chillers	Exhaust Hood Makeup Air
Cooling Chillers	Green Roof	Cooling Chillers	Green Roof
Cooling Chillers	Indirect Information Feedback	Cooling Chillers	Indirect Information Feedback
Cooling Chillers	Infiltration Reduction	Cooling Chillers	Infiltration Reduction
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Code	Cooling Chillers	Insulation - Ceiling - CBES 2015 - Code
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Code	Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Code
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code
Cooling Chillers	Insulation - Wall - CBES 2015 - Code	Cooling Chillers	Insulation - Wall - CBES 2015 - Code



End-Use	Measure Name	End-Use	Measure Name
Cooling Chillers	Natural Ventilation	Cooling Chillers	Natural Ventilation
Cooling Chillers	Programmable Thermostat	Cooling Chillers	Programmable Thermostat
Cooling Chillers	Re-Commissioning	Cooling Chillers	Re-Commissioning
Cooling Chillers	Retrocommissioning	Cooling Chillers	Retrocommissioning
Cooling Chillers	Strategic Energy Management (SEM)	Cooling Chillers	Strategic Energy Management (SEM)
Cooling Chillers	Tune-up - Chiller Maintenance	Cooling Chillers	Tune-up - Chiller Maintenance
Cooling Chillers	Wi-Fi Thermostat	Cooling Chillers	Wi-Fi Thermostat
Cooling Chillers	Windows - CBES 2015 - Above Code	Cooling Chillers	Windows - CBES 2015 - Above Code
Cooling Chillers	Windows - CBES 2015 - Code	Cooling Chillers	Windows - CBES 2015 - Code
Cooling Chillers	Chilled Water Side Economizer	Cooling Chillers	Chilled Water Side Economizer
Cooling Chillers	Chillers 150-300 tons (screw) - Advanced Efficiency (Water Cooled)	Cooling Chillers	Chillers 150-300 tons (screw) - Advanced Efficiency (Water Cooled)
Cooling Chillers	Chillers 150-300 tons (screw) - High Efficiency (Water Cooled)	Cooling Chillers	Chillers 150-300 tons (screw) - High Efficiency (Water Cooled)
Cooling Chillers	Chillers 150-300 tons (screw) - Premium Efficiency (Water Cooled)	Cooling Chillers	Chillers 150-300 tons (screw) - Premium Efficiency (Water Cooled)
Cooling Chillers	Chillers > 300 tons (centrifugal) - High Efficiency (Water Cooled)	Cooling Chillers	Chillers > 300 tons (centrifugal) - High Efficiency (Water Cooled)
Cooling Chillers	Chillers > 300 tons (centrifugal) - Premium Efficiency (Water Cooled)	Cooling Chillers	Chillers > 300 tons (centrifugal) - Premium Efficiency (Water Cooled)
Cooling Chillers	Chillers > 300 tons (centrifugal) with VSD - Advanced Efficiency (Water Cooled)	Cooling Chillers	Chillers > 300 tons (centrifugal) with VSD - Advanced Efficiency (Water Cooled)
Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units	Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units
Cooling Dx Evap	DX Package 135 to 240 kBtuh - Federal Standard 2023	Cooling Dx Evap	DX Package 135 to 240 kBtuh - Federal Standard 2023
Cooling Dx Evap	DX Package 135 to 240 kBtuh - Premium Efficiency	Cooling Dx Evap	DX Package 135 to 240 kBtuh - Premium Efficiency

End-Use	Measure Name	End-Use	Measure Name
Cooling Dx Evap	Duct Repair and Sealing	Cooling Dx Evap	Duct Repair and Sealing
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Cooling Dx Evap	HVAC Variable Refrigerant Flow
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)
Cooling Dx Evap	Tune-up - DX Maintenance	Cooling Dx Evap	Tune-up - DX Maintenance
Cooling Dx Evap	DX Package-Air Side Economizer	Cooling Dx Evap	DX Package-Air Side Economizer
Cooling Dx Evap	DX Package 65 to 135 kBtuh - Federal Standard 2023	Cooling Dx Evap	DX Package 65 to 135 kBtuh - Federal Standard 2023
Cooling Dx Evap	DX Package 65 to 135 kBtuh - Premium Efficiency	Cooling Dx Evap	DX Package 65 to 135 kBtuh - Premium Efficiency
Cooling Dx Evap	DX Package 240 to 760 kBtuh - Federal Standard 2023	Cooling Dx Evap	DX Package 240 to 760 kBtuh - Federal Standard 2023
Cooling Dx Evap	DX Package 240 to 760 kBtuh - Premium Efficiency	Cooling Dx Evap	DX Package 240 to 760 kBtuh - Premium Efficiency
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtuh - Premium Efficiency	Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtuh - Premium Efficiency
Dryer	Dryer - ENERGY STAR (Residential Sized)	Dryer	Dryer - ENERGY STAR (Residential Sized)
Dryer	Dryer - Heat Pump Dryer (Residential Sized)	Dryer	Dryer - Heat Pump Dryer (Residential Sized)
Fans	Optimize Fan System	Fans	Optimize Fan System
Fans	Fan System Controls	Fans	Fan System Controls
Fax	Fax - ENERGY STAR	Fax	Fax - ENERGY STAR
Flat Screen Monitors	Monitor - ENERGY STAR	Flat Screen Monitors	Monitor - ENERGY STAR
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient

End-Use	Measure Name	End-Use	Measure Name
Freezers	Freezer (Residential) - ENERGY STAR	Freezers	Freezer (Residential) - ENERGY STAR
Freezers	Residential Freezer Recycling and Replacement	Freezers	Residential Freezer Recycling and Replacement
Heat Pump	Air Source Heat Pump 65 to 135 kBtuh - Federal Standard 2023	Heat Pump	Air Source Heat Pump 65 to 135 kBtuh - Federal Standard 2023
Heat Pump	Air Source Heat Pump 65 to 135 kBtuh - Premium Efficiency	Heat Pump	Air Source Heat Pump 65 to 135 kBtuh - Premium Efficiency
Heat Pump	Cold Climate Heat Pump - Enhanced Efficiency	Heat Pump	Cold Climate Heat Pump - Enhanced Efficiency
Heat Pump	Ground Source Heat Pump (< 135 kBTU/hr) Cooling	Heat Pump	Ground Source Heat Pump (< 135 kBTU/hr) Cooling
Heat Pump	Tune-up - Heat Pump Maintenance	Heat Pump	Tune-up - Heat Pump Maintenance
Heat Pump	Water Source Heat Pump (>= 135 kBTU/hr and < 375 kBTU/hr) Cooling	Heat Pump	Water Source Heat Pump (>= 135 kBTU/hr and < 375 kBTU/hr) Cooling
Heat Pump	Air Source Heat Pump > 240 kBtuh - Federal Standard 2023	Heat Pump	Air Source Heat Pump > 240 kBtuh - Federal Standard 2023
Heat Pump	Air Source Heat Pump > 240 kBtuh - Premium Efficiency	Heat Pump	Air Source Heat Pump > 240 kBtuh - Premium Efficiency
Heat Pump	Air Source Heat Pump 135 to 240 kBtuh - Federal Standard 2023	Heat Pump	Air Source Heat Pump 135 to 240 kBtuh - Federal Standard 2023
Heat Pump	Air Source Heat Pump 135 to 240 kBtuh - Premium Efficiency	Heat Pump	Air Source Heat Pump 135 to 240 kBtuh - Premium Efficiency
HVAC	Building Envelope Infiltration Improvements	HVAC	Building Envelope Infiltration Improvements
HVAC	Building Envelope Infiltration, Insulation, And Duct System Improvements	HVAC	Building Envelope Infiltration, Insulation, And Duct System Improvements
HVAC	Building Envelope Insulation Improvements	HVAC	Building Envelope Insulation Improvements
HVAC	Install Controls On Air Conditioning System	HVAC	Install Controls On Air Conditioning System
HVAC	Install Outside Air Damper / Economizer On HVAC Unit	HVAC	Install Outside Air Damper / Economizer On HVAC Unit
HVAC	Optimize Space Cooling Zone And Schedule	HVAC	Optimize Space Cooling Zone And Schedule
HVAC	Optimize Ventilation System	HVAC	Optimize Ventilation System

End-Use	Measure Name	End-Use	Measure Name
HVAC	Upgrade Equipment - Replace Existing HVAC Unit With High Efficiency Model	HVAC	Upgrade Equipment - Replace Existing HVAC Unit With High Efficiency Model
HVAC	Use Direct Air Supply To Exhaust Hoods	HVAC	Use Direct Air Supply To Exhaust Hoods
HVAC	Utilize An Evaporative Air Pre-Cooler Or Other Heat Exchanger In Ac System	HVAC	Utilize An Evaporative Air Pre-Cooler Or Other Heat Exchanger In Ac System
Indirect Boiler	Electric Impacts From Steam Thermal Systems Improvements	Indirect Boiler	Electric Impacts From Steam Thermal Systems Improvements
Indirect Boiler	Equipment Upgrade - Boiler Replacement	Indirect Boiler	Equipment Upgrade - Boiler Replacement
Indirect Boiler	Electric Impacts From Heat Treating Thermal Systems Improvements	Indirect Boiler	Electric Impacts From Heat Treating Thermal Systems Improvements
Indirect Boiler	Electric Impacts From Furnaces & Boilers, Ovens & Directly Fired Improvements	Indirect Boiler	Electric Impacts From Furnaces & Boilers, Ovens & Directly Fired Improvements
Indirect Boiler	Electric Impacts From Furnaces & Boilers, Ovens & Directly Fired, And Other Thermal System Improvements	Indirect Boiler	Electric Impacts From Furnaces & Boilers, Ovens & Directly Fired, And Other Thermal System Improvements
Lighting	Lighting Controls - Occupancy Sensors, Photocell Controls, And Timers	Lighting	Lighting Controls - Occupancy Sensors, Photocell Controls, And Timers
Lighting	Lighting Interior Fluorescent	Lighting	Lighting Interior Fluorescent
Lighting	Lighting Interior HID	Lighting	Lighting Interior HID
Lighting	Lighting Interior Screw Base - Standard	Lighting	Lighting Interior Screw Base - Standard
Lighting	Lighting Operations - Scheduling Improvements And Maintenance	Lighting	Lighting Operations - Scheduling Improvements And Maintenance
Lighting	Optimize Lighting System - Install Skylights And Use Daylighting	Lighting	Optimize Lighting System - Install Skylights And Use Daylighting
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	Lighting Exterior	Bi-Level Control, Parking Garage Lighting
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	Lighting Exterior	Daylighting Controls, Outdoors (Photocell)
Lighting Exterior	LED Exterior Flood Lights	Lighting Exterior	LED Exterior Flood Lights
Lighting Exterior	LED Exterior Pole Mount Fixture	Lighting Exterior	LED Exterior Pole Mount Fixture

End-Use	Measure Name	End-Use	Measure Name
Lighting Exterior	LED Exterior Wall Pack	Lighting Exterior	LED Exterior Wall Pack
Lighting Exterior	LED Pathway Lights	Lighting Exterior	LED Pathway Lights
Lighting Exterior	Occupancy Sensor Control	Lighting Exterior	Occupancy Sensor Control
Lighting Exterior	Parking - Covered Lighting	Lighting Exterior	Parking - Covered Lighting
Lighting Exterior	Parking - Surface Lighting	Lighting Exterior	Parking - Surface Lighting
Lighting Exterior	Time Clock	Lighting Exterior	Time Clock
Lighting Interior Fluorescent	Bi-Level Control, Stairwell Lighting	Lighting Interior Fluorescent	Bi-Level Control, Stairwell Lighting
Lighting Interior Fluorescent	Dimming-Stepped, Fluorescent Fixtures	Lighting Interior Fluorescent	Dimming-Stepped, Fluorescent Fixtures
Lighting Interior Fluorescent	Lighting Interior - Fluorescent - 2018 Federal Standard	Lighting Interior Fluorescent	Lighting Interior - Fluorescent - 2018 Federal Standard
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 - Above Standard	Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 - Above Standard
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 High Performance - Above Standard	Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 High Performance - Above Standard
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 Reduced Wattage - Above Standard	Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 Reduced Wattage - Above Standard
Lighting Interior Fluorescent	Lighting Interior - TLED - Above Standard	Lighting Interior Fluorescent	Lighting Interior - TLED - Above Standard
Lighting Interior Fluorescent - Early Replacement	Early Replacement Lighting Interior - TLED - Above Standard	Lighting Interior Fluorescent - Early Replacement	Early Replacement Lighting Interior - TLED - Above Standard
Lighting Interior HID	Lighting Interior - Efficient Metal Halide - Above Standard	Lighting Interior HID	Lighting Interior - Efficient Metal Halide - Above Standard
Lighting Interior HID	Lighting Interior - Federal Standard 2017 Metal Halide - Above Standard	Lighting Interior HID	Lighting Interior - Federal Standard 2017 Metal Halide - Above Standard

TABLE 5-2 NONRESIDENTIAL NATURAL GAS ENERGY EFFICIENCY MEASURES IN STUDY

End-Use	Measure Name	End-Use	Measure Name
Cooking	Broiler	Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR 2016 Most Efficient
Cooking	Combination Oven	Space Heat - Gas Boiler	Boiler < 300 kBtuh - Federal Standard 2022
Cooking	Convection Oven	Space Heat - Gas Boiler	Boiler < 300 kBtuh - Premium Efficiency
Cooking	Conveyor Oven	Space Heat - Gas Boiler	Boiler Controls
Cooking	Fryers	Space Heat - Gas Boiler	Boiler Oxygen Trim Controls
Cooking	Griddle	Space Heat - Gas Boiler	Commissioning
Cooking	Rack Oven	Space Heat - Gas Boiler	Convert Constant Volume Air System to VAV
Cooking	Steam Cooker	Space Heat - Gas Boiler	Direct Digital Control System-Installation
Dryer	Dryer - ENERGY STAR (Residential Sized)	Space Heat - Gas Boiler	Indirect Information Feedback
HVAC	Building Envelope Infiltration Improvements	Space Heat - Gas Boiler	Integrated Space Heating and Water Heating
HVAC	Building Envelope Insulation Improvements	Space Heat - Gas Boiler	Programmable Thermostat
HVAC	Equipment Upgrade - Replace Existing HVAC Unit With High Efficiency Model	Space Heat - Gas Boiler	Re-Commissioning
HVAC	HVAC Equipment Scheduling Improvements - HVAC Controls, Timers Or Thermostats	Space Heat - Gas Boiler	Retrocommissioning
HVAC	Optimize Ventilation System	Space Heat - Gas Boiler	Steam Trap Repair
Indirect Boiler	Analyze Flue Gas For Proper Air/Fuel Ratio	Space Heat - Gas Boiler	Strategic Energy Management (SEM)
Indirect Boiler	Boiler - Operation, Maintenance, And Scheduling	Space Heat - Gas Boiler	Tune-up - Boiler Maintenance
Indirect Boiler	Equipment Upgrade - Boiler Replacement	Space Heat - Gas Boiler	Wi-Fi Thermostat
Indirect Boiler	Improve Combustion Control Capability And Air Flow	Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - Federal Standard 2023
Indirect Boiler	Install Or Repair Insulation On Condensate Lines And Optimize Condensate	Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - High Efficiency

End-Use	Measure Name	End-Use	Measure Name
Indirect Boiler	Insulate Steam, Hot Water Lines Or Feedwater Tank	Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - Premium Efficiency
Indirect Boiler	Minimize Boiler Blowdown	Space Heat - Gas Furnace	Duct Repair and Sealing
Indirect Boiler	Optimize Heating System To Improve Burner Efficiency, Reduce Energy Requirements And Heat Treatment Process	Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency
Indirect Boiler	Repair And Eliminate Steam Leaks	Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency
Indirect Boiler	Repair Or Replace Steam Traps	Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency
Pool Heat	Pool Heater - Efficient	Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code
Pool Heat	Spa Covers	Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Code
Pool Heat	Swimming Pool Covers	Space Heat - Gas Furnace	Tune-up - Furnace Maintenance
Process Heat	Heat Recovery And Waste Heat For Process	Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)
Process Heat	Isolate And Prevent Infiltration Of Heat Loss From Equipment	Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)
Process Heat	Waste Heat From Hot Flue Gases To Preheat	Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp
Process Other	Plant Operations - Equipment Scheduling Improvements	Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp
Process Other	Process Improvements To Reduce Energy Requirements	Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code
Room Heat - Gas	Exhaust Air to Ventilation Air Heat Recovery	Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater
Room Heat - Gas	Infiltration Reduction	Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Water Heat GT 55 Gal	Low-Flow Faucet Aerators
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Code	Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Code	Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System

End-Use	Measure Name	End-Use	Measure Name
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Water Heat GT 55 Gal	Ultrasonic Faucet Control
Room Heat - Gas	Insulation - Wall - CBES 2015 - Code	Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery
Room Heat - Gas	Radiant Heater - High Efficiency	Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR
Room Heat - Gas	Windows - CBES 2015 - Above Code	Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency
Room Heat - Gas	Windows - CBES 2015 - Code	Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR
Space Heat - Gas Boiler	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Water Heat GT 55 Gal	Low-Flow Showerheads
Space Heat - Gas Boiler	Boiler - Economizer	Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Code	Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Advanced Efficiency	Water Heat LE 55 Gal	Water Heater LE 55 Gal - Tankless - ENERGY STAR
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR		



Sections 5.2 through 5.4 provide the respective results for EVT, BED and VGS. Section 5.5 provides a statewide aggregated summary of the results.

## 5.2 NONRESIDENTIAL POTENTIAL – EVT

Figure 5-1 provides the technical, economic, MAP and RAP results for the 3-yr, 10-yr, and 20-yr timeframes. The 3-yr technical potential is 4.3% of forecasted sales, and the economic potential is 3.5% of forecasted sales, indicating that most technical potential is cost-effective. The 3-yr MAP is 7.7% and the RAP is 4.9%. The difference between MAP and RAP is due to assumptions related to program participation rates. The reason that MAP and RAP exceeds technical and economic potential in the early years of the timeframe is that the achievable potential is “front-loaded” to more appropriately align achievable potential with historical savings achievements by EVT in recent years. This methodological adjustment does not however affect the long-term technical and economic potential, which both exceed long-term achievable potential. This adjustment simply speeds up the acquisition of the achievable potential, but does not change its overall magnitude from the perspective of cumulative annual savings estimates.

**FIGURE 5-1 NONRESIDENTIAL EVT ELECTRIC ENERGY (MWH) CUMULATIVE ANNUAL POTENTIAL (AS A % OF NONRESIDENTIAL SALES)**

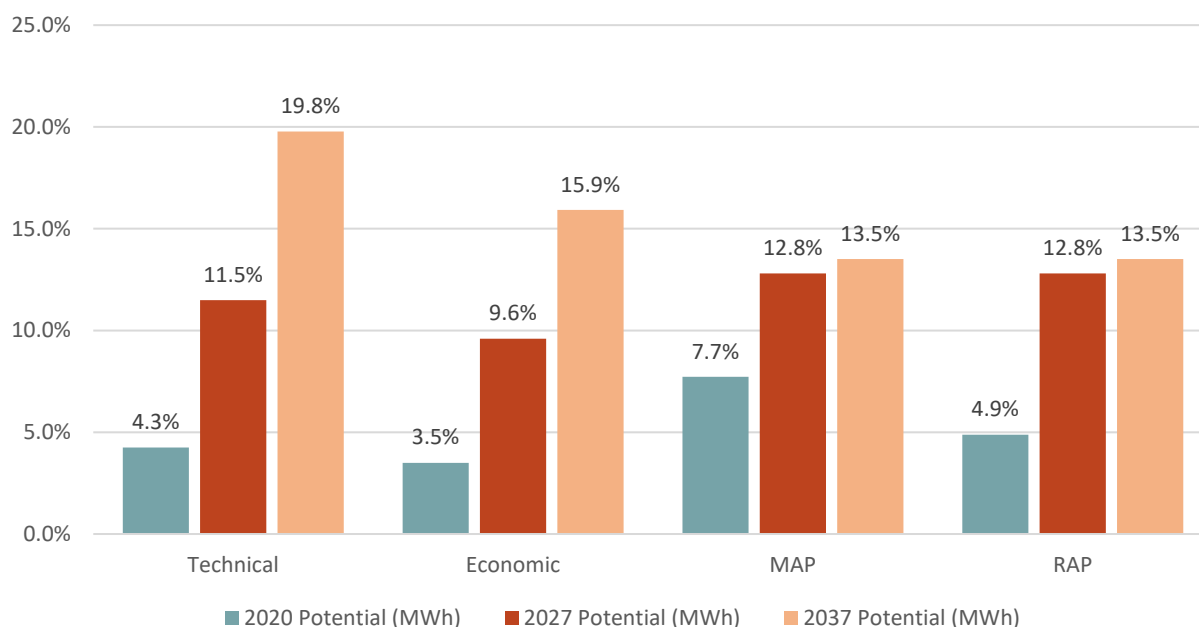


Table 5-3 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual technical, economic, MAP and RAP results for energy, summer peak demand, winter peak demand, and natural gas. The technical potential rises to more than 650,000 MWh by 2037, and the MAP and RAP is more than half of that total, rising to nearly 450,000 MWh by 2037. Summer peak demand savings exceed 110 MW in the technical potential and more than 75 MW in the MAP and RAP scenarios.

**TABLE 5-3 NONRESIDENTIAL EVT ENERGY POTENTIAL SUMMARY<sup>34</sup>**

	2018 Potential	2019 Potential	2020 Potential	2027 Potential	2037 Potential
<b>Annual Energy (MWh)</b>					
<b>Technical</b>	40,342	80,683	121,018	371,564	652,814
<b>Economic</b>	33,765	67,887	99,579	310,284	525,482

<sup>34</sup> As noted early in Section 5.2 MAP exceeds technical and economic potential in the early years of the study due to the need to accelerate the nonresidential achievable potential towards the early years to more appropriately align the estimates with the historical achievements in the state.

	2018 Potential	2019 Potential	2020 Potential	2027 Potential	2037 Potential
<b>MAP</b>	73,756	147,827	219,795	414,039	445,872
<b>RAP</b>	46,755	93,825	138,793	414,039	445,872
<b>Summer Peak Demand (MW)</b>					
<b>Technical</b>	6.8	13.5	20.3	62.9	111.5
<b>Economic</b>	6.0	12.0	17.6	54.6	91.2
<b>MAP</b>	12.5	25.0	37.1	70.9	76.7
<b>RAP</b>	8.0	16.1	23.8	70.9	76.7
<b>Winter Peak Demand (MW)</b>					
<b>Technical</b>	5.5	11.0	16.5	51.9	90.7
<b>Economic</b>	4.7	9.5	13.9	43.2	73.5
<b>MAP</b>	10.3	20.6	30.6	57.4	61.8
<b>RAP</b>	6.5	13.0	19.3	57.4	61.8
<b>Annual Natural Gas (MMBTU)</b>					
<b>Technical</b>	3,071	6,142	9,189	29,144	56,866
<b>Economic</b>	1,913	3,818	5,722	18,671	37,005
<b>MAP</b>	5,694	11,382	17,069	28,743	29,386
<b>RAP</b>	3,189	6,372	9,554	28,743	29,386

### Technical & Economic Potential

Table 5-4 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual technical potential results by end use for EVT. Lighting is the leading end use, accounting for approximately half of the technical potential. HVAC – industrial, plug load, and refrigeration are other leading end uses over the next three years. The ventilation and circulation and process – industrial end uses become more significant over the 10- and 20-year timeframes.

TABLE 5-4 NONRESIDENTIAL EVT ELECTRIC ENERGY (CUMULATIVE ANNUAL MWH) TECHNICAL POTENTIAL BY END-USE

End Use	2018 Potential (MWh)	2019 Potential (MWh)	2020 Potential (MWh)	2027 Potential (MWh)	2037 Potential (MWh)
<b>Cooking</b>	152	304	455	1,518	2,882
<b>Cooling</b>	601	1,202	1,801	5,887	10,890
<b>Heat Pump</b>	41	81	122	399	751
<b>Heating</b>	277	553	829	2,644	5,172
<b>HVAC - Industrial</b>	3,283	6,565	9,848	32,825	65,651
<b>Indirect Boiler - Industrial</b>	217	435	652	2,174	4,348
<b>Lighting</b>	19,600	39,201	58,801	196,003	341,404
<b>Motors</b>	143	287	430	1,435	2,870
<b>Other</b>	439	878	1,312	4,356	7,363
<b>Plug Load</b>	6,465	12,930	19,395	33,821	40,694
<b>Process - Industrial</b>	2,701	5,402	8,103	27,011	54,022

End Use	2018 Potential (MWh)	2019 Potential (MWh)	2020 Potential (MWh)	2027 Potential (MWh)	2037 Potential (MWh)
Refrigeration	3,062	6,124	9,187	30,034	58,391
Ventilation and Circulation	2,225	4,450	6,675	22,250	44,295
Water Heat	1,136	2,272	3,407	11,207	14,080
<b>Total</b>	40,342	80,683	121,018	371,564	652,814

Table 5-5 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual economic potential results by end use for EVT. Lighting is the leading end use, accounting for approximately half of the economic potential. HVAC – industrial, process – industrial, and refrigeration are other leading end uses over the next three years. The ventilation and circulation and plug load end uses become more significant over the 10- and 20-year timeframes.

**TABLE 5-5 NONRESIDENTIAL EVT ELECTRIC ENERGY (CUMULATIVE ANNUAL MWH) ECONOMIC POTENTIAL BY END-USE**

End Use	2018 Potential (MWh)	2019 Potential (MWh)	2020 Potential (MWh)	2027 Potential (MWh)	2037 Potential (MWh)
Cooking	112	223	333	1,087	2,150
Cooling	245	488	727	2,304	4,397
Heat Pump	10	20	29	91	176
Heating	248	494	740	2,444	4,870
HVAC - Industrial	3,283	6,565	9,848	32,825	65,651
Indirect Boiler - Industrial	217	435	652	2,174	4,348
Lighting	19,991	40,372	58,375	174,681	257,629
Motors	143	287	430	1,435	2,870
Other	418	838	1,244	3,903	6,950
Plug Load	971	1,932	2,874	9,071	17,265
Process - Industrial	2,701	5,402	8,103	27,011	54,022
Refrigeration	2,863	5,716	8,570	28,236	56,150
Ventilation and Circulation	1,897	3,792	5,686	18,870	37,658
Water Heat	666	1,325	1,966	6,150	11,346
<b>Total</b>	33,765	67,887	99,579	310,284	525,482

**Maximum Achievable Potential (MAP)**

Figure 5-2 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual MAP results by end use for EVT. Lighting is the leading end use, followed by refrigeration, HVAC – industrial, process – industrial, and ventilation and circulation.

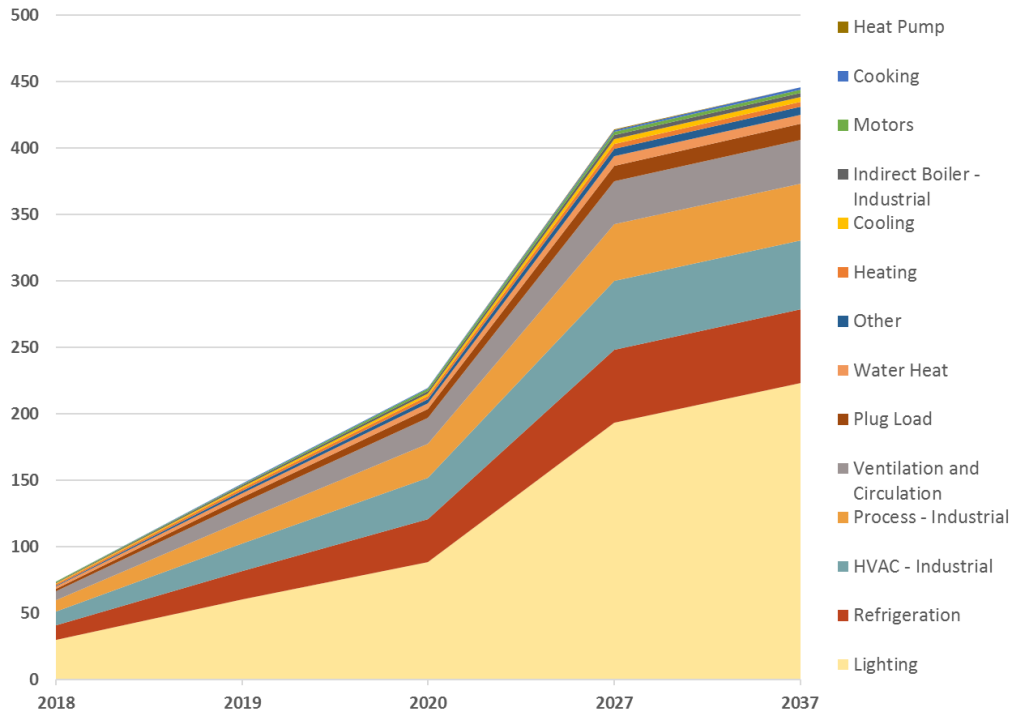
**FIGURE 5-2 NONRESIDENTIAL EVT ELECTRIC ENERGY (CUMULATIVE ANNUAL GWH) MAP POTENTIAL BY END-USE****Realistic Achievable Potential (RAP)**

Figure 5-3 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual MAP results by end use for EVT. Lighting is the leading end use, followed by refrigeration, HVAC – industrial, process – industrial, and ventilation and circulation.

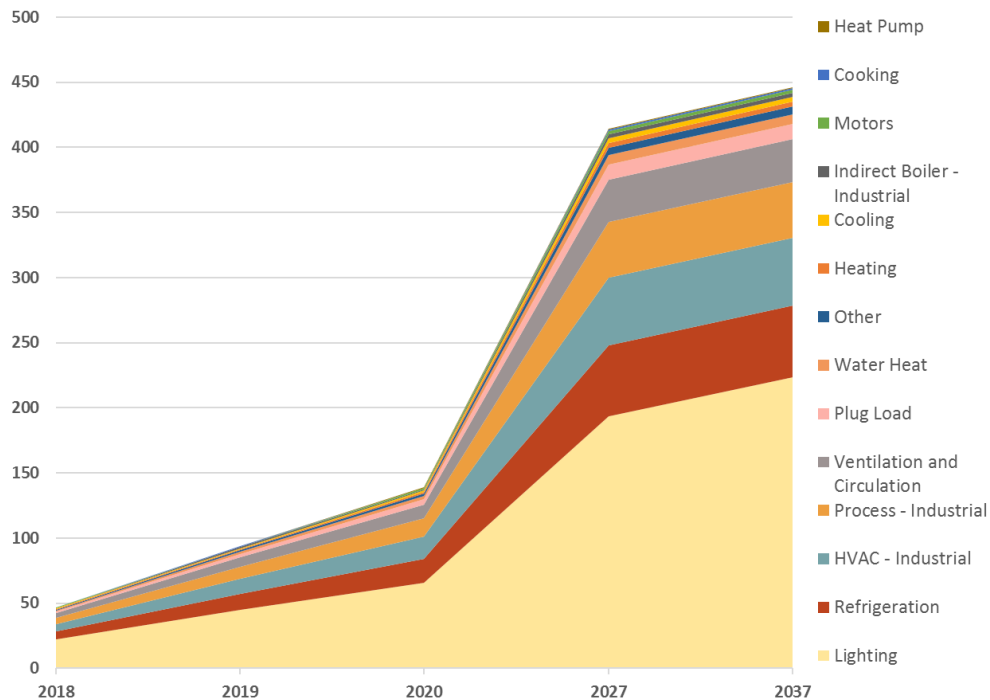
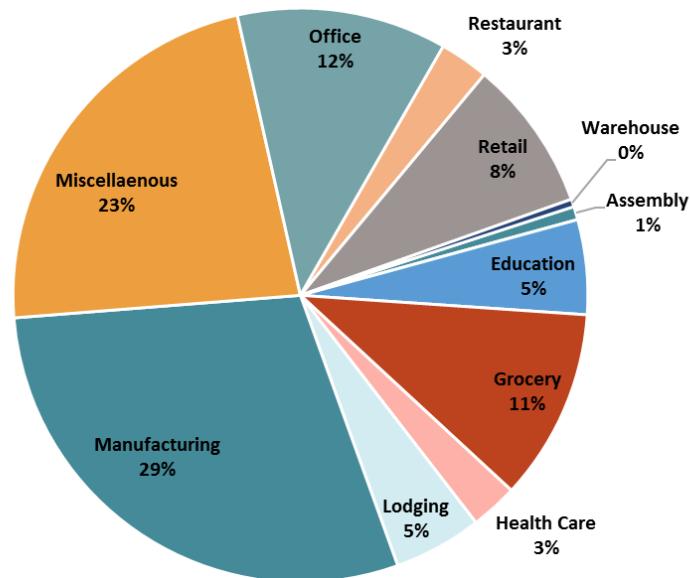
**FIGURE 5-3 NONRESIDENTIAL EVT ELECTRIC ENERGY (CUMULATIVE ANNUAL GWH) RAP POTENTIAL BY END-USE**

Figure 5-4 illustrates a market segmentation of the RAP in the nonresidential sector by 2037. The leading market segment is manufacturing at 29% of total savings. Grocery (11% of savings), office (11% of savings), and restaurant (8% of savings) are other leading market segments.

**FIGURE 5-4 2037 NONRESIDENTIAL EVT ELECTRIC ENERGY (CUMULATIVE ANNUAL) RAP POTENTIAL BY MARKET SEGMENT**



### ***Program Benefits & Costs***

Figure 5-5 and Figure 5-6 provide the cost-effectiveness results, as calculated using the Vermont Societal test, by end use in the MAP and RAP scenario for EVT. The figures provide NPV benefits and costs for each end use. In the MAP scenario, the overall benefit-cost ratio is 6.2, and there are nearly \$2 billion in NPV savings. The lighting end use contributes nearly \$1 billion in NPV benefits and the HVAC, refrigeration, and process end uses each contribute more than \$200 million in NPV benefits. In the RAP scenario, the overall benefit-cost ratio is 6.2, and there are approximately \$1.8 billion in NPV savings. Like the MAP scenario, the lighting end use contributes nearly \$1 billion in NPV benefits and the HVAC, refrigeration, and process end uses each contribute more than \$200 million in NPV benefits.

FIGURE 5-5 SOCIETAL TEST NPV BENEFITS, COSTS, NET SAVINGS, AND RATIOS FOR NONRESIDENTIAL EVT MAP (\$ IN MILLIONS)

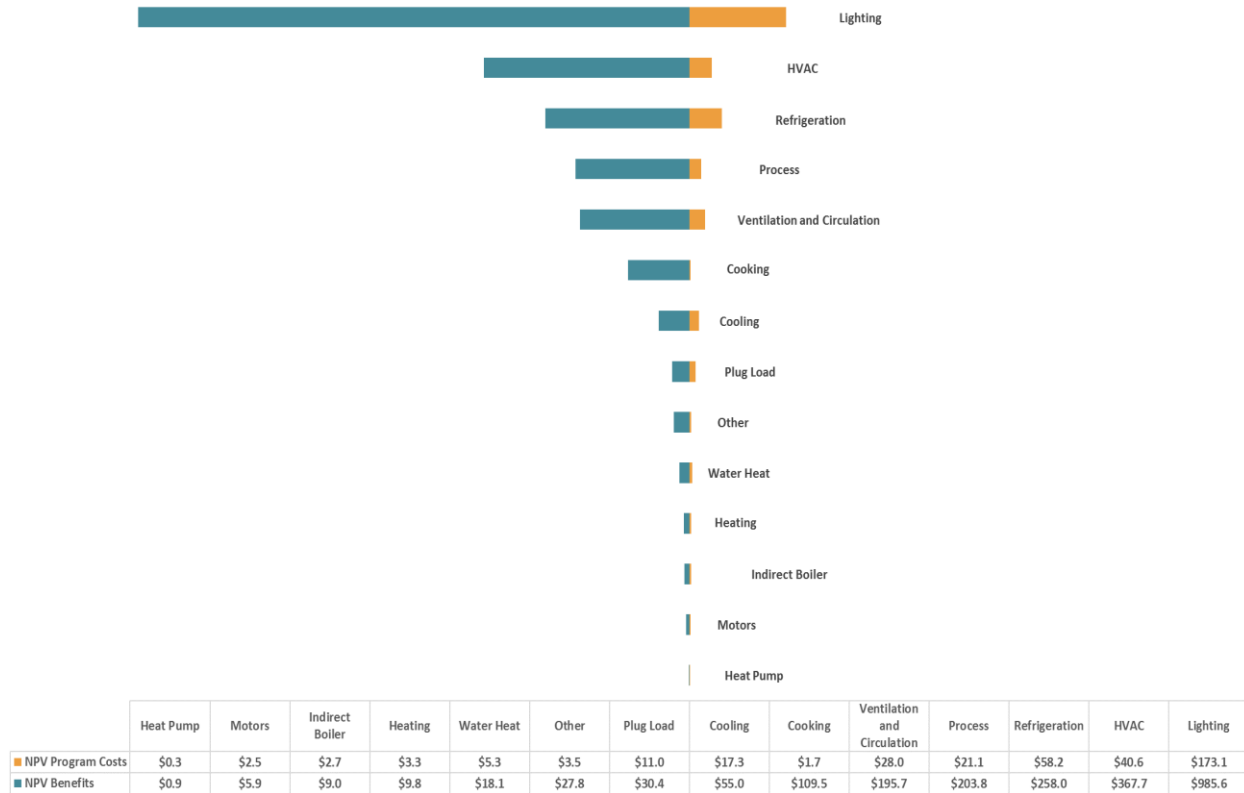


FIGURE 5-6 SOCIETAL TEST NPV BENEFITS, COSTS, NET SAVINGS, AND RATIOS FOR NONRESIDENTIAL EVT RAP (\$ IN MILLIONS)

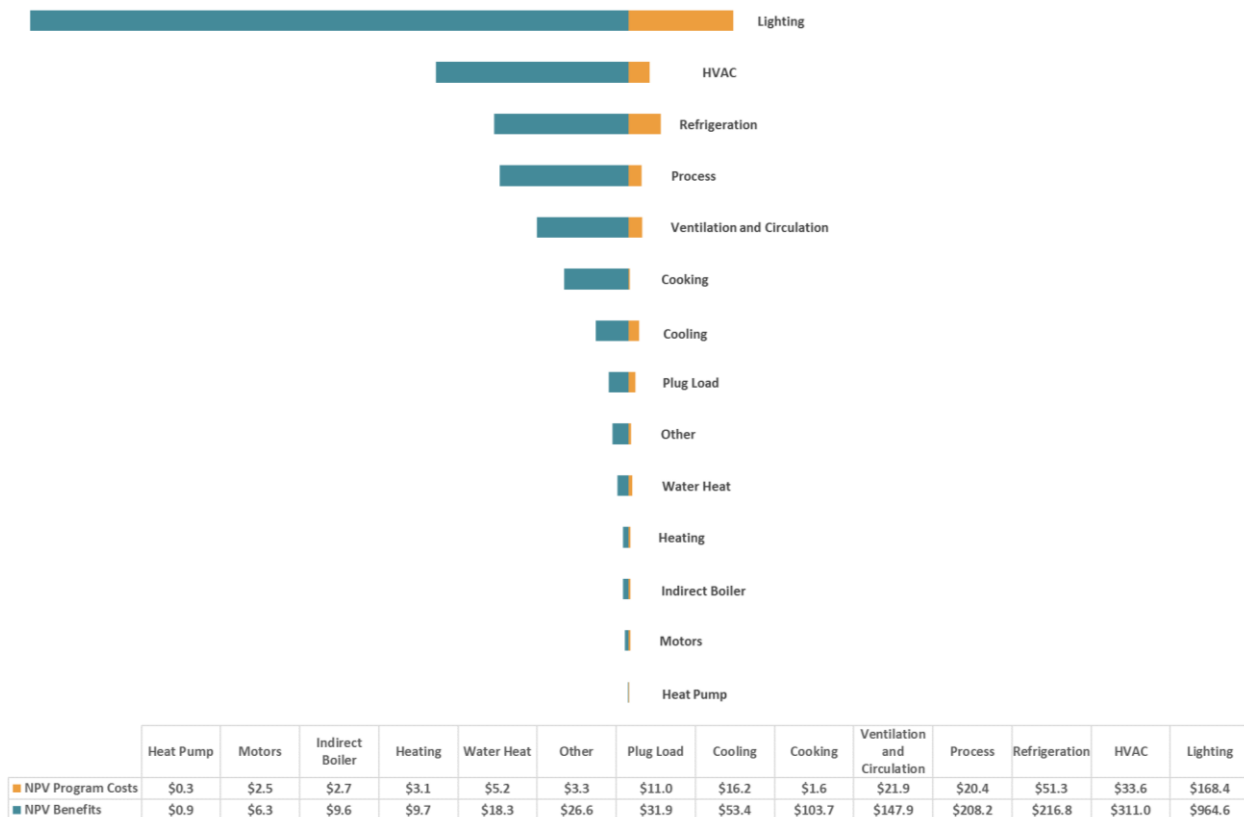
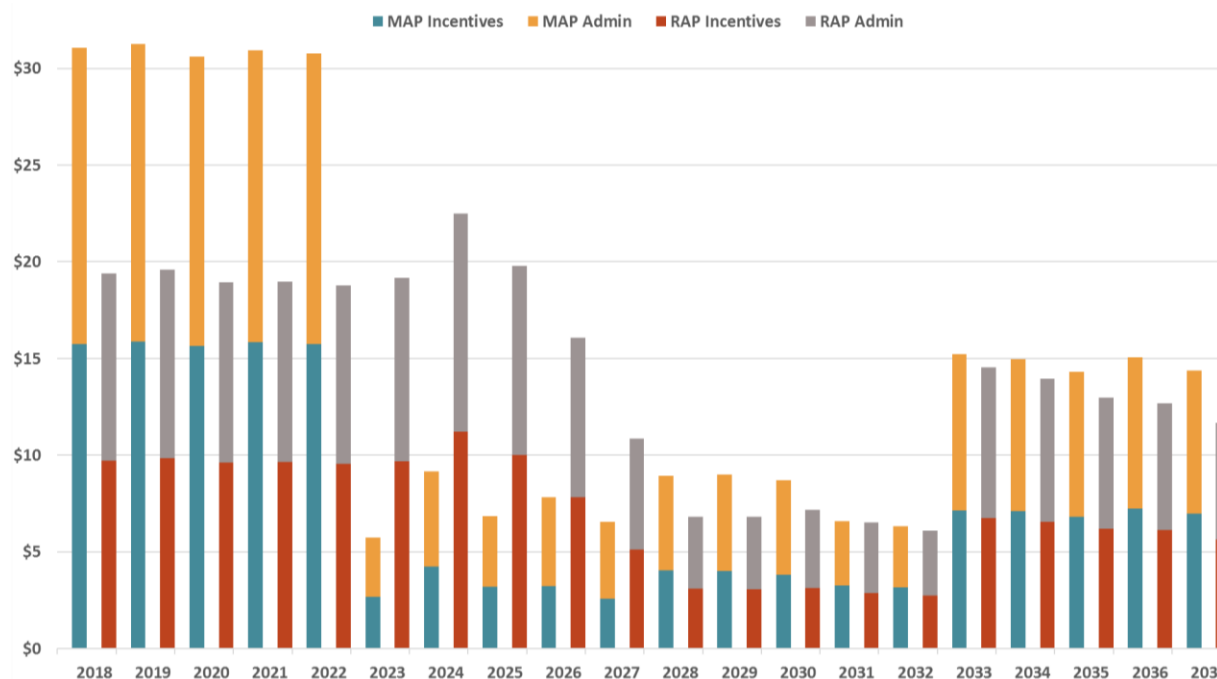


Figure 5-7 provides the budgets for the MAP and RAP scenarios. The budgets are broken into incentive and admin budgets for each year of the 2018-2037 timeframe. RAP budgets for EVT range from \$6.1 million to \$22.5 million. MAP incentives and admin budgets decrease significantly after 2022 because the achievable potential is “front-loaded” to more appropriately align achievable potential with historical savings achievements by the EEU. This front-loading affects RAP as well, but to a lesser extent, and is drawn out over a longer time-period.

FIGURE 5-7 ANNUAL EEU BUDGETS FOR NONRESIDENTIAL EVT MAP AND RAP (\$ IN MILLIONS)



### 5.3 NONRESIDENTIAL POTENTIAL – BED

Figure 5-8 provides the technical, economic, MAP and RAP results for the 3-yr, 10-yr, and 20-yr timeframes. The 3-yr technical potential is 6.3% of forecasted sales, and the economic potential is 5.8% of forecasted sales, indicating that most technical potential is cost-effective. The 3-yr MAP is 9.8% and the RAP is 3.7%. The difference between MAP and RAP is due to assumptions related to program participation rates. The reason that MAP and RAP exceeds technical and economic potential in the early years of the timeframe is that the achievable potential is “front-loaded” to more appropriately align achievable potential with historical savings achievements by BED in recent years. This methodological adjustment does not however affect the long-term technical and economic potential, which both exceed long-term achievable potential. This adjustment simply speeds up the acquisition of the achievable potential, but does not change its overall magnitude from the perspective of cumulative annual savings estimates.

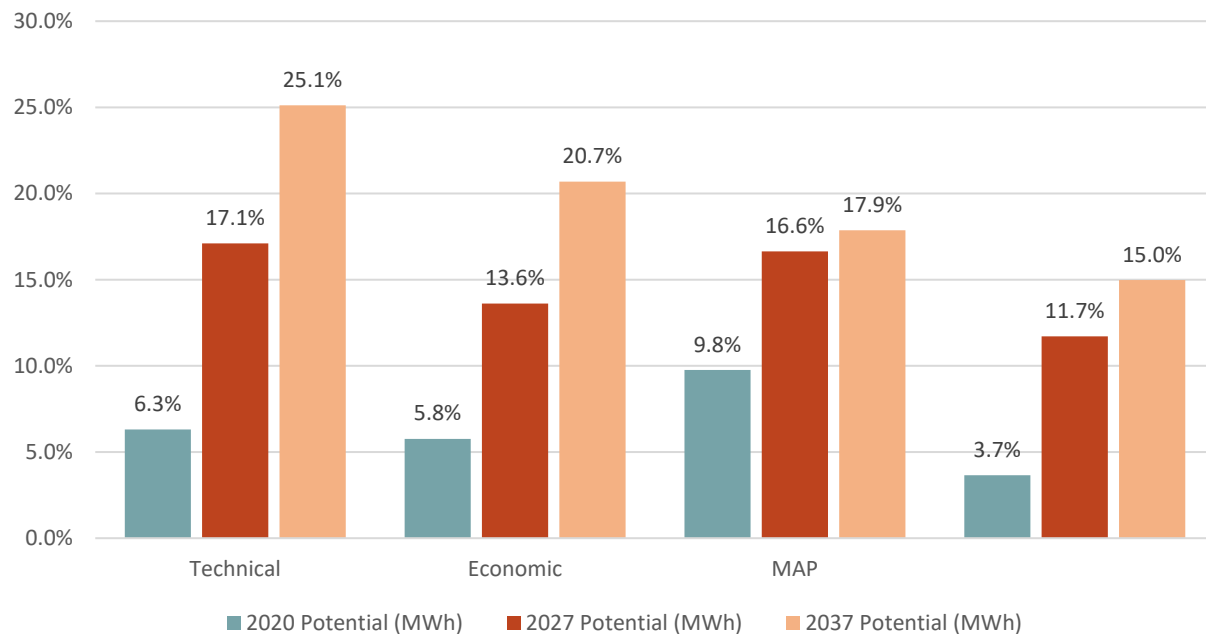
**FIGURE 5-8 NONRESIDENTIAL BED ELECTRIC ENERGY (MWH) CUMULATIVE ANNUAL POTENTIAL (AS A % OF NONRESIDENTIAL SALES)**

Table 5-6 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual technical, economic, MAP and RAP results for energy, summer peak demand, winter peak demand, and natural gas. The technical potential rises to nearly 90,000 MWh by 2037, and the RAP more than 53,000 MWh by 2037. Summer peak demand savings are 12.6 MW in the technical potential and 7.5 MW in the RAP scenario.

**TABLE 5-6 NONRESIDENTIAL BED ENERGY POTENTIAL SUMMARY**

	2018 Potential	2019 Potential	2020 Potential	2027 Potential	2037 Potential
<b>Annual Energy (MWh)</b>					
<b>Technical</b>	6,123	12,246	18,368	54,256	89,045
<b>Economic</b>	6,499	12,234	16,777	43,194	73,340
<b>MAP</b>	10,261	19,859	28,422	52,779	63,323
<b>RAP</b>	3,481	7,113	10,638	37,139	53,112
<b>Summer Peak Demand (MW)</b>					
<b>Technical</b>	0.9	1.8	2.7	7.9	12.6
<b>Economic</b>	1.1	2.0	2.7	6.4	10.3
<b>MAP</b>	1.3	2.6	3.6	7.0	9.0
<b>RAP</b>	0.4	0.8	1.2	4.5	7.5
<b>Winter Peak Demand (MW)</b>					
<b>Technical</b>	0.9	1.7	2.6	7.9	13.1
<b>Economic</b>	0.9	1.8	2.5	6.4	11.1
<b>MAP</b>	1.6	3.0	4.4	8.0	9.4
<b>RAP</b>	0.5	1.1	1.7	5.8	7.9
<b>Annual Natural Gas (MMBTU)</b>					
<b>Technical</b>	46	92	137	442	871
<b>Economic</b>	15	30	45	148	299
<b>MAP</b>	47	93	139	233	239
<b>RAP</b>	19	38	57	192	198



**Technical & Economic Potential**

Table 5-7 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual technical potential results by end use for BED. Lighting is the leading end use, accounting for approximately half of the technical potential. Plug load, and ventilation and circulation, are other leading end uses.

**TABLE 5-7 NONRESIDENTIAL BED ELECTRIC ENERGY (CUMULATIVE ANNUAL MWH) TECHNICAL POTENTIAL BY END-USE**

End Use	2018 Potential (MWh)	2019 Potential (MWh)	2020 Potential (MWh)	2027 Potential (MWh)	2037 Potential (MWh)
Cooking	11	22	32	108	209
Cooling	115	231	346	1,140	2,119
Heat Pump	10	21	31	102	194
Heating	46	91	137	444	876
Lighting	3,461	6,922	10,382	34,608	57,678
Other	28	55	82	272	388
Plug Load	1,445	2,890	4,335	7,547	8,929
Refrigeration	206	412	617	2,038	4,008
Ventilation and Circulation	614	1,228	1,842	6,141	12,253
Water Heat	187	374	562	1,855	2,390
<b>Total</b>	<b>6,123</b>	<b>12,246</b>	<b>18,368</b>	<b>54,256</b>	<b>89,045</b>

Table 5-8 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual technical potential results by end use for BED. Lighting is the leading end use, accounting for approximately half of the technical potential. Plug load, and ventilation and circulation, are other leading end uses.

**TABLE 5-8 NONRESIDENTIAL BED ELECTRIC ENERGY (CUMULATIVE ANNUAL MWH) ECONOMIC POTENTIAL BY END-USE**

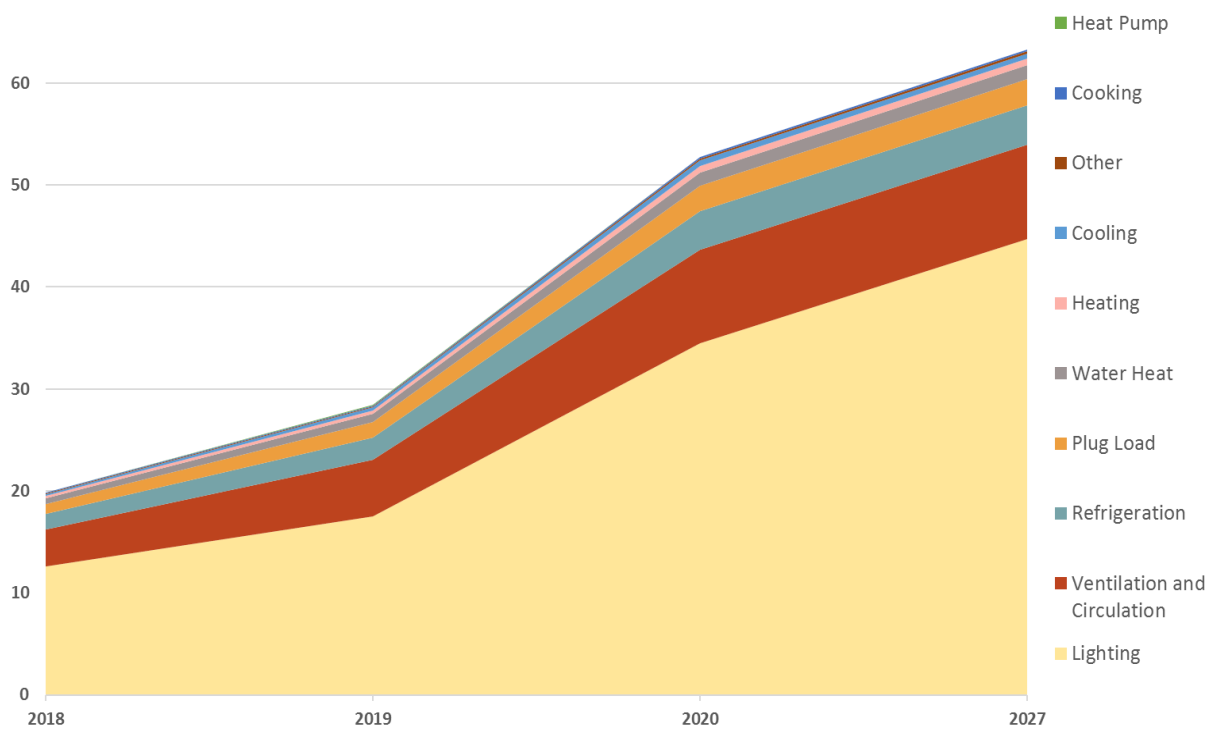
End Use	2018 Potential (MWh)	2019 Potential (MWh)	2020 Potential (MWh)	2027 Potential (MWh)	2037 Potential (MWh)
Cooking	8	16	23	77	156
Cooling	34	67	100	327	655
Heat Pump	2	5	7	24	48
Heating	41	82	123	409	820
Lighting	5,336	9,928	13,356	32,078	51,309
Other	28	53	75	193	318
Plug Load	195	382	559	1,764	3,464

End Use	2018 Potential (MWh)	2019 Potential (MWh)	2020 Potential (MWh)	2027 Potential (MWh)	2037 Potential (MWh)
Refrigeration	195	389	580	1,924	3,869
Ventilation and Circulation	532	1,062	1,590	5,293	10,603
Water Heat	128	250	364	1,107	2,097
<b>Total</b>	<b>6,499</b>	<b>12,234</b>	<b>16,777</b>	<b>43,194</b>	<b>73,340</b>

### Maximum Achievable Potential (MAP)

Figure 5-9 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual MAP results by end use for BED. Lighting is the leading end use, followed by ventilation and circulation, and refrigeration.

FIGURE 5-9 NONRESIDENTIAL BED ELECTRIC ENERGY (CUMULATIVE ANNUAL GWH) MAP POTENTIAL BY END-USE



### Realistic Achievable Potential (RAP)

Figure 5-10 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual MAP results by end use for BED. Lighting is the leading end use, followed by ventilation and circulation, and refrigeration.

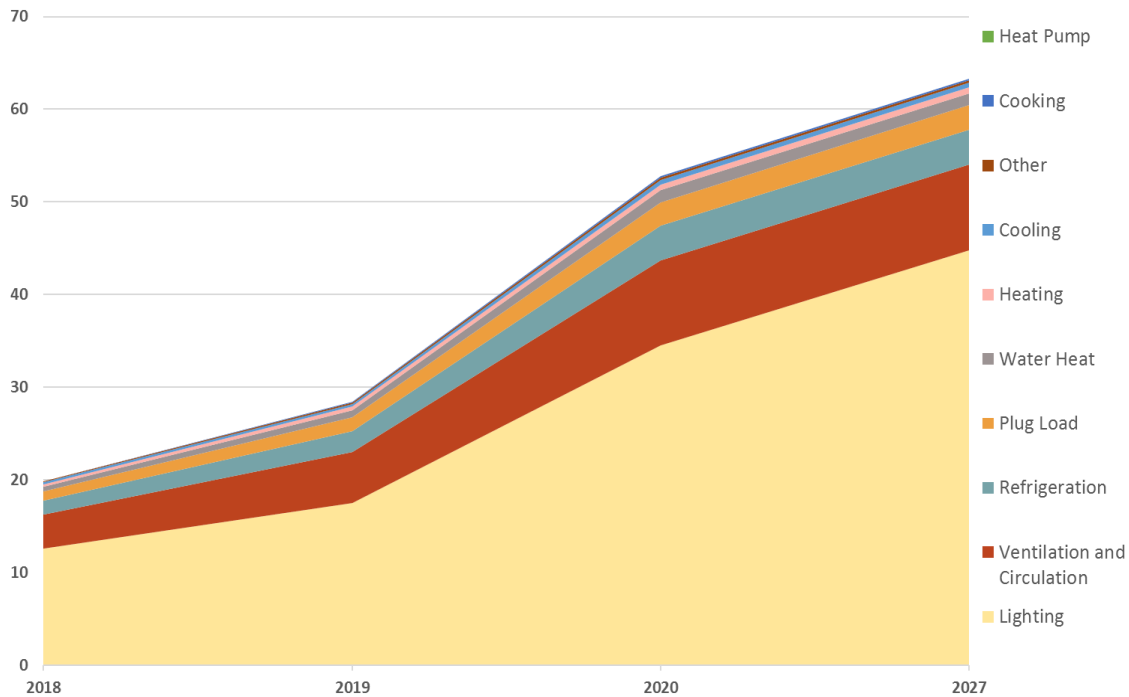
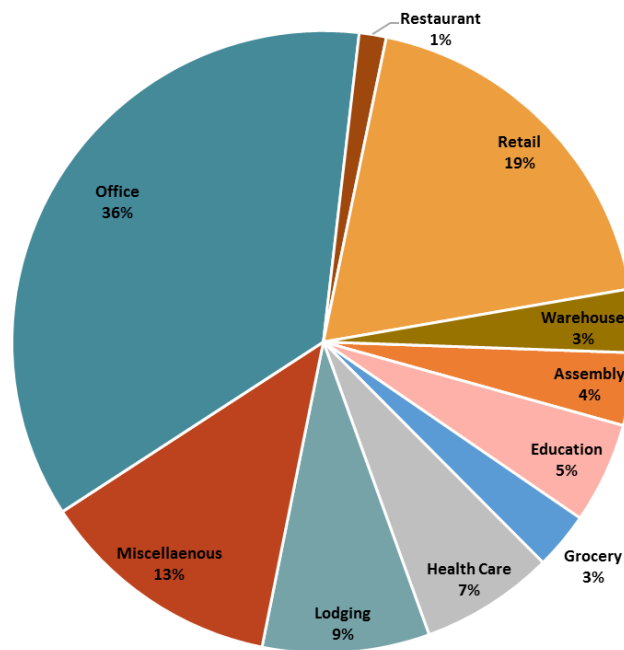
**FIGURE 5-10 NONRESIDENTIAL BED ELECTRIC ENERGY (CUMULATIVE ANNUAL GWH) RAP POTENTIAL BY END-USE**

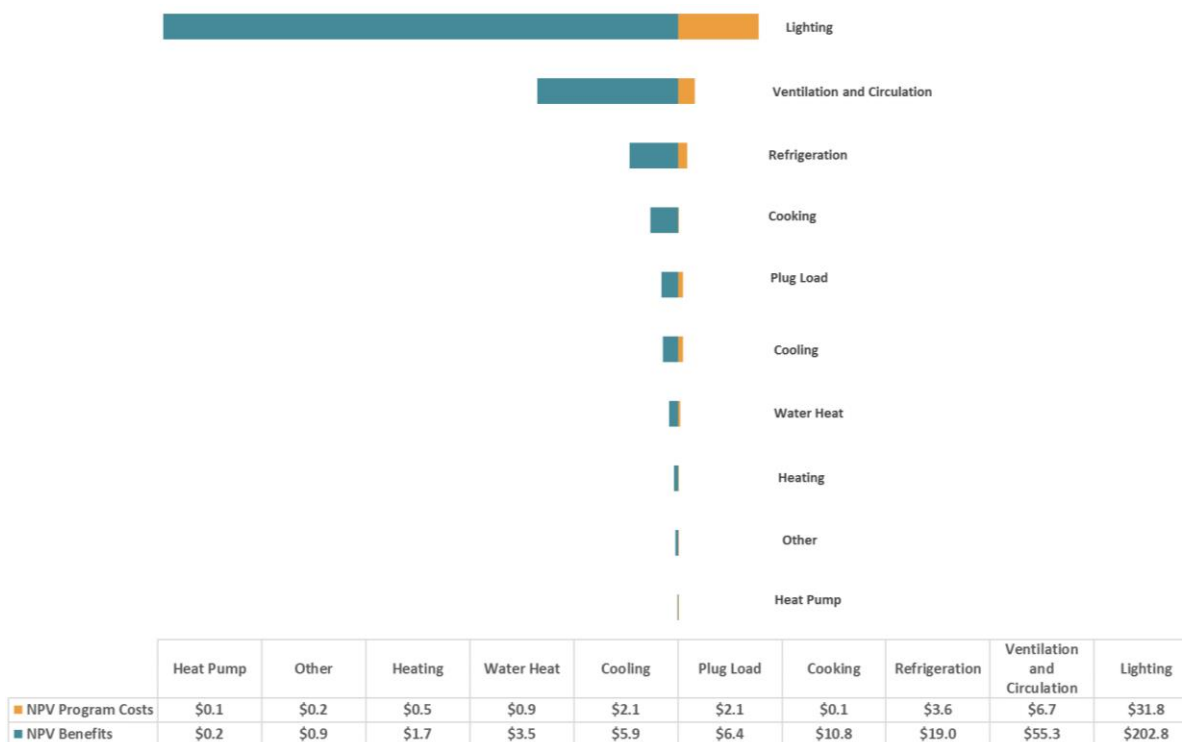
Figure 5-11 illustrates a market segmentation of the RAP in the nonresidential sector by 2037. The leading market segment is office buildings at 37% of total savings. Retail (18% of savings), lodging (9% of savings), and health care (7% of savings) are other leading market segments.

**FIGURE 5-11 2037 NONRESIDENTIAL BED ELECTRIC ENERGY (CUMULATIVE ANNUAL) RAP POTENTIAL BY MARKET SEGMENT**

### Program Benefits & Costs

Figure 5-12 and Figure 5-13 provide the cost-effectiveness results, as calculated using the Vermont Societal test, by end use in the MAP and RAP scenario for BED. The figures provide NPV benefits and costs for each end use. In the MAP scenario, the overall benefit-cost ratio is 6.4, and there are more than \$250 million in NPV savings. The lighting end use contributes nearly more than \$200 million in NPV benefits and the ventilation and circulation, refrigeration, and cooking end uses each contribute more than \$10 million in NPV benefits. In the RAP scenario, the overall benefit-cost ratio is 6.3, and there are approximately \$200 million in NPV savings. Similar to the MAP scenario, the lighting end use contributes approximately \$150 million in NPV benefits and the ventilation and circulation and refrigeration end uses each contribute more than \$10 million in NPV benefits.

**FIGURE 5-12 SOCIETAL TEST NPV BENEFITS, COSTS, NET SAVINGS, AND RATIOS FOR NONRESIDENTIAL BED MAP (\$ IN MILLIONS)**



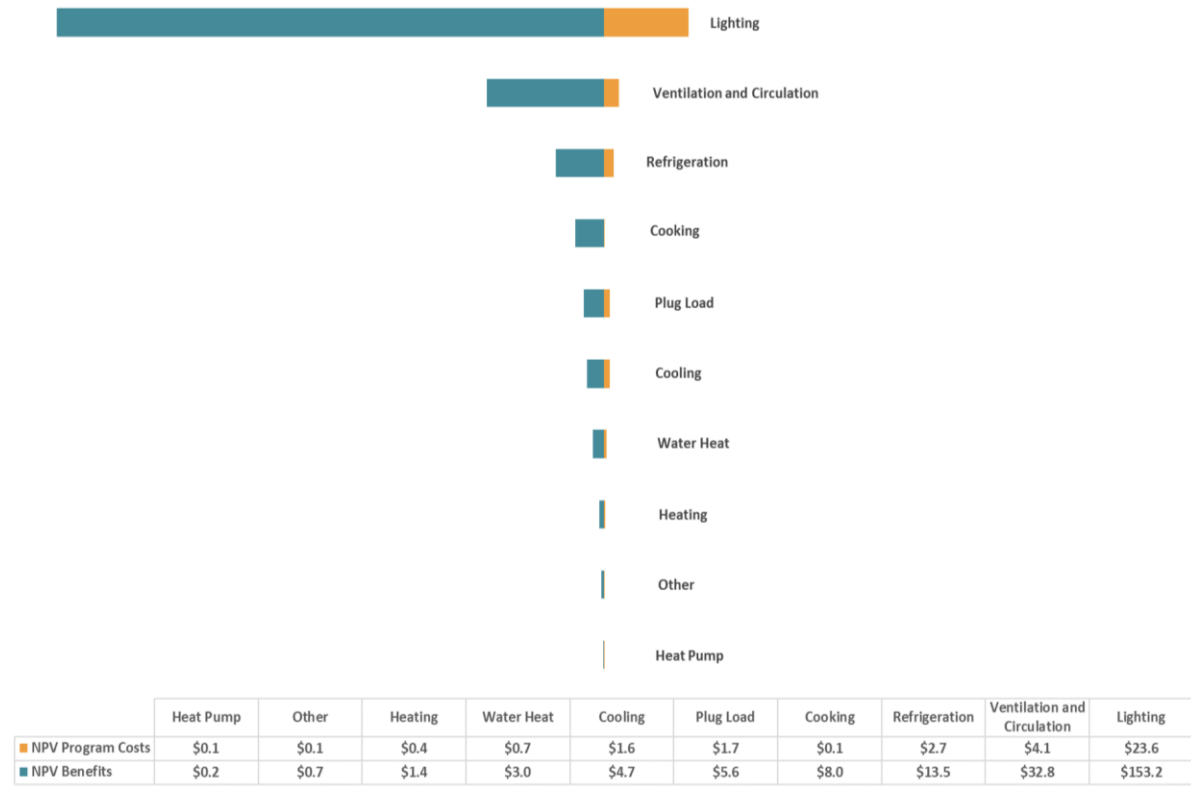
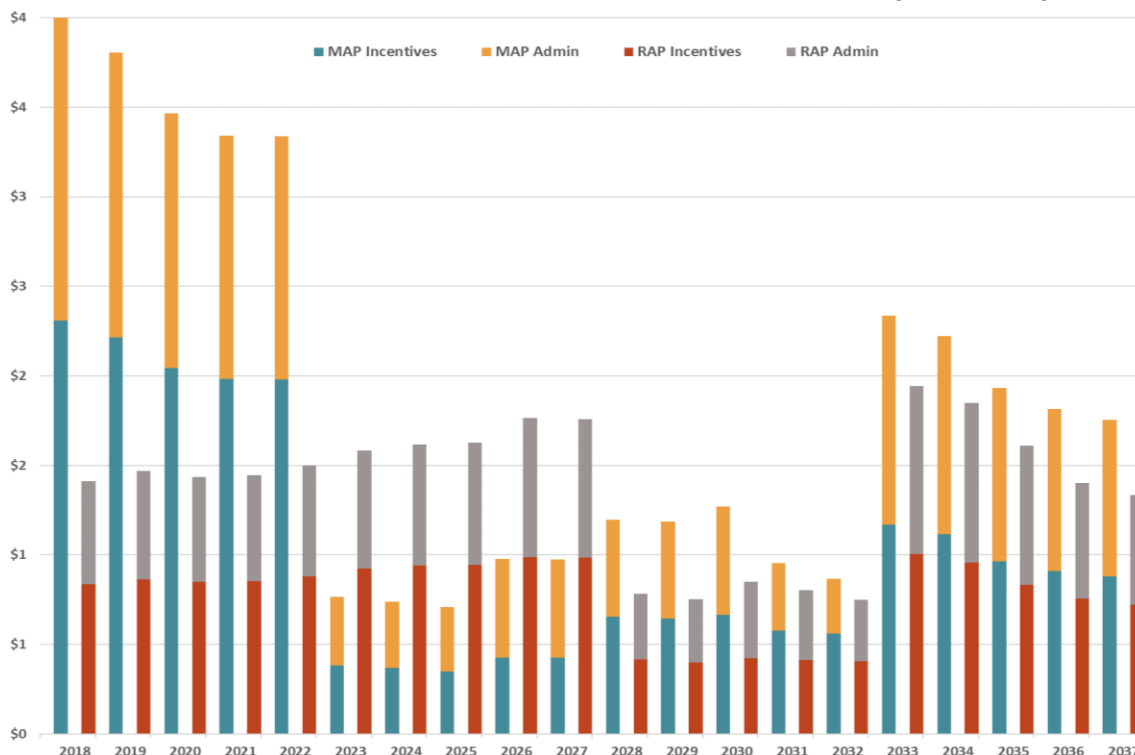
**FIGURE 5-13 SOCIETAL TEST NPV BENEFITS, COSTS, NET SAVINGS, AND RATIOS FOR NONRESIDENTIAL BED RAP (\$ IN MILLIONS)**

Figure 5-14 provides the budgets (incentives and EEU non-incentive program spending) for the MAP and RAP scenarios. The budgets are broken into incentive and admin budgets for each year of the 2018-2037 timeframe. RAP budgets for BED range from \$6.1 million to \$22.5 million. Similar to EVT, BED's MAP incentives and admin budgets decrease significantly after 2022 because the achievable potential is "front-loaded" to more appropriately align achievable potential with historical savings achievements by the EEUs. This front-loading affects RAP as well, but to a lesser extent, and is drawn out over a longer time-period.

FIGURE 5-14 ANNUAL EEU BUDGETS FOR NONRESIDENTIAL BED MAP AND RAP (\$ IN MILLIONS)



#### 5.4 NONRESIDENTIAL POTENTIAL – VGS

Figure 5-15 provides the technical, economic, MAP and RAP results for the 3-yr, 10-yr, and 20-yr timeframes. The 3-yr technical potential is 8.1% of forecasted sales, and the economic potential is 7.5% of forecasted sales, indicating that most technical potential is cost-effective. The 3-yr MAP is 15.8% and the RAP is 2.6%. The difference between MAP and RAP is due to assumptions related to program participation rates. The reason that MAP and RAP exceeds technical and economic potential in the early years of the timeframe is that the achievable potential is “front-loaded” to more appropriately align achievable potential with historical savings achievements by VGS in recent years. This methodological adjustment does not however affect the long-term technical and economic potential, which both exceed long-term achievable potential. This adjustment simply speeds up the acquisition of the achievable potential, but does not change its overall magnitude from the perspective of cumulative annual savings estimates.

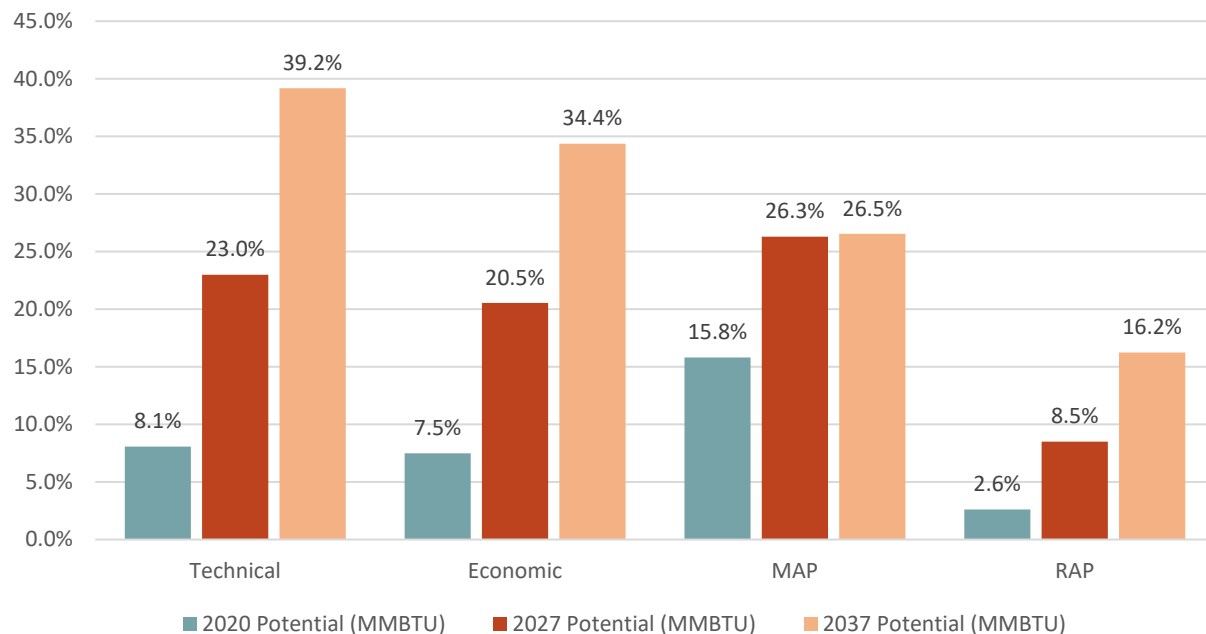
**FIGURE 5-15 NONRESIDENTIAL VGS NATURAL GAS ENERGY (MMBTU) CUMULATIVE ANNUAL POTENTIAL (AS A % OF NONRESIDENTIAL SALES)**

Table 5-9 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual technical, economic, MAP and RAP results for natural gas, summer peak demand, winter peak demand, and electric energy. The technical potential rises to more than 2.5 million MMBtu by 2037, and the RAP is more than 1 million MMBtu by 2037. Peak demand and energy savings also accrue in association with the natural gas potential savings estimates.

**TABLE 5-9 NONRESIDENTIAL VGS ENERGY POTENTIAL SUMMARY**

	2018 Potential	2019 Potential	2020 Potential	2027 Potential	2037 Potential
<b>Annual Energy (MWh)</b>					
Technical	18	37	55	157	290
Economic	14	28	41	135	266
MAP	39	77	116	199	208
RAP	7	14	20	70	145
<b>Summer Peak Demand (MW)</b>					
Technical	0.0	0.0	0.0	0.1	0.1
Economic	0.0	0.0	0.0	0.0	0.1
MAP	0.0	0.0	0.0	0.1	0.1
RAP	0.0	0.0	0.0	0.0	0.0
<b>Winter Peak Demand (MW)</b>					
Technical	0.0	0.0	0.0	0.0	0.0
Economic	0.0	0.0	0.0	0.0	0.0
MAP	0.0	0.0	0.0	0.0	0.0
RAP	0.0	0.0	0.0	0.0	0.0
<b>Annual Energy (MMBtu)</b>					
Technical	148,927	297,855	445,055	1,355,799	2,517,751
Economic	149,504	281,392	412,339	1,211,676	2,207,866
MAP	299,704	586,078	871,740	1,550,341	1,705,253
RAP	47,298	95,044	144,028	501,311	1,042,935

**Technical & Economic Potential**

Table 5-10 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual technical potential results by end use for VGS. Space heat – gas boiler and space heat – gas furnace are the leading sources of technical potential throughout the timeframe of the study.

**TABLE 5-10 NONRESIDENTIAL VGS NATURAL GAS (CUMULATIVE ANNUAL MMBTU) TECHNICAL POTENTIAL BY END-USE**

End Use	2018 Potential (MMBtu)	2019 Potential (MMBtu)	2020 Potential (MMBtu)	2027 Potential (MMBtu)	2037 Potential (MMBtu)
<b>Cooking</b>	21,749	43,499	65,248	217,493	370,562
<b>HVAC</b>	1,243	2,485	3,728	12,426	24,851
<b>Indirect Boiler</b>	2,411	4,822	7,233	24,111	48,222
<b>Process Heat</b>	1,126	2,251	3,377	11,257	22,514
<b>Process Other</b>	9	18	27	89	177
<b>Space Heat - Gas Boiler</b>	67,614	135,228	201,917	596,744	1,117,782
<b>Space Heat - Gas Furnace</b>	51,850	103,699	154,747	465,143	881,746
<b>Water Heat</b>	2,926	5,852	8,779	28,537	51,897
<b>Total</b>	148,927	297,855	445,055	1,355,799	2,517,751

Table 5-11 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual economic potential results by end use for VGS. Space heat – gas boiler and space heat – gas furnace are the leading sources of economic potential throughout the timeframe of the study.

**TABLE 5-11 NONRESIDENTIAL VGS NATURAL GAS (CUMULATIVE ANNUAL MWH) ECONOMIC POTENTIAL BY END-USE**

End Use	2018 Potential (MMBtu)	2019 Potential (MMBtu)	2020 Potential (MMBtu)	2027 Potential (MMBtu)	2037 Potential (MMBtu)
<b>Cooking</b>	16,650	32,258	47,656	153,140	295,480
<b>HVAC</b>	1,243	2,485	3,728	12,426	24,851
<b>Indirect Boiler</b>	2,405	4,810	7,215	24,051	48,102
<b>Process Heat</b>	1,126	2,251	3,377	11,257	22,514
<b>Process Other</b>	9	18	27	89	177
<b>Space Heat - Gas Boiler</b>	71,513	134,095	195,917	549,411	990,061
<b>Space Heat - Gas Furnace</b>	53,273	99,522	145,905	439,026	791,356
<b>Water Heat</b>	3,285	5,954	8,514	22,277	35,324
<b>Total</b>	149,504	281,392	412,339	1,211,676	2,207,866



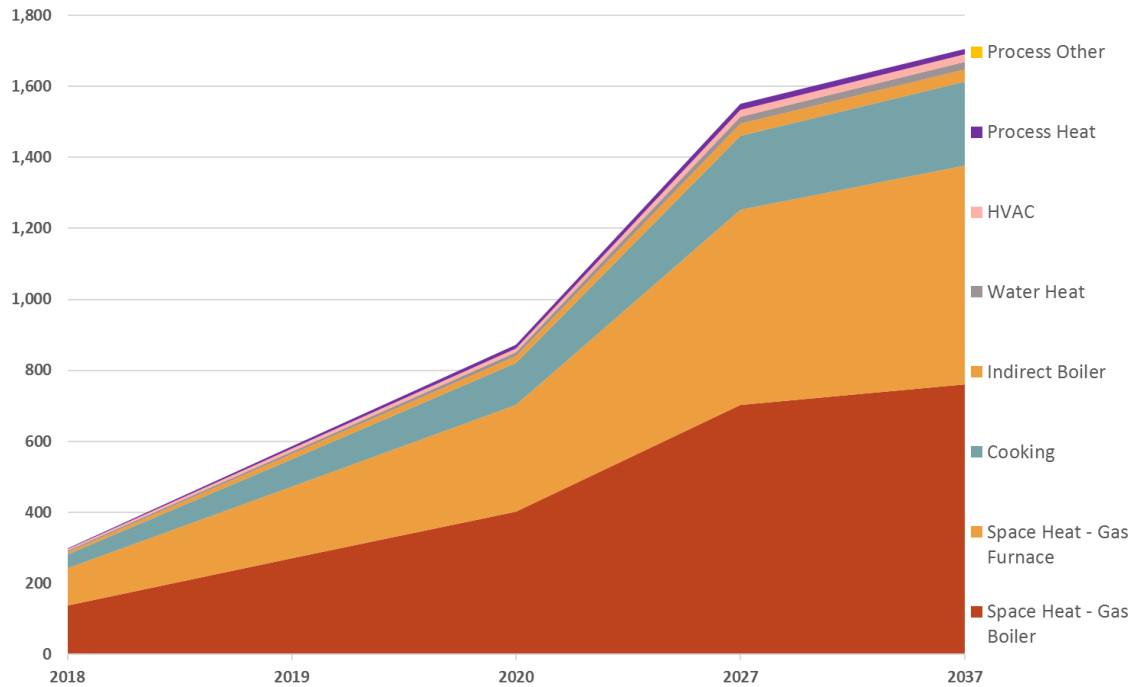
**Maximum Achievable Potential (MAP)**

Figure 5-16 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual MAP results by end use for VGS. Space heat is the leading sources of maximum potential throughout the timeframe of the study.

**Realistic Achievable Potential (RAP)**

Figure 5-17 provides 1-, 2-, 3-, 10-, and 20-yr cumulative annual MAP results by end use for VGS. Space heat is the leading sources of realistic potential throughout the timeframe of the study.

**FIGURE 5-16 NONRESIDENTIAL VGS NATURAL GAS (CUMULATIVE ANNUAL MMBTU) MAP POTENTIAL BY END-USE**



**FIGURE 5-17 NONRESIDENTIAL VGS NATURAL GAS (CUMULATIVE ANNUAL MMBTU) RAP POTENTIAL BY END-USE**

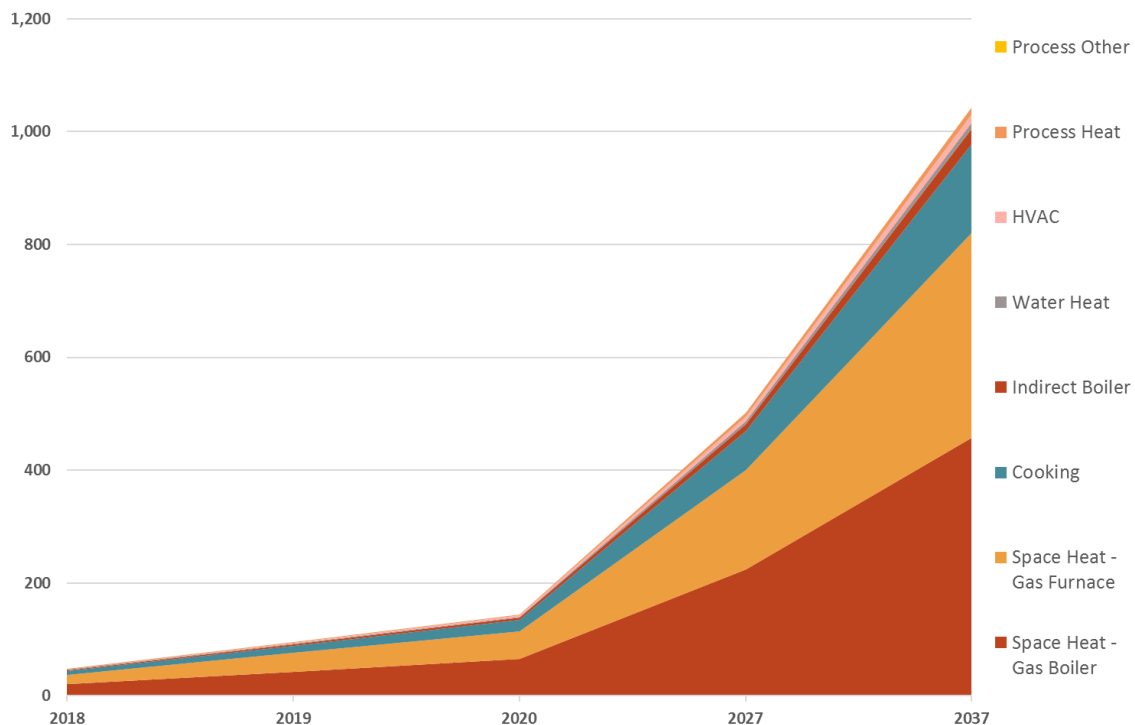
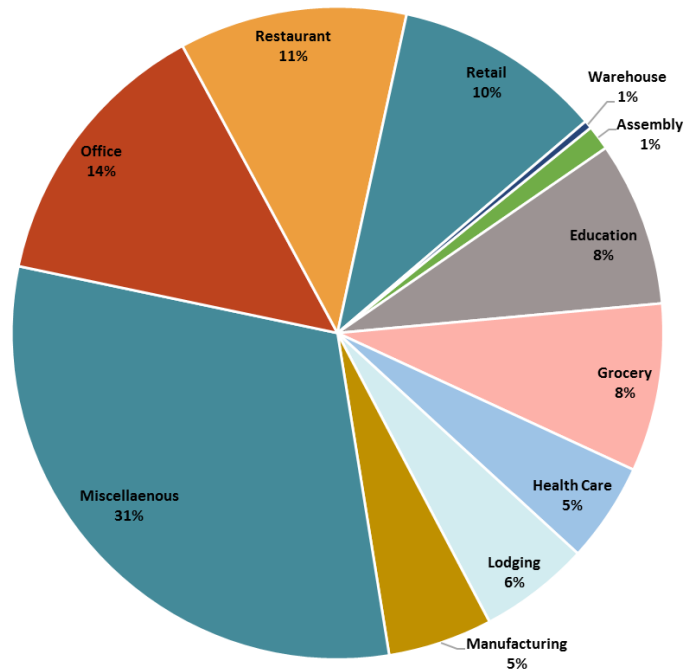


Figure 5-18 illustrates a market segmentation of the RAP in the nonresidential sector by 2037. The leading market segment is office buildings at 14% of total savings. Restaurant (11% of savings), retail (10% of savings), education (8% of savings) and grocery (8% of savings) are other significant market segments.

**FIGURE 5-18 2020 NONRESIDENTIAL VGS ELECTRIC ENERGY (CUMULATIVE ANNUAL) RAP POTENTIAL BY MARKET SEGMENT**



### ***Program Benefits & Costs***

Figure 5-19 and Figure 5-20 provide the cost-effectiveness results, as calculated using the Vermont Societal test, by end use in the MAP and RAP scenario for VGS. The figures provide NPV benefits and costs for each end use. In the MAP scenario, the overall benefit-cost ratio is 4.4, and there are nearly \$600 million in NPV savings. The space heat – gas furnace, space heat – gas boiler, and cooking end uses contribute more than 95% of the NPV benefits. In the RAP scenario, the overall benefit-cost ratio is 4.5, and there are more than \$320 million in NPV savings. Like the MAP scenario, the space heat – gas furnace, space heat – gas boiler, and cooking end uses contribute more than 95% of the NPV benefits.

FIGURE 5-19 SOCIETAL TEST NPV BENEFITS, COSTS, NET SAVINGS, AND RATIOS FOR NONRESIDENTIAL VGS MAP (\$ IN MILLIONS)

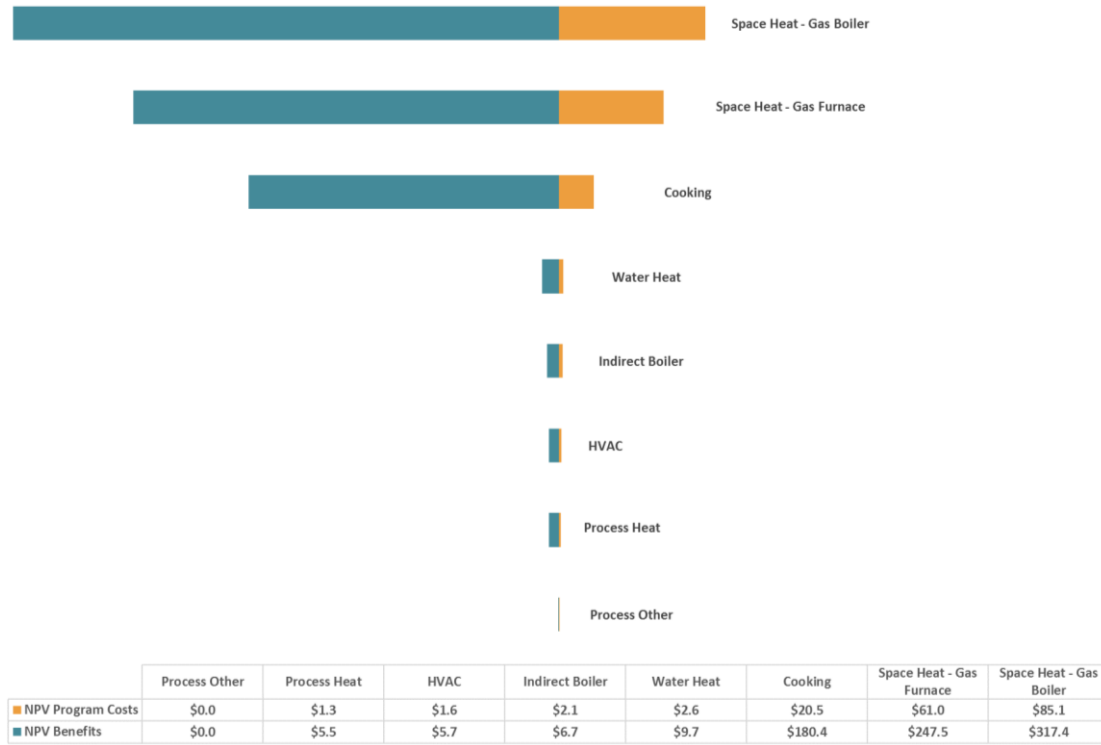


FIGURE 5-20 SOCIETAL TEST NPV BENEFITS, COSTS, NET SAVINGS, AND RATIOS FOR NONRESIDENTIAL VGS RAP (\$ IN MILLIONS)

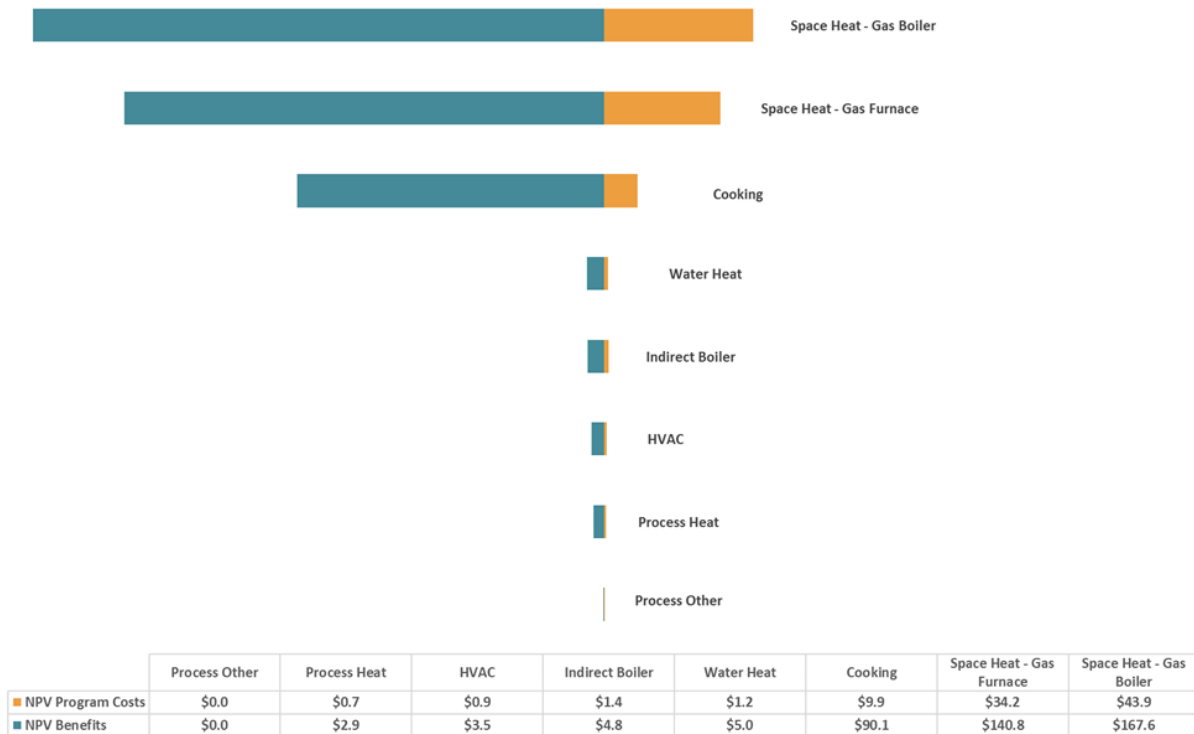
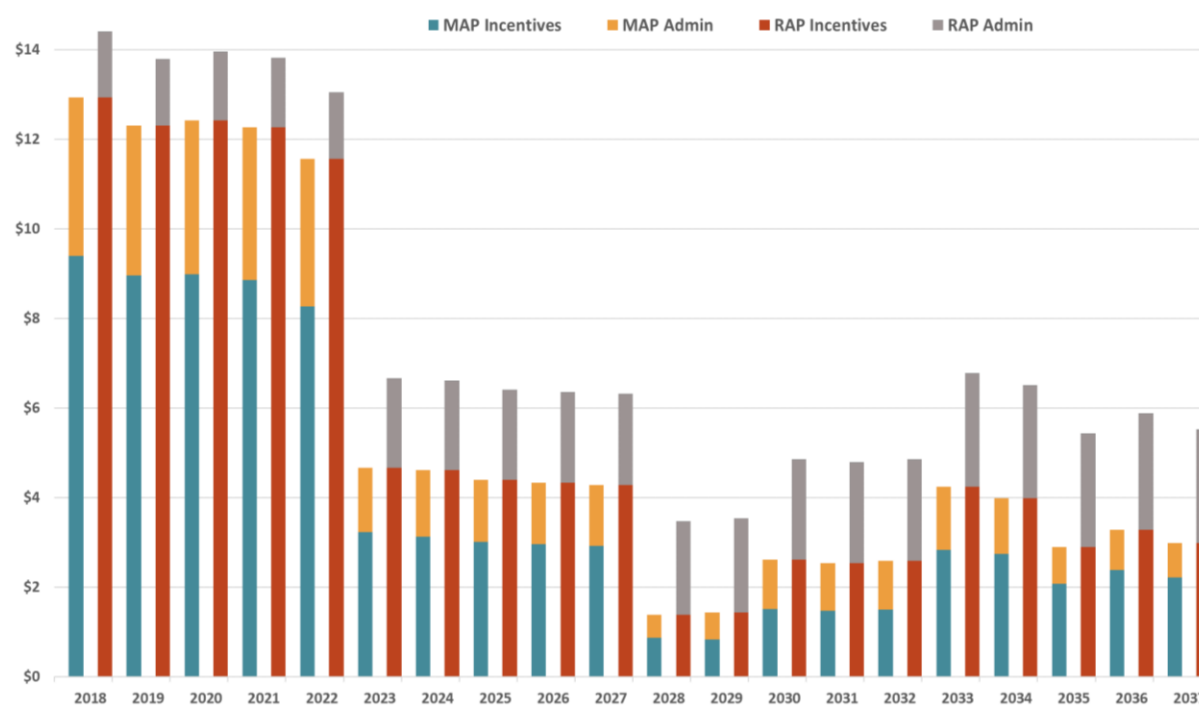


Figure 5-21 provides the budgets for the MAP and RAP scenarios. The budgets are broken into incentive and admin budgets for each year of the 2018-2037 timeframe. RAP budgets for VGS range from \$2.0 million to \$3.0 million. As noted in the EVT and BED sections, VGS' MAP incentives and admin budgets

decrease significantly after 2022 because the achievable potential is “front-loaded” to more appropriately align achievable potential with historical savings achievements by the EEU. This front-loading affects RAP as well, but to a lesser extent, and is drawn out over a longer time-period.

FIGURE 5-21 ANNUAL EEU BUDGETS FOR NONRESIDENTIAL VGS MAP AND RAP (\$ IN MILLIONS)



## 5.5 STATEWIDE NONRESIDENTIAL POTENTIAL

Figure 5-22 provides the statewide electric potential estimates for the technical, economic, MAP and RAP scenarios across the 3-yr, 10-yr, and 20-yr timeframes. These results are based on an aggregation of the EVT, BED and VGS individual estimates and the statewide electric sales forecast. The 3-yr RAP is 4.8% of forecasted sales. The RAP increases to 12.7% over 10 years and 13.7% over 20 years.

FIGURE 5-22 NONRESIDENTIAL STATEWIDE ELECTRIC ENERGY (MWh) CUMULATIVE ANNUAL POTENTIAL (AS A % OF NONRESIDENTIAL SALES)

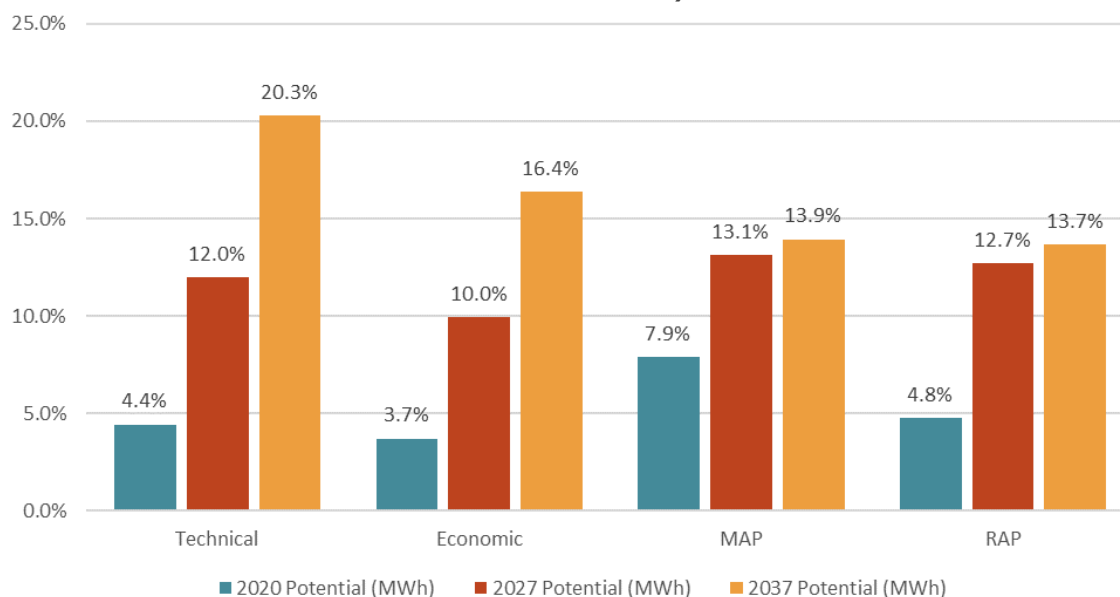


Figure 5-23 provides the statewide natural gas potential estimates for the technical, economic, MAP and RAP scenarios across the 3-yr, 10-yr, and 20-yr timeframes. These results are based on an aggregation of the EVT, BED and VGS individual estimates and the statewide natural gas sales forecast. The 3-yr RAP is 2.8% of forecasted sales. The RAP increases to 9.0% over 10 years and 16.7% over 20 years.

**FIGURE 5-23 NONRESIDENTIAL STATEWIDE NATURAL GAS ENERGY (MMBTU) CUMULATIVE ANNUAL POTENTIAL (AS A % OF NONRESIDENTIAL SALES)**

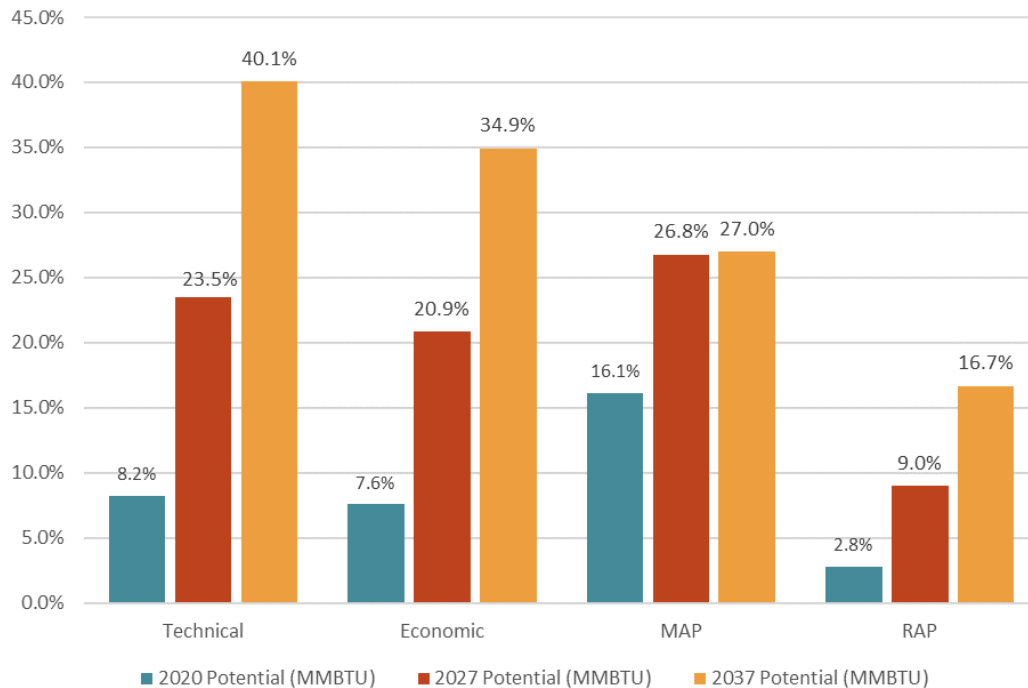


Table 5-12 provides a summary of the statewide nonresidential electric energy, demand and natural gas technical, economic and achievable potential. After accounting for the interactions between the electric and gas potential estimates, the 3-yr electric energy RAP is approximately 150,000 MWh and the 3-yr natural gas RAP is approximately 154,000 MMBtu.

**TABLE 5-12 NONRESIDENTIAL STATEWIDE ENERGY POTENTIAL SUMMARY<sup>35</sup>**

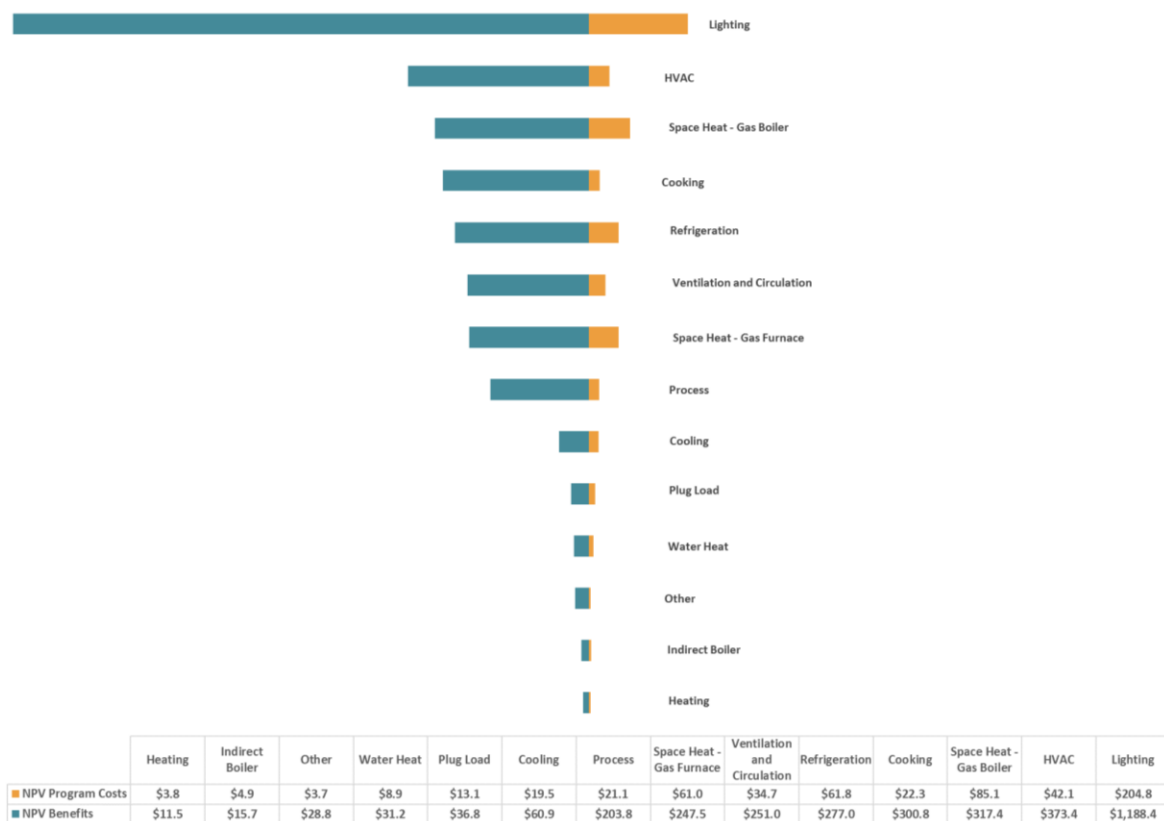
	2018 Potential	2019 Potential	2020 Potential	2027 Potential	2037 Potential
<b>Annual Energy (MWh)</b>					
<b>Technical</b>	46,483	92,966	139,440	425,977	742,148
<b>Economic</b>	40,278	80,149	116,397	353,613	599,087
<b>MAP</b>	84,056	167,764	248,333	467,017	509,403
<b>RAP</b>	50,243	100,952	149,451	451,248	499,129
<b>Summer Peak Demand (MW)</b>					
<b>Technical</b>	7.6	15.3	22.9	70.9	124.2
<b>Economic</b>	7.0	14.0	20.3	61.1	101.6
<b>MAP</b>	13.8	27.6	40.7	77.9	85.8
<b>RAP</b>	8.4	16.9	25.0	75.4	84.3
<b>Winter Peak Demand (MW)</b>					
<b>Technical</b>	6.3	12.7	19.0	59.8	103.8
<b>Economic</b>	5.6	11.2	16.3	49.7	84.6

<sup>35</sup> MAP exceeds technical and economic potential in the early years of the study due to the need to accelerate the nonresidential achievable potential towards the early years to more appropriately align the estimates with the historical achievements in the state

	2018 Potential	2019 Potential	2020 Potential	2027 Potential	2037 Potential
<b>MAP</b>	11.8	23.6	35.0	65.5	71.2
<b>RAP</b>	7.0	14.1	20.9	63.2	69.7
<b>Annual Natural Gas (MMBTU)</b>					
<b>Technical</b>	152,044	304,089	454,381	1,385,386	2,575,488
<b>Economic</b>	151,432	285,241	418,107	1,230,495	2,245,171
<b>MAP</b>	305,445	597,552	888,947	1,579,317	1,734,878
<b>RAP</b>	50,506	101,453	153,640	530,246	1,072,519

Figure 5-24 and Figure 5-25 provide the statewide cost-effectiveness results by end use in the MAP and RAP scenarios. The figures provide NPV benefits and costs for each end use. In the MAP scenario, the overall benefit-cost ratio is 5.7, and there are nearly \$2.8 billion in NPV savings. The lighting end use provides the greatest amount of NPV savings, followed by the HVAC, space heat – gas boiler, cooking, and refrigeration end uses. In the RAP scenario, the overall benefit-cost ratio is 5.9, and there are nearly \$2.3 billion in NPV savings. The lighting end use provides the greatest amount of NPV savings, followed by the HVAC, refrigeration, process and cooking end uses.

**FIGURE 5-24 SOCIETAL TEST NPV BENEFITS, COSTS, NET SAVINGS, AND RATIOS FOR RESIDENTIAL STATEWIDE MAP (\$ IN MILLIONS)**



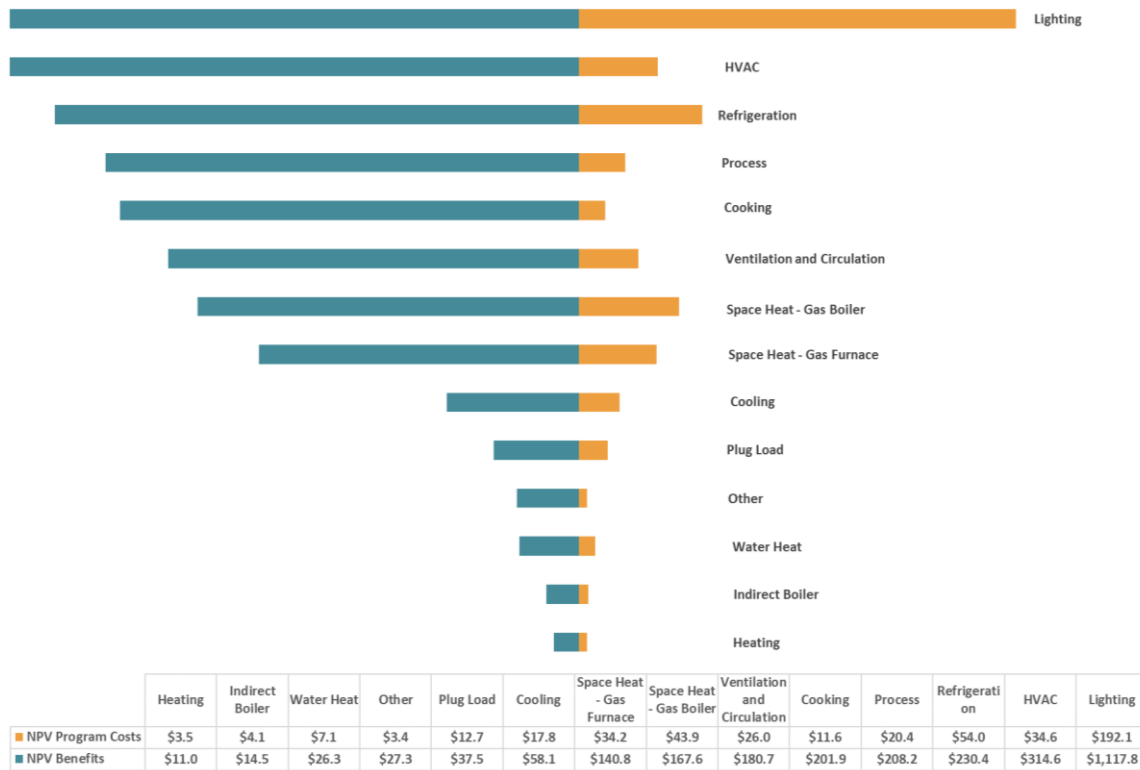
**FIGURE 5-25 SOCIETAL TEST NPV BENEFITS, COSTS, NET SAVINGS, AND RATIOS FOR RESIDENTIAL STATEWIDE RAP (\$ IN MILLIONS)**

Table 5-14 through Table 5-16 below provide the incremental annual energy, summer demand, winter demand and natural gas savings. These data are shown by EEU and as statewide totals.

TABLE 5-13 NONRESIDENTIAL INCREMENTAL ANNUAL ENERGY POTENTIAL – STATEWIDE AND BY EEU<sup>36</sup>

MWh	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
MAP																				
EVT	73,756	74,071	71,969	72,634	72,369	14,925	23,797	17,643	22,208	19,170	23,587	24,148	23,587	16,092	15,284	39,062	37,885	36,174	37,903	35,841
BED	10,261	9,598	8,563	8,185	8,199	2,340	2,257	2,183	3,359	3,342	3,297	3,281	3,691	2,298	1,885	7,082	6,721	5,869	5,499	5,316
VGS	38.9	38.6	38.5	38.5	38.5	19.4	19.2	19.2	19.2	19.1	1.8	4.5	4.5	4.4	4.4	8.0	5.1	5.1	7.1	6.8
<b>Total</b>	84,056	83,708	80,570	80,858	80,606	17,285	26,073	19,846	25,587	22,531	26,886	27,433	27,283	18,394	17,174	46,151	44,612	42,048	43,409	41,164
RAP																				
EVT	46,755	47,070	44,968	44,956	44,533	45,694	54,350	47,091	39,706	27,710	17,960	18,138	19,535	17,596	16,265	37,762	35,768	32,871	31,690	29,251
BED	3,481	3,631	3,525	3,551	3,722	3,995	4,091	4,122	4,693	4,682	2,246	2,160	2,590	2,390	2,107	5,703	5,424	4,732	3,931	3,724
VGS	6.8	6.8	6.8	6.9	6.9	10.3	10.3	10.4	10.4	10.5	10.9	11.4	11.4	11.4	11.4	12.4	12.3	12.3	12.6	12.3
<b>Total</b>	50,243	50,708	48,499	48,514	48,261	49,700	58,451	51,223	44,410	32,402	20,216	20,310	22,136	19,997	18,384	43,477	41,205	37,616	35,634	32,987

TABLE 5-14 NONRESIDENTIAL INCREMENTAL ANNUAL SUMMER DEMAND POTENTIAL – STATEWIDE AND BY EEU<sup>37</sup>

Summer MW	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
MAP																				
EVT	12.5	12.5	12.1	12.2	12.1	2.6	4.4	3.0	3.0	2.4	3.5	3.6	3.6	3.1	3.1	7.4	7.1	6.9	7.2	6.8
BED	1.3	1.2	1.0	0.9	0.9	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.3	1.2	1.1	1.0	0.9	0.8
VGS	0.013	0.002	0.002	0.002	0.002	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
<b>Total</b>	13.8	13.7	13.1	13.1	13.0	3.1	4.8	3.3	3.4	2.8	4.0	4.0	4.1	3.5	3.4	8.5	8.3	7.8	8.1	7.6
RAP																				
EVT	8.0	8.1	7.7	7.7	7.5	7.7	9.4	7.9	6.3	4.2	2.8	2.8	3.1	2.7	2.5	6.7	6.4	6.1	6.0	5.6
BED	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.3	0.3	0.4	0.3	0.3	0.9	0.9	0.7	0.7	0.6
VGS	0.002	0.002	0.002	0.002	0.002	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
<b>Total</b>	8.4	8.5	8.1	8.1	8.0	8.2	9.9	8.4	6.8	4.7	3.1	3.1	3.4	3.0	2.8	7.6	7.3	6.8	6.7	6.2

<sup>36</sup> The data provided in the VGS rows of the table are associated with energy savings resulting from VGS programs. Some measures provide both gas and electric savings.

<sup>37</sup> Ibid



TABLE 5-15 NONRESIDENTIAL INCREMENTAL ANNUAL WINTER DEMAND POTENTIAL – STATEWIDE AND BY EEU<sup>38</sup>

Winter MW	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
MAP																				
EVT	10.3	10.3	10.0	10.1	10.1	2.0	3.2	2.5	3.4	3.0	4.0	4.0	3.8	2.6	2.5	4.4	4.2	4.0	4.2	3.8
BED	1.6	1.5	1.3	1.3	1.3	0.3	0.3	0.3	0.6	0.6	0.5	0.6	0.6	0.3	0.3	0.9	0.9	0.8	0.7	0.7
VGS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	11.8	11.8	11.4	11.3	11.4	2.3	3.5	2.8	4.0	3.5	4.5	4.6	4.4	2.9	2.8	5.3	5.1	4.8	4.9	4.5
RAP																				
EVT	6.5	6.5	6.2	6.2	6.2	6.3	7.5	6.6	5.7	4.0	2.9	2.9	3.0	2.8	2.7	5.0	4.7	4.2	3.9	3.5
BED	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.8	0.4	0.3	0.4	0.4	0.3	0.8	0.8	0.7	0.5	0.5
VGS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	7.0	7.1	6.8	6.8	6.8	6.9	8.1	7.2	6.4	4.8	3.2	3.2	3.5	3.2	3.0	5.8	5.4	4.9	4.4	4.0

TABLE 5-16 NONRESIDENTIAL INCREMENTAL ANNUAL NATURAL GAS POTENTIAL – STATEWIDE AND BY EEU<sup>39</sup>

MMBtu	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
MAP																				
EVT	5,694	5,687	5,714	5,706	5,682	1,569	1,556	1,526	1,515	1,500	232	971	969	957	958	1,174	460	456	799	801
BED	47	46	46	46	46	6	6	6	6	6	4	16	16	16	16	15	3	3	4	3
VGS	299,704	286,373	292,377	288,409	277,277	117,124	119,824	111,158	109,559	108,041	34,722	42,952	81,015	79,214	81,053	108,779	93,826	58,270	65,102	58,445
<b>Total</b>	305,445	292,107	298,137	294,160	283,005	118,699	121,386	112,690	111,081	109,547	34,958	43,938	81,999	80,186	82,027	109,969	94,289	58,730	65,905	59,249
RAP																				
EVT	3,189	3,182	3,198	3,189	3,165	3,981	3,968	3,963	2,979	2,128	954	1,357	1,350	1,089	878	764	786	782	943	793
BED	19	19	19	19	19	22	22	22	22	22	4	9	9	9	9	8	8	8	8	8
VGS	47,298	47,746	50,087	50,742	49,726	66,525	67,875	68,293	68,698	68,994	71,900	74,222	82,697	82,545	83,149	90,421	90,221	90,205	91,629	89,162
<b>Total</b>	50,506	50,947	53,304	53,951	52,911	70,528	71,864	72,278	71,698	71,144	72,858	75,588	84,056	83,643	84,036	91,193	91,014	90,995	92,579	89,963

<sup>38</sup> Ibid

<sup>39</sup> The MMBTU savings provided in the EVT and BED rows of the table are the associated natural gas savings resulting from programs. Some measures provide both gas and electric savings.

## 6 Portfolio Summaries and Conclusions

This section provides a review of some key data presented earlier in the report. There are figures showing the cumulative annual statewide electric and natural gas potential. There is a table showing the RAP potential by sector for electric energy, summer and winter peak demand, and natural gas. There is also a table showing EEU budget estimates for each year of the study in the RAP scenario.

### 6.1 PORTFOLIO SUMMARIES

Figure 6-1 provides the statewide electric technical, economic, MAP and RAP results for the 3-yr, 10-yr, and 20-yr timeframes. The 3-yr technical potential is 10.1% of forecasted sales, and the economic potential is 9.4% of forecasted sales, indicating that most technical potential is cost-effective. The 3-yr MAP is 10.3% and the RAP is 5.6%. The reason MAP exceeds technical and economic potential in the early years of the study is due to the need to accelerate the achievable potential towards the early years to more appropriately align the estimates with the historical achievements in the state. This does not change the total amount of achievable potential, but instead simply means that it will occur earlier in the timeframe than our models would have projected if the study were unable to consider historical participation levels.

FIGURE 6-1 ELECTRIC ENERGY (MWH) CUMULATIVE ANNUAL POTENTIAL (AS A % OF SALES)

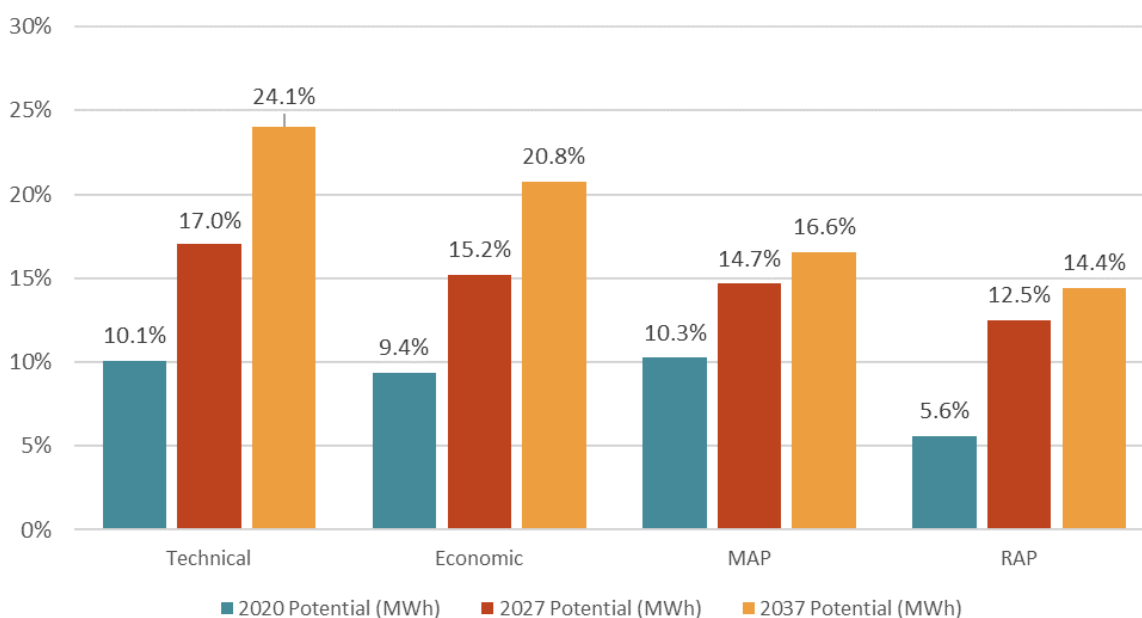


Figure 6-2 provides the statewide natural gas technical, economic, MAP and RAP results for the 3-yr, 10-yr, and 20-yr timeframes. The 3-yr technical potential is 9.2% of forecasted sales, and the economic potential is 8.4% of forecasted sales, indicating that most technical potential is cost-effective. The 3-yr MAP is 12.5% and the RAP is 3.1%.

FIGURE 6-2 NATURAL GAS ENERGY (MMBTU) CUMULATIVE ANNUAL POTENTIAL (AS A % OF SALES)

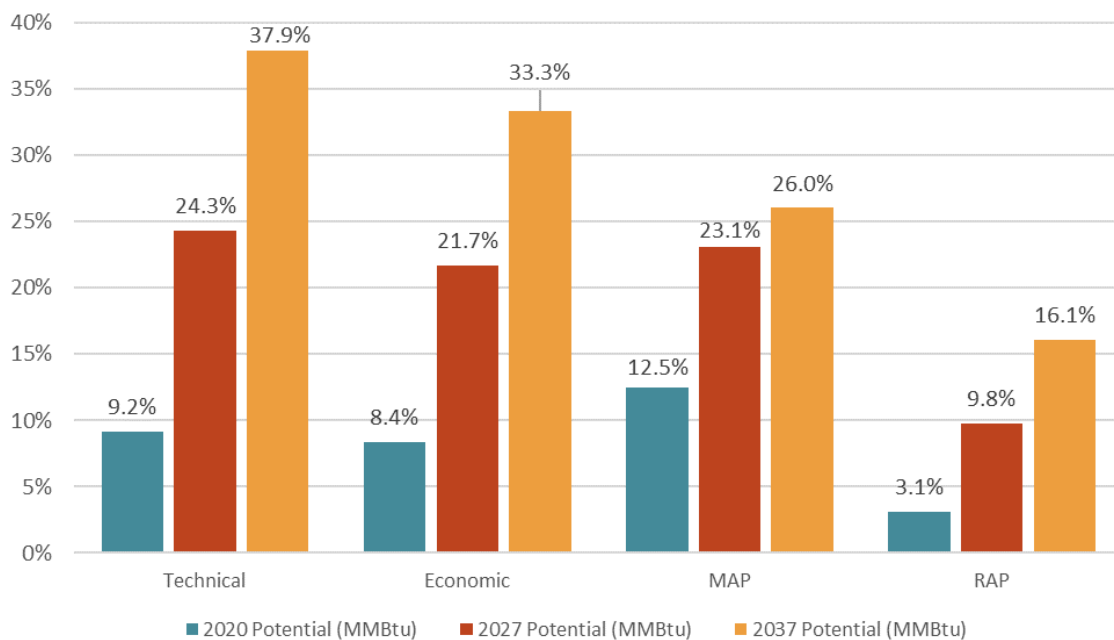


Table 6-1 provides 1-, 2-, 3-, 10-, and 20-yr statewide sector-level cumulative annual RAP results for energy, summer peak demand, winter peak demand, and natural gas. The RAP approaches 300,000 MWh and exceeds 300,000 MMBtu by 2020. These totals rise to more than 900,000 MWh and 1.8 million MMBtu by 2037. Summer and winter demand savings each exceed 100 MW after 10 years.

TABLE 6-1 ELECTRIC AND NATURAL GAS ENERGY EFFICIENCY POTENTIAL SUMMARY

	2018 Potential	2019 Potential	2020 Potential	2027 Potential	2037 Potential
<b>Annual Energy (MWh)</b>					
Technical	251,637	479,806	533,808	1,027,665	1,542,521
Economic	240,738	457,685	496,911	917,210	1,331,378
MAP	240,086	454,223	543,063	884,748	1,062,094
RAP	106,494	206,269	295,100	752,686	925,166
<b>Summer Peak Demand (MW)</b>					
Technical	67.9	54.4	65.9	164.2	238.8
Economic	27.4	52.0	61.6	149.5	206.9
MAP	28.6	54.2	68.8	132.6	153.1
RAP	14.5	28.2	40.8	114.9	134.9
<b>Winter Peak Demand (MW)</b>					
Technical	43.8	84.9	73.6	128.0	196.8
Economic	42.7	82.5	69.5	113.9	170.3
MAP	40.5	77.9	76.7	115.0	137.5
RAP	16.1	31.5	41.9	97.5	118.9
<b>Annual Natural Gas (MMBTU)</b>					
Technical	337,651	614,852	886,741	2,522,111	4,275,456
Economic	321,013	565,143	805,586	2,252,307	3,755,508
MAP	455,799	833,858	1,207,827	2,393,681	2,934,147
RAP	103,252	193,114	300,507	1,015,807	1,816,672

Table 6-2 provides annual budgets by EEU for the RAP scenario. The RAP budget ranges from \$39 million to \$55 million over the study timeframe.

TABLE 6-2 MAP AND RAP BUDGETS BY EEU AND STATEWIDE TOTALS (\$, IN MILLIONS)

	RAP			
	Total	EVT	BED	VGS
2018	<b>\$44.8</b>	\$38.5	\$2.1	\$4.1
2019	<b>\$46.6</b>	\$39.6	\$2.2	\$4.8
2020	<b>\$49.2</b>	\$41.0	\$2.3	\$5.9
2021	<b>\$52.1</b>	\$43.1	\$2.4	\$6.5
2022	<b>\$52.6</b>	\$43.5	\$2.5	\$6.6
2023	<b>\$52.1</b>	\$42.2	\$2.5	\$7.3
2024	<b>\$55.2</b>	\$45.2	\$2.6	\$7.3
2025	<b>\$51.7</b>	\$41.8	\$2.6	\$7.3
2026	<b>\$48.4</b>	\$38.4	\$2.7	\$7.3
2027	<b>\$43.5</b>	\$33.4	\$2.7	\$7.4
2028	<b>\$38.7</b>	\$29.5	\$1.7	\$7.5
2029	<b>\$38.8</b>	\$29.6	\$1.7	\$7.5
2030	<b>\$40.6</b>	\$30.9	\$1.9	\$7.8
2031	<b>\$39.9</b>	\$30.3	\$1.8	\$7.9
2032	<b>\$39.7</b>	\$30.1	\$1.7	\$7.9
2033	<b>\$49.9</b>	\$38.8	\$2.9	\$8.2
2034	<b>\$50.1</b>	\$39.0	\$2.8	\$8.2
2035	<b>\$48.6</b>	\$37.8	\$2.6	\$8.2
2036	<b>\$49.1</b>	\$38.4	\$2.4	\$8.3
2037	<b>\$48.1</b>	\$37.6	\$2.3	\$8.2

## APPENDIX A • Glossary of Terms

The following list defines many of the key terms used throughout report.

**Achievable Potential:** The November 2007 National Action Plan for Energy Efficiency “Guide for Conducting Energy Efficiency Potential Studies” defines achievable potential as the amount of energy use that energy efficiency can realistically be expected to displace assuming the most aggressive program scenario possible (e.g., providing end-users with payments for the entire incremental cost of more efficient equipment). This is often referred to as maximum achievable potential. Achievable potential takes into account real-world barriers to convincing end-users to adopt efficiency measures, the non-measure costs of delivering programs (for administration, marketing, tracking systems, monitoring and evaluation, etc.), and the capability of programs and administrators to ramp up program activity over time.

**Applicability Factor:** The fraction of the applicable housing units or businesses that is technically feasible for conversion to the efficient technology from an engineering perspective (e.g., it may not be possible to install CFLs in all light sockets in a home because the CFLs may not fit in every socket in a home).

**Avoided Costs:** For purposes of this report, the electric avoided costs are defined as the generation, transmission and distribution costs that can be avoided in the future if the consumption of electricity can be reduced with energy efficiency or demand response programs.

**Avoided Generation Capacity Supply Costs (\$/kW-yr):** These are the generation capacity costs that are avoided due to the implementation of demand response.

**Avoided Transmission & Distribution (\$/kW-yr):** These are the transmission and distribution infrastructure costs that are avoided due to the implementation of demand response.

**Base Case Equipment End-Use Intensity:** The electricity used per customer per year by each base-case technology in each market segment. This is the consumption of the electric energy using equipment that the efficient technology replaces or affects. For example, if the efficient measure is a high efficiency light bulb (CFL), the base end-use intensity would be the annual kWh use per bulb per household associated with a halogen incandescent light bulb that provides equivalent lumens to the CFL.

**Base Case Factor:** The fraction of the market that is applicable for the efficient technology in a given market segment. For example, for the residential electric clothes washer measure, this would be the fraction of all residential customers that have an electric clothes washer in their household.

**Coincidence Factor:** The fraction of connected load expected to be “on” and using electricity coincident with the electric system peak period.

**Coincident Peak Demand Reduction (kW):** The total coincident (with the system peak) demand reduction for all program participants.

**Commercial Sector:** Comprised of non-manufacturing premises typically used to sell a product or provide a service, where electricity is consumed primarily for lighting, space cooling and heating, office equipment, refrigeration and other end uses. Business types are included in Section 5 – Methodology.

**Cost-Effectiveness:** A measure of the relevant economic effects resulting from the implementation of an energy efficiency measure or program. If the benefits are greater than the costs, the measure is said to be cost-effective.

**Cumulative Annual:** Refers to the overall annual savings occurring in a given year from both new participants and annual savings continuing to result from past participation with energy efficiency measures that are still in place. Cumulative annual does not always equal the sum of all prior year incremental values as some energy efficiency measures have relatively short lives and, as a result, their savings drop off over time.

**Demand Response:** Refers to electric demand resources involving dynamic hourly load response to market conditions, such as curtailment or load control programs.

**Demand Side Management (DSM):** The design, implementation, and analysis of customer-focused energy and demand use reduction programs.

**Discount Rate:** An interest rate applied to a stream of future costs and/or monetized benefits to convert those values to a common period, typically the current or near-term year, to reflect the time value of money. It is used in benefit-cost analysis to determine the economic merits of proceeding with the proposed project, and in cost-effectiveness analysis to compare the value of projects. The discount rate for any analysis is either a nominal discount rate or a real discount rate. A Nominal Discount Rate is used in analytic situations when the values are in then-current or nominal dollars (reflecting anticipated inflation rates).

**Early Replacement:** Refers to an energy efficiency measure or efficiency program that seeks to encourage the replacement of functional equipment before the end of its operating life with higher-efficiency units.

**Economic Potential:** The November 2007 National Action Plan for Energy Efficiency “Guide for Conducting Energy Efficiency Potential Studies” refers to the subset of the technical potential that is economically cost-effective as compared to conventional supply-side energy resources as economic potential. Both technical and economic potential ignore market barriers to ensuring actual implementation of efficiency. Finally, they only consider the costs of efficiency measures themselves, ignoring any programmatic costs (e.g., marketing, analysis, administration, evaluation) that would be necessary to capture them.

**End-Use:** A category of equipment or service that consumes energy (e.g., lighting, refrigeration, heating, process heat, cooling).

**Energy Efficiency:** Using less energy to provide the same or an improved level of service to the energy consumer in an economically efficient way. Sometimes “conservation” is used as a synonym, but that term is usually taken to mean using less of a resource even if this results in a lower service level (e.g., setting a thermostat lower or reducing lighting levels).

**Energy Use Intensity (EUI):** A unit of measurement that describes a building’s energy use. EUI represents the energy consumed by a building relative to its size.<sup>40</sup>

**Free Rider:** Participants in an energy efficiency program who would have adopted an energy efficiency technology or improvement in the absence of a program or financial incentive.

**Gross Savings:** Gross energy (or demand) savings are the change in energy consumption or demand that results directly from program-promoted actions (e.g., installing energy-efficient lighting) taken by program participants regardless of the extent or nature of program influence on their actions.

**Incentive Costs:** A rebate or some form of payment used to encourage electricity consumers to implement a given demand-side management (DSM) technology.

**Incremental:** Savings or costs in a given year associated only with new installations of energy efficiency or demand response measures happening in that specific year.

**Industrial Sector:** Comprised of manufacturing premises typically used for producing and processing goods, where electricity is consumed primarily for operating motors, process cooling and heating, and space heating, ventilation, and air conditioning (HVAC). Applicable business types are included in section 5 – Methodology.

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<sup>40</sup> See <http://www.energystar.gov/index.cfm?fuseaction=buildingcontest.eui>

**Inflation:** The periodic rate at which general consumer prices increase. The General Inflation Rate is normally determined as an historical trend, using the Consumer Price Index (CPI) as published by the U.S. Bureau of Labor Statistics.

**Maximum Achievable:** An achievable potential scenario which assumes incentives for program participants are equal to 100% of measure incremental or full costs.

**Measure:** Any action taken to increase energy efficiency or demand response, whether through changes in equipment, changes to a building shell, implementation of control strategies, or changes in consumer behavior. Examples are higher-efficiency central air conditioners, occupancy sensor control of lighting, and retro-commissioning. In some cases, bundles of technologies or practices may be modeled as single measures. For example, an ENERGY STAR®™ home package may be treated as a single measure.

**MMBtu:** A measure of power, used in this report to refer to consumption and savings associated with natural gas consuming equipment. One British thermal unit (symbol Btu or sometimes BTU) is a traditional unit of energy equal to about 1055 joules. It is the amount of energy needed to heat one pound of water by one degree Fahrenheit. MMBtu is defined as one million BTUs.

**MW:** A unit of electrical output, equal to one million watts or one thousand kilowatts. It is typically used to refer to the output of a power plant.

**MWh:** One thousand kilowatt-hours, or one million watt-hours. One MWh is equal to the use of 1,000,000 watts of power in one hour.

**Net-to-Gross Ratio:** A factor representing net program savings divided by gross program savings that is applied to gross program impacts to convert them into net program load impacts.

**Net Savings:** Net energy or demand savings refer to the portion of gross savings that is attributable to the program. This involves separating out the impacts that are a result of other influences, such as consumer self-motivation. Given the range of influences on consumers' energy consumption, attributing changes to one cause (i.e., a particular program) or another can be quite complex.

**Non-Incentive Acquisition Cost:** Costs incurred by the utility that do not include incentives paid to the customer (i.e.: program administrative costs, program marketing costs, data tracking and reporting, program evaluation, etc.)

**Reserve Margin:** The difference between the dependable capacity of a utility's system and the anticipated peak load for a specified period.

**Spillover:** Additional energy efficiency actions taken by program participants as a result of program influence, but actions that go beyond those directly subsidized or required by the program.<sup>41</sup>

**Technical Potential:** The theoretical maximum amount of energy use that could be displaced by energy efficiency, disregarding all non-engineering constraints such as cost-effectiveness and the willingness of end-users to adopt the energy efficiency measures.

**Useful Life (Years):** The number of years that a measure is assumed to operate before needing to be replaced.

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<sup>41</sup> The definitions of participant and nonparticipant spillover were obtained from the National Action Plan for Energy Efficiency Report titled "Model Energy Efficiency Program Impact Evaluation Guide", November 2007, page ES-4.

## APPENDIX B • Measure Level Assumptions



EVT Residential Measure Assumptions																														
			EEU	Home	Income	Replacement	Base		Per Unit	Per Unit	Per Unit	Per unit NG	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Measure	Incentive	Non-	O&M	O&M	Measure	NTG	20 YR	20 YR	20 YR	20 YR	Measure Description	
Measure #	End-Use	Measure Name	Assignment	Type	Type	Type	Annual Electric (kWh)	% Elec Savings	Elec Savings (kWh)	Summer NCP kW	Winter NCP kW	Saving (MMBTu)	Oil Savings (MMBTu)	Propane Savings (MMBTu)	Wood Savings (MMBTu)	Water Savings (Gallons)	EE EUL	Cost	Amount	Incentive Cost (\$/kWh)	Benefits	Costs	Level Societal	Ratio	Potential (MWh)	Economic Potential (MWh)	MAP (MWh)	RAP (MWh)		
1001	Refrigeration	ENERGY STAR Refrigerator	EVT	SF	NLI	MO	564.8	10%	56.5	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$11.00	\$40.00	\$0.07	\$0.00	\$0.00	3.42	0.50	0	0	1,081	1,078	Installation of an ENERGY STAR qualifying residential refrigerator instead of a baseline efficiency refrigerator	
1002	Refrigeration	CEE Tier 2 Refrigerator	EVT	SF	NLI	MO	564.8	15%	84.7	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$20.00	\$75.00	\$0.07	\$0.00	\$0.00	2.74	0.90	0	0	2,919	2,909	Installation of CEE Tier 2 qualifying residential refrigerator instead of a baseline efficiency refrigerator	
1003	Refrigeration	CEE Tier 3 Refrigerator	EVT	SF	NLI	MO	564.8	20%	113.0	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$59.00	\$75.00	\$0.07	\$0.00	\$0.00	3.65	1.00	17,113	20,133	8,648	8,621	Installation of CEE Tier 3 qualifying residential refrigerator instead of a baseline efficiency refrigerator	
1004	Refrigeration	Refrigerator Early Removal - Single-family not low-income	EVT	SF	NLI	Recycle	744.7	100%	744.7	0.1	0.1	0.0	0.0	0.0	0.0	0	8	\$50.00	\$50.00	\$0.07	\$0.00	\$0.00	17.68	0.72	15,701	15,701	9,711	9,711	Removal of existing inefficient secondary refrigerator from service	
1005	Refrigeration	Freezer Early Removal - Single family	EVT	SF	NLI	Recycle	956.5	100%	956.5	0.1	0.1	0.0	0.0	0.0	0.0	0	8	\$50.00	\$50.00	\$0.07	\$0.00	\$0.00	22.71	0.81	4,982	4,982	3,466	3,466	Removal of existing inefficient freezer from service	
1006	Refrigeration	ENERGY STAR Refrigerator	EVT	SF	LI	DI	564.8	10%	56.5	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$753.00	\$753.00	\$0.57	\$0.00	\$0.00	0.20	1.00	0	0	0	0	Installation of an ENERGY STAR qualifying residential refrigerator instead of a baseline efficiency refrigerator	
1007	Refrigeration	CEE Tier 2 Refrigerator	EVT	SF	LI	DI	564.8	15%	84.7	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$762.00	\$762.00	\$0.57	\$0.00	\$0.00	0.30	1.00	0	0	0	0	Installation of CEE Tier 2 qualifying residential refrigerator instead of a baseline efficiency refrigerator	
1008	Refrigeration	CEE Tier 3 Refrigerator	EVT	SF	LI	DI	564.8	20%	113.0	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$801.00	\$801.00	\$0.57	\$0.00	\$0.00	0.38	1.00	12,061	0	0	0	Installation of CEE Tier 3 qualifying residential refrigerator instead of a baseline efficiency refrigerator	
1009	Refrigeration	Refrigerator Early Removal - Single-family low-income	EVT	SF	LI	Recycle	625.6	100%	625.6	0.1	0.1	0.0	0.0	0.0	0.0	0	8	\$50.00	\$50.00	\$0.57	\$0.00	\$0.00	16.31	1.00	5,925	5,925	5,090	5,090	Removal of existing inefficient secondary refrigerator from service	
1010	Refrigeration	Freezer Early Removal - Single family	EVT	SF	LI	Recycle	956.5	100%	956.5	0.1	0.1	0.0	0.0	0.0	0.0	0	8	\$50.00	\$50.00	\$0.57	\$0.00	\$0.00	24.94	1.00	2,238	2,238	1,923	1,923	Removal of existing inefficient freezer from service	
1011	Refrigeration	ENERGY STAR Freezer	EVT	SF	All	MO	285.1	10%	28.5	0.0	0.0	0.0	0.0	0.0	0.0	0	16	\$35.00	\$25.00	\$0.07	\$0.00	\$0.00	1.87	1.00	2,591	3,048	2,619	2,101	Installation of an ENERGY STAR qualifying residential freezer instead of a baseline efficiency freezer	
1012	Refrigeration	ENERGY STAR Refrigerator	EVT	SF	All	NC	564.8	10%	56.5	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$11.00	\$40.00	\$0.07	\$0.00	\$0.00	3.42	0.50	0	0	133	133	Installation of an ENERGY STAR qualifying residential refrigerator instead of a baseline efficiency refrigerator	
1013	Refrigeration	CEE Tier 2 Refrigerator	EVT	SF	All	NC	564.8	15%	84.7	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$20.00	\$75.00	\$0.07	\$0.00	\$0.00	2.74	0.90	0	0	360	358	Installation of CEE Tier 2 qualifying residential refrigerator instead of a baseline efficiency refrigerator	
1014	Refrigeration	CEE Tier 3 Refrigerator	EVT	SF	All	NC	564.8	20%	113.0	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$59.00	\$75.00	\$0.07	\$0.00	\$0.00	3.65	1.00	2,482	2,482	1,066	1,062	Installation of CEE Tier 3 qualifying residential refrigerator instead of a baseline efficiency refrigerator	
1015	Refrigeration	ENERGY STAR Freezer	EVT	SF	All	NC	285.1	10%	28.5	0.0	0.0	0.0	0.0	0.0	0.0	0	16	\$35.00	\$25.00	\$0.07	\$0.00	\$0.00	1.87	1.00	305	305	262	210	Installation of an ENERGY STAR qualifying residential freezer instead of a baseline efficiency freezer	
1016	Refrigeration	ENERGY STAR Refrigerator	EVT	MF	NLI	MO	564.8	10%	56.5	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$11.00	\$100.00	\$0.07	\$0.00	\$0.00	1.37	0.50	0	0	191	156	Installation of an ENERGY STAR qualifying residential refrigerator instead of a baseline efficiency refrigerator	
1017	Refrigeration	CEE Tier 2 Refrigerator	EVT	MF	NLI	MO	564.8	15%	84.7	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$20.00	\$150.00	\$0.07	\$0.00	\$0.00	1.37	0.90	0	0	515	421	Installation of CEE Tier 2 qualifying residential refrigerator instead of a baseline efficiency refrigerator	
1018	Refrigeration	CEE Tier 3 Refrigerator	EVT	MF	NLI	MO	564.8	20%	113.0	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$59.00	\$200.00	\$0.07	\$0.00	\$0.00	1.37	1.00	3,020	3,553	1,526	1,248	Installation of CEE Tier 3 qualifying residential refrigerator instead of a baseline efficiency refrigerator	
1019	Refrigeration	Refrigerator Early Removal - Multifamily	EVT	MF	NLI	Recycle	536.2	100%	536.2	0.1	0.1	0.0	0.0	0.0	0.0	0	8	\$50.00	\$50.00	\$0.07	\$0.00	\$0.00	12.73	0.72	546	546	338	277	Removal of existing inefficient secondary refrigerator from service	
1020	Refrigeration	Freezer Early Removal - Multifamily	EVT	MF	NLI	Recycle	688.7	100%	688.7	0.1	0.1	0.0	0.0	0.0	0.0	0	8	\$50.00	\$50.00	\$0.07	\$0.00	\$0.00	16.35	0.81	182	182	127	104	Removal of existing inefficient freezer from service	
1021	Refrigeration	ENERGY STAR Refrigerator	EVT	MF	LI	DI	564.8	10%	56.5	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$753.00	\$753.00	\$0.57	\$0.00	\$0.00	0.20	1.00	0	0	0	0	Installation of an ENERGY STAR qualifying residential refrigerator instead of a baseline efficiency refrigerator	
1022	Refrigeration	CEE Tier 2 Refrigerator	EVT	MF	LI	DI	564.8	15%	84.7	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$762.00	\$762.00	\$0.57	\$0.00	\$0.00	0.30	1.00	0	0	0	0	Installation of CEE Tier 2 qualifying residential refrigerator instead of a baseline efficiency refrigerator	
1023	Refrigeration	CEE Tier 3 Refrigerator	EVT	MF	LI	DI	564.8	20%	113.0	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$801.00	\$801.00	\$0.57	\$0.00	\$0.00	0.38	1.00	2,128	0	0	0	Installation of CEE Tier 3 qualifying residential refrigerator instead of a baseline efficiency refrigerator	
1024	Refrigeration	Refrigerator Early Removal - Multifamily	EVT	MF	LI	Recycle	536.2	100%	536.2	0.1	0.1	0.0	0.0	0.0	0.0	0	8	\$50.00	\$50.00	\$0.57	\$0.00	\$0.00	13.98	1.00	246	246	211	173	Removal of existing inefficient secondary refrigerator from service	
1025	Refrigeration	Freezer Early Removal - Multifamily	EVT	MF	LI	Recycle	688.7	100%	688.7	0.1	0.1	0.0	0.0	0.0	0.0	0	8	\$50.00	\$50.00	\$0.57	\$0.00	\$0.00	17.96	1.00	82	82	70	58	Removal of existing inefficient freezer from service	
1026	Refrigeration	ENERGY STAR Freezer	EVT	MF	All	MO	285.1	10%	28.5	0.0	0.0	0.0	0.0	0.0	0.0	0	16	\$35.00	\$25.00	\$0.07	\$0.00	\$0.00	1.87	1.00	131	155	133	87	Installation of an ENERGY STAR qualifying residential freezer instead of a baseline efficiency freezer	
1027	Refrigeration	ENERGY STAR Refrigerator	EVT	MF	All	NC	564.8	10%	56.5	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$11.00	\$100.00	\$0.07	\$0.00	\$0.00	1.37	0.50	0	0	33	27	Installation of an ENERGY STAR qualifying residential refrigerator instead of a baseline efficiency refrigerator	
1028	Refrigeration	CEE Tier 2 Refrigerator	EVT	MF	All	NC	564.8	15%	84.7	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$20.00	\$150.00	\$0.07	\$0.00	\$0.00	1.37	0.90	0	0	88	72	Installation of CEE Tier 2 qualifying residential refrigerator instead of a baseline efficiency refrigerator	
1029	Refrigeration	CEE Tier 3 Refrigerator	EVT	MF	All	NC	564.8	20%	113.0	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$59.00	\$200.00	\$0.07	\$0.00	\$0.00	1.37	1.00	606	606	260	212	Installation of CEE Tier 3 qualifying residential refrigerator instead of a baseline efficiency refrigerator	
1030	Refrigeration	ENERGY STAR Freezer	EVT	MF	All	NC	285.1	10%	28.5	0.0	0.0	0.0	0.0	0.0	0.0	0	16	\$35.00	\$25.00	\$0.07	\$0.00	\$0.00	1.87	1.00						

EVT Residential Measure Assumptions																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
			EEU	Home	Income	Replacement	Base		Per Unit	Per Unit	Per Unit	Per unit NG	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit

EVT Residential Measure Assumptions																														
			EEU	Home	Income	Replacement	Base		Per Unit	Per Unit	Per Unit	Per unit NG	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Non-	O&M	O&M	Measure	NTG	20 YR	20 YR	20 YR	20 YR	Measure Description	
Measure #	End-Use	Measure Name	Assignment	Type	Type	Type	Annual Electric (kWh)	% Elec Savings	Elec Savings (kWh)	Summer NCP kW	Winter NCP kW	Saving (MMBTu)	Oil Savings (MMBTu)	Propane Savings (MMBTu)	Wood Savings (MMBTu)	Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Incentive Cost (\$/kWh)	Benefits	Costs	Level VT Societal	Ratio	Technical Potential (MWh)	Economic Potential (MWh)	MAP (MWh)	RAP (MWh)		
2054	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/Electric Dryer	EVT	SF	LI	DI	0.0	0%	117.1	0.4	0.4	0.0	0.7	0.0	0.0	2992	14	\$1,277.00	\$1,277.00	\$0.57	\$0.00	\$0.00	0.93	1.00	4,251	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and electric drying	
2055	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/NG Dryer	EVT	SF	LI	DI	0.0	0%	11.2	0.0	0.0	0.3	0.4	0.0	0.0	2244	14	\$855.00	\$855.00	\$0.57	\$0.00	\$0.00	0.82	1.00	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and natural gas drying	
2056	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/NG Dryer	EVT	SF	LI	DI	0.0	0%	-4.4	0.0	0.0	0.3	1.1	0.0	0.0	2992	14	\$1,216.00	\$1,216.00	\$0.57	\$0.00	\$0.00	0.92	1.00	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and natural gas drying	
2057	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/NG Dryer	EVT	SF	LI	DI	0.0	0%	-1.8	0.0	0.0	0.3	1.2	0.0	0.0	2992	14	\$1,277.00	\$1,277.00	\$0.57	\$0.00	\$0.00	0.91	1.00	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and natural gas drying	
2058	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/propane Dryer	EVT	SF	LI	DI	0.0	0%	11.2	0.0	0.0	0.0	0.4	0.3	0.0	2244	14	\$855.00	\$855.00	\$0.57	\$0.00	\$0.00	0.88	1.00	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and propane drying	
2059	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/propane Dryer	EVT	SF	LI	DI	0.0	0%	-4.4	0.0	0.0	0.0	1.1	0.3	0.0	2992	14	\$1,216.00	\$1,216.00	\$0.57	\$0.00	\$0.00	0.96	1.00	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and propane drying	
2060	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/propane Dryer	EVT	SF	LI	DI	0.0	0%	-1.8	0.0	0.0	0.0	1.2	0.3	0.0	2992	14	\$1,277.00	\$1,277.00	\$0.57	\$0.00	\$0.00	0.95	1.00	-24	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and propane drying
2061	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Electric Dryer	EVT	SF	All	NC	0.0	0%	177.6	0.6	0.6	0.0	0.0	0.0	0.0	2244	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	19.79	0.70	0	0	133	133	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and electric drying	
2062	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Electric Dryer	EVT	SF	All	NC	0.0	0%	264.3	0.8	0.8	0.0	0.0	0.0	0.0	2992	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	2.83	0.75	0	0	211	122	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and electric drying	
2063	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Electric Dryer	EVT	SF	All	NC	0.0	0%	289.2	0.9	0.9	0.0	0.0	0.0	0.0	2992	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	2.56	1.15	1,436	1,436	710	404	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and electric drying	
2064	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/NG Dryer	EVT	SF	All	NC	0.0	0%	104.7	0.3	0.3	0.3	0.0	0.0	0.0	2244	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	17.40	0.70	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and natural gas drying	
2065	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/NG Dryer	EVT	SF	All	NC	0.0	0%	163.6	0.5	0.5	0.3	0.0	0.0	0.0	2992	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	2.49	0.75	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and natural gas drying
2066	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/NG Dryer	EVT	SF	All	NC	0.0	0%	170.3	0.5	0.5	0.4	0.0	0.0	0.0	2992	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	2.22	1.15	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and natural gas drying
2067	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Propane Dryer	EVT	SF	All	NC	0.0	0%	104.7	0.3	0.3	0.0	0.0	0.3	0.0	2244	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	18.49	0.70	0	0	6	6	6	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and propane drying
2068	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Propane Dryer	EVT	SF	All	NC	0.0	0%	163.6	0.5	0.5	0.0	0.0	0.3	0.0	2992	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	2.64	0.75	0	0	10	6	6	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and propane drying
2069	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Propane Dryer	EVT	SF	All	NC	0.0	0%	170.3	0.5	0.5	0.0	0.0	0.4	0.0	2992	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	2.37	1.15	65	65	32	18	18	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and propane drying
2070	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/Electric Dryer	EVT	SF	All	NC	0.0	0%	84.0	0.3	0.3	0.4	0.0	0.0	0.0	2244	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	17.13	0.70	0	0	22	22	22	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and electric drying
2071	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/Electric Dryer	EVT	SF	All	NC	0.0	0%	96.3	0.3	0.3	0.7	0.0	0.0	0.0	2992	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	2.34	0.75	0	0	27	15	15	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and electric drying
2072	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/Electric Dryer	EVT	SF	All	NC	0.0	0%	117.1	0.4	0.4	0.7	0.0	0.0	0.0	2992	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	2.13	1.15	201	201	100	57	57	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and electric drying
2073	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/NG Dryer	EVT	SF	All	NC	0.0	0%	11.2	0.0	0.0	0.7	0.0	0.0	0.0	2244	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	14.73	0.70	9	9	5	5	5	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and natural gas drying
2074	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/NG Dryer	EVT	SF	All	NC	0.0	0%	-4.4	0.0	0.0	1.1	0.0	0.0	0.0	2992	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	1.98	0.75	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and natural gas drying
2075	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/NG Dryer	EVT	SF	All	NC	0.0	0%	-1.8	0.0	0.0	1.2	0.0	0.0	0.0	2992	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	1.78	1.15	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and natural gas drying
2076	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/propane Dryer	EVT	SF	All	NC	0.0	0%	11.2	0.0	0.0	0.4	0.0	0.3	0.0	2244	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	15.83	0.70	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and propane drying
2077	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/propane Dryer	EVT	SF	All	NC	0.0	0%	-4.4	0.0	0.0	1.1	0.0	0.3	0.0	2992	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	2.22	0.75	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and propane drying
2078	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/propane Dryer	EVT	SF	All	NC	0.0	0%	-1.8	0.0	0.0	1.2	0.0	0.3	0.0	2992	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	1.99	1.15	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and propane drying
2079	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/Electric Dryer	EVT	SF	All	NC	0.0	0%	84.0	0.3	0.3	0.0	0.4	0.0	0.0	2244	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	19.24	0.70	0	0	111	111	111	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and electric drying
2080	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/Electric Dryer	EVT	SF	All	NC	0.0	0%	96.3	0.3	0.3	0.0	0.7	0.0	0.0	2992	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	2.73	0.75	0	0	136	79	79	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and electric drying
2081	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/Electric Dryer	EVT	SF	All	NC	0.0	0%	117.1	0.4	0.4	0.0	0.7	0.0	0.0	2992	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	2.47	1.15	1,029	1,029	508	289	289	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and electric drying
2082	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/NG Dryer	EVT	SF	All	NC	0.0	0%	11.2	0.0	0.0	0.3	0.4	0.0	0.0	2244	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	16.84	0.70	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and natural gas drying
2083	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/NG Dryer	EVT	SF	All	NC	0.0	0%	-4.4	0.0	0.0	0.3	1.1	0.0	0.0	2992	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	2.68	0.75	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and natural gas drying
2084	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/NG Dryer	EVT	SF	All	NC	0.0	0%	-1.8	0.0	0.0	0.3	1.2	0.0	0.0	2992	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	2.42	1.15	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and natural gas drying
2085	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/propane Dryer	EVT	SF	All	NC	0.0	0%	11.2	0.0																				

EVT Residential Measure Assumptions																																	
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base		Per Unit	Per Unit	Per Unit	Per unit NG	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	EE EUL	Measure Cost	Incentive Amount	Non-Incentive		O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical		20 YR Economic		20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
							Electric (kWh)	% Elec Savings	Elec Savings (kWh)	Summer NCP kW	Winter NCP kW	Saving (MMBTu)	Oil Savings (MMBTu)	Propane Savings (MMBTu)	Wood Savings (MMBTu)	Water Savings (Gallons)	Cost (\$/kWh)				O&M	Potential (MWh)					Potential (MWh)						
2088	Clothes Washer/Dryer	ENERGY STAR Electric Dryer	EVT	SF	All	NC	0.0	0%	194.0	0.6	0.6	0.0	0.0	0.0	0.0	0	12	\$61.00	\$50.00	\$0.07	\$0.00	\$0.00	5.42	1.00	0	0	141	122	Installation of ENERGY STAR electric dryer				
2089	Clothes Washer/Dryer	ENERGY STAR Gas Dryer	VGS	SF	All	NC	0.0	0%	36.0	0.1	0.1	0.2	0.0	0.0	0.0	0	12	\$61.00	\$50.00	\$0.07	\$0.00	\$0.00	1.51	1.00	0	0	0	0	Installation of ENERGY STAR gas dryer				
2090	Clothes Washer/Dryer	Vented Hybrid Heat Pump Dryer	EVT	SF	All	NC	0.0	0%	366.0	1.1	1.1	0.0	0.0	0.0	0.0	0	12	\$412.00	\$200.00	\$0.07	\$0.00	\$0.00	1.55	1.20	0	0	637	453	Installation of vented hybrid heat pump dryer				
2091	Clothes Washer/Dryer	Ventless Hybrid Heat Pump Dryer	EVT	SF	All	NC	0.0	0%	457.0	1.4	1.4	0.2	0.0	0.0	0.0	0	12	\$412.00	\$200.00	\$0.07	\$0.00	\$0.00	2.03	1.20	0	0	795	566	Installation of ventless hybrid heat pump dryer				
2092	Clothes Washer/Dryer	Ventless Full Heat Pump Dryer	EVT	SF	All	NC	0.0	0%	658.0	2.0	2.0	0.1	0.0	0.0	0.0	0	12	\$412.00	\$400.00	\$0.07	\$0.00	\$0.00	2.86	1.20	5,552	5,552	2,862	2,795	Installation of ventless full heat pump dryer				
2093	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Electric Dryer	EVT	MF	NLI	MO	0.0	0%	146.6	0.6	0.6	0.0	0.0	0.0	0.0	1795.2	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	16.46	0.95	0	0	71	58	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and electric drying				
2094	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Electric Dryer	EVT	MF	NLI	MO	0.0	0%	217.1	0.8	0.8	0.0	0.0	0.0	0.0	2468.4	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	2.39	0.95	0	0	105	50	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and electric drying				
2095	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Electric Dryer	EVT	MF	NLI	MO	0.0	0%	237.6	0.9	0.9	0.0	0.0	0.0	0.0	2468.4	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	2.16	0.95	598	598	259	121	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and electric drying				
2096	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/NG Dryer	EVT	MF	NLI	MO	0.0	0%	86.3	0.3	0.3	0.2	0.0	0.0	0.0	1795.2	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	14.33	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and natural gas drying				
2097	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/NG Dryer	EVT	MF	NLI	MO	0.0	0%	134.4	0.5	0.5	0.3	0.0	0.0	0.0	2468.4	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	2.09	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and natural gas drying				
2098	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/NG Dryer	EVT	MF	NLI	MO	0.0	0%	139.9	0.5	0.5	0.3	0.0	0.0	0.0	2468.4	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	1.86	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and natural gas drying				
2099	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Propane Dryer	EVT	MF	NLI	MO	0.0	0%	86.3	0.3	0.3	0.0	0.0	0.2	0.0	1795.2	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	15.25	0.95	0	0	3	3	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and propane drying				
2100	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Propane Dryer	EVT	MF	NLI	MO	0.0	0%	134.4	0.5	0.5	0.0	0.0	0.3	0.0	2468.4	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	2.21	0.95	0	0	5	2	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and propane drying				
2101	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Propane Dryer	EVT	MF	NLI	MO	0.0	0%	139.9	0.5	0.5	0.0	0.0	0.3	0.0	2468.4	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	1.98	0.95	27	27	12	5	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and propane drying				
2102	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/Electric Dryer	EVT	MF	NLI	MO	0.0	0%	69.5	0.3	0.3	0.3	0.0	0.0	0.0	1795.2	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	14.06	0.95	0	0	12	10	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and electric drying				
2103	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/Electric Dryer	EVT	MF	NLI	MO	0.0	0%	79.1	0.3	0.3	0.6	0.0	0.0	0.0	2468.4	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	1.95	0.95	0	0	13	6	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and electric drying				
2104	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/Electric Dryer	EVT	MF	NLI	MO	0.0	0%	96.2	0.4	0.4	0.6	0.0	0.0	0.0	2468.4	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	1.78	0.95	84	84	36	17	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and electric drying				
2105	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/NG Dryer	EVT	MF	NLI	MO	0.0	0%	9.2	0.0	0.0	0.5	0.0	0.0	0.0	1795.2	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	11.93	0.95	4	4	3	2	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and natural gas drying				
2106	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/NG Dryer	EVT	MF	NLI	MO	0.0	0%	-3.6	0.0	0.0	0.9	0.0	0.0	0.0	2468.4	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	1.64	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and natural gas drying				
2107	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/NG Dryer	EVT	MF	NLI	MO	0.0	0%	-1.5	0.0	0.0	0.9	0.0	0.0	0.0	2468.4	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	1.47	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and natural gas drying				
2108	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/propane Dryer	EVT	MF	NLI	MO	0.0	0%	9.2	0.0	0.0	0.3	0.0	0.2	0.0	1795.2	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	12.85	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and propane drying				
2109	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/propane Dryer	EVT	MF	NLI	MO	0.0	0%	-3.6	0.0	0.0	0.6	0.0	0.3	0.0	2468.4	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	1.76	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and propane drying				
2110	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/propane Dryer	EVT	MF	NLI	MO	0.0	0%	-1.5	0.0	0.0	0.6	0.0	0.3	0.0	2468.4	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	1.59	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and propane drying				
2111	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/Electric Dryer	EVT	MF	NLI	MO	0.0	0%	69.5	0.3	0.3	0.0	0.3	0.0	0.0	1795.2	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	15.80	0.95	0	0	59	49	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and electric drying				
2112	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/Electric Dryer	EVT	MF	NLI	MO	0.0	0%	79.1	0.3	0.3	0.0	0.6	0.0	0.0	2468.4	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	2.27	0.95	0	0	68	32	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and electric drying				
2113	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/Electric Dryer	EVT	MF	NLI	MO	0.0	0%	96.2	0.4	0.4	0.0	0.6	0.0	0.0	2468.4	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	2.06	0.95	429	429	185	86	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and electric drying				
2114	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/NG Dryer	EVT	MF	NLI	MO	0.0	0%	9.2	0.0	0.0	0.2	0.3	0.0	0.0	1795.2	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	13.67	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and natural gas drying				
2115	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/NG Dryer	EVT	MF	NLI	MO	0.0	0%	-3.6	0.0	0.0	0.3	0.6	0.0	0.0	2468.4	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	1.95	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and natural gas drying				
2116	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/NG Dryer	EVT	MF	NLI	MO	0.0	0%	-1.5	0.0	0.0	0.3	0.6	0.0	0.0	2468.4	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	1.75	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and natural gas drying				
2117	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/propane Dryer	EVT	MF	NLI	MO	0.0	0%	9.2	0.0	0.0	0.0	0.3	0.2	0.																		



EVT Residential Measure Assumptions																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per 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Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit

Appendix B.1		EVT Residential Measure Assumptions																											
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
2160	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Propane Dryer - CA	EVT	MF	All	MO	0.0	0%	2284.8	8.6	8.6	0.0	0.0	4.8	0.0	41962.8	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	37.60	0.95	0	0	7	3	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and propane drying
2161	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Propane Dryer - CA	EVT	MF	All	MO	0.0	0%	2378.3	9.0	9.0	0.0	0.0	5.6	0.0	41962.8	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	33.71	0.95	37	37	16	7	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and propane drying
2162	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/Electric Dryer - CA	EVT	MF	All	MO	0.0	0%	1181.5	4.5	4.5	5.6	0.0	0.0	0.0	30518.4	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	239.00	0.95	0	0	16	13	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and electric drying
2163	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/Electric Dryer - CA	EVT	MF	All	MO	0.0	0%	1344.7	5.1	5.1	10.0	0.0	0.0	0.0	41962.8	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	33.15	0.95	0	0	18	9	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and electric drying
2164	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/Electric Dryer - CA	EVT	MF	All	MO	0.0	0%	1635.4	6.2	6.2	10.4	0.0	0.0	0.0	41962.8	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	30.22	0.95	114	114	49	23	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and electric drying
2165	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/NG Dryer - CA	EVT	MF	All	MO	0.0	0%	156.4	0.6	0.6	9.2	0.0	0.0	0.0	30518.4	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	202.75	0.95	5	5	4	3	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and natural gas drying
2166	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/NG Dryer - CA	EVT	MF	All	MO	0.0	0%	-61.2	-0.2	-0.2	15.0	0.0	0.0	0.0	41962.8	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	21.29	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and natural gas drying
2167	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/NG Dryer - CA	EVT	MF	All	MO	0.0	0%	-25.5	-0.1	-0.1	16.0	0.0	0.0	0.0	41962.8	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	22.36	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and natural gas drying
2168	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/propane Dryer - CA	EVT	MF	All	MO	0.0	0%	156.4	0.6	0.6	5.6	0.0	3.6	0.0	30518.4	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	218.43	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and propane drying
2169	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/propane Dryer - CA	EVT	MF	All	MO	0.0	0%	-61.2	-0.2	-0.2	10.2	0.0	4.8	0.0	41962.8	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	22.88	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and propane drying
2170	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/propane Dryer - CA	EVT	MF	All	MO	0.0	0%	-25.5	-0.1	-0.1	10.4	0.0	5.6	0.0	41962.8	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	24.29	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and propane drying
2171	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/Electric Dryer - CA	EVT	MF	All	MO	0.0	0%	1181.5	4.5	4.5	0.0	5.6	0.0	0.0	30518.4	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	268.61	0.95	0	0	80	66	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and electric drying
2172	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/Electric Dryer - CA	EVT	MF	All	MO	0.0	0%	1344.7	5.1	5.1	0.0	10.0	0.0	0.0	41962.8	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	38.54	0.95	0	0	91	43	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and electric drying
2173	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/Electric Dryer - CA	EVT	MF	All	MO	0.0	0%	1635.4	6.2	6.2	0.0	10.4	0.0	0.0	41962.8	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	35.04	0.95	577	577	249	116	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and electric drying
2174	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/NG Dryer - CA	EVT	MF	All	MO	0.0	0%	156.4	0.6	0.6	3.6	5.6	0.0	0.0	30518.4	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	232.36	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and natural gas drying
2175	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/NG Dryer - CA	EVT	MF	All	MO	0.0	0%	-61.2	-0.2	-0.2	4.8	10.0	0.0	0.0	41962.8	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	25.26	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and natural gas drying
2176	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/NG Dryer - CA	EVT	MF	All	MO	0.0	0%	-25.5	-0.1	-0.1	5.6	10.4	0.0	0.0	41962.8	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	26.65	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and natural gas drying
2177	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/propane Dryer - CA	EVT	MF	All	MO	0.0	0%	156.4	0.6	0.6	0.0	5.6	3.6	0.0	30518.4	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	248.04	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and propane drying
2178	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/propane Dryer - CA	EVT	MF	All	MO	0.0	0%	-61.2	-0.2	-0.2	0.0	10.0	4.8	0.0	41962.8	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	26.85	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and propane drying
2179	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/propane Dryer - CA	EVT	MF	All	MO	0.0	0%	-25.5	-0.1	-0.1	0.0	10.4	5.6	0.0	41962.8	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	28.59	0.95	-3	-3	-3	-1	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and propane drying
2180	Clothes Washer/Dryer	ENERGY STAR Dryer FS - CA	EVT	MF	All	MO	0.0	0%	16609.0	81.6	81.6	-56.6	0.0	0.0	0.0	0	14	\$580.00	\$200.00	\$0.07	\$0.00	\$0.00	3.12	0.70	3,392	3,392	2,040	1,079	Replacement of an electric clothes dryer with a fossil fuel based clothes dryer - common area
2181	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Electric Dryer	EVT	MF	All	NC	0.0	0%	146.6	0.6	0.6	0.0	0.0	0.0	0.0	1795.2	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	16.46	0.95	0	0	4	3	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and electric drying
2182	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Electric Dryer	EVT	MF	All	NC	0.0	0%	217.1	0.8	0.8	0.0	0.0	0.0	0.0	2468.4	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	2.39	0.95	0	0	5	3	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and electric drying
2183	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Electric Dryer	EVT	MF	All	NC	0.0	0%	237.6	0.9	0.9	0.0	0.0	0.0	0.0	2468.4	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	2.16	0.95	29	29	12	6	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and electric drying
2184	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/NG Dryer	EVT	MF	All	NC	0.0	0%	86.3	0.3	0.3	0.2	0.0	0.0	0.0	1795.2	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	14.33	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and natural gas drying
2185	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/NG Dryer	EVT	MF	All	NC	0.0	0%	134.4	0.5	0.5	0.3	0.0	0.0	0.0	2468.4	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	2.09	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and natural gas drying
2186	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/NG Dryer	EVT	MF	All	NC	0.0	0%	139.9	0.5	0.5	0.3	0.0	0.0	0.0	2468.4	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	1.86	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and natural gas drying
2187	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Propane Dryer	EVT	MF	All	NC	0.0	0%	86.3	0.3	0.3	0.0	0.0	0.2	0.0	1795.2	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	15.25	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and propane drying
2188	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Propane Dryer	EVT	MF	All	NC	0.0	0%	134.4	0.5	0.5	0.0	0.0	0.3	0.0	2468.4	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	2.21	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and propane drying
2189	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Propane Dryer	EVT	MF	All	NC	0.0	0%	139.9	0.5	0.5	0.0	0.0	0.3	0.0	2468.4	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	1.98	0.95	1	1	1	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and propane drying
2190	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/Electric Dryer	EVT	MF	All	NC	0.0	0%	69.5	0.3	0.3	0.3	0.0	0.0	0.0	1795.2	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	14.06	0.95	0	0	1	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and electric drying
2191	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/Electric Dryer	EVT	MF	All	NC	0.0	0%	79.1	0.3	0.3	0.6	0.0	0.0	0.0	2468.4	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	1.95	0.95	0	0	1	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and electric drying
2192	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/Electric Dryer	EVT	MF	All	NC	0.0	0%	96.2	0.4	0.4	0.6	0.0	0.0	0.0	2468.4	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	1.78	0.95	4	4	2	1	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and electric drying
2193	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/NG Dryer	EVT	MF	All	NC	0.0	0%	9.2	0.0	0.0	0.5	0.0	0.0	0.0	1795.2	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	11.93	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and natural gas drying

EVT Residential Measure Assumptions																													
							Base Annual	% Elec	Per Unit Elec	Per Unit Summer	Per Unit Winter	Per unit NG	Per Unit Oil	Per Unit Propane	Per Unit Wood	Per Unit Water	EE	Measure	Incentive	Non-Incentive	O&M	O&M	Measure	NTG	20 YR	20 YR	20 YR	20 YR	
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Electric (kWh)	Savings	Savings (kWh)	NCP kW	NCP kW	Saving (MMBTu)	Savings (MMBTu)	Savings (MMBTu)	Savings (MMBTu)	Savings (Gallons)	EUL	Cost	Amount	Cost (\$/kWh)	Benefits	Costs	Level VT Societal	Ratio	Potential (MWh)	Potential (MWh)	MAP (MWh)	RAP (MWh)	Measure Description
2194	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/NG Dryer	EVT	MF	All	NC	0.0	0%	-3.6	0.0	0.0	0.9	0.0	0.0	0.0	2468.4	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	1.64	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and natural gas drying
2195	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/NG Dryer	EVT	MF	All	NC	0.0	0%	-1.5	0.0	0.0	0.9	0.0	0.0	0.0	2468.4	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	1.47	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and natural gas drying
2196	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/propane Dryer	EVT	MF	All	NC	0.0	0%	9.2	0.0	0.0	0.3	0.0	0.2	0.0	1795.2	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	12.85	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and propane drying
2197	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/propane Dryer	EVT	MF	All	NC	0.0	0%	-3.6	0.0	0.0	0.6	0.0	0.3	0.0	2468.4	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	1.76	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and propane drying
2198	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/propane Dryer	EVT	MF	All	NC	0.0	0%	-1.5	0.0	0.0	0.6	0.0	0.3	0.0	2468.4	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	1.59	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and propane drying
2199	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/Electric Dryer	EVT	MF	All	NC	0.0	0%	69.5	0.3	0.3	0.0	0.3	0.0	0.0	1795.2	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	15.80	0.95	0	0	3	3	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and electric drying
2200	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/Electric Dryer	EVT	MF	All	NC	0.0	0%	79.1	0.3	0.3	0.0	0.6	0.0	0.0	2468.4	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	2.27	0.95	0	0	4	2	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and electric drying
2201	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/Electric Dryer	EVT	MF	All	NC	0.0	0%	96.2	0.4	0.4	0.0	0.6	0.0	0.0	2468.4	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	2.06	0.95	21	21	9	4	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and electric drying
2202	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/NG Dryer	EVT	MF	All	NC	0.0	0%	9.2	0.0	0.0	0.2	0.3	0.0	0.0	1795.2	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	13.67	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and natural gas drying
2203	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/NG Dryer	EVT	MF	All	NC	0.0	0%	-3.6	0.0	0.0	0.3	0.6	0.0	0.0	2468.4	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	1.95	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and natural gas drying
2204	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/NG Dryer	EVT	MF	All	NC	0.0	0%	-1.5	0.0	0.0	0.3	0.6	0.0	0.0	2468.4	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	1.75	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and natural gas drying
2205	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/propane Dryer	EVT	MF	All	NC	0.0	0%	9.2	0.0	0.0	0.0	0.3	0.2	0.0	1795.2	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	14.59	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and propane drying
2206	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/propane Dryer	EVT	MF	All	NC	0.0	0%	-3.6	0.0	0.0	0.0	0.6	0.3	0.0	2468.4	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	2.07	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and propane drying
2207	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/propane Dryer	EVT	MF	All	NC	0.0	0%	-1.5	0.0	0.0	0.0	0.6	0.3	0.0	2468.4	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	1.87	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and propane drying
2208	Clothes Washer/Dryer	ENERGY STAR Electric Dryer	EVT	MF	All	NC	0.0	0%	194.0	0.6	0.6	0.0	0.0	0.0	0.0	0	12	\$61.00	\$50.00	\$0.07	\$0.00	\$0.00	5.42	1.00	0	0	17	12	Installation of ENERGY STAR electric dryer
2209	Clothes Washer/Dryer	ENERGY STAR Gas Dryer	VGS	MF	All	NC	0.0	0%	36.0	0.1	0.1	0.2	0.0	0.0	0.0	0	12	\$61.00	\$50.00	\$0.07	\$0.00	\$0.00	1.51	1.00	0	0	0	0	Installation of ENERGY STAR gas dryer
2210	Clothes Washer/Dryer	Vented Hybrid Heat Pump Dryer	EVT	MF	All	NC	0.0	0%	366.0	1.1	1.1	0.0	0.0	0.0	0.0	0	12	\$412.00	\$200.00	\$0.07	\$0.00	\$0.00	1.55	1.20	0	0	77	45	Installation of vented hybrid heat pump dryer
2211	Clothes Washer/Dryer	Ventless Hybrid Heat Pump Dryer	EVT	MF	All	NC	0.0	0%	457.0	1.4	1.4	0.2	0.0	0.0	0.0	0	12	\$412.00	\$200.00	\$0.07	\$0.00	\$0.00	2.03	1.20	0	0	96	56	Installation of ventless hybrid heat pump dryer
2212	Clothes Washer/Dryer	Ventless Full Heat Pump Dryer	EVT	MF	All	NC	0.0	0%	658.0	2.0	2.0	0.1	0.0	0.0	0.0	0	12	\$412.00	\$400.00	\$0.07	\$0.00	\$0.00	2.86	1.20	673	673	347	278	Installation of ventless full heat pump dryer
2213	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Electric Dryer - CA	EVT	MF	All	NC	0.0	0%	4251.4	16.1	16.1	0.0	0.0	0.0	0.0	52060.8	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	477.45	0.95	0	0	19	15	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and electric drying
2214	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Electric Dryer - CA	EVT	MF	All	NC	0.0	0%	6295.9	23.8	23.8	0.0	0.0	0.0	0.0	71583.6	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	69.28	0.95	0	0	28	13	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and electric drying
2215	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Electric Dryer - CA	EVT	MF	All	NC	0.0	0%	6890.4	26.0	26.0	0.0	0.0	0.0	0.0	71583.6	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	62.76	0.95	148	148	60	28	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and electric drying
2216	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/NG Dryer - CA	EVT	MF	All	NC	0.0	0%	2502.7	9.5	9.5	6.1	0.0	0.0	0.0	52060.8	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	415.61	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and natural gas drying
2217	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/NG Dryer - CA	EVT	MF	All	NC	0.0	0%	3897.6	14.7	14.7	8.1	0.0	0.0	0.0	71583.6	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	60.52	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and natural gas drying
2218	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/NG Dryer - CA	EVT	MF	All	NC	0.0	0%	4057.1	15.3	15.3	9.6	0.0	0.0	0.0	71583.6	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	53.80	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and natural gas drying
2219	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Propane Dryer - CA	EVT	MF	All	NC	0.0	0%	2502.7	9.5	9.5	0.0	0.0	6.1	0.0	52060.8	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	442.36	0.95	0	0	1	1	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and propane drying
2220	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Propane Dryer - CA	EVT	MF	All	NC	0.0	0%	3897.6	14.7	14.7	0.0	0.0	8.1	0.0	71583.6	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	64.15	0.95	0	0	1	1	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and propane drying
2221	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Propane Dryer - CA	EVT	MF	All	NC	0.0	0%	4057.1	15.3	15.3	0.0	0.0	9.6	0.0	71583.6	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	57.51	0.95	7	7	3	1	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and propane drying
2222	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/Electric Dryer - CA	EVT	MF	All	NC	0.0	0%	2015.5	7.6	7.6	9.6	0.0	0.0	0.0	52060.8	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	407.71	0.95	0	0	3	3	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and electric drying
2223	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/Electric Dryer - CA	EVT	MF	All	NC	0.0	0%	2293.9	8.7	8.7	17.1	0.0	0.0	0.0	71583.6	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	56.55	0.95	0	0	4	2	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and electric drying
2224	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/Electric Dryer - CA	EVT	MF	All	NC	0.0	0%	2789.8	10.6	10.6	17.7	0.0	0.0	0.0	71583.6	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	51.55	0.95	21	21	9	4	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY



Appendix B.1		EVT Residential Measure Assumptions																											
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
2230	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/propane Dryer - CA	EVT	MF	All	NC	0.0	0%	-43.5	-0.2	-0.2	17.7	0.0	9.6	0.0	71583.6	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	38.48	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and propane drying
2231	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/Electric Dryer - CA	EVT	MF	All	NC	0.0	0%	2015.5	7.6	7.6	0.0	9.6	0.0	0.0	52060.8	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	458.21	0.95	0	0	15	13	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and electric drying
2232	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/Electric Dryer - CA	EVT	MF	All	NC	0.0	0%	2293.9	8.7	8.7	0.0	17.1	0.0	0.0	71583.6	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	65.74	0.95	0	0	18	8	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and electric drying
2233	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/Electric Dryer - CA	EVT	MF	All	NC	0.0	0%	2789.8	10.6	10.6	0.0	17.7	0.0	0.0	71583.6	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	59.78	0.95	105	105	43	20	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and electric drying
2234	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/NG Dryer - CA	EVT	MF	All	NC	0.0	0%	266.8	1.0	1.0	6.1	9.6	0.0	0.0	52060.8	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	396.37	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and natural gas drying
2235	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/NG Dryer - CA	EVT	MF	All	NC	0.0	0%	-104.4	-0.4	-0.4	8.1	17.1	0.0	0.0	71583.6	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	36.59	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and natural gas drying
2236	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/NG Dryer - CA	EVT	MF	All	NC	0.0	0%	-43.5	-0.2	-0.2	9.6	17.7	0.0	0.0	71583.6	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	42.22	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and natural gas drying
2237	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/propane Dryer - CA	EVT	MF	All	NC	0.0	0%	266.8	1.0	1.0	0.0	9.6	6.1	0.0	52060.8	14	\$32.00	\$40.00	\$0.07	\$0.00	\$0.00	423.12	0.95	0	0	1	1	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and propane drying
2238	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/propane Dryer - CA	EVT	MF	All	NC	0.0	0%	-104.4	-0.4	-0.4	0.0	17.1	8.1	0.0	71583.6	14	\$393.00	\$75.00	\$0.07	\$0.00	\$0.00	38.90	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and propane drying
2239	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/propane Dryer - CA	EVT	MF	All	NC	0.0	0%	-43.5	-0.2	-0.2	0.0	17.7	9.6	0.0	71583.6	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	45.29	0.95	-1	-1	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and propane drying
3000	Dishwasher	ENERGY STAR Dishwasher - electric water heating	EVT	SF	All	MO	307.0	12%	37.0	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.07	\$0.00	\$0.00	4.72	0.70	1,434	1,434	862	578	Installation of ENERGY STAR dishwasher in home with electric water heating
3001	Dishwasher	ENERGY STAR Dishwasher - gas water heating	EVT	SF	All	MO	135.1	12%	16.3	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.07	\$0.00	\$0.00	2.66	0.70	491	491	295	198	Installation of ENERGY STAR dishwasher in home with gas water heating
3002	Dishwasher	ENERGY STAR Dishwasher - other water heating	EVT	SF	All	MO	135.1	12%	16.3	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.07	\$0.00	\$0.00	2.79	0.70	1,858	1,858	1,117	749	Installation of ENERGY STAR dishwasher in home with fuel water heating
3003	Dishwasher	ENERGY STAR Dishwasher - electric water heating	EVT	SF	All	NC	307.0	12%	37.0	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.07	\$0.00	\$0.00	4.72	1.00	106	106	91	61	Installation of ENERGY STAR dishwasher in home with electric water heating
3004	Dishwasher	ENERGY STAR Dishwasher - gas water heating	EVT	SF	All	NC	135.1	12%	16.3	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.07	\$0.00	\$0.00	2.66	1.00	26	26	22	15	Installation of ENERGY STAR dishwasher in home with gas water heating
3005	Dishwasher	ENERGY STAR Dishwasher - other water heating	EVT	SF	All	NC	135.1	12%	16.3	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.07	\$0.00	\$0.00	2.79	1.00	158	158	136	91	Installation of ENERGY STAR dishwasher in home with fuel water heating
3006	Dishwasher	ENERGY STAR Dishwasher - electric water heating	EVT	MF	All	MO	307.0	12%	37.0	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.07	\$0.00	\$0.00	4.72	1.00	130	130	112	61	Installation of ENERGY STAR dishwasher in home with electric water heating
3007	Dishwasher	ENERGY STAR Dishwasher - gas water heating	EVT	MF	All	MO	135.1	12%	16.3	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.07	\$0.00	\$0.00	2.66	1.00	88	88	76	42	Installation of ENERGY STAR dishwasher in home with gas water heating
3008	Dishwasher	ENERGY STAR Dishwasher - other water heating	EVT	MF	All	MO	135.1	12%	16.3	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.07	\$0.00	\$0.00	2.79	1.00	73	73	62	34	Installation of ENERGY STAR dishwasher in home with fuel water heating
3009	Dishwasher	ENERGY STAR Dishwasher - electric water heating	EVT	MF	All	NC	307.0	12%	37.0	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.07	\$0.00	\$0.00	4.72	1.00	15	15	13	7	Installation of ENERGY STAR dishwasher in home with electric water heating
3010	Dishwasher	ENERGY STAR Dishwasher - gas water heating	EVT	MF	All	NC	135.1	12%	16.3	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.07	\$0.00	\$0.00	2.66	1.00	10	10	9	5	Installation of ENERGY STAR dishwasher in home with gas water heating
3011	Dishwasher	ENERGY STAR Dishwasher - other water heating	EVT	MF	All	NC	135.1	12%	16.3	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.07	\$0.00	\$0.00	2.79	1.00	9	9	7	4	Installation of ENERGY STAR dishwasher in home with fuel water heating
4000	Electronics	Ultraefficient LCD Monitors	EVT	SF	All	MO	65.8	25%	16.4	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$2.60	\$6.00	\$0.07	\$0.00	\$0.00	1.38	1.00	2,761	2,761	2,206	2,206	Installation of LED monitor that meets/exceeds Energy Star Version 7.0
4001	Electronics	Televisions (Energy Star 7.0)	EVT	SF	All	MO	240.0	25%	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0	6	\$14.30	\$6.00	\$0.07	\$0.00	\$0.00	3.72	1.00	0	0	0	0	Installation of television which meets or exceeds ENERGY STAR Version 7.0
4002	Electronics	Televisions (4K UHD Energy Star 7.0)	EVT	SF	All	MO	230.8	25%	57.7	0.0	0.0	0.0	0.0	0.0	0.0	0	6	\$14.30	\$6.00	\$0.07	\$0.00	\$0.00	3.56	1.00	28,618	28,618	22,863	14,750	Installation of television which meets or exceeds ENERGY STAR Version 7.0
4003	Electronics	Tier 1 Powerstrips - home offices	EVT	SF	NLI	MO	197.9	19%	38.4	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$15.00	\$7.00	\$0.07	\$0.00	\$0.00	1.51	0.90	3,450	3,450	2,480	1,657	Installation of controlled power strip (Tier 1) in home offices
4004	Electronics	Tier 2 Powerstrips - home entertainment centers	EVT	SF	NLI	MO	678.4	51%	346.0	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$70.00	\$7.00	\$0.07	\$0.00	\$0.00	2.83	0.90	47,365	47,365	34,055	17,331	Installation of controlled power strip (Tier 2) in home entertainment centers
4005	Electronics	Desktop Computers	EVT	SF	All	MO	48.4	12%	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$20.00	\$7.00	\$0.07	\$0.00	\$0.00	0.14	1.00	0	0	0	0	Installation of a desktop computer with ENERGY STAR Version 6.0 rating
4006	Electronics	Desktop Computers w/ 80 PLUS	EVT	SF	All	MO	48.4	16%	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$25.00	\$7.00	\$0.07	\$0.00	\$0.00	0.16	1.00	1,286	0	0	0	Installation of a desktop computer with ENERGY STAR Version 6.0 rating with an 80 PLUS PSU
4007	Electronics	Sound Bars	EVT	SF	All	MO	48.7	49%	24.0	0.0	0.0	0.0	0.0	0.0	0.0	0	5	\$5.00	\$5.00	\$0.07	\$0.00	\$0.00	2.95	1.00	1,550	1,550	1,238	1,238	Installation of ENERGY STAR + 50% sound bar
4008	Electronics	Room Air Cleaners	EVT	SF	All	MO	531.0	40%	213.9	0.0	0.0	0.0	0.0	0.0	0.0	0	9	\$50.00	\$40.00	\$0.07	\$0.00	\$0.00	5.70	1.00	7,736	7,736	6,180	5,180	Installation of ENERGY STAR air purifier
4009	Electronics	Ultraefficient LCD Monitors	EVT	SF	All	NC	65.8	25%	16.4	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$2.60	\$6.00	\$0.07	\$0.00	\$0.00	1.38	1.00	163	163	130	130	Installation of LED monitor that meets/exceeds Energy Star Version 7.0
4010	Electronics	Televisions (Energy Star 7.0)	EVT	SF	All	NC	240.0	25%	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0	6	\$14.30	\$6.00	\$0.07	\$0.00	\$0.00	3.72	1.00	0	0	0	0	Installation of television which meets or exceeds ENERGY STAR Version 7.0
4011	Electronics	Televisions (4K UHD Energy Star 7.0)	EVT	SF	All	NC	230.8	25%	57.7	0.0	0.0	0.0	0.0	0.0	0.0	0	6	\$14.30	\$6.00	\$0.07	\$0.00	\$0.00	3.56	1.00	2,485	2,485	1,985	1,281	Installation of television which meets or exceeds ENERGY STAR Version 7.0
4012	Electronics	Tier 1 Powerstrips - home offices	EVT	SF	All	NC	197.9	19%	38.4	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$15.00	\$7.00	\$0.07	\$0.00	\$0.00	1.51	0.90	344	344	247	165	Installation of controlled power strip (Tier 1) in home offices
4013	Electronics	Tier 2 Powerstrips - home entertainment centers	EVT	SF	All	NC	678.4	51%	346.0	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$70.00	\$7.00	\$0.07	\$0.00	\$0.00	2.83	0.90	11,919	11,919	8,570	4,361	Installation of controlled power strip (Tier 2) in home entertainment centers
4014	Electronics	Desktop Computers	EVT	SF	All	NC	48.4	12%	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$20.00	\$7.00	\$0.07	\$0.00	\$0.00	0.14	1.00	0	0	0	0	Installation of a desktop computer with ENERGY STAR Version 6.0 rating
4015	Electronics	Desktop Computers w/ 80 PLUS	EVT	SF	All	NC	48.4	16%	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$25.00	\$7.00	\$0.07	\$0.00	\$0.00	0.16	1.00	89	0	0	0	Installation of a desktop computer with ENERGY STAR Version 6.0 rating with an 80 PLUS PSU
4016	Electronics	Sound Bars	EVT	SF	All	NC	48.7	49%	24.0	0.0	0.0	0.0	0.0	0.0	0.0	0	5	\$5.00	\$5.00	\$0.07	\$0.00	\$0.00	2.95	1.00	132	132	105	105	Installation of ENERGY STAR + 50% sound bar
4017	Electronics	Room Air Cleaners	EVT	SF	All	NC	531.0	40%	213.9	0.0	0.0	0.0	0.0	0.0	0.0	0	9	\$50.00	\$40.00	\$0.07	\$0.00	\$0.00	5.70	1.00	658	658	526	441	Installation of ENERGY STAR air purifier
4018	Electronics	Ultraefficient LCD Monitors	EVT	MF	All	MO	65.8	25%	16.4	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$2.60	\$6.00	\$0.07	\$0.00	\$0.00	1.38	1.00	290	290	232	216	Installation of LED monitor that meets/exceeds Energy Star Version 7.0
4019	Electronics	Televisions (Energy Star 7.0)	EVT	MF	All	MO	240.0	25%	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0	6	\$14.30	\$6.00	\$0.07	\$0.00	\$0.00	3.72	1.00	0	0	0	0	Installation of television which meets or exceeds ENERGY STAR Version 7.0
4020	Electronics	Televisions (4K UHD Energy Star 7.0)	EVT	MF	All	MO	230.8	25%	57.7	0.0	0.0	0.0	0.0	0.0	0.0	0	6	\$14.30	\$6.00	\$0.07	\$0.00	\$0.00	3.56	1.00	4,530	4,530	3,619	2,171	Installation of television which meets or exceeds ENERGY STAR Version 7.0
4021	Electronics	Tier 1 Powerstrips - home offices	EVT	MF	NLI	MO	197.9	19%	38.4	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$15.00	\$7.00	\$0.07	\$0.00	\$0.00	1.51	0.90	374	374	269	167	Installation of controlled power strip (Tier 1) in home offices
4022	Electronics	Tier 2 Powerstrips - home entertainment centers	EVT	MF	NLI	MO	678.4	51%	346.0	0.0	0.0	0.0	0.0	0.0															



Appendix B.1		EVT Residential Measure Assumptions																												
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
5014	Hot Water	LF Faucet Aerator (Electric WH)	EVT	SF	LI	DI	0.0	0%	61.2	0.0	0.0	0.0	0.0	0.0	0.0	725.56	9	\$10.00	\$10.00	\$0.57	\$0.00	\$0.00	17.83	0.90	1,792	2,113	2,205	2,736	Installation of a low flow faucet aerator (1.0 gpm) in homes with electric water heating	
5015	Hot Water	DHW Tank Wrap (NatGas WH)	VGS	SF	LI	DI	0.0	0%	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0	6	\$35.00	\$35.00	\$0.57	\$0.00	\$0.00	1.28	1.00	0	0	0	0	Installation of insulation to water heater tank - gas water heating	
5016	Hot Water	DHW Pipe Wrap (NatGas WH)	VGS	SF	LI	DI	0.0	0%	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0	15	\$18.00	\$18.00	\$0.57	\$0.00	\$0.00	1.77	1.00	0	0	0	0	Installation of insulating pipe wrap on water heater pipes - 6ft total - homes with gas water heating	
5017	Hot Water	Tank Temperature Turn Down (NatGas WH)	VGS	SF	LI	DI	0.0	0%	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0	2	\$5.00	\$5.00	\$0.57	\$0.00	\$0.00	1.34	1.00	0	0	0	0	Domestic hot water tank thermostat is lowered to reduce standby losses - gas water heater	
5018	Hot Water	LF Showerhead (NatGas WH)	VGS	SF	LI	DI	0.0	0%	0.0	0.0	0.0	0.6	0.0	0.0	0.0	1226.72	9	\$15.00	\$15.00	\$0.57	\$0.00	\$0.00	16.95	0.90	0	0	0	0	Installation of low flow showerhead in homes with gas water heating	
5019	Hot Water	LF Faucet Aerator (NatGas WH)	VGS	SF	LI	DI	0.0	0%	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	9	\$10.00	\$10.00	\$0.57	\$0.00	\$0.00	13.72	0.90	0	0	0	0	Installation of a low flow faucet aerator (1.0 gpm) in homes with gas water heating	
5020	Hot Water	Heat Pump DHW (< 2.35 EF)	EVT	SF	All	MO	2,586.3	50%	1301.8	0.5	0.5	0.0	0.0	0.0	0.0	0	13	\$973.00	\$600.00	\$0.09	\$0.00	\$0.00	2.45	1.10	0	0	15,745	11,980	Installation of an ENERGY STAR heat pump water heater <2.35 EF in place of a baseline water heater	
5021	Hot Water	Heat Pump DHW (> 2.35 EF)	EVT	SF	All	MO	2,586.3	62%	1607.2	0.6	0.6	0.0	0.0	0.0	0.0	0	13	\$1,101.00	\$600.00	\$0.09	\$0.00	\$0.00	2.67	1.10	55,687	67,753	37,734	27,358	Installation of an ENERGY STAR heat pump water heater >=2.35 EF in place of a baseline water heater	
5022	Hot Water	Electric Hot Water Fuel Switch - Propane	EVT	SF	NLI	MO	2,586.3	100%	2586.3	1.0	1.0	0.0	0.0	0.0	-14.4	0	15	\$1,750.00	\$200.00	\$0.09	\$0.00	\$25.00	0.70	1.00	4,850	0	0	0	0	Convert water heating from electric tank to liquid propane indirect-fired storage tank
5023	Hot Water	Electric Hot Water Fuel Switch - Nat Gas	EVT	SF	NLI	MO	2,586.3	100%	2586.3	1.0	1.0	-18.3	0.0	0.0	0.0	0	15	\$475.00	\$200.00	\$0.09	\$0.00	\$7.00	1.20	1.00	8,487	8,487	6,511	4,345	Convert water heating from electric tank to natural gas stand-alone storage tank	
5024	Hot Water	Electric Hot Water Fuel Switch - Oil	EVT	SF	NLI	MO	2,586.3	100%	2586.3	1.0	1.0	0.0	-16.9	0.0	0.0	0	15	\$1,150.00	\$200.00	\$0.09	\$0.00	\$0.00	0.62	1.00	10,912	0	0	0	0	Convert water heating from electric tank to oil stand-alone storage tank
5025	Hot Water	Gas Storage Water Heater - 0.67 EF	VGS	SF	All	MO			0.0	0.0	0.0	1.7	0.0	0.0	0.0	0	13	\$400.00	\$200.00	\$0.09	\$0.00	\$0.00	0.82	1.00	0	0	0	0	Installation of high efficiency gas storage tank water heater (EF 0.67) in homes with gas water heating	
5026	Hot Water	Condensing Gas Storage Water Heater - 0.80 EF	VGS	SF	All	MO			0.0	0.0	0.0	4.0	0.0	0.0	0.0	0	13	\$685.00	\$200.00	\$0.09	\$0.00	\$0.00	1.14	1.00	0	0	0	0	0	Installation of high efficiency condensing gas storage tank water heater (EF 0.80) in homes with gas water heating
5027	Hot Water	Tankless whole-house water heater - 0.82 EF	VGS	SF	All	MO			0.0	0.0	0.0	3.2	0.0	0.0	0.0	0	13	\$605.00	\$300.00	\$0.09	\$0.00	\$0.00	1.03	1.00	0	0	0	0	0	Installation of high efficiency tankless water heater (EF 0.82) in homes with gas water heating
5028	Hot Water	Tankless whole-house water heater - 0.90 EF	VGS	SF	All	MO			0.0	0.0	0.0	4.3	0.0	0.0	0.0	0	13	\$1,050.00	\$500.00	\$0.09	\$0.00	\$0.00	0.80	1.00	0	0	0	0	0	Installation of high efficiency tankless water heater (EF 0.90) in homes with gas water heating
5029	Hot Water	Solar Water Heater	VGS	SF	All	MO			0.0	0.0	0.0	8.0	0.0	0.0	0.0	0	15	\$4,500.00	\$950.00	\$0.09	\$0.00	\$0.00	0.39	1.00	0	0	0	0	0	Installation of solar water heater (EF 1.20) in homes with gas water heating
5030	Hot Water	Thermostatic Shower Restriction Valve (Electric WH)	EVT	SF	All	Retrofit			50.1	0.1	0.1	0.0	0.0	0.0	0.0	426.36	7	\$12.00	\$6.00	\$0.09	\$0.00	\$0.00	9.57	1.00	2,028	2,391	2,772	2,420	Installation of a thermostatically initiated shower restriction valve, in conjunction with a low flow showerhead - homes with electric water heating	
5031	Hot Water	Thermostatic Shower Restriction Valve (NatGas WH)	VGS	SF	All	Retrofit			0.0	0.0	0.0	0.2	0.0	0.0	0.0	426.36	7	\$12.00	\$6.00	\$0.09	\$0.00	\$0.00	5.78	1.00	0	0	0	0	0	Installation of a thermostatically initiated shower restriction valve, in conjunction with a low flow showerhead - homes with gas water heating
5032	Hot Water	Drain Water Heat Recovery - electric water heating	EVT	SF	All	Retrofit			525.5	0.0	0.0	0.0	0.0	0.0	0.0	0	25	\$902.00	\$300.00	\$0.09	\$0.00	\$0.00	1.53	1.00	10,638	12,540	14,540	10,783	Installation of a heat exchanger installed to capture and reuse energy from main drain pipe to preheat incoming cold water to water heater and shower - homes with electric water heating	
5033	Hot Water	Drain Water Heat Recovery - gas water heating	VGS	SF	All	Retrofit			0.0	0.0	0.0	2.0	0.0	0.0	0.0	0	25	\$902.00	\$300.00	\$0.09	\$0.00	\$0.00	0.74	1.00	0	0	0	0	0	Installation of a heat exchanger installed to capture and reuse energy from main drain pipe to preheat incoming cold water to water heater and shower - homes with gas water heating
5034	Hot Water	Heat Pump DHW (< 2.35 EF)	EVT	SF	All	NC	2,586.3	50%	1301.8	0.5	0.5	0.0	0.0	0.0	0.0	0	13	\$973.00	\$600.00	\$0.09	\$0.00	\$0.00	2.45	1.10	0	0	1,704	1,296	Installation of an ENERGY STAR heat pump water heater <2.35 EF in place of a baseline water heater	
5035	Hot Water	Heat Pump DHW (> 2.35 EF)	EVT	SF	All	NC	2,586.3	62%	1607.2	0.6	0.6	0.0	0.0	0.0	0.0	0	13	\$1,101.00	\$600.00	\$0.09	\$0.00	\$0.00	2.67	1.10	7,477	7,477	4,206	3,050	Installation of an ENERGY STAR heat pump water heater >=2.35 EF in place of a baseline water heater	
5036	Hot Water	Drain Water Heat Recovery - electric water heating	EVT	SF	All	NC			525.5	0.0	0.0	0.0	0.0	0.0	0.0	0	25	\$902.00	\$300.00	\$0.09	\$0.00	\$0.00	1.53	1.00	1,028	1,028	871	507	Installation of a heat exchanger installed to capture and reuse energy from main drain pipe to preheat incoming cold water to water heater and shower - homes with electric water heating	
5037	Hot Water	Drain Water Heat Recovery - gas water heating	VGS	SF	All	NC			0.0	0.0	0.0	2.0	0.0	0.0	0.0	0	25	\$902.00	\$300.00	\$0.09	\$0.00	\$0.00	0.74	1.00	0	0	0	0	0	Installation of a heat exchanger installed to capture and reuse energy from main drain pipe to preheat incoming cold water to water heater and shower - homes with gas water heating
5038	Hot Water	Thermostatic Shower Restriction Valve (Electric WH)	EVT	SF	All	NC			50.1	0.1	0.1	0.0	0.0	0.0	0.0	426.36	7	\$12.00	\$6.00	\$0.09	\$0.00	\$0.00	9.57	1.00	196	196	166	117	Installation of a thermostatically initiated shower restriction valve, in conjunction with a low flow showerhead - homes with electric water heating	
5039	Hot Water	LF Showerhead (Electric WH)	EVT	SF	All	NC			136.0	0.0	0.0	0.0	0.0	0.0	0.0	1226.72	9	\$15.00	\$15.00	\$0.09	\$0.00	\$0.00	21.96	0.90	532	532	406	407	Installation of low flow showerhead in homes with electric water heating	
5040	Hot Water	LF Faucet Aerator (Electric WH)	EVT	SF	All	NC			61.2	0.0	0.0	0.0	0.0	0.0	0.0	725.56	9	\$10.00	\$10.00	\$0.09	\$0.00	\$0.00	17.12	0.90	419	419	320	320	Installation of a low flow faucet aerator (1.0 gpm) in homes with electric water heating	
5041	Hot Water	Gas Storage Water Heater - 0.67 EF	VGS	SF	All	NC			0.0	0.0	0.0	1.7	0.0	0.0	0.0	0	13	\$400.00	\$200.00	\$0.09	\$0.00	\$0.00	0.82	1.00	0	0	0	0	0	Installation of high efficiency gas storage tank water heater (EF 0.67) in homes with gas water heating
5042	Hot Water	Condensing Gas Storage Water Heater - 0.80 EF	VGS	SF	All	NC			0.0	0.0	0.0	4.0	0.0	0.0	0.0	0	13	\$685.00	\$200.00	\$0.09	\$0.00	\$0.00	1.14	1.00	0	0	0	0	0	Installation of high efficiency condensing gas storage tank water heater (EF 0.80) in homes with gas water heating
5043	Hot Water	Tankless whole-house water heater - 0.82 EF	VGS	SF	All	NC			0.0	0.0	0.0	3.2	0.0	0.0	0.0	0	13	\$605.00	\$300.00	\$0.09	\$0.00	\$0.00	1.03	1.00	0	0	0	0	0	Installation of high efficiency tankless water heater (EF 0.82) in homes with gas water heating
5044	Hot Water	Tankless whole-house water heater - 0.90 EF	VGS	SF	All	NC			0.0	0.0	0.0	4.3	0.0	0.0	0.0	0	13	\$1,050.00	\$500.00	\$0.09	\$0.00	\$0.00	0.80	1.00	0	0	0	0	0	Installation of high efficiency tankless water heater (EF 0.90) in homes with gas water heating
5045	Hot Water	Solar Water Heater	VGS	SF	All	NC			0.0	0.0	0.0	8.0	0.0	0.0	0.0	0	15	\$4,500.00	\$950.00	\$0.09	\$0.00	\$0.00	0.39	1.00	0	0	0	0	0	Installation of solar water heater (EF 1.20) in homes with gas water heating
5046	Hot Water	Thermostatic Shower Restriction Valve (NatGas WH)	VGS	SF	All	NC			0.0	0.0	0.0	0.2	0.0	0.0	0.0	426.36	7	\$12.00	\$6.00	\$0.09	\$0.00	\$0.00	5.78	1.00	0	0	0	0	0	Installation of a thermostatically initiated shower restriction valve, in conjunction with a low flow showerhead - homes with gas water heating
5047	Hot Water	LF Showerhead (NatGas WH)	VGS	SF	All	NC			0.0	0.0	0.0	0.6	0.0	0.0	0.0	1226.72	9	\$15.00	\$15.00	\$0.09	\$0.00	\$0.00	16.43	0.90	0	0	0	0	0	Installation of low flow showerhead in homes with gas water heating
5048	Hot Water	LF Faucet Aerator (NatGas WH)	VGS	SF	All	NC			0.0	0.0	0.0	0.3	0.0	0.0	0.0	725.56	9	\$10.00	\$10.00	\$0.09	\$0.00	\$0.00	13.38	0.90	0	0	0	0	0	Installation of a low flow faucet aerator (1.0 gpm) in homes with gas water heating
5049	Hot Water	DHW Tank Wrap (Electric WH)	EVT	MF	NLI	Retrofit			113.0	0.0	0.0	0.0	0.0	0.0	0.0	0	6	\$35.00	\$17.50	\$0.09	\$0.00	\$0.00	2.89	0.90	0	0	0	0	0	Installation of insulation to water heater tank - electric water heating
5050	Hot Water	DHW Pipe Wrap (Electric WH)	EVT	MF	NLI	Retrofit			30.0	0.0	0.0	0.0	0.0	0.0	0.0	0	15	\$18.00	\$9.00	\$0.09	\$0.00	\$0.00	3.60	0.90	36	44	47	33	Installation of insulating pipe wrap on water heater pipes - 6ft total - homes with electric water heating	
5051	Hot Water	Tank Temperature Turn Down (Electric WH)	EVT	MF	NLI	Retrofit			45.5	0.0	0.0	0.0	0.0	0.0	0.0	0	2	\$5.00	\$0.00	\$0.09	\$0.00	\$0.00	2.45	1.00	0	0	0	0	0	Domestic hot water tank thermostat is lowered to reduce standby losses - electric water heater
5052	Hot Water	LF Showerhead (Electric WH)	EVT	MF	NLI	Retrofit			158.0	0.0	0.0	0.0	0.0	0.0	0.0	1428.68	9	\$15.00	\$15.00	\$0.09	\$0.00	\$0.00	25.54	0.90	308	377	397	401	Installation of low flow showerhead in homes with electric water heating	
5053	Hot Water	LF Faucet Aerator (Electric WH)	EVT	MF	NLI	Retrofit			61.2	0.0	0.0	0.0	0.0	0.0	0.0	725.56	9	\$10.00	\$10.00	\$0.09	\$0.00	\$0.00	17.12	0.90	238	292	307	311	Installation of a low flow faucet aerator (1.0 gpm) in homes with electric water heating	
5054	Hot Water	DHW Tank Wrap (NatGas WH)	VGS	MF	NLI	Retrofit			0.0	0.0	0.0	0.4	0.0	0.0	0.0	0	6	\$35.00	\$17.50	\$0.09	\$0.00	\$0.00	1.18	0.90	0	0	0	0	0	Installation of insulation to water heater tank - gas water heating
5055	Hot Water	DHW Pipe Wrap (NatGas WH)	VGS	MF	NLI	Retrofit			0.0	0.0	0.0	0.1	0.0	0.0	0.0	0	15	\$18.00	\$9.00	\$0.09	\$0.00	\$0.00	1.62	0.90	0	0	0	0	0	Installation of insulating pipe wrap on water heater pipes - 6ft total - homes with gas water heating
5056	Hot Water	Tank Temperature Turn Down (NatGas WH)	VGS	MF	NLI	Retrofit			0.0	0.0	0.0	0.2	0.0	0.0	0.0	0	2	\$5.00	\$0.00	\$0.09	\$0.00	\$0.00	1.24	1.00	0	0	0	0	0	Domestic hot water tank thermostat is lowered to reduce standby losses - gas water heater
5057	Hot Water	LF Showerhead (NatGas WH)	VGS	MF	NLI	Retrofit			0.0	0.0	0.0	0.7	0.0	0.0	0.0	1428.68	9	\$15.00	\$15.00	\$0.09	\$0.00	\$0.00	19.10	0.90	0	0	0	0	0	Installation of low flow showerhead in homes with gas water heating
5058	Hot Water	LF Faucet Aerator (NatGas WH)	VGS	MF	NLI	Retrofit			0.0	0.0	0.0	0.3	0.0	0.0	0.0	725.56	9	\$10.00	\$10.00	\$0.09	\$0.00	\$0.00	13.38	0.90	0	0	0	0	0	Installation of a low flow faucet aerator

Appendix B.1

EVT Residential Measure Assumptions

Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	

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Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR R&P (MWh)	Measure Description
9001	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	EVT	SF	All	Retrofit	32,880.9	30%	9812.5	0.0	5.3	0.0	0.0	0.0	0.0	0	25	\$1,549.06	\$1,161.80	\$0.12	\$0.00	\$0.00	18.31	1.00	1,354	1,386	1,134	888	40% air leakage reduction - homes with electric heating, no cooling
9002	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	EVT	SF	All	Retrofit	20,634.4	4%	923.8	0.0	0.6	0.0	0.0	0.0	0.0	0	25	\$6,726.00	\$5,044.50	\$0.12	\$0.00	\$0.00	0.40	1.00	2,423	0	0	0	ENERGY STAR windows (u=0.32) - homes with electric heating, no cooling
9003	HVAC Shell	Ceiling Insulation (R-16 to R-49)	EVT	SF	All	Retrofit	21,860.7	8%	1823.8	0.0	0.9	0.0	0.0	0.0	0.0	0	25	\$1,554.00	\$1,165.50	\$0.12	\$0.00	\$0.00	3.34	1.00	2,741	2,807	2,295	1,798	R49 ceiling insulation (R-16 or less baseline) - homes with electric heating, no cooling
9004	HVAC Shell	Ceiling Insulation (R-37 to R-60)	EVT	SF	All	Retrofit	20,255.7	2%	359.5	0.0	0.1	0.0	0.0	0.0	0.0	0	25	\$1,139.60	\$854.70	\$0.12	\$0.00	\$0.00	0.88	1.00	403	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with electric heating, no cooling
9005	HVAC Shell	Floor Insulation (R-6 to R-30)	EVT	SF	All	Retrofit	20,634.4	3%	672.8	0.0	0.3	0.0	0.0	0.0	0.0	0	25	\$907.20	\$680.40	\$0.12	\$0.00	\$0.00	2.10	1.00	1,495	1,530	1,252	980	R30 floor insulation (R6 or less baseline) - homes with electric heating, no cooling
9006	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	EVT	SF	All	Retrofit	22,139.1	8%	1795.0	0.0	0.8	0.0	0.0	0.0	0.0	0	25	\$1,305.60	\$979.20	\$0.12	\$0.00	\$0.00	3.87	1.00	2,790	2,857	2,336	1,830	R15 basement wall insulation - homes with electric heating, no cooling
9007	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	EVT	SF	All	Retrofit	21,360.9	17%	3599.3	0.0	1.9	0.0	0.0	0.0	0.0	0	25	\$1,549.06	\$1,161.80	\$0.12	\$0.00	\$0.00	6.85	1.00	687	703	575	451	30% air leakage reduction - homes with electric heating, room AC cooling
9008	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	EVT	SF	All	Retrofit	33,589.8	29%	9804.1	0.1	5.3	0.0	0.0	0.0	0.0	0	25	\$1,549.06	\$1,161.80	\$0.12	\$0.00	\$0.00	18.79	1.00	360	368	301	236	40% air leakage reduction - homes with electric heating, room AC cooling
9009	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	EVT	SF	All	Retrofit	21,360.9	5%	1015.8	0.1	0.6	0.0	0.0	0.0	0.0	0	25	\$6,726.00	\$5,044.50	\$0.12	\$0.00	\$0.00	0.54	1.00	708	0	0	0	ENERGY STAR windows (u=0.32) - homes with electric heating, room AC cooling
9010	HVAC Shell	Ceiling Insulation (R-16 to R-49)	EVT	SF	All	Retrofit	22,636.0	8%	1899.3	0.1	0.9	0.0	0.0	0.0	0.0	0	25	\$1,554.00	\$1,165.50	\$0.12	\$0.00	\$0.00	3.86	1.00	759	777	635	498	R49 ceiling insulation (R-16 or less baseline) - homes with electric heating, room AC cooling
9011	HVAC Shell	Ceiling Insulation (R-37 to R-60)	EVT	SF	All	Retrofit	20,965.7	2%	376.3	0.0	0.1	0.0	0.0	0.0	0.0	0	25	\$1,139.60	\$854.70	\$0.12	\$0.00	\$0.00	1.01	1.00	112	115	94	73	R60 ceiling insulation (R-37 baseline) - homes with electric heating, room AC cooling
9012	HVAC Shell	Floor Insulation (R-6 to R-30)	EVT	SF	All	Retrofit	21,360.9	3%	536.4	-0.1	0.3	0.0	0.0	0.0	0.0	0	25	\$907.20	\$680.40	\$0.12	\$0.00	\$0.00	1.10	1.00	317	324	265	208	R30 floor insulation (R6 or less baseline) - homes with electric heating, room AC cooling
9013	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	EVT	SF	All	Retrofit	22,821.8	8%	1736.0	-0.1	0.8	0.0	0.0	0.0	0.0	0	25	\$1,305.60	\$979.20	\$0.12	\$0.00	\$0.00	3.57	1.00	717	734	601	470	R15 basement wall insulation - homes with electric heating, room AC cooling
9014	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	SF	All	Retrofit	565.6	18%	100.1	0.0	0.1	12.5	0.0	0.0	1.8	0	25	\$1,549.06	\$1,161.80	\$0.12	\$0.00	\$0.00	4.34	1.00	0	0	0	0	30% air leakage reduction - homes with gas heating, no cooling, wood stove back-up heating
9015	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	SF	All	Retrofit	901.5	30%	268.6	0.0	0.2	33.7	0.0	0.0	4.8	0	25	\$1,549.06	\$1,161.80	\$0.12	\$0.00	\$0.00	11.65	1.00	0	0	0	0	40% air leakage reduction - homes with gas heating, no cooling, wood stove back-up heating
9016	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	SF	All	Retrofit	565.6	5%	25.5	0.0	0.0	3.2	0.0	0.0	0.5	0	25	\$6,726.00	\$5,044.50	\$0.12	\$0.00	\$0.00	0.26	1.00	0	0	0	0	ENERGY STAR windows (u=0.32)- homes with gas heating, no cooling, wood stove back-up heating
9017	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	SF	All	Retrofit	599.7	8%	50.5	0.0	0.0	6.3	0.0	0.0	0.9	0	25	\$1,554.00	\$1,165.50	\$0.12	\$0.00	\$0.00	2.17	1.00	0	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, no cooling, wood stove back-up heating
9018	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	SF	All	Retrofit	555.2	2%	9.9	0.0	0.0	1.2	0.0	0.0	0.2	0	25	\$1,139.60	\$854.70	\$0.12	\$0.00	\$0.00	0.58	1.00	0	0	0	0	R60 ceiling insulation (R-37 baseline)- homes with gas heating, no cooling, wood stove back-up heating
9019	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	SF	All	Retrofit	565.6	3%	18.9	0.0	0.0	2.4	0.0	0.0	0.3	0	25	\$907.20	\$680.40	\$0.12	\$0.00	\$0.00	1.40	1.00	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with gas heating, no cooling, wood stove back-up heating
9020	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	VGS	SF	All	Retrofit	594.3	6%	35.9	0.0	0.0	4.5	0.0	0.0	0.6	0	25	\$1,305.60	\$979.20	\$0.12	\$0.00	\$0.00	1.83	1.00	0	0	0	0	R15 basement wall insulation - homes with gas heating, no cooling, wood stove back-up heating
9021	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	SF	All	Retrofit	1,290.9	6%	77.3	0.0	0.1	12.5	0.0	0.0	1.8	0	25	\$1,549.06	\$1,161.80	\$0.12	\$0.00	\$0.00	4.35	1.00	0	0	0	0	30% air leakage reduction - homes with gas heating, room AC cooling, wood stove back-up heating
9022	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	SF	All	Retrofit	1,609.7	16%	260.6	0.1	0.2	33.7	0.0	0.0	4.8	0	25	\$1,549.06	\$1,161.80	\$0.12	\$0.00	\$0.00	11.89	1.00	0	0	0	0	40% air leakage reduction - homes with gas heating, room AC cooling, wood stove back-up heating
9023	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	SF	All	Retrofit	1,290.9	9%	117.5	0.1	0.0	3.2	0.0	0.0	0.5	0	25	\$6,726.00	\$5,044.50	\$0.12	\$0.00	\$0.00	0.39	1.00	0	0	0	0	ENERGY STAR windows (u=0.32) - homes with gas heating, room AC cooling, wood stove back-up heating
9024	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	SF	All	Retrofit	1,373.7	9%	126.2	0.1	0.0	6.3	0.0	0.0	0.9	0	25	\$1,554.00	\$1,165.50	\$0.12	\$0.00	\$0.00	2.64	1.00	0	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, room AC cooling, wood stove back-up heating
9025	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	SF	All	Retrofit	1,263.9	2%	26.8	0.0	0.0	1.2	0.0	0.0	0.2	0	25	\$1,139.60	\$854.70	\$0.12	\$0.00	\$0.00	0.70	1.00	0	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with gas heating, room AC cooling, wood stove back-up heating
9026	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	SF	All	Retrofit	1,290.9	-9%	-117.0	-0.1	0.0	2.4	0.0	0.0	0.3	0	25	\$907.20	\$680.40	\$0.12	\$0.00	\$0.00	0.68	1.00	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with gas heating, room AC cooling, wood stove back-up heating
9027	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	VGS	SF	All	Retrofit	1,268.1	-2%	-31.3	-0.1	0.0	4.5	0.0	0.0	0.6	0	25	\$1,305.60	\$979.20	\$0.12	\$0.00	\$0.00	1.36	1.00	0	0	0	0	R15 basement wall insulation - homes with gas heating, room AC cooling, wood stove back-up heating
9028	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	SF	All	Retrofit	3,144.9	28%	876.9	0.0	0.1	12.5	0.0	0.0	0.0	0	25	\$1,549.06	\$1,161.80	\$0.12	\$0.00	\$0.00	5.38	1.00	0	0	0	0	30% air leakage reduction - homes with gas heating, no cooling, electric resistance back-up heating
9029	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	SF	All	Retrofit	5,011.7	39%	1934.7	0.0	0.2	33.7	0.0	0.0	0.0	0	25	\$1,549.06	\$1,161.80	\$0.12	\$0.00	\$0.00	13.77	1.00	0	0	0	0	40% air leakage reduction - homes with gas heating, no cooling, electric resistance back-up heating
9030	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	SF	All	Retrofit	3,144.9	16%	516.5	0.0	0.0	3.2	0.0	0.0	0.0	0	25	\$6,726.00	\$5,044.50	\$0.12	\$0.00	\$0.00	0.43	1.00	0	0	0	0	ENERGY STAR windows (u=0.32) - homes with gas heating, no cooling, electric resistance back-up heating
9031	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	SF	All	Retrofit	3,332.2	20%	660.2	0.0	0.0	6.3	0.0	0.0	0.0	0	25	\$1,554.00	\$1,165.50	\$0.12	\$0.00	\$0.00	3.05	1.00	0	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, no cooling, electric resistance back-up heating
9032	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	SF	All	Retrofit	3,087.1	14%	433.9	0.0	0.0	1.2	0.0	0.0	0.0	0	25	\$1,139.60	\$854.70	\$0.12	\$0.00	\$0.00	1.49	1.00	0	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with gas heating, no cooling, electric resistance back-up heating
9033	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	SF	All	Retrofit	3,144.9	15%	483.3	0.0	0.0	2.4	0.0	0.0	0.0	0	25	\$907.20	\$680.40	\$0.12	\$0.00	\$0.00	2.61	1.00	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with gas heating, no cooling, electric resistance back-up heating
9034	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	VGS	SF	All	Retrofit	3,361.7	19%	648.0	0.0	0.0	4.5	0.0	0.0	0.0	0	25	\$1,305.60	\$979.20	\$0.12	\$0.00	\$0.00	2.92	1.00	0	0	0	0	R15 basement wall insulation - homes with gas heating, no cooling, electric resistance back-up heating
9035	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	SF	All	Retrofit	3,870.2	22%	854.1	0.0	0.1	12.5	0.0	0.0	0.0	0	25	\$1,549.06	\$1,161.80	\$0.12	\$0.00	\$0.00	5.41	1.00	0	0	0	0	30% air leakage reduction - homes with gas heating, room AC cooling, electric resistance back-up heating
9036	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	SF	All	Retrofit	5,719.9	34%	1926.7	0.1	0.2	33.7	0.0	0.0	0.0	0	25	\$1,549.06	\$1,161.80	\$0.12	\$0.00	\$0.00	14.05	1.00	0	0	0	0	40% air leakage reduction - homes with gas heating, room AC cooling, electric resistance back-up heating
9037	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	SF	All	Retrofit	3,870.2	16%	608.5	0.1	0.0	3.2	0.0	0.0	0.0	0	25	\$6,726.00	\$5,044.50	\$0.12	\$0.00	\$0.00	0.56	1.00	0	0	0	0	ENERGY STAR windows (u=0.32) - homes with gas heating, room AC cooling, electric resistance back-up heating
9038	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	SF	All	Retrofit	4,106.3	18%	735.9	0.1	0.0	6.3	0.0	0.0	0.0	0	25	\$1,554.00	\$1,165.50	\$0.12	\$0.00	\$0.00	3.53	1.00	0	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, room AC cooling, electric resistance back-up heating
9039	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	SF	All	Retrofit	3,795.8	12%	450.7	0.0	0.0	1.2	0.0	0.0	0.0	0	25	\$1,139.60	\$854.70	\$0.12	\$0.00	\$0.00	1.62	1.00	0	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with gas heating, room AC cooling, electric resistance back-up heating
9040	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	SF	All	Retrofit	3,870.2	9%	347.3	-0.1	0.0	2.4	0.0	0.0	0.0	0	25	\$907.20	\$680.40	\$0.12	\$0.00	\$0.00	1.62	1.00	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with gas heating, room AC cooling, electric resistance back-up heating
9041	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	VGS	SF	All	Retrofit	4,035.5	14%	580.7	-0.1	0.0	4.5	0.0	0.0	0.0	0	25	\$1,305.60	\$979.20	\$0.12	\$0.00	\$0.00	2.56	1.00	0	0	0	0	R15 basement wall insulation - homes with gas heating, room AC cooling, electric resistance back-up heating
9042	HVAC Shell	Duct sealing	VGS	SF	All	Retrofit	565.6	3%	18.2	0.0	0.1	2.3	0.0	0.3	0	20	\$288.88	\$216.66	\$0.12	\$0.00	\$0.00	3.68	1.00	0	0	0	0	Duct sealing - homes with gas furnaces	
9043	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	EVT	SF	All	Retrofit	95.3	18%	17.3	0.0	0.0	0.0	13.5	0.0	14.0	0	25	\$1,549.06	\$1,										



Appendix B.1		EVT Residential Measure Assumptions																											
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
9058	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	EVT	SF	All	Retrofit	3,731.1	30%	1114.4	0.0	0.0	0.0	35.0	0.0	0.0	0	25	\$1,549.06	\$1,161.80	\$0.12	\$0.00	\$0.00	18.08	1.00	1,194	1,222	1,000	783	40% air leakage reduction - homes with oil heating, no cooling, electric resistance back-up heating
9059	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	EVT	SF	All	Retrofit	2,340.3	4%	104.9	0.0	0.0	0.0	3.4	0.0	0.0	0	25	\$6,726.00	\$5,044.50	\$0.12	\$0.00	\$0.00	0.41	1.00	2,137	0	0	0	ENERGY STAR windows (u=0.32) - homes with oil heating, no cooling, electric resistance back-up heating
9060	HVAC Shell	Ceiling Insulation (R-16 to R-49)	EVT	SF	All	Retrofit	2,479.5	8%	207.1	0.0	0.0	0.0	6.8	0.0	0.0	0	25	\$1,554.00	\$1,165.50	\$0.12	\$0.00	\$0.00	3.49	1.00	2,417	2,475	2,024	1,585	R49 ceiling insulation (R-16 or less baseline) - homes with oil heating, no cooling, electric resistance back-up heating
9061	HVAC Shell	Ceiling Insulation (R-37 to R-60)	EVT	SF	All	Retrofit	2,297.3	2%	40.8	0.0	0.0	0.0	1.3	0.0	0.0	0	25	\$1,139.60	\$854.70	\$0.12	\$0.00	\$0.00	0.94	1.00	355	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with oil heating, no cooling, electric resistance back-up heating
9062	HVAC Shell	Floor Insulation (R-6 to R-30)	EVT	SF	All	Retrofit	2,340.3	3%	76.4	0.0	0.0	0.0	2.6	0.0	0.0	0	25	\$907.20	\$680.40	\$0.12	\$0.00	\$0.00	2.27	1.00	1,318	1,350	1,104	865	R30 floor insulation (R6 or less baseline) - homes with oil heating, no cooling, electric resistance back-up heating
9063	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	EVT	SF	All	Retrofit	2,510.7	8%	203.4	0.0	0.0	0.0	6.4	0.0	0.0	0	25	\$1,305.60	\$979.20	\$0.12	\$0.00	\$0.00	3.94	1.00	2,455	2,513	2,055	1,610	R15 basement wall insulation - homes with oil heating, no cooling, electric resistance back-up heating
9064	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	EVT	SF	All	Retrofit	3,066.8	13%	388.4	0.0	0.0	0.0	13.5	0.0	0.0	0	25	\$1,549.06	\$1,161.80	\$0.12	\$0.00	\$0.00	6.97	1.00	576	589	482	378	30% air leakage reduction - homes with oil heating, room AC cooling, electric resistance back-up heating
9065	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	EVT	SF	All	Retrofit	4,440.0	25%	1106.0	0.1	0.0	0.0	35.0	0.0	0.0	0	25	\$1,549.06	\$1,161.80	\$0.12	\$0.00	\$0.00	18.34	1.00	315	322	264	207	40% air leakage reduction - homes with oil heating, room AC cooling, electric resistance back-up heating
9066	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	EVT	SF	All	Retrofit	3,066.8	6%	196.9	0.1	0.0	0.0	3.4	0.0	0.0	0	25	\$6,726.00	\$5,044.50	\$0.12	\$0.00	\$0.00	0.54	1.00	1,066	0	0	0	ENERGY STAR windows (u=0.32) - homes with oil heating, room AC cooling, electric resistance back-up heating
9067	HVAC Shell	Ceiling Insulation (R-16 to R-49)	EVT	SF	All	Retrofit	3,254.8	9%	282.6	0.1	0.0	0.0	6.8	0.0	0.0	0	25	\$1,554.00	\$1,165.50	\$0.12	\$0.00	\$0.00	3.96	1.00	877	898	734	575	R49 ceiling insulation (R-16 or less baseline) - homes with oil heating, room AC cooling, electric resistance back-up heating
9068	HVAC Shell	Ceiling Insulation (R-37 to R-60)	EVT	SF	All	Retrofit	3,007.2	2%	57.7	0.0	0.0	0.0	1.3	0.0	0.0	0	25	\$1,139.60	\$854.70	\$0.12	\$0.00	\$0.00	1.06	1.00	133	137	112	87	R60 ceiling insulation (R-37 baseline) - homes with oil heating, room AC cooling, electric resistance back-up heating
9069	HVAC Shell	Floor Insulation (R-6 to R-30)	EVT	SF	All	Retrofit	3,066.8	-2%	-60.0	-0.1	0.0	0.0	2.6	0.0	0.0	0	25	\$907.20	\$680.40	\$0.12	\$0.00	\$0.00	1.14	1.00	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with oil heating, room AC cooling, electric resistance back-up heating
9070	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	EVT	SF	All	Retrofit	3,193.4	5%	144.4	-0.1	0.0	0.0	6.4	0.0	0.0	0	25	\$1,305.60	\$979.20	\$0.12	\$0.00	\$0.00	3.60	1.00	463	474	388	304	R15 basement wall insulation - homes with oil heating, room AC cooling, electric resistance back-up heating
9071	HVAC Shell	ENERGY STAR New Home (gas heat)	VGS	SF	All	NC	805.9	17%	139.3	0.1	0.0	12.4	0.0	0.0	0.0	0	25	\$3,627.00	\$2,720.25	\$1.75	\$0.00	\$0.00	1.89	1.05	0	0	0	0	ENERGY STAR new home with gas heat
9072	HVAC Shell	ENERGY STAR New Home (electric heat)	EVT	SF	All	NC	8,426.9	20%	1713.6	0.1	0.9	0.0	0.0	0.0	0.0	0	25	\$3,627.00	\$2,720.25	\$1.75	\$0.00	\$0.00	1.47	1.05	2,232	2,286	1,963	1,492	ENERGY STAR new home with electric heat
9073	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	EVT	MF	All	Retrofit	8,400.8	18%	1494.3	0.0	0.7	0.0	0.0	0.0	0.0	0	25	\$730.00	\$547.50	\$0.12	\$0.00	\$0.00	5.84	1.05	91	93	80	40	30% air leakage reduction - homes with electric heating, no cooling
9074	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	EVT	MF	All	Retrofit	13,829.3	32%	4383.1	0.0	2.2	0.0	0.0	0.0	0.0	0	25	\$730.00	\$547.50	\$0.12	\$0.00	\$0.00	17.20	1.05	266	273	234	117	40% air leakage reduction - homes with electric heating, no cooling
9075	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	EVT	MF	All	Retrofit	8,400.8	8%	638.4	0.0	0.4	0.0	0.0	0.0	0.0	0	25	\$3,154.00	\$2,365.50	\$0.12	\$0.00	\$0.00	0.59	1.05	139	0	0	0	ENERGY STAR windows (u=0.32) - homes with electric heating, no cooling
9076	HVAC Shell	Ceiling Insulation (R-16 to R-49)	EVT	MF	All	Retrofit	8,732.1	6%	503.4	0.0	0.2	0.0	0.0	0.0	0.0	0	25	\$1,500.00	\$1,125.00	\$0.12	\$0.00	\$0.00	0.95	1.05	31	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with electric heating, no cooling
9077	HVAC Shell	Ceiling Insulation (R-37 to R-60)	EVT	MF	All	Retrofit	8,306.8	2%	127.7	0.0	0.1	0.0	0.0	0.0	0.0	0	25	\$1,100.00	\$825.00	\$0.12	\$0.00	\$0.00	0.32	1.05	8	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with electric heating, no cooling
9078	HVAC Shell	Floor Insulation (R-6 to R-30)	EVT	MF	All	Retrofit	8,400.8	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	25	\$907.20	\$680.40	\$0.12	\$0.00	\$0.00	0.00	1.05	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with electric heating, no cooling
9079	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	EVT	MF	All	Retrofit	9,075.2	16%	1468.1	0.0	0.7	0.0	0.0	0.0	0.0	0	25	\$730.00	\$547.50	\$0.12	\$0.00	\$0.00	5.82	1.05	1,186	1,214	1,043	523	30% air leakage reduction - homes with electric heating, room AC cooling
9080	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	EVT	MF	All	Retrofit	14,434.7	30%	4330.5	0.0	2.2	0.0	0.0	0.0	0.0	0	25	\$730.00	\$547.50	\$0.12	\$0.00	\$0.00	17.25	1.05	3,498	3,582	3,075	1,542	40% air leakage reduction - homes with electric heating, room AC cooling
9081	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	EVT	MF	All	Retrofit	9,075.2	7%	667.1	0.1	0.4	0.0	0.0	0.0	0.0	0	25	\$3,154.00	\$2,365.50	\$0.12	\$0.00	\$0.00	0.70	1.05	1,924	0	0	0	ENERGY STAR windows (u=0.32) - homes with electric heating, room AC cooling
9082	HVAC Shell	Ceiling Insulation (R-16 to R-49)	EVT	MF	All	Retrofit	9,408.6	5%	507.4	0.0	0.2	0.0	0.0	0.0	0.0	0	25	\$1,500.00	\$1,125.00	\$0.12	\$0.00	\$0.00	1.05	1.05	410	420	360	181	R49 ceiling insulation (R-16 or less baseline) - homes with electric heating, room AC cooling
9083	HVAC Shell	Ceiling Insulation (R-37 to R-60)	EVT	MF	All	Retrofit	8,980.0	1%	128.9	0.0	0.1	0.0	0.0	0.0	0.0	0	25	\$1,100.00	\$825.00	\$0.12	\$0.00	\$0.00	0.33	1.05	104	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with electric heating, room AC cooling
9084	HVAC Shell	Floor Insulation (R-6 to R-30)	EVT	MF	All	Retrofit	9,075.2	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	25	\$907.20	\$680.40	\$0.12	\$0.00	\$0.00	0.00	1.05	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with electric heating, room AC cooling
9085	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	MF	All	Retrofit	238.4	18%	41.8	0.0	0.0	5.4	0.0	0.0	0.8	0	25	\$730.00	\$547.50	\$0.12	\$0.00	\$0.00	3.97	1.05	0	0	0	0	30% air leakage reduction - homes with gas heating, no cooling, wood stove back-up heating
9086	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	MF	All	Retrofit	390.4	31%	122.7	0.0	0.1	15.9	0.0	0.0	2.3	0	25	\$730.00	\$547.50	\$0.12	\$0.00	\$0.00	11.67	1.05	0	0	0	0	40% air leakage reduction - homes with gas heating, no cooling, wood stove back-up heating
9087	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	MF	All	Retrofit	238.4	8%	18.2	0.0	0.0	2.4	0.0	0.0	0.3	0	25	\$3,154.00	\$2,365.50	\$0.12	\$0.00	\$0.00	0.40	1.05	0	0	0	0	ENERGY STAR windows (u=0.32)- homes with gas heating, no cooling, wood stove back-up heating
9088	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	MF	All	Retrofit	248.3	6%	15.1	0.0	0.0	2.0	0.0	0.0	0.3	0	25	\$1,500.00	\$1,125.00	\$0.12	\$0.00	\$0.00	0.70	1.05	0	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, no cooling, wood stove back-up heating
9089	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	MF	All	Retrofit	235.5	2%	3.9	0.0	0.0	0.5	0.0	0.0	0.1	0	25	\$1,100.00	\$825.00	\$0.12	\$0.00	\$0.00	0.24	1.05	0	0	0	0	R60 ceiling insulation (R-37 baseline)- homes with gas heating, no cooling, wood stove back-up heating
9090	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	MF	All	Retrofit	238.4	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	25	\$907.20	\$680.40	\$0.12	\$0.00	\$0.00	0.00	1.05	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with gas heating, no cooling, wood stove back-up heating
9091	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	MF	All	Retrofit	912.8	2%	15.6	0.0	0.0	5.4	0.0	0.0	0.8	0	25	\$730.00	\$547.50	\$0.12	\$0.00	\$0.00	3.88	1.05	0	0	0	0	30% air leakage reduction - homes with gas heating, room AC cooling, wood stove back-up heating
9092	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	MF	All	Retrofit	995.8	7%	70.1	0.0	0.1	15.9	0.0	0.0	2.3	0	25	\$730.00	\$547.50	\$0.12	\$0.00	\$0.00	11.49	1.05	0	0	0	0	40% air leakage reduction - homes with gas heating, room AC cooling, wood stove back-up heating
9093	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	MF	All	Retrofit	912.8	5%	46.9	0.1	0.0	2.4	0.0	0.0	0.3	0	25	\$3,154.00	\$2,365.50	\$0.12	\$0.00	\$0.00	0.50	1.05	0	0	0	0	ENERGY STAR windows (u=0.32) - homes with gas heating, room AC cooling, wood stove back-up heating
9094	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	MF	All	Retrofit	924.8	2%	19.1	0.0	0.0	2.0	0.0	0.0	0.3	0	25	\$1,500.00	\$1,125.00	\$0.12	\$0.00	\$0.00	0.78	1.05	0	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, room AC cooling, wood stove back-up heating
9095	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	MF	All	Retrofit	908.8	1%	5.1	0.0	0.0	0.5	0.0	0.0	0.1	0	25	\$1,100.00	\$825.00	\$0.12	\$0.00	\$0.00	0.25	1.05	0	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with gas heating, room AC cooling, wood stove back-up heating
9096	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	MF	All	Retrofit	912.8	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	25	\$907.20	\$680.40	\$0.12	\$0.00	\$0.00	0.00	1.05	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with gas heating, room AC cooling, wood stove back-up heating
9097	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	MF	All	Retrofit	1,288.5	28%	361.1	0.0	0.0	5.4	0.0	0.0	0.0	0	25	\$730.00	\$547.50	\$0.12	\$0.00	\$0.00	4.87	1.05	0	0	0	0	30% air leakage reduction - homes with gas heating, no cooling, electric resistance back-up heating
9098	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	MF	All	Retrofit	2,119.0	40%	851.7	0.0	0.1	15.9	0.0	0.0	0.0	0	25	\$730.00	\$547.50	\$0.12	\$0.00	\$0.00	13.59	1.05	0	0	0	0	40% air leakage reduction - homes with gas heating, no cooling, electric resistance back-up heating
9099	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	MF	All	Retrofit	1,288.5	19%	246.8	0.0	0.0	2.4	0.0	0.0	0.0	0	25	\$3,154.00	\$2,365.50	\$0.12	\$0.00	\$0.00	0.56	1.05	0	0	0	0	ENERGY STAR windows (u=0.32) - homes with gas heating, no cooling, electric resistance back-up heating
9100	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	MF	All	Retrofit	1,339.8	18%	235.8	0.0	0.0	2.0	0.0	0															

Appendix B.1

EVT Residential Measure Assumptions

Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Elec	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP	Per Unit Winter NCP	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost	O&M Benefits	O&M Costs	Measure Level VT	NTG Ratio	20 YR Technical Potential	20 YR Economic Potential	20 YR MAP	20 YR RAP	Measure Description
							(kWh)		(kWh)	kW	kW	(MMBTu)	(MMBTu)	(MMBTu)	(MMBTu)	(Gallons)							(MWh)	(MWh)	(MWh)	(MWh)			
9116	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	EVT	MF	All	Retrofit	713.1	-3%	-19.0	0.0	0.0	0.0	5.5	0.0	5.6	0	25	\$730.00	\$547.50	\$0.12	\$0.00	\$0.00	6.39	1.05	0	0	0	0	30% air leakage reduction - homes with oil heating, room AC cooling, wood stove back-up heating
9117	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	EVT	MF	All	Retrofit	670.1	-5%	-31.6	0.0	0.0	0.0	15.4	0.0	15.9	0	25	\$730.00	\$547.50	\$0.12	\$0.00	\$0.00	17.44	1.05	0	0	0	0	40% air leakage reduction - homes with oil heating, room AC cooling, wood stove back-up heating
9118	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	EVT	MF	All	Retrofit	713.1	4%	31.8	0.1	0.0	0.0	2.3	0.0	2.4	0	25	\$3,154.00	\$2,365.50	\$0.12	\$0.00	\$0.00	0.78	1.05	681	0	0	0	ENERGY STAR windows (u=0.32) - homes with oil heating, room AC cooling, wood stove back-up heating
9119	HVAC Shell	Ceiling Insulation (R-16 to R-49)	EVT	MF	All	Retrofit	716.8	1%	6.4	0.0	0.0	0.0	1.9	0.0	1.9	0	25	\$1,500.00	\$1,125.00	\$0.12	\$0.00	\$0.00	1.21	1.05	38	39	34	17	R49 ceiling insulation (R-16 or less baseline) - homes with oil heating, room AC cooling, wood stove back-up heating
9120	HVAC Shell	Ceiling Insulation (R-37 to R-60)	EVT	MF	All	Retrofit	711.5	0%	1.9	0.0	0.0	0.0	0.5	0.0	0.5	0	25	\$1,100.00	\$825.00	\$0.12	\$0.00	\$0.00	0.40	1.05	11	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with oil heating, room AC cooling, wood stove back-up heating
9121	HVAC Shell	Floor Insulation (R-6 to R-30)	EVT	MF	All	Retrofit	713.1	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	25	\$907.20	\$680.40	\$0.12	\$0.00	\$0.00	0.00	1.05	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with oil heating, room AC cooling, wood stove back-up heating
9122	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	EVT	MF	All	Retrofit	952.7	18%	169.7	0.0	0.0	0.0	5.5	0.0	0.0	0	25	\$730.00	\$547.50	\$0.12	\$0.00	\$0.00	5.97	1.05	2	2	2	1	30% air leakage reduction - homes with oil heating, no cooling, electric resistance back-up heating
9123	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	EVT	MF	All	Retrofit	1,569.2	32%	497.7	0.0	0.0	0.0	15.4	0.0	0.0	0	25	\$730.00	\$547.50	\$0.12	\$0.00	\$0.00	16.85	1.05	7	7	6	3	40% air leakage reduction - homes with oil heating, no cooling, electric resistance back-up heating
9124	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	EVT	MF	All	Retrofit	952.7	8%	72.5	0.0	0.0	0.0	2.3	0.0	0.0	0	25	\$3,154.00	\$2,365.50	\$0.12	\$0.00	\$0.00	0.59	1.05	4	0	0	0	ENERGY STAR windows (u=0.32) - homes with oil heating, no cooling, electric resistance back-up heating
9125	HVAC Shell	Ceiling Insulation (R-16 to R-49)	EVT	MF	All	Retrofit	990.3	6%	57.2	0.0	0.0	0.0	1.9	0.0	0.0	0	25	\$1,500.00	\$1,125.00	\$0.12	\$0.00	\$0.00	0.98	1.05	1	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with oil heating, no cooling, electric resistance back-up heating
9126	HVAC Shell	Ceiling Insulation (R-37 to R-60)	EVT	MF	All	Retrofit	942.0	2%	14.5	0.0	0.0	0.0	0.5	0.0	0.0	0	25	\$1,100.00	\$825.00	\$0.12	\$0.00	\$0.00	0.34	1.05	0	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with oil heating, no cooling, electric resistance back-up heating
9127	HVAC Shell	Floor Insulation (R-6 to R-30)	EVT	MF	All	Retrofit	952.7	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	25	\$907.20	\$680.40	\$0.12	\$0.00	\$0.00	0.00	1.05	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with oil heating, no cooling, electric resistance back-up heating
9128	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	EVT	MF	All	Retrofit	1,627.1	9%	143.5	0.0	0.0	0.0	5.5	0.0	0.0	0	25	\$730.00	\$547.50	\$0.12	\$0.00	\$0.00	5.88	1.05	27	27	23	12	30% air leakage reduction - homes with oil heating, room AC cooling, electric resistance back-up heating
9129	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	EVT	MF	All	Retrofit	2,174.6	20%	445.1	0.0	0.0	0.0	15.4	0.0	0.0	0	25	\$730.00	\$547.50	\$0.12	\$0.00	\$0.00	16.69	1.05	83	85	73	36	40% air leakage reduction - homes with oil heating, room AC cooling, electric resistance back-up heating
9130	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	EVT	MF	All	Retrofit	1,627.1	6%	101.2	0.1	0.0	0.0	2.3	0.0	0.0	0	25	\$3,154.00	\$2,365.50	\$0.12	\$0.00	\$0.00	0.70	1.05	67	0	0	0	ENERGY STAR windows (u=0.32) - homes with oil heating, room AC cooling, electric resistance back-up heating
9131	HVAC Shell	Ceiling Insulation (R-16 to R-49)	EVT	MF	All	Retrofit	1,666.8	4%	61.2	0.0	0.0	0.0	1.9	0.0	0.0	0	25	\$1,500.00	\$1,125.00	\$0.12	\$0.00	\$0.00	1.06	1.05	11	12	10	5	R49 ceiling insulation (R-16 or less baseline) - homes with oil heating, room AC cooling, electric resistance back-up heating
9132	HVAC Shell	Ceiling Insulation (R-37 to R-60)	EVT	MF	All	Retrofit	1,615.3	1%	15.8	0.0	0.0	0.0	0.5	0.0	0.0	0	25	\$1,100.00	\$825.00	\$0.12	\$0.00	\$0.00	0.37	1.05	3	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with oil heating, room AC cooling, electric resistance back-up heating
9133	HVAC Shell	Floor Insulation (R-6 to R-30)	EVT	MF	All	Retrofit	1,627.1	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	25	\$907.20	\$680.40	\$0.12	\$0.00	\$0.00	0.00	1.05	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with oil heating, room AC cooling, electric resistance back-up heating
9134	HVAC Shell	ENERGY STAR New Home (gas heat)	VGS	MF	All	NC	547.7	14%	77.6	0.1	0.0	4.4	0.0	0.0	0.0	0	25	\$3,627.00	\$2,720.25	\$1.75	\$0.00	\$0.00	0.71	1.05	0	0	0	0	ENERGY STAR new home with gas heat
9135	HVAC Shell	ENERGY STAR New Home (electric heat)	EVT	MF	All	NC	2,442.3	21%	513.0	0.0	0.2	0.0	0.0	0.0	0.0	0	25	\$3,627.00	\$2,720.25	\$1.75	\$0.00	\$0.00	0.44	1.05	0	0	0	0	ENERGY STAR new home with electric heat
10000	HVAC Equipment	ENERGY STAR Dehumidifiers	EVT	SF	All	MO	1,005.1	20%	201.0	0.1	0.1	0.0	0.0	0.0	0.0	0	12	\$60.00	\$40.00	\$0.12	\$0.00	\$0.00	6.70	0.77	21,885	21,885	12,897	11,139	ENERGY STAR dehumidifier to replace standard efficiency unit
10001	HVAC Equipment	Room Air Conditioner	EVT	SF	All	MO	354.8	9%	32.5	0.1	0.1	0.0	0.0	0.0	0.0	0	12	\$39.00	\$19.50	\$0.12	\$0.00	\$0.00	2.67	1.00	4,141	4,141	3,169	1,897	ENERGY STAR room air conditioner to replace standard efficiency unit
10002	HVAC Equipment	Brushless Permanent Magnet Circulator Pump	EVT	SF	All	MO	116.2	84%	97.1	0.1	0.1	0.0	0.0	0.0	0.0	0	20	\$100.00	\$100.00	\$0.12	\$0.00	\$0.00	2.42	1.00	6,448	6,448	4,935	4,604	Installing fractional horsepower circulator pumps with brushless permanent magnet pump (BLPM) motors
10003	HVAC Equipment	ENERGY STAR Central AC (SEER 15)	EVT	SF	All	MO	1,038.5	13%	138.5	0.2	0.2	0.0	0.0	0.0	0.0	0	14	\$276.00	\$200.00	\$0.12	\$0.00	\$0.00	2.96	1.00	0	0	111	84	Installing 15 SEER central air conditioner in homes with central air
10004	HVAC Equipment	ENERGY STAR Central AC Tier 2 (SEER 16)	EVT	SF	All	MO	1,038.5	19%	194.7	0.3	0.3	0.0	0.0	0.0	0.0	0	14	\$552.00	\$200.00	\$0.12	\$0.00	\$0.00	2.25	1.00	0	0	156	83	Installing 16 SEER central air conditioner in homes with central air
10005	HVAC Equipment	ENERGY STAR Central AC Tier 3 (SEER 17)	EVT	SF	All	MO	1,038.5	24%	244.3	0.4	0.4	0.0	0.0	0.0	0.0	0	14	\$828.00	\$400.00	\$0.12	\$0.00	\$0.00	1.97	1.00	0	0	261	156	Installing 17 SEER central air conditioner in homes with central air
10006	HVAC Equipment	ENERGY STAR Central AC Tier 4 (SEER 18)	EVT	SF	All	MO	1,038.5	28%	288.5	0.5	0.5	0.0	0.0	0.0	0.0	0	14	\$1,107.00	\$400.00	\$0.12	\$0.00	\$0.00	1.74	1.00	1,978	1,978	770	409	Installing 18 SEER central air conditioner in homes with central air
10007	HVAC Equipment	DMSHP (Primary Electric) - Replacing ASHP	EVT	SF	All	MO	12,265.8	43%	5315.6	0.1	0.0	0.0	0.0	0.0	0.0	0	18	\$833.00	\$800.00	\$0.12	\$0.00	\$0.00	12.64	0.88	17,349	17,349	11,894	11,391	Installation of ductless heat pump instead of standard central heat pump
10008	HVAC Equipment	DMSHP (Secondary Electric) - Replacing ASHP	EVT	SF	All	MO	1,103.9	43%	478.8	0.0	0.0	0.0	0.0	0.0	0.0	0	18	\$591.00	\$600.00	\$0.12	\$0.00	\$0.00	1.53	0.88	23,728	29,660	19,977	19,687	Installation of ductless heat pump instead of air source heat pump to offset secondary electric heating load
10009	HVAC Equipment	Advanced Thermostats - Electric Heating	EVT	SF	All	Retrofit	20,634.4	7%	1465.0	0.0	0.0	0.0	0.0	0.0	0.0	0	10	\$200.00	\$150.00	\$0.12	\$0.00	\$0.00	7.87	1.00	2,252	2,252	1,723	1,322	Installation of advanced ("smart") thermostat in homes with electric primary heating
10010	HVAC Equipment	Gas Boiler Tier 1	VGS	SF	All	MO	0.0	0%	0.0	0.0	0.0	15.0	0.0	0.0	0.0	0	25	\$1,000.00	\$600.00	\$0.12	\$0.00	\$0.00	6.80	1.00	0	0	0	0	Installation of 95 AFUE boiler in homes with gas boilers
10011	HVAC Equipment	Gas Boiler Tier 2	VGS	SF	All	MO	0.0	0%	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0	25	\$1,200.00	\$800.00	\$0.12	\$0.00	\$0.00	9.45	1.00	0	0	0	0	Installation of 98 AFUE boiler in homes with gas boilers
10012	HVAC Equipment	Gas Furnace Tier 1	VGS	SF	All	MO	0.0	0%	0.0	0.0	0.0	15.0	0.0	0.0	0.0	0	20	\$1,000.00	\$400.00	\$0.12	\$0.00	\$0.00	5.78	1.00	0	0	0	0	Installation of 95 AFUE furnace in homes with gas furnaces
10013	HVAC Equipment	Gas Furnace Tier 2	VGS	SF	All	MO	0.0	0%	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0	20	\$1,200.00	\$500.00	\$0.12	\$0.00	\$0.00	8.02	1.00	0	0	0	0	Installation of 98 AFUE furnace in homes with gas furnaces
10014	HVAC Equipment	Dual-Fuel DMS HP	VGS	SF	All	MO	1,371.8	-340%	-4658.1	0.4	-1.3	70.8	0.0	0.0	0.0	0	18	\$6,000.00	\$600.00	\$0.12	\$0.00	\$0.00	1.98	0.88	0	0	0	0	Installation of dual-fuel ductless heat pump gas furnace
10015	HVAC Equipment	Combination Boiler / DHW Tier 1	VGS	SF	All	MO	0.0	0%	0.0	0.0	0.0	15.0	0.0	0.0	0.0	0	19	\$1,000.00	\$900.00	\$0.12	\$0.00	\$0.00	5.55	1.00	0	0	0	0	Installation of 90 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers
10016	HVAC Equipment	Combination Boiler / DHW Tier 2	VGS	SF	All	MO	0.0	0%	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0	19	\$1,200.00	\$1,100.00	\$0.12	\$0.00	\$0.00	7.71	1.00	0	0	0	0	Installation of 95 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers
10017	HVAC Equipment	Indirect-Fired Storage Tank	VGS	SF	All	MO	0.0	0%	0.0	0.0	0.0	15.0	0.0	0.0	0.0	0	25	\$1,000.00	\$100.00	\$0.12	\$0.00	\$0.00	6.80	1.00	0	0	0	0	Installation of indirect water heater to high efficiency boiler
10018	HVAC Equipment	Advanced Thermostats - Gas Heating	VGS	SF	All	Retrofit	565.6	7%	40.2	0.0	0.0	5.0	0.0	0.0	0.0	0	10	\$200.00	\$150.00	\$0.12	\$0.00	\$0.00	5.61	1.00	0	0	0	0	Installation of advanced ("smart") thermostat in homes with gas primary heating
10019	HVAC Equipment	ENERGY STAR Dehumidifiers	EVT	SF	All	NC	1,005.1	20%	201.0	0.1	0.1	0.0	0.0	0.0	0.0	0	12	\$60.00	\$40.00	\$1.75	\$0.00	\$0.00	6.70	0.77	1,645	1,645	970	685	ENERGY STAR dehumidifier to replace standard efficiency unit
10020	HVAC Equipment	Room Air Conditioner	EVT	SF	All	NC	354.8	9%	32.5	0.1	0.1	0.0	0.0	0.0	0.0	0	12	\$39.00	\$19.50	\$1.75	\$0.00	\$0.00	2.67	1.00	168	168	129	77	ENERGY STAR room air conditioner to replace standard efficiency unit
10021	HVAC Equipment	Brushless Permanent Magnet Circulator Pump	EVT	SF	All	NC	116.2	84%	97.1	0.1	0.1	0.0	0.0	0.0	0.0	0	20	\$100.00	\$100.00	\$1.75	\$0.00	\$0.00	2.42	1.00	197	197	150	139	Installing fractional horsepower circulator pumps with brushless permanent magnet pump (BLPM) motors
10022	HVAC Equipment	ENERGY STAR Central AC (SEER 15)	EVT	SF	All	NC	1,038.5	13%	138.5	0.2	0.2	0.0	0.0	0.0	0.0	0	14	\$276.00	\$200.00	\$1.75	\$0.00	\$0.00	2.96	1.00	0	0	23	17	Installing 15 SEER central air conditioner in homes with central air
10023	HVAC Equipment	ENERGY STAR Central AC Tier 2 (SEER 16)	EVT	SF	All	NC	1,038.5	19%	194.7	0.3	0.3	0.0	0.0	0.0	0.0	0	14	\$552.00	\$200.00	\$1.75	\$0.00	\$0.00	2.25	1.00	0	0	32	17	Installing 16 SEER central air conditioner in homes with central air
10024	HVAC Equipment	ENERGY STAR Central AC Tier 3 (SEER 17)	EVT	SF	All	NC	1,038.5	24%	244.3	0.4	0.4	0.0	0.0	0.0	0.0	0	14	\$82											

Appendix B.1		EVT Residential Measure Assumptions																												
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
10054	HVAC Equipment	Combination Boiler / DHW Tier 2	VGS	MF	All	MO	0.0	0%	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0	19	\$1,200.00	\$1,100.00	\$0.12	\$0.00	\$0.00	7.71	1.00	0	0	0	0	Installation of 95 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers	
10055	HVAC Equipment	Indirect-Fired Storage Tank	VGS	MF	All	MO	0.0	0%	0.0	0.0	0.0	15.0	0.0	0.0	0.0	0	25	\$1,000.00	\$100.00	\$0.12	\$0.00	\$0.00	6.80	1.00	0	0	0	0	Installation of indirect water heater to high efficiency boiler	
10056	HVAC Equipment	Advanced Thermostats - Gas Heating	VGS	MF	All	Retrofit	238.4	7%	16.9	0.0	0.0	2.2	0.0	0.0	0.0	0	10	\$200.00	\$150.00	\$0.12	\$0.00	\$0.00	2.44	1.00	0	0	0	0	Installation of advanced ("smart") thermostat in homes with gas primary heating	
10057	HVAC Equipment	ENERGY STAR Dehumidifiers	EVT	MF	All	NC	1,005.1	20%	201.0	0.1	0.1	0.0	0.0	0.0	0.0	0	12	\$60.00	\$40.00	\$1.75	\$0.00	\$0.00	6.70	0.77	33	33	20	10	ENERGY STAR dehumidifier to replace standard efficiency unit	
10058	HVAC Equipment	Room Air Conditioner	EVT	MF	All	NC	354.8	9%	32.5	0.1	0.1	0.0	0.0	0.0	0.0	0	12	\$39.00	\$19.50	\$1.75	\$0.00	\$0.00	2.67	1.00	86	86	66	28	ENERGY STAR room air conditioner to replace standard efficiency unit	
10059	HVAC Equipment	Brushless Permanent Magnet Circulator Pump	EVT	MF	All	NC	116.2	84%	97.1	0.1	0.1	0.0	0.0	0.0	0.0	0	20	\$100.00	\$100.00	\$1.75	\$0.00	\$0.00	2.42	1.00	62	62	48	31	Installing fractional horsepower circulator pumps with brushless permanent magnet pump (BLPM) motors	
10060	HVAC Equipment	ENERGY STAR Central AC (SEER 15)	EVT	MF	All	NC	692.3	13%	92.3	0.2	0.2	0.0	0.0	0.0	0.0	0	14	\$184.00	\$150.00	\$1.75	\$0.00	\$0.00	4.03	1.00	0	0	17	10	Installing 15 SEER central air conditioner in homes with central air	
10061	HVAC Equipment	ENERGY STAR Central AC Tier 2 (SEER 16)	EVT	MF	All	NC	692.3	19%	129.8	0.3	0.3	0.0	0.0	0.0	0.0	0	14	\$368.00	\$150.00	\$1.75	\$0.00	\$0.00	3.08	1.00	0	0	24	9	Installing 16 SEER central air conditioner in homes with central air	
10062	HVAC Equipment	ENERGY STAR Central AC Tier 3 (SEER 17)	EVT	MF	All	NC	692.3	24%	162.9	0.4	0.4	0.0	0.0	0.0	0.0	0	14	\$552.00	\$300.00	\$1.75	\$0.00	\$0.00	2.71	1.00	0	0	30	13	Installing 17 SEER central air conditioner in homes with central air	
10063	HVAC Equipment	ENERGY STAR Central AC Tier 4 (SEER 18)	EVT	MF	All	NC	692.3	28%	192.3	0.5	0.5	0.0	0.0	0.0	0.0	0	14	\$738.00	\$300.00	\$1.75	\$0.00	\$0.00	2.40	1.00	150	188	36	14	Installing 18 SEER central air conditioner in homes with central air	
10064	HVAC Equipment	DMSHP (Primary Electric) - Replacing ASHP	EVT	MF	All	NC	2,442.3	26%	631.6	0.1	2.1	0.0	0.0	0.0	0.0	0	18	\$833.00	\$600.00	\$1.75	\$0.00	\$0.00	2.12	1.00	244	244	187	96	Installation of ductless heat pump instead of standard central heat pump	
10065	HVAC Equipment	DMSHP (Secondary Electric) - Replacing ASHP	EVT	MF	All	NC	219.8	26%	56.8	0.0	0.0	0.0	0.0	0.0	0.0	0	18	\$591.00	\$600.00	\$1.75	\$0.00	\$0.00	0.21	1.00	9	0	0	0	Installation of ductless heat pump instead to air source heat pump to offset secondary electric heating load	
10066	HVAC Equipment	Advanced Thermostats - Electric Heating	EVT	MF	All	NC	2,442.3	5%	129.4	0.0	0.0	0.0	0.0	0.0	0.0	0	10	\$200.00	\$150.00	\$1.75	\$0.00	\$0.00	0.70	1.00	0	0	0	0	Installation of advanced ("smart") thermostat in homes with electric primary heating	
10067	HVAC Equipment	Gas Boiler Tier 1	VGS	MF	All	NC	0.0	0%	0.0	0.0	0.0	15.0	0.0	0.0	0.0	0	25	\$1,000.00	\$600.00	\$1.75	\$0.00	\$0.00	6.80	1.00	0	0	0	0	Installation of 95 AFUE boiler in homes with gas boilers	
10068	HVAC Equipment	Gas Boiler Tier 2	VGS	MF	All	NC	0.0	0%	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0	25	\$1,200.00	\$800.00	\$1.75	\$0.00	\$0.00	9.45	1.00	0	0	0	0	Installation of 98 AFUE boiler in homes with gas boilers	
10069	HVAC Equipment	Gas Furnace Tier 1	VGS	MF	All	NC	0.0	0%	0.0	0.0	0.0	15.0	0.0	0.0	0.0	0	20	\$1,000.00	\$400.00	\$1.75	\$0.00	\$0.00	5.78	1.00	0	0	0	0	Installation of 95 AFUE furnace in homes with gas furnaces	
10070	HVAC Equipment	Gas Furnace Tier 2	VGS	MF	All	NC	0.0	0%	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0	20	\$1,200.00	\$500.00	\$1.75	\$0.00	\$0.00	8.02	1.00	0	0	0	0	Installation of 98 AFUE furnace in homes with gas furnaces	
10071	HVAC Equipment	Dual-Fuel DMS HP	VGS	MF	All	NC	547.7	-199%	-1090.5	0.1	-0.2	12.6	0.0	0.0	0.0	0	18	\$3,000.00	\$600.00	\$1.75	\$0.00	\$0.00	0.94	0.88	0	0	0	0	Installation of dual-fuel ductless heat pump gas furnace	
10072	HVAC Equipment	Combination Boiler / DHW Tier 1	VGS	MF	All	NC	0.0	0%	0.0	0.0	0.0	15.0	0.0	0.0	0.0	0	19	\$1,000.00	\$900.00	\$1.75	\$0.00	\$0.00	5.55	1.00	0	0	0	0	Installation of 90 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers	
10073	HVAC Equipment	Combination Boiler / DHW Tier 2	VGS	MF	All	NC	0.0	0%	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0	19	\$1,200.00	\$1,100.00	\$1.75	\$0.00	\$0.00	7.71	1.00	0	0	0	0	Installation of 95 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers	
10074	HVAC Equipment	Indirect-Fired Storage Tank	VGS	MF	All	NC	0.0	0%	0.0	0.0	0.0	15.0	0.0	0.0	0.0	0	25	\$1,000.00	\$100.00	\$1.75	\$0.00	\$0.00	6.80	1.00	0	0	0	0	Installation of indirect water heater to high efficiency boiler	
10075	HVAC Equipment	Advanced Thermostats - Gas Heating	VGS	MF	All	NC	547.7	5%	29.0	0.0	0.0	0.8	0.0	0.0	0.0	0	10	\$200.00	\$150.00	\$1.75	\$0.00	\$0.00	0.96	1.00	0	0	0	0	Installation of advanced ("smart") thermostat in homes with gas primary heating	
11000	Behavioral	HER - Low (Gas Heating)	EVT	SF	All	Retrofit	4,213.4	1%	35.8	0.0	0.0	0.9	0.0	0.0	0.0	0	1	\$7.20	\$7.20	\$0.03	\$0.00	\$0.00	3.30	1.20	691	713	887	689	Home energy report in homes with low energy use (bottom-third of customers) and natural gas heating	
11001	Behavioral	HER - Low (Other Heating)	EVT	SF	All	Retrofit	4,213.4	1%	35.8	0.0	0.0	0.0	0.6	0.0	0.2	0	1	\$7.20	\$7.20	\$0.03	\$0.00	\$0.00	3.29	1.20	1,967	2,029	2,523	1,960	Home energy report in homes with low energy use (bottom-third of customers) and other fossil fuel heating	
11002	Behavioral	HER - Medium (Gas Heating)	EVT	SF	All	Retrofit	6,839.0	2%	93.7	0.0	0.0	0.9	0.0	0.0	0.0	0	1	\$7.20	\$7.20	\$0.03	\$0.00	\$0.00	4.47	1.20	904	932	1,160	901	Home energy report in homes with medium energy use (middle-third of customers) and natural gas heating	
11003	Behavioral	HER - Medium (Other Heating)	EVT	SF	All	Retrofit	6,839.0	2%	93.7	0.0	0.0	0.0	0.6	0.0	0.2	0	1	\$7.20	\$7.20	\$0.03	\$0.00	\$0.00	4.46	1.20	2,573	2,654	3,301	2,564	Home energy report in homes with medium energy use (middle-third of customers) and other fossil fuel heating	
11004	Behavioral	HER - High (Gas Heating)	EVT	SF	All	Retrofit	11,052.3	2%	183.5	0.0	0.0	0.9	0.0	0.0	0.0	0	1	\$7.20	\$7.20	\$0.03	\$0.00	\$0.00	6.29	1.20	1,771	1,826	2,271	1,764	Home energy report in homes with high energy use (top-third of customers) and natural gas heating	
11005	Behavioral	HER - High (Other Heating)	EVT	SF	All	Retrofit	11,052.3	2%	183.5	0.0	0.0	0.0	0.6	0.0	0.2	0	1	\$7.20	\$7.20	\$0.03	\$0.00	\$0.00	6.28	1.20	5,039	5,196	6,463	5,021	Home energy report in homes with high energy use (top-third of customers) and other fossil fuel heating	
11006	Behavioral	HER - Medium (Gas Heating)	EVT	SF	All	NC	6,839.0	2%	93.7	0.0	0.0	0.9	0.0	0.0	0.0	0	1	\$7.20	\$7.20	\$0.03	\$0.00	\$0.00	4.47	1.20	673	694	863	671	Home energy report in homes with medium energy use (middle-third of customers) and natural gas heating	
11007	Behavioral	HER - Medium (Other Heating)	EVT	SF	All	NC	6,839.0	2%	93.7	0.0	0.0	0.0	0.6	0.0	0.2	0	1	\$7.20	\$7.20	\$0.03	\$0.00	\$0.00	4.46	1.20	510	526	654	508	Home energy report in homes with medium energy use (middle-third of customers) and other fossil fuel heating	
11008	Behavioral	HER - Low (Gas Heating)	EVT	MF	All	Retrofit	4,213.4	1%	35.8	0.0	0.0	0.9	0.0	0.0	0.0	0	1	\$7.20	\$7.20	\$0.03	\$0.00	\$0.00	3.30	1.20	122	126	156	122	Home energy report in homes with low energy use (bottom-third of customers) and natural gas heating	
11009	Behavioral	HER - Low (Other Heating)	EVT	MF	All	Retrofit	4,213.4	1%	35.8	0.0	0.0	0.0	0.6	0.0	0.2	0	1	\$7.20	\$7.20	\$0.03	\$0.00	\$0.00	3.29	1.20	347	358	445	346	Home energy report in homes with low energy use (bottom-third of customers) and other fossil fuel heating	
11010	Behavioral	HER - Medium (Gas Heating)	EVT	MF	All	Retrofit	6,839.0	2%	93.7	0.0	0.0	0.9	0.0	0.0	0.0	0	1	\$7.20	\$7.20	\$0.03	\$0.00	\$0.00	4.47	1.20	160	165	205	159	Home energy report in homes with medium energy use (middle-third of customers) and natural gas heating	
11011	Behavioral	HER - Medium (Other Heating)	EVT	MF	All	Retrofit	6,839.0	2%	93.7	0.0	0.0	0.0	0.6	0.0	0.2	0	1	\$7.20	\$7.20	\$0.03	\$0.00	\$0.00	4.46	1.20	454	468	582	452	Home energy report in homes with medium energy use (middle-third of customers) and other fossil fuel heating	
11012	Behavioral	HER - High (Gas Heating)	EVT	MF	All	Retrofit	11,052.3	2%	183.5	0.0	0.0	0.9	0.0	0.0	0.0	0	1	\$7.20	\$7.20	\$0.03	\$0.00	\$0.00	6.29	1.20	312	322	401	311	Home energy report in homes with high energy use (top-third of customers) and natural gas heating	
11013	Behavioral	HER - High (Other Heating)	EVT	MF	All	Retrofit	11,052.3	2%	183.5	0.0	0.0	0.0	0.6	0.0	0.2	0	1	\$7.20	\$7.20	\$0.03	\$0.00	\$0.00	6.28	1.20	889	917	1,141	886	Home energy report in homes with high energy use (top-third of customers) and other fossil fuel heating	
11014	Behavioral	HER - Medium (Gas Heating)	EVT	MF	All	NC	6,839.0	2%	93.7	0.0	0.0	0.9	0.0	0.0	0.0	0	1	\$7.20	\$7.20	\$0.03	\$0.00	\$0.00	4.47	1.20	101	104	130	101	Home energy report in homes with medium energy use (middle-third of customers) and natural gas heating	
11015	Behavioral	HER - Medium (Other Heating)	EVT	MF	All	NC	6,839.0	2%	93.7	0.0	0.0	0.0	0.6	0.0	0.2	0	1	\$7.20	\$7.20	\$0.03	\$0.00	\$0.00	4.46	1.20	188	193	241	187	Home energy report in homes with medium energy use (middle-third of customers) and other fossil fuel heating	
12000	ER Refrigeration	Refrigerator (CEE Tier 3)	EVT	SF	NLI	ER1	898.0	41%	365.0	0.0	0.0	0.0	0.0	0.0	0.0	0	6	\$410.52	\$75.00	\$0.07	\$0.00	\$0.00	0.79	1.00	2,928	0	0	0	Installation of CEE Tier 3 qualifying residential refrigerator to replace inefficient unit before end of its useful life	
12001	ER Refrigeration	Refrigerator (CEE Tier 3)	EVT	SF	NLI	ER2	564.8	10%	56.5	0.0	0.0	0.0	0.0	0.0	0.0	0	11	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	1.00	831	0	0	0	0	Installation of CEE Tier 3 qualifying residential refrigerator to replace inefficient unit before end of its useful life
12002	ER Refrigeration	Refrigerator (CEE Tier 3)	EVT	SF	NLI	ER3	564.8	10%	56.5	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$59.00	\$75.00	\$0.07	\$0.00	\$0.00	1.82	1.00	227	0	0	0	0	Installation of CEE Tier 3 qualifying residential refrigerator to replace inefficient unit before end of its useful life
12003	ER Refrigeration	ENERGY STAR Freezer	EVT	SF	NLI	ER1	898.0	30%	269.0	0.0	0.0	0.0	0.0	0.0	0.0	0	3	\$159.31	\$25.00	\$0.07	\$0.00	\$0.00	0.73	1.00	447	0	0	0	0	Installation of ENERGY STAR freezer to replace inefficient unit before end of its useful life
12004	ER Refrigeration	ENERGY STAR Freezer	EVT	SF	NLI	ER2	285.1	10%	28.5	0.0	0.0	0.0	0.0	0.0	0.0	0	13	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	1.00	205	0	0	0	0	Installation of ENERGY STAR freezer to replace inefficient unit before end of its useful life
12005	ER Refrigeration	ENERGY STAR Freezer	EVT	SF	NLI	ER3	285.1	10%	28.5	0.0	0.0	0.0	0.0	0.0	0.0	0	16	\$35.00	\$25.00	\$0.07	\$0.00	\$0.00	1.87	1.00	63	0	0	0	0	Installation of ENERGY STAR freezer to replace inefficient unit before end of its useful life
12006	ER Refrigeration	Refrigerator (CEE Tier 3)	EVT	MF	NLI	ER1	898.0	41%	365.0	0.0	0.0	0.0	0.0	0.0	0.0	0	6	\$410.52	\$200.00	\$0.07	\$0.00	\$0.00	0.79	0.90	517	0	0	0	0	Installation of CEE Tier 3 qualifying residential refrigerator to replace inefficient unit before end of its useful life
12007	ER Refrigeration	Refrigerator (CEE Tier 3)	EVT	MF																										



Appendix B.1		EVT Residential Measure Assumptions																														
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description			
13008	ER Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; fuel type unknown - CA	EVT	MF	All	ER3	8,579.3	30%	2573.8	8.0	8.0	2.9	4.6	2.2	0.0	41962.8	14	\$454.00	\$75.00	\$0.07	\$0.00	\$0.00	36.70	1.00	109	109	93	35	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3 - in multifamily common area			
14000	ER Hot Water	Heat Pump DHW (< 2.35 EF)	EVT	SF	All	ER1	2,730.0	53%	1439.6	0.6	0.6	0.0	0.0	0.0	0.0	0	4	\$1,211.55	\$600.00	\$0.09	\$0.00	\$0.00	0.69	1.10	0	0	615	431	Installation of an ENERGY STAR heat pump water heater <2.35 EF to replace inefficient unit before end of its useful life			
14001	ER Hot Water	Heat Pump DHW (< 2.35 EF)	EVT	SF	All	ER2	2,586.3	50%	1301.8	0.5	0.5	0.0	0.0	0.0	0.0	0	9	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	1.10	0	0	1,250	877	Installation of an ENERGY STAR heat pump water heater <2.35 EF to replace inefficient unit before end of its useful life			
14002	ER Hot Water	Heat Pump DHW (< 2.35 EF)	EVT	SF	All	ER3	2,586.3	50%	1301.8	0.5	0.5	0.0	0.0	0.0	0.0	0	13	\$973.00	\$600.00	\$0.09	\$0.00	\$0.00	2.45	1.10	0	0	973	584	Installation of an ENERGY STAR heat pump water heater <2.35 EF to replace inefficient unit before end of its useful life			
14003	ER Hot Water	Heat Pump DHW (> 2.35 EF)	EVT	SF	All	ER1	2,730.0	64%	1744.9	0.7	0.7	0.0	0.0	0.0	0.0	0	4	\$1,339.55	\$600.00	\$0.09	\$0.00	\$0.00	0.75	1.10	2,134	2,596	1,446	982	Installation of an ENERGY STAR heat pump water heater >=2.35 EF to replace inefficient unit before end of its useful life			
14004	ER Hot Water	Heat Pump DHW (> 2.35 EF)	EVT	SF	All	ER2	2,586.3	62%	1607.2	0.6	0.6	0.0	0.0	0.0	0.0	0	9	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	1.10	4,422	5,380	2,997	2,036	Installation of an ENERGY STAR heat pump water heater >=2.35 EF to replace inefficient unit before end of its useful life			
14005	ER Hot Water	Heat Pump DHW (> 2.35 EF)	EVT	SF	All	ER3	2,586.3	62%	1607.2	0.6	0.6	0.0	0.0	0.0	0.0	0	13	\$1,101.00	\$600.00	\$0.09	\$0.00	\$0.00	2.67	1.10	3,439	4,185	2,331	1,356	Installation of an ENERGY STAR heat pump water heater >=2.35 EF to replace inefficient unit before end of its useful life			
14006	ER Hot Water	Heat Pump DHW (< 2.35 EF)	EVT	MF	All	ER1	2,730.0	53%	1439.6	0.6	0.6	0.0	0.0	0.0	0.0	0	4	\$1,211.55	\$600.00	\$0.09	\$0.00	\$0.00	0.69	1.10	0	0	122	60	Installation of an ENERGY STAR heat pump water heater <2.35 EF to replace inefficient unit before end of its useful life			
14007	ER Hot Water	Heat Pump DHW (< 2.35 EF)	EVT	MF	All	ER2	2,586.3	50%	1301.8	0.5	0.5	0.0	0.0	0.0	0.0	0	9	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	1.10	0	0	248	122	Installation of an ENERGY STAR heat pump water heater <2.35 EF to replace inefficient unit before end of its useful life			
14008	ER Hot Water	Heat Pump DHW (< 2.35 EF)	EVT	MF	All	ER3	2,586.3	50%	1301.8	0.5	0.5	0.0	0.0	0.0	0.0	0	13	\$973.00	\$600.00	\$0.09	\$0.00	\$0.00	2.45	1.10	0	0	193	81	Installation of an ENERGY STAR heat pump water heater <2.35 EF to replace inefficient unit before end of its useful life			
14009	ER Hot Water	Heat Pump DHW (> 2.35 EF)	EVT	MF	All	ER1	2,730.0	64%	1744.9	0.7	0.7	0.0	0.0	0.0	0.0	0	4	\$1,339.55	\$600.00	\$0.09	\$0.00	\$0.00	0.75	1.10	350	455	236	112	Installation of an ENERGY STAR heat pump water heater >=2.35 EF to replace inefficient unit before end of its useful life			
14010	ER Hot Water	Heat Pump DHW (> 2.35 EF)	EVT	MF	All	ER2	2,586.3	62%	1607.2	0.6	0.6	0.0	0.0	0.0	0.0	0	9	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	1.10	725	943	490	233	Installation of an ENERGY STAR heat pump water heater >=2.35 EF to replace inefficient unit before end of its useful life			
14011	ER Hot Water	Heat Pump DHW (> 2.35 EF)	EVT	MF	All	ER3	2,586.3	62%	1607.2	0.6	0.6	0.0	0.0	0.0	0.0	0	13	\$1,101.00	\$600.00	\$0.09	\$0.00	\$0.00	2.67	1.10	564	733	381	155	Installation of an ENERGY STAR heat pump water heater >=2.35 EF to replace inefficient unit before end of its useful life			
15000	ER HVAC Equipment	DMSHP (Primary Electric) - Replacing ASHP	EVT	SF	All	ER1	21,360.9	67%	14410.7	2.9	4.8	0.0	0.0	0.0	0.0	0	6	\$2,477.19	\$800.00	\$0.12	\$0.00	\$0.00	5.53	0.88	3,528	3,528	2,418	1,238	Installation of ductless heat pump to retrofit primary electric resistance heating			
15001	ER HVAC Equipment	DMSHP (Primary Electric) - Replacing ASHP	EVT	SF	All	ER2	12,265.8	43%	5315.6	0.1	0.0	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	0.88	2,602	2,602	1,784	896	Installation of ductless heat pump to retrofit primary electric resistance heating			
15002	ER HVAC Equipment	DMSHP (Primary Electric) - Replacing ASHP	EVT	SF	All	ER3	12,265.8	43%	5315.6	0.1	0.0	0.0	0.0	0.0	0.0	0	18	\$833.00	\$800.00	\$0.12	\$0.00	\$0.00	12.64	0.88	434	434	297	93	Installation of ductless heat pump to retrofit primary electric resistance heating			
15003	ER HVAC Equipment	DMSHP (Secondary Electric) - Replacing ASHP	EVT	SF	All	ER1	1,922.5	67%	1297.0	0.0	0.4	0.0	0.0	0.0	0.0	0	6	\$1,826.09	\$600.00	\$0.12	\$0.00	\$0.00	0.50	0.88	4,825	0	0	0	0	Installation of efficient ductless heat pump instead of secondary electric baseboard and/or new ff conversion to standard dmshp		
15004	ER HVAC Equipment	DMSHP (Secondary Electric) - Replacing ASHP	EVT	SF	All	ER2	1,103.9	43%	478.4	0.0	0.0	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	0.88	3,559	0	0	0	0	Installation of efficient ductless heat pump instead of secondary electric baseboard and/or new ff conversion to standard dmshp		
15005	ER HVAC Equipment	DMSHP (Secondary Electric) - Replacing ASHP	EVT	SF	All	ER3	1,103.9	43%	478.4	0.0	0.0	0.0	0.0	0.0	0.0	0	18	\$591.00	\$600.00	\$0.12	\$0.00	\$0.00	1.53	0.88	593	0	0	0	0	Installation of efficient ductless heat pump instead of secondary electric baseboard and/or new ff conversion to standard dmshp		
15006	ER HVAC Equipment	Efficient Furnace Fan Motor (Heat)	EVT	SF	All	ER1	1,284.0	50%	642.0	0.0	0.4	0.0	0.0	0.0	0.0	0	6	\$422.43	\$100.00	\$0.12	\$0.00	\$0.00	1.21	0.95	2,403	2,403	1,779	838	Installation of efficient fan motor - homes with furnace and no central air			
15007	ER HVAC Equipment	Efficient Furnace Fan Motor (Heat)	EVT	SF	All	ER2	400.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	0.95	0	0	0	0	0	Installation of efficient fan motor - homes with furnace and no central air		
15008	ER HVAC Equipment	Efficient Furnace Fan Motor (Heat)	EVT	SF	All	ER3	400.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	18	\$97.00	\$100.00	\$0.12	\$0.00	\$0.00	0.00	0.95	0	0	0	0	0	Installation of efficient fan motor - homes with furnace and no central air		
15009	ER HVAC Equipment	Efficient Furnace Fan Motor (Heat & Cool)	EVT	SF	All	ER1	1,350.0	50%	675.0	0.1	0.4	0.0	0.0	0.0	0.0	0	6	\$422.43	\$100.00	\$0.12	\$0.00	\$0.00	1.56	0.95	2,805	2,805	2,076	978	Installation of efficient fan motor - homes with furnace and central air			
15010	ER HVAC Equipment	Efficient Furnace Fan Motor (Heat & Cool)	EVT	SF	All	ER2	400.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	0.95	0	0	0	0	0	Installation of efficient fan motor - homes with furnace and central air		
15011	ER HVAC Equipment	Efficient Furnace Fan Motor (Heat & Cool)	EVT	SF	All	ER3	400.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	18	\$97.00	\$100.00	\$0.12	\$0.00	\$0.00	0.00	0.95	0	0	0	0	0	Installation of efficient fan motor - homes with furnace and central air		
15012	ER HVAC Equipment	DMSHP (Primary Electric) - Replacing ASHP	EVT	MF	All	ER1	9,075.2	65%	5869.9	1.3	2.5	0.0	0.0	0.0	0.0	0	6	\$2,152.18	\$600.00	\$0.12	\$0.00	\$0.00	2.66	1.00	1,342	1,342	1,046	364	Installation of ductless heat pump to retrofit primary electric resistance heating			
15013	ER HVAC Equipment	DMSHP (Primary Electric) - Replacing ASHP	EVT	MF	All	ER2	5,103.0	37%	1897.7	0.2	0.0	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	1.00	868	386	676	231	0	0	Installation of ductless heat pump to retrofit primary electric resistance heating	
15014	ER HVAC Equipment	DMSHP (Primary Electric) - Replacing ASHP	EVT	MF	All	ER3	5,103.0	37%	1897.7	0.2	0.0	0.0	0.0	0.0	0.0	0	18	\$693.00	\$600.00	\$0.12	\$0.00	\$0.00	6.41	1.00	145	64	113	24	0	0	Installation of ductless heat pump to retrofit primary electric resistance heating	
15015	ER HVAC Equipment	DMSHP (Secondary Electric) - Replacing ASHP	EVT	MF	All	ER1	816.8	65%	528.3	0.0	0.2	0.0	0.0	0.0	0.0	0	6	\$1,826.09	\$600.00	\$0.12	\$0.00	\$0.00	0.21	1.00	43	0	0	0	0	0	Installation of efficient ductless heat pump instead of secondary electric baseboard and/or new ff conversion to standard dmshp	
15016	ER HVAC Equipment	DMSHP (Secondary Electric) - Replacing ASHP	EVT	MF	All	ER2	459.3	37%	170.8	0.0	0.0	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	1.00	28	0	0	0	0	0	Installation of efficient ductless heat pump instead of secondary electric baseboard and/or new ff conversion to standard dmshp	
15017	ER HVAC Equipment	DMSHP (Secondary Electric) - Replacing ASHP	EVT	MF	All	ER3	459.3	37%	170.8	0.0	0.0	0.0	0.0	0.0	0.0	0	18	\$591.00	\$600.00	\$0.12	\$0.00	\$0.00	0.56	1.00	5	0	0	0	0	0	Installation of efficient ductless heat pump instead of secondary electric baseboard and/or new ff conversion to standard dmshp	
15018	ER HVAC Equipment	Efficient Furnace Fan Motor (Heat)	EVT	MF	All	ER1	1,284.0	50%	642.0	0.0	0.4	0.0	0.0	0.0	0.0	0	6	\$422.43	\$100.00	\$0.12	\$0.00	\$0.00	1.21	0.95	310	138	229	77	0	0	Installation of efficient fan motor - homes with furnace and no central air	
15019	ER HVAC Equipment	Efficient Furnace Fan Motor (Heat)	EVT	MF	All	ER2	400.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	0.95	0	0	0	0	0	0	Installation of efficient fan motor - homes with furnace and no central air	
15020	ER HVAC Equipment	Efficient Furnace Fan Motor (Heat)	EVT	MF	All	ER3	400.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	18	\$97.00	\$100.00	\$0.12	\$0.00	\$0.00	0.00	0.95	0	0	0	0	0	0	Installation of efficient fan motor - homes with furnace and no central air	
15021	ER HVAC Equipment	Efficient Furnace Fan Motor (Heat & Cool)	EVT	MF	All	ER1	1,350.0	50%	675.0	0.1	0.4	0.0	0.0	0.0	0.0	0	6	\$422.43	\$100.00	\$0.12	\$0.00	\$0.00	1.56	0.95	487	217	361	120	0	0	Installation of efficient fan motor - homes with furnace and central air	
15022	ER HVAC Equipment	Efficient Furnace Fan Motor (Heat & Cool)	EVT	MF	All	ER2	400.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	0.95	0	0	0	0	0	0	Installation of efficient fan motor - homes with furnace and central air	
15023	ER HVAC Equipment	Efficient Furnace Fan Motor (Heat & Cool)	EVT	MF	All	ER3	400.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	18	\$97.00	\$100.00	\$0.12	\$0.00	\$0.00	0.00	0.95	0	0	0	0	0	0	Installation of efficient fan motor - homes with furnace and central air	
4036	Electronics	Tier 1 Powerstrips - home offices	EVT	SF	LI	DI	197.9	19%	38.4	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$35.00	\$35.00	\$0.57	\$0.00	\$0.00	0.71	1.00	2,066	0	0	0	0	0	Installation of controlled power strip (Tier 1) in home offices	
4037	Electronics	Tier 2 Powerstrips - home entertainment centers	EVT	SF	LI	DI	678.4	51%	346.0	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$95.00	\$95.00	\$0.57	\$0.00	\$0.00	2.27	1.00	28,373	28,373	22,667	22,667	0	0	Installation of controlled power strip (Tier 2) in home entertainment centers	
4038	Electronics	Tier 1 Powerstrips - home offices	EVT	MF	LI	DI	197.9	19%	38.4	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$35.00	\$35.00	\$0.57	\$0.00	\$0.00	0.71	1.00	224	0	0	0	0	0	0	Installation of controlled power strip (Tier 1) in home offices
4039	Electronics	Tier 2 Powerstrips - home entertainment centers	EVT	MF	LI	DI	678.4	51%	346.0	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$95.00	\$95.00	\$0.57	\$0.00	\$0.00	2.27	1.00	4,491	4,491	3,588	3,337	0	0	Installation of controlled power strip (Tier 2) in home entertainment centers	
5104	Hot Water	Electric Hot Water Fuel Switch - Propane	EVT	SF	LI	DI	2,069.1	100%	2069.1	0.8	0.8	0.0	0.0	0.0	-14.4	0	15	\$2,250.00	\$2,250.00	\$0.57	\$0.00	\$25.00	0.54	1.00	2,324	0	0	0	0	0	0	Convert water heating from electric tank to liquid propane indirect-fired storage tank
5105	Hot Water	Electric Hot Water Fuel Switch - Nat Gas	EVT	SF	LI	DI	2,069.1	100%	2069.1	0.8	0.8	0.0	0.0	0.0	0.0	0	15	\$975.00	\$975.00	\$												

Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Computers	Computer - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	85.225	0.000	0.000	0.000	ENERGY STAR Computer
Computers	Computer - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	7.090	0.000	0.000	0.000	ENERGY STAR Computer
Computers	Network PC Power Management	Assembly	Discretionary	220.6	0.03	0.02	0.0	0.0	0.0	0.0	0	5	\$26.98	\$26.98	\$0.21	\$6.19	\$0.00	3.27	1.00	14.762	25.942	20.906	20.906	Network PC Power Management
Computers	Network PC Power Management	Assembly	Lost Opportunity	220.6	0.03	0.02	0.0	0.0	0.0	0.0	0	5	\$26.98	\$26.98	\$0.18	\$6.19	\$0.00	3.27	1.00	1.441	2.536	2.044	2.044	Network PC Power Management
Cooking	Combination Oven	Assembly	Discretionary	83.0	0.01	0.01	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.97	1.268	0.000	0.000	0.000	ENERGY STAR Combination Oven
Cooking	Combination Oven	Assembly	Lost Opportunity	83.0	0.01	0.01	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.97	0.110	0.000	0.000	0.000	ENERGY STAR Combination Oven
Cooking	Convection Oven	Assembly	Discretionary	18.8	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$5.06	\$5.06	\$0.21	\$0.00	\$0.00	7.05	0.97	0.526	0.526	0.412	0.412	ENERGY STAR Convection Oven
Cooking	Convection Oven	Assembly	Lost Opportunity	18.8	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$5.06	\$5.06	\$0.18	\$0.00	\$0.00	7.05	0.97	0.046	0.046	0.036	0.036	ENERGY STAR Convection Oven
Cooking	Fryers	Assembly	Discretionary	38.7	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$6.60	\$6.60	\$0.21	\$0.00	\$0.00	11.17	0.97	0.845	0.845	0.662	0.662	ENERGY STAR Fryer
Cooking	Fryers	Assembly	Lost Opportunity	38.7	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$6.60	\$6.60	\$0.18	\$0.00	\$0.00	11.17	0.97	0.073	0.073	0.058	0.058	ENERGY STAR Fryer
Cooking	Griddle	Assembly	Discretionary	24.9	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$11.21	\$11.21	\$0.21	\$0.00	\$0.00	4.22	0.97	0.427	0.427	0.334	0.334	ENERGY STAR Griddle
Cooking	Griddle	Assembly	Lost Opportunity	24.9	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$11.21	\$11.21	\$0.18	\$0.00	\$0.00	4.22	0.97	0.037	0.037	0.029	0.029	ENERGY STAR Griddle
Cooking	Hot Food Holding Cabinet	Assembly	Discretionary	22.6	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$11.76	\$11.76	\$0.21	\$0.00	\$0.00	3.65	0.97	0.597	0.597	0.468	0.468	ENERGY STAR Hot Food Holding Cabinet
Cooking	Hot Food Holding Cabinet	Assembly	Lost Opportunity	22.6	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$11.76	\$11.76	\$0.18	\$0.00	\$0.00	3.65	0.97	0.052	0.052	0.041	0.041	ENERGY STAR Hot Food Holding Cabinet
Cooking	Microwave - High Efficiency	Assembly	Discretionary	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	11	\$0.06	\$0.06	\$0.21	\$0.00	\$0.00	3.38	0.97	0.003	0.003	0.003	0.003	High Efficiency Microwave
Cooking	Microwave - High Efficiency	Assembly	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	11	\$0.06	\$0.06	\$0.18	\$0.00	\$0.00	3.38	0.97	0.000	0.000	0.000	0.000	High Efficiency Microwave
Cooking	Steam Cooker	Assembly	Discretionary	65.0	0.01	0.01	0.0	0.0	0.0	0.0	2,224	12	\$22.16	\$22.16	\$0.21	\$0.00	\$0.00	1115.51	0.97	1.518	1.518	1.190	1.190	ENERGY STAR Steam Cooker
Cooking	Steam Cooker	Assembly	Lost Opportunity	65.0	0.01	0.01	0.0	0.0	0.0	0.0	2,224	12	\$22.16	\$22.16	\$0.18	\$0.00	\$0.00	1115.51	0.97	0.132	0.132	0.103	0.103	ENERGY STAR Steam Cooker
Cooling Chillers	Active Chilled Beam Cooling with DOAS	Assembly	Lost Opportunity	682.9	0.23	0.00	0.0	0.0	0.0	0.0	0	15	-\$10,434.00	\$0.00	\$0.18	\$7,825.50	\$0.00	0.03	0.98	0.647	0.000	0.000	0.000	Active Chilled Beam Cooling with DOAS
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Assembly	Discretionary	355.1	0.12	0.00	3.6	14.4	0.0	0.0	0	15	\$2,608.50	\$2,608.50	\$0.21	\$0.00	\$0.00	0.59	0.98	0.589	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Assembly	Discretionary	631.7	0.22	0.00	0.0	0.0	0.0	0.0	0	15	\$12,103.44	\$12,103.44	\$0.21	\$0.00	\$0.00	0.18	0.98	5.388	0.000	0.000	0.000	Additional Control Features
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Assembly	Lost Opportunity	631.7	0.22	0.00	0.0	0.0	0.0	0.0	0	15	\$12,103.44	\$12,103.44	\$0.18	\$0.00	\$0.00	0.18	0.98	0.077	0.000	0.000	0.000	Additional Control Features
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Assembly	Discretionary	453.1	0.15	0.00	0.0	0.0	0.0	0.0	0	10	\$9,102.19	\$9,102.19	\$0.21	\$0.00	\$0.00	0.11	0.98	2.455	0.000	0.000	0.000	VSD for Secondary Chilled Water Loop
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Assembly	Lost Opportunity	453.1	0.15	0.00	0.0	0.0	0.0	0.0	0	10	\$8,191.97	\$8,191.97	\$0.18	\$0.00	\$0.00	0.13	0.98	0.322	0.000	0.000	0.000	VSD for Secondary Chilled Water Loop
Cooling Chillers	Chilled Water Reset	Assembly	Discretionary	170.7	0.06	0.00	0.0	0.0	0.0	0.0	0	10	\$7,109.10	\$7,109.10	\$0.21	\$0.00	\$0.00	0.05	0.98	2.612	0.000	0.000	0.000	Chilled Water Temperature Reset
Cooling Chillers	Chilled Water Reset	Assembly	Lost Opportunity	170.7	0.06	0.00	0.0	0.0	0.0	0.0	0	10	\$7,109.10	\$7,109.10	\$0.18	\$0.00	\$0.00	0.05	0.98	0.000	0.000	0.000	0.000	Chilled Water Temperature Reset
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Assembly	Discretionary	186.1	0.06	0.00	0.0	0.0	0.0	0.0	0	15	\$334.51	\$334.51	\$0.21	\$0.00	\$0.00	1.95	0.98	5.308	5.915	4.687	4.687	2.0" of insulation, assuming R-8
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Assembly	Lost Opportunity	186.1	0.06	0.00	0.0	0.0	0.0	0.0	0	15	\$334.51	\$334.51	\$0.18	\$0.00	\$0.00	1.95	0.98	0.558	0.640	0.507	0.507	2.0" of insulation, assuming R-8
Cooling Chillers	Chiller - Pipe Insulation - Code	Assembly	Discretionary	310.7	0.11	0.00	0.0	0.0	0.0	0.0	0	15	\$717.34	\$717.34	\$0.21	\$0.00	\$0.00	1.52	0.98	10.001	11.146	8.832	8.832	1.0" of insulation, assuming R-4 (Code)
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.29	\$0.29	\$0.21	\$0.00	\$0.00	0.77	0.98	10.494	0.000	0.000	0.000	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.26	\$0.26	\$0.18	\$0.00	\$0.00	0.86	0.98	1.225	0.000	0.000	0.000	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)
Cooling Chillers	Commissioning	Assembly	Commissioning	443.9	0.15	0.00	5.4	18.5	0.0	0.0	0	5	\$12,103.44	\$12,103.44	\$0.18	\$0.00	\$0.00	0.05	0.98	1.216	0.000	0.000	0.000	Commissioning
Cooling Chillers	Convert Constant Volume Air System to VAV	Assembly	Discretionary	897.0	0.31	0.00	10.9	43.1	0.0	0.0	0	15	\$57,068.02	\$57,068.02	\$0.21	\$0.00	\$0.00	0.07	0.98	2.081	0.000	0.000	0.000	Variable Volume Air System
Cooling Chillers	Direct Digital Control System-Installation	Assembly	Discretionary	512.2	0.18	0.00	6.2	21.3	0.0	0.0	0	5	\$3,260.63	\$3,260.63	\$0.21	\$0.00	\$0.00	0.22	0.98	9.565	0.000	0.000	0.000	Installation of EMS System
Cooling Chillers	Direct Digital Control System-Installation	Assembly	Lost Opportunity	512.2	0.18	0.00	6.2	21.3	0.0	0.0	0	5	\$3,260.63	\$3,260.63	\$0.18	\$0.00	\$0.00	0.22	0.98	0.098	0.000	0.000	0.000	Installation of EMS System
Cooling Chillers	Exhaust Hood Makeup Air	Assembly	Discretionary	153.7	0.05	0.00	0.0	0.0	0.0	0.0	0	12	\$40.42	\$40.42	\$0.21	\$0.00	\$0.00	10.48	0.98	0.057	0.063	0.050	0.050	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air
Cooling Chillers	Green Roof	Assembly	Discretionary	18.2	0.01	0.00	0.0	0.0	0.0	0.0	0	40	\$92,568.75	\$92,568.75	\$0.21	\$925.69	\$0.00	0.00	0.98	0.282	0.000	0.000	0.000	Vegetation on Roof
Cooling Chillers	Green Roof	Assembly	Lost Opportunity	15.0	0.01	0.00	0.0	0.0	0.0	0.0	0	40	\$92,568.75	\$92,568.75	\$0.18	\$925.69	\$0.00	0.00	0.98	0.026	0.000	0.000	0.000	Vegetation on Roof
Cooling Chillers	Indirect Information Feedback	Assembly	Discretionary	17.8	0.01	0.00	0.2	0.7	0.0	0.0	0	2	\$59.11	\$59.11	\$0.21	\$0.00	\$0.00	0.16	0.98	0.326	0.000	0.000	0.000	Indirect Information Feedback
Cooling Chillers	Indirect Information Feedback	Assembly	Lost Opportunity	17.8	0.01	0.00	0.2	0.7	0.0	0.0	0	2	\$59.11	\$59.11	\$0.18	\$0.00	\$0.00	0.16	0.98	0.039	0.000	0.000	0.000	Indirect Information Feedback
Cooling Chillers	Infiltration Reduction	Assembly	Discretionary	102.4	0.04	0.00	4.1	15.3	0.0	0.0	0	10	\$187.97	\$187.97	\$0.21	\$0.00	\$0.00	2.45	0.98	0.130	0.145	0.115	0.115	Install Caulking And Weatherstripping (ACH 0.65)
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Assembly	Discretionary	168.0	0.06	0.00	2.0	9.8	0.0	0.0	0	30	\$1,041.40	\$1,041.40	\$0.21	\$0.00	\$0.00	1.50	0.98	1.597	1.779	1.410	1.410	R-35 c.i.
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Assembly	Lost Opportunity	168.0	0.06	0.00	2.0	9.8	0.0	0.0	0	30	\$1,041.40	\$1,041.40	\$0.18	\$0.00	\$0.00	1.50	0.98	0.066	0.076	0.060	0.060	R-35 c.i.
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Code	Assembly	Discretionary	442.3	0.15	0.00	7.0	33.5	0.0	0.0	0	30	\$4,751.86	\$4,751.86	\$0.21	\$0.00	\$0.00	0.92	0.98	2.703	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Assembly	Discretionary	247.6	0.08	0.00	3.0	14.4	0.0	0.0	0	30	\$1,851.38	\$1,851.38	\$0.21	\$0.00	\$0.00	1.24	0.98	0.787	0.878	0.695	0.695	R-38
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Assembly	Lost Opportunity	247.6	0.08	0.00	3.0	14.4	0.0	0.0	0	30	\$1,851.38	\$1,851.38	\$0.18	\$0.00	\$0.00	1.24	0.98	0.134	0.154	0.122	0.122	R-38
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Code	Assembly	Discretionary	431.3	0.15	0.00	5.2	25.1	0.0	0.0	0	30	\$5,307.28	\$5,307.28	\$0.21	\$0.00	\$0.00	0.76	0.98	1.333	0.000	0.000	0.000	R-30 (CBES 2015 Code)
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Assembly	Discretionary	286.8	0.10	0.00	3.5	16.7	0.0	0.0	0	30	\$1,526.71	\$1,526.71	\$0.21	\$0.00	\$0.00	1.75	0.98	1.652	1.841	1.459	1.459	R-13 + 15.6 c.i.
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Assembly	Lost Opportunity	286.8	0.10	0.00	3.5	16.7	0.0	0.0	0	30	\$1,526.71	\$1,526.71	\$0.18	\$0.00	\$0.00	1.75	0.98	0.393	0.450	0.357	0.357	R-13 + 15.6 c.i.
Cooling Chillers	Insulation - Wall - CBES 2015 - Code	Assembly	Discretionary	266.9	0.09	0.00	3.8	18.3	0.0	0.0	0	30	\$10,476.35	\$10,476.35	\$0.21	\$0.00	\$0.00	0.25	0.98	0.933	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)
Cooling Chillers	Natural Ventilation	Assembly	Lost Opportunity	341.4	0.12	0.00	0.0	0.0	0.0	0.0	0	15	\$10,434.00	\$10,434.00	\$0.18	\$0.00	\$0.00	0.12	0.98	0.037	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling
Cooling Chillers	Programmable Thermostat	Assembly	Discretionary	136.6	0.05	0.00																		



Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Assembly	Lost Opportunity	1,814.4	0.62	0.00	0.0	0.0	0.0	0.0	0	15	\$39,649.20	\$39,649.20	\$0.18	-\$907.76	\$0.00	0.22	0.98	5.938	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems
Cooling Dx Evap	Indirect Information Feedback	Assembly	Discretionary	15.9	0.01	0.00	3.1	2.3	0.0	0.0	0	2	\$52.88	\$52.88	\$0.21	\$0.00	\$0.00	0.43	0.98	0.326	0.000	0.000	0.000	Indirect Information Feedback
Cooling Dx Evap	Indirect Information Feedback	Assembly	Lost Opportunity	15.9	0.01	0.00	3.4	2.6	0.0	0.0	0	2	\$52.88	\$52.88	\$0.18	\$0.00	\$0.00	0.47	0.98	0.039	0.000	0.000	0.000	Indirect Information Feedback
Cooling Dx Evap	Infiltration Reduction	Assembly	Discretionary	91.6	0.03	0.00	59.3	50.0	0.0	0.0	0	10	\$187.97	\$187.97	\$0.21	\$0.00	\$0.00	9.95	0.98	0.115	0.148	0.117	0.117	Install Caulking And Weatherstripping (ACH 0.65)
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Assembly	Discretionary	150.3	0.05	0.00	29.2	31.9	0.0	0.0	0	30	\$1,041.40	\$1,041.40	\$0.21	\$0.00	\$0.00	3.33	0.98	1.542	1.993	1.579	1.579	R-35 c.i.
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Assembly	Lost Opportunity	150.3	0.05	0.00	32.4	35.5	0.0	0.0	0	30	\$1,041.40	\$1,041.40	\$0.18	\$0.00	\$0.00	3.58	0.98	0.065	0.086	0.068	0.068	R-35 c.i.
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Code	Assembly	Discretionary	395.7	0.14	0.00	100.0	109.4	0.0	0.0	0	30	\$4,751.86	\$4,751.86	\$0.21	\$0.00	\$0.00	2.31	0.98	2.611	3.375	2.674	2.674	R-30 c.i. (CBES 2015 Code)
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Assembly	Discretionary	110.0	0.04	0.00	19.8	0.0	0.0	0.0	0	20	\$141.51	\$141.51	\$0.21	\$0.00	\$0.00	9.25	0.98	2.921	3.775	2.991	2.991	R-12
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Assembly	Lost Opportunity	110.0	0.04	0.00	22.0	0.0	0.0	0.0	0	20	\$141.51	\$141.51	\$0.18	\$0.00	\$0.00	9.87	0.98	0.321	0.423	0.335	0.335	R-12
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	Assembly	Discretionary	110.0	0.04	0.00	19.8	0.0	0.0	0.0	0	20	\$569.96	\$569.96	\$0.21	\$0.00	\$0.00	2.30	0.98	2.265	2.927	2.319	2.319	R-8 (CBES 2015 Code)
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Assembly	Discretionary	221.5	0.08	0.00	43.0	47.1	0.0	0.0	0	30	\$1,851.38	\$1,851.38	\$0.21	\$0.00	\$0.00	2.76	0.98	0.761	0.983	0.779	0.779	R-38
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Assembly	Lost Opportunity	221.5	0.08	0.00	47.8	52.3	0.0	0.0	0	30	\$1,851.38	\$1,851.38	\$0.18	\$0.00	\$0.00	2.97	0.98	0.133	0.176	0.139	0.139	R-38
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	Assembly	Discretionary	385.8	0.13	0.00	74.9	82.0	0.0	0.0	0	30	\$5,307.28	\$5,307.28	\$0.21	\$0.00	\$0.00	1.68	0.98	1.262	1.632	1.293	1.293	R-30 (CBES 2015 Code)
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Assembly	Discretionary	256.6	0.09	0.00	49.8	54.5	0.0	0.0	0	30	\$1,526.71	\$1,526.71	\$0.21	\$0.00	\$0.00	3.88	0.98	1.478	1.911	1.514	1.514	R-13 + 15.6 c.i.
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Assembly	Lost Opportunity	256.6	0.09	0.00	55.4	60.6	0.0	0.0	0	30	\$1,526.71	\$1,526.71	\$0.18	\$0.00	\$0.00	4.17	0.98	0.389	0.514	0.407	0.407	R-13 + 15.6 c.i.
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Code	Assembly	Discretionary	238.7	0.08	0.00	54.7	59.8	0.0	0.0	0	30	\$10,476.35	\$10,476.35	\$0.21	\$0.00	\$0.00	0.59	0.98	0.879	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Assembly	Discretionary	245.8	0.08	0.00	0.0	0.0	0.0	0.0	0	15	\$40,876.90	\$40,876.90	\$0.21	\$0.00	\$0.00	0.02	0.98	0.199	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Assembly	Lost Opportunity	245.8	0.08	0.00	0.0	0.0	0.0	0.0	0	15	\$32,701.52	\$32,701.52	\$0.18	\$0.00	\$0.00	0.03	0.98	0.014	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)
Cooling Dx Evap	Natural Ventilation	Assembly	Lost Opportunity	305.5	0.10	0.00	0.0	0.0	0.0	0.0	0	15	\$10,434.00	\$10,434.00	\$0.18	\$0.00	\$0.00	0.10	0.98	0.014	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling
Cooling Dx Evap	Programmable Thermostat	Assembly	Discretionary	122.2	0.04	0.00	23.7	20.3	0.0	0.0	0	11	\$43.58	\$43.58	\$0.21	\$0.00	\$0.00	23.84	0.98	3.194	4.128	3.271	3.271	Programmable Thermostat
Cooling Dx Evap	Re-Commissioning	Assembly	Discretionary	397.1	0.14	0.00	77.1	60.2	0.0	0.0	0	5	\$3,130.20	\$3,130.20	\$0.21	\$0.00	\$0.00	0.48	0.98	12.090	0.000	0.000	0.000	Re-Commissioning
Cooling Dx Evap	Retrocommissioning	Assembly	Discretionary	453.1	0.15	0.00	88.0	68.7	0.0	0.0	0	5	\$5,217.00	\$5,217.00	\$0.21	\$0.00	\$0.00	0.33	0.98	7.418	0.000	0.000	0.000	Retrocommissioning
Cooling Dx Evap	Strategic Energy Management (SEM)	Assembly	Discretionary	125.2	0.04	0.00	24.3	19.0	0.0	0.0	0	5	\$16.88	\$16.88	\$0.21	\$0.00	\$0.00	27.81	0.98	0.508	0.657	0.520	0.520	Identify Operations and Maintenance Improvements through Strategic Energy Man
Cooling Dx Evap	Strategic Energy Management (SEM)	Assembly	Lost Opportunity	125.2	0.04	0.00	27.0	21.1	0.0	0.0	0	5	\$16.88	\$16.88	\$0.18	\$0.00	\$0.00	30.00	0.98	0.305	0.402	0.319	0.319	Identify Operations and Maintenance Improvements through Strategic Energy Man
Cooling Dx Evap	Tune-up - DX Maintenance	Assembly	Discretionary	439.1	0.15	0.00	0.0	0.0	0.0	0.0	0	5	\$13,888.62	\$13,888.62	\$0.21	\$0.00	\$0.00	0.03	0.98	3.928	0.000	0.000	0.000	DX Tune-up / Diagnostics
Cooling Dx Evap	Wi-Fi Thermostat	Assembly	Discretionary	122.2	0.04	0.00	23.7	20.3	0.0	0.0	0	11	\$347.17	\$347.17	\$0.21	\$0.00	\$0.00	2.99	0.98	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Assembly	Discretionary	8.6	0.00	0.00	1.7	1.6	0.0	0.0	0	20	\$1,111.56	\$1,111.56	\$0.21	\$0.00	\$0.00	0.12	0.98	0.039	0.000	0.000	0.000	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Assembly	Lost Opportunity	8.6	0.00	0.00	1.9	1.8	0.0	0.0	0	20	\$1,111.56	\$1,111.56	\$0.18	\$0.00	\$0.00	0.13	0.98	0.010	0.000	0.000	0.000	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Code	Assembly	Discretionary	19.7	0.01	0.00	3.9	3.8	0.0	0.0	0	20	\$7,340.35	\$7,340.35	\$0.21	\$0.00	\$0.00	0.04	0.98	0.087	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtu/h - Premium Efficiency	Assembly	Discretionary	1,540.4	0.53	0.00	0.0	0.0	0.0	0.0	0	15	\$47,358.61	\$47,358.61	\$0.21	\$0.00	\$0.00	0.11	0.98	15.010	0.000	0.000	0.000	Premium Efficiency - 19.0 IEEER
Fax	Fax - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	1.712	0.000	0.000	0.000	ENERGY STAR Fax
Fax	Fax - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.171	0.000	0.000	0.000	ENERGY STAR Fax
Flat Screen Monitors	Monitor - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	0.50	1.00	6.907	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	0.50	1.00	0.652	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor
Freezers	Freezer (Residential) - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	13.03	1.00	0.537	0.537	0.349	0.349	ENERGY STAR Freezer
Freezers	Freezer (Residential) - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	13.03	1.00	0.073	0.073	0.047	0.047	ENERGY STAR Freezer
Freezers	Residential Freezer Recycling and Replacement	Assembly	Discretionary	24.9	0.00	0.00	0.0	0.0	0.0	0.0	0	8	\$9.99	\$9.99	\$0.21	\$0.00	\$0.00	3.13	1.00	3.394	3.394	2.207	2.207	Recycling Existing Freezer and Replacing with a Federal Standard Unit
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	Assembly	Discretionary	3,423.7	0.04	0.72	0.0	0.0	0.0	0.0	0	8	\$194.36	\$194.36	\$0.21	\$0.00	\$0.00	17.35	0.99	124.337	124.337	108.770	108.770	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	Assembly	Discretionary	3,195.5	0.04	0.67	0.0	0.0	0.0	0.0	0	8	\$72.27	\$72.27	\$0.21	\$0.00	\$0.00	43.56	0.99	324.934	324.934	284.252	284.252	Photocell
Lighting Exterior	LED Exterior Flood Lights	Assembly	Discretionary	1,108.7	0.01	0.23	0.0	0.0	0.0	0.0	0	20	\$731.29	\$731.29	\$0.21	\$0.00	\$0.00	3.73	0.99	183.599	183.599	160.612	160.612	LED Exterior Flood Lights
Lighting Exterior	LED Exterior Flood Lights	Assembly	Lost Opportunity	1,108.7	0.01	0.23	0.0	0.0	0.0	0.0	0	20	\$731.29	\$731.29	\$0.18	\$0.00	\$0.00	3.73	0.99	15.953	15.953	13.956	13.956	LED Exterior Flood Lights
Lighting Exterior	LED Exterior Pole Mount Fixture	Assembly	Discretionary	631.8	0.01	0.13	0.0	0.0	0.0	0.0	0	15	\$1,238.85	\$1,238.85	\$0.21	\$0.00	\$0.00	0.94	0.99	104.625	0.000	0.000	0.000	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Pole Mount Fixture	Assembly	Lost Opportunity	631.8	0.01	0.13	0.0	0.0	0.0	0.0	0	15	\$1,238.85	\$1,238.85	\$0.18	\$0.00	\$0.00	0.94	0.99	9.091	0.000	0.000	0.000	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Wall Pack	Assembly	Discretionary	2,094.6	0.02	0.44	0.0	0.0	0.0	0.0	0	20	\$4,346.60	\$4,346.60	\$0.21	\$0.00	\$0.00	1.19	0.99	327.597	327.597	286.581	286.581	LED Exterior Wall Pack
Lighting Exterior	LED Exterior Wall Pack	Assembly	Lost Opportunity	2,094.6	0.02	0.44	0.0	0.0	0.0	0.0	0	20	\$4,346.60	\$4,346.60	\$0.18	\$0.00	\$0.00	1.19	0.99	28.465	28.465	24.902	24.902	LED Exterior Wall Pack
Lighting Exterior	LED Pathway Lights	Assembly	Discretionary	521.7	0.01	0.11	0.0	0.0	0.0	0.0	0	11	\$123.45	\$123.45	\$0.21	\$0.00	\$0.00	5.73	0.99	86.402	86.402	75.584	75.584	LED Pathway Lights
Lighting Exterior	LED Pathway Lights	Assembly	Lost Opportunity	521.7	0.01	0.11	0.0	0.0	0.0	0.0	0	11	\$123.45	\$123.45	\$0.18	\$0.00	\$0.00	5.73	0.99	7.508	7.508	6.568	6.568	LED Pathway Lights
Lighting Exterior	Occupancy Sensor Control	Assembly	Discretionary	2,739.0	0.03	0.58	0.0	0.0	0.0	0.0	0	10	\$6,364.00	\$6,364.00	\$0.21	\$0.00	\$0.00	0.53	0.99	238.727	0.000	0.000	0.000	Occupancy Sensor Control

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Lighting Interior Other	New Construction Lighting Package - Premium Efficiency	Assembly	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$0.54	\$0.54	\$0.18	\$0.00	\$0.00	2.95	0.99	0.000	0.000	0.000	0.000	Premium Efficiency Lighting Package - 20% LPD Reduction
Lighting Interior Other	Occupancy Sensor Control	Assembly	Discretionary	109.7	0.02	0.01	0.0	0.0	0.0	0.0	0	10	\$254.84	\$254.84	\$0.21	\$0.00	\$0.00	0.80	0.99	9.560	0.000	0.000	0.000	0.000	Occupancy Sensor Control
Lighting Interior Other	Time Clock	Assembly	Discretionary	45.7	0.01	0.01	0.0	0.0	0.0	0.0	0	8	\$174.15	\$174.15	\$0.21	\$0.00	\$0.00	0.39	0.99	0.332	0.000	0.000	0.000	0.000	Time Clock
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	Assembly	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	3	\$0.01	\$0.01	\$0.21	-\$0.01	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	0.000	CFL
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base Incandescent - Backstop EISA 2020 Standard	Assembly	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	3	\$0.00	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	0.000	Backstop EISA 2020 Standard Incandescent
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base LED - Above Standard	Assembly	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.04	\$0.04	\$0.21	-\$0.01	\$0.00	999.00	0.99	21.877	21.996	19.242	19.242	0.000	LED
Lighting Interior Screw Base - Standard	Occupancy Sensor Control	Assembly	Discretionary	900.6	0.17	0.12	0.0	0.0	0.0	0.0	0	10	\$2,092.57	\$2,092.57	\$0.21	\$0.00	\$0.00	0.80	0.99	29.988	0.000	0.000	0.000	0.000	Occupancy Sensor Control
Lighting Interior Screw Base - Standard	Time Clock	Assembly	Discretionary	375.3	0.07	0.05	0.0	0.0	0.0	0.0	0	8	\$174.15	\$174.15	\$0.21	\$0.00	\$0.00	3.18	0.99	1.041	1.041	0.911	0.911	0.000	Time Clock
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base CFL - Above Standard	Assembly	Discretionary	1,778.4	0.35	0.24	0.0	0.0	0.0	0.0	0	3	\$49.39	\$49.39	\$0.21	-\$33.73	\$0.00	0.00	0.99	0.000	0.000	0.000	0.000	0.000	CFL
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base LED - Above Standard	Assembly	Discretionary	1,858.8	0.36	0.25	0.0	0.0	0.0	0.0	0	12	\$156.29	\$156.29	\$0.21	-\$41.95	\$0.00	0.00	0.99	240.934	0.000	0.000	0.000	0.000	LED
Other Plug Load	Dehumidifier - ENERGY STAR	Assembly	Discretionary	260.0	0.04	0.02	0.0	0.0	0.0	0.0	0	12	\$101.44	\$101.44	\$0.21	\$0.00	\$0.00	5.23	1.00	8.311	8.311	6.697	6.697	0.000	ENERGY STAR Dehumidifier
Other Plug Load	Dehumidifier - ENERGY STAR	Assembly	Lost Opportunity	260.0	0.04	0.02	0.0	0.0	0.0	0.0	0	12	\$101.44	\$101.44	\$0.18	\$0.00	\$0.00	5.23	1.00	0.722	0.722	0.582	0.582	0.000	ENERGY STAR Dehumidifier
Other Plug Load	ENERGY STAR - Scanners	Assembly	Discretionary	6.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.815	0.000	0.000	0.000	0.000	ENERGY STAR Scanners
Other Plug Load	ENERGY STAR - Scanners	Assembly	Lost Opportunity	6.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.071	0.000	0.000	0.000	0.000	ENERGY STAR Scanners
Other Plug Load	ENERGY STAR - Water Cooler	Assembly	Discretionary	98.4	0.01	0.01	0.0	0.0	0.0	0.0	0	10	\$0.85	\$0.85	\$0.21	\$0.00	\$0.00	196.63	1.00	18.100	18.100	14.587	14.587	0.000	ENERGY STAR Water Cooler (Hot/Cold Water)
Other Plug Load	ENERGY STAR - Water Cooler	Assembly	Lost Opportunity	98.4	0.01	0.01	0.0	0.0	0.0	0.0	0	10	\$0.85	\$0.85	\$0.18	\$0.00	\$0.00	196.63	1.00	1.573	1.573	1.267	1.267	0.000	ENERGY STAR Water Cooler (Hot/Cold Water)
Other Plug Load	Internal Power Supply / Com - E Star	Assembly	Discretionary	44.3	0.01	0.00	0.0	0.0	0.0	0.0	0	4	\$90.33	\$90.33	\$0.21	\$0.00	\$0.00	0.32	1.00	1.917	0.000	0.000	0.000	0.000	ENERGY STAR power supply for ENERGY STAR desktop
Other Plug Load	Internal Power Supply / Com - E Star	Assembly	Lost Opportunity	44.3	0.01	0.00	0.0	0.0	0.0	0.0	0	4	\$90.33	\$90.33	\$0.18	\$0.00	\$0.00	0.32	1.00	0.167	0.000	0.000	0.000	0.000	ENERGY STAR power supply for ENERGY STAR desktop
Other Plug Load	Smart Strip Plug Outlet	Assembly	Discretionary	439.3	0.06	0.04	0.0	0.0	0.0	0.0	0	4	\$330.28	\$330.28	\$0.21	\$0.00	\$0.00	0.86	1.00	17.018	0.000	0.000	0.000	0.000	Advanced Power Strip - Load Sensing
Other Plug Load	Smart Strip Plug Outlet	Assembly	Lost Opportunity	439.3	0.06	0.04	0.0	0.0	0.0	0.0	0	4	\$330.28	\$330.28	\$0.18	\$0.00	\$0.00	0.86	1.00	1.479	0.000	0.000	0.000	0.000	Advanced Power Strip - Load Sensing
Other Plug Load	Smart Strip Plug Outlet	Assembly	Discretionary	267.1	0.04	0.02	0.0	0.0	0.0	0.0	0	4	\$799.87	\$799.87	\$0.21	\$0.00	\$0.00	0.22	1.00	0.000	0.000	0.000	0.000	0.000	Advanced Power Strip with Occupancy Sensor
Other Plug Load	Smart Strip Plug Outlet	Assembly	Lost Opportunity	267.1	0.04	0.02	0.0	0.0	0.0	0.0	0	4	\$799.87	\$799.87	\$0.18	\$0.00	\$0.00	0.22	1.00	0.000	0.000	0.000	0.000	0.000	Advanced Power Strip with Occupancy Sensor
Photo Copiers	Copiers - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	8.347	0.000	0.000	0.000	0.000	ENERGY STAR Copiers
Photo Copiers	Copiers - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.790	0.000	0.000	0.000	0.000	ENERGY STAR Copiers
Printers	Printers - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	20.179	0.000	0.000	0.000	0.000	ENERGY STAR Printers
Printers	Printers - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	2.013	0.000	0.000	0.000	0.000	ENERGY STAR Printers
Refrigeration	Add Doors to Refrigerated Open Display Cases	Assembly	Discretionary	3.1	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$4.75	\$4.75	\$0.21	\$0.00	\$0.00	1.27	0.98	0.018	0.018	0.018	0.018	0.000	Add Doors to Refrigerated Open Display Cases
Refrigeration	Add Doors to Refrigerated Open Display Cases	Assembly	Lost Opportunity	3.1	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$4.75	\$4.75	\$0.18	\$0.00	\$0.00	1.27	0.98	0.007	0.007	0.007	0.007	0.000	Add Doors to Refrigerated Open Display Cases
Refrigeration	Anti-Sweat (Humidistat) Controls	Assembly	Discretionary	574.7	0.08	0.07	0.0	0.0	0.0	0.0	0	8	\$81.25	\$81.25	\$0.21	\$0.00	\$0.00	9.19	0.98	5.566	5.566	5.554	5.554	0.000	Anti-Sweat (Humidistat) Controls
Refrigeration	Case Replacement Low Temp	Assembly	Discretionary	360.1	0.05	0.04	0.0	0.0	0.0	0.0	0	15	\$20.20	\$20.20	\$0.21	\$0.00	\$0.00	44.30	0.98	66.254	66.254	66.107	66.107	0.000	Case Replacement Low Temp
Refrigeration	Case Replacement Med Temp	Assembly	Discretionary	30.7	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$39.00	\$39.00	\$0.21	\$0.00	\$0.00	1.96	0.98	5.651	5.651	5.638	5.638	0.000	Case Replacement Med Temp
Refrigeration	Demand Control Defrost - Hot Gas	Assembly	Discretionary	219.6	0.03	0.03	0.0	0.0	0.0	0.0	0	10	\$351.51	\$351.51	\$0.21	\$0.00	\$0.00	1.02	0.98	2.127	2.127	2.122	2.122	0.000	Refrigerant Defrost
Refrigeration	Display Case Electronically Commutated Motor - Low Temp	Assembly	Discretionary	89.3	0.01	0.01	0.0	0.0	0.0	0.0	0	15	\$63.91	\$63.91	\$0.21	\$0.00	\$0.00	3.47	0.98	11.028	11.028	11.004	11.004	0.000	ECM Evaporator Fans - Low Temp
Refrigeration	Display Case Electronically Commutated Motor - Medium Temp	Assembly	Discretionary	2.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$1.43	\$1.43	\$0.21	\$0.00	\$0.00	3.47	0.98	0.246	0.246	0.246	0.246	0.000	ECM Evaporator Fans - Medium Temp
Refrigeration	Display Case LEDs (Closed Cases)	Assembly	Discretionary	69.5	0.01	0.01	0.0	0.0	0.0	0.0	0	8	\$41.40	\$41.40	\$0.21	\$0.00	\$0.00	2.18	0.98	12.785	12.785	12.756	12.756	0.000	Display Case LEDs (Closed Cases)
Refrigeration	Display Case LEDs (Closed Cases)	Assembly	Lost Opportunity	69.5	0.01	0.01	0.0	0.0	0.0	0.0	0	8	\$18.41	\$18.41	\$0.18	\$0.00	\$0.00	4.90	0.98	1.111	1.111	1.108	1.108	0.000	Display Case LEDs (Closed Cases)
Refrigeration	Display Case LEDs (Open Cases)	Assembly	Discretionary	2.8	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$1.93	\$1.93	\$0.21	-\$0.07	\$0.00	2.07	0.98	0.508	0.508	0.507	0.507	0.000	Display Case LEDs (Open Cases)
Refrigeration	Display Case LEDs (Open Cases)	Assembly	Lost Opportunity	2.8	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$1.02	\$1.02	\$0.18	-\$0.06	\$0.00	4.78	0.98	0.044	0.044	0.044	0.044	0.000	Display Case LEDs (Open Cases)
Refrigeration	Display Case Motion Sensors	Assembly	Discretionary	26.9	0.00	0.00	0.0	0.0	0.0	0.0	0	8	\$6.27	\$6.27	\$0.21	\$0.00	\$0.00	5.57	0.98	4.685	4.685	4.675	4.675	0.000	Display Case Motion Sensors
Refrigeration	Evaporator Fan Controller - Low Temp	Assembly	Discretionary	4.3	0.00	0.00	0.0	0.0	0.0	0.0	0	16	\$3.32	\$3.32	\$0.21	\$0.00	\$0.00	3.42	0.98	0.744	0.744	0.742	0.742	0.000	ECM Evaporator Fan Controller - Low Temp
Refrigeration	Evaporator Fan Controller - Low Temp	Assembly	Lost Opportunity	4.3	0.00	0.00	0.0	0.0	0.0	0.0	0	16	\$3.32	\$3.32	\$0.18	\$0.00	\$0.00	3.42	0.98	0.053	0.053	0.053	0.053	0.000	ECM Evaporator Fan Controller - Low Temp
Refrigeration	Evaporator Fan Controller - Medium Temp	Assembly	Discretionary	6.7	0.00	0.00	0.0	0.0	0.0	0.0	0	16	\$6.20	\$6.20	\$0.21	\$0.00	\$0.00	2.85	0.98	1.160	1.160	1.158	1.158	0.000	ECM Evaporator Fan Controller - Medium Temp
Refrigeration	Evaporator Fan Controller - Medium Temp	Assembly	Lost Opportunity	6.7	0.00	0.00	0.0	0.0	0.0	0.0	0	16	\$6.20	\$6.20	\$0.18	\$0.00	\$0.00	2.85	0.98	0.082	0.082	0.082	0.082	0.000	ECM Evaporator Fan Controller - Medium Temp
Refrigeration	Floating Condenser Head Pressure Controls	Assembly	Discretionary	548.9	0.07	0.06	0.0	0.0	0.0	0.0	0	15	\$176.47	\$176.47	\$0.21	\$0.00	\$0.00	7.73	0.98	5.316	5.316	5.304	5.304	0.000	Floating Condenser Head Pressure Controls
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Assembly	Discretionary	13.8	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$1.87	\$1.87	\$0.21	\$0.00	\$0.00	10.81	0.98	2.538	2.538	2.532	2.532	0.000	Glass Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Assembly	Lost Opportunity	13.8	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$1.87	\$1.87	\$0.18	\$0.00	\$0.00	10.81	0.98	0.221	0.221	0.220	0.220	0.000	Glass Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Ice Maker - High Efficiency	Assembly	Discretionary	5.6	0.00	0.00	0.0	0.0	0.0	0.0	0	8	\$0.36	\$0.36	\$0.21	\$0.00	\$0.00	20.36	0.98	1.082	1.082	1.079	1.079	0.000	High Efficiency Ice Maker
Refrigeration	Ice Maker - High Efficiency	Assembly	Lost Opportunity	5.6	0.00	0.00	0.0	0.0	0.0	0.0	0	8	\$0.36	\$0.36	\$0.18	\$0.00	\$0.00	20.36	0.98	0.094	0.094	0.094	0.094	0.000	High Efficiency Ice Maker
Refrigeration	Night Covers for Display Cases	Assembly	Discretionary	3.6	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$0.64	\$0.64	\$0.21	\$0.07	\$0.00	3.04	0.98	0.662	0.662	0.661	0.661	0.000	Night Covers for Display Cases
Refrigeration	Night Covers for Display Cases	Assembly	Lost Opportunity	3.6	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$0.64	\$0.64	\$0.18	\$0.07	\$0.00	3.04	0.98	0.058	0.058	0.057	0.057	0.000	Night Covers for Display Cases
Refrigeration	No Heat Case Doors	Assembly	Discretionary	119.7	0.02																				

Appendix B.2		EVT Non-residential Measure Assumptions																								
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description		
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Assembly	Discretionary	202.4	0.09	0.00	0.0	0.0	0.0	0.0	0.0	15	\$2,974.59	\$2,974.59	\$0.21	\$0.00	\$0.00	0.28	0.98	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1		
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Assembly	Lost Opportunity	202.4	0.09	0.00	0.0	0.0	0.0	0.0	0	15	\$2,974.59	\$2,974.59	\$0.18	\$0.00	\$0.00	0.28	0.98	0.004	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1		
Room Cool	Exhaust Hood Makeup Air	Assembly	Discretionary	14.7	0.01	0.00	0.0	0.0	0.0	0.0	0	12	\$40.42	\$40.42	\$0.21	\$0.00	\$0.00	1.16	0.98	0.001	0.001	0.001	0.001	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air		
Room Roof	Green Roof	Assembly	Discretionary	1.7	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$92,568.75	\$92,568.75	\$0.21	\$925.69	\$0.00	0.00	0.98	0.005	0.000	0.000	0.000	0.000	Vegetation on Roof	
Room Cool	Green Roof	Assembly	Lost Opportunity	1.3	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$92,568.75	\$92,568.75	\$0.18	\$925.69	\$0.00	0.00	0.98	0.000	0.000	0.000	0.000	0.000	Vegetation on Roof	
Room Cool	Infiltration Reduction	Assembly	Discretionary	9.8	0.00	0.00	0.2	1.2	0.1	0.0	0	10	\$187.97	\$187.97	\$0.21	\$0.00	\$0.00	0.22	0.98	0.001	0.000	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)	
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Assembly	Discretionary	16.1	0.01	0.00	0.1	0.8	0.1	0.0	0	30	\$1,041.40	\$1,041.40	\$0.21	\$0.00	\$0.00	0.15	0.98	0.019	0.000	0.000	0.000	0.000	R-35 c.i.	
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Assembly	Lost Opportunity	14.5	0.01	0.00	0.1	0.9	0.1	0.0	0	30	\$1,041.40	\$1,041.40	\$0.18	\$0.00	\$0.00	0.14	0.98	0.001	0.000	0.000	0.000	0.000	R-35 c.i.	
Room Cool	Insulation - Ceiling - CBES 2015 - Code	Assembly	Discretionary	42.3	0.02	0.00	0.4	2.6	0.2	0.0	0	30	\$4,751.86	\$4,751.86	\$0.21	\$0.00	\$0.00	0.09	0.98	0.031	0.000	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)	
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Assembly	Discretionary	23.7	0.01	0.00	0.2	1.1	0.1	0.0	0	30	\$1,851.38	\$1,851.38	\$0.21	\$0.00	\$0.00	0.13	0.98	0.009	0.000	0.000	0.000	0.000	R-38	
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Assembly	Lost Opportunity	21.3	0.01	0.00	0.2	1.3	0.1	0.0	0	30	\$1,851.38	\$1,851.38	\$0.18	\$0.00	\$0.00	0.12	0.98	0.001	0.000	0.000	0.000	0.000	R-38	
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Code	Assembly	Discretionary	41.3	0.02	0.00	0.3	2.0	0.1	0.0	0	30	\$5,307.28	\$5,307.28	\$0.21	\$0.00	\$0.00	0.08	0.98	0.016	0.000	0.000	0.000	0.000	R-30 (CBES 2015 Code)	
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Assembly	Discretionary	27.4	0.01	0.00	0.2	1.3	0.1	0.0	0	30	\$1,526.71	\$1,526.71	\$0.21	\$0.00	\$0.00	0.18	0.98	0.019	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Assembly	Lost Opportunity	24.7	0.01	0.00	0.2	1.5	0.1	0.0	0	30	\$1,526.71	\$1,526.71	\$0.18	\$0.00	\$0.00	0.17	0.98	0.004	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Room Cool	Insulation - Wall - CBES 2015 - Code	Assembly	Discretionary	25.5	0.01	0.00	0.2	1.4	0.1	0.0	0	30	\$10,476.35	\$10,476.35	\$0.21	\$0.00	\$0.00	0.02	0.98	0.011	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)	
Room Cool	Natural Ventilation	Assembly	Lost Opportunity	29.4	0.01	0.00	0.0	0.0	0.0	0.0	0	15	\$10,434.00	\$10,434.00	\$0.18	\$0.00	\$0.00	0.01	0.98	0.000	0.000	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling	
Room AC - ENERGY STAR	Room AC - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.03	\$0.03	\$0.21	\$0.00	\$0.00	0.25	0.98	0.160	0.000	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)	
Room Cool	Room AC - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.03	\$0.03	\$0.18	\$0.00	\$0.00	0.25	0.98	0.016	0.000	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)	
Room Cool	Windows - CBES 2015 - Above Code	Assembly	Discretionary	0.9	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$1,111.56	\$1,111.56	\$0.21	\$0.00	\$0.00	0.01	0.98	0.001	0.000	0.000	0.000	0.000	U-0.29	
Room Cool	Windows - CBES 2015 - Above Code	Assembly	Lost Opportunity	0.8	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$1,111.56	\$1,111.56	\$0.18	\$0.00	\$0.00	0.01	0.98	0.000	0.000	0.000	0.000	0.000	U-0.29	
Room Cool	Windows - CBES 2015 - Code	Assembly	Discretionary	2.1	0.00	0.00	0.0	0.1	0.0	0.0	0	20	\$7,340.35	\$7,340.35	\$0.21	\$0.00	\$0.00	0.00	0.98	0.002	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Room Cool - Early Replacement	Early Replacement Room AC - ENERGY STAR	Assembly	Discretionary	66.7	0.03	0.00	0.0	0.0	0.0	0.0	0	9	\$1,147.74	\$1,147.74	\$0.21	\$0.00	\$0.00	0.00	0.98	0.050	0.000	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)	
Room Heat - Electric	Ductless Heat Pump (DHP)	Assembly	Discretionary	3,417.2	0.01	1.37	0.0	0.0	0.0	0.0	0	15	\$2,905.14	\$2,905.14	\$0.21	\$0.00	\$0.00	2.20	0.97	0.000	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Heat - Electric	Ductless Heat Pump (DHP)	Assembly	Lost Opportunity	3,417.2	0.01	1.37	0.0	0.0	0.0	0.0	0	15	\$2,905.14	\$2,905.14	\$0.18	\$0.00	\$0.00	2.20	0.97	0.000	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Assembly	Discretionary	3,597.5	0.01	1.45	0.0	0.0	0.0	0.0	0	15	\$2,974.59	\$2,974.59	\$0.21	\$0.00	\$0.00	2.26	0.97	0.000	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1	
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Assembly	Lost Opportunity	3,597.5	0.01	1.45	0.0	0.0	0.0	0.0	0	15	\$2,974.59	\$2,974.59	\$0.18	\$0.00	\$0.00	2.26	0.97	0.025	0.025	0.019	0.019	0.019	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1	
Room Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Assembly	Discretionary	7,724.3	0.02	3.11	0.0	0.0	0.0	0.0	0	14	\$45,856.90	\$45,856.90	\$0.21	\$0.00	\$0.00	0.29	0.97	1.481	0.000	0.000	0.000	0.000	0.000	Exhaust Air to Ventilation Air Heat Recovery
Room Heat - Electric	Infiltration Reduction	Assembly	Discretionary	5,149.6	0.01	2.07	0.0	0.0	0.0	0.0	0	10	\$187.97	\$187.97	\$0.21	\$0.00	\$0.00	34.49	0.97	0.397	0.397	0.309	0.309	0.309	Install Caulking And Weatherstripping (ACH 0.65)	
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Assembly	Discretionary	2,534.1	0.01	1.02	0.0	0.0	0.0	0.0	0	30	\$1,041.40	\$1,041.40	\$0.21	\$0.00	\$0.00	9.13	0.97	1.638	1.638	1.274	1.274	1.274	R-35 c.i.	
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Assembly	Lost Opportunity	2,534.1	0.01	1.02	0.0	0.0	0.0	0.0	0	30	\$1,041.40	\$1,041.40	\$0.18	\$0.00	\$0.00	9.13	0.97	0.067	0.067	0.052	0.052	0.052	R-35 c.i.	
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Assembly	Discretionary	6,670.6	0.01	2.68	0.0	0.0	0.0	0.0	0	30	\$4,751.86	\$4,751.86	\$0.21	\$0.00	\$0.00	5.27	0.97	2.773	2.773	2.158	2.158	2.158	R-30 c.i. (CBES 2015 Code)	
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Assembly	Discretionary	3,734.5	0.01	1.50	0.0	0.0	0.0	0.0	0	30	\$1,851.38	\$1,851.38	\$0.21	\$0.00	\$0.00	7.57	0.97	0.808	0.808	0.629	0.629	0.629	R-38	
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Assembly	Lost Opportunity	3,734.5	0.01	1.50	0.0	0.0	0.0	0.0	0	30	\$1,851.38	\$1,851.38	\$0.18	\$0.00	\$0.00	7.57	0.97	0.135	0.135	0.105	0.105	0.105	R-38	
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Assembly	Discretionary	6,504.2	0.01	2.62	0.0	0.0	0.0	0.0	0	30	\$5,307.28	\$5,307.28	\$0.21	\$0.00	\$0.00	4.60	0.97	1.367	1.367	1.064	1.064	1.064	R-30 (CBES 2015 Code)	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Assembly	Discretionary	4,325.1	0.01	1.74	0.0	0.0	0.0	0.0	0	30	\$1,526.71	\$1,526.71	\$0.21	\$0.00	\$0.00	10.63	0.97	1.570	1.570	1.222	1.222	1.222	R-13 + 15.6 c.i.	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Assembly	Lost Opportunity	4,325.1	0.01	1.74	0.0	0.0	0.0	0.0	0	30	\$1,526.71	\$1,526.71	\$0.18	\$0.00	\$0.00	10.63	0.97	0.396	0.396	0.308	0.308	0.308	R-13 + 15.6 c.i.	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Code	Assembly	Discretionary	4,024.8	0.01	1.62	0.0	0.0	0.0	0.0	0	30	\$10,476.35	\$10,476.35	\$0.21	\$0.00	\$0.00	1.44	0.97	0.973	0.973	0.757	0.757	0.757	R-13 + 7.5 c.i. (CBES 2015 Code)	
Room Heat - Electric	Windows - CBES 2015 - Above Code	Assembly	Discretionary	145.2	0.00	0.06	0.0	0.0	0.0	0.0	0	20	\$1,111.56	\$1,111.56	\$0.21	\$0.00	\$0.00	0.33	0.97	0.083	0.000	0.000	0.000	0.000	U-0.29	
Room Heat - Electric	Windows - CBES 2015 - Above Code	Assembly	Lost Opportunity	145.2	0.00	0.06	0.0	0.0	0.0	0.0	0	20	\$1,111.56	\$1,111.56	\$0.18	\$0.00	\$0.00	0.33	0.97	0.024	0.000	0.000	0.000	0.000	U-0.29	
Room Heat - Electric	Windows - CBES 2015 - Code	Assembly	Discretionary	331.6	0.00	0.13	0.0	0.0	0.0	0.0	0	20	\$7,340.35	\$7,340.35	\$0.21	\$0.00	\$0.00	0.11	0.97	0.186	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Servers	Internal Power Supply / Server	Assembly	Discretionary	4.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$1.22	\$1.22	\$0.21	\$0.00	\$0.00	2.22	1.00	0.488	0.619	0.499	0.499	0.499	80 Plus power supply for Desktop Derived Server	
Servers	Internal Power Supply / Server	Assembly	Lost Opportunity	4.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$1.22	\$1.22	\$0.18	\$0.00	\$0.00	2.22	1.00	0.042	0.055	0.044	0.044	0.044	80 Plus power supply for Desktop Derived Server	
Servers	Server - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.02	\$0.02	\$0.21	\$0.00	\$0.00	0.32	1.00	6.972	0.000	0.000	0.000	0.000	ENERGY STAR Server	
Servers	Server - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.02	\$0.02	\$0.18	\$0.00	\$0.00	0.32	1.00	0.693	0.000	0.000	0.000	0.000	ENERGY STAR Server	
Space Heat - Electric	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Assembly	Discretionary	7,959.6	0.02	3.20	0.0	0.0	0.0	0.0	0	15	\$2,608.50	\$2,608.50	\$0.21	\$0.00	\$0.00	5.71	0.97	0.725	0.725	0.564	0.564	0.564	Demand Controlled Ventilation (CO2 sensors)	
Space Heat - Electric	Commissioning	Assembly	Lost Opportunity	11,758.6	0.02	4.73	0.0	0.0	0.0	0.0	0	5	\$12,103.44	\$12,103.44	\$0.18	\$0.00	\$0.00	0.60	0.97	1.916	0.000	0.000	0.000	0.000	Commissioning	
Space Heat - Electric	Convert Constant Volume Air System to VAV	Assembly	Discretionary	23,760.4	0.05	9.56	0.0	0.0	0.0	0.0	0	15	\$57,068.02	\$57,068.02	\$0.21	\$0.00	\$0.00	0.78	0.97	3.423	0.000	0.000	0.000	0.000	0.000	Variable Volume Air System



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Vending Machines	Vending Miser	Assembly	Discretionary	8.8	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$1.40	\$1.40	\$0.21	\$0.00	\$0.00	4.84	1.00	1.016	1.019	0.822	0.822	Vending Machine Occupancy Sensor	
Vending Machines	Vending Miser	Assembly	Lost Opportunity	8.8	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$1.40	\$1.40	\$0.18	\$0.00	\$0.00	4.83	1.00	0.102	0.102	0.082	0.082	Vending Machine Occupancy Sensor	
Ventilation And Circulation	Automated Exhaust VFD Control - Parking Garage CO sensor	Assembly	Discretionary	227.4	0.03	0.03	0.0	0.0	0.0	0.0	0	5	\$33.10	\$33.10	\$0.21	\$0.00	\$0.00	5.31	0.98	1.553	1.553	1.362	1.362	CO Sensors	
Ventilation And Circulation	Boiler Draft Fan - VFD	Assembly	Discretionary	2,086.8	0.24	0.26	0.0	0.0	0.0	0.0	0	15	\$1,122.82	\$1,122.82	\$0.21	\$0.00	\$0.00	4.47	0.98	105.088	105.088	92.146	92.146	VFD Boiler Draft Fan	
Ventilation And Circulation	Boiler Draft Fan - VFD	Assembly	Lost Opportunity	2,086.8	0.24	0.26	0.0	0.0	0.0	0.0	0	15	\$1,122.82	\$1,122.82	\$0.18	\$0.00	\$0.00	4.47	0.98	6.322	6.322	5.543	5.543	VFD Boiler Draft Fan	
Ventilation And Circulation	Convert Constant Volume Air System to VAV	Assembly	Discretionary	1,266.1	0.14	0.16	0.0	0.0	0.0	0.0	0	15	\$57,068.02	\$57,068.02	\$0.21	\$0.00	\$0.00	0.05	0.98	16.639	0.000	0.000	0.000	Variable Volume Air System	
Ventilation And Circulation	Cooking Hood Controls	Assembly	Discretionary	48.6	0.01	0.01	0.0	0.0	0.0	0.0	0	18	\$162.97	\$162.97	\$0.21	\$0.00	\$0.00	0.87	0.98	5.510	0.000	0.000	0.000	Demand-Ventilation Control	
Ventilation And Circulation	Cooking Hood Controls	Assembly	Lost Opportunity	48.6	0.01	0.01	0.0	0.0	0.0	0.0	0	18	\$162.97	\$162.97	\$0.18	\$0.00	\$0.00	0.87	0.98	0.479	0.000	0.000	0.000	Demand-Ventilation Control	
Ventilation And Circulation	Cooling Tower Fan - Variable Speed Control	Assembly	Discretionary	45.3	0.01	0.01	0.0	0.0	0.0	0.0	0	15	\$203.23	\$203.23	\$0.21	\$0.00	\$0.00	0.54	0.98	4.938	0.000	0.000	0.000	HVAC Fan System Installation with VSD	
Ventilation And Circulation	Fan System - HVAC - Variable Speed Control	Assembly	Discretionary	2,470.2	0.28	0.30	0.0	0.0	0.0	0.0	0	15	\$393.50	\$393.50	\$0.21	\$0.00	\$0.00	15.10	0.98	105.258	105.258	92.295	92.295	HVAC Fan System Optimization with VSD (Restoration)	
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	Assembly	Discretionary	59.9	0.01	0.01	0.0	0.0	0.0	0.0	0	16	\$0.99	\$0.99	\$0.21	\$0.00	\$0.00	156.28	0.98	9.913	9.913	8.693	8.693	CEE PE+ Motor for HVAC Applications	
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	Assembly	Lost Opportunity	59.9	0.01	0.01	0.0	0.0	0.0	0.0	0	16	\$0.99	\$0.99	\$0.18	\$0.00	\$0.00	156.28	0.98	0.861	0.861	0.755	0.755	CEE PE+ Motor for HVAC Applications	
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	Assembly	Discretionary	1,171.9	0.13	0.14	0.0	0.0	0.0	0.0	0	15	\$57,068.02	\$57,068.02	\$0.21	\$0.00	\$0.00	0.05	0.98	11.204	0.000	0.000	0.000	VAV Box High Efficiency (ECM)	
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	Assembly	Lost Opportunity	1,171.9	0.13	0.14	0.0	0.0	0.0	0.0	0	15	\$57,068.02	\$57,068.02	\$0.18	\$0.00	\$0.00	0.05	0.98	0.000	0.000	0.000	0.000	VAV Box High Efficiency (ECM)	
Ventilation And Circulation	Motor Rewind	Assembly	Discretionary	36.3	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$2.77	\$2.77	\$0.21	\$0.00	\$0.00	18.63	0.98	0.207	0.207	0.181	0.181	>15, <500 HP	
Ventilation And Circulation	Pump System - Chiller - Variable Speed Control	Assembly	Discretionary	309.7	0.04	0.04	0.0	0.0	0.0	0.0	0	15	\$57.71	\$57.71	\$0.21	\$0.00	\$0.00	12.91	0.98	16.794	16.794	14.726	14.726	Chiller Pump System Optimization with VSD (Restoration)	
Ventilation And Circulation	Variable Speed ECM Pump - Domestic Hot Water Recirculation	Assembly	Discretionary	77.4	0.01	0.01	0.0	0.0	0.0	0.0	0	15	\$15.22	\$15.22	\$0.21	\$0.00	\$0.00	12.24	0.98	5.329	5.329	4.673	4.673	Domestic Hot Water Recirculation ECM Pump	
Ventilation And Circulation	Variable Speed ECM Pump - HVAC Space Heating Recirculation	Assembly	Discretionary	1,280.9	0.15	0.16	0.0	0.0	0.0	0.0	0	15	\$152.15	\$152.15	\$0.21	\$0.00	\$0.00	20.26	0.98	64.502	64.502	56.559	56.559	HVAC Space Heating Recirculation ECM Pump	
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Assembly	Discretionary	15.9	0.00	0.01	0.0	0.0	0.0	0.0	3	13	\$36.79	\$36.79	\$0.21	\$0.00	\$0.00	1.66	0.95	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Assembly	Lost Opportunity	15.9	0.00	0.01	0.0	0.0	0.0	0.0	3	13	\$36.79	\$36.79	\$0.18	\$0.00	\$0.00	1.66	0.95	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Assembly	Discretionary	35.2	0.00	0.01	0.0	0.0	0.0	0.0	4	13	\$68.03	\$68.03	\$0.21	\$0.00	\$0.00	1.53	0.95	0.092	0.140	0.086	0.086	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Assembly	Lost Opportunity	35.2	0.00	0.01	0.0	0.0	0.0	0.0	4	13	\$68.03	\$68.03	\$0.18	\$0.00	\$0.00	1.53	0.95	0.007	0.011	0.007	0.007	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Assembly	Discretionary	6.4	0.00	0.00	0.0	0.0	0.0	0.0	1	14	\$2.04	\$2.04	\$0.21	\$0.00	\$0.00	8.85	0.95	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Assembly	Lost Opportunity	6.4	0.00	0.00	0.0	0.0	0.0	0.0	1	14	\$2.04	\$2.04	\$0.18	\$0.00	\$0.00	8.85	0.95	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Assembly	Discretionary	10.0	0.00	0.00	0.0	0.0	0.0	0.0	2	14	\$0.83	\$0.83	\$0.21	\$0.00	\$0.00	44.94	0.95	0.005	0.008	0.005	0.005	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR	
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Assembly	Lost Opportunity	10.0	0.00	0.00	0.0	0.0	0.0	0.0	2	14	\$0.83	\$0.83	\$0.18	\$0.00	\$0.00	44.94	0.95	0.000	0.001	0.000	0.000	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR	
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	Assembly	Discretionary	33.7	0.00	0.01	0.0	0.0	0.0	0.0	0	13	\$16.07	\$16.07	\$0.21	\$0.00	\$0.00	3.42	0.95	0.088	0.134	0.082	0.082	1.0" of Insulation, assuming R-4 (Code)	
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	Assembly	Discretionary	145.7	0.00	0.06	0.0	0.0	0.0	0.0	0	25	\$1,590.75	\$1,590.75	\$0.21	\$0.00	\$0.00	0.29	0.95	0.015	0.000	0.000	0.000	Install Heat Recovery Water Heater	
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	Assembly	Discretionary	5.3	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$0.63	\$0.63	\$0.21	\$0.00	\$0.00	21.12	0.95	0.008	0.013	0.008	0.008	R-3	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Assembly	Discretionary	130.5	0.00	0.05	0.0	0.0	0.0	0.0	10	9	\$41.74	\$41.74	\$0.21	\$0.00	\$0.00	5.55	0.95	0.685	1.038	0.638	0.638	0.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Assembly	Lost Opportunity	130.5	0.00	0.05	0.0	0.0	0.0	0.0	10	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.95	0.051	0.000	0.000	0.000	0.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Assembly	Discretionary	92.1	0.00	0.04	0.0	0.0	0.0	0.0	7	9	\$41.74	\$41.74	\$0.21	\$0.00	\$0.00	3.92	0.95	0.000	0.000	0.000	0.000	1.0 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Assembly	Lost Opportunity	92.1	0.00	0.04	0.0	0.0	0.0	0.0	7	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.95	0.000	0.000	0.000	0.000	1.0 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Assembly	Discretionary	53.7	0.00	0.02	0.0	0.0	0.0	0.0	4	9	\$41.74	\$41.74	\$0.21	\$0.00	\$0.00	2.28	0.95	0.000	0.000	0.000	0.000	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Assembly	Lost Opportunity	53.7	0.00	0.02	0.0	0.0	0.0	0.0	4	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.95	0.000	0.000	0.000	0.000	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Assembly	Discretionary	23.0	0.00	0.01	0.0	0.0	0.0	0.0	1	9	\$41.74	\$41.74	\$0.21	\$0.00	\$0.00	0.94	0.95	0.045	0.000	0.000	0.000	2.2 GPM (Federal Code)	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Assembly	Discretionary	10.4	0.00	0.00	0.0	0.0	0.0	0.0	2	5	\$1.98	\$1.98	\$0.21	\$0.00	\$0.00	8.41	0.95	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Assembly	Lost Opportunity	10.4	0.00	0.00	0.0	0.0	0.0	0.0	2	5	\$1.98	\$1.98	\$0.18	\$0.00	\$0.00	8.41	0.95	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Discretionary	17.3	0.00	0.01	0.0	0.0	0.0	0.0	3	5	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.95	0.078	0.000	0.000	0.000	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Lost Opportunity	17.3	0.00	0.01	0.0	0.0	0.0	0.0	3	5	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.95	0.006	0.000	0.000	0.000	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Discretionary	27.7	0.00	0.01	0.0	0.0	0.0	0.0	5	5	\$1.98	\$1.98	\$0.21	\$0.00	\$0.00	22.34	0.95	0.000	0.000	0.000	0.000	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Lost Opportunity	27.7	0.00	0.01	0.0	0.0	0.0	0.0	5	5	\$1.98	\$1.98	\$0.18	\$0.00	\$0.00	22.34	0.95	0.002	0.004	0.002	0.002	0.75 GPM	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Assembly	Discretionary	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.67	\$0.67	\$0.21	\$0.25	\$0.00	0.01	0.95	0.642	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.67	\$0.67	\$0.18	\$0.25	\$0.00	0.01	0.95	0.053	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Assembly	Discretionary	84.4	0.00	0.03	0.0	0.0	0.0	0.0	0	20	\$731.88	\$731.88	\$0.21	\$0.00	\$0.00	0.29	0.95	0.421	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Assembly	Lost Opportunity	84.4	0.00	0.03	0.0	0.0	0.0	0.0	0	20	\$731.88	\$731.88	\$0.18	\$0.00	\$0.00	0.29	0.95	0.032	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Assembly	Discretionary	90.5	0.00	0.04	0.0	0.0	0.0	0.0	0	10	\$335.22	\$335.22	\$0.21	\$0.00	\$0.00	0.34	0.95	0.024	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Assembly	Lost Opportunity	90.5	0.00	0.04	0.0	0.0	0.0	0.0	0	10	\$335.22	\$335.22	\$0.18	\$0.00	\$0.00	0.34	0.95	0.002	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Assembly	Discretionary	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.16	\$0.16	\$0.21	\$0.00	\$0.00	0.10	0.95	1.091	0.000	0.000	0.000	CO2 Heat Pump Water Heater	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.16	\$0.16	\$0.18	\$0.00	\$0.00	0.10	0.95	0.088	0.000	0.000	0.000	CO2 Heat Pump Water Heater	
Water Heat GT																									

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Assembly	Lost Opportunity	10.4	0.00	0.00	0.0	0.0	0.0	0.0	0.0	2	5	\$1.98	\$1.98	\$0.18	\$0.00	\$0.00	8.41	0.95	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Discretionary	17.3	0.00	0.01	0.0	0.0	0.0	0.0	0.0	3	5	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.95	0.595	0.000	0.000	0.000	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Lost Opportunity	17.3	0.00	0.01	0.0	0.0	0.0	0.0	0.0	3	5	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.95	0.037	0.000	0.000	0.000	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Discretionary	27.7	0.00	0.01	0.0	0.0	0.0	0.0	0.0	5	5	\$1.98	\$1.98	\$0.21	\$0.00	\$0.00	22.34	0.95	0.000	0.000	0.000	0.000	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Lost Opportunity	27.7	0.00	0.01	0.0	0.0	0.0	0.0	0.0	5	5	\$1.98	\$1.98	\$0.18	\$0.00	\$0.00	22.34	0.95	0.015	0.047	0.029	0.029	0.75 GPM
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$1.93	\$1.93	\$0.21	\$0.51	\$0.00	0.01	0.95	0.000	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$1.93	\$1.93	\$0.18	\$0.51	\$0.00	0.01	0.95	0.000	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Assembly	Discretionary	84.4	0.00	0.03	0.0	0.0	0.0	0.0	0.0	0	20	\$731.88	\$731.88	\$0.21	\$0.00	\$0.00	0.29	0.95	3.199	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Assembly	Lost Opportunity	84.4	0.00	0.03	0.0	0.0	0.0	0.0	0.0	0	20	\$731.88	\$731.88	\$0.18	\$0.00	\$0.00	0.29	0.95	0.211	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Assembly	Discretionary	85.0	0.00	0.03	0.0	0.0	0.0	0.0	0.0	0	10	\$335.22	\$335.22	\$0.21	\$0.00	\$0.00	0.32	0.95	0.170	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Assembly	Lost Opportunity	85.0	0.00	0.03	0.0	0.0	0.0	0.0	0.0	0	10	\$335.22	\$335.22	\$0.18	\$0.00	\$0.00	0.32	0.95	0.011	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Assembly	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.92	\$0.92	\$0.21	\$0.01	\$0.00	0.07	0.95	29.965	0.000	0.000	0.000	CO2 Heat Pump Water Heater
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Assembly	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.92	\$0.92	\$0.18	\$0.01	\$0.00	0.07	0.95	2.802	0.000	0.000	0.000	CO2 Heat Pump Water Heater
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.59	\$0.59	\$0.21	\$0.01	\$0.00	0.08	0.95	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.59	\$0.59	\$0.18	\$0.01	\$0.00	0.08	0.95	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.65	\$0.65	\$0.21	\$0.01	\$0.00	0.08	0.95	0.000	0.000	0.000	0.000	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Assembly	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.65	\$0.65	\$0.18	\$0.01	\$0.00	0.08	0.95	0.000	0.000	0.000	0.000	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Assembly	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.85	\$0.85	\$0.21	\$0.01	\$0.00	0.07	0.95	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Assembly	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.85	\$0.85	\$0.18	\$0.01	\$0.00	0.07	0.95	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Assembly	Discretionary	119.0	0.00	0.05	0.0	0.0	0.0	0.0	0.0	0	4	\$0.02	\$0.02	\$0.21	\$0.00	\$0.00	3923.77	0.95	4.510	10.821	6.650	6.650	Set Water Heater to 120F
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Assembly	Lost Opportunity	119.0	0.00	0.05	0.0	0.0	0.0	0.0	0.0	0	4	\$0.02	\$0.02	\$0.18	\$0.00	\$0.00	3923.77	0.95	0.298	0.941	0.578	0.578	Set Water Heater to 120F
Water Heat LE 55 Gal	Water Heater Tank Wrap	Assembly	Discretionary	239.5	0.00	0.10	0.0	0.0	0.0	0.0	0.0	0	7	\$62.33	\$62.33	\$0.21	\$0.00	\$0.00	3.38	0.95	4.977	11.941	7.338	7.338	Add R-10 Tank Wrap
Computers	Computer - ENERGY STAR	Grocery	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.70	249.549	0.000	0.000	0.000	ENERGY STAR Computer
Computers	Computer - ENERGY STAR	Grocery	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.70	20.614	0.000	0.000	0.000	ENERGY STAR Computer
Computers	Network PC Power Management	Grocery	Discretionary	211.1	0.03	0.02	0.0	0.0	0.0	0.0	0.0	0	5	\$25.81	\$25.81	\$0.21	\$5.92	\$0.00	3.27	0.70	46.649	81.877	46.188	46.188	Network PC Power Management
Computers	Network PC Power Management	Grocery	Lost Opportunity	211.1	0.03	0.02	0.0	0.0	0.0	0.0	0.0	0	5	\$25.81	\$25.81	\$0.18	\$5.92	\$0.00	3.27	0.70	4.552	8.001	4.514	4.514	Network PC Power Management
Cooking	Combination Oven	Grocery	Discretionary	1,404.4	0.16	0.16	0.0	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.95	131.781	0.000	0.000	0.000	ENERGY STAR Combination Oven
Cooking	Combination Oven	Grocery	Lost Opportunity	1,404.4	0.16	0.16	0.0	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.95	11.451	0.000	0.000	0.000	ENERGY STAR Combination Oven
Cooking	Convection Oven	Grocery	Discretionary	317.3	0.04	0.04	0.0	0.0	0.0	0.0	0.0	0	12	\$85.57	\$85.57	\$0.21	\$0.00	\$0.00	7.05	0.95	54.678	54.678	41.861	41.861	ENERGY STAR Convection Oven
Cooking	Convection Oven	Grocery	Lost Opportunity	317.3	0.04	0.04	0.0	0.0	0.0	0.0	0.0	0	12	\$85.57	\$85.57	\$0.18	\$0.00	\$0.00	7.05	0.95	4.751	4.751	3.637	3.637	ENERGY STAR Convection Oven
Cooking	Fryers	Grocery	Discretionary	655.2	0.07	0.07	0.0	0.0	0.0	0.0	0.0	0	12	\$111.60	\$111.60	\$0.21	\$0.00	\$0.00	11.17	0.95	87.827	87.827	67.240	67.240	ENERGY STAR Fryer
Cooking	Fryers	Grocery	Lost Opportunity	655.2	0.07	0.07	0.0	0.0	0.0	0.0	0.0	0	12	\$111.60	\$111.60	\$0.18	\$0.00	\$0.00	11.17	0.95	7.631	7.631	5.843	5.843	ENERGY STAR Fryer
Cooking	Griddle	Grocery	Discretionary	421.0	0.05	0.05	0.0	0.0	0.0	0.0	0.0	0	12	\$189.67	\$189.67	\$0.21	\$0.00	\$0.00	4.22	0.95	44.345	44.345	33.950	33.950	ENERGY STAR Griddle
Cooking	Griddle	Grocery	Lost Opportunity	421.0	0.05	0.05	0.0	0.0	0.0	0.0	0.0	0	12	\$189.67	\$189.67	\$0.18	\$0.00	\$0.00	4.22	0.95	3.853	3.853	2.950	2.950	ENERGY STAR Griddle
Cooking	Hot Food Holding Cabinet	Grocery	Discretionary	381.6	0.04	0.04	0.0	0.0	0.0	0.0	0.0	0	12	\$198.94	\$198.94	\$0.21	\$0.00	\$0.00	3.65	0.95	62.108	62.108	47.549	47.549	ENERGY STAR Hot Food Holding Cabinet
Cooking	Hot Food Holding Cabinet	Grocery	Lost Opportunity	381.6	0.04	0.04	0.0	0.0	0.0	0.0	0.0	0	12	\$198.94	\$198.94	\$0.18	\$0.00	\$0.00	3.65	0.95	5.397	5.397	4.132	4.132	ENERGY STAR Hot Food Holding Cabinet
Cooking	Microwave - High Efficiency	Grocery	Discretionary	2.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	11	\$1.09	\$1.09	\$0.21	\$0.00	\$0.00	3.38	0.95	0.363	0.363	0.278	0.278	High Efficiency Microwave
Cooking	Microwave - High Efficiency	Grocery	Lost Opportunity	2.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	11	\$1.09	\$1.09	\$0.18	\$0.00	\$0.00	3.38	0.95	0.000	0.000	0.000	0.000	High Efficiency Microwave
Cooking	Steam Cooker	Grocery	Discretionary	1,099.1	0.13	0.13	0.0	0.0	0.0	0.0	0.0	2,224	12	\$374.93	\$374.93	\$0.21	\$0.00	\$0.00	71.19	0.95	157.849	157.849	120.847	120.847	ENERGY STAR Steam Cooker
Cooking	Steam Cooker	Grocery	Lost Opportunity	1,099.1	0.13	0.13	0.0	0.0	0.0	0.0	0.0	2,224	12	\$374.93	\$374.93	\$0.18	\$0.00	\$0.00	71.19	0.95	13.716	13.716	10.501	10.501	ENERGY STAR Steam Cooker
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Grocery	Discretionary	206.7	0.07	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$1,982.25	\$1,982.25	\$0.21	\$0.00	\$0.00	0.37	0.98	0.000	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	25	\$0.27	\$0.27	\$0.21	\$0.00	\$0.00	0.65	0.98	0.000	0.000	0.000	0.000	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	25	\$0.24	\$0.24	\$0.18	\$0.00	\$0.00	0.73	0.98	0.000	0.000	0.000	0.000	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)
Cooling Chillers	Convert Constant Volume Air System to VAV	Grocery	Discretionary	522.2	0.18	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$28,911.40	\$28,911.40	\$0.21	\$0.00	\$0.00	0.06	0.98	0.000	0.000	0.000	0.000	Variable Volume Air System
Cooling Chillers	Direct Digital Control System-Installation	Grocery	Discretionary	298.2	0.10	0.00	0.0	0.0	0.0	0.0	0.0	0	5	\$2,477.81	\$2,477.81	\$0.21	\$0.00	\$0.00	0.13	0.98	0.000	0.000	0.000	0.000	Installation of EMS System
Cooling Chillers	Direct Digital Control System-Installation	Grocery	Lost Opportunity	298.2	0.10	0.00	0.0	0.0	0.0	0.0	0.0	0	5	\$2,477.81	\$2,477.81	\$0.18	\$0.00	\$0.00	0.13	0.98	0.000	0.000	0.000	0.000	Installation of EMS System
Cooling Chillers	Exhaust Hood Makeup Air	Grocery	Discretionary	89.4	0.03	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$683.70	\$683.70	\$0.21	\$0.00	\$0.00	0.36	0.98	0.000	0.000	0.000	0.000	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air
Cooling Chillers	Green Roof	Grocery	Discretionary	10.6	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	40	\$62,699.73	\$62,699.73	\$0.21	\$627.00	\$0.00	0.00	0.98	0.000	0.000	0.000	0.000	Vegetation on Roof
Cooling Chillers	Green Roof	Grocery	Lost Opportunity	8.7	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	40	\$62,699.73	\$62,699.73	\$0.18	\$627.00	\$0.00	0.00	0.98					

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Cooling Dx Evap	DX Package-Air Side Economizer	Grocery	Discretionary	502.5	0.17	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$4,698.67	\$4,698.67	\$0.21	\$0.00	\$0.00	0.24	0.98	7.445	0.000	0.000	0.000	Air-Side Economizer
Cooling Dx Evap	Direct Digital Control System-Installation	Grocery	Discretionary	269.0	0.09	0.00	230.1	252.7	27.9	0.0	0	5	\$2,477.81	\$2,477.81	\$0.21	\$0.00	\$0.00	1.60	0.98	31.502	40.787	32.290	32.290	Installation of EMS System	
Cooling Dx Evap	Direct Digital Control System-Installation	Grocery	Lost Opportunity	269.0	0.09	0.00	255.6	280.7	31.0	0.0	0	5	\$2,477.81	\$2,477.81	\$0.18	\$0.00	\$0.00	1.76	0.98	0.343	0.453	0.358	0.358	Installation of EMS System	
Cooling Dx Evap	Duct Repair and Sealing	Grocery	Discretionary	156.0	0.05	0.00	133.4	25.8	18.8	0.0	0	18	\$1,902.96	\$1,902.96	\$0.21	\$0.00	\$0.00	3.22	0.98	13.159	17.038	13.488	13.488	Reduction In Duct Losses to 5 %	
Cooling Dx Evap	Exhaust Hood Makeup Air	Grocery	Discretionary	80.7	0.03	0.00	0.0	0.0	0.0	0.0	0	12	\$683.70	\$683.70	\$0.21	\$0.00	\$0.00	0.33	0.98	2.019	0.000	0.000	0.000	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Cooling Dx Evap	Green Roof	Grocery	Discretionary	9.5	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$62,699.73	\$62,699.73	\$0.21	\$627.00	\$0.00	0.00	0.98	1.113	0.000	0.000	0.000	0.000	Vegetation on Roof
Cooling Dx Evap	Green Roof	Grocery	Lost Opportunity	7.9	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$62,699.73	\$62,699.73	\$0.18	\$627.00	\$0.00	0.00	0.98	0.102	0.000	0.000	0.000	0.000	Vegetation on Roof
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Grocery	Discretionary	1,065.3	0.36	0.00	0.0	0.0	0.0	0.0	0	15	\$30,130.20	\$30,130.20	\$0.21	-\$689.82	\$0.00	0.17	0.98	15.601	0.000	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Grocery	Lost Opportunity	1,065.3	0.36	0.00	0.0	0.0	0.0	0.0	0	15	\$30,130.20	\$30,130.20	\$0.18	-\$689.82	\$0.00	0.17	0.98	4.269	0.000	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems
Cooling Dx Evap	Indirect Information Feedback	Grocery	Discretionary	9.3	0.00	0.00	8.0	8.3	0.9	0.0	0	2	\$31.05	\$31.05	\$0.21	\$0.00	\$0.00	1.71	0.98	1.427	1.847	1.462	1.462	Indirect Information Feedback	
Cooling Dx Evap	Indirect Information Feedback	Grocery	Lost Opportunity	9.3	0.00	0.00	8.9	9.3	1.0	0.0	0	2	\$31.05	\$31.05	\$0.18	\$0.00	\$0.00	1.89	0.98	0.140	0.184	0.146	0.146	Indirect Information Feedback	
Cooling Dx Evap	Infiltration Reduction	Grocery	Discretionary	53.8	0.02	0.00	153.4	181.8	19.8	0.0	0	10	\$176.73	\$176.73	\$0.21	\$0.00	\$0.00	28.89	0.98	0.412	0.533	0.422	0.422	Install Caulking And Weatherstripping (ACH 0.65)	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Grocery	Discretionary	79.3	0.03	0.00	67.8	104.2	10.8	0.0	0	30	\$705.37	\$705.37	\$0.21	\$0.00	\$0.00	9.86	0.98	4.947	6.405	5.071	5.071	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Grocery	Lost Opportunity	79.3	0.03	0.00	75.3	115.8	12.0	0.0	0	30	\$705.37	\$705.37	\$0.18	\$0.00	\$0.00	10.87	0.98	0.208	0.274	0.217	0.217	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Code	Grocery	Discretionary	208.7	0.07	0.00	232.3	357.2	37.0	0.0	0	30	\$3,218.59	\$3,218.59	\$0.21	\$0.00	\$0.00	7.26	0.98	8.394	10.867	8.604	8.604	R-30 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Grocery	Discretionary	64.6	0.02	0.00	55.2	11.0	7.9	0.0	0	20	\$107.54	\$107.54	\$0.21	\$0.00	\$0.00	26.08	0.98	10.489	13.580	10.751	10.751	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Grocery	Lost Opportunity	64.6	0.02	0.00	61.4	12.2	8.8	0.0	0	20	\$107.54	\$107.54	\$0.18	\$0.00	\$0.00	28.66	0.98	1.152	1.521	1.204	1.204	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	Grocery	Discretionary	64.6	0.02	0.00	55.2	11.0	7.9	0.0	0	20	\$433.12	\$433.12	\$0.21	\$0.00	\$0.00	6.48	0.98	8.123	10.517	8.326	8.326	R-8 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Grocery	Discretionary	116.8	0.04	0.00	99.9	153.6	15.9	0.0	0	30	\$1,253.99	\$1,253.99	\$0.21	\$0.00	\$0.00	8.18	0.98	2.443	3.163	2.504	2.504	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Grocery	Lost Opportunity	116.8	0.04	0.00	111.0	170.7	17.7	0.0	0	30	\$1,253.99	\$1,253.99	\$0.18	\$0.00	\$0.00	9.01	0.98	0.423	0.559	0.442	0.442	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	Grocery	Discretionary	203.5	0.07	0.00	174.0	267.6	27.7	0.0	0	30	\$3,594.78	\$3,594.78	\$0.21	\$0.00	\$0.00	4.97	0.98	4.067	5.266	4.169	4.169	R-30 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Grocery	Discretionary	184.4	0.06	0.00	157.7	242.5	25.1	0.0	0	30	\$1,409.69	\$1,409.69	\$0.21	\$0.00	\$0.00	11.48	0.98	6.500	8.416	6.662	6.662	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Grocery	Lost Opportunity	184.4	0.06	0.00	175.3	269.5	27.9	0.0	0	30	\$1,409.69	\$1,409.69	\$0.18	\$0.00	\$0.00	12.65	0.98	1.713	2.262	1.791	1.791	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Code	Grocery	Discretionary	171.6	0.06	0.00	173.2	266.3	27.6	0.0	0	30	\$9,673.36	\$9,673.36	\$0.21	\$0.00	\$0.00	1.81	0.98	3.789	4.905	3.884	3.884	R-13 + 7.5 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Grocery	Discretionary	144.3	0.05	0.00	0.0	0.0	0.0	0.0	0	15	\$28,003.91	\$28,003.91	\$0.21	\$0.00	\$0.00	0.02	0.98	5.582	0.000	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Grocery	Lost Opportunity	144.3	0.05	0.00	0.0	0.0	0.0	0.0	0	15	\$22,403.13	\$22,403.13	\$0.18	\$0.00	\$0.00	0.02	0.98	0.622	0.000	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)
Cooling Dx Evap	Natural Ventilation	Grocery	Lost Opportunity	179.3	0.06	0.00	0.0	0.0	0.0	0.0	0	15	\$7,929.00	\$7,929.00	\$0.18	\$0.00	\$0.00	0.08	0.98	0.119	0.000	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling
Cooling Dx Evap	Programmable Thermostat	Grocery	Discretionary	71.7	0.02	0.00	61.4	73.7	8.0	0.0	0	11	\$48.90	\$48.90	\$0.21	\$0.00	\$0.00	48.55	0.98	11.466	14.845	11.752	11.752	Programmable Thermostat	
Cooling Dx Evap	Strategic Energy Management (SEM)	Grocery	Discretionary	73.5	0.03	0.00	62.9	69.1	7.6	0.0	0	5	\$9.91	\$9.91	\$0.21	\$0.00	\$0.00	109.10	0.98	1.823	2.361	1.869	1.869	Identify Operations and Maintenance Improvements through Strategic Energy Man	
Cooling Dx Evap	Strategic Energy Management (SEM)	Grocery	Lost Opportunity	73.5	0.03	0.00	69.9	76.7	8.5	0.0	0	5	\$9.91	\$9.91	\$0.18	\$0.00	\$0.00	120.32	0.98	1.096	1.447	1.145	1.145	Identify Operations and Maintenance Improvements through Strategic Energy Man	
Cooling Dx Evap	Tune-up - DX Maintenance	Grocery	Discretionary	257.8	0.09	0.00	0.0	0.0	0.0	0.0	0	5	\$9,514.80	\$9,514.80	\$0.21	\$0.00	\$0.00	0.03	0.98	22.037	0.000	0.000	0.000	0.000	DX Tune-up / Diagnostics
Cooling Dx Evap	Wi-Fi Thermostat	Grocery	Discretionary	71.7	0.02	0.00	61.4	73.7	8.0	0.0	0	11	\$389.50	\$389.50	\$0.21	\$0.00	\$0.00	6.10	0.98	0.000	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Grocery	Discretionary	6.3	0.00	0.00	5.4	7.3	0.8	0.0	0	20	\$1,045.07	\$1,045.07	\$0.21	\$0.00	\$0.00	0.36	0.98	0.292	0.000	0.000	0.000	0.000	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Grocery	Lost Opportunity	6.3	0.00	0.00	6.0	8.1	0.9	0.0	0	20	\$1,045.07	\$1,045.07	\$0.18	\$0.00	\$0.00	0.40	0.98	0.108	0.000	0.000	0.000	0.000	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Code	Grocery	Discretionary	14.4	0.00	0.00	12.6	17.1	1.8	0.0	0	20	\$6,901.27	\$6,901.27	\$0.21	\$0.00	\$0.00	0.13	0.98	0.611	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtu/h - Premium Efficiency	Grocery	Discretionary	896.7	0.31	0.00	0.0	0.0	0.0	0.0	0	15	\$32,444.39	\$32,444.39	\$0.21	\$0.00	\$0.00	0.10	0.98	53.956	0.000	0.000	0.000	0.000	Premium Efficiency - 19.0 IEER
Fax	Fax - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.70	2.895	0.000	0.000	0.000	0.000	ENERGY STAR Fax
Fax	Fax - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.70	0.289	0.000	0.000	0.000	0.000	ENERGY STAR Fax
Flat Screen Monitors	Monitor - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.70	0.000	0.000	0.000	0.000	0.000	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.70	0.000	0.000	0.000	0.000	0.000	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	0.50	0.70	19.486	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	0.50	0.70	1.840	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor
Freezers	Freezer (Residential) - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	13.03	0.70	3.634	3.634	1.654	1.654	ENERGY STAR Freezer	
Freezers	Freezer (Residential) - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	13.03	0.70	0.492	0.492	0.224	0.224	ENERGY STAR Freezer	
Freezers	Residential Freezer Recycling and Replacement	Grocery	Discretionary	51.1	0.01	0.01	0.0	0.0	0.0	0.0	0	8	\$20.49	\$20.49	\$0.21	\$0.00	\$0.00	3.13	0.70	22.972	22.972	10.457	10.457	Recycling Existing Freezer and Replacing with a Federal Standard Unit	
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	Grocery	Discretionary	2,211.5	0.02	0.47	0.0	0.0	0.0	0.0	0	8	\$147.70	\$147.70	\$0.21	\$0.00	\$0.00	14.75	0.98	265.098	265.098	229.798	229.798	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time	
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	Grocery	Discretionary	2,064.1	0.02	0.43	0.0	0.0	0.0	0.0	0	8	\$59.48	\$59.48	\$0.21	\$0.00	\$0.00	34.19	0.98	692.790	692.790	600.539	600.539	Photocell	
Lighting Exterior	LED Exterior Flood Lights	Grocery	Discretionary	716.1	0.01	0.15	0.0	0.0	0.0	0.0	0	20	\$472.37	\$472.37	\$0.21	\$0.00	\$0.00	3.73	0.98	391.450	391.450	339.325	339.325	LED Exterior Flood Lights	
Lighting Exterior	LED Exterior Flood Lights	Grocery	Lost Opportunity	716.1	0.01	0.15	0.0	0.0	0.0	0.0	0	20	\$472.37	\$472.37	\$0.18	\$0.00	\$0.00	3.73	0.98	34.014	34.014	29.485	29.485	LED Exterior Flood Lights	
Lighting Exterior																									



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Lighting Interior HID	Time Clock	Grocery	Discretionary	363.4	0.07	0.05	0.0	0.0	0.0	0.0	0.0	0	8	\$195.38	\$195.38	\$0.21	\$0.00	\$0.00	2.75	0.98	6.180	6.180	5.357	5.357	Time Clock
Lighting Interior Other	Exit Sign - LED	Grocery	Discretionary	138.9	0.03	0.02	0.0	0.0	0.0	0.0	0	16	\$195.30	\$195.30	\$0.21	\$0.00	\$0.00	2.16	0.98	54.840	54.840	47.538	47.538	LED Exit Sign	
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Grocery	Discretionary	173.0	0.03	0.02	0.0	0.0	0.0	0.0	0	16	-\$29.73	\$0.00	\$0.21	\$0.00	\$0.00	999.00	0.98	99.788	99.788	86.500	86.500	Photoluminescent or Tritium	
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Grocery	Lost Opportunity	173.0	0.03	0.02	0.0	0.0	0.0	0.0	0	16	-\$29.73	\$0.00	\$0.18	\$0.00	\$0.00	999.00	0.98	6.503	6.503	5.637	5.637	Photoluminescent or Tritium	
Lighting Interior Other	New Construction Lighting Package - Advanced Efficiency	Grocery	Lost Opportunity	1.9	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.25	\$0.25	\$0.18	\$0.01	\$0.00	13.27	0.98	873.629	873.629	757.297	757.297	Advanced Efficiency Lighting Package - 25% LPD Reduction	
Lighting Interior Other	New Construction Lighting Package - High Efficiency	Grocery	Lost Opportunity	1.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.04	\$0.04	\$0.18	-\$0.01	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	High Efficiency Lighting Package - 15% LPD Reduction	
Lighting Interior Other	New Construction Lighting Package - Premium Efficiency	Grocery	Lost Opportunity	1.5	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.20	\$0.20	\$0.18	\$0.01	\$0.00	13.27	0.98	0.000	0.000	0.000	0.000	Premium Efficiency Lighting Package - 20% LPD Reduction	
Lighting Interior Other	Occupancy Sensor Control	Grocery	Discretionary	83.3	0.02	0.01	0.0	0.0	0.0	0.0	0	10	\$384.07	\$384.07	\$0.21	\$0.00	\$0.00	0.40	0.98	11.989	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Interior Other	Time Clock	Grocery	Discretionary	34.7	0.01	0.00	0.0	0.0	0.0	0.0	0	8	\$195.38	\$195.38	\$0.21	\$0.00	\$0.00	0.26	0.98	0.833	0.000	0.000	0.000	Time Clock	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	Grocery	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	3	\$0.00	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	CFL	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base Incandescent - Backstop EISA 2020 Standard	Grocery	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	3	\$0.00	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	Backstop EISA 2020 Standard Incandescent	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base LED - Above Standard	Grocery	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.02	\$0.02	\$0.21	-\$0.01	\$0.00	999.00	0.98	66.674	66.854	57.952	57.952	LED	
Lighting Interior Screw Base - Standard	Occupancy Sensor Control	Grocery	Discretionary	784.8	0.15	0.11	0.0	0.0	0.0	0.0	0	10	\$3,616.11	\$3,616.11	\$0.21	\$0.00	\$0.00	0.40	0.98	37.259	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Interior Screw Base - Standard	Time Clock	Grocery	Discretionary	327.0	0.06	0.04	0.0	0.0	0.0	0.0	0	8	\$195.38	\$195.38	\$0.21	\$0.00	\$0.00	2.47	0.98	2.587	2.587	2.243	2.243	Time Clock	
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base CFL - Above Standard	Grocery	Discretionary	784.1	0.15	0.11	0.0	0.0	0.0	0.0	0	3	\$10.82	\$10.82	\$0.21	-\$15.79	\$0.00	0.00	0.98	0.000	0.000	0.000	0.000	CFL	
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base LED - Above Standard	Grocery	Discretionary	819.3	0.16	0.11	0.0	0.0	0.0	0.0	0	12	\$34.32	\$34.32	\$0.21	-\$17.87	\$0.00	0.00	0.98	435.134	0.000	0.000	0.000	LED	
Other Plug Load	Dehumidifier - ENERGY STAR	Grocery	Discretionary	291.8	0.04	0.03	0.0	0.0	0.0	0.0	0	12	\$113.81	\$113.81	\$0.21	\$0.00	\$0.00	5.23	0.70	30.776	30.776	17.361	17.361	ENERGY STAR Dehumidifier	
Other Plug Load	Dehumidifier - ENERGY STAR	Grocery	Lost Opportunity	291.8	0.04	0.03	0.0	0.0	0.0	0.0	0	12	\$113.81	\$113.81	\$0.18	\$0.00	\$0.00	5.23	0.70	2.674	2.674	1.509	1.509	ENERGY STAR Dehumidifier	
Other Plug Load	ENERGY STAR - Scanners	Grocery	Discretionary	3.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.70	1.378	0.000	0.000	0.000	ENERGY STAR Scanners	
Other Plug Load	ENERGY STAR - Scanners	Grocery	Lost Opportunity	3.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.70	0.120	0.000	0.000	0.000	ENERGY STAR Scanners	
Other Plug Load	ENERGY STAR - Water Cooler	Grocery	Discretionary	110.4	0.02	0.01	0.0	0.0	0.0	0.0	0	10	\$0.95	\$0.95	\$0.21	\$0.00	\$0.00	196.63	0.70	67.029	67.029	37.812	37.812	ENERGY STAR Water Cooler (Hot/Cold Water)	
Other Plug Load	ENERGY STAR - Water Cooler	Grocery	Lost Opportunity	110.4	0.02	0.01	0.0	0.0	0.0	0.0	0	10	\$0.95	\$0.95	\$0.18	\$0.00	\$0.00	196.63	0.70	5.824	5.824	3.286	3.286	ENERGY STAR Water Cooler (Hot/Cold Water)	
Other Plug Load	Internal Power Supply / Com - E Star	Grocery	Discretionary	42.4	0.01	0.00	0.0	0.0	0.0	0.0	0	4	\$86.44	\$86.44	\$0.21	\$0.00	\$0.00	0.32	0.70	6.012	0.000	0.000	0.000	ENERGY STAR power supply for ENERGY STAR desktop	
Other Plug Load	Internal Power Supply / Com - E Star	Grocery	Lost Opportunity	42.4	0.01	0.00	0.0	0.0	0.0	0.0	0	4	\$86.44	\$86.44	\$0.18	\$0.00	\$0.00	0.32	0.70	0.522	0.000	0.000	0.000	ENERGY STAR power supply for ENERGY STAR desktop	
Other Plug Load	Smart Strip Plug Outlet	Grocery	Discretionary	333.8	0.05	0.03	0.0	0.0	0.0	0.0	0	4	\$250.99	\$250.99	\$0.21	\$0.00	\$0.00	0.86	0.70	42.686	0.000	0.000	0.000	Advanced Power Strip - Load Sensing	
Other Plug Load	Smart Strip Plug Outlet	Grocery	Lost Opportunity	333.8	0.05	0.03	0.0	0.0	0.0	0.0	0	4	\$250.99	\$250.99	\$0.18	\$0.00	\$0.00	0.86	0.70	3.709	0.000	0.000	0.000	Advanced Power Strip - Load Sensing	
Other Plug Load	Smart Strip Plug Outlet	Grocery	Discretionary	203.0	0.03	0.02	0.0	0.0	0.0	0.0	0	4	\$607.84	\$607.84	\$0.21	\$0.00	\$0.00	0.22	0.70	0.000	0.000	0.000	0.000	Advanced Power Strip with Occupancy Sensor	
Other Plug Load	Smart Strip Plug Outlet	Grocery	Lost Opportunity	203.0	0.03	0.02	0.0	0.0	0.0	0.0	0	4	\$607.84	\$607.84	\$0.18	\$0.00	\$0.00	0.22	0.70	0.000	0.000	0.000	0.000	Advanced Power Strip with Occupancy Sensor	
Photo Copiers	Copiers - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	14.113	0.000	0.000	0.000	ENERGY STAR Copiers	
Photo Copiers	Copiers - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	1.335	0.000	0.000	0.000	ENERGY STAR Copiers	
Printers	Printers - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.70	77.632	0.000	0.000	0.000	ENERGY STAR Printers	
Printers	Printers - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.70	7.746	0.000	0.000	0.000	ENERGY STAR Printers	
Refrigeration	Add Doors to Refrigerated Open Display Cases	Grocery	Discretionary	2,191.8	0.29	0.26	0.0	0.0	0.0	0.0	0	12	\$3,398.14	\$3,398.14	\$0.21	\$0.00	\$0.00	1.27	0.97	42.646	42.646	42.284	42.284	Add Doors to Refrigerated Open Display Cases	
Refrigeration	Add Doors to Refrigerated Open Display Cases	Grocery	Lost Opportunity	2,191.8	0.29	0.26	0.0	0.0	0.0	0.0	0	12	\$3,398.14	\$3,398.14	\$0.18	\$0.00	\$0.00	1.27	0.97	16.037	16.037	15.901	15.901	Add Doors to Refrigerated Open Display Cases	
Refrigeration	Anti-Sweat (Humidistat) Controls	Grocery	Discretionary	8,065.8	1.06	0.95	0.0	0.0	0.0	0.0	0	8	\$1,140.22	\$1,140.22	\$0.21	\$0.00	\$0.00	9.19	0.97	4640.843	4640.843	4601.486	4601.486	Anti-Sweat (Humidistat) Controls	
Refrigeration	Case Replacement Low Temp	Grocery	Discretionary	7,750.3	1.02	0.91	0.0	0.0	0.0	0.0	0	15	\$434.88	\$434.88	\$0.21	\$0.00	\$0.00	44.30	0.97	4707.064	4707.064	4667.146	4667.146	Case Replacement Low Temp	
Refrigeration	Case Replacement Med Temp	Grocery	Discretionary	661.0	0.09	0.08	0.0	0.0	0.0	0.0	0	15	\$839.38	\$839.38	\$0.21	\$0.00	\$0.00	1.96	0.97	401.460	401.460	398.056	398.056	Case Replacement Med Temp	
Refrigeration	Demand Control Defrost - Hot Gas	Grocery	Discretionary	3,082.1	0.41	0.36	0.0	0.0	0.0	0.0	0	10	\$4,933.01	\$4,933.01	\$0.21	\$0.00	\$0.00	1.02	0.97	1871.879	1871.879	1856.004	1856.004	Refrigerant Defrost	
Refrigeration	Display Case Electronically Commutated Motor - Low Temp	Grocery	Discretionary	1,253.4	0.17	0.15	0.0	0.0	0.0	0.0	0	15	\$896.91	\$896.91	\$0.21	\$0.00	\$0.00	3.47	0.97	510.847	510.847	506.514	506.514	ECM Evaporator Fans - Low Temp	
Refrigeration	Display Case Electronically Commutated Motor - Medium Temp	Grocery	Discretionary	1,428.0	0.19	0.17	0.0	0.0	0.0	0.0	0	15	\$1,021.81	\$1,021.81	\$0.21	\$0.00	\$0.00	3.47	0.97	581.986	581.986	577.050	577.050	ECM Evaporator Fans - Medium Temp	
Refrigeration	Display Case LEDs (Closed Cases)	Grocery	Discretionary	975.1	0.13	0.11	0.0	0.0	0.0	0.0	0	8	\$580.95	\$580.95	\$0.21	\$0.00	\$0.00	2.18	0.97	592.201	592.201	587.179	587.179	Display Case LEDs (Closed Cases)	
Refrigeration	Display Case LEDs (Closed Cases)	Grocery	Lost Opportunity	975.1	0.13	0.11	0.0	0.0	0.0	0.0	0	8	\$258.31	\$258.31	\$0.18	\$0.00	\$0.00	4.90	0.97	51.457	51.457	51.021	51.021	Display Case LEDs (Closed Cases)	
Refrigeration	Display Case LEDs (Open Cases)	Grocery	Discretionary	1,977.1	0.26	0.23	0.0	0.0	0.0	0.0	0	7	\$1,384.11	\$1,384.11	\$0.21	-\$49.28	\$0.00	2.07	0.97	1200.756	1200.756	1190.573	1190.573	Display Case LEDs (Open Cases)	
Refrigeration	Display Case LEDs (Open Cases)	Grocery	Lost Opportunity	1,977.1	0.26	0.23	0.0	0.0	0.0	0.0	0	7	\$730.43	\$730.43	\$0.18	-\$42.24	\$0.00	4.78	0.97	104.336	104.336	103.451	103.451	Display Case LEDs (Open Cases)	
Refrigeration	Display Case Motion Sensors	Grocery	Discretionary	377.2	0.05	0.04	0.0	0.0	0.0	0.0	0	8	\$88.01	\$88.01	\$0.21	\$0.00	\$0.00	5.57	0.97	217.023	217.023	215.183	215.183	Display Case Motion Sensors	
Refrigeration	Evaporator Fan Controller - Low Temp	Grocery	Discretionary	155.8	0.02	0.02	0.0	0.0	0.0	0.0	0	16	\$121.20	\$121.20	\$0.21	\$0.00	\$0.00	3.42	0.97	89.655	89.655	88.894	88.894	ECM Evaporator Fan Controller - Low Temp	
Refrigeration	Evaporator Fan Controller - Low Temp	Grocery	Lost Opportunity	155.8	0.02	0.02	0.0	0.0	0.0	0.0	0	16	\$121.20	\$121.20	\$0.18	\$0.00	\$0.00	3.42	0.97	6.367	6.367	6.313	6.313	ECM Evaporator Fan Controller - Low Temp	
Refrigeration	Evaporator Fan Controller - Medium Temp	Grocery	Discretionary	243.1	0.03	0.03	0.0	0.0	0.0	0.0	0	16	\$226.32	\$226.32	\$0.21	\$0.00	\$0.00	2.85	0.97	139.851	139.851	138.665	138.665	ECM Evaporator Fan Controller - Medium Temp	
Refrigeration	Evaporator Fan Controller - Medium Temp	Grocery	Lost Opportunity	243.1	0.03	0.03	0.0	0.0	0.0	0.0	0	16	\$226.32	\$226.32	\$0.18	\$0.00	\$0.00	2.85	0.97	9.931	9.931	9.847	9.847	ECM Evaporator Fan Controller - Medium Temp	
Refrigeration	Floating Condenser Head Pressure Controls	Grocery	Discretionary	11,814.2	1.56	1.39	0.0	0.0	0.0	0.0	0	15	\$3,798.35	\$3,798.35	\$0.21	\$0.00	\$0.00	7.73	0.97	3776.450	3776.450	3744.424	3744.424	Floating Condenser Head Pressure Controls	
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Grocery	Discretionary	478.5	0.06	0.06	0.0	0.0	0.0	0.0	0	9	\$64.98	\$64.98	\$0.21	\$0.00	\$0.00	10.81	0.97	290.607	290.				

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	1.27	0.70	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Refrigerator
Refrigerators	Residential Refrigerator Recycling and Replacement	Grocery	Discretionary	357.8	0.04	0.04	0.0	0.0	0.0	0.0	0	8	\$186.29	\$186.29	\$0.21	\$0.00	\$0.00	2.41	0.70	175.070	175.070	79.692	79.692	Recycling Existing Refrigerator and Replacing with a Federal Standard Unit	
Room Cool	Ductless Air Conditioner (DAC)	Grocery	Discretionary	53.6	0.02	0.00	0.0	0.0	0.0	0.0	0	15	\$1,295.72	\$1,295.72	\$0.21	\$0.00	\$0.00	0.17	0.98	0.000	0.000	0.000	0.000	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Air Conditioner (DAC)	Grocery	Lost Opportunity	53.6	0.02	0.00	0.0	0.0	0.0	0.0	0	15	\$1,295.72	\$1,295.72	\$0.18	\$0.00	\$0.00	0.17	0.98	0.000	0.000	0.000	0.000	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Heat Pump (DHP)	Grocery	Discretionary	146.1	0.07	0.00	\$2,207.68	0.0	0.0	0.0	0	15	\$2,207.68	\$2,207.68	\$0.21	\$0.00	\$0.00	0.27	0.98	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP)	Grocery	Lost Opportunity	146.1	0.07	0.00	0.0	0.0	0.0	0.0	0	15	\$2,207.68	\$2,207.68	\$0.18	\$0.00	\$0.00	0.27	0.98	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Grocery	Discretionary	153.8	0.07	0.00	0.0	0.0	0.0	0.0	0	15	\$2,260.45	\$2,260.45	\$0.21	\$0.00	\$0.00	0.28	0.98	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Grocery	Lost Opportunity	153.8	0.07	0.00	0.0	0.0	0.0	0.0	0	15	\$2,260.45	\$2,260.45	\$0.18	\$0.00	\$0.00	0.28	0.98	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1	
Room Cool	Exhaust Hood Makeup Air	Grocery	Discretionary	11.2	0.01	0.00	0.0	0.0	0.0	0.0	0	12	\$683.70	\$683.70	\$0.21	\$0.00	\$0.00	0.05	0.98	0.000	0.000	0.000	0.000	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Room Cool	Green Roof	Grocery	Discretionary	1.3	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$62,699.73	\$62,699.73	\$0.21	\$627.00	\$0.00	0.00	0.98	0.000	0.000	0.000	0.000	Vegetation on Roof	
Room Cool	Green Roof	Grocery	Lost Opportunity	1.0	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$62,699.73	\$62,699.73	\$0.18	\$627.00	\$0.00	0.00	0.98	0.000	0.000	0.000	0.000	Vegetation on Roof	
Room Cool	Infiltration Reduction	Grocery	Discretionary	7.4	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$176.73	\$176.73	\$0.21	\$0.00	\$0.00	0.11	0.98	0.000	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)	
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Grocery	Discretionary	11.0	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$705.37	\$705.37	\$0.21	\$0.00	\$0.00	0.13	0.98	0.000	0.000	0.000	0.000	R-35 c.i.	
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Grocery	Lost Opportunity	9.9	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$705.37	\$705.37	\$0.18	\$0.00	\$0.00	0.12	0.98	0.000	0.000	0.000	0.000	R-35 c.i.	
Room Cool	Insulation - Ceiling - CBES 2015 - Code	Grocery	Discretionary	28.9	0.01	0.00	\$3,218.59	0.0	0.0	0.0	0	30	\$3,218.59	\$3,218.59	\$0.21	\$0.00	\$0.00	0.08	0.98	0.000	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)	
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Grocery	Discretionary	16.2	0.01	0.00	\$1,253.99	0.0	0.0	0.0	0	30	\$1,253.99	\$1,253.99	\$0.21	\$0.00	\$0.00	0.11	0.98	0.000	0.000	0.000	0.000	R-38	
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Grocery	Lost Opportunity	14.5	0.01	0.00	\$1,253.99	0.0	0.0	0.0	0	30	\$1,253.99	\$1,253.99	\$0.18	\$0.00	\$0.00	0.10	0.98	0.000	0.000	0.000	0.000	R-38	
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Code	Grocery	Discretionary	28.2	0.01	0.00	\$3,594.78	0.0	0.0	0.0	0	30	\$3,594.78	\$3,594.78	\$0.21	\$0.00	\$0.00	0.07	0.98	0.000	0.000	0.000	0.000	R-30 (CBES 2015 Code)	
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Grocery	Discretionary	25.5	0.01	0.00	\$1,409.69	0.0	0.0	0.0	0	30	\$1,409.69	\$1,409.69	\$0.21	\$0.00	\$0.00	0.15	0.98	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Grocery	Lost Opportunity	23.0	0.01	0.00	\$1,409.69	0.0	0.0	0.0	0	30	\$1,409.69	\$1,409.69	\$0.18	\$0.00	\$0.00	0.14	0.98	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Room Cool	Insulation - Wall - CBES 2015 - Code	Grocery	Discretionary	23.8	0.01	0.00	\$9,673.36	0.0	0.0	0.0	0	30	\$9,673.36	\$9,673.36	\$0.21	\$0.00	\$0.00	0.02	0.98	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)	
Room Cool	Natural Ventilation	Grocery	Lost Opportunity	22.3	0.01	0.00	\$7,929.00	0.0	0.0	0.0	0	15	\$7,929.00	\$7,929.00	\$0.18	\$0.00	\$0.00	0.01	0.98	0.000	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling	
Room Cool	Room AC - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	\$0.03	0.0	0.0	0.0	0	9	\$0.03	\$0.03	\$0.21	\$0.00	\$0.00	0.25	0.98	0.000	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)	
Room Cool	Room AC - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	\$0.03	0.0	0.0	0.0	0	9	\$0.03	\$0.03	\$0.18	\$0.00	\$0.00	0.25	0.98	0.000	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)	
Room Cool	Windows - CBES 2015 - Above Code	Grocery	Discretionary	0.9	0.00	0.00	\$1,045.07	0.0	0.0	0.0	0	20	\$1,045.07	\$1,045.07	\$0.21	\$0.00	\$0.00	0.00	0.98	0.000	0.000	0.000	0.000	U-0.29	
Room Cool	Windows - CBES 2015 - Above Code	Grocery	Lost Opportunity	0.8	0.00	0.00	\$1,045.07	0.0	0.0	0.0	0	20	\$1,045.07	\$1,045.07	\$0.18	\$0.00	\$0.00	0.00	0.98	0.000	0.000	0.000	0.000	U-0.29	
Room Cool	Windows - CBES 2015 - Code	Grocery	Discretionary	2.0	0.00	0.00	\$6,901.27	0.0	0.0	0.0	0	20	\$6,901.27	\$6,901.27	\$0.21	\$0.00	\$0.00	0.00	0.98	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Room Cool - Early Replacement	Early Replacement Room AC - ENERGY STAR	Grocery	Discretionary	50.7	0.02	0.00	\$872.19	0.0	0.0	0.0	0	9	\$872.19	\$872.19	\$0.21	\$0.00	\$0.00	0.00	0.98	0.000	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)	
Room Heat - Electric	Ductless Heat Pump (DHP)	Grocery	Discretionary	2,596.8	0.01	1.04	\$2,207.68	0.0	0.0	0.0	0	15	\$2,207.68	\$2,207.68	\$0.21	\$0.00	\$0.00	2.20	0.98	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Heat - Electric	Ductless Heat Pump (DHP)	Grocery	Lost Opportunity	2,596.8	0.01	1.04	\$2,207.68	0.0	0.0	0.0	0	15	\$2,207.68	\$2,207.68	\$0.18	\$0.00	\$0.00	2.20	0.98	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Grocery	Discretionary	2,733.8	0.01	1.10	\$2,260.45	0.0	0.0	0.0	0	15	\$2,260.45	\$2,260.45	\$0.21	\$0.00	\$0.00	2.26	0.98	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1	
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Grocery	Lost Opportunity	2,733.8	0.01	1.10	\$2,260.45	0.0	0.0	0.0	0	15	\$2,260.45	\$2,260.45	\$0.18	\$0.00	\$0.00	2.26	0.98	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1	
Room Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Grocery	Discretionary	6,651.1	0.01	2.68	\$23,231.70	0.0	0.0	0.0	0	14	\$23,231.70	\$23,231.70	\$0.21	\$0.00	\$0.00	0.50	0.98	0.000	0.000	0.000	0.000	Exhaust Air to Ventilation Air Heat Recovery	
Room Heat - Electric	Infiltration Reduction	Grocery	Discretionary	4,434.1	0.01	1.78	\$176.73	0.0	0.0	0.0	0	10	\$176.73	\$176.73	\$0.21	\$0.00	\$0.00	31.58	0.98	0.000	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)	
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Grocery	Discretionary	1,959.9	0.00	0.79	\$705.37	0.0	0.0	0.0	0	30	\$705.37	\$705.37	\$0.21	\$0.00	\$0.00	10.43	0.98	0.000	0.000	0.000	0.000	R-35 c.i.	
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Grocery	Lost Opportunity	1,959.9	0.00	0.79	\$705.37	0.0	0.0	0.0	0	30	\$705.37	\$705.37	\$0.18	\$0.00	\$0.00	10.43	0.98	0.000	0.000	0.000	0.000	R-35 c.i.	
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Grocery	Discretionary	5,159.1	0.01	2.08	\$3,218.59	0.0	0.0	0.0	0	30	\$3,218.59	\$3,218.59	\$0.21	\$0.00	\$0.00	6.02	0.98	0.000	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)	
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Grocery	Discretionary	2,888.2	0.01	1.16	\$1,253.99	0.0	0.0	0.0	0	30	\$1,253.99	\$1,253.99	\$0.21	\$0.00	\$0.00	8.65	0.98	0.000	0.000	0.000	0.000	R-38	
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Grocery	Lost Opportunity	2,888.2	0.01	1.16	\$1,253.99	0.0	0.0	0.0	0	30	\$1,253.99	\$1,253.99	\$0.18	\$0.00	\$0.00	8.65	0.98	0.000	0.000	0.000	0.000	R-38	
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Grocery	Discretionary	5,030.4	0.01	2.02	\$3,594.78	0.0	0.0	0.0	0	30	\$3,594.78	\$3,594.78	\$0.21	\$0.00	\$0.00	5.25	0.98	0.000	0.000	0.000	0.000	R-30 (CBES 2015 Code)	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Grocery	Discretionary	4,560.0	0.01	1.83	\$1,409.69	0.0	0.0	0.0	0	30	\$1,409.69	\$1,409.69	\$0.21	\$0.00	\$0.00	12.14	0.98	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Grocery	Lost Opportunity	4,560.0	0.01	1.83	\$1,409.69	0.0	0.0	0.0	0	30	\$1,409.69	\$1,409.69	\$0.18	\$0.00	\$0.00	12.14	0.98	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Code	Grocery	Discretionary	4,243.4	0.01	1.71	\$9,673.36	0.0	0.0	0.0	0	30	\$9,673.36	\$9,673.36	\$0.21	\$0.00	\$0.00	1.65	0.98	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)	
Room Heat - Electric	Windows - CBES 2015 - Above Code	Grocery	Discretionary	155.9	0.00	0.06	\$1,045.07	0.0	0.0	0.0	0	20	\$1,045.07	\$1,045.07	\$0.21	\$0.00	\$0.00	0.37	0.98	0.000	0.000	0.000	0.000	U-0.29	
Room Heat - Electric	Windows - CBES 2015 - Above Code	Grocery	Lost Opportunity	155.9	0.00	0.06	\$1,045.07	0.0	0.0	0.0	0	20	\$1,045.07	\$1,045.07	\$0.18	\$0.00	\$0.00	0.37	0.98	0.000	0.000	0.000	0.000	U-0.29	
Room Heat - Electric	Windows - CBES 2015 - Code	Grocery	Discretionary	356.0	0.00	0.14	\$6,901.27	0.0	0.0	0.0	0	20	\$6,901.27	\$6,901.27	\$0.21	\$0.00	\$0.00	0.13	0.98	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Servers	Internal Power Supply / Server	Grocery	Discretionary	5.9	0.00	0.00	\$1.73	0.0	0.0	0.0	0	4	\$1.73	\$1.73	\$0.21	\$0.00	\$0.00	2.22	1.00	2.279	2.891	2.318	2.318	80 Plus power supply for Desktop Derived Server	
Servers	Internal Power Supply / Server	Grocery	Lost Opportunity	5.9	0.00	0.00	\$1.73	0.0	0.0	0.0	0	4	\$1.73	\$1.73	\$0.18	\$0.00	\$0.00	2.22	1.00	0.196					



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Vending Machines	Vending Machines - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Vending Machines - 3.84 kWh/day
Vending Machines	Vending Machines - Federal Standard 2020	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	7.248	0.000	0.000	0.000	0.000	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Machines - Federal Standard 2020	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.389	0.000	0.000	0.000	0.000	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Miser	Grocery	Discretionary	433.0	0.05	0.05	0.0	0.0	0.0	0.0	0	5	\$68.43	\$68.43	\$0.21	\$0.00	\$0.00	4.86	1.00	165.252	165.762	132.917	132.917	132.917	Vending Machine Occupancy Sensor
Vending Machines	Vending Miser	Grocery	Lost Opportunity	432.7	0.05	0.05	0.0	0.0	0.0	0.0	0	5	\$68.43	\$68.43	\$0.18	\$0.00	\$0.00	4.86	1.00	16.596	16.632	13.337	13.337	13.337	Vending Machine Occupancy Sensor
Ventilation And Circulation	Automated Exhaust VFD Control - Parking Garage CO sensor	Grocery	Discretionary	777.9	0.09	0.10	0.0	0.0	0.0	0.0	0	5	\$113.22	\$113.22	\$0.21	\$0.00	\$0.00	5.31	0.97	19.687	19.687	17.151	17.151	17.151	CO Sensors
Ventilation And Circulation	Boiler Draft Fan - VFD	Grocery	Discretionary	2,114.4	0.24	0.26	0.0	0.0	0.0	0.0	0	15	\$1,137.67	\$1,137.67	\$0.21	\$0.00	\$0.00	4.47	0.97	351.455	351.455	306.176	306.176	306.176	VFD Boiler Draft Fan
Ventilation And Circulation	Boiler Draft Fan - VFD	Grocery	Lost Opportunity	2,114.4	0.24	0.26	0.0	0.0	0.0	0.0	0	15	\$1,137.67	\$1,137.67	\$0.18	\$0.00	\$0.00	4.47	0.97	21.142	21.142	18.418	18.418	18.418	VFD Boiler Draft Fan
Ventilation And Circulation	Convert Constant Volume Air System to VAV	Grocery	Discretionary	3,248.3	0.37	0.40	0.0	0.0	0.0	0.0	0	15	\$28,911.40	\$28,911.40	\$0.21	\$0.00	\$0.00	0.27	0.97	173.087	0.000	0.000	0.000	0.000	Variable Volume Air System
Ventilation And Circulation	Cooking Hood Controls	Grocery	Discretionary	822.6	0.09	0.10	0.0	0.0	0.0	0.0	0	18	\$2,756.87	\$2,756.87	\$0.21	\$0.00	\$0.00	0.87	0.97	307.666	0.000	0.000	0.000	0.000	Demand-Ventilation Control
Ventilation And Circulation	Cooking Hood Controls	Grocery	Lost Opportunity	822.6	0.09	0.10	0.0	0.0	0.0	0.0	0	18	\$2,756.87	\$2,756.87	\$0.18	\$0.00	\$0.00	0.87	0.97	26.734	0.000	0.000	0.000	0.000	Demand-Ventilation Control
Ventilation And Circulation	Fan System - HVAC - Variable Speed Control	Grocery	Discretionary	4,224.9	0.48	0.52	0.0	0.0	0.0	0.0	0	15	\$673.02	\$673.02	\$0.21	\$0.00	\$0.00	15.10	0.97	594.224	594.224	517.669	517.669	517.669	HVAC Fan System Optimization with VSD (Restoration)
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	Grocery	Discretionary	153.6	0.02	0.02	0.0	0.0	0.0	0.0	0	16	\$3.37	\$3.37	\$0.21	\$0.00	\$0.00	117.21	0.97	83.948	83.948	73.133	73.133	73.133	CEE PE+ Motor for HVAC Applications
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	Grocery	Lost Opportunity	153.6	0.02	0.02	0.0	0.0	0.0	0.0	0	16	\$3.37	\$3.37	\$0.18	\$0.00	\$0.00	117.21	0.97	7.294	7.294	6.355	6.355	6.355	CEE PE+ Motor for HVAC Applications
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	Grocery	Discretionary	3,006.5	0.34	0.37	0.0	0.0	0.0	0.0	0	15	\$28,911.40	\$28,911.40	\$0.21	\$0.00	\$0.00	0.25	0.97	111.274	0.000	0.000	0.000	0.000	VAV Box High Efficiency (ECM)
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	Grocery	Lost Opportunity	3,006.5	0.34	0.37	0.0	0.0	0.0	0.0	0	15	\$28,911.40	\$28,911.40	\$0.18	\$0.00	\$0.00	0.25	0.97	0.000	0.000	0.000	0.000	0.000	VAV Box High Efficiency (ECM)
Ventilation And Circulation	Motor Rewind	Grocery	Discretionary	62.0	0.01	0.01	0.0	0.0	0.0	0.0	0	9	\$4.74	\$4.74	\$0.21	\$0.00	\$0.00	18.63	0.97	1.166	1.166	1.016	1.016	1.016	>15, <500 HP
Ventilation And Circulation	Variable Speed ECM Pump - Domestic Hot Water Recirculation	Grocery	Discretionary	91.3	0.01	0.01	0.0	0.0	0.0	0.0	0	15	\$17.95	\$17.95	\$0.21	\$0.00	\$0.00	12.24	0.97	20.748	20.748	18.075	18.075	18.075	Domestic Hot Water Recirculation ECM Pump
Ventilation And Circulation	Variable Speed ECM Pump - HVAC Space Heating Recirculation	Grocery	Discretionary	1,510.8	0.17	0.19	0.0	0.0	0.0	0.0	0	15	\$179.47	\$179.47	\$0.21	\$0.00	\$0.00	20.26	0.97	251.132	251.132	218.778	218.778	218.778	HVAC Space Heating Recirculation ECM Pump
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Grocery	Discretionary	17.8	0.00	0.01	0.0	0.0	0.0	0.0	3	13	\$41.28	\$41.28	\$0.21	\$0.00	\$0.00	1.66	1.00	0.000	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Grocery	Lost Opportunity	17.8	0.00	0.01	0.0	0.0	0.0	0.0	3	13	\$41.28	\$41.28	\$0.18	\$0.00	\$0.00	1.66	1.00	0.000	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Grocery	Discretionary	39.5	0.00	0.02	0.0	0.0	0.0	0.0	4	13	\$76.32	\$76.32	\$0.21	\$0.00	\$0.00	1.53	1.00	0.363	0.551	0.358	0.358	0.358	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Grocery	Lost Opportunity	39.5	0.00	0.02	0.0	0.0	0.0	0.0	4	13	\$76.32	\$76.32	\$0.18	\$0.00	\$0.00	1.53	1.00	0.027	0.044	0.029	0.029	0.029	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Grocery	Discretionary	107.9	0.00	0.04	0.0	0.0	0.0	0.0	9	14	\$34.46	\$34.46	\$0.21	\$0.00	\$0.00	8.85	1.00	0.000	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Grocery	Lost Opportunity	107.9	0.00	0.04	0.0	0.0	0.0	0.0	9	14	\$34.46	\$34.46	\$0.18	\$0.00	\$0.00	8.85	1.00	0.000	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Grocery	Discretionary	169.9	0.00	0.07	0.0	0.0	0.0	0.0	27	14	\$14.08	\$14.08	\$0.21	\$0.00	\$0.00	44.94	1.00	2.091	3.169	2.061	2.061	2.061	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Grocery	Lost Opportunity	169.9	0.00	0.07	0.0	0.0	0.0	0.0	27	14	\$14.08	\$14.08	\$0.18	\$0.00	\$0.00	44.94	1.00	0.156	0.256	0.167	0.167	0.167	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Grocery	Discretionary	121.1	0.00	0.05	0.0	0.0	0.0	0.0	9	9	\$31.72	\$31.72	\$0.21	\$0.00	\$0.00	6.77	1.00	3.726	5.647	3.672	3.672	3.672	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Grocery	Lost Opportunity	121.1	0.00	0.05	0.0	0.0	0.0	0.0	9	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.279	0.000	0.000	0.000	0.000	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Grocery	Discretionary	85.5	0.00	0.03	0.0	0.0	0.0	0.0	6	9	\$31.72	\$31.72	\$0.21	\$0.00	\$0.00	4.78	1.00	0.000	0.000	0.000	0.000	0.000	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Grocery	Lost Opportunity	85.5	0.00	0.03	0.0	0.0	0.0	0.0	6	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	0.000	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Grocery	Discretionary	49.9	0.00	0.02	0.0	0.0	0.0	0.0	4	9	\$31.72	\$31.72	\$0.21	\$0.00	\$0.00	2.79	1.00	0.000	0.000	0.000	0.000	0.000	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Grocery	Lost Opportunity	49.9	0.00	0.02	0.0	0.0	0.0	0.0	4	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	0.000	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Grocery	Discretionary	21.4	0.00	0.01	0.0	0.0	0.0	0.0	1	9	\$31.72	\$31.72	\$0.21	\$0.00	\$0.00	1.14	1.00	0.247	0.374	0.243	0.243	0.243	2.2 GPM (Federal Code)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Grocery	Discretionary	176.7	0.00	0.07	0.0	0.0	0.0	0.0	34	5	\$33.52	\$33.52	\$0.21	\$0.00	\$0.00	8.41	1.00	0.000	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Grocery	Lost Opportunity	176.7	0.00	0.07	0.0	0.0	0.0	0.0	34	5	\$33.52	\$33.52	\$0.18	\$0.00	\$0.00	8.41	1.00	0.000	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Grocery	Discretionary	292.6	0.00	0.12	0.0	0.0	0.0	0.0	56	5	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	7.770	0.000	0.000	0.000	0.000	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Grocery	Lost Opportunity	292.6	0.00	0.12	0.0	0.0	0.0	0.0	56	5	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.548	0.000	0.000	0.000	0.000	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Grocery	Discretionary	469.3	0.00	0.19	0.0	0.0	0.0	0.0	90	5	\$33.52	\$33.52	\$0.21	\$0.00	\$0.00	22.34	1.00	0.000	0.000	0.000	0.000	0.000	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Grocery	Lost Opportunity	469.3	0.00	0.19	0.0	0.0	0.0	0.0	90	5	\$33.52	\$33.52	\$0.18	\$0.00	\$0.00	22.34	1.00	0.222	0.360	0.234	0.234	0.234	0.75 GPM
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.98	\$0.98	\$0.21	\$0.36	\$0.00	0.01	1.00	1.962	0.000	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.98	\$0.98	\$0.18	\$0.36	\$0.00	0.01	1.00	0.067	0.000	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Grocery	Discretionary	78.3	0.00	0.03	0.0	0.0	0.0	0.0	0	20	\$556.17	\$556.17	\$0.21	\$0.00	\$0.00	0.35	1.00	2.291	0.000	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Grocery	Lost Opportunity	78.3	0.00	0.03	0.0	0.0	0.0	0.0	0	20	\$556.17	\$556.17	\$0.18	\$0.00	\$0.00	0.35	1.00	0.171	0.000	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Grocery	Discretionary	56.8	0.00	0.02	0.0	0.0	0.0	0.0	0	10	\$7,215.39	\$7,215.39	\$0.21	\$0.00	\$0.00	0.01	1.00	0.961	0.000	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End U
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Grocery	Lost Opportunity	56.8	0.00	0.02	0.0	0.0	0.0	0.0	0	10	\$7,215.39	\$7,215.39	\$0.18	\$0.00	\$0.00	0.01	1.00	0.072	0.000	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End U
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.24	\$0.24	\$0.21	\$0.00	\$0.00	0.06	1.00	3.518	0.000	0.000	0.000	0.000	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.24	\$0.24	\$0.18	\$0.00	\$0.00	0.06	1.00	0.131	0.000				

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$2.83	\$2.83	\$0.18	\$0.74	\$0.00	0.01	1.00	0.000	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Grocery	Discretionary	78.3	0.00	0.03	0.0	0.0	0.0	0.0	0	20	\$556.17	\$556.17	\$0.21	\$0.00	\$0.00	0.35	1.00	3.531	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Grocery	Lost Opportunity	78.3	0.00	0.03	0.0	0.0	0.0	0.0	0	20	\$556.17	\$556.17	\$0.18	\$0.00	\$0.00	0.35	1.00	0.233	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Grocery	Discretionary	53.3	0.00	0.02	0.0	0.0	0.0	0.0	0	10	\$7,215.39	\$7,215.39	\$0.21	\$0.00	\$0.00	0.01	1.00	1.392	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End U	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Grocery	Lost Opportunity	53.3	0.00	0.02	0.0	0.0	0.0	0.0	0	10	\$7,215.39	\$7,215.39	\$0.18	\$0.00	\$0.00	0.01	1.00	0.092	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End U	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$1.34	\$1.34	\$0.21	\$0.01	\$0.00	0.04	1.00	18.279	0.000	0.000	0.000	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$1.34	\$1.34	\$0.18	\$0.01	\$0.00	0.04	1.00	0.771	0.000	0.000	0.000	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.86	\$0.86	\$0.21	\$0.01	\$0.00	0.05	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.86	\$0.86	\$0.18	\$0.01	\$0.00	0.05	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.96	\$0.96	\$0.21	\$0.01	\$0.00	0.05	1.00	0.000	0.000	0.000	0.000	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.96	\$0.96	\$0.18	\$0.01	\$0.00	0.05	1.00	0.000	0.000	0.000	0.000	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$1.24	\$1.24	\$0.21	\$0.01	\$0.00	0.04	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Grocery	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$1.24	\$1.24	\$0.18	\$0.01	\$0.00	0.04	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Grocery	Discretionary	74.7	0.00	0.03	0.0	0.0	0.0	0.0	0	4	\$0.02	\$0.02	\$0.21	\$0.00	\$0.00	2214.92	1.00	3.365	8.074	5.250	5.250	Set Water Heater to 120F	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Grocery	Lost Opportunity	74.7	0.00	0.03	0.0	0.0	0.0	0.0	0	4	\$0.02	\$0.02	\$0.18	\$0.00	\$0.00	2214.92	1.00	0.222	0.702	0.457	0.457	Set Water Heater to 120F	
Computers	Computer - ENERGY STAR	Health Care Other	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	456.506	0.000	0.000	0.000	ENERGY STAR Computer	
Computers	Computer - ENERGY STAR	Health Care Other	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	37.408	0.000	0.000	0.000	ENERGY STAR Computer	
Computers	Network PC Power Management	Health Care Other	Discretionary	311.4	0.05	0.03	0.0	0.0	0.0	0.0	0	5	\$38.08	\$38.08	\$0.21	\$8.74	\$0.00	3.27	1.00	92.440	162.026	130.574	130.574	Network PC Power Management	
Computers	Network PC Power Management	Health Care Other	Lost Opportunity	311.4	0.05	0.03	0.0	0.0	0.0	0.0	0	5	\$38.08	\$38.08	\$0.18	\$8.74	\$0.00	3.27	1.00	9.017	15.829	12.756	12.756	Network PC Power Management	
Cooking	Combination Oven	Health Care Other	Discretionary	72.0	0.01	0.01	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.98	3.893	0.000	0.000	0.000	ENERGY STAR Combination Oven	
Cooking	Combination Oven	Health Care Other	Lost Opportunity	72.0	0.01	0.01	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.98	0.338	0.000	0.000	0.000	ENERGY STAR Combination Oven	
Cooking	Convection Oven	Health Care Other	Discretionary	16.3	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$4.39	\$4.39	\$0.21	\$0.00	\$0.00	7.05	0.98	1.077	1.077	0.846	0.846	ENERGY STAR Convection Oven	
Cooking	Convection Oven	Health Care Other	Lost Opportunity	16.3	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$4.39	\$4.39	\$0.18	\$0.00	\$0.00	7.05	0.98	0.094	0.094	0.074	0.074	ENERGY STAR Convection Oven	
Cooking	Fryers	Health Care Other	Discretionary	33.6	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$5.72	\$5.72	\$0.21	\$0.00	\$0.00	11.17	0.98	2.595	2.595	2.039	2.039	ENERGY STAR Fryer	
Cooking	Fryers	Health Care Other	Lost Opportunity	33.6	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$5.72	\$5.72	\$0.18	\$0.00	\$0.00	11.17	0.98	0.225	0.225	0.177	0.177	ENERGY STAR Fryer	
Cooking	Griddle	Health Care Other	Discretionary	21.6	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$9.73	\$9.73	\$0.21	\$0.00	\$0.00	4.22	0.98	1.310	1.310	1.029	1.029	ENERGY STAR Griddle	
Cooking	Griddle	Health Care Other	Lost Opportunity	21.6	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$9.73	\$9.73	\$0.18	\$0.00	\$0.00	4.22	0.98	0.114	0.114	0.089	0.089	ENERGY STAR Griddle	
Cooking	Hot Food Holding Cabinet	Health Care Other	Discretionary	19.6	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$10.20	\$10.20	\$0.21	\$0.00	\$0.00	3.65	0.98	1.835	1.835	1.442	1.442	ENERGY STAR Hot Food Holding Cabinet	
Cooking	Hot Food Holding Cabinet	Health Care Other	Lost Opportunity	19.6	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$10.20	\$10.20	\$0.18	\$0.00	\$0.00	3.65	0.98	0.159	0.159	0.125	0.125	ENERGY STAR Hot Food Holding Cabinet	
Cooking	Microwave - High Efficiency	Health Care Other	Discretionary	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	11	\$0.06	\$0.06	\$0.21	\$0.00	\$0.00	3.38	0.98	0.011	0.011	0.008	0.008	High Efficiency Microwave	
Cooking	Microwave - High Efficiency	Health Care Other	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	11	\$0.06	\$0.06	\$0.18	\$0.00	\$0.00	3.38	0.98	0.000	0.000	0.000	0.000	High Efficiency Microwave	
Cooking	Steam Cooker	Health Care Other	Discretionary	56.4	0.01	0.01	0.0	0.0	0.0	0.0	2,224	12	\$19.23	\$19.23	\$0.21	\$0.00	\$0.00	1284.75	0.98	4.663	4.663	3.664	3.664	ENERGY STAR Steam Cooker	
Cooking	Steam Cooker	Health Care Other	Lost Opportunity	56.4	0.01	0.01	0.0	0.0	0.0	0.0	2,224	12	\$19.23	\$19.23	\$0.18	\$0.00	\$0.00	1284.75	0.98	0.405	0.405	0.318	0.318	ENERGY STAR Steam Cooker	
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Health Care Other	Discretionary	81.2	0.03	0.00	0.0	0.0	0.0	0.0	0	15	\$752.50	\$752.50	\$0.21	\$0.00	\$0.00	0.38	0.97	0.000	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)	
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.27	\$0.27	\$0.21	\$0.00	\$0.00	0.68	0.97	0.000	0.000	0.000	0.000	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)	
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.24	\$0.24	\$0.18	\$0.00	\$0.00	0.75	0.97	0.000	0.000	0.000	0.000	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)	
Cooling Chillers	Convert Constant Volume Air System to VAV	Health Care Other	Discretionary	205.2	0.07	0.00	0.0	0.0	0.0	0.0	0	15	\$7,316.88	\$7,316.88	\$0.21	\$0.00	\$0.00	0.10	0.97	0.000	0.000	0.000	0.000	Variable Volume Air System	
Cooling Chillers	Direct Digital Control System-Installation	Health Care Other	Discretionary	117.2	0.04	0.00	0.0	0.0	0.0	0.0	0	5	\$940.63	\$940.63	\$0.21	\$0.00	\$0.00	0.14	0.97	0.000	0.000	0.000	0.000	Installation of EMS System	
Cooling Chillers	Direct Digital Control System-Installation	Health Care Other	Lost Opportunity	117.2	0.04	0.00	0.0	0.0	0.0	0.0	0	5	\$940.63	\$940.63	\$0.18	\$0.00	\$0.00	0.14	0.97	0.000	0.000	0.000	0.000	Installation of EMS System	
Cooling Chillers	Exhaust Hood Makeup Air	Health Care Other	Discretionary	35.2	0.01	0.00	0.0	0.0	0.0	0.0	0	12	\$35.07	\$35.07	\$0.21	\$0.00	\$0.00	2.76	0.97	0.000	0.000	0.000	0.000	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Cooling Chillers	Green Roof	Health Care Other	Discretionary	4.2	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$45,150.00	\$45,150.00	\$0.21	\$451.50	\$0.00	0.00	0.97	0.000	0.000	0.000	0.000	Vegetation on Roof	
Cooling Chillers	Green Roof	Health Care Other	Lost Opportunity	3.4	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$45,150.00	\$45,150.00	\$0.18	\$451.50	\$0.00	0.00	0.97	0.000	0.000	0.000	0.000	Vegetation on Roof	
Cooling Chillers	Indirect Information Feedback	Health Care Other	Discretionary	4.1	0.00	0.00	0.0	0.0	0.0	0.0	0	2	\$13.52	\$13.52	\$0.21	\$0.00	\$0.00	0.12	0.97	0.000	0.000	0.000	0.000	Indirect Information Feedback	
Cooling Chillers	Indirect Information Feedback	Health Care Other	Lost Opportunity	4.1	0.00	0.00	0.0	0.0	0.0	0.0	0	2	\$13.52	\$13.52	\$0.18	\$0.00	\$0.00	0.12	0.97	0.000	0.000	0.000	0.000	Indirect Information Feedback	
Cooling Chillers	Infiltration Reduction	Health Care Other	Discretionary	23.4	0.01	0.00	0.0	0.0	0.0	0.0	0	10	\$165.87	\$165.87	\$0.21	\$0.00	\$0.00	0.32	0.97	0.000	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)	
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Health Care Other	Discretionary	39.8	0.01	0.00	0.0	0.0	0.0	0.0	0	30	\$507.94	\$507.94	\$0.21	\$0.00	\$0.00	0.58	0.97	0.000	0.000	0.000	0.000	R-35 c.i.	
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	39.8	0.01	0.00	0.0	0.0	0.0	0.0	0	30	\$507.94	\$507.94	\$0.18	\$0.00	\$0.00	0.58	0.97	0.000	0.000	0.000	0.000	R-35 c.i.	
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Code	Health Care Other	Discretionary	104.7	0.04	0.00	0.0	0.0	0.0	0.0	0	30	\$2,317.70	\$2,317.70	\$0.21	\$0.00	\$0.00	0.33	0.97	0.000	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)	
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Health Care Other	Discretionary	58.6	0.02	0.00	0.0	0.0	0.0	0.0	0	30	\$903.00	\$903.00	\$0.21	\$0.00	\$0.00	0.48	0.97	0.000	0.000	0.000	0.000	R-38	
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	58.6	0.02	0.00	0.0	0.0	0.0	0.0	0	30	\$903.00	\$903.00	\$0.18	\$0.00	\$0.00	0.48	0.97	0.000	0.000	0.000	0.000	R-38	
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Code	Health Care Other	Discretionary	102.1	0.03	0.00	0.0	0.0	0.0	0.0	0	30	\$2,588.60	\$2,588.											

Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Health Care Other	Discretionary	416.4	0.14	0.00	0.0	0.0	0.0	0.0	0	15	\$11,438.00	\$11,438.00	\$0.21	-\$261.87	\$0.00	0.18	0.97	9.327	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Health Care Other	Lost Opportunity	416.4	0.14	0.00	0.0	0.0	0.0	0.0	0	15	\$11,438.00	\$11,438.00	\$0.18	-\$261.87	\$0.00	0.18	0.97	2.545	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems
Cooling Dx Evap	Indirect Information Feedback	Health Care Other	Discretionary	3.6	0.00	0.00	0.3	0.6	0.0	0.0	0	2	\$12.14	\$12.14	\$0.21	\$0.00	\$0.00	0.31	0.97	0.172	0.000	0.000	0.000	Indirect Information Feedback
Cooling Dx Evap	Indirect Information Feedback	Health Care Other	Lost Opportunity	3.6	0.00	0.00	0.3	0.7	0.0	0.0	0	2	\$12.14	\$12.14	\$0.18	\$0.00	\$0.00	0.33	0.97	0.017	0.000	0.000	0.000	Indirect Information Feedback
Cooling Dx Evap	Infiltration Reduction	Health Care Other	Discretionary	21.0	0.01	0.00	4.9	13.9	0.0	0.0	0	10	\$165.87	\$165.87	\$0.21	\$0.00	\$0.00	1.68	0.97	0.047	0.059	0.047	0.047	Install Caulking And Weatherstripping (ACH 0.65)
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Health Care Other	Discretionary	35.7	0.01	0.00	2.5	9.2	0.0	0.0	0	30	\$507.94	\$507.94	\$0.21	\$0.00	\$0.00	1.19	0.97	0.666	0.850	0.665	0.665	R-35 c.i.
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	35.7	0.01	0.00	2.8	10.2	0.0	0.0	0	30	\$507.94	\$507.94	\$0.18	\$0.00	\$0.00	1.27	0.97	0.028	0.037	0.029	0.029	R-35 c.i.
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Code	Health Care Other	Discretionary	94.0	0.03	0.00	8.5	31.6	0.0	0.0	0	30	\$2,317.70	\$2,317.70	\$0.21	\$0.00	\$0.00	0.81	0.97	1.104	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Health Care Other	Discretionary	25.2	0.01	0.00	1.6	0.0	0.0	0.0	0	20	\$40.82	\$40.82	\$0.21	\$0.00	\$0.00	4.55	0.97	1.217	1.554	1.216	1.216	R-12
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	25.2	0.01	0.00	1.8	0.0	0.0	0.0	0	20	\$40.82	\$40.82	\$0.18	\$0.00	\$0.00	4.72	0.97	0.133	0.173	0.136	0.136	R-12
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	Health Care Other	Discretionary	25.2	0.01	0.00	1.6	0.0	0.0	0.0	0	20	\$164.42	\$164.42	\$0.21	\$0.00	\$0.00	1.13	0.97	0.971	1.240	0.970	0.970	R-8 (CBES 2015 Code)
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Health Care Other	Discretionary	52.6	0.02	0.00	3.7	13.6	0.0	0.0	0	30	\$903.00	\$903.00	\$0.21	\$0.00	\$0.00	0.99	0.97	0.322	0.000	0.000	0.000	R-38
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	52.6	0.02	0.00	4.1	15.1	0.0	0.0	0	30	\$903.00	\$903.00	\$0.18	\$0.00	\$0.00	1.05	0.97	0.058	0.075	0.059	0.059	R-38
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	Health Care Other	Discretionary	91.6	0.03	0.00	6.4	23.7	0.0	0.0	0	30	\$2,588.60	\$2,588.60	\$0.21	\$0.00	\$0.00	0.60	0.97	0.541	0.000	0.000	0.000	R-30 (CBES 2015 Code)
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Health Care Other	Discretionary	51.6	0.02	0.00	3.6	13.3	0.0	0.0	0	30	\$630.63	\$630.63	\$0.21	\$0.00	\$0.00	1.39	0.97	0.539	0.688	0.538	0.538	R-13 + 15.6 c.i.
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	51.6	0.02	0.00	4.0	14.8	0.0	0.0	0	30	\$630.63	\$630.63	\$0.18	\$0.00	\$0.00	1.47	0.97	0.142	0.185	0.144	0.144	R-13 + 15.6 c.i.
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Code	Health Care Other	Discretionary	48.0	0.02	0.00	4.0	14.6	0.0	0.0	0	30	\$4,327.42	\$4,327.42	\$0.21	\$0.00	\$0.00	0.21	0.97	0.286	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Health Care Other	Discretionary	56.4	0.02	0.00	0.0	0.0	0.0	0.0	0	15	\$10,630.82	\$10,630.82	\$0.21	\$0.00	\$0.00	0.02	0.97	0.532	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Health Care Other	Lost Opportunity	56.4	0.02	0.00	0.0	0.0	0.0	0.0	0	15	\$8,504.65	\$8,504.65	\$0.18	\$0.00	\$0.00	0.02	0.97	0.034	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)
Cooling Dx Evap	Natural Ventilation	Health Care Other	Lost Opportunity	70.1	0.02	0.00	0.0	0.0	0.0	0.0	0	15	\$3,010.00	\$3,010.00	\$0.18	\$0.00	\$0.00	0.08	0.97	0.007	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling
Cooling Dx Evap	Programmable Thermostat	Health Care Other	Discretionary	28.0	0.01	0.00	2.0	5.7	0.0	0.0	0	11	\$25.78	\$25.78	\$0.21	\$0.00	\$0.00	6.67	0.97	1.329	1.697	1.328	1.328	Programmable Thermostat
Cooling Dx Evap	Strategic Energy Management (SEM)	Health Care Other	Discretionary	28.7	0.01	0.00	2.0	5.3	0.0	0.0	0	5	\$3.87	\$3.87	\$0.21	\$0.00	\$0.00	20.08	0.97	0.211	0.270	0.211	0.211	Identify Operations and Maintenance Improvements through Strategic Energy Man
Cooling Dx Evap	Strategic Energy Management (SEM)	Health Care Other	Lost Opportunity	28.7	0.01	0.00	2.2	5.9	0.0	0.0	0	5	\$3.87	\$3.87	\$0.18	\$0.00	\$0.00	21.41	0.97	0.127	0.165	0.129	0.129	Identify Operations and Maintenance Improvements through Strategic Energy Man
Cooling Dx Evap	Tune-up - DX Maintenance	Health Care Other	Discretionary	100.8	0.03	0.00	0.0	0.0	0.0	0.0	0	5	\$3,612.00	\$3,612.00	\$0.21	\$0.00	\$0.00	0.03	0.97	2.106	0.000	0.000	0.000	DX Tune-up / Diagnostics
Cooling Dx Evap	Wi-Fi Thermostat	Health Care Other	Discretionary	28.0	0.01	0.00	2.0	5.7	0.0	0.0	0	11	\$205.33	\$205.33	\$0.21	\$0.00	\$0.00	0.84	0.97	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Health Care Other	Discretionary	3.7	0.00	0.00	0.3	0.8	0.0	0.0	0	20	\$980.86	\$980.86	\$0.21	\$0.00	\$0.00	0.04	0.97	0.039	0.000	0.000	0.000	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	3.7	0.00	0.00	0.3	0.9	0.0	0.0	0	20	\$980.86	\$980.86	\$0.18	\$0.00	\$0.00	0.05	0.97	0.008	0.000	0.000	0.000	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Code	Health Care Other	Discretionary	8.5	0.00	0.00	0.6	2.0	0.0	0.0	0	20	\$6,477.23	\$6,477.23	\$0.21	\$0.00	\$0.00	0.02	0.97	0.081	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtuh - Premium Efficiency	Health Care Other	Discretionary	352.4	0.12	0.00	0.0	0.0	0.0	0.0	0	15	\$12,316.51	\$12,316.51	\$0.21	\$0.00	\$0.00	0.10	0.97	6.559	0.000	0.000	0.000	Premium Efficiency - 19.0 IEER
Fax	Fax - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	3.148	0.000	0.000	0.000	ENERGY STAR Fax
Fax	Fax - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.314	0.000	0.000	0.000	ENERGY STAR Fax
Flat Screen Monitors	Monitor - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.03	\$0.03	\$0.21	\$0.00	\$0.00	0.50	1.00	34.110	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.03	\$0.03	\$0.18	\$0.00	\$0.00	0.50	1.00	3.222	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor
Freezers	Freezer (Residential) - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	13.03	1.00	0.736	0.736	0.479	0.479	ENERGY STAR Freezer
Freezers	Freezer (Residential) - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	13.03	1.00	0.100	0.100	0.065	0.065	ENERGY STAR Freezer
Freezers	Residential Freezer Recycling and Replacement	Health Care Other	Discretionary	7.7	0.00	0.00	0.0	0.0	0.0	0.0	0	8	\$3.09	\$3.09	\$0.21	\$0.00	\$0.00	3.13	1.00	4.655	4.655	3.027	3.027	Recycling Existing Freezer and Replacing with a Federal Standard Unit
Heat Pump	Air Source Heat Pump 65 to 135 kBtuh - Federal Standard 2023	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.37	\$0.37	\$0.21	\$0.00	\$0.00	0.32	0.97	0.000	0.000	0.000	0.000	Federal Standard 2023 - 14.1 IEER, 3.4 COP
Heat Pump	Air Source Heat Pump 65 to 135 kBtuh - Federal Standard 2023	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.30	\$0.30	\$0.18	\$0.00	\$0.00	0.41	0.97	0.000	0.000	0.000	0.000	Federal Standard 2023 - 14.1 IEER, 3.4 COP
Heat Pump	Air Source Heat Pump 65 to 135 kBtuh - Premium Efficiency	Health Care Other	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$1.32	\$1.32	\$0.21	\$0.00	\$0.00	0.28	0.97	13.487	0.000	0.000	0.000	Premium Efficiency - 19.0 IEER, 3.7 COP
Heat Pump	Air Source Heat Pump 65 to 135 kBtuh - Premium Efficiency	Health Care Other	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$1.06	\$1.06	\$0.18	\$0.00	\$0.00	0.36	0.97	1.387	0.000	0.000	0.000	Premium Efficiency - 19.0 IEER, 3.7 COP
Heat Pump	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Health Care Other	Discretionary	158.3	0.05	0.04	0.0	0.0	0.0	0.0	0	15	\$752.50	\$752.50	\$0.21	\$0.00	\$0.00	0.74	0.97	0.898	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)
Heat Pump	Cold Climate Heat Pump - Enhanced Efficiency	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.85	\$0.85	\$0.21	\$0.00	\$0.00	0.14	0.97	0.000	0.000	0.000	0.000	High-Performance Cold Climate Commercial Heat Pump
Heat Pump	Cold Climate Heat Pump - Enhanced Efficiency	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.68	\$0.68	\$0.18	\$0.00	\$0.00	0.17	0.97	0.000	0.000	0.000	0.000	High-Performance Cold Climate Commercial Heat Pump
Heat Pump	Convert Constant Volume Air System to VAV	Health Care Other	Discretionary	460.1	0.15	0.12	0.0	0.0	0.0	0.0	0	15	\$7,316.88	\$7,316.88	\$0.21	\$0.00	\$0.00	0.22	0.97	3.854	0.000	0.000	0.000	Variable Volume Air System
Heat Pump	Direct Digital Control System-Installation	Health Care Other	Discretionary	262.7	0.09	0.07	0.0	0.0	0.0	0.0	0	5	\$940.63	\$940.63	\$0.21	\$0.00	\$0.00	0.31	0.97	12.872	0.000	0.000	0.000	Installation of EMS System
Heat Pump	Direct Digital Control System-Installation	Health Care Other	Lost Opportunity	262.7	0.09	0.07	0.0	0.0	0.0	0.0	0	5	\$940.63	\$940.63	\$0.18	\$0.00	\$0.00	0.31	0.97	0.093	0.000	0.000	0.000	Installation of EMS System
Heat Pump	Duct Repair and Sealing	Health Care Other	Discretionary	152.3	0.05	0.04	0.0	0.0	0.0	0.0	0	18	\$722.40	\$722.40	\$0.21	\$0.00	\$0.00	0.89	0.97	7.191	0.000	0.000	0.000	Reduction in Duct Losses to 5 %
Heat Pump	Exhaust Air to Ventilation Air Heat Recovery	Health Care Other	Discretionary	262.7	0.09	0.07	0.0	0.0	0.0	0.0	0	14	\$5,879.47	\$5,879.47	\$0.21	\$0.00	\$0.00	0.15	0.97	1.677	0.000	0.000	0.000	Exhaust Air to Ventilation Air Heat Recovery
Heat Pump	Exhaust Hood Makeup Air	Health Care Other	Discretionary	78.8	0.03	0.02	0.0</																	



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Heat Pump	Wi-Fi Thermostat	Health Care Other	Discretionary	70.1	0.02	0.02	0.0	0.0	0.0	0.0	0.0	0	11	\$205.33	\$205.33	\$0.21	\$0.00	\$0.00	0.86	0.97	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)
Heat Pump	Windows - CBES 2015 - Above Code	Health Care Other	Discretionary	9.2	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$980.86	\$980.86	\$0.21	\$0.00	\$0.00	0.04	0.97	0.174	0.000	0.000	0.000	0.000	U-0.29
Heat Pump	Windows - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	9.2	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$980.86	\$980.86	\$0.18	\$0.00	\$0.00	0.04	0.97	0.044	0.000	0.000	0.000	0.000	U-0.29
Heat Pump	Windows - CBES 2015 - Code	Health Care Other	Discretionary	21.1	0.01	0.01	0.0	0.0	0.0	0.0	0	20	\$6,477.23	\$6,477.23	\$0.21	\$0.00	\$0.00	0.02	0.97	0.393	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	Health Care Other	Discretionary	827.2	0.01	0.17	0.0	0.0	0.0	0.0	0	8	\$56.07	\$56.07	\$0.21	\$0.00	\$0.00	14.53	0.98	452.556	452.556	391.658	391.658	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time	
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	Health Care Other	Discretionary	772.1	0.01	0.16	0.0	0.0	0.0	0.0	0	8	\$50.47	\$50.47	\$0.21	\$0.00	\$0.00	15.07	0.98	347.847	347.847	301.039	301.039	Photocell	
Lighting Exterior	LED Exterior Flood Lights	Health Care Other	Discretionary	267.9	0.00	0.06	0.0	0.0	0.0	0.0	0	20	\$176.69	\$176.69	\$0.21	\$0.00	\$0.00	3.73	0.98	196.546	196.546	170.098	170.098	LED Exterior Flood Lights	
Lighting Exterior	LED Exterior Flood Lights	Health Care Other	Lost Opportunity	267.9	0.00	0.06	0.0	0.0	0.0	0.0	0	20	\$176.69	\$176.69	\$0.18	\$0.00	\$0.00	3.73	0.98	17.078	17.078	14.780	14.780	LED Exterior Flood Lights	
Lighting Exterior	LED Exterior Pole Mount Fixture	Health Care Other	Discretionary	152.6	0.00	0.03	0.0	0.0	0.0	0.0	0	15	\$299.32	\$299.32	\$0.21	\$0.00	\$0.00	0.94	0.98	112.002	0.000	0.000	0.000	0.000	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Pole Mount Fixture	Health Care Other	Lost Opportunity	152.6	0.00	0.03	0.0	0.0	0.0	0.0	0	15	\$299.32	\$299.32	\$0.18	\$0.00	\$0.00	0.94	0.98	9.732	0.000	0.000	0.000	0.000	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Wall Pack	Health Care Other	Discretionary	506.1	0.01	0.11	0.0	0.0	0.0	0.0	0	20	\$1,050.18	\$1,050.18	\$0.21	\$0.00	\$0.00	1.19	0.98	350.697	350.697	303.506	303.506	LED Exterior Wall Pack	
Lighting Exterior	LED Exterior Wall Pack	Health Care Other	Lost Opportunity	506.1	0.01	0.11	0.0	0.0	0.0	0.0	0	20	\$1,050.18	\$1,050.18	\$0.18	\$0.00	\$0.00	1.19	0.98	30.473	30.473	26.372	26.372	LED Exterior Wall Pack	
Lighting Exterior	LED Pathway Lights	Health Care Other	Discretionary	126.1	0.00	0.03	0.0	0.0	0.0	0.0	0	11	\$29.83	\$29.83	\$0.21	\$0.00	\$0.00	5.73	0.98	92.494	92.494	80.048	80.048	LED Pathway Lights	
Lighting Exterior	LED Pathway Lights	Health Care Other	Lost Opportunity	126.1	0.00	0.03	0.0	0.0	0.0	0.0	0	11	\$29.83	\$29.83	\$0.18	\$0.00	\$0.00	5.73	0.98	8.037	8.037	6.956	6.956	LED Pathway Lights	
Lighting Exterior	Occupancy Sensor Control	Health Care Other	Discretionary	661.8	0.01	0.14	0.0	0.0	0.0	0.0	0	10	\$1,845.13	\$1,845.13	\$0.21	\$0.00	\$0.00	0.44	0.98	255.561	0.000	0.000	0.000	0.000	Occupancy Sensor Control
Lighting Exterior	Parking - Covered Lighting	Health Care Other	Discretionary	28.2	0.00	0.01	0.0	0.0	0.0	0.0	0	19	\$20.56	\$20.56	\$0.21	\$0.00	\$0.00	3.21	0.98	5.626	5.626	4.869	4.869	Covered Parking Lighting (LED)	
Lighting Exterior	Parking - Covered Lighting	Health Care Other	Lost Opportunity	28.2	0.00	0.01	0.0	0.0	0.0	0.0	0	19	\$20.56	\$20.56	\$0.18	\$0.00	\$0.00	3.21	0.98	0.489	0.489	0.423	0.423	Covered Parking Lighting (LED)	
Lighting Exterior	Parking - Surface Lighting	Health Care Other	Discretionary	15.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$7.83	\$7.83	\$0.21	\$0.00	\$0.00	2.40	0.98	1.307	1.307	1.131	1.131	Surface Parking Lighting (LED)	
Lighting Exterior	Parking - Surface Lighting	Health Care Other	Lost Opportunity	15.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$7.83	\$7.83	\$0.18	\$0.00	\$0.00	2.40	0.98	0.114	0.114	0.098	0.098	Surface Parking Lighting (LED)	
Lighting Exterior	Time Clock	Health Care Other	Discretionary	275.7	0.00	0.06	0.0	0.0	0.0	0.0	0	8	\$103.00	\$103.00	\$0.21	\$0.00	\$0.00	2.64	0.98	8.874	8.874	7.680	7.680	Time Clock	
Lighting Interior Fluorescent	Bi-Level Control, Stairwell Lighting	Health Care Other	Discretionary	169.8	0.03	0.02	0.0	0.0	0.0	0.0	0	8	\$239.78	\$239.78	\$0.21	\$0.00	\$0.00	1.05	0.98	51.372	51.372	44.459	44.459	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time	
Lighting Interior Fluorescent	Dimming-Stepped, Fluorescent Fixtures	Health Care Other	Discretionary	2,386.9	0.46	0.32	0.0	0.0	0.0	0.0	0	10	\$126.19	\$126.19	\$0.21	\$0.00	\$0.00	35.22	0.98	84.969	84.969	73.535	73.535	3-stepped Dimming of Fluorescent Fixtures (Day-Lighting)	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent - 2018 Federal Standard	Health Care Other	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.07	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	0.000	Standard Fluorescent 2018 Federal Standard Approved T-8
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 - Above Standard	Health Care Other	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.07	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 High Performance - Above Standard	Health Care Other	Lost Opportunity	0.8	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.06	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 High Performance Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 Reduced Wattage - Above Standard	Health Care Other	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.01	\$0.00	\$0.21	\$0.00	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 Reduced Wattage Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - TLED - Above Standard	Health Care Other	Lost Opportunity	2.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.27	\$0.27	\$0.21	-\$0.02	\$0.00	999.00	0.98	2701.512	2929.154	2534.994	2534.994	Above Standard TLED	
Lighting Interior Fluorescent	Occupancy Sensor Control	Health Care Other	Discretionary	2,045.9	0.40	0.27	0.0	0.0	0.0	0.0	0	10	\$5,704.45	\$5,704.45	\$0.21	\$0.00	\$0.00	0.67	0.98	436.982	0.000	0.000	0.000	0.000	Occupancy Sensor Control
Lighting Interior Fluorescent	Time Clock	Health Care Other	Discretionary	852.5	0.17	0.11	0.0	0.0	0.0	0.0	0	8	\$103.00	\$103.00	\$0.21	\$0.00	\$0.00	12.22	0.98	15.173	15.173	13.131	13.131	Time Clock	
Lighting Interior Fluorescent - Early Replacement	Early Replacement Lighting Interior - TLED - Above Standard	Health Care Other	Discretionary	1,120.0	0.22	0.15	0.0	0.0	0.0	0.0	0	15	\$283.09	\$283.09	\$0.21	-\$5.16	\$0.00	0.00	0.98	903.140	0.000	0.000	0.000	0.000	Above Standard TLED
Lighting Interior HID	Lighting Interior - Efficient Metal Halide - Above Standard	Health Care Other	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.11	\$0.11	\$0.21	-\$0.02	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	0.000	Efficient Metal Halide
Lighting Interior HID	Lighting Interior - Federal Standard 2017 Metal Halide - Above Standard	Health Care Other	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.13	\$0.13	\$0.21	-\$0.02	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	0.000	Federal Standard 2017 Metal Halide
Lighting Interior HID	Lighting Interior - High Bay Fluorescent High Output - Above Standard	Health Care Other	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.35	\$0.35	\$0.21	\$0.03	\$0.00	1.22	0.98	235.562	260.144	225.138	225.138	High Bay Fluorescent High Output (HO)	
Lighting Interior HID	Lighting Interior - High Bay Induction - Above Standard	Health Care Other	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.34	\$0.34	\$0.21	-\$0.04	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	0.000	High Bay Induction
Lighting Interior HID	Lighting Interior - High Bay LED - Above Standard	Health Care Other	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.40	\$0.40	\$0.21	-\$0.01	\$0.00	5.61	0.98	344.054	379.959	328.830	328.830	High Bay LED	
Lighting Interior HID	Occupancy Sensor Control	Health Care Other	Discretionary	431.1	0.08	0.06	0.0	0.0	0.0	0.0	0	10	\$1,201.95	\$1,201.95	\$0.21	\$0.00	\$0.00	0.67	0.98	145.541	0.000	0.000	0.000	0.000	Occupancy Sensor Control
Lighting Interior HID	Time Clock	Health Care Other	Discretionary	179.6	0.03	0.02	0.0	0.0	0.0	0.0	0	8	\$103.00	\$103.00	\$0.21	\$0.00	\$0.00	2.58	0.98	5.054	5.054	4.373	4.373	Time Clock	
Lighting Interior Other	Exit Sign - LED	Health Care Other	Discretionary	52.7	0.01	0.01	0.0	0.0	0.0	0.0	0	16	\$74.14	\$74.14	\$0.21	\$0.00	\$0.00	2.16	0.98	27.946	27.946	24.185	24.185	LED Exit Sign	
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Health Care Other	Discretionary	65.7	0.01	0.01	0.0	0.0	0.0	0.0	0	16	-\$11.29	\$0.00	\$0.00	\$0.00	\$0.00	999.00	0.98	50.850	50.850	44.008	44.008	Photoluminescent or Tritium	
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Health Care Other	Lost Opportunity	65.7	0.01	0.01	0.0	0.0	0.0	0.0	0	16	-\$11.29	\$0.00	\$0.18	\$0.00	\$0.00	999.00	0.98	3.314	3.314	2.868	2.868	Photoluminescent or Tritium	
Lighting Interior Other	New Construction Lighting Package - Advanced Efficiency	Health Care Other	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.47	\$0.47	\$0.18	-\$0.02	\$0.00	8.57	0.98	174.605	174.605	151.110	151.110	Advanced Efficiency Lighting Package - 25% LPD Reduction	
Lighting Interior Other	New Construction Lighting Package - High Efficiency	Health Care Other	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.09	\$0.09	\$0.18	-\$0.01	\$0.00	39.86	0.98	0.000	0.000	0.000	0.000	0.000	High Efficiency Lighting Package - 15% LPD Reduction
Lighting Interior Other	New Construction Lighting Package - Premium Efficiency	Health Care Other	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.26	\$0.26	\$0.18	-\$0.01	\$0.00	13.95	0.98	0.000	0.000	0.000	0.000	0.000	Premium Efficiency Lighting Package - 20% LPD Reduction
Lighting Interior Other	Occupancy Sensor Control	Health Care Other	Discretionary	31.6	0.01	0.00	0.0	0.0	0.0	0.0	0	10	\$88.22	\$88.22	\$0.21	\$0.00	\$0.00	0.67	0.98	12.219	0.000	0.000	0.000	0.000	Occupancy Sensor Control
Lighting Interior Other	Time Clock	Health Care Other	Discretionary	13.2	0.00	0.00	0.0	0.0	0.0	0.0	0	8	\$103.00	\$103.00	\$0.21	\$0.00	\$0.00	0.19	0.98	0.424	0.000	0.000	0.000	0.000	Time Clock
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	Health Care Other	Lost Opportunity	4.4	0.00	0.00	0.0	0.0	0.0	0.0	0	3	\$0.09	\$0.09	\$0.21	-\$0.12	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	0.000	CFL
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base Incandescent - Backstop EISA 2020 Standard	Health Care Other	Lost Opportunity	3.5	0.00	0.00	0.0	0.0	0.0	0.0	0	3	\$0.06	\$0.06	\$0.21	-\$0.13	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	0.000	Backstop EISA 2020 Standard Incandescent
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base LED - Above Standard	Health Care Other	Lost Opportunity	4.8	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.50	\$0.50	\$0.21	-\$0.15	\$0.00	999.00	0.98	468.634	471.178	407.775	407.775	LED	
Lighting Interior Screw Base - Standard	Occupancy Sensor Control	Health Care Other	Discretionary	2,266.3	0.44	0.30	0.0	0.0	0.0	0.0	0	10	\$6,318.77	\$6,318.77	\$0.21	\$0.00	\$0.00	0.67	0.98	596.229	0.000	0.000	0.000	0.000	Occupancy Sensor Control
Lighting Interior Screw Base - Standard	Time Clock	Health Care Other	Discretionary	944.3	0.18	0.13																			

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Refrigeration	Demand Control Defrost - Hot Gas	Health Care Other	Discretionary	73.2	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0	10	\$117.18	\$117.18	\$0.21	\$0.00	\$0.00	1.02	0.98	3.142	3.142	3.159	3.159	Refrigerant Defrost
Refrigeration	Display Case Electronically Commutated Motor - Low Temp	Health Care Other	Discretionary	29.8	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$21.31	\$21.31	\$0.21	\$0.00	\$0.00	3.47	0.98	16.290	16.290	16.380	16.380	ECM Evaporator Fans - Low Temp
Refrigeration	Display Case Electronically Commutated Motor - Medium Temp	Health Care Other	Discretionary	3.5	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$2.53	\$2.53	\$0.21	\$0.00	\$0.00	3.47	0.98	1.932	1.932	1.943	1.943	ECM Evaporator Fans - Medium Temp
Refrigeration	Display Case LEDs (Closed Cases)	Health Care Other	Discretionary	23.2	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	8	\$13.80	\$13.80	\$0.21	\$0.00	\$0.00	2.18	0.98	18.884	18.884	18.988	18.988	Display Case LEDs (Closed Cases)
Refrigeration	Display Case LEDs (Closed Cases)	Health Care Other	Lost Opportunity	23.2	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	8	\$6.14	\$6.14	\$0.18	\$0.00	\$0.00	4.90	0.98	1.641	1.641	1.650	1.650	Display Case LEDs (Closed Cases)
Refrigeration	Display Case LEDs (Open Cases)	Health Care Other	Discretionary	4.9	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	7	\$3.42	\$3.42	\$0.21	-\$0.12	\$0.00	2.07	0.98	3.987	3.987	4.009	4.009	Display Case LEDs (Open Cases)
Refrigeration	Display Case LEDs (Open Cases)	Health Care Other	Lost Opportunity	4.9	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	7	\$1.81	\$1.81	\$0.18	-\$0.10	\$0.00	4.78	0.98	0.346	0.346	0.348	0.348	Display Case LEDs (Open Cases)
Refrigeration	Display Case Motion Sensors	Health Care Other	Discretionary	9.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	8	\$2.09	\$2.09	\$0.21	\$0.00	\$0.00	5.57	0.98	6.920	6.920	6.959	6.959	Display Case Motion Sensors
Refrigeration	Evaporator Fan Controller - Low Temp	Health Care Other	Discretionary	1.9	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	16	\$1.48	\$1.48	\$0.21	\$0.00	\$0.00	3.42	0.98	1.472	1.472	1.480	1.480	ECM Evaporator Fan Controller - Low Temp
Refrigeration	Evaporator Fan Controller - Low Temp	Health Care Other	Lost Opportunity	1.9	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	16	\$1.48	\$1.48	\$0.18	\$0.00	\$0.00	3.42	0.98	0.105	0.105	0.105	0.105	ECM Evaporator Fan Controller - Low Temp
Refrigeration	Evaporator Fan Controller - Medium Temp	Health Care Other	Discretionary	3.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	16	\$2.77	\$2.77	\$0.21	\$0.00	\$0.00	2.85	0.98	2.297	2.297	2.309	2.309	ECM Evaporator Fan Controller - Medium Temp
Refrigeration	Evaporator Fan Controller - Medium Temp	Health Care Other	Lost Opportunity	3.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	16	\$2.77	\$2.77	\$0.18	\$0.00	\$0.00	2.85	0.98	0.163	0.163	0.164	0.164	ECM Evaporator Fan Controller - Medium Temp
Refrigeration	Floating Condenser Head Pressure Controls	Health Care Other	Discretionary	101.3	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0	15	\$32.58	\$32.58	\$0.21	\$0.00	\$0.00	7.73	0.98	4.348	4.348	4.372	4.372	Floating Condenser Head Pressure Controls
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Health Care Other	Discretionary	3.7	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	9	\$0.50	\$0.50	\$0.21	\$0.00	\$0.00	10.81	0.98	3.021	3.021	3.037	3.037	Glass Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Health Care Other	Lost Opportunity	3.7	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	9	\$0.50	\$0.50	\$0.18	\$0.00	\$0.00	10.81	0.98	0.262	0.262	0.264	0.264	Glass Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Ice Maker - High Efficiency	Health Care Other	Discretionary	64.0	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0	8	\$4.08	\$4.08	\$0.21	\$0.00	\$0.00	20.36	0.98	54.894	54.894	55.198	55.198	High Efficiency Ice Maker
Refrigeration	Ice Maker - High Efficiency	Health Care Other	Lost Opportunity	64.0	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0	8	\$4.08	\$4.08	\$0.18	\$0.00	\$0.00	20.36	0.98	4.770	4.770	4.796	4.796	High Efficiency Ice Maker
Refrigeration	Night Covers for Display Cases	Health Care Other	Discretionary	6.4	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	5	\$1.14	\$1.14	\$0.21	\$0.12	\$0.00	3.04	0.98	5.198	5.198	5.227	5.227	Night Covers for Display Cases
Refrigeration	Night Covers for Display Cases	Health Care Other	Lost Opportunity	6.4	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	5	\$1.14	\$1.14	\$0.18	\$0.12	\$0.00	3.04	0.98	0.452	0.452	0.454	0.454	Night Covers for Display Cases
Refrigeration	No Heat Case Doors	Health Care Other	Discretionary	39.9	0.01	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$28.60	\$28.60	\$0.21	\$0.00	\$0.00	3.47	0.98	17.122	17.122	17.216	17.216	No Heat Case Doors
Refrigeration	No Heat Case Doors	Health Care Other	Lost Opportunity	39.9	0.01	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$28.60	\$28.60	\$0.18	\$0.00	\$0.00	3.47	0.98	2.827	2.827	2.842	2.842	No Heat Case Doors
Refrigeration	Refrigeration Commissioning or Re-commissioning	Health Care Other	Discretionary	133.2	0.02	0.02	0.0	0.0	0.0	0.0	0.0	0	7	\$34.34	\$34.34	\$0.21	\$0.00	\$0.00	4.38	0.98	10.016	10.016	10.071	10.071	Commissioning / Re-commissioning
Refrigeration	Refrigeration Commissioning or Re-commissioning	Health Care Other	Lost Opportunity	133.2	0.02	0.02	0.0	0.0	0.0	0.0	0.0	0	7	\$34.34	\$34.34	\$0.18	\$0.00	\$0.00	4.38	0.98	0.459	0.459	0.461	0.461	Commissioning / Re-commissioning
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Health Care Other	Discretionary	2.8	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	9	\$0.50	\$0.50	\$0.21	\$0.00	\$0.00	8.02	0.98	2.242	2.242	2.255	2.255	Solid Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Health Care Other	Lost Opportunity	2.8	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	9	\$0.50	\$0.50	\$0.18	\$0.00	\$0.00	8.02	0.98	0.195	0.195	0.196	0.196	Solid Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Strip Curtains for Walk-Ins	Health Care Other	Discretionary	24.3	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	4	\$17.51	\$17.51	\$0.21	\$0.00	\$0.00	0.87	0.98	3.132	0.000	0.000	0.000	Strip Curtains for Walk-Ins
Refrigeration	Walk-In Electronically Commutated Motor	Health Care Other	Discretionary	7.9	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$1.82	\$1.82	\$0.21	\$0.00	\$0.00	10.79	0.98	6.445	6.445	6.481	6.481	ECM Condensor Fans - Low Temp
Refrigeration	Walk-In Electronically Commutated Motor	Health Care Other	Discretionary	8.5	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$2.23	\$2.23	\$0.21	\$0.00	\$0.00	9.54	0.98	6.968	6.968	7.007	7.007	ECM Condensor Fans - Medium Temp
Refrigeration	Walk-In Electronically Commutated Motor	Health Care Other	Discretionary	7.9	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$1.82	\$1.82	\$0.21	\$0.00	\$0.00	10.79	0.98	6.445	6.445	6.481	6.481	ECM Evaporator Fans - Low Temp
Refrigeration	Walk-In Electronically Commutated Motor	Health Care Other	Discretionary	8.5	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$2.23	\$2.23	\$0.21	\$0.00	\$0.00	9.54	0.98	6.968	6.968	7.007	7.007	ECM Evaporator Fans - Medium Temp
Refrigeration	Walk-in Economizer	Health Care Other	Discretionary	65.1	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0	15	\$31.64	\$31.64	\$0.21	\$0.00	\$0.00	5.11	0.98	41.897	41.897	42.129	42.129	Add Economizer to Walk-in Cooler
Refrigeration	Walk-in Economizer	Health Care Other	Lost Opportunity	65.1	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0	15	\$31.64	\$31.64	\$0.18	\$0.00	\$0.00	5.11	0.98	3.641	3.641	3.661	3.661	Add Economizer to Walk-in Cooler
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	1.23	1.00	0.000	0.000	0.000	0.000	CEE Tier 2 Refrigerator
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	1.23	1.00	0.000	0.000	0.000	0.000	CEE Tier 2 Refrigerator
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	1.15	1.00	12.289	12.289	7.991	7.991	CEE Tier 3 Refrigerator
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	1.15	1.00	1.815	1.815	1.180	1.180	CEE Tier 3 Refrigerator
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	1.26	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Refrigerator
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	1.26	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Refrigerator
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	1.27	1.00	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Refrigerator
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	1.27	1.00	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Refrigerator
Refrigerators	Residential Refrigerator Recycling and Replacement	Health Care Other	Discretionary	54.0	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0	8	\$28.12	\$28.12	\$0.21	\$0.00	\$0.00	2.41	1.00	35.476	35.476	23.070	23.070	Recycling Existing Refrigerator and Replacing with a Federal Standard Unit
Room Cool	Ductless Air Conditioner (DAC)	Health Care Other	Discretionary	20.4	0.01	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$491.88	\$491.88	\$0.21	\$0.00	\$0.00	0.17	0.97	0.104	0.000	0.000	0.000	Ductless Air Conditioner - SEER/EER 18/12.5
Room Cool	Ductless Air Conditioner (DAC)	Health Care Other	Lost Opportunity	20.4	0.01	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$491.88	\$491.88	\$0.18	\$0.00	\$0.00	0.17	0.97	0.017	0.000	0.000	0.000	Ductless Air Conditioner - SEER/EER 18/12.5
Room Cool	Ductless Heat Pump (DHP)	Health Care Other	Discretionary	55.4	0.03	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$838.08	\$838.08	\$0.21	\$0.00	\$0.00	0.27	0.97	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Cool	Ductless Heat Pump (DHP)	Health Care Other	Lost Opportunity	55.4	0.03	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$838.08	\$838.08	\$0.18	\$0.00	\$0.00	0.27	0.97	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Health Care Other	Discretionary	58.4	0.03	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$858.11	\$858.11	\$0.21	\$0.00	\$0.00	0.28	0.97	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Health Care Other	Lost Opportunity	58.4	0.03	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$858.11	\$858.11	\$0.18	\$0.00	\$0.00	0.28	0.97	0.004	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1
Room Cool	Exhaust Hood Makeup Air	Health Care Other	Discretionary	4.2	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$35.07	\$35.07	\$0.21	\$0.00	\$0.00	0.38	0.97	0.002	0.000	0.000	0.000	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air
Room Cool	Green Roof	Health Care Other	Discretionary	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	40	\$45,150.00	\$45,150.00	\$0.21	\$451.50	\$0.00	0.00	0.97	0.005	0.000	0.000	0.000	Vegetation on Roof
Room Cool	Green Roof	Health Care Other	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0															

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Health Care Other	Discretionary	956.5	0.00	0.38	0.0	0.0	0.0	0.0	0.0	0	30	\$630.63	\$630.63	\$0.21	\$0.00	\$0.00	5.69	0.96	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	956.5	0.00	0.38	0.0	0.0	0.0	0.0	0.0	0	30	\$630.63	\$630.63	\$0.18	\$0.00	\$0.00	5.69	0.96	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Code	Health Care Other	Discretionary	890.1	0.00	0.36	0.0	0.0	0.0	0.0	0.0	0	30	\$4,327.42	\$4,327.42	\$0.21	\$0.00	\$0.00	0.77	0.96	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Electric	Windows - CBES 2015 - Above Code	Health Care Other	Discretionary	68.6	0.00	0.03	0.0	0.0	0.0	0.0	0.0	0	20	\$980.86	\$980.86	\$0.21	\$0.00	\$0.00	0.17	0.96	0.000	0.000	0.000	0.000	U-0.29
Room Heat - Electric	Windows - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	68.6	0.00	0.03	0.0	0.0	0.0	0.0	0.0	0	20	\$980.86	\$980.86	\$0.18	\$0.00	\$0.00	0.17	0.96	0.000	0.000	0.000	0.000	U-0.29
Room Heat - Electric	Windows - CBES 2015 - Code	Health Care Other	Discretionary	156.7	0.00	0.06	0.0	0.0	0.0	0.0	0.0	0	20	\$6,477.23	\$6,477.23	\$0.21	\$0.00	\$0.00	0.06	0.96	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Servers	Internal Power Supply / Server	Health Care Other	Discretionary	1.6	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	4	\$0.48	\$0.48	\$0.21	\$0.00	\$0.00	2.22	1.00	0.851	1.080	0.870	0.870	80 Plus power supply for Desktop Derived Server
Servers	Internal Power Supply / Server	Health Care Other	Lost Opportunity	1.6	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	4	\$0.48	\$0.48	\$0.18	\$0.00	\$0.00	2.22	1.00	0.073	0.095	0.077	0.077	80 Plus power supply for Desktop Derived Server
Servers	Server - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	9	\$0.02	\$0.02	\$0.21	\$0.00	\$0.00	0.32	1.00	12.160	0.000	0.000	0.000	ENERGY STAR Server
Servers	Server - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	9	\$0.02	\$0.02	\$0.18	\$0.00	\$0.00	0.32	1.00	1.209	0.000	0.000	0.000	ENERGY STAR Server
Space Heat - Electric	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Health Care Other	Discretionary	2,488.6	0.01	1.00	0.0	0.0	0.0	0.0	0.0	0	15	\$752.50	\$752.50	\$0.21	\$0.00	\$0.00	6.19	0.96	0.283	0.283	0.218	0.218	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Electric	Convert Constant Volume Air System to VAV	Health Care Other	Discretionary	7,428.7	0.02	2.99	0.0	0.0	0.0	0.0	0.0	0	15	\$7,316.88	\$7,316.88	\$0.21	\$0.00	\$0.00	1.90	0.96	1.637	1.637	1.264	1.264	Variable Volume Air System
Space Heat - Electric	Direct Digital Control System-Installation	Health Care Other	Discretionary	4,241.9	0.01	1.71	0.0	0.0	0.0	0.0	0.0	0	5	\$940.63	\$940.63	\$0.21	\$0.00	\$0.00	2.80	0.96	5.465	5.465	4.221	4.221	Installation of EMS System
Space Heat - Electric	Direct Digital Control System-Installation	Health Care Other	Lost Opportunity	4,241.9	0.01	1.71	0.0	0.0	0.0	0.0	0.0	0	5	\$940.63	\$940.63	\$0.18	\$0.00	\$0.00	2.80	0.96	0.056	0.056	0.043	0.043	Installation of EMS System
Space Heat - Electric	Duct Repair and Sealing	Health Care Other	Discretionary	2,459.1	0.01	0.99	0.0	0.0	0.0	0.0	0.0	0	18	\$722.40	\$722.40	\$0.21	\$0.00	\$0.00	7.62	0.96	2.326	2.326	1.797	1.797	Reduction In Duct Losses to 5 %
Space Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Health Care Other	Discretionary	4,241.9	0.01	1.71	0.0	0.0	0.0	0.0	0.0	0	14	\$5,879.47	\$5,879.47	\$0.21	\$0.00	\$0.00	1.26	0.96	0.712	0.712	0.534	0.534	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Electric	Indirect Information Feedback	Health Care Other	Discretionary	147.1	0.00	0.06	0.0	0.0	0.0	0.0	0.0	0	2	\$489.59	\$489.59	\$0.21	\$0.00	\$0.00	0.07	0.96	0.213	0.000	0.000	0.000	Indirect Information Feedback
Space Heat - Electric	Indirect Information Feedback	Health Care Other	Lost Opportunity	147.1	0.00	0.06	0.0	0.0	0.0	0.0	0.0	0	2	\$489.59	\$489.59	\$0.18	\$0.00	\$0.00	0.07	0.96	0.022	0.000	0.000	0.000	Indirect Information Feedback
Space Heat - Electric	Infiltration Reduction	Health Care Other	Discretionary	2,827.9	0.01	1.14	0.0	0.0	0.0	0.0	0.0	0	10	\$165.87	\$165.87	\$0.21	\$0.00	\$0.00	21.46	0.96	0.224	0.224	0.173	0.173	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Health Care Other	Discretionary	1,440.1	0.00	0.58	0.0	0.0	0.0	0.0	0.0	0	30	\$507.94	\$507.94	\$0.21	\$0.00	\$0.00	10.64	0.96	0.938	0.938	0.724	0.724	R-35 c.i.
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	1,440.1	0.00	0.58	0.0	0.0	0.0	0.0	0.0	0	30	\$507.94	\$507.94	\$0.18	\$0.00	\$0.00	10.64	0.96	0.040	0.040	0.031	0.031	R-35 c.i.
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Health Care Other	Discretionary	3,790.9	0.01	1.52	0.0	0.0	0.0	0.0	0.0	0	30	\$2,317.70	\$2,317.70	\$0.21	\$0.00	\$0.00	6.14	0.96	1.528	1.528	1.180	1.180	R-30 c.i. (CBES 2015 Code)
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Health Care Other	Discretionary	1,018.1	0.00	0.41	0.0	0.0	0.0	0.0	0.0	0	20	\$40.82	\$40.82	\$0.21	\$0.00	\$0.00	62.02	0.96	1.794	1.794	1.386	1.386	R-12
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	1,018.1	0.00	0.41	0.0	0.0	0.0	0.0	0.0	0	20	\$40.82	\$40.82	\$0.18	\$0.00	\$0.00	62.02	0.96	0.187	0.187	0.144	0.144	R-12
Space Heat - Electric	Insulation - Duct - CBES 2015 - Code	Health Care Other	Discretionary	1,018.1	0.00	0.41	0.0	0.0	0.0	0.0	0.0	0	20	\$164.42	\$164.42	\$0.21	\$0.00	\$0.00	15.40	0.96	1.444	1.444	1.115	1.115	R-8 (CBES 2015 Code)
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Health Care Other	Discretionary	2,122.3	0.00	0.85	0.0	0.0	0.0	0.0	0.0	0	30	\$903.00	\$903.00	\$0.21	\$0.00	\$0.00	8.82	0.96	0.462	0.462	0.357	0.357	R-38
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	2,122.3	0.00	0.85	0.0	0.0	0.0	0.0	0.0	0	30	\$903.00	\$903.00	\$0.18	\$0.00	\$0.00	8.82	0.96	0.081	0.081	0.063	0.063	R-38
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Health Care Other	Discretionary	3,696.3	0.01	1.49	0.0	0.0	0.0	0.0	0.0	0	30	\$2,588.60	\$2,588.60	\$0.21	\$0.00	\$0.00	5.36	0.96	0.753	0.753	0.581	0.581	R-30 (CBES 2015 Code)
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Health Care Other	Discretionary	2,081.6	0.00	\$630.63	0.0	0.0	0.0	0.0	0.0	0	30	\$630.63	\$630.63	\$0.21	\$0.00	\$0.00	12.39	0.96	0.759	0.759	0.586	0.586	R-13 + 15.6 c.i.
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	2,081.6	0.00	0.84	0.0	0.0	0.0	0.0	0.0	0	30	\$630.63	\$630.63	\$0.18	\$0.00	\$0.00	12.39	0.96	0.199	0.199	0.154	0.154	R-13 + 15.6 c.i.
Space Heat - Electric	Insulation - Wall - CBES 2015 - Code	Health Care Other	Discretionary	1,937.1	0.00	0.78	0.0	0.0	0.0	0.0	0.0	0	30	\$4,327.42	\$4,327.42	\$0.21	\$0.00	\$0.00	1.68	0.96	0.409	0.409	0.316	0.316	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Electric	Programmable Thermostat	Health Care Other	Discretionary	1,131.2	0.00	0.46	0.0	0.0	0.0	0.0	0.0	0	11	\$25.78	\$25.78	\$0.21	\$0.00	\$0.00	60.65	0.96	1.868	1.868	1.443	1.443	Programmable Thermostat
Space Heat - Electric	Strategic Energy Management (SEM)	Health Care Other	Discretionary	1,159.4	0.00	0.47	0.0	0.0	0.0	0.0	0.0	0	5	\$156.25	\$156.25	\$0.21	\$0.00	\$0.00	4.61	0.96	0.252	0.252	0.195	0.195	Identify Operations and Maintenance Improvements through Strategic Energy Man
Space Heat - Electric	Strategic Energy Management (SEM)	Health Care Other	Lost Opportunity	1,159.4	0.00	0.47	0.0	0.0	0.0	0.0	0.0	0	5	\$156.25	\$156.25	\$0.18	\$0.00	\$0.00	4.61	0.96	0.155	0.155	0.120	0.120	Identify Operations and Maintenance Improvements through Strategic Energy Man
Space Heat - Electric	Wi-Fi Thermostat	Health Care Other	Discretionary	1,131.2	0.00	0.46	0.0	0.0	0.0	0.0	0.0	0	11	\$205.33	\$205.33	\$0.21	\$0.00	\$0.00	7.61	0.96	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)
Space Heat - Electric	Windows - CBES 2015 - Above Code	Health Care Other	Discretionary	149.3	0.00	0.06	0.0	0.0	0.0	0.0	0.0	0	20	\$980.86	\$980.86	\$0.21	\$0.00	\$0.00	0.38	0.96	0.074	0.000	0.000	0.000	U-0.29
Space Heat - Electric	Windows - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	149.3	0.00	0.06	0.0	0.0	0.0	0.0	0.0	0	20	\$980.86	\$980.86	\$0.18	\$0.00	\$0.00	0.38	0.96	0.026	0.000	0.000	0.000	U-0.29
Space Heat - Electric	Windows - CBES 2015 - Code	Health Care Other	Discretionary	341.0	0.00	0.14	0.0	0.0	0.0	0.0	0.0	0	20	\$6,477.23	\$6,477.23	\$0.21	\$0.00	\$0.00	0.13	0.96	0.167	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Vending Machines	Vending Machines - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Vending Machines - 3.84 kWh/day
Vending Machines	Vending Machines - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Vending Machines - 3.84 kWh/day
Vending Machines	Vending Machines - Federal Standard 2020	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.548	0.000	0.000	0.000	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Machines - Federal Standard 2020	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.029	0.000	0.000	0.000	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Miser	Health Care Other	Discretionary	24.2	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	5	\$3.85	\$3.85	\$0.21	\$0.00	\$0.00	4.83	1.00	12.402	12.440	10.025	10.025	Vending Machine Occupancy Sensor
Vending Machines	Vending Miser	Health Care Other	Lost Opportunity	24.2	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	5	\$3.85	\$3.85	\$0.18	\$0.00	\$0.00	4.82	1.00	1.246	1.248	1.006	1.006	Vending Machine Occupancy Sensor
Ventilation And Circulation	Automated Exhaust VFD Control - Parking Garage CO sensor	Health Care Other	Discretionary	234.3	0.03	0.03	0.0	0.0	0.0	0.0	0.0	0	5	\$34.10	\$34.10	\$0.21	\$0.00	\$0.00	5.31	0.97	7.969	7.969	6.914	6.914	CO Sensors
Ventilation And Circulation	Boiler Draft Fan - VFD	Health Care Other	Discretionary	535.1	0.06	0.07	0.0	0.0	0.0	0.0	0.0	0	15	\$287.92	\$287.92	\$0.21	\$0.00	\$0.00	4.47	0.97	119.397	119.397	103.599	103.599	VFD Boiler Draft Fan
Ventilation And Circulation	Boiler Draft Fan - VFD	Health Care Other	Lost Opportunity	535.1	0.06	0.07	0.0	0.0	0.0	0.0	0.0	0	15	\$287.92	\$287.92	\$0.18	\$0.00	\$0.00	4.47	0.97	7.182	7.182	6.232	6.232	VFD Boiler Draft Fan
Ventilation And Circulation	Convert Constant Volume Air System to VAV	Health Care Other	Discretionary	1,467.5	0.17	0.18	0.0	0.0	0.0	0.0	0.0	0	15	\$7,316.88	\$7,316.88	\$0.21	\$0.00	\$0.00	0.48	0.97	112.181	0.000	0.000	0.000	Variable Volume Air System
Ventilation And Circulation	Cooking Hood Controls	Health Care Other	Discretionary	42.2	0.00	0.01	0.0	0.0	0.0	0.0	0.0	0	18</												



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Health Care Other	Discretionary	9.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	2	5	\$1.72	\$1.72	\$0.21	\$0.00	\$0.00	8.41	1.00	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Health Care Other	Lost Opportunity	9.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	2	5	\$1.72	\$1.72	\$0.18	\$0.00	\$0.00	8.41	1.00	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Discretionary	15.0	0.00	0.01	0.0	0.0	0.0	0.0	0.0	3	5	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.220	0.000	0.000	0.000	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Lost Opportunity	15.0	0.00	0.01	0.0	0.0	0.0	0.0	0.0	3	5	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.016	0.000	0.000	0.000	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Discretionary	24.1	0.00	0.01	0.0	0.0	0.0	0.0	0.0	5	5	\$1.72	\$1.72	\$0.21	\$0.00	\$0.00	22.34	1.00	0.000	0.000	0.000	0.000	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Lost Opportunity	24.1	0.00	0.01	0.0	0.0	0.0	0.0	0.0	5	5	\$1.72	\$1.72	\$0.18	\$0.00	\$0.00	22.34	1.00	0.006	0.010	0.007	0.007	0.75 GPM
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Health Care Other	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$2.59	\$2.59	\$0.21	\$0.96	\$0.00	0.03	1.00	7.121	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Health Care Other	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$2.59	\$2.59	\$0.18	\$0.96	\$0.00	0.03	1.00	0.694	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Health Care Other	Discretionary	77.2	0.00	0.03	0.0	0.0	0.0	0.0	0.0	0	20	\$350.72	\$350.72	\$0.21	\$0.00	\$0.00	0.55	1.00	1.245	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Health Care Other	Lost Opportunity	77.2	0.00	0.03	0.0	0.0	0.0	0.0	0.0	0	20	\$350.72	\$350.72	\$0.18	\$0.00	\$0.00	0.55	1.00	0.093	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Health Care Other	Discretionary	277.0	0.00	0.11	0.0	0.0	0.0	0.0	0.0	0	10	\$61.88	\$61.88	\$0.21	\$0.00	\$0.00	5.63	1.00	0.118	0.178	0.116	0.116	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Health Care Other	Lost Opportunity	277.0	0.00	0.11	0.0	0.0	0.0	0.0	0.0	0	10	\$61.88	\$61.88	\$0.18	\$0.00	\$0.00	5.63	1.00	0.009	0.014	0.009	0.009	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Health Care Other	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.63	\$0.63	\$0.21	\$0.00	\$0.00	0.28	1.00	11.766	0.000	0.000	0.000	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Health Care Other	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.63	\$0.63	\$0.18	\$0.00	\$0.00	0.28	1.00	1.154	0.000	0.000	0.000	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.13	\$0.13	\$0.21	\$0.00	\$0.00	0.43	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.13	\$0.13	\$0.18	\$0.00	\$0.00	0.43	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Health Care Other	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.50	\$0.50	\$0.21	\$0.00	\$0.00	0.31	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 Gal - EF 2.8
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Health Care Other	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.50	\$0.50	\$0.18	\$0.00	\$0.00	0.31	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 Gal - EF 2.8
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Health Care Other	Discretionary	387.8	0.00	0.16	0.0	0.0	0.0	0.0	0.0	0	4	\$0.02	\$0.02	\$0.21	\$0.00	\$0.00	11503.76	1.00	6.254	9.477	6.163	6.163	Set Water Heater to 120F
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Health Care Other	Lost Opportunity	387.8	0.00	0.16	0.0	0.0	0.0	0.0	0.0	0	4	\$0.02	\$0.02	\$0.18	\$0.00	\$0.00	11503.76	1.00	0.468	0.766	0.498	0.498	Set Water Heater to 120F
Water Heat GT 55 Gal	Water Heater Tank Wrap	Health Care Other	Discretionary	780.3	0.00	0.31	0.0	0.0	0.0	0.0	0.0	0	7	\$69.25	\$69.25	\$0.21	\$0.00	\$0.00	9.91	1.00	9.150	13.867	9.017	9.017	Add R-10 Tank Wrap
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Health Care Other	Discretionary	19.5	0.00	0.01	0.0	0.0	0.0	0.0	0.0	2	13	\$21.76	\$21.76	\$0.21	\$0.00	\$0.00	2.42	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Health Care Other	Lost Opportunity	19.5	0.00	0.01	0.0	0.0	0.0	0.0	0.0	2	13	\$21.76	\$21.76	\$0.18	\$0.00	\$0.00	2.42	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Health Care Other	Discretionary	43.2	0.00	0.02	0.0	0.0	0.0	0.0	0.0	2	13	\$40.24	\$40.24	\$0.21	\$0.00	\$0.00	2.44	1.00	0.523	1.255	0.816	0.816	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Health Care Other	Lost Opportunity	43.2	0.00	0.02	0.0	0.0	0.0	0.0	0.0	2	13	\$40.24	\$40.24	\$0.18	\$0.00	\$0.00	2.44	1.00	0.035	0.109	0.071	0.071	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Health Care Other	Discretionary	11.5	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	14	\$1.77	\$1.77	\$0.21	\$0.00	\$0.00	14.75	1.00	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Health Care Other	Lost Opportunity	11.5	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	14	\$1.77	\$1.77	\$0.18	\$0.00	\$0.00	14.75	1.00	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Health Care Other	Discretionary	18.1	0.00	0.01	0.0	0.0	0.0	0.0	0.0	1	14	\$0.72	\$0.72	\$0.21	\$0.00	\$0.00	67.69	1.00	0.044	0.105	0.069	0.069	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Health Care Other	Lost Opportunity	18.1	0.00	0.01	0.0	0.0	0.0	0.0	0.0	1	14	\$0.72	\$0.72	\$0.18	\$0.00	\$0.00	67.69	1.00	0.003	0.009	0.006	0.006	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Health Care Other	Discretionary	78.0	0.00	0.03	0.0	0.0	0.0	0.0	0.0	0	13	\$17.85	\$17.85	\$0.21	\$0.00	\$0.00	7.11	1.00	1.107	2.655	1.726	1.726	1.0" of Insulation, assuming R-4 (Code)
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Health Care Other	Discretionary	419.0	0.00	0.17	0.0	0.0	0.0	0.0	0.0	0	25	\$1,767.50	\$1,767.50	\$0.21	\$0.00	\$0.00	0.74	1.00	0.297	0.000	0.000	0.000	Install Heat Recovery Water Heater
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Health Care Other	Discretionary	23.4	0.00	0.01	0.0	0.0	0.0	0.0	0.0	0	20	\$2.76	\$2.76	\$0.21	\$0.00	\$0.00	21.12	1.00	0.174	0.417	0.271	0.271	R-3
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Discretionary	119.3	0.00	0.05	0.0	0.0	0.0	0.0	0.0	9	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	10.58	1.00	2.897	6.949	4.519	4.519	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Lost Opportunity	119.3	0.00	0.05	0.0	0.0	0.0	0.0	0.0	9	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.191	0.000	0.000	0.000	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Discretionary	84.2	0.00	0.03	0.0	0.0	0.0	0.0	0.0	6	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	7.47	1.00	0.000	0.000	0.000	0.000	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Lost Opportunity	84.2	0.00	0.03	0.0	0.0	0.0	0.0	0.0	6	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Discretionary	49.1	0.00	0.02	0.0	0.0	0.0	0.0	0.0	4	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	4.36	1.00	0.000	0.000	0.000	0.000	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Lost Opportunity	49.1	0.00	0.02	0.0	0.0	0.0	0.0	0.0	4	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Discretionary	21.1	0.00	0.01	0.0	0.0	0.0	0.0	0.0	1	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	1.79	1.00	0.192	0.460	0.299	0.299	2.2 GPM (Federal Code)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Health Care Other	Discretionary	9.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	2	5	\$1.72	\$1.72	\$0.21	\$0.00	\$0.00	8.41	1.00	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Health Care Other	Lost Opportunity	9.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	2	5	\$1.72	\$1.72	\$0.18	\$0.00	\$0.00	8.41	1.00	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Discretionary	15.0	0.00	0.01	0.0	0.0	0.0	0.0	0.0	3	5	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.314	0.000	0.000	0.000	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Lost Opportunity	15.0	0.00	0.01	0.0	0.0	0.0	0.0	0.0	3	5	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.020	0.000	0.000	0.000	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Discretionary	24.1	0.00	0.01	0.0	0.0	0.0	0.0	0.0	5	5	\$1.72	\$1.72	\$0.21	\$0.00	\$0.00	22.34	1.00	0.000	0.000	0.000	0.000	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Lost Opportunity	24.1	0.00	0.01	0.0	0.0	0.0	0.0	0.0	5	5	\$1.72	\$1.72	\$0.18	\$0.00	\$0.00	22.34	1.00	0.008	0.025	0.016	0.016	0.75 GPM
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Health Care Other	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$7.45	\$7.45	\$0.21	\$1.95	\$0.00	0.03	1.00	0.000	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Health Care Other	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$7.45	\$7.45	\$0.18	\$1.95	\$0.00	0.03	1.00	0.000	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Health Care Other	Discretionary	77.2	0.00	0.03	0.0	0.0	0.0	0.0	0.0	0	20	\$350.72	\$350.72	\$0.21	\$0								

Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Cooking	Microwave - High Efficiency	Hospital	Lost Opportunity	0.8	0.00	0.00	0.0	0.0	0.0	0.0	0	11	\$0.42	\$0.42	\$0.18	\$0.00	\$0.00	3.38	0.98	0.000	0.000	0.000	0.000	High Efficiency Microwave
Cooking	Steam Cooker	Hospital	Discretionary	420.4	0.05	0.05	0.0	0.0	0.0	0.0	2,224	12	\$143.43	\$143.43	\$0.21	\$0.00	\$0.00	177.09	0.98	0.385	0.385	0.302	0.302	ENERGY STAR Steam Cooker
Cooking	Steam Cooker	Hospital	Lost Opportunity	420.4	0.05	0.05	0.0	0.0	0.0	0.0	2,224	12	\$143.43	\$143.43	\$0.18	\$0.00	\$0.00	177.09	0.98	0.033	0.033	0.026	0.026	ENERGY STAR Steam Cooker
Cooling Chillers	Active Chilled Beam Cooling with DOAS	Hospital	Lost Opportunity	76,968.8	26.32	0.00	0.0	0.0	0.0	0.0	0	15	-\$206,567.04	\$0.00	\$0.18	\$154,925.28	\$0.00	0.16	0.97	4.169	0.000	0.000	0.000	Active Chilled Beam Cooling with DOAS
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Hospital	Discretionary	40,023.8	13.69	0.00	2828.9	40965.4	0.0	0.0	0	15	\$51,641.76	\$51,641.76	\$0.21	\$0.00	\$0.00	14.89	0.97	4.389	4.389	3.434	3.434	Demand Controlled Ventilation (CO2 sensors)
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Hospital	Discretionary	71,196.1	24.35	0.00	0.0	0.0	0.0	0.0	0	15	\$239,617.77	\$239,617.77	\$0.21	\$0.00	\$0.00	1.04	0.97	35.368	35.368	27.673	27.673	Additional Control Features
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Hospital	Lost Opportunity	71,196.1	24.35	0.00	0.0	0.0	0.0	0.0	0	15	\$239,617.77	\$239,617.77	\$0.18	\$0.00	\$0.00	1.04	0.97	1.757	1.757	1.375	1.375	Additional Control Features
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Hospital	Discretionary	44,884.9	15.35	0.00	0.0	0.0	0.0	0.0	0	10	\$162,453.50	\$162,453.50	\$0.21	\$0.00	\$0.00	0.63	0.97	15.510	0.000	0.000	0.000	VSD for Secondary Chilled Water Loop
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Hospital	Lost Opportunity	44,884.9	15.35	0.00	0.0	0.0	0.0	0.0	0	10	\$146,208.15	\$146,208.15	\$0.18	\$0.00	\$0.00	0.70	0.97	1.590	0.000	0.000	0.000	VSD for Secondary Chilled Water Loop
Cooling Chillers	Chilled Water Reset	Hospital	Discretionary	19,242.2	6.58	0.00	0.0	0.0	0.0	0.0	0	10	\$140,742.39	\$140,742.39	\$0.21	\$0.00	\$0.00	0.31	0.97	16.945	0.000	0.000	0.000	Chilled Water Temperature Reset
Cooling Chillers	Chilled Water Reset	Hospital	Lost Opportunity	19,242.2	6.58	0.00	0.0	0.0	0.0	0.0	0	10	\$140,742.39	\$140,742.39	\$0.18	\$0.00	\$0.00	0.31	0.97	0.000	0.000	0.000	0.000	Chilled Water Temperature Reset
Cooling Chillers	Chilled Water Side Economizer	Hospital	Discretionary	108,015.0	36.94	0.00	0.0	0.0	0.0	0.0	0	15	\$1,076,037.21	\$1,076,037.21	\$0.21	\$0.00	\$0.00	0.35	0.97	68.762	0.000	0.000	0.000	Install Economizer
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Hospital	Discretionary	3,683.9	1.26	0.00	0.0	0.0	0.0	0.0	0	15	\$6,622.47	\$6,622.47	\$0.21	\$0.00	\$0.00	1.95	0.97	4.066	4.066	3.181	3.181	2.0" of Insulation, assuming R-8
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Hospital	Lost Opportunity	3,683.9	1.26	0.00	0.0	0.0	0.0	0.0	0	15	\$6,622.47	\$6,622.47	\$0.18	\$0.00	\$0.00	1.95	0.97	0.559	0.559	0.437	0.437	2.0" of Insulation, assuming R-8
Cooling Chillers	Chiller - Pipe Insulation - Code	Hospital	Discretionary	6,151.0	2.10	0.00	0.0	0.0	0.0	0.0	0	15	\$14,201.48	\$14,201.48	\$0.21	\$0.00	\$0.00	1.52	0.97	7.861	7.861	6.150	6.150	1.0" of Insulation, assuming R-4 (Code)
Cooling Chillers	Chillers 150-300 tons (screw) - Advanced Efficiency (Water Cooled)	Hospital	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.23	\$0.23	\$0.21	\$0.00	\$0.00	7.52	0.97	121.693	131.780	103.106	103.106	Advanced Efficiency - 0.52 kW/ton (full load); 0.43 kW/ton (IPLV)
Cooling Chillers	Chillers 150-300 tons (screw) - Advanced Efficiency (Water Cooled)	Hospital	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.21	\$0.21	\$0.18	\$0.00	\$0.00	8.36	0.97	14.472	16.267	12.727	12.727	Advanced Efficiency - 0.52 kW/ton (full load); 0.43 kW/ton (IPLV)
Cooling Chillers	Chillers 150-300 tons (screw) - High Efficiency (Water Cooled)	Hospital	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.05	\$0.05	\$0.21	\$0.00	\$0.00	7.52	0.97	0.000	0.000	0.000	0.000	High Efficiency - 0.63 kW/ton (full load); 0.52 kW/ton (IPLV)
Cooling Chillers	Chillers 150-300 tons (screw) - High Efficiency (Water Cooled)	Hospital	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.04	\$0.04	\$0.18	\$0.00	\$0.00	8.36	0.97	0.000	0.000	0.000	0.000	High Efficiency - 0.63 kW/ton (full load); 0.52 kW/ton (IPLV)
Cooling Chillers	Chillers 150-300 tons (screw) - Premium Efficiency (Water Cooled)	Hospital	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.13	\$0.13	\$0.21	\$0.00	\$0.00	7.52	0.97	0.000	0.000	0.000	0.000	Premium Efficiency - 0.58 kW/ton (full load); 0.47 kW/ton (IPLV)
Cooling Chillers	Chillers 150-300 tons (screw) - Premium Efficiency (Water Cooled)	Hospital	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.12	\$0.12	\$0.18	\$0.00	\$0.00	8.36	0.97	0.000	0.000	0.000	0.000	Premium Efficiency - 0.58 kW/ton (full load); 0.47 kW/ton (IPLV)
Cooling Chillers	Commissioning	Hospital	Lost Opportunity	50,029.7	17.11	0.00	4179.0	52361.6	0.0	0.0	0	5	\$239,617.77	\$239,617.77	\$0.18	\$0.00	\$0.00	1.51	0.97	8.364	8.364	6.544	6.544	Commissioning
Cooling Chillers	Convert Constant Volume Air System to VAV	Hospital	Discretionary	101,094.7	34.57	0.00	8444.5	122286.4	0.0	0.0	0	15	\$502,134.97	\$502,134.97	\$0.21	\$0.00	\$0.00	4.44	0.97	19.570	15.312	15.312	15.312	Variable Volume Air System
Cooling Chillers	Direct Digital Control System-Installation	Hospital	Discretionary	57,726.6	19.74	0.00	4821.9	60417.2	0.0	0.0	0	5	\$64,552.20	\$64,552.20	\$0.21	\$0.00	\$0.00	6.46	0.97	74.562	74.562	58.338	58.338	Installation of EMS System
Cooling Chillers	Direct Digital Control System-Installation	Hospital	Lost Opportunity	57,726.6	19.74	0.00	4821.9	60417.2	0.0	0.0	0	5	\$64,552.20	\$64,552.20	\$0.18	\$0.00	\$0.00	6.46	0.97	0.649	0.649	0.508	0.508	Installation of EMS System
Cooling Chillers	Exhaust Hood Makeup Air	Hospital	Discretionary	17,318.0	5.92	0.00	0.0	0.0	0.0	0.0	0	12	\$261.54	\$261.54	\$0.21	\$0.00	\$0.00	182.51	0.97	0.956	0.956	0.748	0.748	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air
Cooling Chillers	Green Roof	Hospital	Discretionary	2,047.4	0.70	0.00	0.0	0.0	0.0	0.0	0	40	\$853,910.23	\$853,910.23	\$0.21	\$8,539.10	\$0.00	0.01	0.97	1.830	0.000	0.000	0.000	Vegetation on Roof
Cooling Chillers	Green Roof	Hospital	Lost Opportunity	1,687.3	0.58	0.00	0.0	0.0	0.0	0.0	0	40	\$853,910.23	\$853,910.23	\$0.18	\$8,539.10	\$0.00	0.01	0.97	0.169	0.000	0.000	0.000	Vegetation on Roof
Cooling Chillers	Indirect Information Feedback	Hospital	Discretionary	2,002.4	0.68	0.00	167.3	1994.7	0.0	0.0	0	2	\$6,662.75	\$6,662.75	\$0.21	\$0.00	\$0.00	0.85	0.97	2.139	0.000	0.000	0.000	Indirect Information Feedback
Cooling Chillers	Indirect Information Feedback	Hospital	Lost Opportunity	2,002.4	0.68	0.00	167.3	1994.7	0.0	0.0	0	2	\$6,662.75	\$6,662.75	\$0.18	\$0.00	\$0.00	0.85	0.97	0.219	0.000	0.000	0.000	Indirect Information Feedback
Cooling Chillers	Infiltration Reduction	Hospital	Discretionary	11,545.3	3.95	0.00	3214.6	43462.3	0.0	0.0	0	10	\$3,137.02	\$3,137.02	\$0.21	\$0.00	\$0.00	160.19	0.97	0.877	0.877	0.686	0.686	Install Caulking And Weatherstripping (ACH 0.65)
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Hospital	Discretionary	20,479.6	7.00	0.00	1710.7	30013.4	0.0	0.0	0	30	\$9,606.49	\$9,606.49	\$0.21	\$0.00	\$0.00	93.86	0.97	13.128	13.128	10.272	10.272	R-35 c.i.
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Hospital	Lost Opportunity	20,479.6	7.00	0.00	1710.7	30013.4	0.0	0.0	0	30	\$9,606.49	\$9,606.49	\$0.18	\$0.00	\$0.00	93.86	0.97	0.486	0.486	0.380	0.380	R-35 c.i.
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Code	Hospital	Discretionary	53,909.3	18.44	0.00	5861.0	102830.1	0.0	0.0	0	30	\$43,834.06	\$43,834.06	\$0.21	\$0.00	\$0.00	67.75	0.97	22.195	22.195	17.365	17.365	R-30 c.i. (CBES 2015 Code)
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Hospital	Discretionary	30,180.4	10.32	0.00	2521.0	44230.3	0.0	0.0	0	30	\$17,078.20	\$17,078.20	\$0.21	\$0.00	\$0.00	77.81	0.97	6.468	6.468	5.061	5.061	R-38
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Hospital	Lost Opportunity	30,180.4	10.32	0.00	2521.0	44230.3	0.0	0.0	0	30	\$17,078.20	\$17,078.20	\$0.18	\$0.00	\$0.00	77.81	0.97	0.989	0.989	0.774	0.774	R-38
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Code	Hospital	Discretionary	52,564.2	17.98	0.00	4390.7	77034.5	0.0	0.0	0	30	\$48,957.52	\$48,957.52	\$0.21	\$0.00	\$0.00	47.27	0.97	10.881	10.881	8.513	8.513	R-30 (CBES 2015 Code)
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Hospital	Discretionary	24,698.9	8.45	0.00	2063.1	36197.0	0.0	0.0	0	30	\$9,951.58	\$9,951.58	\$0.21	\$0.00	\$0.00	109.28	0.97	8.842	8.842	6.918	6.918	R-13 + 15.6 c.i.
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Hospital	Lost Opportunity	24,698.9	8.45	0.00	2063.1	36197.0	0.0	0.0	0	30	\$9,951.58	\$9,951.58	\$0.18	\$0.00	\$0.00	109.28	0.97	2.011	2.011	1.573	1.573	R-13 + 15.6 c.i.
Cooling Chillers	Insulation - Wall - CBES 2015 - Code	Hospital	Discretionary	22,984.2	7.86	0.00	2265.5	39747.0	0.0	0.0	0	30	\$68,288.33	\$68,288.33	\$0.21	\$0.00	\$0.00	17.04	0.97	5.561	5.561	4.351	4.351	R-13 + 7.5 c.i. (CBES 2015 Code)
Cooling Chillers	Natural Ventilation	Hospital	Lost Opportunity	38,484.4	13.16	0.00	0.0	0.0	0.0	0.0	0	15	\$206,567.04	\$206,567.04	\$0.18	\$0.00	\$0.00	0.65	0.97	0.209	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling
Cooling Chillers	Programmable Thermostat	Hospital	Discretionary	15,393.8	5.26	0.00	1285.8	17632.8	0.0	0.0	0	11	\$187.07	\$187.07	\$0.21	\$0.00	\$0.00	1327.30	0.97	24.443	24.443	19.124	19.124	Programmable Thermostat
Cooling Chillers	Re-Commissioning	Hospital	Discretionary	50,029.7	17.11	0.00	4179.0	52361.6	0.0	0.0	0	5	\$61,970.11	\$61,970.11	\$0.21	\$0.00	\$0.00	5.83	0.97	99.972	99.972	78.219	78.219	Re-Commissioning
Cooling Chillers	Retrocommissioning	Hospital	Discretionary	57,085.2	19.52	0.00	4768.4	59745.9	0.0	0.0	0	5	\$103,283.52	\$103,283.52	\$0.21	\$0.00	\$0.00	3.99	0.97	59.870	59.870	46.843	46.843	Retrocommissioning
Cooling Chillers	Strategic Energy Management (SEM)	Hospital	Discretionary	15,778.6	5.40	0.00	1318.0	16514.0	0.0	0.0	0	5	\$2,126.40	\$2,126.40	\$0.21	\$0.00	\$0.00	53.62	0.97	3.540	3.540	2.770	2.770	Identify Operations and Maintenance Improvements through Strategic Energy Man
Cooling Chillers	Strategic Energy Management (SEM)	Hospital	Lost Opportunity	15,778.6	5.40	0.00	1318.0	16514.0	0.0	0.0	0	5	\$2,126.40	\$2,126.40	\$0.18	\$0.00	\$0.00	53.62	0.97	1.814	1.814	1.419	1.419	Identify Operations and Maintenance Improvements through Strategic Energy Man
Cooling Chillers	Tune-up - Chiller Maintenance	Hospital	Discretionary	55,321.3	18.92	0.00	0.0	0.0	0.0	0.0	0	5	\$33,050.73	\$33,050.73	\$0.21	\$0.00	\$0.00	1.82	0.97	17.973	17.973	14.062	14.062	Chiller Tune-up
Cooling Chillers	Wi-Fi Thermostat	Hospital	Discretionary	15,393.8	5.26	0.00	1285.8	17632.8	0.0	0.0	0	11	\$1,490.16	\$1,490.16	\$0.21	\$0.00	\$0.00	166.62	0.97	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Hospital	Discretionary	19,231.1	6.58	0.00	0.0	0.0	0.0	0.0	0.0	0	20	\$2,801.57	\$2,801.57	\$0.21	\$0.00	\$0.00	32.80	0.97	2.277	2.277	1.781	1.781	R-12
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Hospital	Lost Opportunity	19,231.1	6.58	0.00	0.0	0.0	0.0	0.0	0	20	\$2,801.57	\$2,801.57	\$0.18	\$0.00	\$0.00	32.80	0.97	0.256	0.256	0.201	0.201	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	Hospital	Discretionary	19,231.1	6.58	0.00	0.0	0.0	0.0	0.0	0	20	\$11,283.72	\$11,283.72	\$0.21	\$0.00	\$0.00	8.14	0.97	1.740	1.740	1.361	1.361	R-8 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Hospital	Discretionary	41,893.0	14.33	0.00	8.0	262.5	0.0	0.0	0	30	\$17,078.20	\$17,078.20	\$0.21	\$0.00	\$0.00	18.38	0.97	0.644	0.644	0.504	0.504	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Hospital	Lost Opportunity	41,893.0	14.33	0.00	8.9	291.6	0.0	0.0	0	30	\$17,078.20	\$17,078.20	\$0.18	\$0.00	\$0.00	18.42	0.97	0.117	0.117	0.092	0.092	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	Hospital	Discretionary	72,963.7	24.95	0.00	14.0	457.1	0.0	0.0	0	30	\$48,957.52	\$48,957.52	\$0.21	\$0.00	\$0.00	11.17	0.97	1.087	1.087	0.850	0.850	R-30 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Hospital	Discretionary	34,284.2	11.73	0.00	6.6	214.8	0.0	0.0	0	30	\$9,951.58	\$9,951.58	\$0.21	\$0.00	\$0.00	25.81	0.97	0.880	0.880	0.689	0.689	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Hospital	Lost Opportunity	34,284.2	11.73	0.00	7.3	238.6	0.0	0.0	0	30	\$9,951.58	\$9,951.58	\$0.18	\$0.00	\$0.00	25.87	0.97	0.238	0.238	0.186	0.186	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Code	Hospital	Discretionary	31,904.1	10.91	0.00	7.2	235.8	0.0	0.0	0	30	\$68,288.33	\$68,288.33	\$0.21	\$0.00	\$0.00	3.51	0.97	0.522	0.522	0.408	0.408	R-13 + 7.5 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Hospital	Discretionary	42,986.5	14.70	0.00	0.0	0.0	0.0	0.0	0	15	\$729,560.37	\$729,560.37	\$0.21	\$0.00	\$0.00	0.21	0.97	0.828	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Hospital	Lost Opportunity	42,986.5	14.70	0.00	0.0	0.0	0.0	0.0	0	15	\$583,648.29	\$583,648.29	\$0.18	\$0.00	\$0.00	0.26	0.97	0.058	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Natural Ventilation	Hospital	Lost Opportunity	53,419.6	18.27	0.00	0.0	0.0	0.0	0.0	0	15	\$206,567.04	\$206,567.04	\$0.18	\$0.00	\$0.00	0.91	0.97	0.013	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling	
Cooling Dx Evap	Programmable Thermostat	Hospital	Discretionary	21,367.8	7.31	0.00	4.1	104.6	0.0	0.0	0	11	\$187.07	\$187.07	\$0.21	\$0.00	\$0.00	292.98	0.97	2.489	2.489	1.948	1.948	Programmable Thermostat	
Cooling Dx Evap	Re-Commissioning	Hospital	Discretionary	69,445.5	23.75	0.00	13.3	310.7	0.0	0.0	0	5	\$61,970.11	\$61,970.11	\$0.21	\$0.00	\$0.00	1.25	0.97	7.248	7.248	5.671	5.671	Re-Commissioning	
Cooling Dx Evap	Retrocommissioning	Hospital	Discretionary	79,239.1	27.10	0.00	15.2	354.5	0.0	0.0	0	5	\$103,283.52	\$103,283.52	\$0.21	\$0.00	\$0.00	0.85	0.97	4.341	0.000	0.000	0.000	Retrocommissioning	
Cooling Dx Evap	Strategic Energy Management (SEM)	Hospital	Discretionary	21,902.0	7.49	0.00	4.2	98.0	0.0	0.0	0	5	\$2,951.62	\$2,951.62	\$0.21	\$0.00	\$0.00	8.26	0.97	0.348	0.348	0.272	0.272	Identify Operations and Maintenance Improvements through Strategic Energy Ma	
Cooling Dx Evap	Strategic Energy Management (SEM)	Hospital	Lost Opportunity	21,902.0	7.49	0.00	4.7	108.9	0.0	0.0	0	5	\$2,951.62	\$2,951.62	\$0.18	\$0.00	\$0.00	8.28	0.97	0.215	0.215	0.168	0.168	Identify Operations and Maintenance Improvements through Strategic Energy Ma	
Cooling Dx Evap	Tune-up - DX Maintenance	Hospital	Discretionary	76,790.7	26.26	0.00	0.0	0.0	0.0	0.0	0	5	\$247,880.45	\$247,880.45	\$0.21	\$0.00	\$0.00	0.34	0.97	3.279	0.000	0.000	0.000	DX Tune-up / Diagnostics	
Cooling Dx Evap	Wi-Fi Thermostat	Hospital	Discretionary	21,367.8	7.31	0.00	4.1	104.6	0.0	0.0	0	11	\$1,490.16	\$1,490.16	\$0.21	\$0.00	\$0.00	36.78	0.97	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Hospital	Discretionary	2,947.7	1.01	0.00	0.6	16.3	0.0	0.0	0	20	\$18,550.74	\$18,550.74	\$0.21	\$0.00	\$0.00	0.78	0.97	0.063	0.000	0.000	0.000	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Hospital	Lost Opportunity	2,947.7	1.01	0.00	0.6	18.1	0.0	0.0	0	20	\$18,550.74	\$18,550.74	\$0.18	\$0.00	\$0.00	0.78	0.97	0.016	0.000	0.000	0.000	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Code	Hospital	Discretionary	6,730.6	2.30	0.00	1.3	38.2	0.0	0.0	0	20	\$122,502.18	\$122,502.18	\$0.21	\$0.00	\$0.00	0.27	0.97	0.132	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtu/h - Premium Efficiency	Hospital	Discretionary	267,098.1	91.35	0.00	0.0	0.0	0.0	0.0	0	15	\$845,244.23	\$845,244.23	\$0.21	\$0.00	\$0.00	0.00	0.97	11.746	0.000	0.000	0.000	0.000	Premium Efficiency - 19.0 IEER
Dryer	Dryer - ENERGY STAR (Residential Sized)	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.24	1.00	0.022	0.000	0.000	0.000	0.000	ENERGY STAR Dryer - CEF 3.93 (Electric Dryer)
Dryer	Dryer - ENERGY STAR (Residential Sized)	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.24	1.00	0.002	0.000	0.000	0.000	0.000	ENERGY STAR Dryer - CEF 3.93 (Electric Dryer)
Dryer	Dryer - Heat Pump Dryer (Residential Sized)	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.07	1.00	0.022	0.000	0.000	0.000	0.000	Premium Efficiency - Heat Pump Dryer
Dryer	Dryer - Heat Pump Dryer (Residential Sized)	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.07	1.00	0.002	0.000	0.000	0.000	0.000	Premium Efficiency - Heat Pump Dryer
Fax	Fax - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	2.508	0.000	0.000	0.000	0.000	ENERGY STAR Fax
Fax	Fax - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.250	0.000	0.000	0.000	0.000	ENERGY STAR Fax
Fiat Screen Monitors	Monitor - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	0.000	ENERGY STAR Monitor
Fiat Screen Monitors	Monitor - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	0.000	ENERGY STAR Monitor
Fiat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.05	\$0.05	\$0.21	\$0.00	\$0.00	0.50	1.00	28.790	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor
Fiat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.05	\$0.05	\$0.18	\$0.00	\$0.00	0.50	1.00	2.719	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor
Freezers	Freezer (Residential) - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	13.03	1.00	0.290	0.290	0.188	0.188	ENERGY STAR Freezer	
Freezers	Freezer (Residential) - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	13.03	1.00	0.039	0.039	0.025	0.025	ENERGY STAR Freezer	
Freezers	Residential Freezer Recycling and Replacement	Hospital	Discretionary	421.4	0.05	0.05	0.0	0.0	0.0	0.0	0	8	\$168.84	\$168.84	\$0.21	\$0.00	\$0.00	3.13	1.00	1.831	1.831	1.190	1.190	Recycling Existing Freezer and Replacing with a Federal Standard Unit	
Heat Pump	Active Chilled Beam Cooling with DOAS	Hospital	Lost Opportunity	39,426.2	13.06	10.14	0.0	0.0	0.0	0.0	0	15	-\$206,567.04	\$0.00	\$0.18	\$154,925.28	\$0.00	0.08	0.97	0.064	0.000	0.000	0.000	0.000	Active Chilled Beam Cooling with DOAS
Heat Pump	Air Source Heat Pump > 240 kBtu/h - Federal Standard 2023	Hospital	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.06	\$0.06	\$0.21	\$0.00	\$0.00	5.91	0.97	0.000	0.000	0.000	0.000	0.000	Federal Standard 2023 - 12.5 IEER, 3.2 COP
Heat Pump	Air Source Heat Pump > 240 kBtu/h - Federal Standard 2023	Hospital	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.05	\$0.05	\$0.18	\$0.00	\$0.00	7.39	0.97	0.000	0.000	0.000	0.000	0.000	Federal Standard 2023 - 12.5 IEER, 3.2 COP
Heat Pump	Air Source Heat Pump > 240 kBtu/h - Premium Efficiency	Hospital	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.23	\$0.23	\$0.21	\$0.00	\$0.00	4.49	0.97	4.162	5.072	3.969	3.969	Premium Efficiency - 18.0 IEER, 3.5 COP	
Heat Pump	Air Source Heat Pump > 240 kBtu/h - Premium Efficiency	Hospital	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.18	\$0.18	\$0.18	\$0.00	\$0.00	5.62	0.97	0.272	0.633	0.495	0.495	Premium Efficiency - 18.0 IEER, 3.5 COP	
Heat Pump	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Hospital	Discretionary	17,820.6	5.90	4.58	0.0	0.0	0.0	0.0	0	15	\$51,641.76	\$51,641.76	\$0.21	\$0.00	\$0.00	1.21	0.97	0.079	0.079	0.062	0.062	Demand Controlled Ventilation (CO2 sensors)	
Heat Pump	Commissioning	Hospital	Lost Opportunity	25,627.0	8.49	6.59	0.0	0.0	0.0	0.0	0	5	\$239,617.77	\$239,617.77	\$0.18	\$0.00	\$0.00	0.12	0.97	0.120	0.000	0.000	0.000	0.000	Commissioning
Heat Pump	Convert Constant Volume Air System to VAV	Hospital	Discretionary	51,784.4	17.16	13.32	0.0	0.0	0.0	0.0	0	15	\$502,134.97	\$502,134.97	\$0.21	\$0.00	\$0.00	0.36	0.97	0.327	0.000	0.000	0.000	0.000	Variable Volume Air System
Heat Pump	Direct Digital Control System-Installation	Hospital	Discretionary	29,569.6	9.80	7.61	0.0	0.0	0.0	0.0	0	5	\$64,552.20	\$64,552.20	\$0.21	\$0.00	\$0.00	0.50	0.97	1.246	0.000	0.000	0.000	0.000	Installation of EMS System
Heat Pump	Direct Digital Control System-Installation	Hospital	Lost Opportunity	29,569.6	9.80	7.61	0.0	0.0	0.0	0.0	0	5	\$64,552.20	\$64,552.20	\$0.18	\$0.00	\$0.00	0.50	0.97	0.009	0.000	0.000	0.000	0.000	Installation of EMS System
Heat Pump	Duct Repair and Sealing	Hospital	Discretionary	17,141.8	5.68	4.41	0.0	0.0	0.0	0.0	0	18	\$49,576.09	\$49,576.09	\$0.21	\$0.00	\$0.00	1.47	0.97	0.642	0.642	0.502	0.502	Reduction in Duct Losses to 5 %	
Heat Pump	Exhaust Air to Ventilation Air Heat Recovery	Hospital	Discretionary	29,569.6	9.80	7.61	0.0	0.0	0.0	0.0	0	14	\$403,489.61	\$403,489.61	\$0.21	\$0.00	\$0.00	0.24	0.97	0.132	0.000	0.000	0.000	0.000	Exhaust Air to Ventilation Air Heat Recovery
Heat Pump	Exhaust Hood Makeup Air	Hospital	Discretionary	8,870.9	2.94	2.28	0.0	0.0	0.0	0.0	0	12	\$261.54	\$261.54	\$0.21	\$0.00	\$0.00	93.49							

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Heat Pump	Windows - CBES 2015 - Above Code	Hospital	Discretionary	1,087.8	0.36	0.28	0.0	0.0	0.0	0.0	0.0	0	20	\$18,550.74	\$18,550.74	\$0.21	\$0.00	\$0.00	0.28	0.97	0.015	0.000	0.000	0.000	U-0.29
Heat Pump	Windows - CBES 2015 - Above Code	Hospital	Lost Opportunity	1,087.8	0.36	0.28	0.0	0.0	0.0	0.0	0.0	0	20	\$18,550.74	\$18,550.74	\$0.18	\$0.00	\$0.00	0.28	0.97	0.005	0.000	0.000	0.000	U-0.29
Heat Pump	Windows - CBES 2015 - Code	Hospital	Discretionary	2,483.7	0.82	0.64	0.0	0.0	0.0	0.0	0.0	0	20	\$122,502.18	\$122,502.18	\$0.21	\$0.00	\$0.00	0.10	0.97	0.032	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	Hospital	Discretionary	56,768.9	0.63	11.94	0.0	0.0	0.0	0.0	0.0	0	8	\$3,847.83	\$3,847.83	\$0.21	\$0.00	\$0.00	14.53	0.98	223.780	223.780	193.667	193.667	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	Hospital	Discretionary	52,984.3	0.59	11.14	0.0	0.0	0.0	0.0	0.0	0	8	\$219.51	\$219.51	\$0.21	\$0.00	\$0.00	237.79	0.98	172.004	172.004	148.858	148.858	Photocell
Lighting Exterior	LED Exterior Flood Lights	Hospital	Discretionary	18,383.0	0.20	3.87	0.0	0.0	0.0	0.0	0.0	0	20	\$12,125.48	\$12,125.48	\$0.21	\$0.00	\$0.00	3.73	0.98	97.188	97.188	84.110	84.110	LED Exterior Flood Lights
Lighting Exterior	LED Exterior Flood Lights	Hospital	Lost Opportunity	18,383.0	0.20	3.87	0.0	0.0	0.0	0.0	0.0	0	20	\$12,125.48	\$12,125.48	\$0.18	\$0.00	\$0.00	3.73	0.98	8.445	8.445	7.308	7.308	LED Exterior Flood Lights
Lighting Exterior	LED Exterior Pole Mount Fixture	Hospital	Discretionary	10,475.6	0.12	2.20	0.0	0.0	0.0	0.0	0.0	0	15	\$20,541.29	\$20,541.29	\$0.21	\$0.00	\$0.00	0.94	0.98	55.383	0.000	0.000	0.000	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Pole Mount Fixture	Hospital	Lost Opportunity	10,475.6	0.12	2.20	0.0	0.0	0.0	0.0	0.0	0	15	\$20,541.29	\$20,541.29	\$0.18	\$0.00	\$0.00	0.94	0.98	4.812	0.000	0.000	0.000	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Wall Pack	Hospital	Discretionary	34,730.3	0.38	7.30	0.0	0.0	0.0	0.0	0.0	0	20	\$72,070.79	\$72,070.79	\$0.21	\$0.00	\$0.00	1.19	0.98	173.413	173.413	150.078	150.078	LED Exterior Wall Pack
Lighting Exterior	LED Exterior Wall Pack	Hospital	Lost Opportunity	34,730.3	0.38	7.30	0.0	0.0	0.0	0.0	0.0	0	20	\$72,070.79	\$72,070.79	\$0.18	\$0.00	\$0.00	1.19	0.98	15.068	15.068	13.041	13.041	LED Exterior Wall Pack
Lighting Exterior	LED Pathway Lights	Hospital	Discretionary	8,651.0	0.10	1.82	0.0	0.0	0.0	0.0	0.0	0	11	\$2,046.89	\$2,046.89	\$0.21	\$0.00	\$0.00	5.73	0.98	45.737	45.737	39.582	39.582	LED Pathway Lights
Lighting Exterior	LED Pathway Lights	Hospital	Lost Opportunity	8,651.0	0.10	1.82	0.0	0.0	0.0	0.0	0.0	0	11	\$2,046.89	\$2,046.89	\$0.18	\$0.00	\$0.00	5.73	0.98	3.974	3.974	3.439	3.439	LED Pathway Lights
Lighting Exterior	Occupancy Sensor Control	Hospital	Discretionary	45,415.1	0.50	9.55	0.0	0.0	0.0	0.0	0.0	0	10	\$139,315.86	\$139,315.86	\$0.21	\$0.00	\$0.00	0.40	0.98	126.370	0.000	0.000	0.000	Occupancy Sensor Control
Lighting Exterior	Parking - Covered Lighting	Hospital	Discretionary	1,934.9	0.02	0.41	0.0	0.0	0.0	0.0	0.0	0	19	\$1,410.85	\$1,410.85	\$0.21	\$0.00	\$0.00	3.21	0.98	2.782	2.782	2.407	2.407	Covered Parking Lighting (LED)
Lighting Exterior	Parking - Covered Lighting	Hospital	Lost Opportunity	1,934.9	0.02	0.41	0.0	0.0	0.0	0.0	0.0	0	19	\$1,410.85	\$1,410.85	\$0.18	\$0.00	\$0.00	3.21	0.98	0.242	0.242	0.209	0.209	Covered Parking Lighting (LED)
Lighting Exterior	Parking - Surface Lighting	Hospital	Discretionary	1,045.4	0.01	0.22	0.0	0.0	0.0	0.0	0.0	0	10	\$537.07	\$537.07	\$0.21	\$0.00	\$0.00	2.40	0.98	0.646	0.646	0.559	0.559	Surface Parking Lighting (LED)
Lighting Exterior	Parking - Surface Lighting	Hospital	Lost Opportunity	1,045.4	0.01	0.22	0.0	0.0	0.0	0.0	0.0	0	10	\$537.07	\$537.07	\$0.18	\$0.00	\$0.00	2.40	0.98	0.056	0.056	0.049	0.049	Surface Parking Lighting (LED)
Lighting Exterior	Time Clock	Hospital	Discretionary	18,923.0	0.21	3.98	0.0	0.0	0.0	0.0	0.0	0	8	\$373.75	\$373.75	\$0.21	\$0.00	\$0.00	49.88	0.98	4.388	4.388	3.797	3.797	Time Clock
Lighting Interior Fluorescent	Bi-Level Control, Stairwell Lighting	Hospital	Discretionary	169.8	0.03	0.02	0.0	0.0	0.0	0.0	0.0	0	8	\$1,740.10	\$1,740.10	\$0.21	\$0.00	\$0.00	0.14	0.98	0.400	0.000	0.000	0.000	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time
Lighting Interior Fluorescent	Dimming-Stepped, Fluorescent Fixtures	Hospital	Discretionary	167,114.2	32.42	22.39	0.0	0.0	0.0	0.0	0.0	0	10	\$1,991.26	\$1,991.26	\$0.21	\$0.00	\$0.00	156.25	0.98	46.265	46.265	40.040	40.040	3-stepped Dimming of Fluorescent Fixtures (Day-Lighting)
Lighting Interior Fluorescent	Lighting Interior - Fluorescent - 2018 Federal Standard	Hospital	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	-\$0.07	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	Standard Fluorescent 2018 Federal Standard Approved T-8
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 - Above Standard	Hospital	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	-\$0.07	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 High Performance - Above Standard	Hospital	Lost Opportunity	0.8	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	-\$0.06	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 High Performance Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 Reduced Wattage - Above Standard	Hospital	Lost Opportunity	0.8	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	-\$0.01	\$0.00	\$0.21	\$0.00	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 Reduced Wattage Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - TLED - Above Standard	Hospital	Lost Opportunity	2.3	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$0.27	\$0.27	\$0.21	-\$0.02	\$0.00	999.00	0.98	1434.242	1562.446	1352.196	1352.196	Above Standard TLED
Lighting Interior Fluorescent	Occupancy Sensor Control	Hospital	Discretionary	143,240.8	27.79	19.19	0.0	0.0	0.0	0.0	0.0	0	10	\$439,406.54	\$439,406.54	\$0.21	\$0.00	\$0.00	0.61	0.98	237.935	0.000	0.000	0.000	Occupancy Sensor Control
Lighting Interior Fluorescent	Time Clock	Hospital	Discretionary	59,683.7	11.58	8.00	0.0	0.0	0.0	0.0	0.0	0	8	\$373.75	\$373.75	\$0.21	\$0.00	\$0.00	235.80	0.98	8.262	8.262	7.150	7.150	Time Clock
Lighting Interior Fluorescent - Early Replacement	Early Replacement Lighting Interior - TLED - Above Standard	Hospital	Discretionary	84,568.5	16.41	11.33	0.0	0.0	0.0	0.0	0.0	0	15	\$19,427.27	\$19,427.27	\$0.21	-\$301.47	\$0.00	0.00	0.98	477.631	0.000	0.000	0.000	Above Standard TLED
Lighting Interior HID	Lighting Interior - Efficient Metal Halide - Above Standard	Hospital	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$0.11	\$0.11	\$0.21	-\$0.01	\$0.00	25.61	0.98	0.000	0.000	0.000	0.000	Efficient Metal Halide
Lighting Interior HID	Lighting Interior - Federal Standard 2017 Metal Halide - Above Standard	Hospital	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$0.13	\$0.13	\$0.21	\$0.00	\$0.00	2.29	0.98	0.000	0.000	0.000	0.000	Federal Standard 2017 Metal Halide
Lighting Interior HID	Lighting Interior - High Bay Fluorescent High Output - Above Standard	Hospital	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$0.35	\$0.35	\$0.21	\$0.03	\$0.00	1.34	0.98	139.553	150.811	130.517	130.517	High Bay Fluorescent High Output (HO)
Lighting Interior HID	Lighting Interior - High Bay Induction - Above Standard	Hospital	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$0.34	\$0.34	\$0.21	-\$0.02	\$0.00	6.33	0.98	0.000	0.000	0.000	0.000	High Bay Induction
Lighting Interior HID	Lighting Interior - High Bay LED - Above Standard	Hospital	Lost Opportunity	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$0.40	\$0.40	\$0.21	-\$0.01	\$0.00	5.66	0.98	209.253	228.460	197.718	197.718	High Bay LED
Lighting Interior HID	Occupancy Sensor Control	Hospital	Discretionary	39,399.5	7.64	5.28	0.0	0.0	0.0	0.0	0.0	0	10	\$120,862.20	\$120,862.20	\$0.21	\$0.00	\$0.00	0.61	0.98	78.849	0.000	0.000	0.000	Occupancy Sensor Control
Lighting Interior HID	Time Clock	Hospital	Discretionary	16,416.5	3.18	2.20	0.0	0.0	0.0	0.0	0.0	0	8	\$373.75	\$373.75	\$0.21	\$0.00	\$0.00	64.86	0.98	2.738	2.738	2.369	2.369	Time Clock
Lighting Interior Other	Exit Sign - LED	Hospital	Discretionary	3,619.1	0.70	0.48	0.0	0.0	0.0	0.0	0.0	0	16	\$5,088.00	\$5,088.00	\$0.21	\$0.00	\$0.00	2.16	0.98	13.819	13.819	11.959	11.959	LED Exit Sign
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Hospital	Discretionary	4,505.7	0.87	0.60	0.0	0.0	0.0	0.0	0.0	0	16	-\$774.63	\$0.00	\$0.21	\$0.00	\$0.00	999.00	0.98	25.144	25.144	21.761	21.761	Photoluminescent or Tritium
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Hospital	Lost Opportunity	4,505.7	0.87	0.60	0.0	0.0	0.0	0.0	0.0	0	16	-\$774.63	\$0.00	\$0.18	\$0.00	\$0.00	999.00	0.98	1.639	1.639	1.418	1.418	Photoluminescent or Tritium
Lighting Interior Other	New Construction Lighting Package - Advanced Efficiency	Hospital	Lost Opportunity	1.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$0.60	\$0.60	\$0.18	-\$0.06	\$0.00	999.00	0.98	121.870	121.870	105.471	105.471	Advanced Efficiency Lighting Package - 25% LPD Reduction
Lighting Interior Other	New Construction Lighting Package - High Efficiency	Hospital	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$0.12	\$0.12	\$0.18	-\$0.01	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	High Efficiency Lighting Package - 15% LPD Reduction
Lighting Interior Other	New Construction Lighting Package - Premium Efficiency	Hospital	Lost Opportunity	0.8	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$0.33	\$0.33	\$0.18	-\$0.03	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	Premium Efficiency Lighting Package - 20% LPD Reduction
Lighting Interior Other	Occupancy Sensor Control	Hospital	Discretionary	2,171.4	0.42	0.29	0.0	0.0	0.0	0.0	0.0	0	10	\$6,661.10	\$6,661.10	\$0.21	\$0.00	\$0.00	0.61	0.98	6.042	0.000	0.000	0.000	Occupancy Sensor Control
Lighting Interior Other	Time Clock	Hospital	Discretionary	904.8	0.18	0.12	0.0	0.0	0.0	0.0	0.0	0	8	\$373.75	\$373.75	\$0.21	\$0.00	\$0.00	3.57	0.98	0.210	0.210	0.182	0.182	Time Clock
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	Hospital	Lost Opportunity	4.9	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	3	\$0.09	\$0.09	\$0.21	-\$0.10	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	CFL
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base Incandescent - Backstop EISA 2020 Standard	Hospital	Lost Opportunity	3.9	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	3	\$0.06	\$0.06	\$0.21	-\$0.12	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	Backstop EISA 2020 Standard Incandescent
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base LED - Above Standard	Hospital	Lost Opportunity	5.3	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.50	\$0.50	\$0.21	-\$0.16	\$0.00	999.00	0.98	186.094	187.105	161.927	161.927	LED
Lighting Interior Screw Base - Standard	Occupancy Sensor Control	Hospital	Discretionary	128,931.4	25.01	17.28	0.0	0.0	0.0	0.0	0.0	0	10	\$395,511.12	\$395,511.12	\$0.21	\$0.00	\$0.00	0.61	0.98	324.366	0.000	0.000	0.000	Occupancy Sensor Control
Lighting Interior Screw Base - Standard	Time Clock	Hospital	Discretionary	53,721.4	10.42	7.20	0.0	0.0	0.0	0.0	0.0	0	8	\$373.75	\$373.7										

Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Refrigeration	Display Case Electronically Commutated Motor - Low Temp	Hospital	Discretionary	1,287.6	0.17	0.15	0.0	0.0	0.0	0.0	0	15	\$921.38	\$921.38	\$0.21	\$0.00	\$0.00	3.47	0.98	5.076	5.076	5.104	5.104	ECM Evaporator Fans - Low Temp
Refrigeration	Display Case Electronically Commutated Motor - Medium Temp	Hospital	Discretionary	318.6	0.04	0.04	0.0	0.0	0.0	0.0	0	15	\$227.96	\$227.96	\$0.21	\$0.00	\$0.00	3.47	0.98	1.256	1.256	1.263	1.263	ECM Evaporator Fans - Medium Temp
Refrigeration	Display Case LEDs (Closed Cases)	Hospital	Discretionary	1,001.7	0.13	0.12	0.0	0.0	0.0	0.0	0	8	\$596.80	\$596.80	\$0.21	\$0.00	\$0.00	2.18	0.98	5.884	5.884	5.917	5.917	Display Case LEDs (Closed Cases)
Refrigeration	Display Case LEDs (Closed Cases)	Hospital	Lost Opportunity	1,001.7	0.13	0.12	0.0	0.0	0.0	0.0	0	8	\$265.36	\$265.36	\$0.18	\$0.00	\$0.00	4.90	0.98	0.511	0.511	0.514	0.514	Display Case LEDs (Closed Cases)
Refrigeration	Display Case LEDs (Open Cases)	Hospital	Discretionary	441.1	0.06	0.05	0.0	0.0	0.0	0.0	0	7	\$308.79	\$308.79	\$0.21	-\$10.99	\$0.00	2.07	0.98	2.591	2.591	2.605	2.605	Display Case LEDs (Open Cases)
Refrigeration	Display Case LEDs (Open Cases)	Hospital	Lost Opportunity	441.1	0.06	0.05	0.0	0.0	0.0	0.0	0	7	\$162.95	\$162.95	\$0.18	-\$9.42	\$0.00	4.78	0.98	0.225	0.225	0.226	0.226	Display Case LEDs (Open Cases)
Refrigeration	Display Case Motion Sensors	Hospital	Discretionary	387.5	0.05	0.05	0.0	0.0	0.0	0.0	0	8	\$90.41	\$90.41	\$0.21	\$0.00	\$0.00	5.57	0.98	2.156	2.156	2.168	2.168	Display Case Motion Sensors
Refrigeration	Evaporator Fan Controller - Low Temp	Hospital	Discretionary	230.4	0.03	0.03	0.0	0.0	0.0	0.0	0	16	\$179.20	\$179.20	\$0.21	\$0.00	\$0.00	3.42	0.98	1.282	1.282	1.289	1.289	ECM Evaporator Fan Controller - Low Temp
Refrigeration	Evaporator Fan Controller - Low Temp	Hospital	Lost Opportunity	230.4	0.03	0.03	0.0	0.0	0.0	0.0	0	16	\$179.20	\$179.20	\$0.18	\$0.00	\$0.00	3.42	0.98	0.091	0.091	0.092	0.092	ECM Evaporator Fan Controller - Low Temp
Refrigeration	Evaporator Fan Controller - Medium Temp	Hospital	Discretionary	359.4	0.05	0.04	0.0	0.0	0.0	0.0	0	16	\$334.62	\$334.62	\$0.21	\$0.00	\$0.00	2.85	0.98	2.000	2.000	2.011	2.011	ECM Evaporator Fan Controller - Medium Temp
Refrigeration	Evaporator Fan Controller - Medium Temp	Hospital	Lost Opportunity	359.4	0.05	0.04	0.0	0.0	0.0	0.0	0	16	\$334.62	\$334.62	\$0.18	\$0.00	\$0.00	2.85	0.98	0.142	0.142	0.143	0.143	ECM Evaporator Fan Controller - Medium Temp
Refrigeration	Floating Condenser Head Pressure Controls	Hospital	Discretionary	25,891.1	3.41	3.05	0.0	0.0	0.0	0.0	0	15	\$8,324.17	\$8,324.17	\$0.21	\$0.00	\$0.00	7.73	0.98	40.024	40.024	40.245	40.245	Floating Condenser Head Pressure Controls
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Hospital	Discretionary	1,508.2	0.20	0.18	0.0	0.0	0.0	0.0	0	9	\$204.82	\$204.82	\$0.21	\$0.00	\$0.00	10.81	0.98	8.859	8.859	8.908	8.908	Glass Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Hospital	Lost Opportunity	1,508.2	0.20	0.18	0.0	0.0	0.0	0.0	0	9	\$204.82	\$204.82	\$0.18	\$0.00	\$0.00	10.81	0.98	0.770	0.770	0.774	0.774	Glass Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Ice Maker - High Efficiency	Hospital	Discretionary	7,332.2	0.97	0.86	0.0	0.0	0.0	0.0	0	8	\$467.82	\$467.82	\$0.21	\$0.00	\$0.00	20.36	0.98	45.338	45.338	45.589	45.589	High Efficiency Ice Maker
Refrigeration	Ice Maker - High Efficiency	Hospital	Lost Opportunity	7,332.2	0.97	0.86	0.0	0.0	0.0	0.0	0	8	\$467.82	\$467.82	\$0.18	\$0.00	\$0.00	20.36	0.98	3.940	3.940	3.961	3.961	High Efficiency Ice Maker
Refrigeration	Night Covers for Display Cases	Hospital	Discretionary	575.0	0.08	0.07	0.0	0.0	0.0	0.0	0	5	\$102.58	\$102.58	\$0.21	\$10.40	\$0.00	3.04	0.98	3.378	3.378	3.396	3.396	Night Covers for Display Cases
Refrigeration	Night Covers for Display Cases	Hospital	Lost Opportunity	575.0	0.08	0.07	0.0	0.0	0.0	0.0	0	5	\$102.58	\$102.58	\$0.18	\$10.40	\$0.00	3.04	0.98	0.294	0.294	0.295	0.295	Night Covers for Display Cases
Refrigeration	No Heat Case Doors	Hospital	Discretionary	1,725.6	0.23	0.20	0.0	0.0	0.0	0.0	0	15	\$1,236.95	\$1,236.95	\$0.21	\$0.00	\$0.00	3.47	0.98	5.335	5.335	5.364	5.364	No Heat Case Doors
Refrigeration	No Heat Case Doors	Hospital	Lost Opportunity	1,725.6	0.23	0.20	0.0	0.0	0.0	0.0	0	15	\$1,236.95	\$1,236.95	\$0.18	\$0.00	\$0.00	3.47	0.98	0.881	0.881	0.886	0.886	No Heat Case Doors
Refrigeration	Refrigeration Commissioning or Re-commissioning	Hospital	Discretionary	34,043.7	4.49	4.01	0.0	0.0	0.0	0.0	0	7	\$8,774.55	\$8,774.55	\$0.21	\$0.00	\$0.00	4.38	0.98	19.195	19.195	19.301	19.301	Commissioning / Re-commissioning
Refrigeration	Refrigeration Commissioning or Re-commissioning	Hospital	Lost Opportunity	34,043.7	4.49	4.01	0.0	0.0	0.0	0.0	0	7	\$8,774.55	\$8,774.55	\$0.18	\$0.00	\$0.00	4.38	0.98	0.882	0.882	0.887	0.887	Commissioning / Re-commissioning
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Hospital	Discretionary	1,119.6	0.15	0.13	0.0	0.0	0.0	0.0	0	9	\$204.82	\$204.82	\$0.21	\$0.00	\$0.00	8.02	0.98	6.577	6.577	6.613	6.613	Solid Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Hospital	Lost Opportunity	1,119.6	0.15	0.13	0.0	0.0	0.0	0.0	0	9	\$204.82	\$204.82	\$0.18	\$0.00	\$0.00	8.02	0.98	0.571	0.571	0.575	0.575	Solid Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Strip Curtains for Walk-ins	Hospital	Discretionary	2,940.8	0.39	0.35	0.0	0.0	0.0	0.0	0	4	\$2,115.93	\$2,115.93	\$0.21	\$0.00	\$0.00	0.87	0.98	2.728	0.000	0.000	0.000	Strip Curtains for Walk-ins
Refrigeration	Walk-In Electronically Commutated Motor	Hospital	Discretionary	955.4	0.13	0.11	0.0	0.0	0.0	0.0	0	15	\$220.13	\$220.13	\$0.21	\$0.00	\$0.00	10.79	0.98	5.612	5.612	5.643	5.643	ECM Condensor Fans - Low Temp
Refrigeration	Walk-In Electronically Commutated Motor	Hospital	Discretionary	1,033.0	0.14	0.12	0.0	0.0	0.0	0.0	0	15	\$269.05	\$269.05	\$0.21	\$0.00	\$0.00	9.54	0.98	6.068	6.068	6.102	6.102	ECM Condensor Fans - Medium Temp
Refrigeration	Walk-In Electronically Commutated Motor	Hospital	Discretionary	955.4	0.13	0.11	0.0	0.0	0.0	0.0	0	15	\$220.13	\$220.13	\$0.21	\$0.00	\$0.00	10.79	0.98	5.612	5.612	5.643	5.643	ECM Evaporator Fans - Low Temp
Refrigeration	Walk-In Electronically Commutated Motor	Hospital	Discretionary	1,033.0	0.14	0.12	0.0	0.0	0.0	0.0	0	15	\$269.05	\$269.05	\$0.21	\$0.00	\$0.00	9.54	0.98	6.068	6.068	6.102	6.102	ECM Evaporator Fans - Medium Temp
Refrigeration	Walk-in Economizer	Hospital	Discretionary	7,867.0	1.04	0.93	0.0	0.0	0.0	0.0	0	15	\$3,823.47	\$3,823.47	\$0.21	\$0.00	\$0.00	5.11	0.98	36.484	36.484	36.686	36.686	Add Economizer to Walk-in Cooler
Refrigeration	Walk-in Economizer	Hospital	Lost Opportunity	7,867.0	1.04	0.93	0.0	0.0	0.0	0.0	0	15	\$3,823.47	\$3,823.47	\$0.18	\$0.00	\$0.00	5.11	0.98	3.170	3.170	3.188	3.188	Add Economizer to Walk-in Cooler
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Hospital	Refrigerator (Residential) - CEE Tier 2	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	1.23	1.00	0.000	0.000	0.000	0.000	CEE Tier 2 Refrigerator
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	1.23	1.00	0.000	0.000	0.000	0.000	CEE Tier 2 Refrigerator
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Hospital	Refrigerator (Residential) - CEE Tier 3	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	1.15	1.00	4.833	4.833	3.143	3.143	CEE Tier 3 Refrigerator
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	1.15	1.00	0.714	0.714	0.464	0.464	CEE Tier 3 Refrigerator
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Hospital	Refrigerator (Residential) - ENERGY STAR	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	1.26	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Refrigerator
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	1.26	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Refrigerator
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Hospital	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	1.27	1.00	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Refrigerator
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	1.27	1.00	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Refrigerator
Refrigerators	Residential Refrigerator Recycling and Replacement	Hospital	Discretionary	2,948.1	0.34	0.34	0.0	0.0	0.0	0.0	948.1	8	\$1,534.91	\$1,534.91	\$0.21	\$0.00	\$0.00	2.41	1.00	13.952	13.952	9.073	9.073	Recycling Existing Refrigerator and Replacing with a Federal Standard Unit
Room Cool	Ductless Air Conditioner (DAC)	Hospital	Discretionary	1,396.7	0.63	0.00	0.0	0.0	0.0	0.0	0	15	\$33,756.15	\$33,756.15	\$0.21	\$0.00	\$0.00	0.17	0.97	0.000	0.000	0.000	0.000	Ductless Air Conditioner - SEER/EER 18/12.5
Room Cool	Ductless Air Conditioner (DAC)	Hospital	Lost Opportunity	1,396.7	0.63	0.00	0.0	0.0	0.0	0.0	0	15	\$33,756.15	\$33,756.15	\$0.18	\$0.00	\$0.00	0.17	0.97	0.000	0.000	0.000	0.000	Ductless Air Conditioner - SEER/EER 18/12.5
Room Cool	Ductless Heat Pump (DHP)	Hospital	Discretionary	3,805.3	1.72	0.00	0.0	0.0	0.0	0.0	0	15	\$57,514.57	\$57,514.57	\$0.21	\$0.00	\$0.00	0.27	0.97	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Cool	Ductless Heat Pump (DHP)	Hospital	Lost Opportunity	3,805.3	1.72	0.00	0.0	0.0	0.0	0.0	0	15	\$57,514.57	\$57,514.57	\$0.18	\$0.00	\$0.00	0.27	0.97	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Hospital	Discretionary	4,006.2	1.81	0.00	0.0	0.0	0.0	0.0	0	15	\$58,889.50	\$58,889.50	\$0.21	\$0.00	\$0.00	0.28	0.97	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Hospital	Lost Opportunity	4,006.2	1.81	0.00	0.0	0.0	0.0	0.0	0	15	\$58,889.50	\$58,889.50	\$0.18	\$0.00	\$0.00	0.28	0.97	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1
Room Cool	Exhaust Hood Makeup Air	Hospital	Discretionary	291.1	0.13	0.00	0.0	0.0	0.0	0.0	0	12	\$261.54	\$261.54	\$0.21	\$0.00	\$0.00	3.54	0.97	0.000	0.000	0.000	0.000	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air
Room Cool	Green Roof	Hospital	Discretionary	34.4	0.02	0.00	0.0	0.0	0.0	0.0	0	40	\$853,910.23	\$853,910.23	\$0.21	\$8,539.10	\$0.00	0.00	0.97	0.000	0.000	0.000	0.000	Vegetation on Roof
Room Cool	Green Roof	Hospital	Lost Opportunity	25.5	0.01	0.00	0.0	0.0	0.0	0.0	0	40	\$853,910.23	\$853,910.23	\$0.18	\$8,539.10	\$0.00	0.00	0.97	0.000	0.000	0.000	0.000	Vegetation on Roof
Room Cool	Infiltration Reduction	Hospital	Discretionary	194.1	0.09	0.00	0.0	0.0	0.0	0.0	0	10	\$3,137.02	\$3,137.02	\$0.21	\$0.00	\$0.00	0.16	0.97	0.000	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)
Room Cool</																								



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Hospital	Lost Opportunity	95,906.0	0.20	38.58	0.0	0.0	0.0	0.0	0.0	0	30	\$9,951.58	\$9,951.58	\$0.18	\$0.00	\$0.00	36.17	0.96	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Code	Hospital	Discretionary	89,247.9	0.19	35.90	0.0	0.0	0.0	0.0	0	30	\$68,288.33	\$68,288.33	\$0.21	\$0.00	\$0.00	4.91	0.96	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)	
Room Heat - Electric	Windows - CBES 2015 - Above Code	Hospital	Discretionary	8,246.0	0.02	3.32	0.0	0.0	0.0	0.0	0	20	\$18,550.74	\$18,550.74	\$0.21	\$0.00	\$0.00	1.11	0.96	0.000	0.000	0.000	0.000	U-0.29	
Room Heat - Electric	Windows - CBES 2015 - Above Code	Hospital	Lost Opportunity	8,246.0	0.02	3.32	0.0	0.0	0.0	0.0	0	20	\$18,550.74	\$18,550.74	\$0.18	\$0.00	\$0.00	1.11	0.96	0.000	0.000	0.000	0.000	U-0.29	
Room Heat - Electric	Windows - CBES 2015 - Code	Hospital	Discretionary	18,828.0	0.04	7.57	0.0	0.0	0.0	0.0	0	20	\$122,502.18	\$122,502.18	\$0.21	\$0.00	\$0.00	0.38	0.96	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Servers	Internal Power Supply / Server	Hospital	Discretionary	491.0	0.07	0.04	0.0	0.0	0.0	0.0	0	4	\$143.57	\$143.57	\$0.21	\$0.00	\$0.00	2.22	1.00	1.831	2.323	1.872	1.872	80 Plus power supply for Desktop Derived Server	
Servers	Internal Power Supply / Server	Hospital	Lost Opportunity	491.0	0.07	0.04	0.0	0.0	0.0	0.0	0	4	\$143.57	\$143.57	\$0.18	\$0.00	\$0.00	2.22	1.00	0.158	0.205	0.165	0.165	80 Plus power supply for Desktop Derived Server	
Servers	Server - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.11	\$0.11	\$0.21	\$0.00	\$0.00	0.32	1.00	26.157	0.000	0.000	0.000	ENERGY STAR Server	
Servers	Server - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.11	\$0.11	\$0.18	\$0.00	\$0.00	0.32	1.00	2.600	0.000	0.000	0.000	ENERGY STAR Server	
Space Heat - Electric	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Hospital	Discretionary	570,776.2	1.21	229.60	0.0	0.0	0.0	0.0	0	15	\$51,641.76	\$51,641.76	\$0.21	\$0.00	\$0.00	20.68	0.96	0.000	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)	
Space Heat - Electric	Commissioning	Hospital	Lost Opportunity	843,192.1	1.79	339.18	0.0	0.0	0.0	0.0	0	5	\$239,617.77	\$239,617.77	\$0.18	\$0.00	\$0.00	2.19	0.96	0.000	0.000	0.000	0.000	Commissioning	
Space Heat - Electric	Convert Constant Volume Air System to VAV	Hospital	Discretionary	1,703,832.3	3.61	685.38	0.0	0.0	0.0	0.0	0	15	\$502,134.97	\$502,134.97	\$0.21	\$0.00	\$0.00	6.35	0.96	0.000	0.000	0.000	0.000	Variable Volume Air System	
Space Heat - Electric	Direct Digital Control System-Installation	Hospital	Discretionary	972,914.0	2.06	391.36	0.0	0.0	0.0	0.0	0	5	\$64,552.20	\$64,552.20	\$0.21	\$0.00	\$0.00	9.37	0.96	0.000	0.000	0.000	0.000	Installation of EMS System	
Space Heat - Electric	Direct Digital Control System-Installation	Hospital	Lost Opportunity	972,914.0	2.06	391.36	0.0	0.0	0.0	0.0	0	5	\$64,552.20	\$64,552.20	\$0.18	\$0.00	\$0.00	9.37	0.96	0.000	0.000	0.000	0.000	Installation of EMS System	
Space Heat - Electric	Duct Repair and Sealing	Hospital	Discretionary	564,008.1	1.19	226.88	0.0	0.0	0.0	0.0	0	18	\$49,576.09	\$49,576.09	\$0.21	\$0.00	\$0.00	25.48	0.96	0.000	0.000	0.000	0.000	Reduction In Duct Losses to 5 %	
Space Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Hospital	Discretionary	972,914.0	2.06	391.36	0.0	0.0	0.0	0.0	0	14	\$403,489.61	\$403,489.61	\$0.21	\$0.00	\$0.00	4.22	0.96	0.000	0.000	0.000	0.000	Exhaust Air to Ventilation Air Heat Recovery	
Space Heat - Electric	Indirect Information Feedback	Hospital	Discretionary	33,748.8	0.07	13.58	0.0	0.0	0.0	0.0	0	2	\$112,292.84	\$112,292.84	\$0.21	\$0.00	\$0.00	0.07	0.96	0.000	0.000	0.000	0.000	Indirect Information Feedback	
Space Heat - Electric	Indirect Information Feedback	Hospital	Lost Opportunity	33,748.8	0.07	13.58	0.0	0.0	0.0	0.0	0	2	\$112,292.84	\$112,292.84	\$0.18	\$0.00	\$0.00	0.07	0.96	0.000	0.000	0.000	0.000	Indirect Information Feedback	
Space Heat - Electric	Infiltration Reduction	Hospital	Discretionary	648,609.3	1.37	260.91	0.0	0.0	0.0	0.0	0	10	\$3,137.02	\$3,137.02	\$0.21	\$0.00	\$0.00	260.27	0.96	0.000	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Hospital	Discretionary	345,159.3	0.73	138.84	0.0	0.0	0.0	0.0	0	30	\$9,606.49	\$9,606.49	\$0.21	\$0.00	\$0.00	134.86	0.96	0.000	0.000	0.000	0.000	R-35 c.i.	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Hospital	Lost Opportunity	345,159.3	0.73	138.84	0.0	0.0	0.0	0.0	0	30	\$9,606.49	\$9,606.49	\$0.18	\$0.00	\$0.00	134.86	0.96	0.000	0.000	0.000	0.000	R-35 c.i.	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Hospital	Discretionary	908,578.6	1.92	365.48	0.0	0.0	0.0	0.0	0	30	\$43,834.06	\$43,834.06	\$0.21	\$0.00	\$0.00	77.80	0.96	0.000	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Hospital	Discretionary	233,499.4	0.49	93.93	0.0	0.0	0.0	0.0	0	20	\$2,801.57	\$2,801.57	\$0.21	\$0.00	\$0.00	207.29	0.96	0.000	0.000	0.000	0.000	R-12	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Hospital	Lost Opportunity	233,499.4	0.49	93.93	0.0	0.0	0.0	0.0	0	20	\$2,801.57	\$2,801.57	\$0.18	\$0.00	\$0.00	207.29	0.96	0.000	0.000	0.000	0.000	R-12	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Code	Hospital	Discretionary	233,499.4	0.49	93.93	0.0	0.0	0.0	0.0	0	20	\$11,283.72	\$11,283.72	\$0.21	\$0.00	\$0.00	51.47	0.96	0.000	0.000	0.000	0.000	R-8 (CBES 2015 Code)	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Hospital	Discretionary	508,655.8	1.08	204.61	0.0	0.0	0.0	0.0	0	30	\$17,078.20	\$17,078.20	\$0.21	\$0.00	\$0.00	111.79	0.96	0.000	0.000	0.000	0.000	R-38	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Hospital	Lost Opportunity	508,655.8	1.08	204.61	0.0	0.0	0.0	0.0	0	30	\$17,078.20	\$17,078.20	\$0.18	\$0.00	\$0.00	111.79	0.96	0.000	0.000	0.000	0.000	R-38	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Hospital	Discretionary	885,908.8	1.88	356.36	0.0	0.0	0.0	0.0	0	30	\$48,957.52	\$48,957.52	\$0.21	\$0.00	\$0.00	67.92	0.96	0.000	0.000	0.000	0.000	R-30 (CBES 2015 Code)	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Hospital	Discretionary	416,271.0	0.88	167.45	0.0	0.0	0.0	0.0	0	30	\$9,951.58	\$9,951.58	\$0.21	\$0.00	\$0.00	157.01	0.96	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Hospital	Lost Opportunity	416,271.0	0.88	167.45	0.0	0.0	0.0	0.0	0	30	\$9,951.58	\$9,951.58	\$0.18	\$0.00	\$0.00	157.01	0.96	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Code	Hospital	Discretionary	387,372.4	0.82	155.82	0.0	0.0	0.0	0.0	0	30	\$68,288.33	\$68,288.33	\$0.21	\$0.00	\$0.00	21.29	0.96	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)	
Space Heat - Electric	Programmable Thermostat	Hospital	Discretionary	259,443.7	0.55	104.36	0.0	0.0	0.0	0.0	0	11	\$187.07	\$187.07	\$0.21	\$0.00	\$0.00	1916.71	0.96	0.000	0.000	0.000	0.000	Programmable Thermostat	
Space Heat - Electric	Re-Commissioning	Hospital	Discretionary	843,192.1	1.79	339.18	0.0	0.0	0.0	0.0	0	5	\$61,970.11	\$61,970.11	\$0.21	\$0.00	\$0.00	8.46	0.96	0.000	0.000	0.000	0.000	Re-Commissioning	
Space Heat - Electric	Retrocommissioning	Hospital	Discretionary	962,103.9	2.04	387.01	0.0	0.0	0.0	0.0	0	5	\$103,283.52	\$103,283.52	\$0.21	\$0.00	\$0.00	5.79	0.96	0.000	0.000	0.000	0.000	Retrocommissioning	
Space Heat - Electric	Strategic Energy Management (SEM)	Hospital	Discretionary	265,929.8	0.56	106.97	0.0	0.0	0.0	0.0	0	5	\$35,837.97	\$35,837.97	\$0.21	\$0.00	\$0.00	4.61	0.96	0.000	0.000	0.000	0.000	Identify Operations and Maintenance Improvements through Strategic Energy Man	
Space Heat - Electric	Strategic Energy Management (SEM)	Hospital	Lost Opportunity	265,929.8	0.56	106.97	0.0	0.0	0.0	0.0	0	5	\$35,837.97	\$35,837.97	\$0.18	\$0.00	\$0.00	4.61	0.96	0.000	0.000	0.000	0.000	Identify Operations and Maintenance Improvements through Strategic Energy Man	
Space Heat - Electric	Wi-Fi Thermostat	Hospital	Discretionary	259,443.7	0.55	104.36	0.0	0.0	0.0	0.0	0	11	\$1,490.16	\$1,490.16	\$0.21	\$0.00	\$0.00	240.61	0.96	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)	
Space Heat - Electric	Windows - CBES 2015 - Above Code	Hospital	Discretionary	35,790.8	0.08	14.40	0.0	0.0	0.0	0.0	0	20	\$18,550.74	\$18,550.74	\$0.21	\$0.00	\$0.00	4.80	0.96	0.000	0.000	0.000	0.000	U-0.29	
Space Heat - Electric	Windows - CBES 2015 - Above Code	Hospital	Lost Opportunity	35,790.8	0.08	14.40	0.0	0.0	0.0	0.0	0	20	\$18,550.74	\$18,550.74	\$0.18	\$0.00	\$0.00	4.80	0.96	0.000	0.000	0.000	0.000	U-0.29	
Space Heat - Electric	Windows - CBES 2015 - Code	Hospital	Discretionary	81,721.2	0.17	32.87	0.0	0.0	0.0	0.0	0	20	\$122,502.18	\$122,502.18	\$0.21	\$0.00	\$0.00	1.66	0.96	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Vending Machines	Vending Machines - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Vending Machines - 3.84 kWh/day	
Vending Machines	Vending Machines - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Vending Machines - 3.84 kWh/day	
Vending Machines	Vending Machines - Federal Standard 2020	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.235	0.000	0.000	0.000	0.000	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Machines - Federal Standard 2020	Hospital	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.013	0.000	0.000	0.000	0.000	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Miser	Hospital	Discretionary	1,444.1	0.16	0.16	0.0	0.0	0.0	0.0	0	5	\$228.96	\$228.96	\$0.21	\$0.00	\$0.00	4.84	1.00	5.330	5.346	4.309	4.309	Vending Machine Occupancy Sensor	
Vending Machines	Vending Miser	Hospital	Lost Opportunity	1,442.8	0.16	0.16	0.0	0.0	0.0	0.0	0	5	\$228.96	\$228.96	\$0.18	\$0.00	\$0.00	4.84	1.00	0.535	0.536	0.432	0.432	Vending Machine Occupancy Sensor	
Ventilation And Circulation	Automated Exhaust VFD Control - Parking Garage CO sensor	Hospital	Discretionary	38,755.2	4.43	4.78	0.0	0.0	0.0	0.0	0	5	\$5,640.66	\$5,640.66	\$0.21	\$0.00	\$0.00	5.31	0.97	33.078	33.078	28.701	28.701	CO Sensors	
Ventilation And Circulation	Boiler Draft Fan - VFD	Hospital	Discretionary	36,723.0	4.20	4.53	0.0	0.0	0.0	0.0	0	15	\$19,759.05	\$19,759.05	\$0.21	\$0.00	\$0.00	4.47	0.97	59.039	59.039	51.228	51.228	VFD Boiler Draft Fan	
Ventilation And Circulation	Boiler Draft Fan - VFD	Hospital	Lost Opportunity	36,723.0	4.20	4.53	0.0	0.0	0.0	0.0	0	15	\$19,759												

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	Hospital	Discretionary	547.2	0.00	0.22	0.0	0.0	0.0	0.0	0.0	0	20	\$64.44	\$64.44	\$0.21	\$0.00	\$0.00	21.12	1.00	0.011	0.016	0.011	0.011	R-3
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Hospital	Discretionary	10,030.5	0.02	4.03	0.0	0.0	0.0	0.0	741	9	\$413.13	\$413.13	\$0.21	\$0.00	\$0.00	43.07	1.00	0.681	1.033	0.672	0.672	0.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Hospital	Lost Opportunity	10,030.5	0.02	4.03	0.0	0.0	0.0	0.0	741	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.051	0.000	0.000	0.000	0.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Hospital	Discretionary	7,080.3	0.01	2.85	0.0	0.0	0.0	0.0	523	9	\$413.13	\$413.13	\$0.21	\$0.00	\$0.00	30.40	1.00	0.000	0.000	0.000	0.000	1.0 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Hospital	Lost Opportunity	7,080.3	0.01	2.85	0.0	0.0	0.0	0.0	523	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	1.0 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Hospital	Discretionary	4,130.2	0.01	1.66	0.0	0.0	0.0	0.0	305	9	\$413.13	\$413.13	\$0.21	\$0.00	\$0.00	17.73	1.00	0.000	0.000	0.000	0.000	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Hospital	Lost Opportunity	4,130.2	0.01	1.66	0.0	0.0	0.0	0.0	305	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Hospital	Discretionary	1,770.1	0.00	0.71	0.0	0.0	0.0	0.0	115	9	\$413.13	\$413.13	\$0.21	\$0.00	\$0.00	7.27	1.00	0.045	0.068	0.044	0.044	2.2 GPM (Federal Code)	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Hospital	Discretionary	67.6	0.00	0.03	0.0	0.0	0.0	0.0	13	5	\$12.82	\$12.82	\$0.21	\$0.00	\$0.00	8.41	1.00	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Hospital	Lost Opportunity	67.6	0.00	0.03	0.0	0.0	0.0	0.0	13	5	\$12.82	\$12.82	\$0.18	\$0.00	\$0.00	8.41	1.00	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Hospital	Discretionary	111.9	0.00	0.05	0.0	0.0	0.0	0.0	21	5	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.007	0.000	0.000	0.000	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Hospital	Lost Opportunity	111.9	0.00	0.05	0.0	0.0	0.0	0.0	21	5	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Hospital	Discretionary	179.5	0.00	0.07	0.0	0.0	0.0	0.0	34	5	\$12.82	\$12.82	\$0.21	\$0.00	\$0.00	22.34	1.00	0.000	0.000	0.000	0.000	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Hospital	Lost Opportunity	179.5	0.00	0.07	0.0	0.0	0.0	0.0	34	5	\$12.82	\$12.82	\$0.18	\$0.00	\$0.00	22.34	1.00	0.000	0.000	0.000	0.000	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Hospital	Discretionary	3,833.4	0.01	1.54	0.0	0.0	0.0	0.0	451	9	\$309.85	\$309.85	\$0.21	\$0.00	\$0.00	26.63	1.00	0.247	0.375	0.244	0.244	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Hospital	Lost Opportunity	3,833.4	0.01	1.54	0.0	0.0	0.0	0.0	451	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.019	0.000	0.000	0.000	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Hospital	Discretionary	2,875.1	0.01	1.16	0.0	0.0	0.0	0.0	338	9	\$309.85	\$309.85	\$0.21	\$0.00	\$0.00	19.97	1.00	0.000	0.000	0.000	0.000	1.75 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Hospital	Lost Opportunity	2,875.1	0.01	1.16	0.0	0.0	0.0	0.0	338	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	1.75 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Hospital	Discretionary	1,916.7	0.00	0.77	0.0	0.0	0.0	0.0	225	9	\$309.85	\$309.85	\$0.21	\$0.00	\$0.00	13.31	1.00	0.000	0.000	0.000	0.000	2.0 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Hospital	Lost Opportunity	1,916.7	0.00	0.77	0.0	0.0	0.0	0.0	225	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	2.0 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Hospital	Discretionary	1,916.7	0.00	0.77	0.0	0.0	0.0	0.0	225	9	\$309.85	\$309.85	\$0.21	\$0.00	\$0.00	13.31	1.00	0.046	0.070	0.046	0.046	2.5 GPM (Federal Code)	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Hospital	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$2.67	\$2.67	\$0.21	\$0.99	\$0.00	0.04	1.00	2.912	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Hospital	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$2.67	\$2.67	\$0.18	\$0.99	\$0.00	0.04	1.00	0.285	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Hospital	Discretionary	6,490.3	0.01	2.61	0.0	0.0	0.0	0.0	0	20	\$7,244.72	\$7,244.72	\$0.21	\$0.00	\$0.00	2.23	1.00	0.419	0.635	0.413	0.413	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Hospital	Lost Opportunity	6,490.3	0.01	2.61	0.0	0.0	0.0	0.0	0	20	\$7,244.72	\$7,244.72	\$0.18	\$0.00	\$0.00	2.23	1.00	0.031	0.051	0.033	0.033	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Hospital	Discretionary	28,136.0	0.06	11.32	0.0	0.0	0.0	0.0	0	10	\$15,812.67	\$15,812.67	\$0.21	\$0.00	\$0.00	2.24	1.00	0.048	0.072	0.047	0.047	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End U	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Hospital	Lost Opportunity	28,136.0	0.06	11.32	0.0	0.0	0.0	0.0	0	10	\$15,812.67	\$15,812.67	\$0.18	\$0.00	\$0.00	2.24	1.00	0.004	0.006	0.004	0.004	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End U	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Hospital	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.65	\$0.65	\$0.21	\$0.00	\$0.00	0.41	1.00	4.803	0.000	0.000	0.000	CO2 Heat Pump Water Heater	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Hospital	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.65	\$0.65	\$0.18	\$0.00	\$0.00	0.41	1.00	0.473	0.000	0.000	0.000	CO2 Heat Pump Water Heater	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Hospital	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.13	\$0.13	\$0.21	\$0.00	\$0.00	0.62	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Hospital	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.13	\$0.13	\$0.18	\$0.00	\$0.00	0.62	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Hospital	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.52	\$0.52	\$0.21	\$0.00	\$0.00	0.44	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Hospital	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.52	\$0.52	\$0.18	\$0.00	\$0.00	0.44	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Hospital	Discretionary	39,390.4	0.08	15.85	0.0	0.0	0.0	0.0	0	4	\$1.18	\$1.18	\$0.21	\$0.00	\$0.00	16503.92	1.00	2.542	3.853	2.506	2.506	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Hospital	Lost Opportunity	39,390.4	0.08	15.85	0.0	0.0	0.0	0.0	0	4	\$1.18	\$1.18	\$0.18	\$0.00	\$0.00	16503.92	1.00	0.190	0.311	0.202	0.202	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Tank Wrap	Hospital	Discretionary	79,253.7	0.17	31.88	0.0	0.0	0.0	0.0	0	7	\$4,902.90	\$4,902.90	\$0.21	\$0.00	\$0.00	14.21	1.00	3.740	5.668	3.686	3.686	Add R-10 Tank Wrap	
Water Heat LE 55 Gal	Clothes Washer - Ozonating	Hospital	Discretionary	2,601.1	0.01	1.05	0.0	0.0	0.0	0.0	1	10	\$14,482.10	\$14,482.10	\$0.21	\$0.00	\$0.00	0.23	1.00	0.010	0.000	0.000	0.000	Ozonating Clothes Washer	
Water Heat LE 55 Gal	Clothes Washer - Ozonating	Hospital	Lost Opportunity	2,601.1	0.01	1.05	0.0	0.0	0.0	0.0	1	10	\$14,482.10	\$14,482.10	\$0.18	\$0.00	\$0.00	0.23	1.00	0.001	0.000	0.000	0.000	Ozonating Clothes Washer	
Water Heat LE 55 Gal	Clothes Washer Commercial	Hospital	Discretionary	328.2	0.00	0.13	0.0	0.0	0.0	0.0	1	14	\$295.05	\$295.05	\$0.21	\$0.00	\$0.00	1.99	1.00	0.007	0.020	0.013	0.013	ENERGY STAR Commercial Clothes Washer - MEF = 2.43, WF = 4.0	
Water Heat LE 55 Gal	Clothes Washer Commercial	Hospital	Lost Opportunity	328.2	0.00	0.13	0.0	0.0	0.0	0.0	1	14	\$295.05	\$295.05	\$0.18	\$0.00	\$0.00	1.99	1.00	0.000	0.002	0.001	0.001	ENERGY STAR Commercial Clothes Washer - MEF = 2.43, WF = 4.0	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Hospital	Discretionary	70.8	0.00	0.03	0.0	0.0	0.0	0.0	6	13	\$78.96	\$78.96	\$0.21	\$0.00	\$0.00	2.42	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Hospital	Lost Opportunity	70.8	0.00	0.03	0.0	0.0	0.0	0.0	6	13	\$78.96	\$78.96	\$0.18	\$0.00	\$0.00	2.42	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Hospital	Discretionary	156.9	0.00	0.06	0.0	0.0	0.0	0.0	9	13	\$146.00	\$146.00	\$0.21	\$0.00	\$0.00	2.44	1.00	0.040	0.095	0.062	0.062	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Hospital	Lost Opportunity	156.9	0.00	0.06	0.0	0.0	0.0	0.0	9	13	\$146.00	\$146.00	\$0.18	\$0.00	\$0.00	2.44	1.00	0.003	0.008	0.005	0.005	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Hospital	Discretionary	85.7	0.00	0.03	0.0	0.0	0.0	0.0	4	14	\$13.18	\$13.18	\$0.21	\$0.00	\$0.00	14.75	1.00	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Hospital	Lost Opportunity	85.7	0.00	0.03	0.0	0.0	0.0	0.0	4	14	\$13.18	\$13.18	\$0.18	\$0.00	\$0.00	14.75	1.00	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Hospital	Discretionary	135.0	0.00	0.05	0.0	0.0	0.0	0.0	10	14	\$5.38	\$5.38	\$0.21	\$0.00	\$0.00	67.69	1.00	0.007	0.016	0.011	0.011	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR	
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Hospital	Lost Opportunity	135.0	0.00	0.05	0.0	0.0	0.0	0.0	10	14	\$5.38	\$5.38	\$0.18	\$0.00	\$0.00	67.69	1.00	0.000	0.000	0.001	0.001	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR	
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Hospital	Discretionary	5,521.8	0.01	2.22	0.0	0.0	0.0	0.0	0	13	\$1,263.78	\$1,263.78	\$0.21	\$0.00	\$0.00	7.11	1.00	1.629	3.909	2.542	2.542	1.0" of Insulation, assuming R-4 (Code)	
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Hospital	Discretionary	42,564.0	0.09	17.12	0.0	0.0	0.0	0.0	0	25	\$125,139												

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Hospital	Lost Opportunity	0.9	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$3.64	\$3.64	\$0.18	\$0.03	\$0.00	0.28	1.00	15.776	0.000	0.000	0.000	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Hospital	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$2.34	\$2.34	\$0.21	\$0.03	\$0.00	0.32	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Hospital	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$2.34	\$2.34	\$0.18	\$0.03	\$0.00	0.32	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Hospital	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$2.60	\$2.60	\$0.21	\$0.03	\$0.00	0.32	1.00	0.000	0.000	0.000	0.000	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Hospital	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$2.60	\$2.60	\$0.18	\$0.03	\$0.00	0.32	1.00	0.000	0.000	0.000	0.000	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Hospital	Lost Opportunity	0.8	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$3.38	\$3.38	\$0.21	\$0.03	\$0.00	0.29	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Hospital	Lost Opportunity	0.8	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$3.38	\$3.38	\$0.18	\$0.03	\$0.00	0.29	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Hospital	Discretionary	37,012.1	0.08	14.89	0.0	0.0	0.0	0.0	0	4	\$1.18	\$1.18	\$0.21	\$0.00	\$0.00	15507.46	1.00	17.789	42.678	27.753	27.753	Set Water Heater to 120F	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Hospital	Lost Opportunity	37,012.1	0.08	14.89	0.0	0.0	0.0	0.0	0	4	\$1.18	\$1.18	\$0.18	\$0.00	\$0.00	15507.46	1.00	1.175	3.712	2.414	2.414	Set Water Heater to 120F	
Water Heat LE 55 Gal	Water Heater Tank Wrap	Hospital	Discretionary	74,468.5	0.16	29.96	0.0	0.0	0.0	0.0	0	7	\$4,902.90	\$4,902.90	\$0.21	\$0.00	\$0.00	13.35	1.00	26.067	62.538	40.667	40.667	Add R-10 Tank Wrap	
Compressed Air	Compressed Air Controller - Pressure/Flow Controller	Large Office	Discretionary	481.0	0.05	0.05	0.0	0.0	0.0	0.0	0	15	\$409.27	\$409.27	\$0.21	\$0.00	\$0.00	2.81	0.99	1.977	1.977	1.577	1.577	Compressed Air Pressure/Flow Controller	
Compressed Air	Compressed Air Controller - Pressure/Flow Controller	Large Office	Lost Opportunity	481.0	0.05	0.05	0.0	0.0	0.0	0.0	0	15	\$409.27	\$409.27	\$0.18	\$0.00	\$0.00	2.81	0.99	0.172	0.172	0.137	0.137	Compressed Air Pressure/Flow Controller	
Compressed Air	Compressed Air Heat Recovery	Large Office	Discretionary	4,569.0	0.52	0.52	0.0	0.0	0.0	0.0	0	15	\$27,766.69	\$27,766.69	\$0.21	\$0.00	\$0.00	0.39	0.99	26.001	0.000	0.000	0.000	Compressed Air Heat Recovery	
Compressed Air	Compressed Air Heat Recovery	Large Office	Lost Opportunity	4,569.0	0.52	0.52	0.0	0.0	0.0	0.0	0	15	\$27,766.69	\$27,766.69	\$0.18	\$0.00	\$0.00	0.39	0.99	2.259	0.000	0.000	0.000	Compressed Air Heat Recovery	
Compressed Air	Compressed Air System Leakage Reduction	Large Office	Discretionary	2,086.1	0.24	0.24	0.0	0.0	0.0	0.0	0	2	\$707.00	\$707.00	\$0.21	\$0.00	\$0.00	0.86	0.99	8.574	0.000	0.000	0.000	Compressed Air System Leak Survey and Repair	
Compressed Air	Compressed Air System Leakage Reduction	Large Office	Lost Opportunity	2,086.1	0.24	0.24	0.0	0.0	0.0	0.0	0	2	\$707.00	\$707.00	\$0.18	\$0.00	\$0.00	0.86	0.99	0.745	0.000	0.000	0.000	Compressed Air System Leak Survey and Repair	
Compressed Air	Cycling Dryers	Large Office	Discretionary	8,286.8	0.95	0.95	0.0	0.0	0.0	0.0	0	10	\$1,248.43	\$1,248.43	\$0.21	\$0.00	\$0.00	10.48	0.99	49.924	49.924	39.831	39.831	Cycling Dryer	
Compressed Air	Cycling Dryers	Large Office	Lost Opportunity	8,286.8	0.95	0.95	0.0	0.0	0.0	0.0	0	10	\$1,248.43	\$1,248.43	\$0.18	\$0.00	\$0.00	10.48	0.99	4.338	4.338	3.461	3.461	Cycling Dryer	
Compressed Air	Engineered Nozzles	Large Office	Discretionary	738.5	0.08	0.08	0.0	0.0	0.0	0.0	0	10	\$18.96	\$18.96	\$0.21	\$0.00	\$0.00	61.48	0.99	0.642	0.642	0.512	0.512	Compressed Air Engineered Nozzle	
Compressed Air	Engineered Nozzles	Large Office	Lost Opportunity	738.5	0.08	0.08	0.0	0.0	0.0	0.0	0	10	\$18.96	\$18.96	\$0.18	\$0.00	\$0.00	61.48	0.99	0.056	0.056	0.045	0.045	Compressed Air Engineered Nozzle	
Compressed Air	Mist Eliminators	Large Office	Discretionary	6,916.5	0.79	0.79	0.0	0.0	0.0	0.0	0	15	\$9,199.38	\$9,199.38	\$0.21	\$0.00	\$0.00	1.80	0.99	6.013	6.013	4.798	4.798	Mist Eliminator Filter	
Compressed Air	Mist Eliminators	Large Office	Lost Opportunity	6,916.5	0.79	0.79	0.0	0.0	0.0	0.0	0	15	\$9,199.38	\$9,199.38	\$0.18	\$0.00	\$0.00	1.80	0.99	0.523	0.523	0.417	0.417	Mist Eliminator Filter	
Compressed Air	No Air Loss Drain	Large Office	Discretionary	4,266.7	0.49	0.49	0.0	0.0	0.0	0.0	0	5	\$541.62	\$541.62	\$0.21	\$0.00	\$0.00	6.05	0.99	2.698	2.698	2.152	2.152	No Air Loss Drain	
Compressed Air	No Air Loss Drain	Large Office	Lost Opportunity	4,266.7	0.49	0.49	0.0	0.0	0.0	0.0	0	5	\$541.62	\$541.62	\$0.18	\$0.00	\$0.00	6.05	0.99	0.000	0.000	0.000	0.000	No Air Loss Drain	
Compressed Air	VFD Air Compressor Upgrade	Large Office	Discretionary	8,909.7	1.02	1.02	0.0	0.0	0.0	0.0	0	10	\$7,355.17	\$7,355.17	\$0.21	\$0.00	\$0.00	1.91	0.99	5.634	5.634	4.495	4.495	VFD Compressor Upgrade	
Compressed Air	VFD Air Compressor Upgrade	Large Office	Lost Opportunity	8,909.7	1.02	1.02	0.0	0.0	0.0	0.0	0	10	\$7,355.17	\$7,355.17	\$0.18	\$0.00	\$0.00	1.91	0.99	0.490	0.490	0.391	0.391	VFD Compressor Upgrade	
Computers	Computer - ENERGY STAR	Large Office	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	1676.817	0.000	0.000	0.000	ENERGY STAR Computer	
Computers	Computer - ENERGY STAR	Large Office	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	125.903	0.000	0.000	0.000	ENERGY STAR Computer	
Computers	Network PC Power Management	Large Office	Discretionary	4,162.4	0.60	0.38	0.0	0.0	0.0	0.0	0	5	\$509.00	\$509.00	\$0.21	\$116.76	\$0.00	3.27	1.00	582.884	1023.386	824.730	824.730	Network PC Power Management	
Computers	Network PC Power Management	Large Office	Lost Opportunity	4,162.4	0.60	0.38	0.0	0.0	0.0	0.0	0	5	\$509.00	\$509.00	\$0.18	\$116.76	\$0.00	3.27	1.00	56.880	100.017	80.602	80.602	Network PC Power Management	
Cooling Chillers	Active Chilled Beam Cooling with DOAS	Large Office	Lost Opportunity	919.3	0.31	0.00	0.0	0.0	0.0	0.0	0	15	-\$22,711.00	\$0.00	\$0.18	\$17,033.25	\$0.00	0.02	1.00	4.101	0.000	0.000	0.000	Active Chilled Beam Cooling with DOAS	
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Large Office	Discretionary	478.0	0.16	0.00	81.1	25.7	0.0	0.0	0	15	\$5,677.75	\$5,677.75	\$0.21	\$0.00	\$0.00	0.79	1.00	23.681	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)	
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Large Office	Discretionary	850.3	0.29	0.00	0.0	0.0	0.0	0.0	0	15	\$26,344.76	\$26,344.76	\$0.21	\$0.00	\$0.00	0.11	1.00	13.981	0.000	0.000	0.000	Additional Control Features	
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Large Office	Lost Opportunity	850.3	0.29	0.00	0.0	0.0	0.0	0.0	0	15	\$26,344.76	\$26,344.76	\$0.18	\$0.00	\$0.00	0.11	1.00	0.988	0.000	0.000	0.000	Additional Control Features	
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Large Office	Discretionary	514.9	0.18	0.00	0.0	0.0	0.0	0.0	0	10	\$17,860.94	\$17,860.94	\$0.21	\$0.00	\$0.00	0.07	1.00	5.911	0.000	0.000	0.000	VSD for Secondary Chilled Water Loop	
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Large Office	Lost Opportunity	514.9	0.18	0.00	0.0	0.0	0.0	0.0	0	10	\$16,074.85	\$16,074.85	\$0.18	\$0.00	\$0.00	0.07	1.00	0.755	0.000	0.000	0.000	VSD for Secondary Chilled Water Loop	
Cooling Chillers	Chilled Water Reset	Large Office	Discretionary	229.8	0.08	0.00	0.0	0.0	0.0	0.0	0	10	\$15,473.91	\$15,473.91	\$0.21	\$0.00	\$0.00	0.03	1.00	6.721	0.000	0.000	0.000	Chilled Water Temperature Reset	
Cooling Chillers	Chilled Water Reset	Large Office	Lost Opportunity	229.8	0.08	0.00	0.0	0.0	0.0	0.0	0	10	\$15,473.91	\$15,473.91	\$0.18	\$0.00	\$0.00	0.03	1.00	0.000	0.000	0.000	0.000	Chilled Water Temperature Reset	
Cooling Chillers	Chilled Water Side Economizer	Large Office	Discretionary	1,287.8	0.44	0.00	0.0	0.0	0.0	0.0	0	15	\$118,304.84	\$118,304.84	\$0.21	\$0.00	\$0.00	0.04	1.00	27.216	0.000	0.000	0.000	0.000	Install Economizer
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Large Office	Discretionary	405.0	0.14	0.00	0.0	0.0	0.0	0.0	0	15	\$728.11	\$728.11	\$0.21	\$0.00	\$0.00	1.95	1.00	28.214	32.269	25.961	25.961	2.0" of Insulation, assuming R-8	
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Large Office	Lost Opportunity	405.0	0.14	0.00	0.0	0.0	0.0	0.0	0	15	\$728.11	\$728.11	\$0.18	\$0.00	\$0.00	1.95	1.00	2.792	3.326	2.676	2.676	2.0" of Insulation, assuming R-8	
Cooling Chillers	Chiller - Pipe Insulation - Code	Large Office	Discretionary	676.3	0.23	0.00	0.0	0.0	0.0	0.0	0	15	\$1,561.38	\$1,561.38	\$0.21	\$0.00	\$0.00	1.52	1.00	52.314	59.833	48.136	48.136	1.0" of Insulation, assuming R-4 (Code)	
Cooling Chillers	Chillers > 300 tons (centrifugal) - High Efficiency (Water Cooled)	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.04	\$0.04	\$0.21	\$0.00	\$0.00	0.41	1.00	0.000	0.000	0.000	0.000	High Efficiency - 0.55 kW/ton (full load); 0.51 kW/ton (IPLV)	
Cooling Chillers	Chillers > 300 tons (centrifugal) - High Efficiency (Water Cooled)	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.04	\$0.04	\$0.18	\$0.00	\$0.00	0.45	1.00	0.000	0.000	0.000	0.000	High Efficiency - 0.55 kW/ton (full load); 0.51 kW/ton (IPLV)	
Cooling Chillers	Chillers > 300 tons (centrifugal) - Premium Efficiency (Water Cooled)	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.17	\$0.17	\$0.21	\$0.00	\$0.00	0.41	1.00	0.000	0.000	0.000	0.000	Premium Efficiency- 0.52 kW/ton (full load); 0.48 kW/ton (IPLV)	
Cooling Chillers	Chillers > 300 tons (centrifugal) - Premium Efficiency (Water Cooled)	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.15	\$0.15	\$0.18	\$0.00	\$0.00	0.45	1.00	0.000	0.000	0.000	0.000	Premium Efficiency- 0.52 kW/ton (full load); 0.48 kW/ton (IPLV)	
Cooling Chillers	Chillers > 300 tons (centrifugal) with VSD - Advanced Efficiency (Water Cooled)	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.38	\$0.38	\$0.21	\$0.00	\$0.00	0.41	1.00	41.253	0.000	0.000	0.000	Advanced Efficiency - 0.47 kW/ton w/VSD (full load); 0.44 kW/ton (IPLV)	
Cooling Chillers	Chillers > 300 tons (centrifugal) with VSD - Advanced Efficiency (Water Cooled)	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.34	\$0.34	\$0.18	\$0.00	\$0.00	0.45	1.00	4.653	0.000	0.000	0.000	Advanced Efficiency - 0.47 kW/ton w/VSD (full load); 0.44 kW/ton (IPLV)	
Cooling Chillers	Commissioning	Large Office	Lost Opportunity	597.5	0.20	0.00	119.9	32.9	0.0	0.0	0	5	\$26,344.76	\$26,344.76	\$0.18	\$0.00	\$0.00	0.08	1.00	3.999	0.000	0.000	0.000	Commissioning	
Cooling Chillers	Convert Constant Volume Air System to VAV	Large Office	Discretionary	1,207.5	0.41	0.00	242.2	76.8	0.0	0.0	0	15	\$82,810.79	\$82,810.79	\$0.21	\$0.00	\$0.00								



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Cooling Chillers	Windows - CBES 2015 - Above Code	Large Office	Lost Opportunity	35.1	0.01	0.00	7.0	2.4	0.0	0.0	0	20	\$7,930.74	\$7,930.74	\$0.18	\$0.00	\$0.00	0.06	1.00	0.179	0.000	0.000	0.000	U-0.29	
Cooling Chillers	Windows - CBES 2015 - Code	Large Office	Discretionary	80.1	0.03	0.00	16.5	5.6	0.0	0.0	0	20	\$52,371.65	\$52,371.65	\$0.21	\$0.00	\$0.00	0.02	1.00	0.785	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Cooling Dx Evap	Active Chilled Beam Cooling with DOAS	Large Office	Lost Opportunity	1,633.6	0.56	0.00	0.0	0.0	0.0	0.0	0	15	-\$22,711.00	\$0.00	\$0.18	\$17,033.25	\$0.00	0.03	1.00	2.909	0.000	0.000	0.000	Active Chilled Beam Cooling with DOAS	
Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units	Large Office	Discretionary	1,229.7	0.42	0.00	0.0	0.0	0.0	0.0	0	10	\$11,355.50	\$11,355.50	\$0.21	-\$8,175.96	\$0.00	999.00	1.00	75.270	101.537	81.688	81.688	Rooftop unit with automated fault detection and diagnostics capability	
Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units	Large Office	Lost Opportunity	1,229.7	0.42	0.00	0.0	0.0	0.0	0.0	0	10	\$9,084.40	\$9,084.40	\$0.18	-\$6,540.77	\$0.00	999.00	1.00	6.883	9.386	7.551	7.551	Rooftop unit with automated fault detection and diagnostics capability	
Cooling Dx Evap	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Large Office	Discretionary	849.4	0.29	0.00	98.7	24.7	0.0	0.0	0	15	\$5,677.75	\$5,677.75	\$0.21	\$0.00	\$0.00	1.11	1.00	34.353	46.341	37.282	37.282	Demand Controlled Ventilation (CO2 sensors)	
Cooling Dx Evap	Commissioning	Large Office	Lost Opportunity	1,061.8	0.36	0.00	162.1	35.1	0.0	0.0	0	5	\$26,344.76	\$26,344.76	\$0.18	\$0.00	\$0.00	0.11	1.00	2.761	0.000	0.000	0.000	Commissioning	
Cooling Dx Evap	Convert Constant Volume Air System to VAV	Large Office	Discretionary	2,145.6	0.73	0.00	294.8	73.8	0.0	0.0	0	15	\$82,810.79	\$82,810.79	\$0.21	\$0.00	\$0.00	0.21	1.00	6.624	0.000	0.000	0.000	Variable Volume Air System	
Cooling Dx Evap	DX Package 240 to 760 kBtuh - Federal Standard 2023	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.14	\$0.14	\$0.21	\$0.00	\$0.00	0.87	1.00	0.000	0.000	0.000	0.000	Federal Standard 2023 - 13.2 IEER	
Cooling Dx Evap	DX Package 240 to 760 kBtuh - Federal Standard 2023	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.12	\$0.12	\$0.18	\$0.00	\$0.00	1.09	1.00	0.000	2.667	2.146	2.146	Federal Standard 2023 - 13.2 IEER	
Cooling Dx Evap	DX Package 240 to 760 kBtuh - Premium Efficiency	Large Office	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.58	\$0.58	\$0.21	\$0.00	\$0.00	0.64	1.00	173.265	0.000	0.000	0.000	Premium Efficiency - 18.0 IEER	
Cooling Dx Evap	DX Package 240 to 760 kBtuh - Premium Efficiency	Large Office	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.46	\$0.46	\$0.18	\$0.00	\$0.00	0.80	1.00	8.060	0.000	0.000	0.000	Premium Efficiency - 18.0 IEER	
Cooling Dx Evap	DX Package-Air Side Economizer	Large Office	Discretionary	2,288.4	0.78	0.00	0.0	0.0	0.0	0.0	0	10	\$13,458.37	\$13,458.37	\$0.21	\$0.00	\$0.00	0.39	1.00	8.689	0.000	0.000	0.000	Air-Side Economizer	
Cooling Dx Evap	Direct Digital Control System-Installation	Large Office	Discretionary	1,225.2	0.42	0.00	168.3	36.4	0.0	0.0	0	5	\$7,097.19	\$7,097.19	\$0.21	\$0.00	\$0.00	0.44	1.00	40.814	0.000	0.000	0.000	Installation of EMS System	
Cooling Dx Evap	Direct Digital Control System-Installation	Large Office	Lost Opportunity	1,225.2	0.42	0.00	187.0	40.5	0.0	0.0	0	5	\$7,097.19	\$7,097.19	\$0.18	\$0.00	\$0.00	0.47	1.00	0.000	0.000	0.000	0.000	Installation of EMS System	
Cooling Dx Evap	Duct Repair and Sealing	Large Office	Discretionary	710.2	0.24	0.00	71.0	0.0	0.0	0.0	0	18	\$5,450.64	\$5,450.64	\$0.21	\$0.00	\$0.00	1.02	1.00	16.649	22.460	18.069	18.069	Reduction In Duct Losses to 5 %	
Cooling Dx Evap	Green Roof	Large Office	Discretionary	43.5	0.01	0.00	0.0	0.0	0.0	0.0	0	40	\$291,274.61	\$291,274.61	\$0.21	\$2,912.75	\$0.00	0.00	1.00	0.856	0.000	0.000	0.000	Vegetation on Roof	
Cooling Dx Evap	Green Roof	Large Office	Lost Opportunity	35.8	0.01	0.00	0.0	0.0	0.0	0.0	0	40	\$291,274.61	\$291,274.61	\$0.18	\$2,912.75	\$0.00	0.00	1.00	0.054	0.000	0.000	0.000	Vegetation on Roof	
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Large Office	Discretionary	4,851.6	1.66	0.00	0.0	0.0	0.0	0.0	0	15	\$86,301.80	\$86,301.80	\$0.21	-\$1,975.86	\$0.00	0.27	1.00	102.601	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Large Office	Lost Opportunity	4,851.6	1.66	0.00	0.0	0.0	0.0	0.0	0	15	\$86,301.80	\$86,301.80	\$0.18	-\$1,975.86	\$0.00	0.27	1.00	28.147	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Cooling Dx Evap	Indirect Information Feedback	Large Office	Discretionary	42.5	0.01	0.00	5.8	1.2	0.0	0.0	0	2	\$141.41	\$141.41	\$0.21	\$0.00	\$0.00	0.29	1.00	1.434	0.000	0.000	0.000	Indirect Information Feedback	
Cooling Dx Evap	Indirect Information Feedback	Large Office	Lost Opportunity	42.5	0.01	0.00	6.5	1.3	0.0	0.0	0	2	\$141.41	\$141.41	\$0.18	\$0.00	\$0.00	0.31	1.00	0.193	0.000	0.000	0.000	Indirect Information Feedback	
Cooling Dx Evap	Infiltration Reduction	Large Office	Discretionary	245.0	0.08	0.00	112.2	26.2	0.0	0.0	0	10	\$1,341.13	\$1,341.13	\$0.21	\$0.00	\$0.00	2.28	1.00	0.515	0.695	0.559	0.559	Install Caulking And Weatherstripping (ACH 0.65)	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Large Office	Discretionary	479.9	0.16	0.00	65.9	20.0	0.0	0.0	0	30	\$3,276.84	\$3,276.84	\$0.21	\$0.00	\$0.00	2.36	1.00	8.817	11.895	9.569	9.569	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Large Office	Lost Opportunity	479.9	0.16	0.00	73.3	22.2	0.0	0.0	0	30	\$3,276.84	\$3,276.84	\$0.18	\$0.00	\$0.00	2.50	1.00	0.385	0.524	0.422	0.422	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Code	Large Office	Discretionary	1,263.4	0.43	0.00	225.9	68.5	0.0	0.0	0	30	\$14,952.10	\$14,952.10	\$0.21	\$0.00	\$0.00	1.58	1.00	14.572	19.658	15.815	15.815	R-30 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Large Office	Discretionary	294.0	0.10	0.00	29.4	0.0	0.0	0.0	0	20	\$308.02	\$308.02	\$0.21	\$0.00	\$0.00	8.34	1.00	13.808	18.626	14.985	14.985	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Large Office	Lost Opportunity	294.0	0.10	0.00	32.7	0.0	0.0	0.0	0	20	\$308.02	\$308.02	\$0.18	\$0.00	\$0.00	8.76	1.00	1.519	2.072	1.667	1.667	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	Large Office	Discretionary	294.0	0.10	0.00	29.4	0.0	0.0	0.0	0	20	\$1,240.59	\$1,240.59	\$0.21	\$0.00	\$0.00	2.07	1.00	11.120	15.001	12.068	12.068	R-8 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Office	Discretionary	707.3	0.24	0.00	97.2	29.5	0.0	0.0	0	30	\$5,825.49	\$5,825.49	\$0.21	\$0.00	\$0.00	1.95	1.00	4.250	5.733	4.612	4.612	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Office	Lost Opportunity	707.3	0.24	0.00	108.0	32.7	0.0	0.0	0	30	\$5,825.49	\$5,825.49	\$0.18	\$0.00	\$0.00	2.07	1.00	0.781	1.065	0.857	0.857	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	Large Office	Discretionary	1,231.8	0.42	0.00	169.2	51.3	0.0	0.0	0	30	\$16,699.74	\$16,699.74	\$0.21	\$0.00	\$0.00	1.19	1.00	7.153	9.650	7.763	7.763	R-30 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Large Office	Discretionary	319.4	0.11	0.00	43.9	13.3	0.0	0.0	0	30	\$1,873.36	\$1,873.36	\$0.21	\$0.00	\$0.00	2.74	1.00	3.254	4.390	3.532	3.532	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Large Office	Lost Opportunity	319.4	0.11	0.00	48.8	14.8	0.0	0.0	0	30	\$1,873.36	\$1,873.36	\$0.18	\$0.00	\$0.00	2.91	1.00	0.859	1.172	0.943	0.943	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Code	Large Office	Discretionary	297.3	0.10	0.00	48.2	14.6	0.0	0.0	0	30	\$12,855.13	\$12,855.13	\$0.21	\$0.00	\$0.00	0.41	1.00	1.669	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Large Office	Discretionary	657.3	0.22	0.00	0.0	0.0	0.0	0.0	0	15	\$80,211.47	\$80,211.47	\$0.21	\$0.00	\$0.00	0.03	1.00	0.845	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Large Office	Lost Opportunity	657.3	0.22	0.00	0.0	0.0	0.0	0.0	0	15	\$64,169.17	\$64,169.17	\$0.18	\$0.00	\$0.00	0.04	1.00	0.076	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Natural Ventilation	Large Office	Lost Opportunity	816.8	0.28	0.00	0.0	0.0	0.0	0.0	0	15	\$22,711.00	\$22,711.00	\$0.18	\$0.00	\$0.00	0.13	1.00	0.084	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling	
Cooling Dx Evap	Programmable Thermostat	Large Office	Discretionary	326.7	0.11	0.00	44.9	10.6	0.0	0.0	0	11	\$60.30	\$60.30	\$0.21	\$0.00	\$0.00	31.84	1.00	15.139	20.422	16.430	16.430	Programmable Thermostat	
Cooling Dx Evap	Re-Commissioning	Large Office	Discretionary	1,061.8	0.36	0.00	145.9	31.6	0.0	0.0	0	5	\$6,813.30	\$6,813.30	\$0.21	\$0.00	\$0.00	0.40	1.00	54.312	0.000	0.000	0.000	Re-Commissioning	
Cooling Dx Evap	Retrocommissioning	Large Office	Discretionary	1,211.6	0.41	0.00	166.5	36.0	0.0	0.0	0	5	\$11,355.50	\$11,355.50	\$0.21	\$0.00	\$0.00	0.27	1.00	32.570	0.000	0.000	0.000	Retrocommissioning	
Cooling Dx Evap	Strategic Energy Management (SEM)	Large Office	Discretionary	334.9	0.11	0.00	46.0	10.0	0.0	0.0	0	5	\$45.13	\$45.13	\$0.21	\$0.00	\$0.00	19.11	1.00	2.340	3.156	2.539	2.539	Identify Operations and Maintenance Improvements through Strategic Energy Man	
Cooling Dx Evap	Strategic Energy Management (SEM)	Large Office	Lost Opportunity	334.9	0.11	0.00	51.1	11.1	0.0	0.0	0	5	\$45.13	\$45.13	\$0.18	\$0.00	\$0.00	20.33	1.00	1.445	1.970	1.585	1.585	Identify Operations and Maintenance Improvements through Strategic Energy Man	
Cooling Dx Evap	Tune-up - DX Maintenance	Large Office	Discretionary	1,174.1	0.40	0.00	0.0	0.0	0.0	0.0	0	5	\$27,253.20	\$27,253.20	\$0.21	\$0.00	\$0.00	0.05	1.00	16.754	0.000	0.000	0.000	DX Tune-up / Diagnostics	
Cooling Dx Evap	Wi-Fi Thermostat	Large Office	Discretionary	326.7	0.11	0.00	44.9	10.6	0.0	0.0	0	11	\$480.31	\$480.31	\$0.21	\$0.00	\$0.00	4.00	1.00	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Large Office	Discretionary	62.4	0.02	0.00	8.6	2.3	0.0	0.0	0	20	\$7,930.74	\$7,930.74	\$0.21	\$0.00	\$0.00	0.09	1.00	0.446	0.000	0.000	0.000	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Large Office	Lost Opportunity	62.4	0.02	0.00	9.5	2.5	0.0	0.0	0	20	\$7,930.74	\$7,930.74	\$0.18	\$0.00	\$0.00	0.09	1.00	0.127	0.000	0.000	0.000	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Code	Large Office	Discretionary	142.4	0.05	0.00	20.1	5.4	0.0	0.0	0	20	\$52,371.65	\$52,371.65	\$0.21	\$0.00	\$0.00	0.03	1.00	0.934	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtuh - Premium Efficiency	Large Office	Discretionary	4,088.8	1.40	0.00	0.0	0.0	0.0	0.0	0	15	\$92,930.32	\$92,930.32	\$0.21	\$0.00	\$0.00	0.15	1.00						



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Heat Pump	Insulation - Ceiling - CBES 2015 - Above Code	Large Office	Lost Opportunity	114.1	0.04	0.03	0.0	0.0	0.0	0.0	0.0	0	30	\$3,276.84	\$3,276.84	\$0.18	\$0.00	\$0.00	0.25	1.00	0.002	0.000	0.000	0.000	R-35 c.i.
Heat Pump	Insulation - Ceiling - CBES 2015 - Code	Large Office	Discretionary	300.4	0.10	0.08	0.0	0.0	0.0	0.0	0	30	\$14,952.10	\$14,952.10	\$0.21	\$0.00	\$0.00	0.14	1.00	0.067	0.000	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)
Heat Pump	Insulation - Duct - CBES 2015 - Above Code	Large Office	Discretionary	69.9	0.02	0.02	0.0	0.0	0.0	0.0	0	20	\$308.02	\$308.02	\$0.21	\$0.00	\$0.00	1.07	1.00	0.064	0.076	0.061	0.061	0.000	R-12
Heat Pump	Insulation - Duct - CBES 2015 - Above Code	Large Office	Lost Opportunity	69.9	0.02	0.02	0.0	0.0	0.0	0.0	0	20	\$308.02	\$308.02	\$0.18	\$0.00	\$0.00	1.07	1.00	0.008	0.008	0.006	0.006	0.000	R-12
Heat Pump	Insulation - Duct - CBES 2015 - Code	Large Office	Discretionary	69.9	0.02	0.02	0.0	0.0	0.0	0.0	0	20	\$1,240.59	\$1,240.59	\$0.21	\$0.00	\$0.00	0.27	1.00	0.052	0.000	0.000	0.000	0.000	R-8 (CBES 2015 Code)
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Office	Discretionary	168.2	0.06	0.04	0.0	0.0	0.0	0.0	0	30	\$5,825.49	\$5,825.49	\$0.21	\$0.00	\$0.00	0.21	1.00	0.020	0.000	0.000	0.000	0.000	R-38
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Office	Lost Opportunity	168.2	0.06	0.04	0.0	0.0	0.0	0.0	0	30	\$5,825.49	\$5,825.49	\$0.18	\$0.00	\$0.00	0.21	1.00	0.004	0.000	0.000	0.000	0.000	R-38
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Code	Large Office	Discretionary	293.0	0.10	0.08	0.0	0.0	0.0	0.0	0	30	\$16,699.74	\$16,699.74	\$0.21	\$0.00	\$0.00	0.13	1.00	0.033	0.000	0.000	0.000	0.000	R-30 (CBES 2015 Code)
Heat Pump	Insulation - Wall - CBES 2015 - Above Code	Large Office	Discretionary	76.0	0.03	0.02	0.0	0.0	0.0	0.0	0	30	\$1,873.36	\$1,873.36	\$0.21	\$0.00	\$0.00	0.29	1.00	0.015	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.
Heat Pump	Insulation - Wall - CBES 2015 - Above Code	Large Office	Lost Opportunity	76.0	0.03	0.02	0.0	0.0	0.0	0.0	0	30	\$1,873.36	\$1,873.36	\$0.18	\$0.00	\$0.00	0.29	1.00	0.004	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.
Heat Pump	Insulation - Wall - CBES 2015 - Code	Large Office	Discretionary	70.7	0.02	0.02	0.0	0.0	0.0	0.0	0	30	\$12,855.13	\$12,855.13	\$0.21	\$0.00	\$0.00	0.04	1.00	0.006	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)
Heat Pump	Natural Ventilation	Large Office	Lost Opportunity	194.2	0.06	0.05	0.0	0.0	0.0	0.0	0	15	\$22,711.00	\$22,711.00	\$0.18	\$0.00	\$0.00	0.03	1.00	0.000	0.000	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling
Heat Pump	Programmable Thermostat	Large Office	Discretionary	77.7	0.03	0.02	0.0	0.0	0.0	0.0	0	11	\$60.30	\$60.30	\$0.21	\$0.00	\$0.00	3.24	1.00	0.075	0.089	0.072	0.072	0.000	Programmable Thermostat
Heat Pump	Re-Commissioning	Large Office	Discretionary	252.5	0.08	0.06	0.0	0.0	0.0	0.0	0	5	\$6,813.30	\$6,813.30	\$0.21	\$0.00	\$0.00	0.04	1.00	0.200	0.000	0.000	0.000	0.000	Re-Commissioning
Heat Pump	Retrocommissioning	Large Office	Discretionary	288.1	0.10	0.07	0.0	0.0	0.0	0.0	0	5	\$11,355.50	\$11,355.50	\$0.21	\$0.00	\$0.00	0.03	1.00	0.123	0.000	0.000	0.000	0.000	Retrocommissioning
Heat Pump	Strategic Energy Management (SEM)	Large Office	Discretionary	79.6	0.03	0.02	0.0	0.0	0.0	0.0	0	5	\$10.73	\$10.73	\$0.21	\$0.00	\$0.00	8.15	1.00	0.012	0.014	0.011	0.011	0.000	Identify Operations and Maintenance Improvements through Strategic Energy Ma
Heat Pump	Strategic Energy Management (SEM)	Large Office	Lost Opportunity	79.6	0.03	0.02	0.0	0.0	0.0	0.0	0	5	\$10.73	\$10.73	\$0.18	\$0.00	\$0.00	8.15	1.00	0.007	0.007	0.006	0.006	0.000	Identify Operations and Maintenance Improvements through Strategic Energy Ma
Heat Pump	Tune-up - Heat Pump Maintenance	Large Office	Discretionary	279.2	0.09	0.07	0.0	0.0	0.0	0.0	0	5	\$272.53	\$272.53	\$0.21	\$0.00	\$0.00	1.13	1.00	0.215	0.256	0.206	0.206	0.000	Heat Pump Maintenance (Tune-up)
Heat Pump	Water Source Heat Pump >= 135 kBtu/hr and < 375 kBtu/hr) Cooling	Large Office	Discretionary	291.1	0.10	0.07	0.0	0.0	0.0	0.0	0	15	\$72.69	\$72.69	\$0.21	\$0.00	\$0.00	14.02	1.00	0.023	0.027	0.022	0.022	0.000	14 EER, 4.6 COP
Heat Pump	Water Source Heat Pump >= 135 kBtu/hr and < 375 kBtu/hr) Cooling	Large Office	Lost Opportunity	232.8	0.08	0.06	0.0	0.0	0.0	0.0	0	15	\$58.15	\$58.15	\$0.18	\$0.00	\$0.00	14.02	1.00	0.002	0.002	0.001	0.001	0.000	14 EER, 4.6 COP
Heat Pump	Wi-Fi Thermostat	Large Office	Discretionary	77.7	0.03	0.02	0.0	0.0	0.0	0.0	0	11	\$480.31	\$480.31	\$0.21	\$0.00	\$0.00	0.41	1.00	0.000	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)
Heat Pump	Windows - CBES 2015 - Above Code	Large Office	Discretionary	14.8	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$7,930.74	\$7,930.74	\$0.21	\$0.00	\$0.00	0.01	1.00	0.002	0.000	0.000	0.000	0.000	U-0.29
Heat Pump	Windows - CBES 2015 - Above Code	Large Office	Lost Opportunity	14.8	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$7,930.74	\$7,930.74	\$0.18	\$0.00	\$0.00	0.01	1.00	0.001	0.000	0.000	0.000	0.000	U-0.29
Heat Pump	Windows - CBES 2015 - Code	Large Office	Discretionary	33.9	0.01	0.01	0.0	0.0	0.0	0.0	0	20	\$52,371.65	\$52,371.65	\$0.21	\$0.00	\$0.00	0.00	1.00	0.005	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	Large Office	Discretionary	6,706.0	0.07	1.41	0.0	0.0	0.0	0.0	0	8	\$423.05	\$423.05	\$0.21	\$0.00	\$0.00	15.62	0.99	1935.839	1935.839	1689.941	1689.941	0.000	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	Large Office	Discretionary	6,259.0	0.07	1.32	0.0	0.0	0.0	0.0	0	8	\$128.20	\$128.20	\$0.21	\$0.00	\$0.00	48.09	0.99	1331.314	1331.314	1162.205	1162.205	0.000	Photocell
Lighting Exterior	LED Exterior Flood Lights	Large Office	Discretionary	2,171.6	0.02	0.46	0.0	0.0	0.0	0.0	0	20	\$1,432.37	\$1,432.37	\$0.21	\$0.00	\$0.00	3.73	0.99	752.238	752.238	656.686	656.686	0.000	LED Exterior Flood Lights
Lighting Exterior	LED Exterior Flood Lights	Large Office	Lost Opportunity	2,171.6	0.02	0.46	0.0	0.0	0.0	0.0	0	20	\$1,432.37	\$1,432.37	\$0.18	\$0.00	\$0.00	3.73	0.99	65.363	65.363	57.061	57.061	0.000	LED Exterior Flood Lights
Lighting Exterior	LED Exterior Pole Mount Fixture	Large Office	Discretionary	1,237.5	0.01	0.26	0.0	0.0	0.0	0.0	0	15	\$2,426.51	\$2,426.51	\$0.21	\$0.00	\$0.00	0.94	0.99	428.665	0.000	0.000	0.000	0.000	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Pole Mount Fixture	Large Office	Lost Opportunity	1,237.5	0.01	0.26	0.0	0.0	0.0	0.0	0	15	\$2,426.51	\$2,426.51	\$0.18	\$0.00	\$0.00	0.94	0.99	37.248	0.000	0.000	0.000	0.000	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Wall Pack	Large Office	Discretionary	4,102.6	0.05	0.86	0.0	0.0	0.0	0.0	0	20	\$8,513.62	\$8,513.62	\$0.21	\$0.00	\$0.00	1.19	0.99	1342.222	1342.222	1171.727	1171.727	0.000	LED Exterior Wall Pack
Lighting Exterior	LED Exterior Wall Pack	Large Office	Lost Opportunity	4,102.6	0.05	0.86	0.0	0.0	0.0	0.0	0	20	\$8,513.62	\$8,513.62	\$0.18	\$0.00	\$0.00	1.19	0.99	116.628	116.628	101.814	101.814	0.000	LED Exterior Wall Pack
Lighting Exterior	LED Pathway Lights	Large Office	Discretionary	1,021.9	0.01	0.21	0.0	0.0	0.0	0.0	0	11	\$241.80	\$241.80	\$0.21	\$0.00	\$0.00	5.73	0.99	354.003	354.003	309.036	309.036	0.000	LED Pathway Lights
Lighting Exterior	LED Pathway Lights	Large Office	Lost Opportunity	1,021.9	0.01	0.21	0.0	0.0	0.0	0.0	0	11	\$241.80	\$241.80	\$0.18	\$0.00	\$0.00	5.73	0.99	30.760	30.760	26.853	26.853	0.000	LED Pathway Lights
Lighting Exterior	Occupancy Sensor Control	Large Office	Discretionary	5,364.8	0.06	1.13	0.0	0.0	0.0	0.0	0	10	\$14,958.10	\$14,958.10	\$0.21	\$0.00	\$0.00	0.44	0.99	815.090	0.000	0.000	0.000	0.000	Occupancy Sensor Control
Lighting Exterior	Parking - Covered Lighting	Large Office	Discretionary	212.7	0.00	0.04	0.0	0.0	0.0	0.0	0	19	\$155.12	\$155.12	\$0.21	\$0.00	\$0.00	3.21	0.99	20.039	20.039	17.494	17.494	0.000	Covered Parking Lighting (LED)
Lighting Exterior	Parking - Covered Lighting	Large Office	Lost Opportunity	212.7	0.00	0.04	0.0	0.0	0.0	0.0	0	19	\$155.12	\$155.12	\$0.18	\$0.00	\$0.00	3.21	0.99	1.741	1.741	1.520	1.520	0.000	Covered Parking Lighting (LED)
Lighting Exterior	Parking - Surface Lighting	Large Office	Discretionary	114.9	0.00	0.02	0.0	0.0	0.0	0.0	0	10	\$59.05	\$59.05	\$0.21	\$0.00	\$0.00	2.40	0.99	4.657	4.657	4.065	4.065	0.000	Surface Parking Lighting (LED)
Lighting Exterior	Parking - Surface Lighting	Large Office	Lost Opportunity	114.9	0.00	0.02	0.0	0.0	0.0	0.0	0	10	\$59.05	\$59.05	\$0.18	\$0.00	\$0.00	2.40	0.99	0.405	0.405	0.353	0.353	0.000	Surface Parking Lighting (LED)
Lighting Exterior	Time Clock	Large Office	Discretionary	2,235.3	0.02	0.47	0.0	0.0	0.0	0.0	0	8	\$120.47	\$120.47	\$0.21	\$0.00	\$0.00	18.28	0.99	33.962	33.962	29.648	29.648	0.000	Time Clock
Lighting Interior Fluorescent	Bi-Level Control, Stairwell Lighting	Large Office	Discretionary	169.8	0.03	0.02	0.0	0.0	0.0	0.0	0	8	\$280.43	\$280.43	\$0.21	\$0.00	\$0.00	0.89	0.99	27.893	0.000	0.000	0.000	0.000	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time
Lighting Interior Fluorescent	Dimming-Stepped, Fluorescent Fixtures	Large Office	Discretionary	12,925.8	2.51	1.73	0.0	0.0	0.0	0.0	0	10	\$374.85	\$374.85	\$0.21	\$0.00	\$0.00	64.20	0.99	715.296	715.296	624.437	624.437	0.000	3-stepped Dimming of Fluorescent Fixtures (Day-Lighting)
Lighting Interior Fluorescent	Lighting Interior - Fluorescent - 2018 Federal Standard	Large Office	Lost Opportunity	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.07	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	0.000	Standard Fluorescent 2018 Federal Standard Approved T-8
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 - Above Standard	Large Office	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.07	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 High Performance - Above Standard	Large Office	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.06	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 High Performance Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 Reduced Wattage - Above Standard	Large Office	Lost Opportunity	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.03	\$0.00	\$0.21	\$0.00	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 Reduced Wattage Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - TLED - Above Standard	Large Office	Lost Opportunity	1.5	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.17	\$0.17	\$0.21	-\$0.02	\$0.00	999.00	0.99	6834.919	7337.390	6405.366	6405.366	0.000	Above Standard TLED
Lighting Interior Fluorescent	Occupancy Sensor Control	Large Office	Discretionary	11,079.2	2.15	1.48	0.0	0.0	0.0	0.0	0	10	\$30,890.83	\$30,890.83	\$0.21	\$0.00	\$0.00	0.67	0.99	957.986	0.000	0.000	0.00		

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Other Plug Load	Dehumidifier - ENERGY STAR	Large Office	Discretionary	179.9	0.03	0.02	0.0	0.0	0.0	0.0	0.0	12	\$70.17	\$70.17	\$0.21	\$0.00	\$0.00	5.23	1.00	12.025	12.025	0.842	0.842	ENERGY STAR Dehumidifier	
Other Plug Load	Dehumidifier - ENERGY STAR	Large Office	Lost Opportunity	179.9	0.03	0.02	0.0	0.0	0.0	0.0	0	12	\$70.17	\$70.17	\$0.18	\$0.00	\$0.00	5.23	1.00	1.045	1.045	0.842	0.842	ENERGY STAR Dehumidifier	
Other Plug Load	ENERGY STAR - Scanners	Large Office	Discretionary	18.0	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	4.930	0.000	0.000	0.000	ENERGY STAR Scanners	
Other Plug Load	ENERGY STAR - Scanners	Large Office	Lost Opportunity	18.0	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.428	0.000	0.000	0.000	ENERGY STAR Scanners	
Other Plug Load	ENERGY STAR - Water Cooler	Large Office	Discretionary	68.0	0.01	0.01	0.0	0.0	0.0	0.0	0	10	\$0.58	\$0.58	\$0.21	\$0.00	\$0.00	196.63	1.00	26.191	26.191	21.107	21.107	ENERGY STAR Water Cooler (Hot/Cold Water)	
Other Plug Load	ENERGY STAR - Water Cooler	Large Office	Lost Opportunity	68.0	0.01	0.01	0.0	0.0	0.0	0.0	0	10	\$0.58	\$0.58	\$0.18	\$0.00	\$0.00	196.63	1.00	2.276	2.276	1.834	1.834	ENERGY STAR Water Cooler (Hot/Cold Water)	
Other Plug Load	Internal Power Supply / Com - E Star	Large Office	Discretionary	464.0	0.07	0.04	0.0	0.0	0.0	0.0	0	4	\$946.93	\$946.93	\$0.21	\$0.00	\$0.00	0.32	1.00	42.139	0.000	0.000	0.000	ENERGY STAR power supply for ENERGY STAR desktop	
Other Plug Load	Internal Power Supply / Com - E Star	Large Office	Lost Opportunity	464.0	0.07	0.04	0.0	0.0	0.0	0.0	0	4	\$946.93	\$946.93	\$0.18	\$0.00	\$0.00	0.32	1.00	3.662	0.000	0.000	0.000	ENERGY STAR power supply for ENERGY STAR desktop	
Other Plug Load	Smart Strip Plug Outlet	Large Office	Discretionary	956.2	0.14	0.09	0.0	0.0	0.0	0.0	0	4	\$718.90	\$718.90	\$0.21	\$0.00	\$0.00	0.86	1.00	77.483	0.000	0.000	0.000	Advanced Power Strip - Load Sensing	
Other Plug Load	Smart Strip Plug Outlet	Large Office	Lost Opportunity	956.2	0.14	0.09	0.0	0.0	0.0	0.0	0	4	\$718.90	\$718.90	\$0.18	\$0.00	\$0.00	0.86	1.00	6.733	0.000	0.000	0.000	Advanced Power Strip - Load Sensing	
Other Plug Load	Smart Strip Plug Outlet	Large Office	Discretionary	581.4	0.08	0.05	0.0	0.0	0.0	0.0	0	4	\$1,741.03	\$1,741.03	\$0.21	\$0.00	\$0.00	0.22	1.00	0.000	0.000	0.000	0.000	Advanced Power Strip with Occupancy Sensor	
Other Plug Load	Smart Strip Plug Outlet	Large Office	Lost Opportunity	581.4	0.08	0.05	0.0	0.0	0.0	0.0	0	4	\$1,741.03	\$1,741.03	\$0.18	\$0.00	\$0.00	0.22	1.00	0.000	0.000	0.000	0.000	Advanced Power Strip with Occupancy Sensor	
Photo Copiers	Copiers - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.99	51.313	0.000	0.000	0.000	ENERGY STAR Copiers	
Photo Copiers	Copiers - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.99	4.854	0.000	0.000	0.000	ENERGY STAR Copiers	
Printers	Printers - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	223.211	0.000	0.000	0.000	ENERGY STAR Printers	
Printers	Printers - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	22.270	0.000	0.000	0.000	ENERGY STAR Printers	
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	1.81	1.00	0.000	0.000	0.000	0.000	CEE Tier 2 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	1.81	1.00	0.000	0.000	0.000	0.000	CEE Tier 2 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	1.69	1.00	24.114	24.114	15.681	15.681	CEE Tier 3 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	1.69	1.00	3.223	3.223	2.096	2.096	CEE Tier 3 Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	1.85	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	1.85	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	1.86	1.00	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	1.86	1.00	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Refrigerator	
Refrigerators	Residential Refrigerator Recycling and Replacement	Large Office	Discretionary	138.5	0.02	0.02	0.0	0.0	0.0	0.0	0	8	\$72.13	\$72.13	\$0.21	\$0.00	\$0.00	2.41	1.00	42.961	42.961	27.937	27.937	Recycling Existing Refrigerator and Replacing with a Federal Standard Unit	
Room Cool	Ductless Air Conditioner (DAC)	Large Office	Discretionary	153.6	0.07	0.00	0.0	0.0	0.0	0.0	0	15	\$3,711.32	\$3,711.32	\$0.21	\$0.00	\$0.00	0.17	1.00	0.474	0.000	0.000	0.000	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Air Conditioner (DAC)	Large Office	Lost Opportunity	153.6	0.07	0.00	0.0	0.0	0.0	0.0	0	15	\$3,711.32	\$3,711.32	\$0.18	\$0.00	\$0.00	0.17	1.00	0.078	0.000	0.000	0.000	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Heat Pump (DHP)	Large Office	Discretionary	418.4	0.19	0.00	0.0	0.0	0.0	0.0	0	15	\$6,323.44	\$6,323.44	\$0.21	\$0.00	\$0.00	0.27	1.00	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP)	Large Office	Lost Opportunity	418.4	0.19	0.00	0.0	0.0	0.0	0.0	0	15	\$6,323.44	\$6,323.44	\$0.18	\$0.00	\$0.00	0.27	1.00	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Large Office	Discretionary	440.5	0.20	0.00	0.0	0.0	0.0	0.0	0	15	\$6,474.60	\$6,474.60	\$0.21	\$0.00	\$0.00	0.28	1.00	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Large Office	Lost Opportunity	440.5	0.20	0.00	0.0	0.0	0.0	0.0	0	15	\$6,474.60	\$6,474.60	\$0.18	\$0.00	\$0.00	0.28	1.00	0.017	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1	
Room Cool	Green Roof	Large Office	Discretionary	3.8	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$291,274.61	\$291,274.61	\$0.21	\$2,912.75	\$0.00	0.00	1.00	0.023	0.000	0.000	0.000	0.000	Vegetation on Roof
Room Cool	Green Roof	Large Office	Lost Opportunity	2.8	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$291,274.61	\$291,274.61	\$0.18	\$2,912.75	\$0.00	0.00	1.00	0.001	0.000	0.000	0.000	0.000	Vegetation on Roof
Room Cool	Infiltration Reduction	Large Office	Discretionary	21.3	0.01	0.00	0.0	0.0	0.0	0.0	0	10	\$1,341.13	\$1,341.13	\$0.21	\$0.00	\$0.00	0.04	1.00	0.005	0.000	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Large Office	Discretionary	41.8	0.02	0.00	0.0	0.0	0.0	0.0	0	30	\$3,276.84	\$3,276.84	\$0.21	\$0.00	\$0.00	0.11	1.00	0.094	0.000	0.000	0.000	0.000	R-35 c.i.
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Large Office	Lost Opportunity	37.6	0.02	0.00	0.0	0.0	0.0	0.0	0	30	\$3,276.84	\$3,276.84	\$0.18	\$0.00	\$0.00	0.10	1.00	0.003	0.000	0.000	0.000	0.000	R-35 c.i.
Room Cool	Insulation - Ceiling - CBES 2015 - Code	Large Office	Discretionary	110.0	0.05	0.00	0.0	0.0	0.0	0.0	0	30	\$14,952.10	\$14,952.10	\$0.21	\$0.00	\$0.00	0.06	1.00	0.159	0.000	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Office	Discretionary	61.6	0.03	0.00	0.0	0.0	0.0	0.0	0	30	\$5,825.49	\$5,825.49	\$0.21	\$0.00	\$0.00	0.09	1.00	0.046	0.000	0.000	0.000	0.000	R-38
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Office	Lost Opportunity	55.4	0.03	0.00	0.0	0.0	0.0	0.0	0	30	\$5,825.49	\$5,825.49	\$0.18	\$0.00	\$0.00	0.08	1.00	0.006	0.000	0.000	0.000	0.000	R-38
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Code	Large Office	Discretionary	107.3	0.05	0.00	0.0	0.0	0.0	0.0	0	30	\$16,699.74	\$16,699.74	\$0.21	\$0.00	\$0.00	0.05	1.00	0.078	0.000	0.000	0.000	0.000	R-30 (CBES 2015 Code)
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Large Office	Discretionary	27.8	0.01	0.00	0.0	0.0	0.0	0.0	0	30	\$1,873.36	\$1,873.36	\$0.21	\$0.00	\$0.00	0.13	1.00	0.035	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Large Office	Lost Opportunity	25.0	0.01	0.00	0.0	0.0	0.0	0.0	0	30	\$1,873.36	\$1,873.36	\$0.18	\$0.00	\$0.00	0.11	1.00	0.007	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.
Room Cool	Insulation - Wall - CBES 2015 - Code	Large Office	Discretionary	25.9	0.01	0.00	0.0	0.0	0.0	0.0	0	30	\$12,855.13	\$12,855.13	\$0.21	\$0.00	\$0.00	0.02	1.00	0.022	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Cool	Natural Ventilation	Large Office	Lost Opportunity	64.0	0.03	0.00	0.0	0.0	0.0	0.0	0	15	\$22,711.00	\$22,711.00	\$0.18	\$0.00	\$0.00	0.01	1.00	0.002	0.000	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling
Room Cool	Room AC - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.03	\$0.03	\$0.21	\$0.00	\$0.00	0.25	1.00	0.673	0.000	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Cool	Room AC - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.03	\$0.03	\$0.18	\$0.00	\$0.00	0.25	1.00	0.069	0.000	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Cool	Windows - CBES 2015 - Above Code	Large Office	Discretionary	5.4	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$7,930.74	\$7,930.74	\$0.21	\$0.00	\$0.00	0.00	1.00	0.011	0.000	0.000	0.000	0.000	U-0.29
Room Cool	Windows - CBES 2015 - Above Code	Large Office	Lost Opportunity	4.9	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$7,930.74	\$7,930.74	\$0.18	\$0.00	\$0.00	0.00	1.00	0.003	0.000	0.000	0.000	0.000	U-0.29
Room Cool	Windows - CBES 2015 - Code	Large Office	Discretionary	12.4	0.01	0.00	0.0	0.0	0.0	0.0	0	20	\$52,371.65	\$52,371.65	\$0.21	\$0.00	\$0.00	0.00	1.00	0.025	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Room Cool - Early Replacement	Early Replacement Room AC - ENERGY STAR	Large Office	Discretionary	145.1	0.07	0.00	0.0	0.0	0																

Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Servers	IT Systems - Server Virtualization/Consolidation	Large Office	Discretionary	377.5	0.05	0.03	0.0	0.0	0.0	0.0	0	5	\$31.17	\$31.17	\$0.21	\$0.00	\$0.00	9.94	0.99	98.408	124.820	99.584	99.584	Server Virtualization/Consolidation
Servers	IT Systems - Server Virtualization/Consolidation	Large Office	Lost Opportunity	372.4	0.05	0.03	0.0	0.0	0.0	0.0	0	5	\$30.75	\$30.75	\$0.18	\$0.00	\$0.00	9.94	0.99	8.358	10.866	8.669	8.669	Server Virtualization/Consolidation
Servers	IT Systems - Uninterruptible Power Supply Upgrade	Large Office	Discretionary	55.5	0.01	0.01	0.0	0.0	0.0	0.0	0	15	\$22.07	\$22.07	\$0.21	\$0.00	\$0.00	6.47	0.99	14.479	18.365	14.652	14.652	Upgrade Uninterruptible Power Supply (UPS)
Servers	IT Systems - Uninterruptible Power Supply Upgrade	Large Office	Lost Opportunity	54.8	0.01	0.00	0.0	0.0	0.0	0.0	0	15	\$21.77	\$21.77	\$0.18	\$0.00	\$0.00	6.47	0.99	1.230	1.599	1.275	1.275	Upgrade Uninterruptible Power Supply (UPS)
Servers	Internal Power Supply / Server	Large Office	Discretionary	30.4	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$8.88	\$8.88	\$0.21	\$0.00	\$0.00	2.22	0.99	4.602	5.837	4.657	4.657	80 Plus power supply for Desktop Derived Server
Servers	Internal Power Supply / Server	Large Office	Lost Opportunity	30.4	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$8.88	\$8.88	\$0.18	\$0.00	\$0.00	2.22	0.99	0.396	0.515	0.411	0.411	80 Plus power supply for Desktop Derived Server
Servers	Server - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.06	\$0.06	\$0.21	\$0.00	\$0.00	0.33	0.99	78.476	0.000	0.000	0.000	ENERGY STAR Server
Servers	Server - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.06	\$0.06	\$0.18	\$0.00	\$0.00	0.33	0.99	6.646	0.000	0.000	0.000	ENERGY STAR Server
Space Heat - Electric	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Large Office	Discretionary	27,618.0	0.06	11.11	0.0	0.0	0.0	0.0	0	15	\$5,677.75	\$5,677.75	\$0.21	\$0.00	\$0.00	9.10	0.97	15.725	15.725	12.224	12.224	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Electric	Commissioning	Large Office	Lost Opportunity	40,799.3	0.09	16.41	0.0	0.0	0.0	0.0	0	5	\$26,344.76	\$26,344.76	\$0.18	\$0.00	\$0.00	0.96	0.97	3.329	0.000	0.000	0.000	Commissioning
Space Heat - Electric	Convert Constant Volume Air System to VAV	Large Office	Discretionary	82,442.9	0.17	33.16	0.0	0.0	0.0	0.0	0	15	\$82,810.79	\$82,810.79	\$0.21	\$0.00	\$0.00	1.86	0.97	5.469	5.469	4.252	4.252	Variable Volume Air System
Space Heat - Electric	Direct Digital Control System-Installation	Large Office	Discretionary	47,076.1	0.10	18.94	0.0	0.0	0.0	0.0	0	5	\$7,097.19	\$7,097.19	\$0.21	\$0.00	\$0.00	4.12	0.97	22.991	22.991	17.873	17.873	Installation of EMS System
Space Heat - Electric	Direct Digital Control System-Installation	Large Office	Lost Opportunity	47,076.1	0.10	18.94	0.0	0.0	0.0	0.0	0	5	\$7,097.19	\$7,097.19	\$0.18	\$0.00	\$0.00	4.12	0.97	0.000	0.000	0.000	0.000	Installation of EMS System
Space Heat - Electric	Duct Repair and Sealing	Large Office	Discretionary	27,290.5	0.06	10.98	0.0	0.0	0.0	0.0	0	18	\$5,450.64	\$5,450.64	\$0.21	\$0.00	\$0.00	11.21	0.97	10.089	10.089	7.843	7.843	Reduction In Duct Losses to 5 %
Space Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Large Office	Discretionary	47,076.1	0.10	18.94	0.0	0.0	0.0	0.0	0	14	\$66,542.46	\$66,542.46	\$0.21	\$0.00	\$0.00	1.24	0.97	2.414	2.414	1.821	1.821	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Electric	Indirect Information Feedback	Large Office	Discretionary	1,633.0	0.00	0.66	0.0	0.0	0.0	0.0	0	2	\$5,433.48	\$5,433.48	\$0.21	\$0.00	\$0.00	0.07	0.97	0.720	0.000	0.000	0.000	Indirect Information Feedback
Space Heat - Electric	Indirect Information Feedback	Large Office	Lost Opportunity	1,633.0	0.00	0.66	0.0	0.0	0.0	0.0	0	2	\$5,433.48	\$5,433.48	\$0.18	\$0.00	\$0.00	0.07	0.97	0.089	0.000	0.000	0.000	Indirect Information Feedback
Space Heat - Electric	Infiltration Reduction	Large Office	Discretionary	31,384.1	0.07	12.62	0.0	0.0	0.0	0.0	0	10	\$1,341.13	\$1,341.13	\$0.21	\$0.00	\$0.00	29.46	0.97	0.989	0.989	0.769	0.769	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Large Office	Discretionary	18,441.2	0.04	7.42	0.0	0.0	0.0	0.0	0	30	\$3,276.84	\$3,276.84	\$0.21	\$0.00	\$0.00	21.12	0.97	4.834	4.834	3.758	3.758	R-35 c.i.
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Large Office	Lost Opportunity	18,441.2	0.04	7.42	0.0	0.0	0.0	0.0	0	30	\$3,276.84	\$3,276.84	\$0.18	\$0.00	\$0.00	21.12	0.97	0.209	0.209	0.163	0.163	R-35 c.i.
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Large Office	Discretionary	48,543.7	0.10	19.53	0.0	0.0	0.0	0.0	0	30	\$14,952.10	\$14,952.10	\$0.21	\$0.00	\$0.00	12.19	0.97	8.155	8.155	6.339	6.339	R-30 c.i. (CBES 2015 Code)
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Large Office	Discretionary	11,298.3	0.02	4.54	0.0	0.0	0.0	0.0	0	20	\$308.02	\$308.02	\$0.21	\$0.00	\$0.00	91.23	0.97	7.743	7.743	6.019	6.019	R-12
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Large Office	Lost Opportunity	11,298.3	0.02	4.54	0.0	0.0	0.0	0.0	0	20	\$308.02	\$308.02	\$0.18	\$0.00	\$0.00	91.23	0.97	0.828	0.828	0.643	0.643	R-12
Space Heat - Electric	Insulation - Duct - CBES 2015 - Code	Large Office	Discretionary	11,298.3	0.02	4.54	0.0	0.0	0.0	0.0	0	20	\$1,240.59	\$1,240.59	\$0.21	\$0.00	\$0.00	22.65	0.97	6.318	6.318	4.912	4.912	R-8 (CBES 2015 Code)
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Office	Discretionary	27,176.6	0.06	10.93	0.0	0.0	0.0	0.0	0	30	\$5,825.49	\$5,825.49	\$0.21	\$0.00	\$0.00	17.51	0.97	2.378	2.378	1.849	1.849	R-38
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Office	Lost Opportunity	27,176.6	0.06	10.93	0.0	0.0	0.0	0.0	0	30	\$5,825.49	\$5,825.49	\$0.18	\$0.00	\$0.00	17.51	0.97	0.426	0.426	0.331	0.331	R-38
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Large Office	Discretionary	47,332.5	0.10	19.04	0.0	0.0	0.0	0.0	0	30	\$16,699.74	\$16,699.74	\$0.21	\$0.00	\$0.00	10.64	0.97	3.870	3.870	3.008	3.008	R-30 (CBES 2015 Code)
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Large Office	Discretionary	12,274.0	0.03	4.94	0.0	0.0	0.0	0.0	0	30	\$1,873.36	\$1,873.36	\$0.21	\$0.00	\$0.00	24.59	0.97	1.819	1.819	1.414	1.414	R-13 + 15.6 c.i.
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Large Office	Lost Opportunity	12,274.0	0.03	4.94	0.0	0.0	0.0	0.0	0	30	\$1,873.36	\$1,873.36	\$0.18	\$0.00	\$0.00	24.59	0.97	0.468	0.468	0.364	0.364	R-13 + 15.6 c.i.
Space Heat - Electric	Insulation - Wall - CBES 2015 - Code	Large Office	Discretionary	11,421.9	0.02	4.59	0.0	0.0	0.0	0.0	0	30	\$12,855.13	\$12,855.13	\$0.21	\$0.00	\$0.00	3.34	0.97	0.824	0.824	0.641	0.641	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Electric	Programmable Thermostat	Large Office	Discretionary	12,553.6	0.03	5.05	0.0	0.0	0.0	0.0	0	11	\$60.30	\$60.30	\$0.21	\$0.00	\$0.00	287.74	0.97	8.457	8.457	6.574	6.574	Programmable Thermostat
Space Heat - Electric	Re-Commissioning	Large Office	Discretionary	40,799.3	0.09	16.41	0.0	0.0	0.0	0.0	0	5	\$6,813.30	\$6,813.30	\$0.21	\$0.00	\$0.00	3.72	0.97	30.826	30.826	23.963	23.963	Re-Commissioning
Space Heat - Electric	Retrocommissioning	Large Office	Discretionary	46,553.1	0.10	18.73	0.0	0.0	0.0	0.0	0	5	\$11,355.50	\$11,355.50	\$0.21	\$0.00	\$0.00	2.55	0.97	18.841	18.841	14.647	14.647	Retrocommissioning
Space Heat - Electric	Strategic Energy Management (SEM)	Large Office	Discretionary	12,867.5	0.03	5.18	0.0	0.0	0.0	0.0	0	5	\$1,734.08	\$1,734.08	\$0.21	\$0.00	\$0.00	4.61	0.97	1.060	1.060	0.824	0.824	Identify Operations and Maintenance Improvements through Strategic Energy Mar
Space Heat - Electric	Strategic Energy Management (SEM)	Large Office	Lost Opportunity	12,867.5	0.03	5.18	0.0	0.0	0.0	0.0	0	5	\$1,734.08	\$1,734.08	\$0.18	\$0.00	\$0.00	4.61	0.97	0.706	0.706	0.549	0.549	Identify Operations and Maintenance Improvements through Strategic Energy Mar
Space Heat - Electric	Wi-Fi Thermostat	Large Office	Discretionary	12,553.6	0.03	5.05	0.0	0.0	0.0	0.0	0	11	\$480.31	\$480.31	\$0.21	\$0.00	\$0.00	36.12	0.97	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)
Space Heat - Electric	Windows - CBES 2015 - Above Code	Large Office	Discretionary	2,396.6	0.01	0.96	0.0	0.0	0.0	0.0	0	20	\$7,930.74	\$7,930.74	\$0.21	\$0.00	\$0.00	0.75	0.97	0.364	0.000	0.000	0.000	U-0.29
Space Heat - Electric	Windows - CBES 2015 - Above Code	Large Office	Lost Opportunity	2,396.6	0.01	0.96	0.0	0.0	0.0	0.0	0	20	\$7,930.74	\$7,930.74	\$0.18	\$0.00	\$0.00	0.75	0.97	0.153	0.000	0.000	0.000	U-0.29
Space Heat - Electric	Windows - CBES 2015 - Code	Large Office	Discretionary	5,472.3	0.01	2.20	0.0	0.0	0.0	0.0	0	20	\$52,371.65	\$52,371.65	\$0.21	\$0.00	\$0.00	0.26	0.97	0.820	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Vending Machines	Vending Machines - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.99	0.000	0.000	0.000	0.000	ENERGY STAR Vending Machines - 3.84 kWh/day
Vending Machines	Vending Machines - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.99	0.000	0.000	0.000	0.000	ENERGY STAR Vending Machines - 3.84 kWh/day
Vending Machines	Vending Machines - Federal Standard 2020	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.99	2.246	0.000	0.000	0.000	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Machines - Federal Standard 2020	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.99	0.116	0.000	0.000	0.000	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Miser	Large Office	Discretionary	233.4	0.03	0.03	0.0	0.0	0.0	0.0	0	5	\$36.50	\$36.50	\$0.21	\$0.00	\$0.00	4.91	0.99	56.434	56.608	45.164	45.164	Vending Machine Occupancy Sensor
Vending Machines	Vending Miser	Large Office	Lost Opportunity	233.2	0.03	0.03	0.0	0.0	0.0	0.0	0	5	\$36.50	\$36.50	\$0.18	\$0.00	\$0.00	4.91	0.99	5.668	5.680	4.532	4.532	Vending Machine Occupancy Sensor
Ventilation And Circulation	Automated Exhaust VFD Control - Parking Garage CO sensor	Large Office	Discretionary	4,925.2	0.56	0.61	0.0	0.0	0.0	0.0	0	5	\$716.85	\$716.85	\$0.21	\$0.00	\$0.00	5.31	0.98	271.891	271.891	239.939	239.939	CO Sensors
Ventilation And Circulation	Boiler Draft Fan - VFD	Large Office	Discretionary	6,056.3	0.69	0.75	0.0	0.0	0.0	0.0	0	15	\$3,258.61	\$3,258.61	\$0.21	\$0.00	\$0.00	4.47	0.98	637.965	637.965	562.993	562.993	VFD Boiler Draft Fan
Ventilation And Circulation	Boiler Draft Fan - VFD	Large Office	Lost Opportunity	6,056.3	0.69	0.75	0.0	0.0	0.0	0.0	0	15	\$3,258.61	\$3,258.61	\$0.18	\$0.00	\$0.00	4.47	0.98	38.377	38.377	33.867	33.867	VFD Boiler Draft Fan
Ventilation And Circulation	Convert Constant Volume Air System to VAV	Large Office	Discretionary	20,565.4	2.35	2.54	0.0	0.0	0.0	0.0	0	15	\$82,810.79	\$82,810.79	\$0.21	\$0.00	\$0.00	0.60	0.98	637.152	0.000	0.000	0.000	Variable Volume Air System
Ventilation And Circulation	Cooling Tower Fan - Variable Speed Control	Large Office	Discretionary	1,650.8	0.19	0.20	0.0	0.0	0.0	0.0	0	15	\$589.81	\$589.81	\$0.21	\$0.00	\$0.00	6.73	0.98	376.214				



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat GT 55 Gal	Low-Flow Showerheads	Large Office	Lost Opportunity	182.0	0.00	0.07	0.0	0.0	0.0	0.0	21	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.94	0.000	0.000	0.000	0.000	2.0 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Large Office	Discretionary	182.0	0.00	0.07	0.0	0.0	0.0	0.0	21	9	\$22.71	\$22.71	\$0.21	\$0.00	\$0.00	17.25	0.94	0.267	0.405	0.248	0.248	2.5 GPM (Federal Code)	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.96	\$0.96	\$0.21	\$0.36	\$0.00	0.02	0.94	2.337	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.96	\$0.96	\$0.18	\$0.36	\$0.00	0.02	0.94	0.158	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Large Office	Discretionary	616.3	0.00	0.25	0.0	0.0	0.0	0.0	0	20	\$1,593.04	\$1,593.04	\$0.21	\$0.00	\$0.00	0.96	0.94	2.413	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Large Office	Lost Opportunity	616.3	0.00	0.25	0.0	0.0	0.0	0.0	0	20	\$1,593.04	\$1,593.04	\$0.18	\$0.00	\$0.00	0.96	0.94	0.181	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Large Office	Discretionary	453.7	0.00	0.18	0.0	0.0	0.0	0.0	0	10	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.94	0.093	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Large Office	Lost Opportunity	453.7	0.00	0.18	0.0	0.0	0.0	0.0	0	10	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.94	0.007	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.23	\$0.23	\$0.21	\$0.00	\$0.00	0.17	0.94	4.048	0.000	0.000	0.000	CO2 Heat Pump Water Heater	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.23	\$0.23	\$0.18	\$0.00	\$0.00	0.17	0.94	0.265	0.000	0.000	0.000	CO2 Heat Pump Water Heater	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.05	\$0.05	\$0.21	\$0.00	\$0.00	0.25	0.94	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.05	\$0.05	\$0.18	\$0.00	\$0.00	0.25	0.94	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.19	\$0.19	\$0.21	\$0.00	\$0.00	0.18	0.94	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Large Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.19	\$0.19	\$0.18	\$0.00	\$0.00	0.18	0.94	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Large Office	Discretionary	635.1	0.00	0.26	0.0	0.0	0.0	0.0	0	4	\$0.05	\$0.05	\$0.21	\$0.00	\$0.00	6728.73	0.94	2.487	3.769	2.312	2.312	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Large Office	Lost Opportunity	635.1	0.00	0.26	0.0	0.0	0.0	0.0	0	4	\$0.05	\$0.05	\$0.18	\$0.00	\$0.00	6728.73	0.94	0.186	0.305	0.187	0.187	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Tank Wrap	Large Office	Discretionary	1,277.9	0.00	0.51	0.0	0.0	0.0	0.0	0	7	\$193.90	\$193.90	\$0.21	\$0.00	\$0.00	5.79	0.94	2.532	3.838	2.354	2.354	Add R-10 Tank Wrap	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Large Office	Discretionary	22.8	0.00	0.01	0.0	0.0	0.0	0.0	2	13	\$25.45	\$25.45	\$0.21	\$0.00	\$0.00	2.42	0.94	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Large Office	Lost Opportunity	22.8	0.00	0.01	0.0	0.0	0.0	0.0	2	13	\$25.45	\$25.45	\$0.18	\$0.00	\$0.00	2.42	0.94	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Large Office	Discretionary	50.6	0.00	0.02	0.0	0.0	0.0	0.0	3	13	\$47.06	\$47.06	\$0.21	\$0.00	\$0.00	2.44	0.94	3.819	9.161	5.620	5.620	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Large Office	Lost Opportunity	50.6	0.00	0.02	0.0	0.0	0.0	0.0	3	13	\$47.06	\$47.06	\$0.18	\$0.00	\$0.00	2.44	0.94	0.252	0.797	0.489	0.489	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Large Office	Discretionary	218.4	0.00	0.09	0.0	0.0	0.0	0.0	0	13	\$49.98	\$49.98	\$0.21	\$0.00	\$0.00	7.11	0.94	13.550	32.508	19.941	19.941	1.0" of Insulation, assuming R-4 (Code)	
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Large Office	Discretionary	686.3	0.00	0.28	0.0	0.0	0.0	0.0	0	25	\$4,949.00	\$4,949.00	\$0.21	\$0.00	\$0.00	0.43	0.94	0.967	0.000	0.000	0.000	Install Heat Recovery Water Heater	
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Large Office	Discretionary	15.1	0.00	0.01	0.0	0.0	0.0	0.0	0	20	\$1.78	\$1.78	\$0.21	\$0.00	\$0.00	21.12	0.94	0.506	1.213	0.744	0.744	R-3	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Office	Discretionary	952.4	0.00	0.38	0.0	0.0	0.0	0.0	70	9	\$90.84	\$90.84	\$0.21	\$0.00	\$0.00	18.60	0.94	113.885	273.224	167.605	167.605	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Office	Lost Opportunity	952.4	0.00	0.38	0.0	0.0	0.0	0.0	70	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.94	7.526	0.000	0.000	0.000	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Office	Discretionary	672.3	0.00	0.27	0.0	0.0	0.0	0.0	50	9	\$90.84	\$90.84	\$0.21	\$0.00	\$0.00	13.13	0.94	0.000	0.000	0.000	0.000	1.0 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Office	Lost Opportunity	672.3	0.00	0.27	0.0	0.0	0.0	0.0	50	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.94	0.000	0.000	0.000	0.000	1.0 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Office	Discretionary	392.2	0.00	0.16	0.0	0.0	0.0	0.0	29	9	\$90.84	\$90.84	\$0.21	\$0.00	\$0.00	7.66	0.94	0.000	0.000	0.000	0.000	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Office	Lost Opportunity	392.2	0.00	0.16	0.0	0.0	0.0	0.0	29	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.94	0.000	0.000	0.000	0.000	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Office	Discretionary	168.1	0.00	0.07	0.0	0.0	0.0	0.0	11	9	\$90.84	\$90.84	\$0.21	\$0.00	\$0.00	3.14	0.94	7.536	18.081	11.092	11.092	2.2 GPM (Federal Code)	
Water Heat LE 55 Gal	Low-Flow Showerheads	Large Office	Discretionary	364.0	0.00	0.15	0.0	0.0	0.0	0.0	43	9	\$22.71	\$22.71	\$0.21	\$0.00	\$0.00	34.49	0.94	41.348	99.200	60.853	60.853	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Large Office	Lost Opportunity	364.0	0.00	0.15	0.0	0.0	0.0	0.0	43	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.94	2.732	0.000	0.000	0.000	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Large Office	Discretionary	273.0	0.00	0.11	0.0	0.0	0.0	0.0	32	9	\$22.71	\$22.71	\$0.21	\$0.00	\$0.00	25.87	0.94	0.000	0.000	0.000	0.000	1.75 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Large Office	Lost Opportunity	273.0	0.00	0.11	0.0	0.0	0.0	0.0	32	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.94	0.000	0.000	0.000	0.000	1.75 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Large Office	Discretionary	182.0	0.00	0.07	0.0	0.0	0.0	0.0	21	9	\$22.71	\$22.71	\$0.21	\$0.00	\$0.00	17.25	0.94	0.000	0.000	0.000	0.000	2.0 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Large Office	Lost Opportunity	182.0	0.00	0.07	0.0	0.0	0.0	0.0	21	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.94	0.000	0.000	0.000	0.000	2.0 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Large Office	Discretionary	182.0	0.00	0.07	0.0	0.0	0.0	0.0	21	9	\$22.71	\$22.71	\$0.21	\$0.00	\$0.00	17.25	0.94	7.753	18.600	11.410	11.410	2.5 GPM (Federal Code)	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Large Office	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$2.77	\$2.77	\$0.21	\$0.72	\$0.00	0.02	0.94	0.000	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Large Office	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$2.77	\$2.77	\$0.18	\$0.72	\$0.00	0.02	0.94	0.000	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Large Office	Discretionary	616.3	0.00	0.25	0.0	0.0	0.0	0.0	0	20	\$1,593.04	\$1,593.04	\$0.21	\$0.00	\$0.00	0.96	0.94	70.006	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Large Office	Lost Opportunity	616.3	0.00	0.25	0.0	0.0	0.0	0.0	0	20	\$1,593.04	\$1,593.04	\$0.18	\$0.00	\$0.00	0.96	0.94	4.626	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Large Office	Discretionary	426.3	0.00	0.17	0.0	0.0	0.0	0.0	0	10	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.94	2.548	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Large Office	Lost Opportunity	426.3	0.00	0.17	0.0	0.0	0.0	0.0	0	10	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.94	0.168	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Large Office	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$1.31	\$1.31	\$0.21	\$0.01	\$0.00	0.11	0.94	426.696	0.000	0.000	0.000	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Large Office	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$1.31	\$1.31	\$0.18	\$0.01	\$0.00	0.11	Pump	0.94	32.515	0.000	0.000	0.000	CO2 Heat Pump Water Heater
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Large Office	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.84	\$0.84	\$0.21	\$0.01	\$0.00	0.13	0.94	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Large Office	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.84	\$0.84	\$0.18	\$0.01	\$0.00	0.13	0.94	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Large Office	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.94	\$0.94	\$0.21	\$0.01	\$0.00	0.13	0.94	0.000	0.000	0.000	0.000	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Large Office	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.94	\$0.94	\$0.18	\$0.01	\$0.00	0.13	0.94	0.000	0.000	0.000	0.000	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE																									

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Cooking	Convection Oven	Large Retail	Discretionary	178.2	0.02	0.02	0.0	0.0	0.0	0.0	0	12	\$48.07	\$48.07	\$0.21	\$48.07	\$0.00	7.05	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Convection Oven	
Cooking	Convection Oven	Large Retail	Lost Opportunity	178.2	0.02	0.02	0.0	0.0	0.0	0.0	0	12	\$48.07	\$48.07	\$0.18	\$0.00	\$0.00	7.05	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Convection Oven	
Cooking	Fryers	Large Retail	Discretionary	368.1	0.04	0.04	0.0	0.0	0.0	0.0	0	12	\$62.69	\$62.69	\$0.21	\$0.00	\$0.00	11.17	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Fryer	
Cooking	Fryers	Large Retail	Lost Opportunity	368.1	0.04	0.04	0.0	0.0	0.0	0.0	0	12	\$62.69	\$62.69	\$0.18	\$0.00	\$0.00	11.17	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Fryer	
Cooking	Griddle	Large Retail	Discretionary	236.5	0.03	0.03	0.0	0.0	0.0	0.0	0	12	\$106.55	\$106.55	\$0.21	\$0.00	\$0.00	4.22	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Griddle	
Cooking	Griddle	Large Retail	Lost Opportunity	236.5	0.03	0.03	0.0	0.0	0.0	0.0	0	12	\$106.55	\$106.55	\$0.18	\$0.00	\$0.00	4.22	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Griddle	
Cooking	Hot Food Holding Cabinet	Large Retail	Discretionary	214.3	0.02	0.02	0.0	0.0	0.0	0.0	0	12	\$111.75	\$111.75	\$0.21	\$0.00	\$0.00	3.65	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Hot Food Holding Cabinet	
Cooking	Hot Food Holding Cabinet	Large Retail	Lost Opportunity	214.3	0.02	0.02	0.0	0.0	0.0	0.0	0	12	\$111.75	\$111.75	\$0.18	\$0.00	\$0.00	3.65	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Hot Food Holding Cabinet	
Cooking	Microwave - High Efficiency	Large Retail	Discretionary	1.2	0.00	0.00	0.0	0.0	0.0	0.0	0	11	\$0.61	\$0.61	\$0.21	\$0.00	\$0.00	3.38	1.00	0.000	0.000	0.000	0.000	High Efficiency Microwave	
Cooking	Microwave - High Efficiency	Large Retail	Lost Opportunity	1.2	0.00	0.00	0.0	0.0	0.0	0.0	0	11	\$0.61	\$0.61	\$0.18	\$0.00	\$0.00	3.38	1.00	0.000	0.000	0.000	0.000	High Efficiency Microwave	
Cooking	Steam Cooker	Large Retail	Discretionary	617.4	0.07	0.07	0.0	0.0	0.0	0.0	2,224	12	\$210.61	\$210.61	\$0.21	\$0.00	\$0.00	122.38	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Steam Cooker	
Cooking	Steam Cooker	Large Retail	Lost Opportunity	617.4	0.07	0.07	0.0	0.0	0.0	0.0	2,224	12	\$210.61	\$210.61	\$0.18	\$0.00	\$0.00	122.38	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Steam Cooker	
Cooling Chillers	Active Chilled Beam Cooling with DOAS	Large Retail	Lost Opportunity	520.8	0.18	0.00	0.0	0.0	0.0	0.0	0	15	-\$9,186.00	\$0.00	\$0.18	\$6,889.50	\$0.00	0.03	0.99	1.671	0.000	0.000	0.000	Active Chilled Beam Cooling with DOAS	
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Large Retail	Discretionary	270.8	0.09	0.00	0.0	0.0	0.0	0.0	0	15	\$2,296.50	\$2,296.50	\$0.21	\$0.00	\$0.00	0.41	0.99	6.640	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)	
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Large Retail	Discretionary	481.7	0.16	0.00	0.0	0.0	0.0	0.0	0	15	\$10,655.76	\$10,655.76	\$0.21	\$0.00	\$0.00	0.16	0.99	15.075	0.000	0.000	0.000	Additional Control Features	
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Large Retail	Lost Opportunity	481.7	0.16	0.00	0.0	0.0	0.0	0.0	0	15	\$10,655.76	\$10,655.76	\$0.18	\$0.00	\$0.00	0.16	0.99	0.714	0.000	0.000	0.000	Additional Control Features	
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Large Retail	Discretionary	293.2	0.10	0.00	0.0	0.0	0.0	0.0	0	10	\$10,836.42	\$10,836.42	\$0.21	\$0.00	\$0.00	0.06	0.99	4.491	0.000	0.000	0.000	VSD for Secondary Chilled Water Loop	
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Large Retail	Lost Opportunity	293.2	0.10	0.00	0.0	0.0	0.0	0.0	0	10	\$9,752.78	\$9,752.78	\$0.18	\$0.00	\$0.00	0.07	0.99	0.615	0.000	0.000	0.000	VSD for Secondary Chilled Water Loop	
Cooling Chillers	Chilled Water Reset	Large Retail	Discretionary	130.2	0.04	0.00	0.0	0.0	0.0	0.0	0	10	\$6,258.79	\$6,258.79	\$0.21	\$0.00	\$0.00	0.05	0.99	5.823	0.000	0.000	0.000	Chilled Water Temperature Reset	
Cooling Chillers	Chilled Water Reset	Large Retail	Lost Opportunity	130.2	0.04	0.00	0.0	0.0	0.0	0.0	0	10	\$6,258.79	\$6,258.79	\$0.18	\$0.00	\$0.00	0.05	0.99	0.000	0.000	0.000	0.000	Chilled Water Temperature Reset	
Cooling Chillers	Chilled Water Side Economizer	Large Retail	Discretionary	729.0	0.25	0.00	0.0	0.0	0.0	0.0	0	15	\$71,776.78	\$71,776.78	\$0.21	\$0.00	\$0.00	0.04	0.99	19.860	0.000	0.000	0.000	0.000	Install Economizer
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Large Retail	Discretionary	163.8	0.06	0.00	0.0	0.0	0.0	0.0	0	15	\$294.50	\$294.50	\$0.21	\$0.00	\$0.00	1.95	0.99	14.074	15.685	12.567	12.567	2.0" of Insulation, assuming R-8	
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Large Retail	Lost Opportunity	163.8	0.06	0.00	0.0	0.0	0.0	0.0	0	15	\$294.50	\$294.50	\$0.18	\$0.00	\$0.00	1.95	0.99	1.478	1.694	1.358	1.358	2.0" of Insulation, assuming R-8	
Cooling Chillers	Chiller - Pipe Insulation - Code	Large Retail	Discretionary	273.5	0.09	0.00	0.0	0.0	0.0	0.0	0	15	\$631.54	\$631.54	\$0.21	\$0.00	\$0.00	1.52	0.99	27.001	30.092	24.109	24.109	1.0" of Insulation, assuming R-4 (Code)	
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.40	\$0.40	\$0.21	\$0.00	\$0.00	0.49	0.99	22.895	0.000	0.000	0.000	0.000	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.36	\$0.36	\$0.18	\$0.00	\$0.00	0.55	0.99	2.772	0.000	0.000	0.000	0.000	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)
Cooling Chillers	Commissioning	Large Retail	Lost Opportunity	338.5	0.12	0.00	0.0	0.0	0.0	0.0	0	5	\$10,655.76	\$10,655.76	\$0.18	\$0.00	\$0.00	0.03	0.99	2.545	0.000	0.000	0.000	0.000	Commissioning
Cooling Chillers	Convert Constant Volume Air System to VAV	Large Retail	Discretionary	684.0	0.23	0.00	0.0	0.0	0.0	0.0	0	15	\$33,494.78	\$33,494.78	\$0.21	\$0.00	\$0.00	0.07	0.99	4.764	0.000	0.000	0.000	0.000	Variable Volume Air System
Cooling Chillers	Direct Digital Control System-Installation	Large Retail	Discretionary	390.6	0.13	0.00	0.0	0.0	0.0	0.0	0	5	\$2,870.63	\$2,870.63	\$0.21	\$0.00	\$0.00	0.15	0.99	20.206	0.000	0.000	0.000	0.000	Installation of EMS System
Cooling Chillers	Direct Digital Control System-Installation	Large Retail	Lost Opportunity	390.6	0.13	0.00	0.0	0.0	0.0	0.0	0	5	\$2,870.63	\$2,870.63	\$0.18	\$0.00	\$0.00	0.15	0.99	0.219	0.000	0.000	0.000	0.000	Installation of EMS System
Cooling Chillers	Exhaust Hood Makeup Air	Large Retail	Discretionary	117.2	0.04	0.00	0.0	0.0	0.0	0.0	0	12	\$384.06	\$384.06	\$0.21	\$0.00	\$0.00	0.84	0.99	0.326	0.000	0.000	0.000	0.000	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air
Cooling Chillers	Green Roof	Large Retail	Discretionary	13.9	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$104,827.66	\$104,827.66	\$0.21	\$1,048.28	\$0.00	0.00	0.99	0.547	0.000	0.000	0.000	0.000	Vegetation on Roof
Cooling Chillers	Green Roof	Large Retail	Lost Opportunity	11.4	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$104,827.66	\$104,827.66	\$0.18	\$1,048.28	\$0.00	0.00	0.99	0.059	0.000	0.000	0.000	0.000	Vegetation on Roof
Cooling Chillers	Indirect Information Feedback	Large Retail	Discretionary	13.5	0.00	0.00	0.0	0.0	0.0	0.0	0	2	\$45.08	\$45.08	\$0.21	\$0.00	\$0.00	0.12	0.99	0.722	0.000	0.000	0.000	0.000	Indirect Information Feedback
Cooling Chillers	Indirect Information Feedback	Large Retail	Lost Opportunity	13.5	0.00	0.00	0.0	0.0	0.0	0.0	0	2	\$45.08	\$45.08	\$0.18	\$0.00	\$0.00	0.12	0.99	0.088	0.000	0.000	0.000	0.000	Indirect Information Feedback
Cooling Chillers	Infiltration Reduction	Large Retail	Discretionary	78.1	0.03	0.00	0.0	0.0	0.0	0.0	0	10	\$416.02	\$416.02	\$0.21	\$0.00	\$0.00	0.43	0.99	0.245	0.000	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Discretionary	137.2	0.05	0.00	0.0	0.0	0.0	0.0	0	30	\$1,179.31	\$1,179.31	\$0.21	\$0.00	\$0.00	0.85	0.99	3.875	0.000	0.000	0.000	0.000	R-35 c.i.
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Lost Opportunity	137.2	0.05	0.00	0.0	0.0	0.0	0.0	0	30	\$1,179.31	\$1,179.31	\$0.18	\$0.00	\$0.00	0.85	0.99	0.163	0.000	0.000	0.000	0.000	R-35 c.i.
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Code	Large Retail	Discretionary	361.1	0.12	0.00	0.0	0.0	0.0	0.0	0	30	\$5,381.15	\$5,381.15	\$0.21	\$0.00	\$0.00	0.49	0.99	6.546	0.000	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Discretionary	202.2	0.07	0.00	0.0	0.0	0.0	0.0	0	30	\$2,096.55	\$2,096.55	\$0.21	\$0.00	\$0.00	0.71	0.99	1.907	0.000	0.000	0.000	0.000	R-38
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Lost Opportunity	202.2	0.07	0.00	0.0	0.0	0.0	0.0	0	30	\$2,096.55	\$2,096.55	\$0.18	\$0.00	\$0.00	0.71	0.99	0.332	0.000	0.000	0.000	0.000	R-38
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Code	Large Retail	Discretionary	352.1	0.12	0.00	0.0	0.0	0.0	0.0	0	30	\$6,010.12	\$6,010.12	\$0.21	\$0.00	\$0.00	0.43	0.99	3.219	0.000	0.000	0.000	0.000	R-30 (CBES 2015 Code)
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Discretionary	171.1	0.06	0.00	0.0	0.0	0.0	0.0	0	30	\$1,263.07	\$1,263.07	\$0.21	\$0.00	\$0.00	0.99	0.99	2.700	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Lost Opportunity	171.1	0.06	0.00	0.0	0.0	0.0	0.0	0	30	\$1,263.07	\$1,263.07	\$0.18	\$0.00	\$0.00	0.99	0.99	0.699	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.
Cooling Chillers	Insulation - Wall - CBES 2015 - Code	Large Retail	Discretionary	159.2	0.05	0.00	0.0	0.0	0.0	0.0	0	30	\$8,667.22	\$8,667.22	\$0.21	\$0.00	\$0.00	0.13	0.99	1.388	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)
Cooling Chillers	Natural Ventilation	Large Retail	Lost Opportunity	260.4	0.09	0.00	0.0	0.0	0.0	0.0	0	15	\$9,186.00	\$9,186.00	\$0.18	\$0.00	\$0.00	0.10	0.99	0.087	0.000	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling
Cooling Chillers	Programmable Thermostat	Large Retail	Discretionary	104.2	0.04	0.00	0.0	0.0	0.0	0.0	0	11	\$67.76	\$67.76	\$0.21	\$0.00	\$0.00	3.86	0.99	8.307	9.257	7.417	7.417	Programmable Thermostat	
Cooling Chillers	Re-Commissioning	Large Retail	Discretionary	338.5	0.12	0.00	0.0	0.0	0.0	0.0	0	5	\$2,755.80	\$2,755.80	\$0.21	\$0.00	\$0.00	0.13	0.99	26.750	0.000	0.000	0.000	0.000	Re-Commissioning
Cooling Chillers	Retrocommissioning	Large Retail	Discretionary	386.2	0.13	0.00	0.0	0.0	0.0	0.0	0	5	\$4,593.00	\$4,593.00	\$0.21	\$0.00	\$0.00	0.09	0.99	16.412	0.000	0.000	0.000	0.000	Retrocommissioning
Cooling Chillers	Strategic Energy Management (SEM)	Large Retail	Discretionary	106.8	0.04	0.00	0.0	0.0	0.0	0.0	0	5	\$14.39	\$											

Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Discretionary	116.1	0.04	0.00	0.0	302.4	0.0	0.0	0	30	\$1,179.31	\$1,179.31	\$0.21	\$0.00	\$0.00	6.31	0.99	3.941	5.201	4.167	4.167	R-35 c.i.
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Lost Opportunity	116.1	0.04	0.00	0.0	335.9	0.0	0.0	0	30	\$1,179.31	\$1,179.31	\$0.18	\$0.00	\$0.00	6.93	0.99	0.169	0.234	0.187	0.187	R-35 c.i.
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Code	Large Retail	Discretionary	305.5	0.10	0.00	0.0	1035.9	0.0	0.0	0	30	\$5,381.15	\$5,381.15	\$0.21	\$0.00	\$0.00	4.61	0.99	6.664	8.795	7.047	7.047	R-30 c.i. (CBES 2015 Code)
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Large Retail	Discretionary	79.3	0.03	0.00	0.0	182.1	0.0	0.0	0	20	\$124.59	\$124.59	\$0.21	\$0.00	\$0.00	27.20	0.99	7.078	9.342	7.485	7.485	R-12
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Large Retail	Lost Opportunity	79.3	0.03	0.00	0.0	202.3	0.0	0.0	0	20	\$124.59	\$124.59	\$0.18	\$0.00	\$0.00	29.89	0.99	0.762	1.052	0.843	0.843	R-12
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	Large Retail	Discretionary	79.3	0.03	0.00	0.0	182.1	0.0	0.0	0	20	\$501.79	\$501.79	\$0.21	\$0.00	\$0.00	6.75	0.99	5.744	7.582	6.074	6.074	R-8 (CBES 2015 Code)
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Discretionary	171.0	0.06	0.00	0.0	445.6	0.0	0.0	0	30	\$2,096.55	\$2,096.55	\$0.21	\$0.00	\$0.00	5.23	0.99	1.942	2.563	2.053	2.053	R-38
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Lost Opportunity	171.0	0.06	0.00	0.0	495.1	0.0	0.0	0	30	\$2,096.55	\$2,096.55	\$0.18	\$0.00	\$0.00	5.74	0.99	0.344	0.475	0.381	0.381	R-38
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	Large Retail	Discretionary	297.9	0.10	0.00	0.0	776.0	0.0	0.0	0	30	\$6,010.12	\$6,010.12	\$0.21	\$0.00	\$0.00	3.18	0.99	3.171	4.185	3.353	3.353	R-30 (CBES 2015 Code)
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Discretionary	144.7	0.05	0.00	0.0	377.0	0.0	0.0	0	30	\$1,263.07	\$1,263.07	\$0.21	\$0.00	\$0.00	7.34	0.99	2.800	3.695	2.961	2.961	R-13 + 15.6 c.i.
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Lost Opportunity	144.7	0.05	0.00	0.0	418.9	0.0	0.0	0	30	\$1,263.07	\$1,263.07	\$0.18	\$0.00	\$0.00	8.06	0.99	0.724	1.000	0.801	0.801	R-13 + 15.6 c.i.
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Code	Large Retail	Discretionary	134.7	0.05	0.00	0.0	414.0	0.0	0.0	0	30	\$8,667.22	\$8,667.22	\$0.21	\$0.00	\$0.00	1.15	0.99	1.491	1.968	1.577	1.577	R-13 + 7.5 c.i. (CBES 2015 Code)
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Large Retail	Discretionary	177.3	0.06	0.00	0.0	0.0	0.0	0.0	0	15	\$48,665.13	\$48,665.13	\$0.21	\$0.00	\$0.00	0.01	0.99	0.603	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Large Retail	Lost Opportunity	177.3	0.06	0.00	0.0	0.0	0.0	0.0	0	15	\$38,932.11	\$38,932.11	\$0.18	\$0.00	\$0.00	0.02	0.99	0.067	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)
Cooling Dx Evap	Natural Ventilation	Large Retail	Lost Opportunity	220.3	0.08	0.00	0.0	0.0	0.0	0.0	0	15	\$9,186.00	\$9,186.00	\$0.18	\$0.00	\$0.00	0.08	0.99	0.070	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling
Cooling Dx Evap	Programmable Thermostat	Large Retail	Discretionary	88.1	0.03	0.00	0.0	179.4	0.0	0.0	0	11	\$67.76	\$67.76	\$0.21	\$0.00	\$0.00	30.48	0.99	7.730	10.203	8.175	8.175	Programmable Thermostat
Cooling Dx Evap	Re-Commissioning	Large Retail	Discretionary	286.4	0.10	0.00	0.0	532.7	0.0	0.0	0	5	\$2,755.80	\$2,755.80	\$0.21	\$0.00	\$0.00	1.10	0.99	28.727	37.916	30.378	30.378	Re-Commissioning
Cooling Dx Evap	Retrocommissioning	Large Retail	Discretionary	326.7	0.11	0.00	0.0	607.9	0.0	0.0	0	5	\$4,593.00	\$4,593.00	\$0.21	\$0.00	\$0.00	0.75	0.99	17.692	0.000	0.000	0.000	Retrocommissioning
Cooling Dx Evap	Strategic Energy Management (SEM)	Large Retail	Discretionary	90.3	0.03	0.00	0.0	168.0	0.0	0.0	0	5	\$12.17	\$12.17	\$0.21	\$0.00	\$0.00	78.33	0.99	1.229	1.623	1.300	1.300	Identify Operations and Maintenance Improvements through Strategic Energy Man
Cooling Dx Evap	Strategic Energy Management (SEM)	Large Retail	Lost Opportunity	90.3	0.03	0.00	0.0	186.7	0.0	0.0	0	5	\$12.17	\$12.17	\$0.18	\$0.00	\$0.00	86.13	0.99	0.725	1.001	0.802	0.802	Identify Operations and Maintenance Improvements through Strategic Energy Man
Cooling Dx Evap	Tune-up - DX Maintenance	Large Retail	Discretionary	316.7	0.11	0.00	0.0	0.0	0.0	0.0	0	5	\$16,534.80	\$16,534.80	\$0.21	\$0.00	\$0.00	0.02	0.99	11.899	0.000	0.000	0.000	DX Tune-up / Diagnostics
Cooling Dx Evap	Wi-Fi Thermostat	Large Retail	Discretionary	88.1	0.03	0.00	0.0	179.4	0.0	0.0	0	11	\$539.80	\$539.80	\$0.21	\$0.00	\$0.00	3.83	0.99	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Large Retail	Discretionary	13.0	0.00	0.00	0.0	29.9	0.0	0.0	0	20	\$2,460.13	\$2,460.13	\$0.21	\$0.00	\$0.00	0.23	0.99	0.267	0.000	0.000	0.000	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Large Retail	Lost Opportunity	13.0	0.00	0.00	0.0	33.2	0.0	0.0	0	20	\$2,460.13	\$2,460.13	\$0.18	\$0.00	\$0.00	0.25	0.99	0.108	0.000	0.000	0.000	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Code	Large Retail	Discretionary	29.7	0.01	0.00	0.0	70.0	0.0	0.0	0	20	\$16,245.80	\$16,245.80	\$0.21	\$0.00	\$0.00	0.08	0.99	0.554	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtu/h - Premium Efficiency	Large Retail	Discretionary	1,174.7	0.40	0.00	0.0	0.0	0.0	0.0	0	15	\$56,381.79	\$56,381.79	\$0.21	\$0.00	\$0.00	0.07	0.99	34.724	0.000	0.000	0.000	Premium Efficiency - 19.0 IEER
Fax	Fax - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	3.656	0.000	0.000	0.000	ENERGY STAR Fax
Fax	Fax - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.365	0.000	0.000	0.000	ENERGY STAR Fax
Flat Screen Monitors	Monitor - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	0.50	1.00	27.184	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	0.50	1.00	2.568	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor
Freezers	Freezer (Residential) - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	13.03	1.00	1.280	1.280	0.832	0.832	ENERGY STAR Freezer
Freezers	Freezer (Residential) - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	13.03	1.00	0.173	0.173	0.113	0.113	ENERGY STAR Freezer
Freezers	Residential Freezer Recycling and Replacement	Large Retail	Discretionary	23.5	0.00	0.00	0.0	0.0	0.0	0.0	0	8	\$9.40	\$9.40	\$0.21	\$0.00	\$0.00	3.13	1.00	8.090	8.090	5.261	5.261	Recycling Existing Freezer and Replacing with a Federal Standard Unit
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	Large Retail	Discretionary	1,217.1	0.01	0.26	0.0	0.0	0.0	0.0	0	8	\$171.11	\$171.11	\$0.21	\$0.00	\$0.00	7.01	0.99	425.441	425.441	370.702	370.702	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	Large Retail	Discretionary	1,135.9	0.01	0.24	0.0	0.0	0.0	0.0	0	8	\$76.91	\$76.91	\$0.21	\$0.00	\$0.00	14.55	0.99	292.584	292.584	254.939	254.939	Photocell
Lighting Exterior	LED Exterior Flood Lights	Large Retail	Discretionary	394.1	0.00	0.08	0.0	0.0	0.0	0.0	0	20	\$259.96	\$259.96	\$0.21	\$0.00	\$0.00	3.73	0.99	165.320	165.320	144.049	144.049	LED Exterior Flood Lights
Lighting Exterior	LED Exterior Flood Lights	Large Retail	Lost Opportunity	394.1	0.00	0.08	0.0	0.0	0.0	0.0	0	20	\$259.96	\$259.96	\$0.18	\$0.00	\$0.00	3.73	0.99	14.365	14.365	12.517	12.517	LED Exterior Flood Lights
Lighting Exterior	LED Exterior Pole Mount Fixture	Large Retail	Discretionary	224.6	0.00	0.05	0.0	0.0	0.0	0.0	0	15	\$440.39	\$440.39	\$0.21	\$0.00	\$0.00	0.94	0.99	94.208	0.000	0.000	0.000	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Pole Mount Fixture	Large Retail	Lost Opportunity	224.6	0.00	0.05	0.0	0.0	0.0	0.0	0	15	\$440.39	\$440.39	\$0.18	\$0.00	\$0.00	0.94	0.99	8.186	0.000	0.000	0.000	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Wall Pack	Large Retail	Discretionary	744.6	0.01	0.16	0.0	0.0	0.0	0.0	0	20	\$1,545.13	\$1,545.13	\$0.21	\$0.00	\$0.00	1.19	0.99	294.981	294.981	257.028	257.028	LED Exterior Wall Pack
Lighting Exterior	LED Exterior Wall Pack	Large Retail	Lost Opportunity	744.6	0.01	0.16	0.0	0.0	0.0	0.0	0	20	\$1,545.13	\$1,545.13	\$0.18	\$0.00	\$0.00	1.19	0.99	25.631	25.631	22.334	22.334	LED Exterior Wall Pack
Lighting Exterior	LED Pathway Lights	Large Retail	Discretionary	185.5	0.00	0.04	0.0	0.0	0.0	0.0	0	11	\$43.88	\$43.88	\$0.21	\$0.00	\$0.00	5.73	0.99	77.799	77.799	67.789	67.789	LED Pathway Lights
Lighting Exterior	LED Pathway Lights	Large Retail	Lost Opportunity	185.5	0.00	0.04	0.0	0.0	0.0	0.0	0	11	\$43.88	\$43.88	\$0.18	\$0.00	\$0.00	5.73	0.99	6.760	5.890	5.890	5.890	LED Pathway Lights
Lighting Exterior	Occupancy Sensor Control	Large Retail	Discretionary	973.7	0.01	0.20	0.0	0.0	0.0	0.0	0	10	\$3,058.36	\$3,058.36	\$0.21	\$0.00	\$0.00	0.39	0.99	107.480	0.000	0.000	0.000	Occupancy Sensor Control
Lighting Exterior	Parking - Covered Lighting	Large Retail	Discretionary	86.0	0.00	0.02	0.0	0.0	0.0	0.0	0	19	\$62.74	\$62.74	\$0.21	\$0.00	\$0.00	3.21	0.99	9.815	9.815	8.552	8.552	Covered Parking Lighting (LED)
Lighting Exterior	Parking - Covered Lighting	Large Retail	Lost Opportunity	86.0	0.00	0.02	0.0	0.0	0.0	0.0	0	19	\$62.74	\$62.74	\$0.18	\$0.00	\$0.00	3.21	0.99	0.853	0.853	0.743	0.743	Covered Parking Lighting (LED)
Lighting Exterior	Parking - Surface Lighting	Large Retail	Discretionary	46.5	0.00	0.01	0.0	0.0	0.0	0.0	0	10	\$23.88	\$23.88	\$0.21	\$0.00	\$0.00	2.40	0.99	2.281	2.281	1.987	1.987	Surface Parking Lighting (LED)
Lighting Exterior	Parking - Surface Lighting	Large Retail	Lost Opportunity	46.5	0.00	0.01	0.0	0.0	0.0	0.0	0	10	\$23.88	\$23.88	\$0.18	\$0.00	\$0.00	2.40	0.99	0.198	0.198	0.173	0.173	Surface Parking Lighting (LED)
Lighting Exterior	Time Clock	Large Retail	Discretionary	405.7	0.00	0.09	0.0	0.0	0.0	0.0	0	8	\$											



Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	Large Retail	Lost Opportunity	1.1	0.00	0.00	0.0	0.0	0.0	0.0	0	3	\$0.02	\$0.02	\$0.21	-\$0.02	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	CFL
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base Incandescent - Backstop EISA 2020 Standard	Large Retail	Lost Opportunity	0.9	0.00	0.00	0.0	0.0	0.0	0.0	0	3	\$0.01	\$0.01	\$0.21	-\$0.03	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	Backstop EISA 2020 Standard Incandescent
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base LED - Above Standard	Large Retail	Lost Opportunity	1.2	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.11	\$0.11	\$0.21	-\$0.04	\$0.00	999.00	0.99	188.722	189.233	164.886	164.886	LED
Lighting Interior Screw Base - Standard	Occupancy Sensor Control	Large Retail	Discretionary	2,961.0	0.57	0.40	0.0	0.0	0.0	0.0	0	10	\$9,300.66	\$9,300.66	\$0.21	\$0.00	\$0.00	0.59	0.99	133.963	0.000	0.000	0.000	Occupancy Sensor Control
Lighting Interior Screw Base - Standard	Time Clock	Large Retail	Discretionary	1,233.7	0.24	0.17	0.0	0.0	0.0	0.0	0	8	\$135.39	\$135.39	\$0.21	\$0.00	\$0.00	13.46	0.99	9.303	9.303	8.106	8.106	Time Clock
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base CFL - Above Standard	Large Retail	Discretionary	580.8	0.11	0.08	0.0	0.0	0.0	0.0	0	3	\$11.83	\$11.83	\$0.21	-\$9.77	\$0.00	0.00	0.99	0.000	0.000	0.000	0.000	CFL
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base LED - Above Standard	Large Retail	Discretionary	603.8	0.12	0.08	0.0	0.0	0.0	0.0	0	12	\$36.62	\$36.62	\$0.21	-\$13.87	\$0.00	0.00	0.99	221.013	0.000	0.000	0.000	LED
Other Plug Load	Dehumidifier - ENERGY STAR	Large Retail	Discretionary	202.2	0.03	0.02	0.0	0.0	0.0	0.0	0	12	\$78.87	\$78.87	\$0.21	\$0.00	\$0.00	5.23	1.00	16.366	16.366	13.189	13.189	ENERGY STAR Dehumidifier
Other Plug Load	Dehumidifier - ENERGY STAR	Large Retail	Lost Opportunity	202.2	0.03	0.02	0.0	0.0	0.0	0.0	0	12	\$78.87	\$78.87	\$0.18	\$0.00	\$0.00	5.23	1.00	1.422	1.422	1.146	1.146	ENERGY STAR Dehumidifier
Other Plug Load	ENERGY STAR - Scanners	Large Retail	Discretionary	5.3	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	1.740	0.000	0.000	0.000	ENERGY STAR Scanners
Other Plug Load	ENERGY STAR - Scanners	Large Retail	Lost Opportunity	5.3	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.151	0.000	0.000	0.000	ENERGY STAR Scanners
Other Plug Load	ENERGY STAR - Water Cooler	Large Retail	Discretionary	76.5	0.01	0.01	0.0	0.0	0.0	0.0	0	10	\$0.66	\$0.66	\$0.21	\$0.00	\$0.00	196.63	1.00	35.644	35.644	28.725	28.725	ENERGY STAR Water Cooler (Hot/Cold Water)
Other Plug Load	ENERGY STAR - Water Cooler	Large Retail	Lost Opportunity	76.5	0.01	0.01	0.0	0.0	0.0	0.0	0	10	\$0.66	\$0.66	\$0.18	\$0.00	\$0.00	196.63	1.00	3.097	3.097	2.496	2.496	ENERGY STAR Water Cooler (Hot/Cold Water)
Other Plug Load	Internal Power Supply / Com - E Star	Large Retail	Discretionary	73.3	0.01	0.01	0.0	0.0	0.0	0.0	0	4	\$149.69	\$149.69	\$0.21	\$0.00	\$0.00	0.32	1.00	8.054	0.000	0.000	0.000	ENERGY STAR power supply for ENERGY STAR desktop
Other Plug Load	Internal Power Supply / Com - E Star	Large Retail	Lost Opportunity	73.3	0.01	0.01	0.0	0.0	0.0	0.0	0	4	\$149.69	\$149.69	\$0.18	\$0.00	\$0.00	0.32	1.00	0.700	0.000	0.000	0.000	ENERGY STAR power supply for ENERGY STAR desktop
Other Plug Load	Smart Strip Plug Outlet	Large Retail	Discretionary	386.8	0.06	0.04	0.0	0.0	0.0	0.0	0	4	\$290.78	\$290.78	\$0.21	\$0.00	\$0.00	0.86	1.00	37.951	0.000	0.000	0.000	Advanced Power Strip - Load Sensing
Other Plug Load	Smart Strip Plug Outlet	Large Retail	Lost Opportunity	386.8	0.06	0.04	0.0	0.0	0.0	0.0	0	4	\$290.78	\$290.78	\$0.18	\$0.00	\$0.00	0.86	1.00	3.298	0.000	0.000	0.000	Advanced Power Strip - Load Sensing
Other Plug Load	Smart Strip Plug Outlet	Large Retail	Discretionary	235.2	0.03	0.02	0.0	0.0	0.0	0.0	0	4	\$704.20	\$704.20	\$0.21	\$0.00	\$0.00	0.22	1.00	0.000	0.000	0.000	0.000	Advanced Power Strip with Occupancy Sensor
Other Plug Load	Smart Strip Plug Outlet	Large Retail	Lost Opportunity	235.2	0.03	0.02	0.0	0.0	0.0	0.0	0	4	\$704.20	\$704.20	\$0.18	\$0.00	\$0.00	0.22	1.00	0.000	0.000	0.000	0.000	Advanced Power Strip with Occupancy Sensor
Photo Copiers	Copiers - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.99	17.825	0.000	0.000	0.000	ENERGY STAR Copiers
Photo Copiers	Copiers - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.99	1.686	0.000	0.000	0.000	ENERGY STAR Copiers
Printers	Printers - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	96.467	0.000	0.000	0.000	ENERGY STAR Printers
Printers	Printers - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	9.625	0.000	0.000	0.000	ENERGY STAR Printers
Refrigeration	Case Replacement Low Temp	Large Retail	Discretionary	925.3	0.12	0.11	0.0	0.0	0.0	0.0	0	15	\$51.92	\$51.92	\$0.21	\$0.00	\$0.00	44.30	0.96	431.255	431.255	424.197	424.197	Case Replacement Low Temp
Refrigeration	Case Replacement Med Temp	Large Retail	Discretionary	78.9	0.01	0.01	0.0	0.0	0.0	0.0	0	15	\$100.21	\$100.21	\$0.21	\$0.00	\$0.00	1.96	0.96	36.781	36.781	36.179	36.179	Case Replacement Med Temp
Refrigeration	Evaporator Fan Controller - Low Temp	Large Retail	Discretionary	36.7	0.00	0.00	0.0	0.0	0.0	0.0	0	16	\$28.58	\$28.58	\$0.21	\$0.00	\$0.00	3.42	0.96	16.225	16.225	15.959	15.959	ECM Evaporator Fan Controller - Low Temp
Refrigeration	Evaporator Fan Controller - Low Temp	Large Retail	Lost Opportunity	36.7	0.00	0.00	0.0	0.0	0.0	0.0	0	16	\$28.58	\$28.58	\$0.18	\$0.00	\$0.00	3.42	0.96	1.152	1.152	1.133	1.133	ECM Evaporator Fan Controller - Low Temp
Refrigeration	Evaporator Fan Controller - Medium Temp	Large Retail	Discretionary	57.3	0.01	0.01	0.0	0.0	0.0	0.0	0	16	\$53.37	\$53.37	\$0.21	\$0.00	\$0.00	2.85	0.96	25.309	25.309	24.895	24.895	ECM Evaporator Fan Controller - Medium Temp
Refrigeration	Evaporator Fan Controller - Medium Temp	Large Retail	Lost Opportunity	57.3	0.01	0.01	0.0	0.0	0.0	0.0	0	16	\$53.37	\$53.37	\$0.18	\$0.00	\$0.00	2.85	0.96	1.797	1.797	1.768	1.768	ECM Evaporator Fan Controller - Medium Temp
Refrigeration	Floating Condenser Head Pressure Controls	Large Retail	Discretionary	1,410.5	0.19	0.17	0.0	0.0	0.0	0.0	0	15	\$453.47	\$453.47	\$0.21	\$0.00	\$0.00	7.73	0.96	34.599	34.599	34.033	34.033	Floating Condenser Head Pressure Controls
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Large Retail	Discretionary	123.3	0.02	0.01	0.0	0.0	0.0	0.0	0	9	\$16.75	\$16.75	\$0.21	\$0.00	\$0.00	10.81	0.96	57.486	57.486	56.545	56.545	Glass Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Large Retail	Lost Opportunity	123.3	0.02	0.01	0.0	0.0	0.0	0.0	0	9	\$16.75	\$16.75	\$0.18	\$0.00	\$0.00	10.81	0.96	4.995	4.995	4.913	4.913	Glass Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Refrigeration Commissioning or Re-commissioning	Large Retail	Discretionary	1,854.6	0.24	0.22	0.0	0.0	0.0	0.0	0	7	\$478.01	\$478.01	\$0.21	\$0.00	\$0.00	4.38	0.96	81.725	81.725	80.387	80.387	Commissioning / Re-commissioning
Refrigeration	Refrigeration Commissioning or Re-commissioning	Large Retail	Lost Opportunity	1,854.6	0.24	0.22	0.0	0.0	0.0	0.0	0	7	\$478.01	\$478.01	\$0.18	\$0.00	\$0.00	4.38	0.96	3.782	3.782	3.720	3.720	Commissioning / Re-commissioning
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Large Retail	Discretionary	91.6	0.01	0.01	0.0	0.0	0.0	0.0	0	9	\$16.75	\$16.75	\$0.21	\$0.00	\$0.00	8.02	0.96	42.676	42.676	41.977	41.977	Solid Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Large Retail	Lost Opportunity	91.6	0.01	0.01	0.0	0.0	0.0	0.0	0	9	\$16.75	\$16.75	\$0.18	\$0.00	\$0.00	8.02	0.96	3.708	3.708	3.648	3.648	Solid Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Strip Curtains for Walk-ins	Large Retail	Discretionary	469.1	0.06	0.06	0.0	0.0	0.0	0.0	0	4	\$337.49	\$337.49	\$0.21	\$0.00	\$0.00	0.87	0.96	34.519	0.000	0.000	0.000	Strip Curtains for Walk-ins
Refrigeration	Walk-In Electronically Commutated Motor	Large Retail	Discretionary	152.4	0.02	0.02	0.0	0.0	0.0	0.0	0	15	\$35.11	\$35.11	\$0.21	\$0.00	\$0.00	10.79	0.96	71.025	71.025	69.862	69.862	ECM Condensor Fans - Low Temp
Refrigeration	Walk-In Electronically Commutated Motor	Large Retail	Discretionary	164.8	0.02	0.02	0.0	0.0	0.0	0.0	0	15	\$42.91	\$42.91	\$0.21	\$0.00	\$0.00	9.54	0.96	76.792	76.792	75.535	75.535	ECM Condensor Fans - Medium Temp
Refrigeration	Walk-In Electronically Commutated Motor	Large Retail	Discretionary	152.4	0.02	0.02	0.0	0.0	0.0	0.0	0	15	\$35.11	\$35.11	\$0.21	\$0.00	\$0.00	10.79	0.96	71.025	71.025	69.862	69.862	ECM Evaporator Fans - Low Temp
Refrigeration	Walk-In Electronically Commutated Motor	Large Retail	Discretionary	164.8	0.02	0.02	0.0	0.0	0.0	0.0	0	15	\$42.91	\$42.91	\$0.21	\$0.00	\$0.00	9.54	0.96	76.792	76.792	75.535	75.535	ECM Evaporator Fans - Medium Temp
Refrigeration	Walk-in Economizer	Large Retail	Discretionary	1,254.8	0.17	0.15	0.0	0.0	0.0	0.0	0	15	\$609.84	\$609.84	\$0.21	\$0.00	\$0.00	5.11	0.96	461.707	461.707	454.151	454.151	Add Economizer to Walk-in Cooler
Refrigeration	Walk-in Economizer	Large Retail	Lost Opportunity	1,254.8	0.17	0.15	0.0	0.0	0.0	0.0	0	15	\$609.84	\$609.84	\$0.18	\$0.00	\$0.00	5.11	0.96	40.119	40.119	39.462	39.462	Add Economizer to Walk-in Cooler
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	1.23	1.00	0.000	0.000	0.000	0.000	CEE Tier 2 Refrigerator
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	1.23	1.00	0.000	0.000	0.000	0.000	CEE Tier 2 Refrigerator
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	1.15	1.00	21.355	21.355	13.887	13.887	CEE Tier 3 Refrigerator
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	1.15	1.00	3.153	3.153	2.051	2.051	CEE Tier 3 Refrigerator
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	1.26	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Refrigerator
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	1.26	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Refrigerator
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	1.27	1.00	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Refrigerator
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	1.27	1.00	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Refrigerator
Refrigerators	Residential Refrigerator Recycling and Replacement	Large Retail	Discretionary	164.2	0.02	0.02																		

Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Room Cool	Windows - CBES 2015 - Code	Large Retail	Discretionary	3.9	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$16,245.80	\$16,245.80	\$0.21	\$0.00	\$0.00	0.00	0.99	0.007	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Room Cool - Early Replacement	Early Replacement Room AC - ENERGY STAR	Large Retail	Discretionary	58.7	0.03	0.00	0.0	0.0	0.0	0.0	0	9	\$1,010.46	\$1,010.46	\$0.21	\$0.00	\$0.00	0.00	0.99	0.078	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Heat - Electric	Ductless Heat Pump (DHP)	Large Retail	Discretionary	3,008.4	0.01	1.21	0.0	0.0	0.0	0.0	0	15	\$2,557.66	\$2,557.66	\$0.21	\$0.00	\$0.00	2.20	1.00	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Heat - Electric	Ductless Heat Pump (DHP)	Large Retail	Lost Opportunity	3,008.4	0.01	1.21	0.0	0.0	0.0	0.0	0	15	\$2,557.66	\$2,557.66	\$0.18	\$0.00	\$0.00	2.20	1.00	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Large Retail	Discretionary	3,167.2	0.01	1.27	0.0	0.0	0.0	0.0	0	15	\$2,618.81	\$2,618.81	\$0.21	\$0.00	\$0.00	2.26	1.00	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Large Retail	Lost Opportunity	3,167.2	0.01	1.27	0.0	0.0	0.0	0.0	0	15	\$2,618.81	\$2,618.81	\$0.18	\$0.00	\$0.00	2.26	1.00	0.043	0.043	0.035	0.035	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1
Room Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Large Retail	Discretionary	9,431.8	0.02	3.79	0.0	0.0	0.0	0.0	0	14	\$26,914.67	\$26,914.67	\$0.21	\$0.00	\$0.00	0.61	1.00	3.585	0.000	0.000	0.000	Exhaust Air to Ventilation Air Heat Recovery
Room Heat - Electric	Infiltration Reduction	Large Retail	Discretionary	6,287.8	0.01	2.53	0.0	0.0	0.0	0.0	0	10	\$416.02	\$416.02	\$0.21	\$0.00	\$0.00	19.03	1.00	0.952	0.952	0.767	0.767	Install Caulking And Weatherstripping (ACH 0.65)
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Discretionary	3,313.1	0.01	1.33	0.0	0.0	0.0	0.0	0	30	\$1,179.31	\$1,179.31	\$0.21	\$0.00	\$0.00	10.54	1.00	4.223	4.223	3.402	3.402	R-35 c.i.
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Lost Opportunity	3,313.1	0.01	1.33	0.0	0.0	0.0	0.0	0	30	\$1,179.31	\$1,179.31	\$0.18	\$0.00	\$0.00	10.54	1.00	0.173	0.173	0.140	0.140	R-35 c.i.
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Large Retail	Discretionary	8,721.2	0.02	3.51	0.0	0.0	0.0	0.0	0	30	\$5,381.15	\$5,381.15	\$0.21	\$0.00	\$0.00	6.08	1.00	7.142	7.142	5.753	5.753	R-30 c.i. (CBES 2015 Code)
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Discretionary	4,882.5	0.01	1.96	0.0	0.0	0.0	0.0	0	30	\$2,096.55	\$2,096.55	\$0.21	\$0.00	\$0.00	8.74	1.00	2.081	2.081	1.676	1.676	R-38
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Lost Opportunity	4,882.5	0.01	1.96	0.0	0.0	0.0	0.0	0	30	\$2,096.55	\$2,096.55	\$0.18	\$0.00	\$0.00	8.74	1.00	0.352	0.352	0.284	0.284	R-38
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Large Retail	Discretionary	8,503.6	0.02	3.42	0.0	0.0	0.0	0.0	0	30	\$6,010.12	\$6,010.12	\$0.21	\$0.00	\$0.00	5.31	1.00	3.515	3.515	2.832	2.832	R-30 (CBES 2015 Code)
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Discretionary	4,131.1	0.01	1.66	0.0	0.0	0.0	0.0	0	30	\$1,263.07	\$1,263.07	\$0.21	\$0.00	\$0.00	12.28	1.00	2.942	2.942	2.370	2.370	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Lost Opportunity	4,131.1	0.01	1.66	0.0	0.0	0.0	0.0	0	30	\$1,263.07	\$1,263.07	\$0.18	\$0.00	\$0.00	12.28	1.00	0.742	0.742	0.598	0.598	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Code	Large Retail	Discretionary	3,844.3	0.01	1.55	0.0	0.0	0.0	0.0	0	30	\$8,667.22	\$8,667.22	\$0.21	\$0.00	\$0.00	1.66	1.00	1.836	1.836	1.479	1.479	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Electric	Windows - CBES 2015 - Above Code	Large Retail	Discretionary	371.1	0.00	0.15	0.0	0.0	0.0	0.0	0	20	\$2,460.13	\$2,460.13	\$0.21	\$0.00	\$0.00	0.38	1.00	0.417	0.000	0.000	0.000	U-0.29
Room Heat - Electric	Windows - CBES 2015 - Above Code	Large Retail	Lost Opportunity	371.1	0.00	0.15	0.0	0.0	0.0	0.0	0	20	\$2,460.13	\$2,460.13	\$0.18	\$0.00	\$0.00	0.38	1.00	0.125	0.000	0.000	0.000	U-0.29
Room Heat - Electric	Windows - CBES 2015 - Code	Large Retail	Discretionary	847.4	0.00	0.34	0.0	0.0	0.0	0.0	0	20	\$16,245.80	\$16,245.80	\$0.21	\$0.00	\$0.00	0.13	1.00	0.942	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Servers	Internal Power Supply / Server	Large Retail	Discretionary	4.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$1.22	\$1.22	\$0.21	\$0.00	\$0.00	2.22	0.99	1.230	1.560	1.245	1.245	80 Plus power supply for Desktop Derived Server
Servers	Internal Power Supply / Server	Large Retail	Lost Opportunity	4.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$1.22	\$1.22	\$0.18	\$0.00	\$0.00	2.22	0.99	0.106	0.138	0.110	0.110	80 Plus power supply for Desktop Derived Server
Servers	Server - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.02	\$0.02	\$0.21	\$0.00	\$0.00	0.32	0.99	17.570	0.000	0.000	0.000	ENERGY STAR Server
Servers	Server - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.02	\$0.02	\$0.18	\$0.00	\$0.00	0.32	0.99	1.747	0.000	0.000	0.000	ENERGY STAR Server
Space Heat - Electric	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Large Retail	Discretionary	10,134.0	0.02	4.08	0.0	0.0	0.0	0.0	0	15	\$2,296.50	\$2,296.50	\$0.21	\$0.00	\$0.00	8.25	1.00	13.330	13.330	10.738	10.738	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Electric	Commissioning	Large Retail	Lost Opportunity	14,970.6	0.03	6.02	0.0	0.0	0.0	0.0	0	5	\$10,655.76	\$10,655.76	\$0.18	\$0.00	\$0.00	0.87	1.00	7.132	0.000	0.000	0.000	Commissioning
Space Heat - Electric	Convert Constant Volume Air System to VAV	Large Retail	Discretionary	30,251.0	0.06	12.17	0.0	0.0	0.0	0.0	0	15	\$33,494.78	\$33,494.78	\$0.21	\$0.00	\$0.00	1.69	1.00	12.416	12.416	10.002	10.002	Variable Volume Air System
Space Heat - Electric	Direct Digital Control System-Installation	Large Retail	Discretionary	17,273.8	0.04	6.95	0.0	0.0	0.0	0.0	0	5	\$2,870.63	\$2,870.63	\$0.21	\$0.00	\$0.00	3.74	1.00	52.463	52.463	42.263	42.263	Installation of EMS System
Space Heat - Electric	Direct Digital Control System-Installation	Large Retail	Lost Opportunity	17,273.8	0.04	6.95	0.0	0.0	0.0	0.0	0	5	\$2,870.63	\$2,870.63	\$0.18	\$0.00	\$0.00	3.74	1.00	0.547	0.547	0.440	0.440	Installation of EMS System
Space Heat - Electric	Duct Repair and Sealing	Large Retail	Discretionary	10,013.8	0.02	4.03	0.0	0.0	0.0	0.0	0	18	\$2,204.64	\$2,204.64	\$0.21	\$0.00	\$0.00	10.17	1.00	22.206	22.206	17.888	17.888	Reduction In Duct Losses to 5 %
Space Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Large Retail	Discretionary	17,273.8	0.04	6.95	0.0	0.0	0.0	0.0	0	14	\$26,914.67	\$26,914.67	\$0.21	\$0.00	\$0.00	1.12	1.00	5.480	5.480	4.285	4.285	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Electric	Indirect Information Feedback	Large Retail	Discretionary	599.2	0.00	0.24	0.0	0.0	0.0	0.0	0	2	\$1,993.72	\$1,993.72	\$0.21	\$0.00	\$0.00	0.07	1.00	1.637	0.000	0.000	0.000	Indirect Information Feedback
Space Heat - Electric	Indirect Information Feedback	Large Retail	Lost Opportunity	599.2	0.00	0.24	0.0	0.0	0.0	0.0	0	2	\$1,993.72	\$1,993.72	\$0.18	\$0.00	\$0.00	0.07	1.00	0.192	0.000	0.000	0.000	Indirect Information Feedback
Space Heat - Electric	Infiltration Reduction	Large Retail	Discretionary	11,515.9	0.02	4.63	0.0	0.0	0.0	0.0	0	10	\$416.02	\$416.02	\$0.21	\$0.00	\$0.00	34.84	1.00	2.182	2.182	1.758	1.758	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Discretionary	6,067.8	0.01	2.44	0.0	0.0	0.0	0.0	0	30	\$1,179.31	\$1,179.31	\$0.21	\$0.00	\$0.00	19.31	1.00	9.491	9.491	7.646	7.646	R-35 c.i.
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Lost Opportunity	6,067.8	0.01	2.44	0.0	0.0	0.0	0.0	0	30	\$1,179.31	\$1,179.31	\$0.18	\$0.00	\$0.00	19.31	1.00	0.405	0.405	0.326	0.326	R-35 c.i.
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Large Retail	Discretionary	15,972.5	0.03	6.43	0.0	0.0	0.0	0.0	0	30	\$5,381.15	\$5,381.15	\$0.21	\$0.00	\$0.00	11.14	1.00	16.049	16.049	12.929	12.929	R-30 c.i. (CBES 2015 Code)
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Large Retail	Discretionary	4,145.7	0.01	1.67	0.0	0.0	0.0	0.0	0	20	\$124.59	\$124.59	\$0.21	\$0.00	\$0.00	82.76	1.00	17.083	17.083	13.762	13.762	R-12
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Large Retail	Lost Opportunity	4,145.7	0.01	1.67	0.0	0.0	0.0	0.0	0	20	\$124.59	\$124.59	\$0.18	\$0.00	\$0.00	82.76	1.00	1.826	1.826	1.471	1.471	R-12
Space Heat - Electric	Insulation - Duct - CBES 2015 - Code	Large Retail	Discretionary	4,145.7	0.01	1.67	0.0	0.0	0.0	0.0	0	20	\$501.79	\$501.79	\$0.21	\$0.00	\$0.00	20.55	1.00	13.835	13.835	11.145	11.145	R-8 (CBES 2015 Code)
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Discretionary	8,942.0	0.02	3.60	0.0	0.0	0.0	0.0	0	30	\$2,096.55	\$2,096.55	\$0.21	\$0.00	\$0.00	16.01	1.00	4.677	4.677	3.768	3.768	R-38
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Lost Opportunity	8,942.0	0.02	3.60	0.0	0.0	0.0	0.0	0	30	\$2,096.55	\$2,096.55	\$0.18	\$0.00	\$0.00	16.01	1.00	0.824	0.824	0.664	0.664	R-38
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Large Retail	Discretionary	15,574.0	0.03	6.26	0.0	0.0	0.0	0.0	0	30	\$6,010.12	\$6,010.12	\$0.21	\$0.00	\$0.00	9.73	1.00	7.637	7.637	6.153	6.153	R-30 (CBES 2015 Code)
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Discretionary	7,565.8	0.02	3.04	0.0	0.0	0.0	0.0	0	30	\$1,263.07	\$1,263.07	\$0.21	\$0.00	\$0.00	22.48	1.00	6.743	6.743	5.432	5.432	R-13 + 15.6 c.i.
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Lost Opportunity	7,565.8	0.02	3.04	0.0	0.0	0.0	0.0	0	30	\$1,263.07	\$1,263.07	\$0.18	\$0.00	\$0.00	22.48	1.00	1.735	1.735	1.397	1.397	R-13 + 15.6 c.i.
Space Heat - Electric	Insulation - Wall - CBES 2015 - Code	Large Retail	Discretionary	7,040.6	0.01	2.83	0.0	0.0	0.0	0.0	0	30	\$8,667.22	\$8,667.22	\$0.21	\$0.00	\$0.00	3.05	1.00	3.159	3.159	2.545	2.545	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Electric	Programmable Thermostat	Large Retail	Discretionary	4,606.3	0.01	1.85	0.0	0.0	0.0	0.0	0	11	\$67.76	\$67.76	\$0.21	\$0.00	\$0.00	93.94	1.00	18.658	18.658	15.030	15.030	Programmable Thermostat
Space Heat - Electric	Re-Commissioning	Large Retail	Discretionary	14,970.6	0.03	6.02	0.0	0.0	0.0	0.0	0	5	\$2,755.80	\$2,755.80	\$0.21	\$0.00	\$0.00	3.38	1.00	70.341	70.341	56.666	56.666	Re-Commissioning
Space Heat - Electric	Retrocommissioning	Large Retail	Discretionary	17,081.8	0.04	6.87	0.0	0.0	0.0	0.0	0	5	\$4,593.00	\$4,593.00	\$0									

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Large Retail	Lost Opportunity	12.3	0.00	0.00	0.0	0.0	0.0	0.0	0.0	2	13	\$28.60	\$28.60	\$0.18	\$0.00	\$0.00	1.66	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Large Retail	Discretionary	27.4	0.00	0.01	0.0	0.0	0.0	0.0	0.0	3	13	\$52.89	\$52.89	\$0.21	\$0.00	\$0.00	1.53	1.00	0.090	0.136	0.088	0.088	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Large Retail	Lost Opportunity	27.4	0.00	0.01	0.0	0.0	0.0	0.0	0.0	3	13	\$52.89	\$52.89	\$0.18	\$0.00	\$0.00	1.53	1.00	0.007	0.011	0.007	0.007	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Large Retail	Discretionary	60.6	0.00	0.02	0.0	0.0	0.0	0.0	0.0	5	14	\$19.36	\$19.36	\$0.21	\$0.00	\$0.00	8.85	1.00	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Large Retail	Lost Opportunity	60.6	0.00	0.02	0.0	0.0	0.0	0.0	0.0	5	14	\$19.36	\$19.36	\$0.18	\$0.00	\$0.00	8.85	1.00	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Large Retail	Discretionary	95.4	0.00	0.04	0.0	0.0	0.0	0.0	0.0	15	14	\$7.91	\$7.91	\$0.21	\$0.00	\$0.00	44.94	1.00	0.125	0.190	0.124	0.124	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Large Retail	Lost Opportunity	95.4	0.00	0.04	0.0	0.0	0.0	0.0	0.0	15	14	\$7.91	\$7.91	\$0.18	\$0.00	\$0.00	44.94	1.00	0.009	0.015	0.010	0.010	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	Large Retail	Discretionary	22.5	0.00	0.01	0.0	0.0	0.0	0.0	0.0	0	13	\$10.71	\$10.71	\$0.21	\$0.00	\$0.00	3.42	1.00	0.047	0.072	0.047	0.047	1.0" of Insulation, assuming R-4 (Code)
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	Large Retail	Discretionary	346.3	0.00	0.14	0.0	0.0	0.0	0.0	0.0	0	25	\$883.75	\$883.75	\$0.21	\$0.00	\$0.00	1.22	1.00	0.018	0.028	0.018	0.018	Install Heat Recovery Water Heater
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	Large Retail	Discretionary	11.9	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	20	\$1.41	\$1.41	\$0.21	\$0.00	\$0.00	21.12	1.00	0.013	0.020	0.013	0.013	R-3
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Large Retail	Discretionary	587.2	0.00	0.24	0.0	0.0	0.0	0.0	0.0	43	9	\$36.74	\$36.74	\$0.21	\$0.00	\$0.00	28.35	1.00	3.862	5.852	3.806	3.806	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Large Retail	Lost Opportunity	587.2	0.00	0.24	0.0	0.0	0.0	0.0	0.0	43	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.289	0.000	0.000	0.000	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Large Retail	Discretionary	414.5	0.00	0.17	0.0	0.0	0.0	0.0	0.0	31	9	\$36.74	\$36.74	\$0.21	\$0.00	\$0.00	20.01	1.00	0.000	0.000	0.000	0.000	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Large Retail	Lost Opportunity	414.5	0.00	0.17	0.0	0.0	0.0	0.0	0.0	31	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Large Retail	Discretionary	241.8	0.00	0.10	0.0	0.0	0.0	0.0	0.0	18	9	\$36.74	\$36.74	\$0.21	\$0.00	\$0.00	11.67	1.00	0.000	0.000	0.000	0.000	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Large Retail	Lost Opportunity	241.8	0.00	0.10	0.0	0.0	0.0	0.0	0.0	18	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Large Retail	Discretionary	103.6	0.00	0.04	0.0	0.0	0.0	0.0	0.0	7	9	\$36.74	\$36.74	\$0.21	\$0.00	\$0.00	4.79	1.00	0.256	0.387	0.252	0.252	2.2 GPM (Federal Code)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Large Retail	Discretionary	99.3	0.00	0.04	0.0	0.0	0.0	0.0	0.0	19	5	\$18.83	\$18.83	\$0.21	\$0.00	\$0.00	8.41	1.00	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Large Retail	Lost Opportunity	99.3	0.00	0.04	0.0	0.0	0.0	0.0	0.0	19	5	\$18.83	\$18.83	\$0.18	\$0.00	\$0.00	8.41	1.00	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Large Retail	Discretionary	164.4	0.00	0.07	0.0	0.0	0.0	0.0	0.0	31	5	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.933	0.000	0.000	0.000	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Large Retail	Lost Opportunity	164.4	0.00	0.07	0.0	0.0	0.0	0.0	0.0	31	5	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.066	0.000	0.000	0.000	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Large Retail	Discretionary	263.6	0.00	0.11	0.0	0.0	0.0	0.0	0.0	50	5	\$18.83	\$18.83	\$0.21	\$0.00	\$0.00	22.34	1.00	0.000	0.000	0.000	0.000	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Large Retail	Lost Opportunity	263.6	0.00	0.11	0.0	0.0	0.0	0.0	0.0	50	5	\$18.83	\$18.83	\$0.18	\$0.00	\$0.00	22.34	1.00	0.027	0.043	0.028	0.028	0.75 GPM
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Large Retail	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$0.68	\$0.68	\$0.21	\$0.25	\$0.00	0.03	1.00	1.718	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Large Retail	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$0.68	\$0.68	\$0.18	\$0.25	\$0.00	0.03	1.00	0.098	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Large Retail	Discretionary	380.0	0.00	0.15	0.0	0.0	0.0	0.0	0.0	0	20	\$644.34	\$644.34	\$0.21	\$0.00	\$0.00	1.47	1.00	2.374	3.597	2.339	2.339	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Large Retail	Lost Opportunity	380.0	0.00	0.15	0.0	0.0	0.0	0.0	0.0	0	20	\$644.34	\$644.34	\$0.18	\$0.00	\$0.00	1.47	1.00	0.178	0.291	0.189	0.189	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Large Retail	Discretionary	215.1	0.00	0.09	0.0	0.0	0.0	0.0	0.0	0	10	\$861.42	\$861.42	\$0.21	\$0.00	\$0.00	0.31	1.00	0.071	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Large Retail	Lost Opportunity	215.1	0.00	0.09	0.0	0.0	0.0	0.0	0.0	0	10	\$861.42	\$861.42	\$0.18	\$0.00	\$0.00	0.31	1.00	0.005	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.17	\$0.17	\$0.21	\$0.00	\$0.00	0.28	1.00	3.009	0.000	0.000	0.000	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.17	\$0.17	\$0.18	\$0.00	\$0.00	0.28	1.00	0.167	0.000	0.000	0.000	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.03	\$0.03	\$0.21	\$0.00	\$0.00	0.42	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.03	\$0.03	\$0.18	\$0.00	\$0.00	0.42	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.13	\$0.13	\$0.21	\$0.00	\$0.00	0.30	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.13	\$0.13	\$0.18	\$0.00	\$0.00	0.30	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Large Retail	Discretionary	301.1	0.00	0.12	0.0	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	14888.32	1.00	1.881	2.851	1.854	1.854	Set Water Heater to 120F
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Large Retail	Lost Opportunity	301.1	0.00	0.12	0.0	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	14888.32	1.00	0.141	0.230	0.150	0.150	Set Water Heater to 120F
Water Heat GT 55 Gal	Water Heater Tank Wrap	Large Retail	Discretionary	605.9	0.00	0.24	0.0	0.0	0.0	0.0	0.0	0	7	\$41.55	\$41.55	\$0.21	\$0.00	\$0.00	12.82	1.00	1.584	2.401	1.561	1.561	Add R-10 Tank Wrap
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Large Retail	Discretionary	25.7	0.00	0.01	0.0	0.0	0.0	0.0	0.0	2	13	\$28.60	\$28.60	\$0.21	\$0.00	\$0.00	2.42	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Large Retail	Lost Opportunity	25.7	0.00	0.01	0.0	0.0	0.0	0.0	0.0	2	13	\$28.60	\$28.60	\$0.18	\$0.00	\$0.00	2.42	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Large Retail	Discretionary	56.8	0.00	0.02	0.0	0.0	0.0	0.0	0.0	3	13	\$52.89	\$52.89	\$0.21	\$0.00	\$0.00	2.44	1.00	3.293	7.899	5.137	5.137	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Large Retail	Lost Opportunity	56.8	0.00	0.02	0.0	0.0	0.0	0.0	0.0	3	13	\$52.89	\$52.89	\$0.18	\$0.00	\$0.00	2.44	1.00	0.218	0.687	0.447	0.447	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Large Retail	Discretionary	125.9	0.00	0.05	0.0	0.0	0.0	0.0	0.0	5	14	\$19.36	\$19.36	\$0.21	\$0.00	\$0.00	14.75	1.00	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Large Retail	Lost Opportunity	125.9	0.00	0.05	0.0	0.0	0.0	0.0	0.0	5	14	\$19.36	\$19.36	\$0.18	\$0.00	\$0.00	14.75	1.00	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Large Retail	Discretionary	198.3	0.00	0.08	0.0	0.0	0.0	0.0	0.0	15	14	\$7.91	\$7.91	\$0.21	\$0.00	\$0.00	67.69	1.00	4.608	11.055	7.189	7.189	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Large Retail	Lost Opportunity	198.3	0.00	0.08	0.0	0.0	0.0	0.0	0.0	15	14	\$7.91	\$7.91	\$0.18	\$0.00	\$0.00	67.69	1.00	0.304	0.962	0.625	0.625	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Large Retail	Discretionary	46.8	0.00	0.02	0.0	0.0	0.0	0.0	0.0	0	13	\$10.71	\$10.71	\$0.21	\$0.00	\$0.00	7.11	1.00	1.697	4.072	2.648	2.648	1.0" of Insulation, assuming R-4 (Code)
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Large Retail	Discretionary	325.4	0.00	0.13	0.0	0.0	0.0	0.0	0.0	0	25	\$883.75	\$883.75	\$0.21	\$0.00	\$0.00	1.15	1.00	0.207	0.497	0.323	0.323	Install Heat Recovery Water Heater



Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Large Retail	Discretionary	283.0	0.00	0.11	0.0	0.0	0.0	0.0	0.0	4	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	13989.41	1.00	31.235	74.936	48.730	48.730	Set Water Heater to 120F
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Large Retail	Lost Opportunity	283.0	0.00	0.11	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	13989.41	1.00	2.064	6.518	4.239	4.239	Set Water Heater to 120F
Water Heat LE 55 Gal	Water Heater Tank Wrap	Large Retail	Discretionary	569.3	0.00	0.23	0.0	0.0	0.0	0.0	0	7	\$41.55	\$41.55	\$0.21	\$0.00	\$0.00	12.05	1.00	24.290	58.276	37.896	37.896	Add R-10 Tank Wrap
Computers	Computer - ENERGY STAR	Lodging	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	745.451	0.000	0.000	0.000	ENERGY STAR Computer
Computers	Computer - ENERGY STAR	Lodging	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	56.551	0.000	0.000	0.000	ENERGY STAR Computer
Computers	Network PC Power Management	Lodging	Discretionary	2,028.0	0.29	0.18	0.0	0.0	0.0	0.0	0	5	\$247.99	\$247.99	\$0.21	\$56.89	\$0.00	3.27	1.00	256.508	444.341	358.087	358.087	Network PC Power Management
Computers	Network PC Power Management	Lodging	Lost Opportunity	2,028.0	0.29	0.18	0.0	0.0	0.0	0.0	0	5	\$247.99	\$247.99	\$0.18	\$56.89	\$0.00	3.27	1.00	24.953	43.290	34.887	34.887	Network PC Power Management
Cooking	Combination Oven	Lodging	Discretionary	397.8	0.05	0.05	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	23.097	0.000	0.000	0.000	ENERGY STAR Combination Oven
Cooking	Combination Oven	Lodging	Lost Opportunity	397.8	0.05	0.05	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	2.007	0.000	0.000	0.000	ENERGY STAR Combination Oven
Cooking	Convection Oven	Lodging	Discretionary	89.9	0.01	0.01	0.0	0.0	0.0	0.0	0	12	\$24.24	\$24.24	\$0.21	\$0.00	\$0.00	7.05	1.00	6.389	6.389	5.149	5.149	ENERGY STAR Convection Oven
Cooking	Convection Oven	Lodging	Lost Opportunity	89.9	0.01	0.01	0.0	0.0	0.0	0.0	0	12	\$24.24	\$24.24	\$0.18	\$0.00	\$0.00	7.05	1.00	0.555	0.555	0.447	0.447	ENERGY STAR Convection Oven
Cooking	Fryers	Lodging	Discretionary	185.6	0.02	0.02	0.0	0.0	0.0	0.0	0	12	\$31.61	\$31.61	\$0.21	\$0.00	\$0.00	11.17	1.00	15.394	15.394	12.405	12.405	ENERGY STAR Fryer
Cooking	Fryers	Lodging	Lost Opportunity	185.6	0.02	0.02	0.0	0.0	0.0	0.0	0	12	\$31.61	\$31.61	\$0.18	\$0.00	\$0.00	11.17	1.00	1.338	1.338	1.078	1.078	ENERGY STAR Fryer
Cooking	Griddle	Lodging	Discretionary	119.3	0.01	0.01	0.0	0.0	0.0	0.0	0	12	\$53.72	\$53.72	\$0.21	\$0.00	\$0.00	4.22	1.00	7.772	7.772	6.264	6.264	ENERGY STAR Griddle
Cooking	Griddle	Lodging	Lost Opportunity	119.3	0.01	0.01	0.0	0.0	0.0	0.0	0	12	\$53.72	\$53.72	\$0.18	\$0.00	\$0.00	4.22	1.00	0.675	0.675	0.544	0.544	ENERGY STAR Griddle
Cooking	Hot Food Holding Cabinet	Lodging	Discretionary	108.1	0.01	0.01	0.0	0.0	0.0	0.0	0	12	\$56.35	\$56.35	\$0.21	\$0.00	\$0.00	3.65	1.00	10.886	10.886	8.773	8.773	ENERGY STAR Hot Food Holding Cabinet
Cooking	Hot Food Holding Cabinet	Lodging	Lost Opportunity	108.1	0.01	0.01	0.0	0.0	0.0	0.0	0	12	\$56.35	\$56.35	\$0.18	\$0.00	\$0.00	3.65	1.00	0.946	0.946	0.762	0.762	ENERGY STAR Hot Food Holding Cabinet
Cooking	Microwave - High Efficiency	Lodging	Discretionary	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	11	\$0.31	\$0.31	\$0.21	\$0.00	\$0.00	3.38	1.00	0.064	0.064	0.051	0.051	High Efficiency Microwave
Cooking	Microwave - High Efficiency	Lodging	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	11	\$0.31	\$0.31	\$0.18	\$0.00	\$0.00	3.38	1.00	0.000	0.000	0.000	0.000	High Efficiency Microwave
Cooking	Steam Cooker	Lodging	Discretionary	311.3	0.04	0.04	0.0	0.0	0.0	0.0	2,224	12	\$106.20	\$106.20	\$0.21	\$0.00	\$0.00	237.22	1.00	27.666	27.666	22.296	22.296	ENERGY STAR Steam Cooker
Cooking	Steam Cooker	Lodging	Lost Opportunity	311.3	0.04	0.04	0.0	0.0	0.0	0.0	2,224	12	\$106.20	\$106.20	\$0.18	\$0.00	\$0.00	237.22	1.00	2.404	2.404	1.937	1.937	ENERGY STAR Steam Cooker
Cooling Chillers	Active Chilled Beam Cooling with DOAS	Lodging	Lost Opportunity	1,518.3	0.52	0.00	0.0	0.0	0.0	0.0	0	15	-\$32,183.20	\$0.00	\$0.18	\$24,137.40	\$0.00	0.02	1.00	0.227	0.000	0.000	0.000	Active Chilled Beam Cooling with DOAS
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Lodging	Discretionary	789.5	0.27	0.00	0.2	0.0	0.0	0.0	0	15	\$8,045.80	\$8,045.80	\$0.21	\$0.00	\$0.00	0.35	1.00	2.074	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Lodging	Discretionary	1,404.5	0.48	0.00	0.0	0.0	0.0	0.0	0	15	\$37,332.52	\$37,332.52	\$0.21	\$0.00	\$0.00	0.13	1.00	2.253	0.000	0.000	0.000	Additional Control Features
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Lodging	Lost Opportunity	1,404.5	0.48	0.00	0.0	0.0	0.0	0.0	0	15	\$37,332.52	\$37,332.52	\$0.18	\$0.00	\$0.00	0.13	1.00	0.111	0.000	0.000	0.000	Additional Control Features
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Lodging	Discretionary	931.5	0.32	0.00	0.0	0.0	0.0	0.0	0	10	\$25,310.30	\$25,310.30	\$0.21	\$0.00	\$0.00	0.08	1.00	0.811	0.000	0.000	0.000	VSD for Secondary Chilled Water Loop
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Lodging	Lost Opportunity	931.5	0.32	0.00	0.0	0.0	0.0	0.0	0	10	\$22,779.27	\$22,779.27	\$0.18	\$0.00	\$0.00	0.09	1.00	0.105	0.000	0.000	0.000	VSD for Secondary Chilled Water Loop
Cooling Chillers	Chilled Water Reset	Lodging	Discretionary	379.6	0.13	0.00	0.0	0.0	0.0	0.0	0	10	\$21,927.70	\$21,927.70	\$0.21	\$0.00	\$0.00	0.04	1.00	0.877	0.000	0.000	0.000	Chilled Water Temperature Reset
Cooling Chillers	Chilled Water Reset	Lodging	Lost Opportunity	379.6	0.13	0.00	0.0	0.0	0.0	0.0	0	10	\$21,927.70	\$21,927.70	\$0.18	\$0.00	\$0.00	0.04	1.00	0.000	0.000	0.000	0.000	Chilled Water Temperature Reset
Cooling Chillers	Chilled Water Side Economizer	Lodging	Discretionary	2,124.3	0.73	0.00	0.0	0.0	0.0	0.0	0	15	\$167,646.90	\$167,646.90	\$0.21	\$0.00	\$0.00	0.04	1.00	2.990	0.000	0.000	0.000	Install Economizer
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Lodging	Discretionary	574.0	0.20	0.00	0.0	0.0	0.0	0.0	0	15	\$1,031.78	\$1,031.78	\$0.21	\$0.00	\$0.00	1.95	1.00	2.710	3.021	2.433	2.433	2.0" of insulation, assuming R-8
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Lodging	Lost Opportunity	574.0	0.20	0.00	0.0	0.0	0.0	0.0	0	15	\$1,031.78	\$1,031.78	\$0.18	\$0.00	\$0.00	1.95	1.00	0.286	0.328	0.264	0.264	2.0" of insulation, assuming R-8
Cooling Chillers	Chiller - Pipe Insulation - Code	Lodging	Discretionary	958.3	0.33	0.00	0.0	0.0	0.0	0.0	0	15	\$2,212.60	\$2,212.60	\$0.21	\$0.00	\$0.00	1.52	1.00	5.015	5.589	4.502	4.502	1.0" of insulation, assuming R-4 (Code)
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.27	\$0.27	\$0.21	\$0.00	\$0.00	0.62	1.00	3.621	0.000	0.000	0.000	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.24	\$0.24	\$0.18	\$0.00	\$0.00	0.68	1.00	0.429	0.000	0.000	0.000	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)
Cooling Chillers	Commissioning	Lodging	Lost Opportunity	986.9	0.34	0.00	0.3	0.0	0.0	0.0	0	5	\$37,332.52	\$37,332.52	\$0.18	\$0.00	\$0.00	0.03	1.00	0.426	0.000	0.000	0.000	Commissioning
Cooling Chillers	Convert Constant Volume Air System to VAV	Lodging	Discretionary	1,994.3	0.68	0.00	0.5	0.0	0.0	0.0	0	15	\$78,232.77	\$78,232.77	\$0.21	\$0.00	\$0.00	0.09	1.00	0.789	0.000	0.000	0.000	Variable Volume Air System
Cooling Chillers	Direct Digital Control System-Installation	Lodging	Discretionary	1,138.8	0.39	0.00	0.3	0.0	0.0	0.0	0	5	\$10,057.25	\$10,057.25	\$0.21	\$0.00	\$0.00	0.12	1.00	3.019	0.000	0.000	0.000	Installation of EMS System
Cooling Chillers	Direct Digital Control System-Installation	Lodging	Lost Opportunity	1,138.8	0.39	0.00	0.3	0.0	0.0	0.0	0	5	\$10,057.25	\$10,057.25	\$0.18	\$0.00	\$0.00	0.12	1.00	0.034	0.000	0.000	0.000	Installation of EMS System
Cooling Chillers	Exhaust Hood Makeup Air	Lodging	Discretionary	341.6	0.12	0.00	0.0	0.0	0.0	0.0	0	12	\$193.65	\$193.65	\$0.21	\$0.00	\$0.00	4.86	1.00	0.210	0.234	0.188	0.188	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air
Cooling Chillers	Green Roof	Lodging	Discretionary	40.4	0.01	0.00	0.0	0.0	0.0	0.0	0	40	\$166,589.65	\$166,589.65	\$0.21	\$1,665.90	\$0.00	0.00	1.00	0.082	0.000	0.000	0.000	Vegetation on Roof
Cooling Chillers	Green Roof	Lodging	Lost Opportunity	33.3	0.01	0.00	0.0	0.0	0.0	0.0	0	40	\$166,589.65	\$166,589.65	\$0.18	\$1,665.90	\$0.00	0.00	1.00	0.009	0.000	0.000	0.000	Vegetation on Roof
Cooling Chillers	Indirect Information Feedback	Lodging	Discretionary	39.5	0.01	0.00	0.0	0.0	0.0	0.0	0	2	\$131.43	\$131.43	\$0.21	\$0.00	\$0.00	0.12	1.00	0.125	0.000	0.000	0.000	Indirect Information Feedback
Cooling Chillers	Indirect Information Feedback	Lodging	Lost Opportunity	39.5	0.01	0.00	0.0	0.0	0.0	0.0	0	2	\$131.43	\$131.43	\$0.18	\$0.00	\$0.00	0.12	1.00	0.014	0.000	0.000	0.000	Indirect Information Feedback
Cooling Chillers	Infiltration Reduction	Lodging	Discretionary	227.8	0.08	0.00	0.2	0.0	0.0	0.0	0	10	\$1,260.08	\$1,260.08	\$0.21	\$0.00	\$0.00	0.41	1.00	0.038	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Discretionary	333.0	0.11	0.00	0.1	0.0	0.0	0.0	0	30	\$1,874.13	\$1,874.13	\$0.21	\$0.00	\$0.00	1.31	1.00	0.499	0.556	0.448	0.448	R-35 c.i.
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Lost Opportunity	333.0	0.11	0.00	0.1	0.0	0.0	0.0	0	30	\$1,874.13	\$1,874.13	\$0.18	\$0.00	\$0.00	1.31	1.00	0.021	0.024	0.019	0.019	R-35 c.i.
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Code	Lodging	Discretionary	876.6	0.30	0.00	0.3	0.0	0.0	0.0	0	30	\$8,551.60	\$8,551.60	\$0.21	\$0.00	\$0.00	0.75	1.00	0.846	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Discretionary	490.7	0.17	0.00	0.1	0.0	0.0	0.0	0	30	\$3,331.79	\$3,331.79	\$0.21	\$0.00	\$0.00	1.08	1.00	0.246	0.274	0.221	0.221	R-38
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Lost Opportunity	490.7	0.17	0.00	0.1	0.0	0.0	0.0	0	30	\$3,331.79	\$3,331.79	\$0.18	\$0.00	\$0.00	1.08	1.00	0.043	0.049	0.040	0.040	R-38
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Code	Lodging	Discretionary	854.7	0.29	0.00	0.2	0.0	0.0	0.0	0	30	\$9,551.14	\$9,551.14	\$0.21	\$0.00	\$0.00	0.66	1.00	0.418	0.000	0		

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Cooling Dx Evap	Duct Repair and Sealing	Lodging	Discretionary	593.7	0.20	0.00	0.0	0.0	0.0	0.0	0.0	18	\$7,723.97	\$7,723.97	\$0.21	\$0.00	\$0.00	0.33	1.00	14.519	0.000	0.000	0.000	Reduction In Duct Losses to 5 %	
Cooling Dx Evap	Exhaust Hood Makeup Air	Lodging	Discretionary	307.2	0.11	0.00	0.0	0.0	0.0	0.0	0	12	\$193.65	\$193.65	\$0.21	\$0.00	\$0.00	4.37	1.00	2.177	2.817	2.269	2.269	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Cooling Dx Evap	Green Roof	Lodging	Discretionary	36.3	0.01	0.00	0.0	0.0	0.0	0.0	0	40	\$166,589.65	\$166,589.65	\$0.21	\$1,665.90	\$0.00	0.00	1.00	0.782	0.000	0.000	0.000	Vegetation on Roof	
Cooling Dx Evap	Green Roof	Lodging	Lost Opportunity	29.9	0.01	0.00	0.0	0.0	0.0	0.0	0	40	\$166,589.65	\$166,589.65	\$0.18	\$1,665.90	\$0.00	0.00	1.00	0.043	0.000	0.000	0.000	0.000	Vegetation on Roof
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Lodging	Discretionary	4,055.2	1.39	0.00	0.0	0.0	0.0	0.0	0	15	\$122,296.17	\$122,296.17	\$0.21	-\$2,799.94	\$0.00	0.16	1.00	84.112	0.000	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Lodging	Lost Opportunity	4,055.2	1.39	0.00	0.0	0.0	0.0	0.0	0	15	\$122,296.17	\$122,296.17	\$0.18	-\$2,799.94	\$0.00	0.16	1.00	23.000	0.000	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems
Cooling Dx Evap	Indirect Information Feedback	Lodging	Discretionary	35.5	0.01	0.00	0.0	0.0	0.0	0.0	0	2	\$118.20	\$118.20	\$0.21	\$0.00	\$0.00	0.12	1.00	1.145	0.000	0.000	0.000	0.000	Indirect Information Feedback
Cooling Dx Evap	Indirect Information Feedback	Lodging	Lost Opportunity	35.5	0.01	0.00	0.0	0.0	0.0	0.0	0	2	\$118.20	\$118.20	\$0.18	\$0.00	\$0.00	0.12	1.00	0.064	0.000	0.000	0.000	0.000	Indirect Information Feedback
Cooling Dx Evap	Infiltration Reduction	Lodging	Discretionary	204.8	0.07	0.00	0.0	0.0	0.0	0.0	0	10	\$1,260.08	\$1,260.08	\$0.21	\$0.00	\$0.00	0.37	1.00	0.393	0.000	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Discretionary	299.5	0.10	0.00	0.0	0.0	0.0	0.0	0	30	\$1,874.13	\$1,874.13	\$0.21	\$0.00	\$0.00	1.17	1.00	5.286	6.839	5.510	5.510	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Lost Opportunity	299.5	0.10	0.00	0.0	0.0	0.0	0.0	0	30	\$1,874.13	\$1,874.13	\$0.18	\$0.00	\$0.00	1.17	1.00	0.224	0.295	0.238	0.238	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Code	Lodging	Discretionary	788.3	0.27	0.00	0.0	0.0	0.0	0.0	0	30	\$8,551.60	\$8,551.60	\$0.21	\$0.00	\$0.00	0.68	1.00	8.970	0.000	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Lodging	Discretionary	245.8	0.08	0.00	0.0	0.0	0.0	0.0	0	20	\$436.48	\$436.48	\$0.21	\$0.00	\$0.00	2.69	1.00	11.270	14.581	11.746	11.746	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Lodging	Lost Opportunity	245.8	0.08	0.00	0.0	0.0	0.0	0.0	0	20	\$436.48	\$436.48	\$0.18	\$0.00	\$0.00	2.69	1.00	1.242	1.639	1.321	1.321	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	Lodging	Discretionary	245.8	0.08	0.00	0.0	0.0	0.0	0.0	0	20	\$1,758.01	\$1,758.01	\$0.21	\$0.00	\$0.00	0.67	1.00	8.748	0.000	0.000	0.000	0.000	R-8 (CBES 2015 Code)
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Discretionary	441.3	0.15	0.00	0.0	0.0	0.0	0.0	0	30	\$3,331.79	\$3,331.79	\$0.21	\$0.00	\$0.00	0.97	1.00	2.611	0.000	0.000	0.000	0.000	R-38
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Lost Opportunity	441.3	0.15	0.00	0.0	0.0	0.0	0.0	0	30	\$3,331.79	\$3,331.79	\$0.18	\$0.00	\$0.00	0.97	1.00	0.455	0.000	0.000	0.000	0.000	R-38
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	Lodging	Discretionary	768.6	0.26	0.00	0.0	0.0	0.0	0.0	0	30	\$9,551.14	\$9,551.14	\$0.21	\$0.00	\$0.00	0.59	1.00	4.347	0.000	0.000	0.000	0.000	R-30 (CBES 2015 Code)
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Lodging	Discretionary	653.0	0.22	0.00	0.0	0.0	0.0	0.0	0	30	\$3,510.29	\$3,510.29	\$0.21	\$0.00	\$0.00	1.37	1.00	6.496	8.404	6.770	6.770	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Lodging	Lost Opportunity	653.0	0.22	0.00	0.0	0.0	0.0	0.0	0	30	\$3,510.29	\$3,510.29	\$0.18	\$0.00	\$0.00	1.37	1.00	1.717	2.267	1.827	1.827	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Code	Lodging	Discretionary	607.7	0.21	0.00	0.0	0.0	0.0	0.0	0	30	\$24,087.78	\$24,087.78	\$0.21	\$0.00	\$0.00	0.19	1.00	3.613	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Lodging	Discretionary	549.4	0.19	0.00	0.0	0.0	0.0	0.0	0	15	\$113,665.71	\$113,665.71	\$0.21	\$0.00	\$0.00	0.02	1.00	0.776	0.000	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Lodging	Lost Opportunity	549.4	0.19	0.00	0.0	0.0	0.0	0.0	0	15	\$90,932.57	\$90,932.57	\$0.18	\$0.00	\$0.00	0.02	1.00	0.052	0.000	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)
Cooling Dx Evap	Natural Ventilation	Lodging	Lost Opportunity	682.7	0.23	0.00	0.0	0.0	0.0	0.0	0	15	\$32,183.20	\$32,183.20	\$0.18	\$0.00	\$0.00	0.07	1.00	0.062	0.000	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling
Cooling Dx Evap	Programmable Thermostat	Lodging	Discretionary	273.1	0.09	0.00	0.0	0.0	0.0	0.0	0	11	\$74.70	\$74.70	\$0.21	\$0.00	\$0.00	9.18	1.00	12.411	16.057	12.935	12.935	Programmable Thermostat	
Cooling Dx Evap	Re-Commissioning	Lodging	Discretionary	887.5	0.30	0.00	0.0	0.0	0.0	0.0	0	5	\$9,654.96	\$9,654.96	\$0.21	\$0.00	\$0.00	0.10	1.00	33.889	0.000	0.000	0.000	0.000	Re-Commissioning
Cooling Dx Evap	Retrocommissioning	Lodging	Discretionary	1,012.7	0.35	0.00	0.0	0.0	0.0	0.0	0	5	\$16,091.60	\$16,091.60	\$0.21	\$0.00	\$0.00	0.07	1.00	20.295	0.000	0.000	0.000	0.000	Retrocommissioning
Cooling Dx Evap	Strategic Energy Management (SEM)	Lodging	Discretionary	279.9	0.10	0.00	0.0	0.0	0.0	0.0	0	5	\$37.72	\$37.72	\$0.21	\$0.00	\$0.00	8.08	1.00	1.918	2.482	1.999	1.999	1.999	Identify Operations and Maintenance Improvements through Strategic Energy Man
Cooling Dx Evap	Strategic Energy Management (SEM)	Lodging	Lost Opportunity	279.9	0.10	0.00	0.0	0.0	0.0	0.0	0	5	\$37.72	\$37.72	\$0.18	\$0.00	\$0.00	8.08	1.00	1.181	1.559	1.256	1.256	1.256	Identify Operations and Maintenance Improvements through Strategic Energy Man
Cooling Dx Evap	Tune-up - DX Maintenance	Lodging	Discretionary	981.4	0.34	0.00	0.0	0.0	0.0	0.0	0	5	\$38,619.84	\$38,619.84	\$0.21	\$0.00	\$0.00	0.03	1.00	15.315	0.000	0.000	0.000	0.000	DX Tune-up / Diagnostics
Cooling Dx Evap	Wi-Fi Thermostat	Lodging	Discretionary	273.1	0.09	0.00	0.0	0.0	0.0	0.0	0	11	\$595.02	\$595.02	\$0.21	\$0.00	\$0.00	1.15	1.00	0.000	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Lodging	Discretionary	63.9	0.02	0.00	0.0	0.0	0.0	0.0	0	20	\$7,451.45	\$7,451.45	\$0.21	\$0.00	\$0.00	0.04	1.00	0.500	0.000	0.000	0.000	0.000	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Lodging	Lost Opportunity	63.9	0.02	0.00	0.0	0.0	0.0	0.0	0	20	\$7,451.45	\$7,451.45	\$0.18	\$0.00	\$0.00	0.04	1.00	0.131	0.000	0.000	0.000	0.000	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Code	Lodging	Discretionary	146.0	0.05	0.00	0.0	0.0	0.0	0.0	0	20	\$49,206.58	\$49,206.58	\$0.21	\$0.00	\$0.00	0.01	1.00	1.043	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtuh - Premium Efficiency	Lodging	Discretionary	3,424.8	1.17	0.00	0.0	0.0	0.0	0.0	0	15	\$131,689.29	\$131,689.29	\$0.21	\$0.00	\$0.00	0.09	1.00	58.143	0.000	0.000	0.000	0.000	Premium Efficiency - 19.0 IEER
Dryer	Dryer - ENERGY STAR (Residential Sized)	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	1.54	0.99	4.747	6.329	5.049	5.049	5.049	ENERGY STAR Dryer - CEF 3.93 (Electric Dryer)
Dryer	Dryer - ENERGY STAR (Residential Sized)	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	1.54	0.99	0.518	0.691	0.551	0.551	0.551	ENERGY STAR Dryer - CEF 3.93 (Electric Dryer)
Dryer	Dryer - Heat Pump Dryer (Residential Sized)	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	0.46	0.99	4.712	0.000	0.000	0.000	0.000	Premium Efficiency - Heat Pump Dryer
Dryer	Dryer - Heat Pump Dryer (Residential Sized)	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	0.46	0.99	0.513	0.000	0.000	0.000	0.000	Premium Efficiency - Heat Pump Dryer
Fax	Fax - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	4.041	0.000	0.000	0.000	0.000	ENERGY STAR Fax
Fax	Fax - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.403	0.000	0.000	0.000	0.000	ENERGY STAR Fax
Flat Screen Monitors	Monitor - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	0.000	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	0.000	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	0.50	1.00	32.642	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	0.50	1.00	3.083	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor
Freezers	Freezer (Residential) - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	13.03	1.00	2.897	2.897	1.884	1.884	1.884	ENERGY STAR Freezer
Freezers	Freezer (Residential) - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	13.03	1.00	0.392	0.392	0.255	0.255	0.255	ENERGY STAR Freezer
Freezers	Residential Freezer Recycling and Replacement	Lodging	Discretionary	71.6	0.01	0.01	0.0	0.0	0.0	0.0	0	8	\$28.71	\$28.71	\$0.21	\$0.00	\$0.00	3.13	1.00	18.314	18.314	11.909	11.909	11.909	Recycling Existing Freezer and Replacing with a Federal Standard Unit
Heat Pump	Active Chilled Beam Cooling with DOAS	Lodging	Lost Opportunity	1,681.1	0.56	0.43	0.0	0.0	0.0	0.0	0														

Appendix B.2		EVT Non-residential Measure Assumptions																								
				Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description		
Heat Pump	Insulation - Wall - CBES 2015 - Above Code	Lodging	Lost Opportunity	804.0	0.27	0.21	0.0	0.0	0.0	0.0	0.0	0	30	\$3,510.29	\$3,510.29	\$0.18	\$0.00	\$0.00	1.64	1.00	0.953	1.092	0.880	0.880	R-13 + 15.6 c.i.	
Heat Pump	Insulation - Wall - CBES 2015 - Code	Lodging	Discretionary	748.2	0.25	0.19	0.0	0.0	0.0	0.0	0	30	\$24,087.78	\$24,087.78	\$0.21	\$0.00	\$0.00	0.22	1.00	1.874	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)	
Heat Pump	Natural Ventilation	Lodging	Lost Opportunity	840.5	0.28	0.22	0.0	0.0	0.0	0.0	0	15	\$32,183.20	\$32,183.20	\$0.18	\$0.00	\$0.00	0.09	1.00	0.039	0.000	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling	
Heat Pump	Programmable Thermostat	Lodging	Discretionary	336.2	0.11	0.09	0.0	0.0	0.0	0.0	0	11	\$74.70	\$74.70	\$0.21	\$0.00	\$0.00	11.31	1.00	6.747	7.505	6.046	6.046	6.046	Programmable Thermostat	
Heat Pump	Re-Commissioning	Lodging	Discretionary	1,092.7	0.36	0.28	0.0	0.0	0.0	0.0	0	5	\$9,654.96	\$9,654.96	\$0.21	\$0.00	\$0.00	0.12	1.00	17.834	0.000	0.000	0.000	0.000	Re-Commissioning	
Heat Pump	Retrocommissioning	Lodging	Discretionary	1,246.8	0.41	0.32	0.0	0.0	0.0	0.0	0	5	\$16,091.60	\$16,091.60	\$0.21	\$0.00	\$0.00	0.09	1.00	10.639	0.000	0.000	0.000	0.000	Retrocommissioning	
Heat Pump	Strategic Energy Management (SEM)	Lodging	Discretionary	344.6	0.11	0.09	0.0	0.0	0.0	0.0	0	5	\$46.44	\$46.44	\$0.21	\$0.00	\$0.00	8.15	1.00	1.043	1.160	0.934	0.934	0.934	Identify Operations and Maintenance Improvements through Strategic Energy Ma	
Heat Pump	Strategic Energy Management (SEM)	Lodging	Lost Opportunity	344.6	0.11	0.09	0.0	0.0	0.0	0.0	0	5	\$46.44	\$46.44	\$0.18	\$0.00	\$0.00	8.15	1.00	0.655	0.751	0.605	0.605	0.605	Identify Operations and Maintenance Improvements through Strategic Energy Ma	
Heat Pump	Tune-up - Heat Pump Maintenance	Lodging	Discretionary	1,208.3	0.40	0.31	0.0	0.0	0.0	0.0	0	5	\$4,634.38	\$4,634.38	\$0.21	\$0.00	\$0.00	0.29	1.00	15.754	0.000	0.000	0.000	0.000	Heat Pump Maintenance (Tune-up)	
Heat Pump	Water Source Heat Pump (>= 135 kBtu/hr and < 375 kBtu/hr) Cooling	Lodging	Discretionary	4,949.4	1.64	1.27	0.0	0.0	0.0	0.0	0	15	\$1,236.02	\$1,236.02	\$0.21	\$0.00	\$0.00	14.02	1.00	8.284	9.214	7.423	7.423	7.423	14 EER, 4.6 COP	
Heat Pump	Water Source Heat Pump (>= 135 kBtu/hr and < 375 kBtu/hr) Cooling	Lodging	Lost Opportunity	3,959.5	1.31	1.02	0.0	0.0	0.0	0.0	0	15	\$988.81	\$988.81	\$0.18	\$0.00	\$0.00	14.02	1.00	0.613	0.702	0.566	0.566	0.566	14 EER, 4.6 COP	
Heat Pump	Wi-Fi Thermostat	Lodging	Discretionary	336.2	0.11	0.09	0.0	0.0	0.0	0.0	0	11	\$595.02	\$595.02	\$0.21	\$0.00	\$0.00	1.42	1.00	0.000	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)	
Heat Pump	Windows - CBES 2015 - Above Code	Lodging	Discretionary	78.7	0.03	0.02	0.0	0.0	0.0	0.0	0	20	\$7,451.45	\$7,451.45	\$0.21	\$0.00	\$0.00	0.05	1.00	0.259	0.000	0.000	0.000	0.000	U-0.29	
Heat Pump	Windows - CBES 2015 - Above Code	Lodging	Lost Opportunity	78.7	0.03	0.02	0.0	0.0	0.0	0.0	0	20	\$7,451.45	\$7,451.45	\$0.18	\$0.00	\$0.00	0.05	1.00	0.082	0.000	0.000	0.000	0.000	U-0.29	
Heat Pump	Windows - CBES 2015 - Code	Lodging	Discretionary	179.7	0.06	0.05	0.0	0.0	0.0	0.0	0	20	\$49,206.58	\$49,206.58	\$0.21	\$0.00	\$0.00	0.02	1.00	0.584	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	Lodging	Discretionary	5,430.5	0.06	1.14	0.0	0.0	0.0	0.0	0	8	\$599.49	\$599.49	\$0.21	\$0.00	\$0.00	8.92	1.00	1259.354	1259.354	1106.479	1106.479	1106.479	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time	
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	Lodging	Discretionary	5,068.5	0.06	1.07	0.0	0.0	0.0	0.0	0	8	\$96.95	\$96.95	\$0.21	\$0.00	\$0.00	51.50	1.00	967.974	967.974	850.470	850.470	850.470	Photocell	
Lighting Exterior	LED Exterior Flood Lights	Lodging	Discretionary	1,758.5	0.02	0.37	0.0	0.0	0.0	0.0	0	20	\$1,159.92	\$1,159.92	\$0.21	\$0.00	\$0.00	3.73	1.00	546.939	546.939	480.545	480.545	480.545	LED Exterior Flood Lights	
Lighting Exterior	LED Exterior Flood Lights	Lodging	Lost Opportunity	1,758.5	0.02	0.37	0.0	0.0	0.0	0.0	0	20	\$1,159.92	\$1,159.92	\$0.18	\$0.00	\$0.00	3.73	1.00	47.525	47.525	41.755	41.755	41.755	LED Exterior Flood Lights	
Lighting Exterior	LED Exterior Pole Mount Fixture	Lodging	Discretionary	1,002.1	0.01	0.21	0.0	0.0	0.0	0.0	0	15	\$1,964.98	\$1,964.98	\$0.21	\$0.00	\$0.00	0.94	1.00	311.675	0.000	0.000	0.000	0.000	LED Exterior Pole Mount Fixture	
Lighting Exterior	LED Exterior Pole Mount Fixture	Lodging	Lost Opportunity	1,002.1	0.01	0.21	0.0	0.0	0.0	0.0	0	15	\$1,964.98	\$1,964.98	\$0.18	\$0.00	\$0.00	0.94	1.00	27.082	0.000	0.000	0.000	0.000	LED Exterior Pole Mount Fixture	
Lighting Exterior	LED Exterior Wall Pack	Lodging	Discretionary	3,322.3	0.04	0.70	0.0	0.0	0.0	0.0	0	20	\$6,894.28	\$6,894.28	\$0.21	\$0.00	\$0.00	1.19	1.00	975.905	975.905	857.438	857.438	857.438	LED Exterior Wall Pack	
Lighting Exterior	LED Exterior Wall Pack	Lodging	Lost Opportunity	3,322.3	0.04	0.70	0.0	0.0	0.0	0.0	0	20	\$6,894.28	\$6,894.28	\$0.18	\$0.00	\$0.00	1.19	1.00	84.798	84.798	74.504	74.504	74.504	LED Exterior Wall Pack	
Lighting Exterior	LED Pathway Lights	Lodging	Discretionary	827.6	0.01	0.17	0.0	0.0	0.0	0.0	0	11	\$195.81	\$195.81	\$0.21	\$0.00	\$0.00	5.73	1.00	257.389	257.389	226.144	226.144	226.144	LED Pathway Lights	
Lighting Exterior	LED Pathway Lights	Lodging	Lost Opportunity	827.6	0.01	0.17	0.0	0.0	0.0	0.0	0	11	\$195.81	\$195.81	\$0.18	\$0.00	\$0.00	5.73	1.00	22.365	22.365	19.650	19.650	19.650	LED Pathway Lights	
Lighting Exterior	Occupancy Sensor Control	Lodging	Discretionary	4,344.4	0.05	0.91	0.0	0.0	0.0	0.0	0	10	\$15,990.99	\$15,990.99	\$0.21	\$0.00	\$0.00	0.33	1.00	711.165	0.000	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Exterior	Parking - Covered Lighting	Lodging	Discretionary	301.5	0.00	0.06	0.0	0.0	0.0	0.0	0	19	\$219.81	\$219.81	\$0.21	\$0.00	\$0.00	3.21	1.00	25.496	25.496	22.401	22.401	22.401	Covered Parking Lighting (LED)	
Lighting Exterior	Parking - Covered Lighting	Lodging	Lost Opportunity	301.5	0.00	0.06	0.0	0.0	0.0	0.0	0	19	\$219.81	\$219.81	\$0.18	\$0.00	\$0.00	3.21	1.00	2.215	2.215	1.947	1.947	1.947	Covered Parking Lighting (LED)	
Lighting Exterior	Parking - Surface Lighting	Lodging	Discretionary	162.9	0.00	0.03	0.0	0.0	0.0	0.0	0	10	\$83.68	\$83.68	\$0.21	\$0.00	\$0.00	2.40	1.00	5.925	5.925	5.206	5.206	5.206	Surface Parking Lighting (LED)	
Lighting Exterior	Parking - Surface Lighting	Lodging	Lost Opportunity	162.9	0.00	0.03	0.0	0.0	0.0	0.0	0	10	\$83.68	\$83.68	\$0.18	\$0.00	\$0.00	2.40	1.00	0.515	0.515	0.452	0.452	0.452	Surface Parking Lighting (LED)	
Lighting Exterior	Time Clock	Lodging	Discretionary	1,810.2	0.02	0.38	0.0	0.0	0.0	0.0	0	8	\$298.48	\$298.48	\$0.21	\$0.00	\$0.00	5.97	1.00	24.693	24.693	21.696	21.696	21.696	Time Clock	
Lighting Interior Fluorescent	Bi-Level Control, Stairwell Lighting	Lodging	Discretionary	169.8	0.03	0.02	0.0	0.0	0.0	0.0	0	8	\$694.83	\$694.83	\$0.21	\$0.00	\$0.00	0.36	1.00	22.917	0.000	0.000	0.000	0.000	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time	
Lighting Interior Fluorescent	Dimming-Stepped, Fluorescent Fixtures	Lodging	Discretionary	16,791.1	3.26	2.25	0.0	0.0	0.0	0.0	0	10	\$702.39	\$702.39	\$0.21	\$0.00	\$0.00	44.51	1.00	1						



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Other Plug Load	Internal Power Supply / Com - E Star	Lodging	Lost Opportunity	406.9	0.06	0.04	0.0	0.0	0.0	0.0	0	4	\$830.45	\$830.45	\$0.18	\$0.00	\$0.00	0.32	1.00	2.888	0.000	0.000	0.000	ENERGY STAR power supply for ENERGY STAR desktop	
Other Plug Load	Smart Strip Plug Outlet	Lodging	Discretionary	406.5	0.06	0.04	0.0	0.0	0.0	0.0	0	4	\$305.62	\$305.62	\$0.21	\$0.00	\$0.00	0.86	1.00	29.575	0.000	0.000	0.000	Advanced Power Strip - Load Sensing	
Other Plug Load	Smart Strip Plug Outlet	Lodging	Lost Opportunity	406.5	0.06	0.04	0.0	0.0	0.0	0.0	0	4	\$305.62	\$305.62	\$0.18	\$0.00	\$0.00	0.86	1.00	2.570	0.000	0.000	0.000	Advanced Power Strip - Load Sensing	
Other Plug Load	Smart Strip Plug Outlet	Lodging	Discretionary	247.2	0.04	0.02	0.0	0.0	0.0	0.0	0	4	\$740.15	\$740.15	\$0.21	\$0.00	\$0.00	0.22	1.00	0.000	0.000	0.000	0.000	Advanced Power Strip with Occupancy Sensor	
Other Plug Load	Smart Strip Plug Outlet	Lodging	Lost Opportunity	247.2	0.04	0.02	0.0	0.0	0.0	0.0	0	4	\$740.15	\$740.15	\$0.18	\$0.00	\$0.00	0.22	1.00	0.000	0.000	0.000	0.000	Advanced Power Strip with Occupancy Sensor	
Package Terminal AC	Exhaust Hood Makeup Air	Lodging	Discretionary	110.6	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$193.65	\$193.65	\$0.21	\$0.00	\$0.00	1.57	1.00	0.420	0.420	0.338	0.338	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Package Terminal AC	Green Roof	Lodging	Discretionary	13.1	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$166,589.65	\$166,589.65	\$0.21	\$1,665.90	\$0.00	0.00	1.00	0.378	0.000	0.000	0.000	Vegetation on Roof	
Package Terminal AC	Green Roof	Lodging	Lost Opportunity	10.8	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$166,589.65	\$166,589.65	\$0.18	\$1,665.90	\$0.00	0.00	1.00	0.027	0.000	0.000	0.000	Vegetation on Roof	
Package Terminal AC	Hotel Key Card Room Energy Control System	Lodging	Discretionary	127.8	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$17,562.37	\$17,562.37	\$0.21	\$0.00	\$0.00	0.03	1.00	4.066	0.000	0.000	0.000	Key card system to control room HVAC and lighting during non-occupied periods	
Package Terminal AC	Hotel Key Card Room Energy Control System	Lodging	Lost Opportunity	127.8	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$17,562.37	\$17,562.37	\$0.18	\$0.00	\$0.00	0.03	1.00	0.348	0.000	0.000	0.000	Key card system to control room HVAC and lighting during non-occupied periods	
Package Terminal AC	Infiltration Reduction	Lodging	Discretionary	73.7	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$1,260.08	\$1,260.08	\$0.21	\$0.00	\$0.00	0.13	1.00	0.091	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)	
Package Terminal AC	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Discretionary	107.8	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$1,874.13	\$1,874.13	\$0.21	\$0.00	\$0.00	0.41	1.00	1.204	0.000	0.000	0.000	R-35 c.i.	
Package Terminal AC	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Lost Opportunity	107.8	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$1,874.13	\$1,874.13	\$0.18	\$0.00	\$0.00	0.41	1.00	0.048	0.000	0.000	0.000	R-35 c.i.	
Package Terminal AC	Insulation - Ceiling - CBES 2015 - Code	Lodging	Discretionary	283.7	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$8,551.60	\$8,551.60	\$0.21	\$0.00	\$0.00	0.24	1.00	2.044	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)	
Package Terminal AC	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Discretionary	158.8	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$3,331.79	\$3,331.79	\$0.21	\$0.00	\$0.00	0.34	1.00	0.595	0.000	0.000	0.000	R-38	
Package Terminal AC	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Lost Opportunity	158.8	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$3,331.79	\$3,331.79	\$0.18	\$0.00	\$0.00	0.34	1.00	0.098	0.000	0.000	0.000	R-38	
Package Terminal AC	Insulation - Floor (non-slab) - CBES 2015 - Code	Lodging	Discretionary	276.6	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$9,551.14	\$9,551.14	\$0.21	\$0.00	\$0.00	0.21	1.00	1.010	0.000	0.000	0.000	R-30 (CBES 2015 Code)	
Package Terminal AC	Insulation - Wall - CBES 2015 - Above Code	Lodging	Discretionary	235.0	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$3,510.29	\$3,510.29	\$0.21	\$0.00	\$0.00	0.48	1.00	1.480	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Package Terminal AC	Insulation - Wall - CBES 2015 - Above Code	Lodging	Lost Opportunity	235.0	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$3,510.29	\$3,510.29	\$0.18	\$0.00	\$0.00	0.48	1.00	0.368	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Package Terminal AC	Insulation - Wall - CBES 2015 - Code	Lodging	Discretionary	218.7	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$24,087.78	\$24,087.78	\$0.21	\$0.00	\$0.00	0.06	1.00	0.935	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)	
Package Terminal AC	Natural Ventilation	Lodging	Lost Opportunity	245.7	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$32,183.20	\$32,183.20	\$0.18	\$0.00	\$0.00	0.03	1.00	0.032	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling	
Package Terminal AC	PTAC (10,000 Btuh) - High Efficiency	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	6.07	1.00	14.753	16.583	13.359	13.359	High Efficiency - 12.8 EER	
Package Terminal AC	PTAC (10,000 Btuh) - High Efficiency	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	6.07	1.00	1.384	1.614	1.300	1.300	High Efficiency - 12.8 EER	
Package Terminal AC	Windows - CBES 2015 - Above Code	Lodging	Discretionary	23.0	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$7,451.45	\$7,451.45	\$0.21	\$0.00	\$0.00	0.01	1.00	0.222	0.000	0.000	0.000	U-0.29	
Package Terminal AC	Windows - CBES 2015 - Above Code	Lodging	Lost Opportunity	23.0	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$7,451.45	\$7,451.45	\$0.18	\$0.00	\$0.00	0.01	1.00	0.065	0.000	0.000	0.000	U-0.29	
Package Terminal AC	Windows - CBES 2015 - Code	Lodging	Discretionary	52.5	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$49,206.58	\$49,206.58	\$0.21	\$0.00	\$0.00	0.01	1.00	0.505	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Package Terminal HP	Exhaust Air to Ventilation Air Heat Recovery	Lodging	Discretionary	668.3	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$62,863.79	\$62,863.79	\$0.21	\$0.00	\$0.00	0.03	1.00	0.000	0.000	0.000	0.000	Exhaust Air to Ventilation Air Heat Recovery	
Package Terminal HP	Exhaust Hood Makeup Air	Lodging	Discretionary	200.5	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$193.65	\$193.65	\$0.21	\$0.00	\$0.00	2.84	1.00	0.000	0.000	0.000	0.000	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Package Terminal HP	Green Roof	Lodging	Discretionary	23.7	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$166,589.65	\$166,589.65	\$0.21	\$1,665.90	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	Vegetation on Roof	
Package Terminal HP	Green Roof	Lodging	Lost Opportunity	19.5	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$166,589.65	\$166,589.65	\$0.18	\$1,665.90	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	Vegetation on Roof	
Package Terminal HP	Hotel Key Card Room Energy Control System	Lodging	Discretionary	231.7	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$17,562.37	\$17,562.37	\$0.21	\$0.00	\$0.00	0.05	1.00	0.000	0.000	0.000	0.000	Key card system to control room HVAC and lighting during non-occupied periods	
Package Terminal HP	Hotel Key Card Room Energy Control System	Lodging	Lost Opportunity	231.7	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$17,562.37	\$17,562.37	\$0.18	\$0.00	\$0.00	0.05	1.00	0.000	0.000	0.000	0.000	Key card system to control room HVAC and lighting during non-occupied periods	
Package Terminal HP	Infiltration Reduction	Lodging	Discretionary	445.5	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$1,260.08	\$1,260.08	\$0.21	\$0.00	\$0.00	0.80	1.00	0.000	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)	
Package Terminal HP	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Discretionary	195.4	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$1,874.13	\$1,874.13	\$0.21	\$0.00	\$0.00	0.74	1.00	0.000	0.000	0.000	0.000	R-35 c.i.	
Package Terminal HP	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Lost Opportunity	195.4	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$1,874.13	\$1,874.13	\$0.18	\$0.00	\$0.00	0.74	1.00	0.000	0.000	0.000	0.000	R-35 c.i.	
Package Terminal HP	Insulation - Ceiling - CBES 2015 - Code	Lodging	Discretionary	514.4	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$8,551.60	\$8,551.60	\$0.21	\$0.00	\$0.00	0.43	1.00	0.000	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)	
Package Terminal HP	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Discretionary	288.0	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$3,331.79	\$3,331.79	\$0.21	\$0.00	\$0.00	0.62	1.00	0.000	0.000	0.000	0.000	R-38	
Package Terminal HP	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Lost Opportunity	288.0	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$3,331.79	\$3,331.79	\$0.18	\$0.00	\$0.00	0.62	1.00	0.000	0.000	0.000	0.000	R-38	
Package Terminal HP	Insulation - Floor (non-slab) - CBES 2015 - Code	Lodging	Discretionary	501.6	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$9,551.14	\$9,551.14	\$0.21	\$0.00	\$0.00	0.37	1.00	0.000	0.000	0.000	0.000	R-30 (CBES 2015 Code)	
Package Terminal HP	Insulation - Wall - CBES 2015 - Above Code	Lodging	Discretionary	426.1	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$3,510.29	\$3,510.29	\$0.21	\$0.00	\$0.00	0.87	1.00	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Package Terminal HP	Insulation - Wall - CBES 2015 - Above Code	Lodging	Lost Opportunity	426.1	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$3,510.29	\$3,510.29	\$0.18	\$0.00	\$0.00	0.87	1.00	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Package Terminal HP	Insulation - Wall - CBES 2015 - Code	Lodging	Discretionary	396.6	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$24,087.78	\$24,087.78	\$0.21	\$0.00	\$0.00	0.12	1.00	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)	
Package Terminal HP	Natural Ventilation	Lodging	Lost Opportunity	445.5	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$32,183.20	\$32,183.20	\$0.18	\$0.00	\$0.00	0.05	1.00	0.000	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling	
Package Terminal HP	PTHP (10,000 Btuh) - High Efficiency	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	5.73	1.00	0.000	0.000	0.000	0.000	High Efficiency - 12.8 EER, 3.5 COP	
Package Terminal HP	PTHP (10,000 Btuh) - High Efficiency	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	5.73	1.00	0.000	0.000	0.000	0.000	High Efficiency - 12.8 EER, 3.5 COP	
Package Terminal HP	Windows - CBES 2015 - Above Code	Lodging	Discretionary	41.7	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$7,451.45	\$7,451.45	\$0.21	\$0.00	\$0.00	0.03	1.00	0.000	0.000	0.000	0.000	U-0.29	
Package Terminal HP	Windows - CBES 2015 - Above Code	Lodging	Lost Opportunity	41.7	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$7,451.45	\$7,451.45	\$0.18	\$0.00	\$0.00	0.03	1.00	0.000	0.000	0.000	0.000	U-0.29	
Package Terminal HP	Windows - CBES 2015 - Code	Lodging	Discretionary	95.3	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$49,206.58	\$49,206.58	\$0.21	\$0.00	\$0.00	0.01	1.00	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Photo Copiers	Copiers - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.99	19.699	0.000	0.000	0.000	ENERGY STAR Copiers	
Photo Copiers	Copiers - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6</													

Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Refrigeration	Night Covers for Display Cases	Lodging	Lost Opportunity	41.2	0.01	0.00	0.0	0.0	0.0	0.0	0	5	\$7.35	\$7.35	\$0.18	\$0.75	\$0.00	3.04	0.95	1.238	1.238	1.202	1.202	Night Covers for Display Cases
Refrigeration	No Heat Case Doors	Lodging	Discretionary	531.6	0.07	0.06	0.0	0.0	0.0	0.0	0	15	\$381.06	\$381.06	\$0.21	\$0.00	\$0.00	3.47	0.95	96.688	96.688	93.927	93.927	No Heat Case Doors
Refrigeration	No Heat Case Doors	Lodging	Lost Opportunity	531.6	0.07	0.06	0.0	0.0	0.0	0.0	0	15	\$381.06	\$381.06	\$0.18	\$0.00	\$0.00	3.47	0.95	15.963	15.963	15.507	15.507	No Heat Case Doors
Refrigeration	Refrigeration Commissioning or Re-commissioning	Lodging	Discretionary	1,638.0	0.22	0.19	0.0	0.0	0.0	0.0	0	7	\$422.18	\$422.18	\$0.21	\$0.00	\$0.00	4.38	0.95	50.413	50.413	48.974	48.974	Commissioning / Re-commissioning
Refrigeration	Refrigeration Commissioning or Re-commissioning	Lodging	Lost Opportunity	1,638.0	0.22	0.19	0.0	0.0	0.0	0.0	0	7	\$422.18	\$422.18	\$0.18	\$0.00	\$0.00	4.38	0.95	2.344	2.344	2.277	2.277	Commissioning / Re-commissioning
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Lodging	Discretionary	141.0	0.02	0.02	0.0	0.0	0.0	0.0	0	9	\$25.79	\$25.79	\$0.21	\$0.00	\$0.00	8.02	0.95	48.715	48.715	47.324	47.324	Solid Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Lodging	Lost Opportunity	141.0	0.02	0.02	0.0	0.0	0.0	0.0	0	9	\$25.79	\$25.79	\$0.18	\$0.00	\$0.00	8.02	0.95	4.233	4.233	4.112	4.112	Solid Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Strip Curtains for Walk-ins	Lodging	Discretionary	449.0	0.06	0.05	0.0	0.0	0.0	0.0	0	4	\$323.07	\$323.07	\$0.21	\$0.00	\$0.00	0.87	0.95	24.501	0.000	0.000	0.000	Strip Curtains for Walk-ins
Refrigeration	Walk-In Electronically Commutated Motor	Lodging	Discretionary	145.9	0.02	0.02	0.0	0.0	0.0	0.0	0	15	\$33.61	\$33.61	\$0.21	\$0.00	\$0.00	10.79	0.95	50.412	50.412	48.972	48.972	ECM Condensor Fans - Low Temp
Refrigeration	Walk-In Electronically Commutated Motor	Lodging	Discretionary	157.7	0.02	0.02	0.0	0.0	0.0	0.0	0	15	\$41.08	\$41.08	\$0.21	\$0.00	\$0.00	9.54	0.95	54.505	54.505	52.948	52.948	ECM Condensor Fans - Medium Temp
Refrigeration	Walk-In Electronically Commutated Motor	Lodging	Discretionary	145.9	0.02	0.02	0.0	0.0	0.0	0.0	0	15	\$33.61	\$33.61	\$0.21	\$0.00	\$0.00	10.79	0.95	50.412	50.412	48.972	48.972	ECM Evaporator Fans - Low Temp
Refrigeration	Walk-In Electronically Commutated Motor	Lodging	Discretionary	157.7	0.02	0.02	0.0	0.0	0.0	0.0	0	15	\$41.08	\$41.08	\$0.21	\$0.00	\$0.00	9.54	0.95	54.505	54.505	52.948	52.948	ECM Evaporator Fans - Medium Temp
Refrigeration	Walk-in Economizer	Lodging	Discretionary	1,201.2	0.16	0.14	0.0	0.0	0.0	0.0	0	15	\$583.78	\$583.78	\$0.21	\$0.00	\$0.00	5.11	0.95	327.709	327.709	318.350	318.350	Add Economizer to Walk-in Cooler
Refrigeration	Walk-in Economizer	Lodging	Lost Opportunity	1,201.2	0.16	0.14	0.0	0.0	0.0	0.0	0	15	\$583.78	\$583.78	\$0.18	\$0.00	\$0.00	5.11	0.95	28.475	28.475	27.662	27.662	Add Economizer to Walk-in Cooler
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	1.23	1.00	0.000	0.000	0.000	0.000	CEE Tier 2 Refrigerator
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	1.23	1.00	0.000	0.000	0.000	0.000	CEE Tier 2 Refrigerator
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	1.15	1.00	48.346	48.346	31.438	31.438	CEE Tier 3 Refrigerator
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	1.15	1.00	7.139	7.139	4.642	4.642	CEE Tier 3 Refrigerator
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	1.26	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Refrigerator
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	1.26	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Refrigerator
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	1.27	1.00	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Refrigerator
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	1.27	1.00	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Refrigerator
Refrigerators	Residential Refrigerator Recycling and Replacement	Lodging	Discretionary	501.3	0.06	0.06	0.0	0.0	0.0	0.0	0	8	\$261.00	\$261.00	\$0.21	\$0.00	\$0.00	2.41	1.00	139.570	139.570	90.761	90.761	Recycling Existing Refrigerator and Replacing with a Federal Standard Unit
Room Cool	Ductless Air Conditioner (DAC)	Lodging	Discretionary	217.6	0.10	0.00	0.0	0.0	0.0	0.0	0	15	\$5,259.22	\$5,259.22	\$0.21	\$0.00	\$0.00	0.17	1.00	0.761	0.000	0.000	0.000	Ductless Air Conditioner - SEER/EER 18/12.5
Room Cool	Ductless Air Conditioner (DAC)	Lodging	Lost Opportunity	217.6	0.10	0.00	0.0	0.0	0.0	0.0	0	15	\$5,259.22	\$5,259.22	\$0.18	\$0.00	\$0.00	0.17	1.00	0.119	0.000	0.000	0.000	Ductless Air Conditioner - SEER/EER 18/12.5
Room Cool	Ductless Heat Pump (DHP)	Lodging	Discretionary	592.9	0.27	0.00	0.0	0.0	0.0	0.0	0	15	\$8,960.79	\$8,960.79	\$0.21	\$0.00	\$0.00	0.27	1.00	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Cool	Ductless Heat Pump (DHP)	Lodging	Lost Opportunity	592.9	0.27	0.00	0.0	0.0	0.0	0.0	0	15	\$8,960.79	\$8,960.79	\$0.18	\$0.00	\$0.00	0.27	1.00	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Lodging	Discretionary	624.2	0.28	0.00	0.0	0.0	0.0	0.0	0	15	\$9,175.00	\$9,175.00	\$0.21	\$0.00	\$0.00	0.28	1.00	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Lodging	Lost Opportunity	624.2	0.28	0.00	0.0	0.0	0.0	0.0	0	15	\$9,175.00	\$9,175.00	\$0.18	\$0.00	\$0.00	0.28	1.00	0.027	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1
Room Cool	Exhaust Hood Makeup Air	Lodging	Discretionary	45.4	0.02	0.00	0.0	0.0	0.0	0.0	0	12	\$193.65	\$193.65	\$0.21	\$0.00	\$0.00	0.75	1.00	0.051	0.000	0.000	0.000	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air
Room Cool	Green Roof	Lodging	Discretionary	5.4	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$166,589.65	\$166,589.65	\$0.21	\$1,665.90	\$0.00	0.00	1.00	0.038	0.000	0.000	0.000	Vegetation on Roof
Room Cool	Green Roof	Lodging	Lost Opportunity	4.0	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$166,589.65	\$166,589.65	\$0.18	\$1,665.90	\$0.00	0.00	1.00	0.002	0.000	0.000	0.000	Vegetation on Roof
Room Cool	Infiltration Reduction	Lodging	Discretionary	30.2	0.01	0.00	4.0	0.0	0.0	0.0	0	10	\$1,260.08	\$1,260.08	\$0.21	\$0.00	\$0.00	0.13	1.00	0.009	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Discretionary	44.2	0.02	0.00	1.8	0.0	0.0	0.0	0	30	\$1,874.13	\$1,874.13	\$0.21	\$0.00	\$0.00	0.25	1.00	0.125	0.000	0.000	0.000	R-35 c.i.
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Lost Opportunity	39.8	0.02	0.00	2.0	0.0	0.0	0.0	0	30	\$1,874.13	\$1,874.13	\$0.18	\$0.00	\$0.00	0.24	1.00	0.005	0.000	0.000	0.000	R-35 c.i.
Room Cool	Insulation - Ceiling - CBES 2015 - Code	Lodging	Discretionary	116.4	0.05	0.00	6.0	0.0	0.0	0.0	0	30	\$8,551.60	\$8,551.60	\$0.21	\$0.00	\$0.00	0.16	1.00	0.197	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Discretionary	65.2	0.03	0.00	2.6	0.0	0.0	0.0	0	30	\$3,331.79	\$3,331.79	\$0.21	\$0.00	\$0.00	0.21	1.00	0.062	0.000	0.000	0.000	R-38
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Lost Opportunity	58.6	0.03	0.00	2.9	0.0	0.0	0.0	0	30	\$3,331.79	\$3,331.79	\$0.18	\$0.00	\$0.00	0.20	1.00	0.009	0.000	0.000	0.000	R-38
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Code	Lodging	Discretionary	113.5	0.05	0.00	4.5	0.0	0.0	0.0	0	30	\$9,551.14	\$9,551.14	\$0.21	\$0.00	\$0.00	0.13	1.00	0.097	0.000	0.000	0.000	R-30 (CBES 2015 Code)
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Lodging	Discretionary	96.4	0.04	0.00	3.8	0.0	0.0	0.0	0	30	\$3,510.29	\$3,510.29	\$0.21	\$0.00	\$0.00	0.29	1.00	0.180	0.000	0.000	0.000	R-13 + 15.6 c.i.
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Lodging	Lost Opportunity	86.7	0.04	0.00	4.3	0.0	0.0	0.0	0	30	\$3,510.29	\$3,510.29	\$0.18	\$0.00	\$0.00	0.28	1.00	0.050	0.000	0.000	0.000	R-13 + 15.6 c.i.
Room Cool	Insulation - Wall - CBES 2015 - Code	Lodging	Discretionary	89.7	0.04	0.00	4.2	0.0	0.0	0.0	0	30	\$24,087.78	\$24,087.78	\$0.21	\$0.00	\$0.00	0.04	1.00	0.090	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Cool	Natural Ventilation	Lodging	Lost Opportunity	90.7	0.04	0.00	0.0	0.0	0.0	0.0	0	15	\$32,183.20	\$32,183.20	\$0.18	\$0.00	\$0.00	0.01	1.00	0.003	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling
Room Cool	Room AC - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.03	\$0.03	\$0.21	\$0.00	\$0.00	0.25	1.00	1.117	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Cool	Room AC - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.03	\$0.03	\$0.18	\$0.00	\$0.00	0.25	1.00	0.110	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Cool	Windows - CBES 2015 - Above Code	Lodging	Discretionary	9.4	0.00	0.00	0.4	0.0	0.0	0.0	0	20	\$7,451.45	\$7,451.45	\$0.21	\$0.00	\$0.00	0.01	1.00	0.022	0.000	0.000	0.000	U-0.29
Room Cool	Windows - CBES 2015 - Above Code	Lodging	Lost Opportunity	8.5	0.00	0.00	0.4	0.0	0.0	0.0	0	20	\$7,451.45	\$7,451.45	\$0.18	\$0.00	\$0.00	0.01	1.00	0.005	0.000	0.000	0.000	U-0.29
Room Cool	Windows - CBES 2015 - Code	Lodging	Discretionary	21.6	0.01	0.00	0.9	0.0	0.0	0.0	0	20	\$49,206.58	\$49,206.58	\$0.21	\$0.00	\$0.00	0.00	1.00	0.051	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Room Cool - Early Replacement	Early Replacement Room AC - ENERGY STAR	Lodging	Discretionary	205.6	0.09	0.00	3.50	0.0	0.0	0.0	0	9	\$3,540.15	\$3,540.15	\$0.21	\$0.00	\$0.00	0.00	1.00	0.349	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Heat - Electric	Ductless Heat Pump (DHP)	Lodging	Discretionary	10,540.1	0.02	4.24	0.0	0.0	0.0	0.0	0	15	\$8,960.79	\$8,960.										

Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Space Heat - Electric	Indirect Information Feedback	Lodging	Lost Opportunity	907.8	0.00	0.37	0.0	0.0	0.0	0.0	0.0	0	2	\$3,020.38	\$3,020.38	\$0.18	\$0.00	\$0.00	0.07	0.89	0.355	0.000	0.000	Indirect Information Feedback
Space Heat - Electric	Infiltration Reduction	Lodging	Discretionary	17,445.9	0.04	7.02	0.0	0.0	0.0	0.0	0	10	\$1,260.08	\$1,260.08	\$0.21	\$0.00	\$0.00	17.43	0.89	4.037	4.037	2.894	2.894	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Discretionary	7,652.6	0.02	3.08	0.0	0.0	0.0	0.0	0	30	\$1,874.13	\$1,874.13	\$0.21	\$0.00	\$0.00	15.33	0.89	15.191	15.191	10.891	10.891	R-35 c.i.
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Lost Opportunity	7,652.6	0.02	3.08	0.0	0.0	0.0	0.0	0	30	\$1,874.13	\$1,874.13	\$0.18	\$0.00	\$0.00	15.33	0.89	0.625	0.625	0.448	0.448	R-35 c.i.
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Lodging	Discretionary	20,144.3	0.04	8.10	0.0	0.0	0.0	0.0	0	30	\$8,551.60	\$8,551.60	\$0.21	\$0.00	\$0.00	8.84	0.89	25.275	25.275	18.122	18.122	R-30 c.i. (CBES 2015 Code)
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Lodging	Discretionary	6,280.5	0.01	2.53	0.0	0.0	0.0	0.0	0	20	\$436.48	\$436.48	\$0.21	\$0.00	\$0.00	35.79	0.89	32.483	32.483	23.289	23.289	R-12
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Lodging	Lost Opportunity	6,280.5	0.01	2.53	0.0	0.0	0.0	0.0	0	20	\$436.48	\$436.48	\$0.18	\$0.00	\$0.00	35.79	0.89	3.472	3.472	2.489	2.489	R-12
Space Heat - Electric	Insulation - Duct - CBES 2015 - Code	Lodging	Discretionary	6,280.5	0.01	2.53	0.0	0.0	0.0	0.0	0	20	\$1,758.01	\$1,758.01	\$0.21	\$0.00	\$0.00	8.89	0.89	25.641	25.641	18.384	18.384	R-8 (CBES 2015 Code)
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Discretionary	11,277.5	0.02	4.54	0.0	0.0	0.0	0.0	0	30	\$3,331.79	\$3,331.79	\$0.21	\$0.00	\$0.00	12.70	0.89	7.503	7.503	5.379	5.379	R-38
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Lost Opportunity	11,277.5	0.02	4.54	0.0	0.0	0.0	0.0	0	30	\$3,331.79	\$3,331.79	\$0.18	\$0.00	\$0.00	12.70	0.89	1.273	1.273	0.913	0.913	R-38
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Lodging	Discretionary	19,641.7	0.04	7.90	0.0	0.0	0.0	0.0	0	30	\$9,551.14	\$9,551.14	\$0.21	\$0.00	\$0.00	7.72	0.89	12.492	12.492	8.956	8.956	R-30 (CBES 2015 Code)
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Lodging	Discretionary	16,687.1	0.04	6.71	0.0	0.0	0.0	0.0	0	30	\$3,510.29	\$3,510.29	\$0.21	\$0.00	\$0.00	17.84	0.89	18.723	18.723	13.424	13.424	R-13 + 15.6 c.i.
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Lodging	Lost Opportunity	16,687.1	0.04	6.71	0.0	0.0	0.0	0.0	0	30	\$3,510.29	\$3,510.29	\$0.18	\$0.00	\$0.00	17.84	0.89	4.802	4.802	3.443	3.443	R-13 + 15.6 c.i.
Space Heat - Electric	Insulation - Wall - CBES 2015 - Code	Lodging	Discretionary	15,528.6	0.03	6.25	0.0	0.0	0.0	0.0	0	30	\$24,087.78	\$24,087.78	\$0.21	\$0.00	\$0.00	2.42	0.89	10.674	10.674	7.653	7.653	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Electric	Programmable Thermostat	Lodging	Discretionary	6,978.4	0.01	2.81	0.0	0.0	0.0	0.0	0	11	\$74.70	\$74.70	\$0.21	\$0.00	\$0.00	129.11	0.89	35.477	35.477	25.436	25.436	Programmable Thermostat
Space Heat - Electric	Re-Commissioning	Lodging	Discretionary	22,679.7	0.05	9.12	0.0	0.0	0.0	0.0	0	5	\$9,654.96	\$9,654.96	\$0.21	\$0.00	\$0.00	1.46	0.89	128.611	128.611	92.210	92.210	Re-Commissioning
Space Heat - Electric	Retrocommissioning	Lodging	Discretionary	25,878.1	0.05	10.41	0.0	0.0	0.0	0.0	0	5	\$16,091.60	\$16,091.60	\$0.21	\$0.00	\$0.00	1.00	0.89	77.021	77.021	55.222	55.222	Retrocommissioning
Space Heat - Electric	Strategic Energy Management (SEM)	Lodging	Discretionary	7,152.8	0.02	2.88	0.0	0.0	0.0	0.0	0	5	\$963.95	\$963.95	\$0.21	\$0.00	\$0.00	4.61	0.89	4.864	4.864	3.487	3.487	Identify Operations and Maintenance Improvements through Strategic Energy Man
Space Heat - Electric	Strategic Energy Management (SEM)	Lodging	Lost Opportunity	7,152.8	0.02	2.88	0.0	0.0	0.0	0.0	0	5	\$963.95	\$963.95	\$0.18	\$0.00	\$0.00	4.61	0.89	2.840	2.840	2.036	2.036	Identify Operations and Maintenance Improvements through Strategic Energy Man
Space Heat - Electric	Wi-Fi Thermostat	Lodging	Discretionary	6,978.4	0.01	2.81	0.0	0.0	0.0	0.0	0	11	\$595.02	\$595.02	\$0.21	\$0.00	\$0.00	16.21	0.89	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)
Space Heat - Electric	Windows - CBES 2015 - Above Code	Lodging	Discretionary	1,633.8	0.00	0.66	0.0	0.0	0.0	0.0	0	20	\$7,451.45	\$7,451.45	\$0.21	\$0.00	\$0.00	0.55	0.89	1.874	0.000	0.000	0.000	U-0.29
Space Heat - Electric	Windows - CBES 2015 - Above Code	Lodging	Lost Opportunity	1,633.8	0.00	0.66	0.0	0.0	0.0	0.0	0	20	\$7,451.45	\$7,451.45	\$0.18	\$0.00	\$0.00	0.55	0.89	0.855	0.000	0.000	0.000	U-0.29
Space Heat - Electric	Windows - CBES 2015 - Code	Lodging	Discretionary	3,730.5	0.01	1.50	0.0	0.0	0.0	0.0	0	20	\$49,206.58	\$49,206.58	\$0.21	\$0.00	\$0.00	0.19	0.89	4.226	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Vending Machines	Vending Machines - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.99	0.000	0.000	0.000	0.000	ENERGY STAR Vending Machines - 3.84 kWh/day
Vending Machines	Vending Machines - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.99	0.000	0.000	0.000	0.000	ENERGY STAR Vending Machines - 3.84 kWh/day
Vending Machines	Vending Machines - Federal Standard 2020	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.99	9.769	0.000	0.000	0.000	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Machines - Federal Standard 2020	Lodging	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.99	0.525	0.000	0.000	0.000	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Miser	Lodging	Discretionary	1,017.1	0.12	0.12	0.0	0.0	0.0	0.0	0	5	\$162.08	\$162.08	\$0.21	\$0.00	\$0.00	4.82	0.99	220.847	221.528	176.740	176.740	Vending Machine Occupancy Sensor
Vending Machines	Vending Miser	Lodging	Lost Opportunity	1,016.2	0.12	0.12	0.0	0.0	0.0	0.0	0	5	\$162.08	\$162.08	\$0.18	\$0.00	\$0.00	4.82	0.99	22.180	22.228	17.734	17.734	Vending Machine Occupancy Sensor
Ventilation And Circulation	Automated Exhaust VFD Control - Parking Garage CO sensor	Lodging	Discretionary	1,585.1	0.18	0.20	0.0	0.0	0.0	0.0	0	5	\$230.70	\$230.70	\$0.21	\$0.00	\$0.00	5.31	0.94	90.541	90.541	76.306	76.306	CO Sensors
Ventilation And Circulation	Boiler Draft Fan - VFD	Lodging	Discretionary	5,721.5	0.65	0.71	0.0	0.0	0.0	0.0	0	15	\$3,078.47	\$3,078.47	\$0.21	\$0.00	\$0.00	4.47	0.94	541.137	541.137	456.058	456.058	VFD Boiler Draft Fan
Ventilation And Circulation	Boiler Draft Fan - VFD	Lodging	Lost Opportunity	5,721.5	0.65	0.71	0.0	0.0	0.0	0.0	0	15	\$3,078.47	\$3,078.47	\$0.18	\$0.00	\$0.00	4.47	0.94	32.553	32.553	27.435	27.435	VFD Boiler Draft Fan
Ventilation And Circulation	Convert Constant Volume Air System to VAV	Lodging	Discretionary	9,927.6	1.13	1.22	0.0	0.0	0.0	0.0	0	15	\$78,232.77	\$78,232.77	\$0.21	\$0.00	\$0.00	0.31	0.94	312.427	0.000	0.000	0.000	Variable Volume Air System
Ventilation And Circulation	Cooking Hood Controls	Lodging	Discretionary	233.0	0.03	0.03	0.0	0.0	0.0	0.0	0	18	\$780.86	\$780.86	\$0.21	\$0.00	\$0.00	0.87	0.94	34.329	0.000	0.000	0.000	Demand-Ventilation Control
Ventilation And Circulation	Cooking Hood Controls	Lodging	Lost Opportunity	233.0	0.03	0.03	0.0	0.0	0.0	0.0	0	18	\$780.86	\$780.86	\$0.18	\$0.00	\$0.00	0.87	0.94	2.983	0.000	0.000	0.000	Demand-Ventilation Control
Ventilation And Circulation	Cooling Tower Fan - Variable Speed Control	Lodging	Discretionary	28.7	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$557.20	\$557.20	\$0.21	\$0.00	\$0.00	0.12	0.94	5.876	0.000	0.000	0.000	HVAC Fan System Installation with VSD
Ventilation And Circulation	Fan System - HVAC - Variable Speed Control	Lodging	Discretionary	8,608.4	0.98	1.06	0.0	0.0	0.0	0.0	0	15	\$1,371.29	\$1,371.29	\$0.21	\$0.00	\$0.00	15.10	0.94	688.922	688.922	580.608	580.608	HVAC Fan System Optimization with VSD (Restoration)
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	Lodging	Discretionary	469.4	0.05	0.06	0.0	0.0	0.0	0.0	0	16	\$6.87	\$6.87	\$0.21	\$0.00	\$0.00	175.81	0.94	145.990	145.990	123.037	123.037	CEE PE+ Motor for HVAC Applications
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	Lodging	Lost Opportunity	469.4	0.05	0.06	0.0	0.0	0.0	0.0	0	16	\$6.87	\$6.87	\$0.18	\$0.00	\$0.00	175.81	0.94	12.685	12.685	10.691	10.691	CEE PE+ Motor for HVAC Applications
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	Lodging	Discretionary	9,188.6	1.05	1.13	0.0	0.0	0.0	0.0	0	15	\$78,232.77	\$78,232.77	\$0.21	\$0.00	\$0.00	0.28	0.94	200.853	0.000	0.000	0.000	VAV Box High Efficiency (ECM)
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	Lodging	Lost Opportunity	9,188.6	1.05	1.13	0.0	0.0	0.0	0.0	0	15	\$78,232.77	\$78,232.77	\$0.18	\$0.00	\$0.00	0.28	0.94	0.000	0.000	0.000	0.000	VAV Box High Efficiency (ECM)
Ventilation And Circulation	Motor Rewind	Lodging	Discretionary	126.4	0.01	0.02	0.0	0.0	0.0	0.0	0	9	\$9.67	\$9.67	\$0.21	\$0.00	\$0.00	18.63	0.94	1.352	1.352	1.140	1.140	>15, <500 HP
Ventilation And Circulation	Pump System - Chiller - Variable Speed Control	Lodging	Discretionary	196.2	0.02	0.02	0.0	0.0	0.0	0.0	0	15	\$36.57	\$36.57	\$0.21	\$0.00	\$0.00	12.91	0.94	19.985	19.985	16.843	16.843	Chiller Pump System Optimization with VSD (Restoration)
Ventilation And Circulation	Variable Speed ECM Pump - Domestic Hot Water Recirculation	Lodging	Discretionary	530.1	0.06	0.07	0.0	0.0	0.0	0.0	0	15	\$104.22	\$104.22	\$0.21	\$0.00	\$0.00	12.24	0.94	68.555	68.555	57.776	57.776	Domestic Hot Water Recirculation ECM Pump
Ventilation And Circulation	Variable Speed ECM Pump - HVAC Space Heating Recirculation	Lodging	Discretionary	8,773.4	1.00	1.08	0.0	0.0	0.0	0.0	0	15	\$1,042.18	\$1,042.18	\$0.21	\$0.00	\$0.00	20.26	0.94	829.786	829.786	699.325	699.325	HVAC Space Heating Recirculation ECM Pump
Water Heat GT 55 Gal	Clothes Washer - Ozonating	Lodging	Discretionary	1,476.3	0.00	0.59	0.0	0.0	0.0	0.0	1	10	\$8,219.80	\$8,219.80	\$0.21	\$0.00	\$0.00	0.23	1.00	0.443	0.000	0.000	0.000	Ozonating Clothes Washer
Water Heat GT 55 Gal	Clothes Washer - Ozonating	Lodging	Lost Opportunity	1,476.3	0.00	0.59	0.0	0.0	0.0	0.0	1	10	\$8,219.80	\$8,219.80	\$0.18	\$0.00	\$0.00	0.23	1.00	0.033	0.000	0.000	0.000	Ozonating Clothes Washer
Water Heat GT 55 Gal	Clothes Washer Commercial	Lodging	Discretionary	186.3	0.00	0.07	0.0	0.0	0.0	0.0	1	14	\$167.47	\$167.47	\$0.21	\$0.00	\$0.00	2.00	1.00	0.104	0.220	0.143	0.143	ENERGY STAR Commercial Clothes Washer - MEF = 2.43, WF = 4.0
Water Heat GT 55 Gal	Clothes Washer Commercial	Lodging	Lost Opportunity	186.3	0.00	0.07	0.0	0.0	0.0	0.0	1	14	\$167.47	\$167.47	\$0.18	\$0.00	\$0.00	2.00	1.00	0.008	0.018	0.011	0.011	ENERGY STAR Commercial Clothes Washer - MEF = 2.43, WF = 4.0
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Lodging	Discretionary	27.2	0.0																			



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat GT 55 Gal	Low-Flow Showerheads	Lodging	Lost Opportunity	60.7	0.00	0.02	0.0	0.0	0.0	0.0	0.0	7	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	2.0 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Lodging	Discretionary	60.7	0.00	0.02	0.0	0.0	0.0	0.0	0.0	7	9	\$965.50	\$965.50	\$0.21	\$0.00	\$0.00	0.14	1.00	0.371	0.000	0.000	0.000	2.5 GPM (Federal Code)
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Lodging	Lost Opportunity	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$2.45	\$2.45	\$0.21	\$0.91	\$0.00	0.07	1.00	198.796	0.000	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Lodging	Lost Opportunity	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$2.45	\$2.45	\$0.18	\$0.91	\$0.00	0.07	1.00	20.074	0.000	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Lodging	Discretionary	205.4	0.00	0.08	0.0	0.0	0.0	0.0	0	20	\$11,287.29	\$11,287.29	\$0.21	\$0.00	\$0.00	0.05	1.00	3.350	0.000	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Lodging	Lost Opportunity	205.4	0.00	0.08	0.0	0.0	0.0	0.0	0	20	\$11,287.29	\$11,287.29	\$0.18	\$0.00	\$0.00	0.05	1.00	0.251	0.000	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Lodging	Discretionary	7,361.6	0.02	2.96	0.0	0.0	0.0	0.0	0	10	\$760.82	\$760.82	\$0.21	\$0.00	\$0.00	12.18	1.00	12.634	17.405	11.318	11.318	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Lodging	Lost Opportunity	7,361.6	0.02	2.96	0.0	0.0	0.0	0.0	0	10	\$760.82	\$760.82	\$0.18	\$0.00	\$0.00	12.18	1.00	0.945	1.385	0.901	0.901	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Lodging	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.60	\$0.60	\$0.21	\$0.00	\$0.00	0.75	1.00	325.179	0.000	0.000	0.000	0.000	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Lodging	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.60	\$0.60	\$0.18	\$0.00	\$0.00	0.75	1.00	33.383	0.000	0.000	0.000	0.000	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Lodging	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.12	\$0.12	\$0.21	\$0.00	\$0.00	1.14	1.00	0.000	135.993	88.434	88.434	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Lodging	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.12	\$0.12	\$0.18	\$0.00	\$0.00	1.14	1.00	0.000	14.528	9.447	9.447	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Lodging	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.48	\$0.48	\$0.21	\$0.00	\$0.00	0.81	1.00	0.000	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Lodging	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.48	\$0.48	\$0.18	\$0.00	\$0.00	0.81	1.00	0.000	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Lodging	Discretionary	10,306.2	0.02	4.15	0.0	0.0	0.0	0.0	0	4	\$0.17	\$0.17	\$0.21	\$0.00	\$0.00	30269.62	1.00	168.031	231.485	150.532	150.532	0.000	Set Water Heater to 120F
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Lodging	Lost Opportunity	10,306.2	0.02	4.15	0.0	0.0	0.0	0.0	0	4	\$0.17	\$0.17	\$0.18	\$0.00	\$0.00	30269.62	1.00	12.570	18.424	11.981	11.981	0.000	Set Water Heater to 120F
Water Heat GT 55 Gal	Water Heater Tank Wrap	Lodging	Discretionary	20,736.1	0.04	8.34	0.0	0.0	0.0	0.0	0	7	\$699.43	\$699.43	\$0.21	\$0.00	\$0.00	267.141	1.00	262.141	361.136	234.841	234.841	0.000	Add R-10 Tank Wrap
Water Heat LE 55 Gal	Clothes Washer - Ozonating	Lodging	Discretionary	1,476.3	0.00	0.59	0.0	0.0	0.0	0.0	1	10	\$8,219.80	\$8,219.80	\$0.21	\$0.00	\$0.00	0.23	1.00	0.227	0.000	0.000	0.000	0.000	Ozonating Clothes Washer
Water Heat LE 55 Gal	Clothes Washer - Ozonating	Lodging	Lost Opportunity	1,476.3	0.00	0.59	0.0	0.0	0.0	0.0	1	10	\$8,219.80	\$8,219.80	\$0.18	\$0.00	\$0.00	0.23	1.00	0.015	0.000	0.000	0.000	0.000	Ozonating Clothes Washer
Water Heat LE 55 Gal	Clothes Washer Commercial	Lodging	Discretionary	186.3	0.00	0.07	0.0	0.0	0.0	0.0	1	14	\$167.47	\$167.47	\$0.21	\$0.00	\$0.00	2.00	1.00	0.053	0.197	0.128	0.128	0.000	ENERGY STAR Commercial Clothes Washer - MEF = 2.43, WF = 4.0
Water Heat LE 55 Gal	Clothes Washer Commercial	Lodging	Lost Opportunity	186.3	0.00	0.07	0.0	0.0	0.0	0.0	1	14	\$167.47	\$167.47	\$0.18	\$0.00	\$0.00	2.00	1.00	0.004	0.017	0.011	0.011	0.000	ENERGY STAR Commercial Clothes Washer - MEF = 2.43, WF = 4.0
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Lodging	Discretionary	56.6	0.00	0.02	0.0	0.0	0.0	0.0	5	13	\$63.06	\$63.06	\$0.21	\$0.00	\$0.00	2.42	1.00	0.000	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Lodging	Lost Opportunity	56.6	0.00	0.02	0.0	0.0	0.0	0.0	5	13	\$63.06	\$63.06	\$0.18	\$0.00	\$0.00	2.42	1.00	0.000	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Lodging	Discretionary	125.3	0.00	0.05	0.0	0.0	0.0	0.0	7	13	\$116.60	\$116.60	\$0.21	\$0.00	\$0.00	2.44	1.00	0.073	0.176	0.114	0.114	0.000	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Lodging	Lost Opportunity	125.3	0.00	0.05	0.0	0.0	0.0	0.0	7	13	\$116.60	\$116.60	\$0.18	\$0.00	\$0.00	2.44	1.00	0.005	0.015	0.010	0.010	0.000	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Lodging	Discretionary	63.5	0.00	0.03	0.0	0.0	0.0	0.0	3	14	\$9.76	\$9.76	\$0.21	\$0.00	\$0.00	14.75	1.00	0.000	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Lodging	Lost Opportunity	63.5	0.00	0.03	0.0	0.0	0.0	0.0	3	14	\$9.76	\$9.76	\$0.18	\$0.00	\$0.00	14.75	1.00	0.000	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Lodging	Discretionary	100.0	0.00	0.04	0.0	0.0	0.0	0.0	8	14	\$3.99	\$3.99	\$0.21	\$0.00	\$0.00	67.69	1.00	0.528	1.266	0.823	0.823	0.000	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Lodging	Lost Opportunity	100.0	0.00	0.04	0.0	0.0	0.0	0.0	8	14	\$3.99	\$3.99	\$0.18	\$0.00	\$0.00	67.69	1.00	0.035	0.110	0.072	0.072	0.000	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Lodging	Discretionary	787.7	0.00	0.32	0.0	0.0	0.0	0.0	0	13	\$180.29	\$180.29	\$0.21	\$0.00	\$0.00	7.11	1.00	4.251	10.199	6.632	6.632	0.000	1.0" of Insulation, assuming R-4 (Code)
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Lodging	Discretionary	11,136.5	0.02	4.48	0.0	0.0	0.0	0.0	0	25	\$17,851.75	\$17,851.75	\$0.21	\$0.00	\$0.00	1.94	1.00	3.128	7.504	4.880	4.880	0.000	Install Heat Recovery Water Heater
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Lodging	Discretionary	324.1	0.00	0.13	0.0	0.0	0.0	0.0	0	20	\$38.17	\$38.17	\$0.21	\$0.00	\$0.00	21.12	1.00	0.667	1.601	1.041	1.041	0.000	R-3
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Lodging	Discretionary	317.5	0.00	0.13	0.0	0.0	0.0	0.0	23	9	\$643.66	\$643.66	\$0.21	\$0.00	\$0.00	0.88	1.00	2.793	0.000	0.000	0.000	0.000	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Lodging	Lost Opportunity	317.5	0.00	0.13	0.0	0.0	0.0	0.0	23	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.185	0.000	0.000	0.000	0.000	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Lodging	Discretionary	224.1	0.00	0.09	0.0	0.0	0.0	0.0	17	9	\$643.66	\$643.66	\$0.21	\$0.00	\$0.00	0.62	1.00	0.000	0.000	0.000	0.000	0.000	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Lodging	Lost Opportunity	224.1	0.00	0.09	0.0	0.0	0.0	0.0	17	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	0.000	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Lodging	Discretionary	130.7	0.00	0.05	0.0	0.0	0.0	0.0	10	9	\$643.66	\$643.66	\$0.21	\$0.00	\$0.00	0.36	1.00	0.000	0.000	0.000	0.000	0.000	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Lodging	Lost Opportunity	130.7	0.00	0.05	0.0	0.0	0.0	0.0	10	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	0.000	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Lodging	Discretionary	56.0	0.00	0.02	0.0	0.0	0.0	0.0	4	9	\$643.66	\$643.66	\$0.21	\$0.00	\$0.00	0.15	1.00	0.185	0.000	0.000	0.000	0.000	2.2 GPM (Federal Code)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Lodging	Discretionary	50.0	0.00	0.02	0.0	0.0	0.0	0.0	10	5	\$9.50	\$9.50	\$0.21	\$0.00	\$0.00	8.41	1.00	0.000	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Lodging	Lost Opportunity	50.0	0.00	0.02	0.0	0.0	0.0	0.0	10	5	\$9.50	\$9.50	\$0.18	\$0.00	\$0.00	8.41	1.00	0.000	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Lodging	Discretionary	82.9	0.00	0.03	0.0	0.0	0.0	0.0	16	5	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.629	0.000	0.000	0.000	0.000	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Lodging	Lost Opportunity	82.9	0.00	0.03	0.0	0.0	0.0	0.0	16	5	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.039	0.000	0.000	0.000	0.000	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Lodging	Discretionary	132.9	0.00	0.05	0.0	0.0	0.0	0.0	25	5	\$9.50	\$9.50	\$0.21	\$0.00	\$0.00	22.34	1.00	0.000	0.000	0.000	0.000	0.000	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Lodging	Lost Opportunity	132.9	0.00	0.05	0.0	0.0	0.0	0.0	25	5	\$9.50	\$9.50	\$0.18	\$0.00	\$0.00	22.34	1.00	0.016	0.050	0.032	0.032	0.000	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Lodging	Discretionary	121.3	0.00	0.05	0.0	0.0	0.0	0.0	14	9	\$965.50	\$965.50	\$0.21	\$0.00	\$0.00	0.27	1.00	1.014	0.000	0.000	0.000	0.000	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Lodging	Lost Opportunity	121.3	0.00	0.05	0.0	0.0	0.0	0.0	14	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.067	0.000	0.000	0.000	0.000	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Lodging	Discretionary	91.0	0.00	0.04	0.0	0.0	0.0	0.0	11	9	\$965.50	\$965.50											

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Compressed Air	Engineered Nozzles	Miscellaneous	Discretionary	49.8	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0	10	\$1.28	\$1.28	\$0.21	\$0.00	\$0.00	61.48	1.00	4.759	4.759	3.816	3.816	Compressed Air Engineered Nozzle
Compressed Air	Engineered Nozzles	Miscellaneous	Lost Opportunity	49.8	0.01	0.01	0.0	0.0	0.0	0.0	0	10	\$1.28	\$1.28	\$0.18	\$0.00	\$0.00	61.48	1.00	0.413	0.413	0.332	0.332	Compressed Air Engineered Nozzle	
Compressed Air	Mist Eliminators	Miscellaneous	Discretionary	466.7	0.05	0.05	0.0	0.0	0.0	0.0	0	15	\$620.71	\$620.71	\$0.21	\$0.00	\$0.00	1.80	1.00	44.571	44.571	35.739	35.739	Mist Eliminator Filter	
Compressed Air	Mist Eliminators	Miscellaneous	Lost Opportunity	466.7	0.05	0.05	0.0	0.0	0.0	0.0	0	15	\$620.71	\$620.71	\$0.18	\$0.00	\$0.00	1.80	1.00	3.873	3.873	3.105	3.105	Mist Eliminator Filter	
Compressed Air	No Air Loss Drain	Miscellaneous	Discretionary	287.9	0.03	0.03	0.0	0.0	0.0	0.0	0	5	\$36.54	\$36.54	\$0.21	\$0.00	\$0.00	6.05	1.00	19.996	19.996	16.034	16.034	No Air Loss Drain	
Compressed Air	No Air Loss Drain	Miscellaneous	Lost Opportunity	287.9	0.03	0.03	0.0	0.0	0.0	0.0	0	5	\$36.54	\$36.54	\$0.18	\$0.00	\$0.00	6.05	1.00	0.000	0.000	0.000	0.000	No Air Loss Drain	
Compressed Air	VFD Air Compressor Upgrade	Miscellaneous	Discretionary	601.2	0.07	0.07	0.0	0.0	0.0	0.0	0	10	\$496.28	\$496.28	\$0.21	\$0.00	\$0.00	1.91	1.00	41.757	41.757	33.483	33.483	VFD Compressor Upgrade	
Compressed Air	VFD Air Compressor Upgrade	Miscellaneous	Lost Opportunity	601.2	0.07	0.07	0.0	0.0	0.0	0.0	0	10	\$496.28	\$496.28	\$0.18	\$0.00	\$0.00	1.91	1.00	3.628	3.628	2.909	2.909	VFD Compressor Upgrade	
Computers	Computer - ENERGY STAR	Miscellaneous	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.70	4406.107	0.000	0.000	0.000	ENERGY STAR Computer	
Computers	Computer - ENERGY STAR	Miscellaneous	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.70	364.626	0.000	0.000	0.000	ENERGY STAR Computer	
Computers	Network PC Power Management	Miscellaneous	Discretionary	120.8	0.02	0.01	0.0	0.0	0.0	0.0	0	5	\$14.78	\$14.78	\$0.21	\$3.39	\$0.00	3.27	0.70	808.099	1418.818	800.381	800.381	Network PC Power Management	
Computers	Network PC Power Management	Miscellaneous	Lost Opportunity	120.8	0.02	0.01	0.0	0.0	0.0	0.0	0	5	\$14.78	\$14.78	\$0.18	\$3.39	\$0.00	3.27	0.70	78.858	138.663	78.223	78.223	Network PC Power Management	
Cooking	Combination Oven	Miscellaneous	Discretionary	11.4	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.95	17.323	0.000	0.000	0.000	ENERGY STAR Combination Oven	
Cooking	Combination Oven	Miscellaneous	Lost Opportunity	11.4	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.95	1.505	0.000	0.000	0.000	ENERGY STAR Combination Oven	
Cooking	Convection Oven	Miscellaneous	Discretionary	2.6	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.69	\$0.69	\$0.21	\$0.00	\$0.00	7.05	0.95	7.188	7.188	5.503	5.503	ENERGY STAR Convection Oven	
Cooking	Convection Oven	Miscellaneous	Lost Opportunity	2.6	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.69	\$0.69	\$0.18	\$0.00	\$0.00	7.05	0.95	0.625	0.625	0.478	0.478	ENERGY STAR Convection Oven	
Cooking	Fryers	Miscellaneous	Discretionary	5.3	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.90	\$0.90	\$0.21	\$0.00	\$0.00	11.17	0.95	11.545	11.545	8.839	8.839	ENERGY STAR Fryer	
Cooking	Fryers	Miscellaneous	Lost Opportunity	5.3	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.90	\$0.90	\$0.18	\$0.00	\$0.00	11.17	0.95	1.003	1.003	0.768	0.768	ENERGY STAR Fryer	
Cooking	Griddle	Miscellaneous	Discretionary	3.4	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$1.53	\$1.53	\$0.21	\$0.00	\$0.00	4.22	0.95	5.829	5.829	4.463	4.463	ENERGY STAR Griddle	
Cooking	Griddle	Miscellaneous	Lost Opportunity	3.4	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$1.53	\$1.53	\$0.18	\$0.00	\$0.00	4.22	0.95	0.507	0.507	0.388	0.388	ENERGY STAR Griddle	
Cooking	Hot Food Holding Cabinet	Miscellaneous	Discretionary	3.1	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$1.61	\$1.61	\$0.21	\$0.00	\$0.00	3.65	0.95	8.164	8.164	6.251	6.251	ENERGY STAR Hot Food Holding Cabinet	
Cooking	Hot Food Holding Cabinet	Miscellaneous	Lost Opportunity	3.1	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$1.61	\$1.61	\$0.18	\$0.00	\$0.00	3.65	0.95	0.709	0.709	0.543	0.543	ENERGY STAR Hot Food Holding Cabinet	
Cooking	Microwave - High Efficiency	Miscellaneous	Discretionary	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	11	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	3.38	0.95	0.048	0.048	0.036	0.036	High Efficiency Microwave	
Cooking	Microwave - High Efficiency	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	11	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	3.38	0.95	0.000	0.000	0.000	0.000	High Efficiency Microwave	
Cooking	Steam Cooker	Miscellaneous	Discretionary	8.9	0.00	0.00	0.0	0.0	0.0	0.0	2,224	12	\$3.03	\$3.03	\$0.21	\$0.00	\$0.00	8118.52	0.95	20.750	20.750	15.886	15.886	ENERGY STAR Steam Cooker	
Cooking	Steam Cooker	Miscellaneous	Lost Opportunity	8.9	0.00	0.00	0.0	0.0	0.0	0.0	2,224	12	\$3.03	\$3.03	\$0.18	\$0.00	\$0.00	8118.52	0.95	1.803	1.803	1.380	1.380	ENERGY STAR Steam Cooker	
Cooling Chillers	Active Chilled Beam Cooling with DOAS	Miscellaneous	Lost Opportunity	82.1	0.03	0.00	0.0	0.0	0.0	0.0	0	15	-\$2,746.00	\$0.00	\$0.18	\$2,059.50	\$0.00	0.01	0.98	7.196	0.000	0.000	0.000	Active Chilled Beam Cooling with DOAS	
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Miscellaneous	Discretionary	42.7	0.01	0.00	0.0	0.2	0.0	0.0	0	15	\$686.50	\$686.50	\$0.21	\$0.00	\$0.00	0.23	0.98	63.316	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)	
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Miscellaneous	Discretionary	76.0	0.03	0.00	0.0	0.0	0.0	0.0	0	15	\$3,185.36	\$3,185.36	\$0.21	\$0.00	\$0.00	0.08	0.98	67.425	0.000	0.000	0.000	Additional Control Features	
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Miscellaneous	Lost Opportunity	76.0	0.03	0.00	0.0	0.0	0.0	0.0	0	15	\$3,185.36	\$3,185.36	\$0.18	\$0.00	\$0.00	0.08	0.98	3.502	0.000	0.000	0.000	Additional Control Features	
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Miscellaneous	Discretionary	54.5	0.02	0.00	0.0	0.0	0.0	0.0	0	10	\$2,395.50	\$2,395.50	\$0.21	\$0.00	\$0.00	0.05	0.98	26.701	0.000	0.000	0.000	VSD for Secondary Chilled Water Loop	
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Miscellaneous	Lost Opportunity	54.5	0.02	0.00	0.0	0.0	0.0	0.0	0	10	\$2,155.95	\$2,155.95	\$0.18	\$0.00	\$0.00	0.06	0.98	3.584	0.000	0.000	0.000	VSD for Secondary Chilled Water Loop	
Cooling Chillers	Chilled Water Reset	Miscellaneous	Discretionary	20.5	0.01	0.00	0.0	0.0	0.0	0.0	0	10	\$1,870.96	\$1,870.96	\$0.21	\$0.00	\$0.00	0.02	0.98	22.686	0.000	0.000	0.000	Chilled Water Temperature Reset	
Cooling Chillers	Chilled Water Reset	Miscellaneous	Lost Opportunity	20.5	0.01	0.00	0.0	0.0	0.0	0.0	0	10	\$1,870.96	\$1,870.96	\$0.18	\$0.00	\$0.00	0.02	0.98	0.000	0.000	0.000	0.000	Chilled Water Temperature Reset	
Cooling Chillers	Chilled Water Side Economizer	Miscellaneous	Discretionary	115.0	0.04	0.00	0.0	0.0	0.0	0.0	0	15	\$15,866.96	\$15,866.96	\$0.21	\$0.00	\$0.00	0.03	0.98	91.871	0.000	0.000	0.000	Install Economizer	
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Miscellaneous	Discretionary	49.0	0.02	0.00	0.0	0.0	0.0	0.0	0	15	\$88.04	\$88.04	\$0.21	\$0.00	\$0.00	1.95	0.98	143.156	159.542	126.305	126.305	2.0" of Insulation, assuming R-8	
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Miscellaneous	Lost Opportunity	49.0	0.02	0.00	0.0	0.0	0.0	0.0	0	15	\$88.04	\$88.04	\$0.18	\$0.00	\$0.00	1.95	0.98	14.668	16.821	13.317	13.317	2.0" of Insulation, assuming R-8	
Cooling Chillers	Chiller - Pipe Insulation - Code	Miscellaneous	Discretionary	81.8	0.03	0.00	0.0	0.0	0.0	0.0	0	15	\$188.79	\$188.79	\$0.21	\$0.00	\$0.00	1.52	0.98	257.287	286.736	227.001	227.001	1.0" of Insulation, assuming R-4 (Code)	
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.29	\$0.29	\$0.21	\$0.00	\$0.00	0.35	0.98	115.466	0.000	0.000	0.000	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)	
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.26	\$0.26	\$0.18	\$0.00	\$0.00	0.39	0.98	13.620	0.000	0.000	0.000	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)	
Cooling Chillers	Commissioning	Miscellaneous	Lost Opportunity	53.4	0.02	0.00	0.3	0.0	0.0	0.0	0	5	\$3,185.36	\$3,185.36	\$0.18	\$0.00	\$0.00	0.02	0.98	13.553	0.000	0.000	0.000	Commissioning	
Cooling Chillers	Convert Constant Volume Air System to VAV	Miscellaneous	Discretionary	107.8	0.04	0.00	0.0	0.6	0.0	0.0	0	15	\$10,012.70	\$10,012.70	\$0.21	\$0.00	\$0.00	0.04	0.98	20.669	0.000	0.000	0.000	Variable Volume Air System	
Cooling Chillers	Direct Digital Control System-Installation	Miscellaneous	Discretionary	61.6	0.02	0.00	0.3	0.0	0.0	0.0	0	5	\$858.13	\$858.13	\$0.21	\$0.00	\$0.00	0.08	0.98	90.372	0.000	0.000	0.000	Installation of EMS System	
Cooling Chillers	Direct Digital Control System-Installation	Miscellaneous	Lost Opportunity	61.6	0.02	0.00	0.3	0.0	0.0	0.0	0	5	\$858.13	\$858.13	\$0.18	\$0.00	\$0.00	0.08	0.98	1.076	0.000	0.000	0.000	Installation of EMS System	
Cooling Chillers	Exhaust Hood Makeup Air	Miscellaneous	Discretionary	18.5	0.01	0.00	0.0	0.0	0.0	0.0	0	12	\$5.53	\$5.53	\$0.21	\$0.00	\$0.00	9.21	0.98	0.683	0.761	0.603	0.603	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Cooling Chillers	Green Roof	Miscellaneous	Discretionary	2.2	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$41,190.00	\$41,190.00	\$0.21	\$411.90	\$0.00	0.00	0.98	2.444	0.000	0.000	0.000	Vegetation on Roof	
Cooling Chillers	Green Roof	Miscellaneous	Lost Opportunity	1.8	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$41,190.00	\$41,190.00	\$0.18	\$411.90	\$0.00	0.00	0.98	0.292	0.000	0.000	0.000	Vegetation on Roof	
Cooling Chillers	Indirect Information Feedback	Miscellaneous	Discretionary	2.1	0.00	0.00	0.0	0.0	0.0	0.0	0	2	\$7.11	\$7.11	\$0.21	\$0.00	\$0.00	0.13	0.98	4.350	0.000	0.000	0.000	Indirect Information Feedback	
Cooling Chillers	Indirect Information Feedback	Miscellaneous	Lost Opportunity	2.1	0.00	0.00	0.0	0.0	0.0	0.0	0	2	\$7.11	\$7.11	\$0.18	\$0.00	\$0.00	0.13	0.98	0.452	0.000	0.000	0.000	Indirect Information Feedback	
Cooling Chillers	Infiltration Reduction	Miscellaneous	Discretionary	12.3	0.00	0.00	0.0	0.2	0.0	0.0	0	10	\$83.64	\$83.64	\$0.21	\$0.00	\$0.00	0.39	0.98	1.178	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)	
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Discretionary	20.9	0.01	0.00	0.1	0.0	0.0	0.0	0	30	\$463.39	\$463.39	\$0.21	\$0.00	\$0.00	0.35	0.98	17.184	0.000	0.000	0.000	R-35 c.i.	
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	20.9	0.01	0.00	0.1	0.0	0.0	0.0	0	30	\$463.39	\$463.39	\$0.18	\$0.00	\$0.00	0.35	0.98	0.777	0.000	0.000	0.000	R-35 c.i.</	

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Cooling Dx Evap	DX Package 135 to 240 kBtuh - Premium Efficiency	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$1.79	\$1.79	\$0.21	\$0.00	\$0.00	0.07	0.98	402.002	0.000	0.000	0.000	Premium Efficiency - 18.5 IEER
Cooling Dx Evap	DX Package 135 to 240 kBtuh - Premium Efficiency	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$1.43	\$1.43	\$0.18	\$0.00	\$0.00	0.08	0.98	31.804	0.000	0.000	0.000	Premium Efficiency - 18.5 IEER
Cooling Dx Evap	DX Package-Air Side Economizer	Miscellaneous	Discretionary	102.9	0.04	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$1,805.03	\$1,805.03	\$0.21	\$0.00	\$0.00	0.13	0.98	20.261	0.000	0.000	0.000	Air-Side Economizer
Cooling Dx Evap	Direct Digital Control System-Installation	Miscellaneous	Discretionary	55.1	0.02	0.00	17.8	8.0	1.7	0.0	0.0	0	5	\$858.13	\$858.13	\$0.21	\$0.00	\$0.00	0.33	0.98	107.962	0.000	0.000	0.000	Installation of EMS System
Cooling Dx Evap	Direct Digital Control System-Installation	Miscellaneous	Lost Opportunity	55.1	0.02	0.00	19.8	8.9	1.9	0.0	0.0	0	5	\$858.13	\$858.13	\$0.18	\$0.00	\$0.00	0.36	0.98	1.203	0.000	0.000	0.000	Installation of EMS System
Cooling Dx Evap	Duct Repair and Sealing	Miscellaneous	Discretionary	31.9	0.01	0.00	9.9	5.6	1.2	0.0	0.0	0	18	\$659.04	\$659.04	\$0.21	\$0.00	\$0.00	0.90	0.98	48.136	0.000	0.000	0.000	Reduction In Duct Losses to 5 %
Cooling Dx Evap	Exhaust Hood Makeup Air	Miscellaneous	Discretionary	16.5	0.01	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$5.53	\$5.53	\$0.21	\$0.00	\$0.00	8.24	0.98	0.676	0.873	0.691	0.691	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air
Cooling Dx Evap	Green Roof	Miscellaneous	Discretionary	2.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	40	\$41,190.00	\$41,190.00	\$0.21	\$411.90	\$0.00	0.00	0.98	3.041	0.000	0.000	0.000	Vegetation on Roof
Cooling Dx Evap	Green Roof	Miscellaneous	Lost Opportunity	1.6	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	40	\$41,190.00	\$41,190.00	\$0.18	\$411.90	\$0.00	0.00	0.98	0.298	0.000	0.000	0.000	Vegetation on Roof
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Miscellaneous	Discretionary	218.2	0.07	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$10,434.80	\$10,434.80	\$0.21	-\$238.90	\$0.00	0.10	0.98	52.202	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Miscellaneous	Lost Opportunity	218.2	0.07	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$10,434.80	\$10,434.80	\$0.18	-\$238.90	\$0.00	0.10	0.98	14.263	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems
Cooling Dx Evap	Indirect Information Feedback	Miscellaneous	Discretionary	1.9	0.00	0.00	0.6	0.3	0.1	0.0	0.0	0	2	\$6.36	\$6.36	\$0.21	\$0.00	\$0.00	0.59	0.98	4.889	0.000	0.000	0.000	Indirect Information Feedback
Cooling Dx Evap	Indirect Information Feedback	Miscellaneous	Lost Opportunity	1.9	0.00	0.00	0.7	0.3	0.1	0.0	0.0	0	2	\$6.36	\$6.36	\$0.18	\$0.00	\$0.00	0.64	0.98	0.490	0.000	0.000	0.000	Indirect Information Feedback
Cooling Dx Evap	Infiltration Reduction	Miscellaneous	Discretionary	11.0	0.00	0.00	11.9	5.8	1.2	0.0	0.0	0	10	\$83.64	\$83.64	\$0.21	\$0.00	\$0.00	3.93	0.98	1.386	1.792	1.418	1.418	Install Caulking And Weatherstripping (ACH 0.65)
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Discretionary	18.7	0.01	0.00	6.0	3.8	0.8	0.0	0.0	0	30	\$463.39	\$463.39	\$0.21	\$0.00	\$0.00	1.26	0.98	19.403	25.077	19.853	19.853	R-35 c.i.
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	18.7	0.01	0.00	6.7	4.2	0.9	0.0	0.0	0	30	\$463.39	\$463.39	\$0.18	\$0.00	\$0.00	1.36	0.98	0.843	1.113	0.881	0.881	R-35 c.i.
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Code	Miscellaneous	Discretionary	49.2	0.02	0.00	20.7	13.1	2.6	0.0	0.0	0	30	\$2,114.42	\$2,114.42	\$0.21	\$0.00	\$0.00	0.89	0.98	31.741	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Miscellaneous	Discretionary	13.2	0.00	0.00	4.1	2.4	0.5	0.0	0.0	0	20	\$37.24	\$37.24	\$0.21	\$0.00	\$0.00	7.33	0.98	37.086	47.931	37.946	37.946	R-12
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	13.2	0.00	0.00	4.6	2.6	0.5	0.0	0.0	0	20	\$37.24	\$37.24	\$0.18	\$0.00	\$0.00	7.95	0.98	3.967	5.237	4.146	4.146	R-12
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	Miscellaneous	Discretionary	13.2	0.00	0.00	4.1	2.4	0.5	0.0	0.0	0	20	\$150.00	\$150.00	\$0.21	\$0.00	\$0.00	1.82	0.98	29.915	38.664	30.609	30.609	R-8 (CBES 2015 Code)
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Miscellaneous	Discretionary	27.6	0.01	0.00	8.9	5.6	1.1	0.0	0.0	0	30	\$823.80	\$823.80	\$0.21	\$0.00	\$0.00	1.04	0.98	9.566	12.363	9.787	9.787	R-38
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	27.6	0.01	0.00	9.9	6.3	1.3	0.0	0.0	0	30	\$823.80	\$823.80	\$0.18	\$0.00	\$0.00	1.13	0.98	1.714	2.263	1.792	1.792	R-38
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	Miscellaneous	Discretionary	48.0	0.02	0.00	15.5	9.8	2.0	0.0	0.0	0	30	\$2,361.56	\$2,361.56	\$0.21	\$0.00	\$0.00	0.63	0.98	14.865	0.000	0.000	0.000	R-30 (CBES 2015 Code)
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Miscellaneous	Discretionary	28.3	0.01	0.00	9.1	5.8	1.2	0.0	0.0	0	30	\$602.34	\$602.34	\$0.21	\$0.00	\$0.00	1.46	0.98	16.459	21.272	16.840	16.840	R-13 + 15.6 c.i.
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	28.3	0.01	0.00	10.2	6.4	1.3	0.0	0.0	0	30	\$602.34	\$602.34	\$0.18	\$0.00	\$0.00	1.59	0.98	4.420	5.836	4.620	4.620	R-13 + 15.6 c.i.
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Code	Miscellaneous	Discretionary	26.3	0.01	0.00	10.0	6.3	1.3	0.0	0.0	0	30	\$4,133.29	\$4,133.29	\$0.21	\$0.00	\$0.00	0.23	0.98	7.626	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Miscellaneous	Discretionary	29.6	0.01	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$10,757.91	\$10,757.91	\$0.21	\$0.00	\$0.00	0.01	0.98	3.002	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Miscellaneous	Lost Opportunity	29.6	0.01	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$8,606.32	\$8,606.32	\$0.18	\$0.00	\$0.00	0.01	0.98	0.357	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)
Cooling Dx Evap	Natural Ventilation	Miscellaneous	Lost Opportunity	36.7	0.01	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$2,746.00	\$2,746.00	\$0.18	\$0.00	\$0.00	0.05	0.98	0.370	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling
Cooling Dx Evap	Programmable Thermostat	Miscellaneous	Discretionary	14.7	0.01	0.00	4.7	2.3	0.5	0.0	0.0	0	11	\$25.78	\$25.78	\$0.21	\$0.00	\$0.00	6.63	0.98	38.607	49.897	39.502	39.502	Programmable Thermostat
Cooling Dx Evap	Re-Commissioning	Miscellaneous	Discretionary	47.7	0.02	0.00	15.4	7.0	1.5	0.0	0.0	0	5	\$823.80	\$823.80	\$0.21	\$0.00	\$0.00	0.30	0.98	144.754	0.000	0.000	0.000	Re-Commissioning
Cooling Dx Evap	Retrocommissioning	Miscellaneous	Discretionary	54.5	0.02	0.00	17.6	7.9	1.7	0.0	0.0	0	5	\$1,373.00	\$1,373.00	\$0.21	\$0.00	\$0.00	0.20	0.98	87.829	0.000	0.000	0.000	Retrocommissioning
Cooling Dx Evap	Strategic Energy Management (SEM)	Miscellaneous	Discretionary	15.1	0.01	0.00	4.9	2.2	0.5	0.0	0.0	0	5	\$2.03	\$2.03	\$0.21	\$0.00	\$0.00	38.05	0.98	6.287	8.125	6.433	6.433	Identify Operations and Maintenance Improvements through Strategic Energy Mai
Cooling Dx Evap	Strategic Energy Management (SEM)	Miscellaneous	Lost Opportunity	15.1	0.01	0.00	5.4	2.4	0.5	0.0	0.0	0	5	\$2.03	\$2.03	\$0.18	\$0.00	\$0.00	41.38	0.98	3.772	4.980	3.943	3.943	Identify Operations and Maintenance Improvements through Strategic Energy Mai
Cooling Dx Evap	Tune-up - DX Maintenance	Miscellaneous	Discretionary	52.8	0.02	0.00	0.0	0.0	0.0	0.0	0.0	0	5	\$3,655.18	\$3,655.18	\$0.21	\$0.00	\$0.00	0.02	0.98	59.253	0.000	0.000	0.000	DX Tune-up / Diagnostics
Cooling Dx Evap	Wi-Fi Thermostat	Miscellaneous	Discretionary	14.7	0.01	0.00	4.7	2.3	0.5	0.0	0.0	0	11	\$205.33	\$205.33	\$0.21	\$0.00	\$0.00	0.83	0.98	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Miscellaneous	Discretionary	1.1	0.00	0.00	0.3	0.2	0.0	0.0	0.0	0	20	\$494.61	\$494.61	\$0.21	\$0.00	\$0.00	0.05	0.98	0.603	0.000	0.000	0.000	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	1.1	0.00	0.00	0.4	0.2	0.0	0.0	0.0	0	20	\$494.61	\$494.61	\$0.18	\$0.00	\$0.00	0.05	0.98	0.245	0.000	0.000	0.000	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Code	Miscellaneous	Discretionary	2.4	0.00	0.00	0.8	0.5	0.1	0.0	0.0	0	20	\$3,266.21	\$3,266.21	\$0.21	\$0.00	\$0.00	0.02	0.98	1.362	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtuh - Premium Efficiency	Miscellaneous	Discretionary	185.2	0.06	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$12,463.75	\$12,463.75	\$0.21	\$0.00	\$0.00	0.05	0.98	180.280	0.000	0.000	0.000	Premium Efficiency - 19.0 IEER
Fax	Fax - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.70	58.540	0.000	0.000	0.000	ENERGY STAR Fax
Fax	Fax - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.70	5.841	0.000	0.000	0.000	ENERGY STAR Fax
Flat Screen Monitors	Monitor - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.70	0.000	0.000	0.000	0.000	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.70	0.000	0.000	0.000	0.000	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	7	\$0.02	\$0.02	\$0.21	\$0.00	\$0.00	0.50	0.70	347.401	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	7	\$0.02	\$0.02	\$0.18	\$0.00	\$0.00	0.50	0.70	32.813	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor
Freezers	Freezer (Residential) - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	13.03	0.70	20.013	20.013	9.110	9.110	ENERGY STAR Freezer
Freezers	Freezer (Residential) - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	13.03	0.70	2.707	2.707	1.232	1.232	ENERGY STAR Freezer
Freezers	Residential Freezer Recycling and Replacement	Miscellaneous	Discretionary	9.3	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	8	\$3.73	\$3.73	\$0.21	\$0.00	\$0.00	3.13	0.70	126.506	126.506	57.585		



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Lighting Interior HID	Lighting Interior - High Bay Fluorescent High Output - Above Standard	Miscellaneous	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.77	\$0.77	\$0.21	\$0.08	\$0.00	1.22	0.98	0.000	0.000	0.000	0.000	High Bay Fluorescent High Output (HO)	
Lighting Interior HID	Lighting Interior - High Bay Induction - Above Standard	Miscellaneous	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.75	\$0.75	\$0.21	-\$0.09	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	High Bay Induction	
Lighting Interior HID	Lighting Interior - High Bay LED - Above Standard	Miscellaneous	Lost Opportunity	1.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.89	\$0.89	\$0.21	-\$0.03	\$0.00	5.61	0.98	15745.879	17393.237	15077.167	15077.167	High Bay LED	
Lighting Interior HID	Occupancy Sensor Control	Miscellaneous	Discretionary	839.3	0.16	0.11	0.0	0.0	0.0	0.0	0	10	\$2,339.99	\$2,339.99	\$0.21	\$0.00	\$0.00	0.67	0.98	6522.485	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Interior HID	Time Clock	Miscellaneous	Discretionary	349.7	0.07	0.05	0.0	0.0	0.0	0.0	0	8	\$103.00	\$103.00	\$0.21	\$0.00	\$0.00	5.01	0.98	226.475	226.475	196.318	196.318	Time Clock	
Lighting Interior Other	Exit Sign - LED	Miscellaneous	Discretionary	48.1	0.01	0.01	0.0	0.0	0.0	0.0	0	16	\$67.64	\$67.64	\$0.21	\$0.00	\$0.00	2.16	0.98	574.765	574.765	498.229	498.229	LED Exit Sign	
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Miscellaneous	Discretionary	59.9	0.01	0.01	0.0	0.0	0.0	0.0	0	16	-\$10.30	\$0.00	\$0.21	\$0.00	\$0.00	999.00	0.98	1045.850	1045.850	906.586	906.586	Photoluminescent or Tritium	
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Miscellaneous	Lost Opportunity	59.9	0.01	0.01	0.0	0.0	0.0	0.0	0	16	-\$10.30	\$0.00	\$0.18	\$0.00	\$0.00	999.00	0.98	68.157	68.157	59.081	59.081	Photoluminescent or Tritium	
Lighting Interior Other	New Construction Lighting Package - Advanced Efficiency	Miscellaneous	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.55	\$0.55	\$0.18	-\$0.04	\$0.00	17.56	0.98	3591.153	3591.153	3112.958	3112.958	Advanced Efficiency Lighting Package - 25% LPD Reduction	
Lighting Interior Other	New Construction Lighting Package - High Efficiency	Miscellaneous	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.19	\$0.19	\$0.18	-\$0.02	\$0.00	756.48	0.98	0.000	0.000	0.000	0.000	High Efficiency Lighting Package - 15% LPD Reduction	
Lighting Interior Other	New Construction Lighting Package - Premium Efficiency	Miscellaneous	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.44	\$0.44	\$0.18	-\$0.03	\$0.00	17.56	0.98	0.000	0.000	0.000	0.000	Premium Efficiency Lighting Package - 20% LPD Reduction	
Lighting Interior Other	Occupancy Sensor Control	Miscellaneous	Discretionary	28.9	0.01	0.00	0.0	0.0	0.0	0.0	0	10	\$80.48	\$80.48	\$0.21	\$0.00	\$0.00	0.67	0.98	251.314	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Interior Other	Time Clock	Miscellaneous	Discretionary	12.0	0.00	0.00	0.0	0.0	0.0	0.0	0	8	\$103.00	\$103.00	\$0.21	\$0.00	\$0.00	0.17	0.98	8.726	0.000	0.000	0.000	Time Clock	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	Miscellaneous	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	3	\$0.01	\$0.01	\$0.21	-\$0.01	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	CFL	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base Incandescent - Backstop EISA 2020 Standard	Miscellaneous	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	3	\$0.00	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	0.98	0.000	0.000	0.000	0.000	Backstop EISA 2020 Standard Incandescent	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base LED - Above Standard	Miscellaneous	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.04	\$0.04	\$0.21	-\$0.01	\$0.00	999.00	0.98	690.156	693.903	601.504	601.504	LED	
Lighting Interior Screw Base - Standard	Occupancy Sensor Control	Miscellaneous	Discretionary	284.4	0.06	0.04	0.0	0.0	0.0	0.0	0	10	\$793.03	\$793.03	\$0.21	\$0.00	\$0.00	0.67	0.98	946.022	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Interior Screw Base - Standard	Time Clock	Miscellaneous	Discretionary	118.5	0.02	0.02	0.0	0.0	0.0	0.0	0	8	\$103.00	\$103.00	\$0.21	\$0.00	\$0.00	1.70	0.98	32.848	32.848	28.474	28.474	Time Clock	
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base CFL - Above Standard	Miscellaneous	Discretionary	561.6	0.11	0.08	0.0	0.0	0.0	0.0	0	3	\$13.00	\$13.00	\$0.21	-\$11.43	\$0.00	0.00	0.98	0.000	0.000	0.000	0.000	CFL	
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base LED - Above Standard	Miscellaneous	Discretionary	587.0	0.11	0.08	0.0	0.0	0.0	0.0	0	12	\$41.13	\$41.13	\$0.21	-\$13.49	\$0.00	0.00	0.98	7600.621	0.000	0.000	0.000	LED	
Other Plug Load	Dehumidifier - ENERGY STAR	Miscellaneous	Discretionary	153.8	0.02	0.01	0.0	0.0	0.0	0.0	0	12	\$60.00	\$60.00	\$0.21	\$0.00	\$0.00	5.23	0.70	490.995	490.995	276.979	276.979	ENERGY STAR Dehumidifier	
Other Plug Load	Dehumidifier - ENERGY STAR	Miscellaneous	Lost Opportunity	153.8	0.02	0.01	0.0	0.0	0.0	0.0	0	12	\$60.00	\$60.00	\$0.18	\$0.00	\$0.00	5.23	0.70	42.664	42.664	24.067	24.067	ENERGY STAR Dehumidifier	
Other Plug Load	ENERGY STAR - Scanners	Miscellaneous	Discretionary	2.1	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.70	27.858	0.000	0.000	0.000	ENERGY STAR Scanners	
Other Plug Load	ENERGY STAR - Scanners	Miscellaneous	Lost Opportunity	2.1	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.70	2.421	0.000	0.000	0.000	ENERGY STAR Scanners	
Other Plug Load	ENERGY STAR - Water Cooler	Miscellaneous	Discretionary	58.2	0.01	0.01	0.0	0.0	0.0	0.0	0	10	\$0.50	\$0.50	\$0.21	\$0.00	\$0.00	196.63	0.70	1069.366	1069.366	603.249	603.249	ENERGY STAR Water Cooler (Hot/Cold Water)	
Other Plug Load	ENERGY STAR - Water Cooler	Miscellaneous	Lost Opportunity	58.2	0.01	0.01	0.0	0.0	0.0	0.0	0	10	\$0.50	\$0.50	\$0.18	\$0.00	\$0.00	196.63	0.70	92.919	92.919	52.417	52.417	ENERGY STAR Water Cooler (Hot/Cold Water)	
Other Plug Load	Internal Power Supply / Com - E Star	Miscellaneous	Discretionary	24.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$49.49	\$49.49	\$0.21	\$0.00	\$0.00	0.32	0.70	104.315	0.000	0.000	0.000	ENERGY STAR power supply for ENERGY STAR desktop	
Other Plug Load	Internal Power Supply / Com - E Star	Miscellaneous	Lost Opportunity	24.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$49.49	\$49.49	\$0.18	\$0.00	\$0.00	0.32	0.70	9.064	0.000	0.000	0.000	ENERGY STAR power supply for ENERGY STAR desktop	
Other Plug Load	Smart Strip Plug Outlet	Miscellaneous	Discretionary	115.6	0.02	0.01	0.0	0.0	0.0	0.0	0	4	\$86.92	\$86.92	\$0.21	\$0.00	\$0.00	0.86	0.70	447.376	0.000	0.000	0.000	Advanced Power Strip - Load Sensing	
Other Plug Load	Smart Strip Plug Outlet	Miscellaneous	Lost Opportunity	115.6	0.02	0.01	0.0	0.0	0.0	0.0	0	4	\$86.92	\$86.92	\$0.18	\$0.00	\$0.00	0.86	0.70	38.873	0.000	0.000	0.000	Advanced Power Strip - Load Sensing	
Other Plug Load	Smart Strip Plug Outlet	Miscellaneous	Discretionary	70.3	0.01	0.01	0.0	0.0	0.0	0.0	0	4	\$210.51	\$210.51	\$0.21	\$0.00	\$0.00	0.22	0.70	0.000	0.000	0.000	0.000	Advanced Power Strip with Occupancy Sensor	
Other Plug Load	Smart Strip Plug Outlet	Miscellaneous	Lost Opportunity	70.3	0.01	0.01	0.0	0.0	0.0	0.0	0	4	\$210.51	\$210.51	\$0.18	\$0.00	\$0.00	0.22	0.70	0.000	0.000	0.000	0.000	Advanced Power Strip with Occupancy Sensor	
Package Terminal AC	Exhaust Hood Makeup Air	Miscellaneous	Discretionary	1.9	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$5.53	\$5.53	\$0.21	\$0.00	\$0.00	0.93	0.98	0.014	0.000	0.000	0.000	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Package Terminal AC	Green Roof	Miscellaneous	Discretionary	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$41,190.00	\$41,190.00	\$0.21	\$411.90	\$0.00	0.00	0.98	0.135	0.000	0.000	0.000	0.000	Vegetation on Roof
Package Terminal AC	Green Roof	Miscellaneous	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$41,190.00	\$41,190.00	\$0.18	\$411.90	\$0.00	0.00	0.98	0.010	0.000	0.000	0.000	0.000	Vegetation on Roof
Package Terminal AC	Infiltration Reduction	Miscellaneous	Discretionary	1.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$83.64	\$83.64	\$0.21	\$0.00	\$0.00	0.03	0.98	0.032	0.000	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)
Package Terminal AC	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Discretionary	2.1	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$463.39	\$463.39	\$0.21	\$0.00	\$0.00	0.03	0.98	0.477	0.000	0.000	0.000	0.000	R-35 c.i.
Package Terminal AC	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	2.1	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$463.39	\$463.39	\$0.18	\$0.00	\$0.00	0.03	0.98	0.019	0.000	0.000	0.000	0.000	R-35 c.i.
Package Terminal AC	Insulation - Ceiling - CBES 2015 - Code	Miscellaneous	Discretionary	5.6	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$2,114.42	\$2,114.42	\$0.21	\$0.00	\$0.00	0.02	0.98	0.807	0.000	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)
Package Terminal AC	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Miscellaneous	Discretionary	3.1	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$823.80	\$823.80	\$0.21	\$0.00	\$0.00	0.03	0.98	0.235	0.000	0.000	0.000	0.000	R-38
Package Terminal AC	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	3.1	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$823.80	\$823.80	\$0.18	\$0.00	\$0.00	0.03	0.98	0.039	0.000	0.000	0.000	0.000	R-38
Package Terminal AC	Insulation - Floor (non-slab) - CBES 2015 - Code	Miscellaneous	Discretionary	5.4	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$2,361.56	\$2,361.56	\$0.21	\$0.00	\$0.00	0.02	0.98	0.397	0.000	0.000	0.000	0.000	R-30 (CBES 2015 Code)
Package Terminal AC	Insulation - Wall - CBES 2015 - Above Code	Miscellaneous	Discretionary	3.2	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$602.34	\$602.34	\$0.21	\$0.00	\$0.00	0.04	0.98	0.405	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.
Package Terminal AC	Insulation - Wall - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	3.2	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$602.34	\$602.34	\$0.18	\$0.00	\$0.00	0.04	0.98	0.100	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.
Package Terminal AC	Insulation - Wall - CBES 2015 - Code	Miscellaneous	Discretionary	3.0	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$4,133.29	\$4,133.29	\$0.21	\$0.00	\$0.00	0.01	0.98	0.255	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)
Package Terminal AC	Natural Ventilation	Miscellaneous	Lost Opportunity	4.2	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$2,746.00	\$2,746.00	\$0.18	\$0.00	\$0.00	0.01	0.98	0.011	0.000	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling
Package Terminal AC	PTAC (10,000 Btuh) - High Efficiency	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	3.62	0.98	5.199	5.627	4.455	4.455	High Efficiency - 12.8 EER	
Package Terminal AC	PTAC (10,000 Btuh) - High Efficiency	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	3.62	0.98	0.497	0.546	0.432	0.432	High Efficiency - 12.8 EER	
Package Terminal AC	Windows - CBES 2015 - Above Code	Miscellaneous	Discretionary	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$494.61	\$494.61	\$0.21	\$0.00	\$0.00	0.00	0.98	0.025	0.000	0.000	0.000	0.000	U-0.29
Package Terminal AC	Windows - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$494.61	\$494.61	\$0.18	\$0.00	\$0.00	0.00	0.98	0.007	0.000	0.000	0.000	0.000	U-0.2

Appendix B.2		EVT Non-residential Measure Assumptions																									
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description			
Refrigeration	Evaporator Fan Controller - Medium Temp	Miscellaneous	Discretionary	7.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	16	\$6.56	\$6.56	\$0.21	\$0.00	\$0.00	2.85	0.97	122.722	122.722	121.681	121.681	ECM Evaporator Fan Controller - Medium Temp		
Refrigeration	Evaporator Fan Controller - Medium Temp	Miscellaneous	Lost Opportunity	7.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	16	\$6.56	\$6.56	\$0.18	\$0.00	\$0.00	2.85	0.97	8.715	8.715	8.641	8.641	ECM Evaporator Fan Controller - Medium Temp		
Refrigeration	Floating Condenser Head Pressure Controls	Miscellaneous	Discretionary	82.0	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0	15	\$26.36	\$26.36	\$0.21	\$0.00	\$0.00	7.73	0.97	79.317	79.317	78.644	78.644	Floating Condenser Head Pressure Controls		
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Miscellaneous	Discretionary	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	9	\$0.10	\$0.10	\$0.21	\$0.00	\$0.00	10.81	0.97	12.943	12.943	12.833	12.833	Glass Door ENERGY STAR Refrigerators/Freezers		
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Miscellaneous	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	9	\$0.10	\$0.10	\$0.18	\$0.00	\$0.00	10.81	0.97	1.125	1.125	1.115	1.115	Glass Door ENERGY STAR Refrigerators/Freezers		
Refrigeration	Ice Maker - High Efficiency	Miscellaneous	Discretionary	16.7	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	8	\$1.06	\$1.06	\$0.21	\$0.00	\$0.00	20.36	0.97	322.919	322.919	320.181	320.181	High Efficiency Ice Maker		
Refrigeration	Ice Maker - High Efficiency	Miscellaneous	Lost Opportunity	16.7	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	8	\$1.06	\$1.06	\$0.18	\$0.00	\$0.00	20.36	0.97	28.059	28.059	27.821	27.821	High Efficiency Ice Maker		
Refrigeration	Night Covers for Display Cases	Miscellaneous	Discretionary	16.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	5	\$2.88	\$2.88	\$0.21	\$0.29	\$0.00	3.04	0.97	296.417	296.417	293.903	293.903	Night Covers for Display Cases		
Refrigeration	Night Covers for Display Cases	Miscellaneous	Lost Opportunity	16.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	5	\$2.88	\$2.88	\$0.18	\$0.29	\$0.00	3.04	0.97	25.756	25.756	25.538	25.538	Night Covers for Display Cases		
Refrigeration	No Heat Case Doors	Miscellaneous	Discretionary	36.9	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$26.47	\$26.47	\$0.21	\$0.00	\$0.00	3.47	0.97	357.250	357.250	354.221	354.221	No Heat Case Doors		
Refrigeration	No Heat Case Doors	Miscellaneous	Lost Opportunity	36.9	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$26.47	\$26.47	\$0.18	\$0.00	\$0.00	3.47	0.97	58.980	58.980	58.480	58.480	No Heat Case Doors		
Refrigeration	Refrigeration Commissioning or Re-commissioning	Miscellaneous	Discretionary	107.8	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0	7	\$27.79	\$27.79	\$0.21	\$0.00	\$0.00	4.38	0.97	170.773	170.773	169.325	169.325	Commissioning / Re-commissioning		
Refrigeration	Refrigeration Commissioning or Re-commissioning	Miscellaneous	Lost Opportunity	107.8	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0	7	\$27.79	\$27.79	\$0.18	\$0.00	\$0.00	4.38	0.97	8.087	8.087	8.019	8.019	Commissioning / Re-commissioning		
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Miscellaneous	Discretionary	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	9	\$0.10	\$0.10	\$0.21	\$0.00	\$0.00	8.02	0.97	9.608	9.608	9.527	9.527	Solid Door ENERGY STAR Refrigerators/Freezers		
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Miscellaneous	Lost Opportunity	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	9	\$0.10	\$0.10	\$0.18	\$0.00	\$0.00	8.02	0.97	0.835	0.835	0.828	0.828	Solid Door ENERGY STAR Refrigerators/Freezers		
Refrigeration	Strip Curtains for Walk-ins	Miscellaneous	Discretionary	57.7	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0	4	\$41.50	\$41.50	\$0.21	\$0.00	\$0.00	0.87	0.97	167.378	0.000	0.000	0.000	Strip Curtains for Walk-ins		
Refrigeration	Walk-In Electronically Commutated Motor	Miscellaneous	Discretionary	18.7	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$4.32	\$4.32	\$0.21	\$0.00	\$0.00	10.79	0.97	344.392	344.392	341.471	341.471	ECM Condensor Fans - Low Temp		
Refrigeration	Walk-In Electronically Commutated Motor	Miscellaneous	Discretionary	20.3	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$5.28	\$5.28	\$0.21	\$0.00	\$0.00	9.54	0.97	372.355	372.355	369.198	369.198	ECM Condensor Fans - Medium Temp		
Refrigeration	Walk-In Electronically Commutated Motor	Miscellaneous	Discretionary	18.7	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$4.32	\$4.32	\$0.21	\$0.00	\$0.00	10.79	0.97	344.392	344.392	341.471	341.471	ECM Evaporator Fans - Low Temp		
Refrigeration	Walk-In Electronically Commutated Motor	Miscellaneous	Discretionary	20.3	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$5.28	\$5.28	\$0.21	\$0.00	\$0.00	9.54	0.97	372.355	372.355	369.198	369.198	ECM Evaporator Fans - Medium Temp		
Refrigeration	Walk-in Economizer	Miscellaneous	Discretionary	154.3	0.02	0.02	0.0	0.0	0.0	0.0	0.0	0	15	\$74.99	\$74.99	\$0.21	\$0.00	\$0.00	5.11	0.97	2238.771	2238.771	2219.786	2219.786	Add Economizer to Walk-in Cooler		
Refrigeration	Walk-in Economizer	Miscellaneous	Lost Opportunity	154.3	0.02	0.02	0.0	0.0	0.0	0.0	0.0	0	15	\$74.99	\$74.99	\$0.18	\$0.00	\$0.00	5.11	0.97	194.531	194.531	192.881	192.881	Add Economizer to Walk-in Cooler		
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Miscellaneous	Discretionary	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	1.23	0.70	0.000	0.000	0.000	0.000	CEE Tier 2 Refrigerator		
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	1.23	0.70	0.000	0.000	0.000	0.000	CEE Tier 2 Refrigerator		
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Miscellaneous	Discretionary	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.02	\$0.02	\$0.21	\$0.00	\$0.00	1.15	0.70	333.949	333.949	152.014	152.014	CEE Tier 3 Refrigerator		
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.02	\$0.02	\$0.18	\$0.00	\$0.00	1.15	0.70	49.314	49.314	22.448	22.448	CEE Tier 3 Refrigerator		
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Miscellaneous	Discretionary	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	1.26	0.70	0.000	0.000	0.000	0.000	ENERGY STAR Refrigerator		
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	1.26	0.70	0.000	0.000	0.000	0.000	ENERGY STAR Refrigerator		
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Miscellaneous	Discretionary	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	1.27	0.70	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Refrigerator		
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	1.27	0.70	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Refrigerator		
Refrigerators	Residential Refrigerator Recycling and Replacement	Miscellaneous	Discretionary	65.1	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0	8	\$33.90	\$33.90	\$0.21	\$0.00	\$0.00	2.41	0.70	964.088	964.088	438.853	438.853	Recycling Existing Refrigerator and Replacing with a Federal Standard Unit		
Room Cool	Ductless Air Conditioner (DAC)	Miscellaneous	Discretionary	18.6	0.01	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$448.74	\$448.74	\$0.21	\$0.00	\$0.00	0.17	0.98	2.977	0.000	0.000	0.000	Ductless Air Conditioner - SEER/EER 18/12.5		
Room Cool	Ductless Air Conditioner (DAC)	Miscellaneous	Lost Opportunity	18.6	0.01	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$448.74	\$448.74	\$0.18	\$0.00	\$0.00	0.17	0.98	0.488	0.000	0.000	0.000	Ductless Air Conditioner - SEER/EER 18/12.5		
Room Cool	Ductless Heat Pump (DHP)	Miscellaneous	Discretionary	50.6	0.02	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$764.57	\$764.57	\$0.21	\$0.00	\$0.00	0.27	0.98	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0		
Room Cool	Ductless Heat Pump (DHP)	Miscellaneous	Lost Opportunity	50.6	0.02	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$764.57	\$764.57	\$0.18	\$0.00	\$0.00	0.27	0.98	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0		
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Miscellaneous	Discretionary	53.3	0.02	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$782.85	\$782.85	\$0.21	\$0.00	\$0.00	0.28	0.98	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1		
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Miscellaneous	Lost Opportunity	53.3	0.02	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$782.85	\$782.85	\$0.18	\$0.00	\$0.00	0.28	0.98	0.110	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1		
Room Cool	Exhaust Hood Makeup Air	Miscellaneous	Discretionary	3.9	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$5.53	\$5.53	\$0.21	\$0.00	\$0.00	2.23	0.98	0.019	0.021	0.017	0.017	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air		
Room Cool	Green Roof	Miscellaneous	Discretionary	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	40	\$41,190.00	\$41,190.00	\$0.21	\$411.90	\$0.00	0.00	0.98	0.143	0.000	0.000	0.000	0.000	Vegetation on Roof	
Room Cool	Green Roof	Miscellaneous	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	40	\$41,190.00	\$41,190.00	\$0.18	\$411.90	\$0.00	0.00	0.98	0.008	0.000	0.000	0.000	0.000	Vegetation on Roof	
Room Cool	Infiltration Reduction	Miscellaneous	Discretionary	2.6	0.00	0.00	0.0	0.6	0.0	0.0	0.0	0	10	\$83.64	\$83.64	\$0.21	\$0.00	\$0.00	0.14	0.98	0.036	0.000	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)	
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Discretionary	4.4	0.00	0.00	0.0	0.4	0.0	0.0	0.0	0	30	\$463.39	\$463.39	\$0.21	\$0.00	\$0.00	0.10	0.98	0.507	0.000	0.000	0.000	0.000	R-35 c.i.	
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	3.9	0.00	0.00	0.0	0.4	0.0	0.0	0.0	0	30	\$463.39	\$463.39	\$0.18	\$0.00	\$0.00	0.09	0.98	0.017	0.000	0.000	0.000	0.000	R-35 c.i.	
Room Cool	Insulation - Ceiling - CBES 2015 - Code	Miscellaneous	Discretionary	11.5	0.01	0.00	0.0	1.2	0.0	0.0	0.0	0	30	\$2,114.42	\$2,114.42	\$0.21	\$0.00	\$0.00	0.06	0.98	0.858	0.000	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)	
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Miscellaneous	Discretionary	6.5	0.00	0.00	0.0	0.5	0.0	0.0	0.0	0	30	\$823.80	\$823.80	\$0.21	\$0.00	\$0.00	0.08	0.98	0.250	0.000	0.000	0.000	0.000	R-38	
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	5.8	0.00	0.00	0.0	0.6	0.0	0.0	0.0	0	30	\$823.80	\$823.80	\$0.18	\$0.00	\$0.00	0.08	0.98	0.034	0.000	0.000	0.000	0.000	R-38	
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Code	Miscellaneous	Discretionary	11.2	0.01	0.00	0.0	0.9	0.0	0.0	0.0	0	30	\$2,361.56	\$2,361.56	\$0.21	\$0.00	\$0.00	0.05	0.98	0.423	0.000	0.000	0.000	0.000	R-30 (CBES 2015 Code)	
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Miscellaneous	Discretionary	6.																							

Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Servers	IT Systems - Hot or Cold Aisle Configuration	Miscellaneous	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.02	\$0.02	\$0.18	\$0.00	\$0.00	10.23	1.00	0.151	0.197	0.158	0.158	Hot or Cold Aisle Configuration
Servers	IT Systems - Hot or Cold Aisle Configuration with Containment	Miscellaneous	Discretionary	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.06	\$0.06	\$0.21	\$0.00	\$0.00	8.19	1.00	3.561	4.516	3.621	3.621	Hot or Cold Aisle Configuration with Containment (Strip Curtains or Rigid Enclosure
Servers	IT Systems - Hot or Cold Aisle Configuration with Containment	Miscellaneous	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.06	\$0.06	\$0.18	\$0.00	\$0.00	8.19	1.00	0.302	0.393	0.315	0.315	Hot or Cold Aisle Configuration with Containment (Strip Curtains or Rigid Enclosure
Servers	IT Systems - Install Mistlers, Foggers, or Ultrasonic Humidifiers	Miscellaneous	Discretionary	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.10	\$0.10	\$0.21	\$0.00	\$0.00	4.68	1.00	3.561	4.516	3.621	3.621	Install Mistlers, Foggers, or Ultrasonic Humidifiers
Servers	IT Systems - Install Mistlers, Foggers, or Ultrasonic Humidifiers	Miscellaneous	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.10	\$0.10	\$0.18	\$0.00	\$0.00	4.68	1.00	0.302	0.393	0.315	0.315	Install Mistlers, Foggers, or Ultrasonic Humidifiers
Servers	IT Systems - Server Virtualization/Consolidation	Miscellaneous	Discretionary	32.5	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$2.68	\$2.68	\$0.21	\$0.00	\$0.00	9.94	1.00	404.617	513.212	411.521	411.521	Server Virtualization/Consolidation
Servers	IT Systems - Server Virtualization/Consolidation	Miscellaneous	Lost Opportunity	32.1	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$2.65	\$2.65	\$0.18	\$0.00	\$0.00	9.94	1.00	34.365	44.675	35.823	35.823	Server Virtualization/Consolidation
Servers	IT Systems - Uninterruptible Power Supply Upgrade	Miscellaneous	Discretionary	4.8	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$1.90	\$1.90	\$0.21	\$0.00	\$0.00	6.47	1.00	59.532	75.510	60.548	60.548	Upgrade Uninterruptible Power Supply (UPS)
Servers	IT Systems - Uninterruptible Power Supply Upgrade	Miscellaneous	Lost Opportunity	4.7	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$1.87	\$1.87	\$0.18	\$0.00	\$0.00	6.47	1.00	5.056	6.573	5.271	5.271	Upgrade Uninterruptible Power Supply (UPS)
Servers	Internal Power Supply / Server	Miscellaneous	Discretionary	2.7	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.78	\$0.78	\$0.21	\$0.00	\$0.00	2.22	1.00	19.240	24.403	19.568	19.568	80 Plus power supply for Desktop Derived Server
Servers	Internal Power Supply / Server	Miscellaneous	Lost Opportunity	2.7	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.78	\$0.78	\$0.18	\$0.00	\$0.00	2.22	1.00	1.656	2.153	1.727	1.727	80 Plus power supply for Desktop Derived Server
Servers	Server - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.04	\$0.04	\$0.21	\$0.00	\$0.00	0.32	1.00	322.618	0.000	0.000	0.000	ENERGY STAR Server
Servers	Server - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.04	\$0.04	\$0.18	\$0.00	\$0.00	0.32	1.00	27.319	0.000	0.000	0.000	ENERGY STAR Server
Space Heat - Electric	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Miscellaneous	Discretionary	2,426.9	0.01	0.98	0.0	0.0	0.0	0.0	0	15	\$686.50	\$686.50	\$0.21	\$0.00	\$0.00	6.61	0.98	228.649	228.649	180.344	180.344	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Electric	Commissioning	Miscellaneous	Lost Opportunity	3,585.2	0.01	1.44	0.0	0.0	0.0	0.0	0	5	\$3,185.36	\$3,185.36	\$0.18	\$0.00	\$0.00	0.70	0.98	58.653	0.000	0.000	0.000	Commissioning
Space Heat - Electric	Convert Constant Volume Air System to VAV	Miscellaneous	Discretionary	7,244.6	0.02	2.91	0.0	0.0	0.0	0.0	0	15	\$10,012.70	\$10,012.70	\$0.21	\$0.00	\$0.00	1.35	0.98	100.468	100.468	79.243	79.243	Variable Volume Air System
Space Heat - Electric	Direct Digital Control System-Installation	Miscellaneous	Discretionary	4,136.8	0.01	1.66	0.0	0.0	0.0	0.0	0	5	\$858.13	\$858.13	\$0.21	\$0.00	\$0.00	3.00	0.98	425.443	425.443	335.563	335.563	Installation of EMS System
Space Heat - Electric	Direct Digital Control System-Installation	Miscellaneous	Lost Opportunity	4,136.8	0.01	1.66	0.0	0.0	0.0	0.0	0	5	\$858.13	\$858.13	\$0.18	\$0.00	\$0.00	3.00	0.98	4.495	4.495	3.545	3.545	Installation of EMS System
Space Heat - Electric	Duct Repair and Sealing	Miscellaneous	Discretionary	2,398.1	0.01	0.96	0.0	0.0	0.0	0.0	0	18	\$659.04	\$659.04	\$0.21	\$0.00	\$0.00	8.15	0.98	188.199	188.199	148.439	148.439	Reduction in Duct Losses to 5 %
Space Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Miscellaneous	Discretionary	4,136.8	0.01	1.66	0.0	0.0	0.0	0.0	0	14	\$8,045.69	\$8,045.69	\$0.21	\$0.00	\$0.00	0.90	0.98	44.344	0.000	0.000	0.000	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Electric	Indirect Information Feedback	Miscellaneous	Discretionary	143.5	0.00	0.06	0.0	0.0	0.0	0.0	0	2	\$477.46	\$477.46	\$0.21	\$0.00	\$0.00	0.07	0.98	13.276	0.000	0.000	0.000	Indirect Information Feedback
Space Heat - Electric	Indirect Information Feedback	Miscellaneous	Lost Opportunity	143.5	0.00	0.06	0.0	0.0	0.0	0.0	0	2	\$477.46	\$477.46	\$0.18	\$0.00	\$0.00	0.07	0.98	1.580	0.000	0.000	0.000	Indirect Information Feedback
Space Heat - Electric	Infiltration Reduction	Miscellaneous	Discretionary	2,757.8	0.01	1.11	0.0	0.0	0.0	0.0	0	10	\$83.64	\$83.64	\$0.21	\$0.00	\$0.00	41.51	0.98	18.104	18.104	14.279	14.279	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Discretionary	1,404.3	0.00	0.56	0.0	0.0	0.0	0.0	0	30	\$463.39	\$463.39	\$0.21	\$0.00	\$0.00	11.38	0.98	75.861	75.861	59.834	59.834	R-35 c.i.
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	1,404.3	0.00	0.56	0.0	0.0	0.0	0.0	0	30	\$463.39	\$463.39	\$0.18	\$0.00	\$0.00	11.38	0.98	3.219	3.219	2.539	2.539	R-35 c.i.
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Miscellaneous	Discretionary	3,696.7	0.01	1.49	0.0	0.0	0.0	0.0	0	30	\$2,114.42	\$2,114.42	\$0.21	\$0.00	\$0.00	6.56	0.98	118.911	118.911	93.790	93.790	R-30 c.i. (CBES 2015 Code)
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Miscellaneous	Discretionary	992.8	0.00	0.40	0.0	0.0	0.0	0.0	0	20	\$37.24	\$37.24	\$0.21	\$0.00	\$0.00	66.30	0.98	145.300	145.300	114.603	114.603	R-12
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	992.8	0.00	0.40	0.0	0.0	0.0	0.0	0	20	\$37.24	\$37.24	\$0.18	\$0.00	\$0.00	66.30	0.98	15.150	15.150	11.950	11.950	R-12
Space Heat - Electric	Insulation - Duct - CBES 2015 - Code	Miscellaneous	Discretionary	992.8	0.00	0.40	0.0	0.0	0.0	0.0	0	20	\$150.00	\$150.00	\$0.21	\$0.00	\$0.00	16.46	0.98	116.960	116.960	92.251	92.251	R-8 (CBES 2015 Code)
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Miscellaneous	Discretionary	2,069.6	0.00	0.83	0.0	0.0	0.0	0.0	0	30	\$823.80	\$823.80	\$0.21	\$0.00	\$0.00	9.43	0.98	37.399	37.399	29.498	29.498	R-38
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	2,069.6	0.00	0.83	0.0	0.0	0.0	0.0	0	30	\$823.80	\$823.80	\$0.18	\$0.00	\$0.00	9.43	0.98	6.547	6.547	5.164	5.164	R-38
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Miscellaneous	Discretionary	3,604.5	0.01	1.45	0.0	0.0	0.0	0.0	0	30	\$2,361.56	\$2,361.56	\$0.21	\$0.00	\$0.00	5.73	0.98	58.582	58.582	46.206	46.206	R-30 (CBES 2015 Code)
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Miscellaneous	Discretionary	2,125.2	0.00	0.85	0.0	0.0	0.0	0.0	0	30	\$602.34	\$602.34	\$0.21	\$0.00	\$0.00	13.24	0.98	64.349	64.349	50.754	50.754	R-13 + 15.6 c.i.
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	2,125.2	0.00	0.85	0.0	0.0	0.0	0.0	0	30	\$602.34	\$602.34	\$0.18	\$0.00	\$0.00	13.24	0.98	16.883	16.883	13.316	13.316	R-13 + 15.6 c.i.
Space Heat - Electric	Insulation - Wall - CBES 2015 - Code	Miscellaneous	Discretionary	1,977.7	0.00	0.80	0.0	0.0	0.0	0.0	0	30	\$4,133.29	\$4,133.29	\$0.21	\$0.00	\$0.00	1.80	0.98	27.443	27.443	21.645	21.645	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Electric	Programmable Thermostat	Miscellaneous	Discretionary	1,103.1	0.00	0.44	0.0	0.0	0.0	0.0	0	11	\$25.78	\$25.78	\$0.21	\$0.00	\$0.00	59.14	0.98	151.258	151.258	119.303	119.303	Programmable Thermostat
Space Heat - Electric	Re-Commissioning	Miscellaneous	Discretionary	3,585.2	0.01	1.44	0.0	0.0	0.0	0.0	0	5	\$823.80	\$823.80	\$0.21	\$0.00	\$0.00	2.70	0.98	570.429	570.429	449.919	449.919	Re-Commissioning
Space Heat - Electric	Retrocommissioning	Miscellaneous	Discretionary	4,090.8	0.01	1.65	0.0	0.0	0.0	0.0	0	5	\$1,373.00	\$1,373.00	\$0.21	\$0.00	\$0.00	1.85	0.98	351.303	351.303	277.085	277.085	Retrocommissioning
Space Heat - Electric	Strategic Energy Management (SEM)	Miscellaneous	Discretionary	1,130.7	0.00	0.45	0.0	0.0	0.0	0.0	0	5	\$152.38	\$152.38	\$0.21	\$0.00	\$0.00	4.61	0.98	19.617	19.617	15.472	15.472	Identify Operations and Maintenance Improvements through Strategic Energy Man
Space Heat - Electric	Strategic Energy Management (SEM)	Miscellaneous	Lost Opportunity	1,130.7	0.00	0.45	0.0	0.0	0.0	0.0	0	5	\$152.38	\$152.38	\$0.18	\$0.00	\$0.00	4.61	0.98	12.555	12.555	9.903	9.903	Identify Operations and Maintenance Improvements through Strategic Energy Man
Space Heat - Electric	Wi-Fi Thermostat	Miscellaneous	Discretionary	1,103.1	0.00	0.44	0.0	0.0	0.0	0.0	0	11	\$205.33	\$205.33	\$0.21	\$0.00	\$0.00	7.42	0.98	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)
Space Heat - Electric	Windows - CBES 2015 - Above Code	Miscellaneous	Discretionary	80.5	0.00	0.03	0.0	0.0	0.0	0.0	0	20	\$494.61	\$494.61	\$0.21	\$0.00	\$0.00	0.40	0.98	2.552	0.000	0.000	0.000	U-0.29
Space Heat - Electric	Windows - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	80.5	0.00	0.03	0.0	0.0	0.0	0.0	0	20	\$494.61	\$494.61	\$0.18	\$0.00	\$0.00	0.40	0.98	1.033	0.000	0.000	0.000	U-0.29
Space Heat - Electric	Windows - CBES 2015 - Code	Miscellaneous	Discretionary	183.8	0.00	0.07	0.0	0.0	0.0	0.0	0	20	\$3,266.21	\$3,266.21	\$0.21	\$0.00	\$0.00	0.14	0.98	5.765	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Vending Machines	Vending Machines - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Vending Machines - 3.84 kWh/day
Vending Machines	Vending Machines - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Vending Machines - 3.84 kWh/day
Vending Machines	Vending Machines - Federal Standard 2020	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	19.511	0.000	0.000	0.000	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Machines - Federal Standard 2020	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	1.046	0.000	0.000	0.000	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Miser	Miscellaneous	Discretionary	38.6	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$6.09	\$6.09	\$0.21	\$0.00	\$0.00	4.87	1.00	445.628	447.002	358.430	358.430	Vending Machine Occupancy Sensor
Vending Machines	Vending Miser	Miscellaneous	Lost Opportunity	38.6	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$6.09	\$6.09	\$0.18	\$0.00	\$0.00	4.87	1.00					



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Miscellaneous	Lost Opportunity	1.4	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	14	\$0.11	\$0.11	\$0.18	\$0.00	\$0.00	44.94	1.00	0.001	0.001	0.001	0.001	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	Miscellaneous	Discretionary	22.5	0.00	0.01	0.0	0.0	0.0	0.0	0	13	\$10.71	\$10.71	\$0.21	\$0.00	\$0.00	3.42	1.00	6.511	9.867	6.416	6.416	1.0" of Insulation, assuming R-4 (Code)	
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	Miscellaneous	Discretionary	182.0	0.00	0.07	0.0	0.0	0.0	0.0	0	25	\$707.00	\$707.00	\$0.21	\$0.00	\$0.00	0.80	1.00	2.644	0.000	0.000	0.000	Install Heat Recovery Water Heater	
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	Miscellaneous	Discretionary	10.0	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$1.18	\$1.18	\$0.21	\$0.00	\$0.00	21.12	1.00	1.569	2.378	1.547	1.547	R-3	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Discretionary	76.6	0.00	0.03	0.0	0.0	0.0	0.0	6	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	6.79	1.00	40.164	60.867	39.581	39.581	0.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Lost Opportunity	76.6	0.00	0.03	0.0	0.0	0.0	0.0	6	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	3.005	0.000	0.000	0.000	0.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Discretionary	54.1	0.00	0.02	0.0	0.0	0.0	0.0	4	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	4.79	1.00	0.000	0.000	0.000	0.000	1.0 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Lost Opportunity	54.1	0.00	0.02	0.0	0.0	0.0	0.0	4	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	1.0 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Discretionary	31.5	0.00	0.01	0.0	0.0	0.0	0.0	2	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	2.80	1.00	0.000	0.000	0.000	0.000	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Lost Opportunity	31.5	0.00	0.01	0.0	0.0	0.0	0.0	2	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Discretionary	13.5	0.00	0.01	0.0	0.0	0.0	0.0	1	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	1.15	1.00	2.658	4.028	2.619	2.619	2.2 GPM (Federal Code)	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Miscellaneous	Discretionary	1.4	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$0.27	\$0.27	\$0.21	\$0.00	\$0.00	8.41	1.00	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Miscellaneous	Lost Opportunity	1.4	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$0.27	\$0.27	\$0.18	\$0.00	\$0.00	8.41	1.00	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Miscellaneous	Discretionary	2.4	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	1.071	0.000	0.000	0.000	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Miscellaneous	Lost Opportunity	2.4	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.076	0.000	0.000	0.000	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Miscellaneous	Discretionary	3.8	0.00	0.00	0.0	0.0	0.0	0.0	1	5	\$0.27	\$0.27	\$0.21	\$0.00	\$0.00	22.34	1.00	0.000	0.000	0.000	0.000	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Miscellaneous	Lost Opportunity	3.8	0.00	0.00	0.0	0.0	0.0	0.0	1	5	\$0.27	\$0.27	\$0.18	\$0.00	\$0.00	22.34	1.00	0.031	0.050	0.032	0.032	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Miscellaneous	Discretionary	29.3	0.00	0.01	0.0	0.0	0.0	0.0	3	9	\$2.75	\$2.75	\$0.21	\$0.00	\$0.00	22.94	1.00	14.582	22.099	14.371	14.371	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Miscellaneous	Lost Opportunity	29.3	0.00	0.01	0.0	0.0	0.0	0.0	3	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	1.091	0.000	0.000	0.000	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Miscellaneous	Discretionary	22.0	0.00	0.01	0.0	0.0	0.0	0.0	3	9	\$2.75	\$2.75	\$0.21	\$0.00	\$0.00	17.20	1.00	0.000	0.000	0.000	0.000	1.75 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Miscellaneous	Lost Opportunity	22.0	0.00	0.01	0.0	0.0	0.0	0.0	3	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	1.75 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Miscellaneous	Discretionary	14.6	0.00	0.01	0.0	0.0	0.0	0.0	2	9	\$2.75	\$2.75	\$0.21	\$0.00	\$0.00	11.47	1.00	0.000	0.000	0.000	0.000	2.0 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Miscellaneous	Lost Opportunity	14.6	0.00	0.01	0.0	0.0	0.0	0.0	2	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	2.0 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Miscellaneous	Discretionary	14.6	0.00	0.01	0.0	0.0	0.0	0.0	2	9	\$2.75	\$2.75	\$0.21	\$0.00	\$0.00	11.47	1.00	2.734	4.144	2.695	2.695	2.5 GPM (Federal Code)	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Miscellaneous	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$2.27	\$2.27	\$0.21	\$0.84	\$0.00	0.01	1.00	86.075	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Miscellaneous	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$2.27	\$2.27	\$0.18	\$0.84	\$0.00	0.01	1.00	8.006	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Miscellaneous	Discretionary	49.6	0.00	0.02	0.0	0.0	0.0	0.0	0	20	\$350.72	\$350.72	\$0.21	\$0.00	\$0.00	0.35	1.00	24.689	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Miscellaneous	Lost Opportunity	49.6	0.00	0.02	0.0	0.0	0.0	0.0	0	20	\$350.72	\$350.72	\$0.18	\$0.00	\$0.00	0.35	1.00	1.847	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Miscellaneous	Discretionary	113.0	0.00	0.05	0.0	0.0	0.0	0.0	0	10	\$50.08	\$50.08	\$0.21	\$0.00	\$0.00	2.84	1.00	1.482	2.246	1.461	1.461	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Miscellaneous	Lost Opportunity	113.0	0.00	0.05	0.0	0.0	0.0	0.0	0	10	\$50.08	\$50.08	\$0.18	\$0.00	\$0.00	2.84	1.00	0.111	0.181	0.118	0.118	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Miscellaneous	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.55	\$0.55	\$0.21	\$0.00	\$0.00	0.14	1.00	143.674	0.000	0.000	0.000	CO2 Heat Pump Water Heater	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Miscellaneous	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.55	\$0.55	\$0.18	\$0.00	\$0.00	0.14	1.00	13.314	0.000	0.000	0.000	CO2 Heat Pump Water Heater	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.11	\$0.11	\$0.21	\$0.00	\$0.00	0.22	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.11	\$0.11	\$0.18	\$0.00	\$0.00	0.22	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Miscellaneous	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.44	\$0.44	\$0.21	\$0.00	\$0.00	0.16	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Miscellaneous	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.44	\$0.44	\$0.18	\$0.00	\$0.00	0.16	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Miscellaneous	Discretionary	158.3	0.00	0.06	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	7824.22	1.00	78.845	119.487	77.701	77.701	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Miscellaneous	Lost Opportunity	158.3	0.00	0.06	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	7824.22	1.00	5.898	9.654	6.278	6.278	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Tank Wrap	Miscellaneous	Discretionary	318.4	0.00	0.13	0.0	0.0	0.0	0.0	0	7	\$41.55	\$41.55	\$0.21	\$0.00	\$0.00	6.74	1.00	108.467	164.379	106.893	106.893	Add R-10 Tank Wrap	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Miscellaneous	Discretionary	19.5	0.00	0.01	0.0	0.0	0.0	0.0	2	13	\$21.76	\$21.76	\$0.21	\$0.00	\$0.00	2.42	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Miscellaneous	Lost Opportunity	19.5	0.00	0.01	0.0	0.0	0.0	0.0	2	13	\$21.76	\$21.76	\$0.18	\$0.00	\$0.00	2.42	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Miscellaneous	Discretionary	43.2	0.00	0.02	0.0	0.0	0.0	0.0	2	13	\$40.24	\$40.24	\$0.21	\$0.00	\$0.00	2.44	1.00	85.881	206.039	133.984	133.984	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Miscellaneous	Lost Opportunity	43.2	0.00	0.02	0.0	0.0	0.0	0.0	2	13	\$40.24	\$40.24	\$0.18	\$0.00	\$0.00	2.44	1.00	5.675	17.921	11.654	11.654	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Miscellaneous	Discretionary	1.8	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.28	\$0.28	\$0.21	\$0.00	\$0.00	14.75	1.00	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Miscellaneous	Lost Opportunity	1.8	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.28	\$0.28	\$0.18	\$0.00	\$0.00	14.75	1.00	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Miscellaneous	Discretionary	2.9	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.11	\$0.11	\$0.21	\$0.00	\$0.00	67.69	1.00	0.114	0.273	0.177	0.177	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR	
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Miscellaneous	Lost Opportunity	2.9	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.11	\$0.11	\$0.18	\$0.00	\$0.00	67.69	1.00	0.008	0.024	0.015	0.015	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR	
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Miscellaneous	Discretionary	46.8	0.00	0.02	0.0	0.0	0.0	0.0	0	13	\$10.71	\$10.71	\$0.21	\$0.00	\$0.00	7.11	1.00	146.936	352.519	229.238	229.238	1.0" of Insulation, assuming R-4 (Code)	
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Miscellaneous	Discretionary	171.0	0.00	0.07	0.0	0.0	0.0	0.0	0	25	\$707.00	\$707.00	\$0.21	\$0.00	\$0.00	0.75	1.00	17.788	0.000	0.000	0.000	Install Heat Recovery Water Heater	
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Miscellaneous	Discretionary	10.0	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$1.18	\$1.18	\$0.21	\$0.00	\$0.00	21.12	1.00	11.896	28.539	18.559	18.559	R-3	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Discretionary	76.6																					

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Miscellaneous	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$1.00	\$1.00	\$0.21	\$0.01	\$0.00	0.23	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Miscellaneous	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$1.00	\$1.00	\$0.18	\$0.01	\$0.00	0.23	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Miscellaneous	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$1.11	\$1.11	\$0.21	\$0.01	\$0.00	0.22	1.00	0.000	0.000	0.000	0.000	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Miscellaneous	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$1.11	\$1.11	\$0.18	\$0.01	\$0.00	0.22	1.00	0.000	0.000	0.000	0.000	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Miscellaneous	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$1.44	\$1.44	\$0.21	\$0.01	\$0.00	0.21	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Miscellaneous	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$1.44	\$1.44	\$0.18	\$0.01	\$0.00	0.21	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Miscellaneous	Discretionary	148.7	0.00	0.06	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	7351.81	1.00	562.775	1350.169	877.996	877.996	Set Water Heater to 120F	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Miscellaneous	Lost Opportunity	148.7	0.00	0.06	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	7351.81	1.00	37.189	117.438	76.368	76.368	Set Water Heater to 120F	
Water Heat LE 55 Gal	Water Heater Tank Wrap	Miscellaneous	Discretionary	299.2	0.00	0.12	0.0	0.0	0.0	0.0	0	7	\$41.55	\$41.55	\$0.21	\$0.00	\$0.00	6.33	1.00	732.330	1756.954	1142.522	1142.522	Add R-10 Tank Wrap	
Computers	Computer - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	84.870	0.000	0.000	0.000	ENERGY STAR Computer	
Computers	Computer - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	7.050	0.000	0.000	0.000	ENERGY STAR Computer	
Computers	Network PC Power Management	Restaurant	Discretionary	54.0	0.01	0.00	0.0	0.0	0.0	0.0	0	5	\$6.60	\$6.60	\$0.21	\$1.51	\$0.00	3.27	1.00	14.944	26.255	21.159	21.159	Network PC Power Management	
Computers	Network PC Power Management	Restaurant	Lost Opportunity	54.0	0.01	0.00	0.0	0.0	0.0	0.0	0	5	\$6.60	\$6.60	\$0.18	\$1.51	\$0.00	3.27	1.00	1.459	2.566	2.068	2.068	Network PC Power Management	
Cooking	Combination Oven	Restaurant	Discretionary	6,367.9	0.73	0.73	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	495.033	0.000	0.000	0.000	ENERGY STAR Combination Oven	
Cooking	Combination Oven	Restaurant	Lost Opportunity	6,367.9	0.73	0.73	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	43.014	0.000	0.000	0.000	ENERGY STAR Combination Oven	
Cooking	Convection Oven	Restaurant	Discretionary	1,438.5	0.16	0.16	0.0	0.0	0.0	0.0	0	12	\$388.00	\$388.00	\$0.21	\$0.00	\$0.00	7.05	1.00	136.933	136.933	110.352	110.352	ENERGY STAR Convection Oven	
Cooking	Convection Oven	Restaurant	Lost Opportunity	1,438.5	0.16	0.16	0.0	0.0	0.0	0.0	0	12	\$388.00	\$388.00	\$0.18	\$0.00	\$0.00	7.05	1.00	11.898	11.898	9.589	9.589	ENERGY STAR Convection Oven	
Cooking	Fryers	Restaurant	Discretionary	2,970.8	0.34	0.34	0.0	0.0	0.0	0.0	0	12	\$506.00	\$506.00	\$0.21	\$0.00	\$0.00	11.17	1.00	329.923	329.923	265.879	265.879	ENERGY STAR Fryer	
Cooking	Fryers	Restaurant	Lost Opportunity	2,970.8	0.34	0.34	0.0	0.0	0.0	0.0	0	12	\$506.00	\$506.00	\$0.18	\$0.00	\$0.00	11.17	1.00	28.668	28.668	23.103	23.103	ENERGY STAR Fryer	
Cooking	Griddle	Restaurant	Discretionary	1,909.1	0.22	0.22	0.0	0.0	0.0	0.0	0	12	\$860.00	\$860.00	\$0.21	\$0.00	\$0.00	4.22	1.00	136.293	136.293	109.836	109.836	ENERGY STAR Griddle	
Cooking	Griddle	Restaurant	Lost Opportunity	1,909.1	0.22	0.22	0.0	0.0	0.0	0.0	0	12	\$860.00	\$860.00	\$0.18	\$0.00	\$0.00	4.22	1.00	11.843	11.843	9.544	9.544	ENERGY STAR Griddle	
Cooking	Hot Food Holding Cabinet	Restaurant	Discretionary	1,730.1	0.20	0.20	0.0	0.0	0.0	0.0	0	12	\$902.00	\$902.00	\$0.21	\$0.00	\$0.00	3.65	1.00	233.308	233.308	188.019	188.019	ENERGY STAR Hot Food Holding Cabinet	
Cooking	Hot Food Holding Cabinet	Restaurant	Lost Opportunity	1,730.1	0.20	0.20	0.0	0.0	0.0	0.0	0	12	\$902.00	\$902.00	\$0.18	\$0.00	\$0.00	3.65	1.00	20.273	20.273	16.337	16.337	ENERGY STAR Hot Food Holding Cabinet	
Cooking	Microwave - High Efficiency	Restaurant	Discretionary	9.6	0.00	0.00	0.0	0.0	0.0	0.0	0	11	\$4.96	\$4.96	\$0.21	\$0.00	\$0.00	3.38	1.00	1.362	1.362	1.098	1.098	High Efficiency Microwave	
Cooking	Microwave - High Efficiency	Restaurant	Lost Opportunity	9.6	0.00	0.00	0.0	0.0	0.0	0.0	0	11	\$4.96	\$4.96	\$0.18	\$0.00	\$0.00	3.38	1.00	0.000	0.000	0.000	0.000	High Efficiency Microwave	
Cooking	Steam Cooker	Restaurant	Discretionary	4,983.4	0.57	0.57	0.0	0.0	0.0	0.0	2,224	12	\$1,700.00	\$1,700.00	\$0.21	\$0.00	\$0.00	20.05	1.00	592.958	592.958	477.854	477.854	ENERGY STAR Steam Cooker	
Cooking	Steam Cooker	Restaurant	Lost Opportunity	4,983.4	0.57	0.57	0.0	0.0	0.0	0.0	2,224	12	\$1,700.00	\$1,700.00	\$0.18	\$0.00	\$0.00	20.05	1.00	51.523	51.523	41.522	41.522	ENERGY STAR Steam Cooker	
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Restaurant	Discretionary	295.0	0.10	0.00	0.0	0.0	0.0	0.0	0	15	\$651.00	\$651.00	\$0.21	\$0.00	\$0.00	1.59	1.00	0.000	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)	
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Restaurant	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.53	\$0.53	\$0.21	\$0.00	\$0.00	1.42	1.00	0.000	0.000	0.000	0.000	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)	
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Restaurant	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.48	\$0.48	\$0.18	\$0.00	\$0.00	1.58	1.00	0.000	0.000	0.000	0.000	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)	
Cooling Chillers	Convert Constant Volume Air System to VAV	Restaurant	Discretionary	745.1	0.25	0.00	0.0	0.0	0.0	0.0	0	15	\$14,242.39	\$14,242.39	\$0.21	\$0.00	\$0.00	0.18	1.00	0.000	0.000	0.000	0.000	Variable Volume Air System	
Cooling Chillers	Direct Digital Control System-Installation	Restaurant	Discretionary	425.4	0.15	0.00	0.0	0.0	0.0	0.0	0	5	\$813.75	\$813.75	\$0.21	\$0.00	\$0.00	0.57	1.00	0.000	0.000	0.000	0.000	Installation of EMS System	
Cooling Chillers	Direct Digital Control System-Installation	Restaurant	Lost Opportunity	425.4	0.15	0.00	0.0	0.0	0.0	0.0	0	5	\$813.75	\$813.75	\$0.18	\$0.00	\$0.00	0.57	1.00	0.000	0.000	0.000	0.000	Installation of EMS System	
Cooling Chillers	Exhaust Hood Makeup Air	Restaurant	Discretionary	127.6	0.04	0.00	0.0	0.0	0.0	0.0	0	12	\$3,100.00	\$3,100.00	\$0.21	\$0.00	\$0.00	0.11	1.00	0.000	0.000	0.000	0.000	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Cooling Chillers	Green Roof	Restaurant	Discretionary	15.1	0.01	0.00	0.0	0.0	0.0	0.0	0	40	\$36,499.66	\$36,499.66	\$0.21	\$365.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	Vegetation on Roof	
Cooling Chillers	Green Roof	Restaurant	Lost Opportunity	12.4	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$36,499.66	\$36,499.66	\$0.18	\$365.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	Vegetation on Roof	
Cooling Chillers	Indirect Information Feedback	Restaurant	Discretionary	14.8	0.01	0.00	0.0	0.0	0.0	0.0	0	2	\$49.10	\$49.10	\$0.21	\$0.00	\$0.00	0.12	1.00	0.000	0.000	0.000	0.000	Indirect Information Feedback	
Cooling Chillers	Indirect Information Feedback	Restaurant	Lost Opportunity	14.8	0.01	0.00	0.0	0.0	0.0	0.0	0	2	\$49.10	\$49.10	\$0.18	\$0.00	\$0.00	0.12	1.00	0.000	0.000	0.000	0.000	Indirect Information Feedback	
Cooling Chillers	Infiltration Reduction	Restaurant	Discretionary	85.1	0.03	0.00	0.0	0.0	0.0	0.0	0	10	\$211.12	\$211.12	\$0.21	\$0.00	\$0.00	0.91	1.00	0.000	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)	
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Restaurant	Discretionary	135.6	0.05	0.00	0.0	0.0	0.0	0.0	0	30	\$410.62	\$410.62	\$0.21	\$0.00	\$0.00	2.43	1.00	0.000	0.000	0.000	0.000	R-35 c.i.	
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Restaurant	Lost Opportunity	135.6	0.05	0.00	0.0	0.0	0.0	0.0	0	30	\$410.62	\$410.62	\$0.18	\$0.00	\$0.00	2.43	1.00	0.000	0.000	0.000	0.000	R-35 c.i.	
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Code	Restaurant	Discretionary	357.0	0.12	0.00	0.0	0.0	0.0	0.0	0	30	\$1,873.65	\$1,873.65	\$0.21	\$0.00	\$0.00	1.40	1.00	0.000	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)	
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Restaurant	Discretionary	199.9	0.07	0.00	0.0	0.0	0.0	0.0	0	30	\$729.99	\$729.99	\$0.21	\$0.00	\$0.00	2.01	1.00	0.000	0.000	0.000	0.000	R-38	
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Restaurant	Lost Opportunity	199.9	0.07	0.00	0.0	0.0	0.0	0.0	0	30	\$729.99	\$729.99	\$0.18	\$0.00	\$0.00	2.01	1.00	0.000	0.000	0.000	0.000	R-38	
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Code	Restaurant	Discretionary	348.1	0.12	0.00	0.0	0.0	0.0	0.0	0	30	\$2,092.65	\$2,092.65	\$0.21	\$0.00	\$0.00	1.22	1.00	0.000	0.000	0.000	0.000	R-30 (CBES 2015 Code)	
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Restaurant	Discretionary	233.3	0.08	0.00	0.0	0.0	0.0	0.0	0	30	\$606.78	\$606.78	\$0.21	\$0.00	\$0.00	2.82	1.00	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Restaurant	Lost Opportunity	233.3	0.08	0.00	0.0	0.0	0.0	0.0	0	30	\$606.78	\$606.78	\$0.18	\$0.00	\$0.00	2.82	1.00	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Cooling Chillers	Insulation - Wall - CBES 2015 - Code	Restaurant	Discretionary	217.1	0.07	0.00	0.0	0.0	0.0	0.0	0	30	\$4,163.78	\$4,163.78	\$0.21	\$0.00	\$0.00	0.38	1.00	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)	
Cooling Chillers	Natural Ventilation	Restaurant	Lost Opportunity	283.6	0.10	0.00	0.0	0.0	0.0	0.0	0	15	\$2,604.00	\$2,604.00	\$0.18	\$0.00	\$0.00	0.38	1.00	0.000	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling	
Cooling Chillers	Programmable Thermostat	Restaurant	Discretionary	113.5	0.04	0.00	0.0	0.0	0.0	0.0	0	11	\$27.58	\$27.58	\$0.21	\$0.00	\$0.00	10.32	1.00	0.000	0.000	0.000	0.000	Programmable Thermostat	
Cooling Chillers	Strategic Energy Management (SEM)	Restaurant	Discretionary	11																					

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Restaurant	Lost Opportunity	122.4	0.04	0.00	1.2	0.0	0.0	0.0	0	30	\$410.62	\$410.62	\$0.18	\$0.00	\$0.00	2.36	1.00	0.083	0.108	0.087	0.087	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Code	Restaurant	Discretionary	322.1	0.11	0.00	3.8	0.0	0.0	0.0	0	30	\$1,873.65	\$1,873.65	\$0.21	\$0.00	\$0.00	1.38	1.00	3.060	3.907	3.147	3.147	R-30 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Restaurant	Discretionary	92.1	0.03	0.00	0.8	0.0	0.0	0.0	0	20	\$35.32	\$35.32	\$0.21	\$0.00	\$0.00	13.39	1.00	3.916	5.001	4.029	4.029	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Restaurant	Lost Opportunity	92.1	0.03	0.00	0.9	0.0	0.0	0.0	0	20	\$35.32	\$35.32	\$0.18	\$0.00	\$0.00	13.50	1.00	0.427	0.556	0.448	0.448	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	Restaurant	Discretionary	92.1	0.03	0.00	0.8	0.0	0.0	0.0	0	20	\$142.24	\$142.24	\$0.21	\$0.00	\$0.00	3.33	1.00	3.150	4.022	3.240	3.240	R-8 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Restaurant	Discretionary	180.3	0.06	0.00	1.6	0.0	0.0	0.0	0	30	\$729.99	\$729.99	\$0.21	\$0.00	\$0.00	1.94	1.00	0.945	1.207	0.972	0.972	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Restaurant	Lost Opportunity	180.3	0.06	0.00	1.8	0.0	0.0	0.0	0	30	\$729.99	\$729.99	\$0.18	\$0.00	\$0.00	1.96	1.00	0.168	0.219	0.176	0.176	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	Restaurant	Discretionary	314.1	0.11	0.00	2.8	0.0	0.0	0.0	0	30	\$2,092.65	\$2,092.65	\$0.21	\$0.00	\$0.00	1.18	1.00	1.509	1.928	1.553	1.553	R-30 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Restaurant	Discretionary	210.5	0.07	0.00	1.9	0.0	0.0	0.0	0	30	\$606.78	\$606.78	\$0.21	\$0.00	\$0.00	2.73	1.00	1.850	2.362	1.903	1.903	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Restaurant	Lost Opportunity	210.5	0.07	0.00	2.1	0.0	0.0	0.0	0	30	\$606.78	\$606.78	\$0.18	\$0.00	\$0.00	2.75	1.00	0.495	0.645	0.519	0.519	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Code	Restaurant	Discretionary	195.9	0.07	0.00	2.1	0.0	0.0	0.0	0	30	\$4,163.78	\$4,163.78	\$0.21	\$0.00	\$0.00	0.37	1.00	0.945	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Restaurant	Discretionary	205.9	0.07	0.00	0.0	0.0	0.0	0.0	0	15	\$18,393.79	\$18,393.79	\$0.21	\$0.00	\$0.00	0.04	1.00	0.396	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Restaurant	Lost Opportunity	205.9	0.07	0.00	0.0	0.0	0.0	0.0	0	15	\$14,715.03	\$14,715.03	\$0.18	\$0.00	\$0.00	0.05	1.00	0.046	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Natural Ventilation	Restaurant	Lost Opportunity	255.9	0.09	0.00	0.0	0.0	0.0	0.0	0	15	\$2,604.00	\$2,604.00	\$0.18	\$0.00	\$0.00	0.35	1.00	0.044	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling	
Cooling Dx Evap	Programmable Thermostat	Restaurant	Discretionary	102.4	0.04	0.00	0.9	0.0	0.0	0.0	0	11	\$27.58	\$27.58	\$0.21	\$0.00	\$0.00	10.05	1.00	4.077	5.206	4.194	4.194	Programmable Thermostat	
Cooling Dx Evap	Strategic Energy Management (SEM)	Restaurant	Discretionary	104.9	0.04	0.00	0.9	0.0	0.0	0.0	0	5	\$14.14	\$14.14	\$0.21	\$0.00	\$0.00	8.73	1.00	0.630	0.805	0.648	0.648	Identify Operations and Maintenance Improvements through Strategic Energy Man	
Cooling Dx Evap	Strategic Energy Management (SEM)	Restaurant	Lost Opportunity	104.9	0.04	0.00	1.0	0.0	0.0	0.0	0	5	\$14.14	\$14.14	\$0.18	\$0.00	\$0.00	8.80	1.00	0.385	0.501	0.404	0.404	Identify Operations and Maintenance Improvements through Strategic Energy Man	
Cooling Dx Evap	Tune-up - DX Maintenance	Restaurant	Discretionary	367.9	0.13	0.00	0.0	0.0	0.0	0.0	0	5	\$6,249.60	\$6,249.60	\$0.21	\$0.00	\$0.00	0.06	1.00	7.817	0.000	0.000	0.000	DX Tune-up / Diagnostics	
Cooling Dx Evap	Wi-Fi Thermostat	Restaurant	Discretionary	102.4	0.04	0.00	0.9	0.0	0.0	0.0	0	11	\$219.74	\$219.74	\$0.21	\$0.00	\$0.00	1.26	1.00	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Restaurant	Discretionary	20.0	0.01	0.00	0.2	0.0	0.0	0.0	0	20	\$1,248.44	\$1,248.44	\$0.21	\$0.00	\$0.00	0.08	1.00	0.213	0.000	0.000	0.000	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Restaurant	Lost Opportunity	20.0	0.01	0.00	0.2	0.0	0.0	0.0	0	20	\$1,248.44	\$1,248.44	\$0.18	\$0.00	\$0.00	0.08	1.00	0.078	0.000	0.000	0.000	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Code	Restaurant	Discretionary	45.6	0.02	0.00	0.4	0.0	0.0	0.0	0	20	\$8,244.23	\$8,244.23	\$0.21	\$0.00	\$0.00	0.03	1.00	0.444	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtu/h - Premium Efficiency	Restaurant	Discretionary	1,279.5	0.44	0.00	0.0	0.0	0.0	0.0	0	15	\$21,310.43	\$21,310.43	\$0.21	\$0.00	\$0.00	0.21	1.00	20.026	0.000	0.000	0.000	Premium Efficiency - 19.0 IEER	
Fax	Fax - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.523	0.000	0.000	0.000	ENERGY STAR Fax	
Fax	Fax - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.052	0.000	0.000	0.000	ENERGY STAR Fax	
Flat Screen Monitors	Monitor - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	0.50	1.00	6.826	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	0.50	1.00	0.645	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor	
Freezers	Freezer (Residential) - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	13.03	1.00	1.578	1.578	1.026	1.026	ENERGY STAR Freezer	
Freezers	Freezer (Residential) - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	13.03	1.00	0.213	0.213	0.139	0.139	ENERGY STAR Freezer	
Freezers	Residential Freezer Recycling and Replacement	Restaurant	Discretionary	17.7	0.00	0.00	0.0	0.0	0.0	0.0	0	8	\$7.10	\$7.10	\$0.21	\$0.00	\$0.00	3.13	1.00	9.977	9.977	6.488	6.488	Recycling Existing Freezer and Replacing with a Federal Standard Unit	
Heat Pump	Air Source Heat Pump 65 to 135 kBtu/h - Federal Standard 2023	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.35	\$0.35	\$0.21	\$0.00	\$0.00	0.41	1.00	0.000	0.000	0.000	0.000	Federal Standard 2023 - 14.1 IEER, 3.4 COP	
Heat Pump	Air Source Heat Pump 65 to 135 kBtu/h - Federal Standard 2023	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.28	\$0.28	\$0.18	\$0.00	\$0.00	0.51	1.00	0.000	0.000	0.000	0.000	Federal Standard 2023 - 14.1 IEER, 3.4 COP	
Heat Pump	Air Source Heat Pump 65 to 135 kBtu/h - Premium Efficiency	Restaurant	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$1.25	\$1.25	\$0.21	\$0.00	\$0.00	0.32	1.00	7.902	0.000	0.000	0.000	Premium Efficiency - 19.0 IEER, 3.7 COP	
Heat Pump	Air Source Heat Pump 65 to 135 kBtu/h - Premium Efficiency	Restaurant	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$1.00	\$1.00	\$0.18	\$0.00	\$0.00	0.40	1.00	0.928	0.000	0.000	0.000	Premium Efficiency - 19.0 IEER, 3.7 COP	
Heat Pump	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Restaurant	Discretionary	111.4	0.04	0.03	0.0	0.0	0.0	0.0	0	15	\$651.00	\$651.00	\$0.21	\$0.00	\$0.00	0.60	1.00	1.047	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)	
Heat Pump	Cold Climate Heat Pump - Enhanced Efficiency	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.80	\$0.80	\$0.21	\$0.00	\$0.00	0.05	1.00	0.000	0.000	0.000	0.000	High-Performance Cold Climate Commercial Heat Pump	
Heat Pump	Cold Climate Heat Pump - Enhanced Efficiency	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.64	\$0.64	\$0.18	\$0.00	\$0.00	0.07	1.00	0.000	0.000	0.000	0.000	High-Performance Cold Climate Commercial Heat Pump	
Heat Pump	Convert Constant Volume Air System to VAV	Restaurant	Discretionary	323.8	0.11	0.08	0.0	0.0	0.0	0.0	0	15	\$14,242.39	\$14,242.39	\$0.21	\$0.00	\$0.00	0.08	1.00	1.023	0.000	0.000	0.000	Variable Volume Air System	
Heat Pump	Direct Digital Control System-Installation	Restaurant	Discretionary	184.9	0.06	0.05	0.0	0.0	0.0	0.0	0	5	\$813.75	\$813.75	\$0.21	\$0.00	\$0.00	0.25	1.00	3.484	0.000	0.000	0.000	Installation of EMS System	
Heat Pump	Direct Digital Control System-Installation	Restaurant	Lost Opportunity	184.9	0.06	0.05	0.0	0.0	0.0	0.0	0	5	\$813.75	\$813.75	\$0.18	\$0.00	\$0.00	0.25	1.00	0.038	0.000	0.000	0.000	Installation of EMS System	
Heat Pump	Duct Repair and Sealing	Restaurant	Discretionary	107.2	0.04	0.03	0.0	0.0	0.0	0.0	0	18	\$624.96	\$624.96	\$0.21	\$0.00	\$0.00	0.73	1.00	1.678	0.000	0.000	0.000	Reduction In Duct Losses to 5 %	
Heat Pump	Exhaust Air to Ventilation Air Heat Recovery	Restaurant	Discretionary	184.9	0.06	0.05	0.0	0.0	0.0	0.0	0	14	\$11,444.45	\$11,444.45	\$0.21	\$0.00	\$0.00	0.05	1.00	0.451	0.000	0.000	0.000	Exhaust Air to Ventilation Air Heat Recovery	
Heat Pump	Exhaust Hood Makeup Air	Restaurant	Discretionary	55.5	0.02	0.01	0.0	0.0	0.0	0.0	0	12	\$3,100.00	\$3,100.00	\$0.21	\$0.00	\$0.00	0.05	1.00	1.445	0.000	0.000	0.000	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Heat Pump	Ground Source Heat Pump (< 135 kBtu/hr) Cooling	Restaurant	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$3.29	\$3.29	\$0.21	\$0.00	\$0.00	0.19	1.00	0.451	0.000	0.000	0.000	17.0 EER, 4.0 COP	
Heat Pump	Ground Source Heat Pump (< 135 kBtu/hr) Cooling	Restaurant	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$2.63	\$2.63	\$0.18	\$0.00	\$0.00	0.24	1.00	0.054	0.000	0.000	0.000	17.0 EER, 4.0 COP	
Heat Pump	HVAC Variable Refrigerant Flow	Restaurant	Discretionary	732.1	0.24	0.19	0.0	0.0	0.0	0.0	0	15	\$9,895.20	\$9,895.20	\$0.21	-\$226.55	\$0.00	0.36	1.00	1.717	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Heat Pump	HVAC Variable Refrigerant Flow	Restaurant	Lost Opportunity	732.1	0.24	0.19	0.0	0.0	0.0	0.0	0	15	\$9,895.20	\$9,895.20	\$0.18	-\$226.55	\$0.00	0.36	1.00	0.476	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Heat Pump	Indirect Information Feedback	Restaurant	Discretionary	6.4	0.00	0.00	0.0	0.0	0.0	0.0	0	2	\$21.34	\$21.34	\$0.21	\$0.00	\$0.00	0.12	1.00	0.142	0.000	0.000	0.000	Indirect Information Feedback	
Heat Pump	Indirect Information Feedback	Restaurant	Lost Opportunity	6.4	0.00	0.00	0.0	0.0	0.0	0.0	0	2	\$21.34	\$21.34	\$0.										



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Lighting Exterior	LED Exterior Flood Lights	Restaurant	Discretionary	63.6	0.00	0.01	0.0	0.0	0.0	0.0	0	20	\$41.96	\$41.96	\$0.21	\$0.00	\$0.00	3.73	1.00	43.601	43.601	38.436	38.436	LED Exterior Flood Lights	
Lighting Exterior	LED Exterior Flood Lights	Restaurant	Lost Opportunity	63.6	0.00	0.01	0.0	0.0	0.0	0.0	0	20	\$41.96	\$41.96	\$0.18	\$0.00	\$0.00	3.73	1.00	3.789	3.789	3.340	3.340	LED Exterior Flood Lights	
Lighting Exterior	LED Exterior Pole Mount Fixture	Restaurant	Discretionary	36.3	0.00	0.01	0.0	0.0	0.0	0.0	0	15	\$71.09	\$71.09	\$0.21	\$0.00	\$0.00	0.94	1.00	24.846	0.000	0.000	0.000	LED Exterior Pole Mount Fixture	
Lighting Exterior	LED Exterior Pole Mount Fixture	Restaurant	Lost Opportunity	36.3	0.00	0.01	0.0	0.0	0.0	0.0	0	15	\$71.09	\$71.09	\$0.18	\$0.00	\$0.00	0.94	1.00	2.159	0.000	0.000	0.000	LED Exterior Pole Mount Fixture	
Lighting Exterior	LED Exterior Wall Pack	Restaurant	Discretionary	120.2	0.00	0.03	0.0	0.0	0.0	0.0	0	20	\$249.41	\$249.41	\$0.21	\$0.00	\$0.00	1.19	1.00	77.797	77.797	68.582	68.582	LED Exterior Wall Pack	
Lighting Exterior	LED Exterior Wall Pack	Restaurant	Lost Opportunity	120.2	0.00	0.03	0.0	0.0	0.0	0.0	0	20	\$249.41	\$249.41	\$0.18	\$0.00	\$0.00	1.19	1.00	6.760	5.959	5.959	5.959	LED Exterior Wall Pack	
Lighting Exterior	LED Pathway Lights	Restaurant	Discretionary	29.9	0.00	0.01	0.0	0.0	0.0	0.0	0	11	\$7.08	\$7.08	\$0.21	\$0.00	\$0.00	5.73	1.00	20.518	20.518	18.088	18.088	LED Pathway Lights	
Lighting Exterior	LED Pathway Lights	Restaurant	Lost Opportunity	29.9	0.00	0.01	0.0	0.0	0.0	0.0	0	11	\$7.08	\$7.08	\$0.18	\$0.00	\$0.00	5.73	1.00	1.783	1.783	1.572	1.572	LED Pathway Lights	
Lighting Exterior	Occupancy Sensor Control	Restaurant	Discretionary	157.2	0.00	0.03	0.0	0.0	0.0	0.0	0	10	\$491.99	\$491.99	\$0.21	\$0.00	\$0.00	0.39	1.00	28.346	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Exterior	Parking - Covered Lighting	Restaurant	Discretionary	24.4	0.00	0.01	0.0	0.0	0.0	0.0	0	19	\$17.79	\$17.79	\$0.21	\$0.00	\$0.00	3.21	1.00	4.546	4.546	4.007	4.007	Covered Parking Lighting (LED)	
Lighting Exterior	Parking - Covered Lighting	Restaurant	Lost Opportunity	24.4	0.00	0.01	0.0	0.0	0.0	0.0	0	19	\$17.79	\$17.79	\$0.18	\$0.00	\$0.00	3.21	1.00	0.395	0.395	0.348	0.348	Covered Parking Lighting (LED)	
Lighting Exterior	Parking - Surface Lighting	Restaurant	Discretionary	13.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$6.77	\$6.77	\$0.21	\$0.00	\$0.00	2.40	1.00	1.056	1.056	0.931	0.931	Surface Parking Lighting (LED)	
Lighting Exterior	Parking - Surface Lighting	Restaurant	Lost Opportunity	13.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$6.77	\$6.77	\$0.18	\$0.00	\$0.00	2.40	1.00	0.092	0.092	0.081	0.081	Surface Parking Lighting (LED)	
Lighting Exterior	Time Clock	Restaurant	Discretionary	65.5	0.00	0.01	0.0	0.0	0.0	0.0	0	8	\$110.23	\$110.23	\$0.21	\$0.00	\$0.00	0.59	1.00	1.968	0.000	0.000	0.000	Time Clock	
Lighting Interior Fluorescent	Bi-Level Control, Stairwell Lighting	Restaurant	Discretionary	169.8	0.03	0.02	0.0	0.0	0.0	0.0	0	8	\$256.59	\$256.59	\$0.21	\$0.00	\$0.00	0.98	1.00	5.871	0.000	0.000	0.000	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time	
Lighting Interior Fluorescent	Dimming-Stepped, Fluorescent Fixtures	Restaurant	Discretionary	868.4	0.17	0.12	0.0	0.0	0.0	0.0	0	10	\$121.41	\$121.41	\$0.21	\$0.00	\$0.00	13.32	1.00	19.019	19.019	16.766	16.766	3-stepped Dimming of Fluorescent Fixtures (Day-Lighting)	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent - 2018 Federal Standard	Restaurant	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.03	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	1.00	0.000	0.000	0.000	0.000	Standard Fluorescent 2018 Federal Standard Approved T-8	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 - Above Standard	Restaurant	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.03	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	1.00	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 Interior Lighting	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 High Performance - Above Standard	Restaurant	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.02	\$0.00	\$0.21	\$0.00	\$0.00	999.00	1.00	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 High Performance Interior Lighting	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 Reduced Wattage - Above Standard	Restaurant	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.01	\$0.00	\$0.21	\$0.00	\$0.00	999.00	1.00	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 Reduced Wattage Interior Lighting	
Lighting Interior Fluorescent	Lighting Interior - TLED - Above Standard	Restaurant	Lost Opportunity	0.9	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.11	\$0.11	\$0.21	-\$0.01	\$0.00	999.00	1.00	1034.557	1079.264	951.422	951.422	Above Standard TLED	
Lighting Interior Fluorescent	Occupancy Sensor Control	Restaurant	Discretionary	744.4	0.14	0.10	0.0	0.0	0.0	0.0	0	10	\$2,330.10	\$2,330.10	\$0.21	\$0.00	\$0.00	0.59	1.00	77.222	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Interior Fluorescent	Time Clock	Restaurant	Discretionary	310.1	0.06	0.04	0.0	0.0	0.0	0.0	0	8	\$110.23	\$110.23	\$0.21	\$0.00	\$0.00	4.15	1.00	5.363	5.363	4.727	4.727	Time Clock	
Lighting Interior Fluorescent - Early Replacement	Early Replacement Lighting Interior - TLED - Above Standard	Restaurant	Discretionary	570.9	0.11	0.08	0.0	0.0	0.0	0.0	0	15	\$126.54	\$126.54	\$0.21	-\$2.08	\$0.00	0.00	1.00	355.710	0.000	0.000	0.000	Above Standard TLED	
Lighting Interior HID	Lighting Interior - Efficient Metal Halide - Above Standard	Restaurant	Lost Opportunity	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.19	\$0.19	\$0.21	-\$0.01	\$0.00	26.14	1.00	0.000	0.000	0.000	0.000	Efficient Metal Halide	
Lighting Interior HID	Lighting Interior - Federal Standard 2017 Metal Halide - Above Standard	Restaurant	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.22	\$0.22	\$0.21	-\$0.01	\$0.00	2.34	1.00	0.000	0.000	0.000	0.000	Federal Standard 2017 Metal Halide	
Lighting Interior HID	Lighting Interior - High Bay Fluorescent High Output - Above Standard	Restaurant	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.58	\$0.58	\$0.21	\$0.06	\$0.00	1.37	1.00	0.000	0.000	0.000	0.000	High Bay Fluorescent High Output (HO)	
Lighting Interior HID	Lighting Interior - High Bay Induction - Above Standard	Restaurant	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.57	\$0.57	\$0.21	-\$0.03	\$0.00	5.95	1.00	0.000	0.000	0.000	0.000	High Bay Induction	
Lighting Interior HID	Lighting Interior - High Bay LED - Above Standard	Restaurant	Lost Opportunity	0.8	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.67	\$0.67	\$0.21	-\$0.02	\$0.00	5.77	1.00	548.009	576.745	508.428	508.428	High Bay LED	
Lighting Interior HID	Occupancy Sensor Control	Restaurant	Discretionary	657.9	0.13	0.09	0.0	0.0	0.0	0.0	0	10	\$2,059.58	\$2,059.58	\$0.21	\$0.00	\$0.00	0.59	1.00	108.736	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Interior HID	Time Clock	Restaurant	Discretionary	274.1	0.05	0.04	0.0	0.0	0.0	0.0	0	8	\$110.23	\$110.23	\$0.21	\$0.00	\$0.00	3.67	1.00	7.551	7.551	6.657	6.657	Time Clock	
Lighting Interior Other	Exit Sign - LED	Restaurant	Discretionary	45.6	0.01	0.01	0.0	0.0	0.0	0.0	0	16	\$64.14	\$64.14	\$0.21	\$0.00	\$0.00	2.16	1.00	22.582	22.582	19.907	19.907	LED Exit Sign	
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Restaurant	Discretionary	56.8	0.01	0.01	0.0	0.0	0.0	0.0	0	16	-\$9.77	\$0.00	\$0.21	\$0.00	\$0.00	999.00	1.00	41.091	41.091	36.224	36.224	Photoluminescent or Tritium	
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Restaurant	Lost Opportunity	56.8	0.01	0.01	0.0	0.0	0.0	0.0	0	16	-\$9.77	\$0.00	\$0.18	\$0.00	\$0.00	999.00	1.00	2.678	2.678	2.361	2.361	Photoluminescent or Tritium	
Lighting Interior Other	New Construction Lighting Package - Advanced Efficiency	Restaurant	Lost Opportunity	1.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.87	\$0.87	\$0.18	-\$0.07	\$0.00	37.36	1.00	183.808	183.808	162.036	162.036	Advanced Efficiency Lighting Package - 25% LPD Reduction	
Lighting Interior Other	New Construction Lighting Package - High Efficiency	Restaurant	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.52	\$0.52	\$0.18	-\$0.04	\$0.00	37.36	1.00	0.000	0.000	0.000	0.000	High Efficiency Lighting Package - 15% LPD Reduction	
Lighting Interior Other	New Construction Lighting Package - Premium Efficiency	Restaurant	Lost Opportunity	0.8	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.70	\$0.70	\$0.18	-\$0.05	\$0.00	37.36	1.00	0.000	0.000	0.000	0.000	Premium Efficiency Lighting Package - 20% LPD Reduction	
Lighting Interior Other	Occupancy Sensor Control	Restaurant	Discretionary	27.4	0.01	0.00	0.0	0.0	0.0	0.0	0	10	\$85.69	\$85.69	\$0.21	\$0.00	\$0.00	0.59	1.00	4.937	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Interior Other	Time Clock	Restaurant	Discretionary	11.4	0.00	0.00	0.0	0.0	0.0	0.0	0	8	\$110.23	\$110.23	\$0.21	\$0.00	\$0.00	0.15	1.00	0.343	0.000	0.000	0.000	Time Clock	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	Restaurant	Lost Opportunity	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0	3	\$0.01	\$0.01	\$0.21	-\$0.01	\$0.00	999.00	1.00	0.000	0.000	0.000	0.000	CFL	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base Incandescent - Backstop EISA 2020 Standard	Restaurant	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	3	\$0.01	\$0.01	\$0.21	-\$0.01	\$0.00	999.00	1.00	0.000	0.000	0.000	0.000	Backstop EISA 2020 Standard Incandescent	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base LED - Above Standard	Restaurant	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.06	\$0.06	\$0.21	-\$0.02	\$0.00	999.00	1.00	53.822	53.968	47.575	47.575	LED	
Lighting Interior Screw Base - Standard	Occupancy Sensor Control	Restaurant	Discretionary	602.7	0.12	0.08	0.0	0.0	0.0	0.0	0	10	\$1,886.74	\$1,886.74	\$0.21	\$0.00	\$0.00	0.59	1.00	29.321	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Interior Screw Base - Standard	Time Clock	Restaurant	Discretionary	251.1	0.05	0.03	0.0	0.0	0.0	0.0	0	8	\$110.23	\$110.23	\$0.21	\$0.00	\$0.00	3.36	1.00	2.036	2.036	1.795	1.795	Time Clock	
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base CFL - Above Standard	Restaurant	Discretionary	1,726.6	0.33	0.23	0.0	0.0	0.0	0.0	0	3	\$35.73	\$35.73	\$0.21	-\$29.63	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	CFL	
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base LED - Above Standard	Restaurant	Discretionary	1,804.7	0.35	0.24	0.0	0.0	0.0	0.0	0	12	\$112.93	\$112.93	\$0.21	-\$41.90	\$0.00	0.00	1.00	1314.540	0.000	0.000	0.000	LED	
Other Plug Load	Dehumidifier - ENERGY STAR	Restaurant	Discretionary	164.6	0.02	0.01	0.0	0.0	0.0	0.0	0	12	\$64.21	\$64.21	\$0.21	\$0.00	\$0.00	5.23	1.00	21.770	21.770	17.544	17.544	ENERGY STAR Dehumidifier	
Other Plug Load	Dehumidifier - ENERGY STAR	Restaurant	Lost Opportunity	164.6	0.02	0.01	0.0	0.0	0.0	0.0	0	12	\$64.21	\$64.21	\$0.18	\$0.00	\$0.00	5.23	1.00	1.892	1.892	1.524	1.524	ENERGY STAR Dehumidifier	
Other Plug Load	ENERGY STAR - Scanners	Restaurant	Discretionary	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.249	0.000	0.000	0.000	ENERGY STAR Scanners	
Other Plug Load	ENERGY STAR - Scanners	Restaurant	Lost Opportunity	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.022	0.000	0.000	0.000	ENERGY STAR Scanners	
Other Plug Load	ENERGY STAR - Water Cooler	Restaurant	Discretionary	62.3	0.01	0.01	0.0	0.0	0.0	0.0	0	10	\$0.53	\$0.53	\$0.21	\$0.00	\$0.00	196.63	1.00	47.414	47.414	38.210	38.210	ENERGY STAR Water Cooler (Hot/Cold Water)	
Other Plug Load	ENERGY STAR - Water Cooler	Restaurant	Lost Opportunity	62.3	0.01	0.01	0.0	0.0	0.0	0.0	0	10	\$0.53	\$0.53	\$0.18	\$0.00	\$0.00	196.63	1.0						

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Refrigeration	Display Case LEDs (Open Cases)	Restaurant	Discretionary	26.8	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$18.79	\$18.79	\$0.21	-\$0.67	\$0.00	2.07	0.95	20.435	20.435	19.851	19.851	Display Case LEDs (Open Cases)	
Refrigeration	Display Case LEDs (Open Cases)	Restaurant	Lost Opportunity	26.8	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$9.91	\$9.91	\$0.18	-\$0.57	\$0.00	4.78	0.95	1.776	1.776	1.725	1.725	Display Case LEDs (Open Cases)	
Refrigeration	Display Case Motion Sensors	Restaurant	Discretionary	80.4	0.01	0.01	0.0	0.0	0.0	0.0	0	8	\$18.77	\$18.77	\$0.21	\$0.00	\$0.00	5.57	0.95	58.031	58.031	56.373	56.373	Display Case Motion Sensors	
Refrigeration	Evaporator Fan Controller - Low Temp	Restaurant	Discretionary	78.8	0.01	0.01	0.0	0.0	0.0	0.0	0	16	\$61.27	\$61.27	\$0.21	\$0.00	\$0.00	3.42	0.95	56.830	56.830	55.207	55.207	ECM Evaporator Fan Controller - Low Temp	
Refrigeration	Evaporator Fan Controller - Low Temp	Restaurant	Lost Opportunity	78.8	0.01	0.01	0.0	0.0	0.0	0.0	0	16	\$61.27	\$61.27	\$0.18	\$0.00	\$0.00	3.42	0.95	4.036	4.036	3.920	3.920	ECM Evaporator Fan Controller - Low Temp	
Refrigeration	Evaporator Fan Controller - Medium Temp	Restaurant	Discretionary	122.9	0.02	0.01	0.0	0.0	0.0	0.0	0	16	\$114.42	\$114.42	\$0.21	\$0.00	\$0.00	2.85	0.95	88.648	88.648	86.117	86.117	ECM Evaporator Fan Controller - Medium Temp	
Refrigeration	Evaporator Fan Controller - Medium Temp	Restaurant	Lost Opportunity	122.9	0.02	0.01	0.0	0.0	0.0	0.0	0	16	\$114.42	\$114.42	\$0.18	\$0.00	\$0.00	2.85	0.95	6.295	6.295	6.115	6.115	ECM Evaporator Fan Controller - Medium Temp	
Refrigeration	Floating Condenser Head Pressure Controls	Restaurant	Discretionary	2,690.1	0.35	0.32	0.0	0.0	0.0	0.0	0	15	\$864.88	\$864.88	\$0.21	\$0.00	\$0.00	7.73	0.95	107.818	107.818	104.739	104.739	Floating Condenser Head Pressure Controls	
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Restaurant	Discretionary	751.5	0.10	0.09	0.0	0.0	0.0	0.0	0	9	\$102.06	\$102.06	\$0.21	\$0.00	\$0.00	10.81	0.95	572.264	572.264	555.922	555.922	Glass Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Restaurant	Lost Opportunity	751.5	0.10	0.09	0.0	0.0	0.0	0.0	0	9	\$102.06	\$102.06	\$0.18	\$0.00	\$0.00	10.81	0.95	49.725	49.725	48.305	48.305	Glass Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Ice Maker - High Efficiency	Restaurant	Discretionary	344.7	0.05	0.04	0.0	0.0	0.0	0.0	0	8	\$21.99	\$21.99	\$0.21	\$0.00	\$0.00	20.36	0.95	276.326	276.326	268.435	268.435	High Efficiency Ice Maker	
Refrigeration	Ice Maker - High Efficiency	Restaurant	Lost Opportunity	344.7	0.05	0.04	0.0	0.0	0.0	0.0	0	8	\$21.99	\$21.99	\$0.18	\$0.00	\$0.00	20.36	0.95	24.010	24.010	23.325	23.325	High Efficiency Ice Maker	
Refrigeration	Night Covers for Display Cases	Restaurant	Discretionary	35.0	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$6.24	\$6.24	\$0.21	\$0.63	\$0.00	3.04	0.95	26.640	26.640	25.880	25.880	Night Covers for Display Cases	
Refrigeration	Night Covers for Display Cases	Restaurant	Lost Opportunity	35.0	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$6.24	\$6.24	\$0.18	\$0.63	\$0.00	3.04	0.95	2.315	2.315	2.249	2.249	Night Covers for Display Cases	
Refrigeration	No Heat Case Doors	Restaurant	Discretionary	358.2	0.05	0.04	0.0	0.0	0.0	0.0	0	15	\$256.78	\$256.78	\$0.21	\$0.00	\$0.00	3.47	0.95	143.573	143.573	139.473	139.473	No Heat Case Doors	
Refrigeration	No Heat Case Doors	Restaurant	Lost Opportunity	358.2	0.05	0.04	0.0	0.0	0.0	0.0	0	15	\$256.78	\$256.78	\$0.18	\$0.00	\$0.00	3.47	0.95	23.703	23.703	23.026	23.026	No Heat Case Doors	
Refrigeration	Refrigeration Commissioning or Re-commissioning	Restaurant	Discretionary	3,537.1	0.47	0.42	0.0	0.0	0.0	0.0	0	7	\$911.68	\$911.68	\$0.21	\$0.00	\$0.00	4.38	0.95	243.073	243.073	236.131	236.131	Commissioning / Re-commissioning	
Refrigeration	Refrigeration Commissioning or Re-commissioning	Restaurant	Lost Opportunity	3,537.1	0.47	0.42	0.0	0.0	0.0	0.0	0	7	\$911.68	\$911.68	\$0.18	\$0.00	\$0.00	4.38	0.95	11.385	11.385	11.060	11.060	Commissioning / Re-commissioning	
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Restaurant	Discretionary	557.9	0.07	0.07	0.0	0.0	0.0	0.0	0	9	\$102.06	\$102.06	\$0.21	\$0.00	\$0.00	8.02	0.95	424.833	424.833	412.701	412.701	Solid Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Restaurant	Lost Opportunity	557.9	0.07	0.07	0.0	0.0	0.0	0.0	0	9	\$102.06	\$102.06	\$0.18	\$0.00	\$0.00	8.02	0.95	36.915	36.915	35.860	35.860	Solid Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Strip Curtains for Walk-Ins	Restaurant	Discretionary	1,005.5	0.13	0.12	0.0	0.0	0.0	0.0	0	4	\$723.49	\$723.49	\$0.21	\$0.00	\$0.00	0.87	0.95	604.530	0.000	0.000	0.000	Strip Curtains for Walk-Ins	
Refrigeration	Walk-In Electronically Commutated Motor	Restaurant	Discretionary	326.7	0.04	0.04	0.0	0.0	0.0	0.0	0	15	\$75.27	\$75.27	\$0.21	\$0.00	\$0.00	10.79	0.95	248.772	248.772	241.668	241.668	ECM Condensor Fans - Low Temp	
Refrigeration	Walk-In Electronically Commutated Motor	Restaurant	Discretionary	353.2	0.05	0.04	0.0	0.0	0.0	0.0	0	15	\$91.99	\$91.99	\$0.21	\$0.00	\$0.00	9.54	0.95	268.971	268.971	261.290	261.290	ECM Condensor Fans - Medium Temp	
Refrigeration	Walk-In Electronically Commutated Motor	Restaurant	Discretionary	326.7	0.04	0.04	0.0	0.0	0.0	0.0	0	15	\$75.27	\$75.27	\$0.21	\$0.00	\$0.00	10.79	0.95	248.772	248.772	241.668	241.668	ECM Evaporator Fans - Low Temp	
Refrigeration	Walk-In Electronically Commutated Motor	Restaurant	Discretionary	353.2	0.05	0.04	0.0	0.0	0.0	0.0	0	15	\$91.99	\$91.99	\$0.21	\$0.00	\$0.00	9.54	0.95	268.971	268.971	261.290	261.290	ECM Evaporator Fans - Medium Temp	
Refrigeration	Walk-in Economizer	Restaurant	Discretionary	2,689.9	0.35	0.32	0.0	0.0	0.0	0.0	0	15	\$1,307.34	\$1,307.34	\$0.21	\$0.00	\$0.00	5.11	0.95	1617.178	1617.178	1570.996	1570.996	Add Economizer to Walk-in Cooler	
Refrigeration	Walk-in Economizer	Restaurant	Lost Opportunity	2,689.9	0.35	0.32	0.0	0.0	0.0	0.0	0	15	\$1,307.34	\$1,307.34	\$0.18	\$0.00	\$0.00	5.11	0.95	140.520	140.520	136.507	136.507	Add Economizer to Walk-in Cooler	
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Restaurant	Discretionary	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.02	\$0.02	\$0.21	\$0.00	\$0.00	1.23	1.00	0.000	0.000	0.000	0.000	CEE Tier 2 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.02	\$0.02	\$0.18	\$0.00	\$0.00	1.23	1.00	0.000	0.000	0.000	0.000	CEE Tier 2 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.03	\$0.03	\$0.21	\$0.00	\$0.00	1.15	1.00	26.337	26.337	17.127	17.127	CEE Tier 3 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.03	\$0.03	\$0.18	\$0.00	\$0.00	1.15	1.00	3.889	3.889	2.529	2.529	CEE Tier 3 Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	1.26	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	1.26	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.02	\$0.02	\$0.21	\$0.00	\$0.00	1.27	1.00	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.02	\$0.02	\$0.18	\$0.00	\$0.00	1.27	1.00	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Refrigerator	
Refrigerators	Residential Refrigerator Recycling and Replacement	Restaurant	Discretionary	123.9	0.01	0.01	0.0	0.0	0.0	0.0	0	8	\$64.53	\$64.53	\$0.21	\$0.00	\$0.00	2.41	1.00	76.034	76.034	49.444	49.444	Recycling Existing Refrigerator and Replacing with a Federal Standard Unit	
Room Cool	Ductless Air Conditioner (DAC)	Restaurant	Discretionary	17.6	0.01	0.00	0.0	0.0	0.0	0.0	0	15	\$425.53	\$425.53	\$0.21	\$0.00	\$0.00	0.17	1.00	0.871	0.000	0.000	0.000	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Air Conditioner (DAC)	Restaurant	Lost Opportunity	17.6	0.01	0.00	0.0	0.0	0.0	0.0	0	15	\$425.53	\$425.53	\$0.18	\$0.00	\$0.00	0.17	1.00	0.137	0.000	0.000	0.000	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Heat Pump (DHP)	Restaurant	Discretionary	48.0	0.02	0.00	0.0	0.0	0.0	0.0	0	15	\$725.03	\$725.03	\$0.21	\$0.00	\$0.00	0.27	1.00	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP)	Restaurant	Lost Opportunity	48.0	0.02	0.00	0.0	0.0	0.0	0.0	0	15	\$725.03	\$725.03	\$0.18	\$0.00	\$0.00	0.27	1.00	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Restaurant	Discretionary	50.5	0.02	0.00	0.0	0.0	0.0	0.0	0	15	\$742.37	\$742.37	\$0.21	\$0.00	\$0.00	0.28	1.00	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Restaurant	Lost Opportunity	50.5	0.02	0.00	0.0	0.0	0.0	0.0	0	15	\$742.37	\$742.37	\$0.18	\$0.00	\$0.00	0.28	1.00	0.033	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1	
Room Cool	Exhaust Hood Makeup Air	Restaurant	Discretionary	3.7	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$3,100.00	\$3,100.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.375	0.000	0.000	0.000	0.000	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air
Room Cool	Green Roof	Restaurant	Discretionary	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$36,499.66	\$36,499.66	\$0.21	\$365.00	\$0.00	0.00	1.00	0.043	0.000	0.000	0.000	0.000	Vegetation on Roof
Room Cool	Green Roof	Restaurant	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$36,499.66	\$36,499.66	\$0.18	\$365.00	\$0.00	0.00	1.00	0.003	0.000	0.000	0.000	0.000	Vegetation on Roof
Room Cool	Infiltration Reduction	Restaurant	Discretionary	2.4	0.00	0.00	1.3	0.0	0.0	0.0	0	10	\$211.12	\$211.12	\$0.21	\$0.00	\$0.00	0.16	1.00	0.010	0.000	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Restaurant	Discretionary	3.9	0.00	0.00	0.6	0.0	0.0	0.0	0	30	\$410.62	\$410.62	\$0.21	\$0.00	\$0.00	0.17	1.00	0.155	0.000	0.000	0.000	0.000	R-35 c.i.
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Restaurant	Lost Opportunity	3.5	0.00	0.00	0.7	0.0	0.0	0.0	0	30	\$410.62	\$410.62	\$0.18	\$0.00	\$0.00	0.17	1.00	0.006	0.000	0.000	0.000	0.000	R-35 c.i.
Room Cool	Insulation - Ceiling - CBES 2015 - Code	Restaurant	Discretionary	10.3	0.00	0.00	2.2	0.0	0.0	0.0	0	30	\$1,873.65	\$1,873.65	\$0.21	\$0.00	\$0.00	0.11	1.00	0.244	0.000	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Restaurant	Discretionary	5.7	0.00	0.00	0.9	0.0	0.0	0.0	0	30	\$729.99	\$729.99	\$0.21	\$0.00	\$0.00	0.14	1.00	0.071	0.000	0.000	0.000	0.000	

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Servers	Internal Power Supply / Server	Restaurant	Discretionary	1.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.34	\$0.34	\$0.21	\$0.00	\$0.00	2.22	1.00	0.569	0.722	0.582	0.582	80 Plus power supply for Desktop Derived Server	
Servers	Internal Power Supply / Server	Restaurant	Lost Opportunity	1.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.34	\$0.34	\$0.18	\$0.00	\$0.00	2.22	1.00	0.049	0.064	0.051	0.051	80 Plus power supply for Desktop Derived Server	
Servers	Server - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.02	\$0.02	\$0.21	\$0.00	\$0.00	0.32	1.00	8.132	0.000	0.000	0.000	ENERGY STAR Server	
Servers	Server - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.02	\$0.02	\$0.18	\$0.00	\$0.00	0.32	1.00	0.808	0.000	0.000	0.000	ENERGY STAR Server	
Space Heat - Electric	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Restaurant	Discretionary	1,626.8	0.00	0.65	0.0	0.0	0.0	0.0	0	15	\$651.00	\$651.00	\$0.21	\$0.00	\$0.00	4.67	1.00	2.542	2.542	2.048	2.048	Demand Controlled Ventilation (CO2 sensors)	
Space Heat - Electric	Convert Constant Volume Air System to VAV	Restaurant	Discretionary	4,856.2	0.01	1.95	0.0	0.0	0.0	0.0	0	15	\$14,242.39	\$14,242.39	\$0.21	\$0.00	\$0.00	0.64	1.00	2.855	0.000	0.000	0.000	Variable Volume Air System	
Space Heat - Electric	Direct Digital Control System-Installation	Restaurant	Discretionary	2,772.9	0.01	1.12	0.0	0.0	0.0	0.0	0	5	\$813.75	\$813.75	\$0.21	\$0.00	\$0.00	2.12	1.00	9.686	9.686	7.803	7.803	Installation of EMS System	
Space Heat - Electric	Direct Digital Control System-Installation	Restaurant	Lost Opportunity	2,772.9	0.01	1.12	0.0	0.0	0.0	0.0	0	5	\$813.75	\$813.75	\$0.18	\$0.00	\$0.00	2.12	1.00	0.100	0.100	0.080	0.080	Installation of EMS System	
Space Heat - Electric	Duct Repair and Sealing	Restaurant	Discretionary	1,607.5	0.00	0.65	0.0	0.0	0.0	0.0	0	18	\$624.96	\$624.96	\$0.21	\$0.00	\$0.00	5.76	1.00	4.185	4.185	3.371	3.371	Reduction In Duct Losses to 5 %	
Space Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Restaurant	Discretionary	2,772.9	0.01	1.12	0.0	0.0	0.0	0.0	0	14	\$11,444.45	\$11,444.45	\$0.21	\$0.00	\$0.00	0.42	1.00	1.260	0.000	0.000	0.000	Exhaust Air to Ventilation Air Heat Recovery	
Space Heat - Electric	Indirect Information Feedback	Restaurant	Discretionary	96.2	0.00	0.04	0.0	0.0	0.0	0.0	0	2	\$320.05	\$320.05	\$0.21	\$0.00	\$0.00	0.07	1.00	0.376	0.000	0.000	0.000	Indirect Information Feedback	
Space Heat - Electric	Indirect Information Feedback	Restaurant	Lost Opportunity	96.2	0.00	0.04	0.0	0.0	0.0	0.0	0	2	\$320.05	\$320.05	\$0.18	\$0.00	\$0.00	0.07	1.00	0.040	0.000	0.000	0.000	Indirect Information Feedback	
Space Heat - Electric	Infiltration Reduction	Restaurant	Discretionary	1,848.6	0.00	0.74	0.0	0.0	0.0	0.0	0	10	\$211.12	\$211.12	\$0.21	\$0.00	\$0.00	11.02	1.00	0.395	0.395	0.318	0.318	Install Caulking And Weatherstripping (ACH 0.65)	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Restaurant	Discretionary	883.9	0.00	0.36	0.0	0.0	0.0	0.0	0	30	\$410.62	\$410.62	\$0.21	\$0.00	\$0.00	8.08	1.00	1.582	1.582	1.274	1.274	R-35 c.i.	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Restaurant	Lost Opportunity	883.9	0.00	0.36	0.0	0.0	0.0	0.0	0	30	\$410.62	\$410.62	\$0.18	\$0.00	\$0.00	8.08	1.00	0.067	0.067	0.054	0.054	R-35 c.i.	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Restaurant	Discretionary	2,326.8	0.00	0.94	0.0	0.0	0.0	0.0	0	30	\$1,873.65	\$1,873.65	\$0.21	\$0.00	\$0.00	4.66	1.00	2.537	2.537	2.044	2.044	R-30 c.i. (CBES 2015 Code)	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Restaurant	Discretionary	665.5	0.00	0.27	0.0	0.0	0.0	0.0	0	20	\$35.32	\$35.32	\$0.21	\$0.00	\$0.00	46.87	1.00	3.232	3.232	2.603	2.603	R-12	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Restaurant	Lost Opportunity	665.5	0.00	0.27	0.0	0.0	0.0	0.0	0	20	\$35.32	\$35.32	\$0.18	\$0.00	\$0.00	46.87	1.00	0.337	0.337	0.271	0.271	R-12	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Code	Restaurant	Discretionary	665.5	0.00	0.27	0.0	0.0	0.0	0.0	0	20	\$142.24	\$142.24	\$0.21	\$0.00	\$0.00	11.64	1.00	2.609	2.609	2.102	2.102	R-8 (CBES 2015 Code)	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Restaurant	Discretionary	1,302.6	0.00	0.52	0.0	0.0	0.0	0.0	0	30	\$729.99	\$729.99	\$0.21	\$0.00	\$0.00	6.70	1.00	0.780	0.780	0.629	0.629	R-38	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Restaurant	Lost Opportunity	1,302.6	0.00	0.52	0.0	0.0	0.0	0.0	0	30	\$729.99	\$729.99	\$0.18	\$0.00	\$0.00	6.70	1.00	0.136	0.136	0.110	0.110	R-38	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Restaurant	Discretionary	2,268.7	0.00	0.91	0.0	0.0	0.0	0.0	0	30	\$2,092.65	\$2,092.65	\$0.21	\$0.00	\$0.00	4.07	1.00	1.247	1.247	1.004	1.004	R-30 (CBES 2015 Code)	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Restaurant	Discretionary	1,520.7	0.00	0.61	0.0	0.0	0.0	0.0	0	30	\$606.78	\$606.78	\$0.21	\$0.00	\$0.00	9.41	1.00	1.528	1.528	1.231	1.231	R-13 + 15.6 c.i.	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Restaurant	Lost Opportunity	1,520.7	0.00	0.61	0.0	0.0	0.0	0.0	0	30	\$606.78	\$606.78	\$0.18	\$0.00	\$0.00	9.41	1.00	0.401	0.401	0.323	0.323	R-13 + 15.6 c.i.	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Code	Restaurant	Discretionary	1,415.1	0.00	0.57	0.0	0.0	0.0	0.0	0	30	\$4,163.78	\$4,163.78	\$0.21	\$0.00	\$0.00	1.28	1.00	0.833	0.833	0.671	0.671	R-13 + 7.5 c.i. (CBES 2015 Code)	
Space Heat - Electric	Programmable Thermostat	Restaurant	Discretionary	739.5	0.00	0.30	0.0	0.0	0.0	0.0	0	11	\$27.58	\$27.58	\$0.21	\$0.00	\$0.00	37.05	1.00	3.364	3.364	2.710	2.710	Programmable Thermostat	
Space Heat - Electric	Strategic Energy Management (SEM)	Restaurant	Discretionary	757.9	0.00	0.30	0.0	0.0	0.0	0.0	0	5	\$102.14	\$102.14	\$0.21	\$0.00	\$0.00	4.61	1.00	0.451	0.451	0.364	0.364	Identify Operations and Maintenance Improvements through Strategic Energy Man	
Space Heat - Electric	Strategic Energy Management (SEM)	Restaurant	Lost Opportunity	757.9	0.00	0.30	0.0	0.0	0.0	0.0	0	5	\$102.14	\$102.14	\$0.18	\$0.00	\$0.00	4.61	1.00	0.278	0.278	0.224	0.224	Identify Operations and Maintenance Improvements through Strategic Energy Man	
Space Heat - Electric	Wi-Fi Thermostat	Restaurant	Discretionary	739.5	0.00	0.30	0.0	0.0	0.0	0.0	0	11	\$219.74	\$219.74	\$0.21	\$0.00	\$0.00	4.65	1.00	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)	
Space Heat - Electric	Windows - CBES 2015 - Above Code	Restaurant	Discretionary	144.3	0.00	0.06	0.0	0.0	0.0	0.0	0	20	\$1,248.44	\$1,248.44	\$0.21	\$0.00	\$0.00	0.29	1.00	0.194	0.000	0.000	0.000	U-0.29	
Space Heat - Electric	Windows - CBES 2015 - Above Code	Restaurant	Lost Opportunity	144.3	0.00	0.06	0.0	0.0	0.0	0.0	0	20	\$1,248.44	\$1,248.44	\$0.18	\$0.00	\$0.00	0.29	1.00	0.070	0.000	0.000	0.000	U-0.29	
Space Heat - Electric	Windows - CBES 2015 - Code	Restaurant	Discretionary	329.5	0.00	0.13	0.0	0.0	0.0	0.0	0	20	\$8,244.23	\$8,244.23	\$0.21	\$0.00	\$0.00	0.10	1.00	0.438	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Vending Machines	Vending Machines - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Vending Machines - 3.84 kWh/day	
Vending Machines	Vending Machines - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Vending Machines - 3.84 kWh/day	
Vending Machines	Vending Machines - Federal Standard 2020	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	1.206	0.000	0.000	0.000	Federal Standard 2020 Vending Machines - 3.83 kWh/day	
Vending Machines	Vending Machines - Federal Standard 2020	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.065	0.000	0.000	0.000	Federal Standard 2020 Vending Machines - 3.83 kWh/day	
Vending Machines	Vending Miser	Restaurant	Discretionary	57.4	0.01	0.01	0.0	0.0	0.0	0.0	0	5	\$9.08	\$9.08	\$0.21	\$0.00	\$0.00	4.85	1.00	27.454	27.538	22.193	22.193	Vending Machine Occupancy Sensor	
Vending Machines	Vending Miser	Restaurant	Lost Opportunity	57.3	0.01	0.01	0.0	0.0	0.0	0.0	0	5	\$9.08	\$9.08	\$0.18	\$0.00	\$0.00	4.85	1.00	2.757	2.763	2.227	2.227	Vending Machine Occupancy Sensor	
Ventilation And Circulation	Automated Exhaust VFD Control - Parking Garage CO sensor	Restaurant	Discretionary	920.4	0.11	0.11	0.0	0.0	0.0	0.0	0	5	\$133.97	\$133.97	\$0.21	\$0.00	\$0.00	5.31	1.00	26.187	26.187	23.478	23.478	CO Sensors	
Ventilation And Circulation	Boiler Draft Fan - VFD	Restaurant	Discretionary	1,041.6	0.12	0.13	0.0	0.0	0.0	0.0	0	15	\$560.44	\$560.44	\$0.21	\$0.00	\$0.00	4.47	1.00	217.086	217.086	194.633	194.633	VFD Boiler Draft Fan	
Ventilation And Circulation	Boiler Draft Fan - VFD	Restaurant	Lost Opportunity	1,041.6	0.12	0.13	0.0	0.0	0.0	0.0	0	15	\$560.44	\$560.44	\$0.18	\$0.00	\$0.00	4.47	1.00	13.059	13.059	11.708	11.708	VFD Boiler Draft Fan	
Ventilation And Circulation	Convert Constant Volume Air System to VAV	Restaurant	Discretionary	2,562.2	0.29	0.32	0.0	0.0	0.0	0.0	0	15	\$14,242.39	\$14,242.39	\$0.21	\$0.00	\$0.00	0.43	1.00	144.824	0.000	0.000	0.000	Variable Volume Air System	
Ventilation And Circulation	Cooking Hood Controls	Restaurant	Discretionary	3,730.0	0.43	0.46	0.0	0.0	0.0	0.0	0	18	\$12,500.00	\$12,500.00	\$0.21	\$0.00	\$0.00	0.87	1.00	672.741	0.000	0.000	0.000	Demand-Ventilation Control	
Ventilation And Circulation	Cooking Hood Controls	Restaurant	Lost Opportunity	3,730.0	0.43	0.46	0.0	0.0	0.0	0.0	0	18	\$12,500.00	\$12,500.00	\$0.18	\$0.00	\$0.00	0.87	1.00	58.456	0.000	0.000	0.000	Demand-Ventilation Control	
Ventilation And Circulation	Fan System - HVAC - Variable Speed Control	Restaurant	Discretionary	4,998.9	0.57	0.62	0.0	0.0	0.0	0.0	0	15	\$796.32	\$796.32	\$0.21	\$0.00	\$0.00	15.10	1.00	881.566	881.566	790.387	790.387	HVAC Fan System Optimization with VSD (Restoration)	
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	Restaurant	Discretionary	121.1	0.01	0.01	0.0	0.0	0.0	0.0	0	16	\$3.99	\$3.99	\$0.21	\$0.00	\$0.00	78.14	1.00	83.028	83.028	74.441	74.441	CEE PE+ Motor for HVAC Applications	
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	Restaurant	Lost Opportunity	121.1	0.01	0.01	0.0	0.0	0.0	0.0	0	16	\$3.99	\$3.99	\$0.18	\$0.00	\$0.00	78.14	1.00	7.214	7.214	6.468	6.468	CEE PE+ Motor for HVAC Applications	
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	Restaurant	Discretionary	2,371.5	0.27	0.29	0.0	0.0	0.0	0.0	0	15	\$14,242.39	\$14,242.39	\$0.21	\$0.00	\$0.00	0.40	1.00	93.104	0.000	0.000	0.000	VAV Box High Efficiency (ECM)	
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	Restaurant	Lost Opportunity	2,371.5	0.27	0.29	0.0	0.0	0.0	0.0	0	15	\$14,242.39	\$14,242.39	\$0.18	\$0.00	\$0.00	0.40	1.00	0.000	0.000	0.000	0.000	VAV Box High Efficiency (ECM)	
Ventilation And Circulation	Motor Rewind	Restaurant	Discretionary	73.4	0.01	0.01	0.0	0.0	0.0	0.0	0	9	\$5.61	\$5.61	\$0.21	\$0.00	\$0.00	18.63	1.00	1.730	1.730	1.551	1.551	>15, <500 HP	
Ventilation And Circulation	Variable Speed ECM Pump - Domestic Hot Water Recirculation	Restaurant																							



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Restaurant	Discretionary	71.7	0.00	0.03	0.0	0.0	0.0	0.0	0	20	\$456.64	\$456.64	\$0.21	\$0.00	\$0.00	0.39	1.00	1.227	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Restaurant	Lost Opportunity	71.7	0.00	0.03	0.0	0.0	0.0	0.0	0	20	\$456.64	\$456.64	\$0.18	\$0.00	\$0.00	0.39	1.00	0.092	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Restaurant	Discretionary	382.4	0.00	0.15	0.0	0.0	0.0	0.0	0	10	\$1,642.94	\$1,642.94	\$0.21	\$0.00	\$0.00	0.29	1.00	3.786	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End Use	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Restaurant	Lost Opportunity	382.4	0.00	0.15	0.0	0.0	0.0	0.0	0	10	\$1,642.94	\$1,642.94	\$0.18	\$0.00	\$0.00	0.29	1.00	0.283	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End Use	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Restaurant	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.58	\$0.58	\$0.21	\$0.00	\$0.00	0.49	1.00	15.483	0.000	0.000	0.000	CO2 Heat Pump Water Heater	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Restaurant	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.58	\$0.58	\$0.18	\$0.00	\$0.00	0.49	1.00	0.906	0.000	0.000	0.000	CO2 Heat Pump Water Heater	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Restaurant	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.12	\$0.12	\$0.21	\$0.00	\$0.00	0.75	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Restaurant	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.12	\$0.12	\$0.18	\$0.00	\$0.00	0.75	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Restaurant	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.47	\$0.47	\$0.21	\$0.00	\$0.00	0.53	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Restaurant	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.47	\$0.47	\$0.18	\$0.00	\$0.00	0.53	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Restaurant	Discretionary	535.4	0.00	0.22	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	22688.61	1.00	9.156	13.876	9.023	9.023	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Restaurant	Lost Opportunity	535.4	0.00	0.22	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	22688.61	1.00	0.685	1.121	0.729	0.729	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Tank Wrap	Restaurant	Discretionary	1,077.2	0.00	0.43	0.0	0.0	0.0	0.0	0	7	\$48.48	\$48.48	\$0.21	\$0.00	\$0.00	19.54	1.00	3.077	4.664	3.033	3.033	Add R-10 Tank Wrap	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Restaurant	Discretionary	20.9	0.00	0.01	0.0	0.0	0.0	0.0	2	13	\$23.29	\$23.29	\$0.21	\$0.00	\$0.00	2.42	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Restaurant	Lost Opportunity	20.9	0.00	0.01	0.0	0.0	0.0	0.0	2	13	\$23.29	\$23.29	\$0.18	\$0.00	\$0.00	2.42	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Restaurant	Discretionary	46.3	0.00	0.02	0.0	0.0	0.0	0.0	3	13	\$43.06	\$43.06	\$0.21	\$0.00	\$0.00	2.44	1.00	0.260	0.623	0.405	0.405	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Restaurant	Lost Opportunity	46.3	0.00	0.02	0.0	0.0	0.0	0.0	3	13	\$43.06	\$43.06	\$0.18	\$0.00	\$0.00	2.44	1.00	0.017	0.054	0.035	0.035	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Restaurant	Discretionary	1,016.3	0.00	0.41	0.0	0.0	0.0	0.0	42	14	\$156.26	\$156.26	\$0.21	\$0.00	\$0.00	14.75	1.00	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Restaurant	Lost Opportunity	1,016.3	0.00	0.41	0.0	0.0	0.0	0.0	42	14	\$156.26	\$156.26	\$0.18	\$0.00	\$0.00	14.75	1.00	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Restaurant	Discretionary	1,600.4	0.00	0.64	0.0	0.0	0.0	0.0	121	14	\$63.82	\$63.82	\$0.21	\$0.00	\$0.00	67.69	1.00	50.690	121.613	79.083	79.083	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Restaurant	Lost Opportunity	1,600.4	0.00	0.64	0.0	0.0	0.0	0.0	121	14	\$63.82	\$63.82	\$0.18	\$0.00	\$0.00	67.69	1.00	3.350	10.578	6.879	6.879	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Restaurant	Discretionary	110.9	0.00	0.04	0.0	0.0	0.0	0.0	8	9	\$26.04	\$26.04	\$0.21	\$0.00	\$0.00	7.55	1.00	4.683	11.234	7.305	7.305	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Restaurant	Lost Opportunity	110.9	0.00	0.04	0.0	0.0	0.0	0.0	8	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.309	0.000	0.000	0.000	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Restaurant	Discretionary	78.3	0.00	0.03	0.0	0.0	0.0	0.0	6	9	\$26.04	\$26.04	\$0.21	\$0.00	\$0.00	5.33	1.00	0.000	0.000	0.000	0.000	1.0 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Restaurant	Lost Opportunity	78.3	0.00	0.03	0.0	0.0	0.0	0.0	6	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	1.0 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Restaurant	Discretionary	45.7	0.00	0.02	0.0	0.0	0.0	0.0	3	9	\$26.04	\$26.04	\$0.21	\$0.00	\$0.00	3.11	1.00	0.000	0.000	0.000	0.000	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Restaurant	Lost Opportunity	45.7	0.00	0.02	0.0	0.0	0.0	0.0	3	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Restaurant	Discretionary	19.6	0.00	0.01	0.0	0.0	0.0	0.0	1	9	\$26.04	\$26.04	\$0.21	\$0.00	\$0.00	1.28	1.00	0.310	0.743	0.483	0.483	2.2 GPM (Federal Code)	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Restaurant	Discretionary	801.1	0.00	0.32	0.0	0.0	0.0	0.0	153	5	\$152.00	\$152.00	\$0.21	\$0.00	\$0.00	8.41	1.00	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Restaurant	Lost Opportunity	801.1	0.00	0.32	0.0	0.0	0.0	0.0	153	5	\$152.00	\$152.00	\$0.18	\$0.00	\$0.00	8.41	1.00	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Restaurant	Discretionary	1,326.9	0.00	0.53	0.0	0.0	0.0	0.0	254	5	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	48.341	0.000	0.000	0.000	0.75 GPM	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Restaurant	Lost Opportunity	1,326.9	0.00	0.53	0.0	0.0	0.0	0.0	254	5	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	3.011	0.000	0.000	0.000	0.75 GPM	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Restaurant	Discretionary	2,128.1	0.00	0.86	0.0	0.0	0.0	0.0	407	5	\$152.00	\$152.00	\$0.21	\$0.00	\$0.00	22.34	1.00	0.000	0.000	0.000	0.000	0.75 GPM	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Restaurant	Lost Opportunity	2,128.1	0.00	0.86	0.0	0.0	0.0	0.0	407	5	\$152.00	\$152.00	\$0.18	\$0.00	\$0.00	22.34	1.00	1.208	3.814	2.480	2.480	0.75 GPM	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Restaurant	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$6.03	\$6.03	\$0.21	\$1.58	\$0.00	0.05	1.00	0.000	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and ready for winter)	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Restaurant	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$6.03	\$6.03	\$0.18	\$1.58	\$0.00	0.05	1.00	0.000	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and ready for winter)	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Restaurant	Discretionary	71.7	0.00	0.03	0.0	0.0	0.0	0.0	0	20	\$456.64	\$456.64	\$0.21	\$0.00	\$0.00	0.39	1.00	2.878	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Restaurant	Lost Opportunity	71.7	0.00	0.03	0.0	0.0	0.0	0.0	0	20	\$456.64	\$456.64	\$0.18	\$0.00	\$0.00	0.39	1.00	0.190	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Restaurant	Discretionary	359.3	0.00	0.14	0.0	0.0	0.0	0.0	0	10	\$1,642.94	\$1,642.94	\$0.21	\$0.00	\$0.00	0.28	1.00	8.346	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End Use	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Restaurant	Lost Opportunity	359.3	0.00	0.14	0.0	0.0	0.0	0.0	0	10	\$1,642.94	\$1,642.94	\$0.18	\$0.00	\$0.00	0.28	1.00	0.552	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End Use	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Restaurant	Lost Opportunity	0.9	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$2.86	\$2.86	\$0.21	\$0.03	\$0.00	0.38	1.00	124.791	0.000	0.000	0.000	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Restaurant	Lost Opportunity	0.9	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$2.86	\$2.86	\$0.18	\$0.03	\$0.00	0.38	1.00	6.058	0.000	0.000	0.000	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Restaurant	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$1.84	\$1.84	\$0.21	\$0.03	\$0.00	0.44	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Restaurant	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$1.84	\$1.84	\$0.18	\$0.03	\$0.00	0.44	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Restaurant	Lost Opportunity	0.8	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$2.04	\$2.04	\$0.21	\$0.03	\$0.00	0.43	1.00	0.000	0.000	0.000	0.000	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Restaurant	Lost Opportunity	0.8	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$2.04	\$2.04	\$0.18	\$0.03	\$0.00	0.43	1.00	0.000	0.000	0.000	0.000	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Restaurant	Lost Opportunity	0.9	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$2.65	\$2.65	\$0.21	\$0.03	\$0.00	0.40	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Restaurant	Lost Opportunity	0.9	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$2.65	\$2.65	\$0.18	\$0.03	\$0.00	0.40	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Restaurant	Discretionary	503.1	0.00	0.20	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	21318.73	1.00	20.183	48.421	31.487	31.487	Set Water Heater to 120F	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Restaurant	Lost Opportunity	503.1	0.00	0.20	0.0	0.0	0.0	0.0	0	4	\$0												

Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Cooking	Griddle	School K-12	Lost Opportunity	30.4	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$13.69	\$13.69	\$0.18	\$0.00	\$0.00	4.22	0.94	0.016	0.016	0.012	0.012	ENERGY STAR Griddle
Cooking	Hot Food Holding Cabinet	School K-12	Discretionary	27.5	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$14.35	\$14.35	\$0.21	\$0.00	\$0.00	3.65	0.94	0.353	0.353	0.267	0.267	ENERGY STAR Hot Food Holding Cabinet
Cooking	Hot Food Holding Cabinet	School K-12	Lost Opportunity	27.5	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$14.35	\$14.35	\$0.18	\$0.00	\$0.00	3.65	0.94	0.031	0.031	0.023	0.023	ENERGY STAR Hot Food Holding Cabinet
Cooking	Microwave - High Efficiency	School K-12	Discretionary	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	11	\$0.08	\$0.08	\$0.21	\$0.00	\$0.00	3.38	0.94	0.002	0.002	0.002	0.002	High Efficiency Microwave
Cooking	Microwave - High Efficiency	School K-12	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	11	\$0.08	\$0.08	\$0.18	\$0.00	\$0.00	3.38	0.94	0.000	0.000	0.000	0.000	High Efficiency Microwave
Cooking	Steam Cooker	School K-12	Discretionary	79.3	0.01	0.01	0.0	0.0	0.0	0.0	2,224	12	\$27.05	\$27.05	\$0.21	\$0.00	\$0.00	914.90	0.94	0.896	0.896	0.679	0.679	ENERGY STAR Steam Cooker
Cooking	Steam Cooker	School K-12	Lost Opportunity	79.3	0.01	0.01	0.0	0.0	0.0	0.0	2,224	12	\$27.05	\$27.05	\$0.18	\$0.00	\$0.00	914.90	0.94	0.078	0.078	0.059	0.059	ENERGY STAR Steam Cooker
Cooling Chillers	Active Chilled Beam Cooling with DOAS	School K-12	Lost Opportunity	1,741.6	0.60	0.00	0.0	0.0	0.0	0.0	0	15	-\$33,951.00	\$0.00	\$0.18	\$25,463.25	\$0.00	0.02	0.99	2.255	0.000	0.000	0.000	Active Chilled Beam Cooling with DOAS
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	School K-12	Discretionary	905.6	0.31	0.00	13.4	11.4	0.0	0.0	0	15	\$8,487.75	\$8,487.75	\$0.21	\$0.00	\$0.00	0.44	0.99	10.859	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	School K-12	Discretionary	1,611.0	0.55	0.00	0.0	0.0	0.0	0.0	0	15	\$39,383.16	\$39,383.16	\$0.21	\$0.00	\$0.00	0.14	0.99	19.518	0.000	0.000	0.000	Additional Control Features
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	School K-12	Lost Opportunity	1,611.0	0.55	0.00	0.0	0.0	0.0	0.0	0	15	\$39,383.16	\$39,383.16	\$0.18	\$0.00	\$0.00	0.14	0.99	1.097	0.000	0.000	0.000	Additional Control Features
Cooling Chillers	Chilled Water Piping Loop with VSD Control	School K-12	Discretionary	1,378.5	0.47	0.00	0.0	0.0	0.0	0.0	0	10	\$35,600.77	\$35,600.77	\$0.21	\$0.00	\$0.00	0.09	0.99	10.650	0.000	0.000	0.000	VSD for Secondary Chilled Water Loop
Cooling Chillers	Chilled Water Piping Loop with VSD Control	School K-12	Lost Opportunity	1,378.5	0.47	0.00	0.0	0.0	0.0	0.0	0	10	\$32,040.69	\$32,040.69	\$0.18	\$0.00	\$0.00	0.10	0.99	1.352	0.000	0.000	0.000	VSD for Secondary Chilled Water Loop
Cooling Chillers	Chilled Water Reset	School K-12	Discretionary	435.4	0.15	0.00	0.0	0.0	0.0	0.0	0	10	\$23,132.17	\$23,132.17	\$0.21	\$0.00	\$0.00	0.04	0.99	9.430	0.000	0.000	0.000	Chilled Water Temperature Reset
Cooling Chillers	Chilled Water Reset	School K-12	Lost Opportunity	435.4	0.15	0.00	0.0	0.0	0.0	0.0	0	10	\$23,132.17	\$23,132.17	\$0.18	\$0.00	\$0.00	0.04	0.99	0.000	0.000	0.000	0.000	Chilled Water Temperature Reset
Cooling Chillers	Chilled Water Side Economizer	School K-12	Discretionary	2,437.6	0.83	0.00	0.0	0.0	0.0	0.0	0	15	\$235,807.47	\$235,807.47	\$0.21	\$0.00	\$0.00	0.04	0.99	32.154	0.000	0.000	0.000	Install Economizer
Cooling Chillers	Chiller - Pipe Insulation - Above Code	School K-12	Discretionary	605.5	0.21	0.00	0.0	0.0	0.0	0.0	0	15	\$1,088.46	\$1,088.46	\$0.21	\$0.00	\$0.00	1.95	0.99	25.773	30.784	24.551	24.551	2.0" of Insulation, assuming R-8
Cooling Chillers	Chiller - Pipe Insulation - Above Code	School K-12	Lost Opportunity	605.5	0.21	0.00	0.0	0.0	0.0	0.0	0	15	\$1,088.46	\$1,088.46	\$0.18	\$0.00	\$0.00	1.95	0.99	2.531	3.212	2.562	2.562	2.0" of Insulation, assuming R-8
Cooling Chillers	Chiller - Pipe Insulation - Code	School K-12	Discretionary	1,011.0	0.35	0.00	0.0	0.0	0.0	0.0	0	15	\$2,334.13	\$2,334.13	\$0.21	\$0.00	\$0.00	1.52	0.99	49.216	58.784	46.882	46.882	1.0" of Insulation, assuming R-4 (Code)
Cooling Chillers	Chillers 150-300 tons (screw) - Advanced Efficiency (Water Cooled)	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.31	\$0.31	\$0.21	\$0.00	\$0.00	0.78	0.99	66.279	0.000	0.000	0.000	Advanced Efficiency - 0.52 kW/ton (full load); 0.43 kW/ton (IPLV)
Cooling Chillers	Chillers 150-300 tons (screw) - Advanced Efficiency (Water Cooled)	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.28	\$0.28	\$0.18	\$0.00	\$0.00	0.86	0.99	7.827	0.000	0.000	0.000	Advanced Efficiency - 0.52 kW/ton (full load); 0.43 kW/ton (IPLV)
Cooling Chillers	Chillers 150-300 tons (screw) - High Efficiency (Water Cooled)	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.07	\$0.07	\$0.21	\$0.00	\$0.00	0.78	0.99	0.000	0.000	0.000	0.000	High Efficiency - 0.63 kW/ton (full load); 0.52 kW/ton (IPLV)
Cooling Chillers	Chillers 150-300 tons (screw) - High Efficiency (Water Cooled)	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.06	\$0.06	\$0.18	\$0.00	\$0.00	0.86	0.99	0.000	0.000	0.000	0.000	High Efficiency - 0.63 kW/ton (full load); 0.52 kW/ton (IPLV)
Cooling Chillers	Chillers 150-300 tons (screw) - Premium Efficiency (Water Cooled)	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.18	\$0.18	\$0.21	\$0.00	\$0.00	0.78	0.99	0.000	0.000	0.000	0.000	Premium Efficiency - 0.58 kW/ton (full load); 0.47 kW/ton (IPLV)
Cooling Chillers	Chillers 150-300 tons (screw) - Premium Efficiency (Water Cooled)	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.16	\$0.16	\$0.18	\$0.00	\$0.00	0.86	0.99	0.000	0.000	0.000	0.000	Premium Efficiency - 0.58 kW/ton (full load); 0.47 kW/ton (IPLV)
Cooling Chillers	Commissioning	School K-12	Lost Opportunity	1,132.0	0.39	0.00	19.8	14.6	0.0	0.0	0	5	\$39,383.16	\$39,383.16	\$0.18	\$0.00	\$0.00	0.04	0.99	4.236	0.000	0.000	0.000	Commissioning
Cooling Chillers	Convert Constant Volume Air System to VAV	School K-12	Discretionary	2,287.5	0.78	0.00	40.1	34.1	0.0	0.0	0	15	\$123,795.05	\$123,795.05	\$0.21	\$0.00	\$0.00	0.08	0.99	7.519	0.000	0.000	0.000	Variable Volume Air System
Cooling Chillers	Direct Digital Control System-Installation	School K-12	Discretionary	1,306.2	0.45	0.00	22.9	16.8	0.0	0.0	0	5	\$10,609.69	\$10,609.69	\$0.21	\$0.00	\$0.00	0.16	0.99	34.779	0.000	0.000	0.000	Installation of EMS System
Cooling Chillers	Direct Digital Control System-Installation	School K-12	Lost Opportunity	1,306.2	0.45	0.00	22.9	16.8	0.0	0.0	0	5	\$10,609.69	\$10,609.69	\$0.18	\$0.00	\$0.00	0.16	0.99	0.352	0.000	0.000	0.000	Installation of EMS System
Cooling Chillers	Exhaust Hood Makeup Air	School K-12	Discretionary	391.9	0.13	0.00	0.0	0.0	0.0	0.0	0	12	\$49.33	\$49.33	\$0.21	\$0.00	\$0.00	21.89	0.99	5.457	6.518	5.198	5.198	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air
Cooling Chillers	Green Roof	School K-12	Discretionary	46.3	0.02	0.00	0.0	0.0	0.0	0.0	0	40	\$309,079.49	\$309,079.49	\$0.21	\$3,090.79	\$0.00	0.00	0.99	0.887	0.000	0.000	0.000	Vegetation on Roof
Cooling Chillers	Green Roof	School K-12	Lost Opportunity	38.2	0.01	0.00	0.0	0.0	0.0	0.0	0	40	\$309,079.49	\$309,079.49	\$0.18	\$3,090.79	\$0.00	0.00	0.99	0.091	0.000	0.000	0.000	Vegetation on Roof
Cooling Chillers	Indirect Information Feedback	School K-12	Discretionary	45.3	0.02	0.00	0.8	0.6	0.0	0.0	0	2	\$150.76	\$150.76	\$0.21	\$0.00	\$0.00	0.15	0.99	1.259	0.000	0.000	0.000	Indirect Information Feedback
Cooling Chillers	Indirect Information Feedback	School K-12	Lost Opportunity	45.3	0.02	0.00	0.8	0.6	0.0	0.0	0	2	\$150.76	\$150.76	\$0.18	\$0.00	\$0.00	0.15	0.99	0.142	0.000	0.000	0.000	Indirect Information Feedback
Cooling Chillers	Infiltration Reduction	School K-12	Discretionary	261.2	0.09	0.00	15.3	12.1	0.0	0.0	0	10	\$1,155.00	\$1,155.00	\$0.21	\$0.00	\$0.00	0.88	0.99	0.411	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	School K-12	Discretionary	490.4	0.17	0.00	8.6	8.8	0.0	0.0	0	30	\$3,477.14	\$3,477.14	\$0.21	\$0.00	\$0.00	1.23	0.99	6.793	8.114	6.471	6.471	R-35 c.i.
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	School K-12	Lost Opportunity	490.4	0.17	0.00	8.6	8.8	0.0	0.0	0	30	\$3,477.14	\$3,477.14	\$0.18	\$0.00	\$0.00	1.23	0.99	0.272	0.346	0.276	0.276	R-35 c.i.
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Code	School K-12	Discretionary	1,290.9	0.44	0.00	29.5	30.3	0.0	0.0	0	30	\$15,866.08	\$15,866.08	\$0.21	\$0.00	\$0.00	0.75	0.99	11.460	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	School K-12	Discretionary	722.7	0.25	0.00	12.7	13.0	0.0	0.0	0	30	\$6,181.59	\$6,181.59	\$0.21	\$0.00	\$0.00	1.02	0.99	3.344	3.994	3.186	3.186	R-38
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	School K-12	Lost Opportunity	722.7	0.25	0.00	12.7	13.0	0.0	0.0	0	30	\$6,181.59	\$6,181.59	\$0.18	\$0.00	\$0.00	1.02	0.99	0.553	0.702	0.560	0.560	R-38
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Code	School K-12	Discretionary	1,258.7	0.43	0.00	22.1	22.7	0.0	0.0	0	30	\$17,720.56	\$17,720.56	\$0.21	\$0.00	\$0.00	0.62	0.99	5.632	0.000	0.000	0.000	R-30 (CBES 2015 Code)
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	School K-12	Discretionary	446.4	0.15	0.00	7.8	8.1	0.0	0.0	0	30	\$2,718.66	\$2,718.66	\$0.21	\$0.00	\$0.00	1.43	0.99	3.440	4.109	3.277	3.277	R-13 + 15.6 c.i.
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	School K-12	Lost Opportunity	446.4	0.15	0.00	7.8	8.1	0.0	0.0	0	30	\$2,718.66	\$2,718.66	\$0.18	\$0.00	\$0.00	1.43	0.99	0.841	1.067	0.851	0.851	R-13 + 15.6 c.i.
Cooling Chillers	Insulation - Wall - CBES 2015 - Code	School K-12	Discretionary	415.4	0.14	0.00	8.6	8.8	0.0	0.0	0	30	\$18,655.59	\$18,655.59	\$0.21	\$0.00	\$0.00	0.20	0.99	2.056	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)
Cooling Chillers	Natural Ventilation	School K-12	Lost Opportunity	870.8	0.30	0.00	0.0	0.0	0.0	0.0	0	15	\$33,951.00	\$33,951.00	\$0.18	\$0.00	\$0.00	0.09	0.99	0.130	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling
Cooling Chillers	Programmable Thermostat	School K-12	Discretionary	348.3	0.12	0.00	6.1	4.9	0.0	0.0	0	11	\$42.47	\$42.47	\$0.21	\$0.00	\$0.00	24.95	0.99	13.954	16.667	13.293	13.293	Programmable Thermostat
Cooling Chillers	Re-Commissioning	School K-12	Discretionary	1,132.0	0.39	0.00	19.8	14.6	0.0	0.0	0	5	\$10,185.30	\$10,185.30	\$0.21	\$0.00	\$0.00	0.15	0.99	46.631	0.000	0.000	0.000	Re-Commissioning
Cooling Chillers	Retrocommissioning	School K-12	Discretionary	1,291.7	0.44	0.00	22.6	16.6	0.0	0.0	0	5	\$16,975.50	\$16,975.50	\$0.21	\$0.00	\$0.00	0.10	0.99	26.915	0.000	0.000	0.000	Retrocommissioning
Cooling Chillers	Strategic Energy Management (SEM)	School K-12	Discretionary	357.0	0.12	0.00	6.3	4.6	0.0	0.0	0	5	\$48.11	\$48.11	\$0.21	\$0.00</								

Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Cooling Dx Evap	Infiltration Reduction	School K-12	Discretionary	361.4	0.12	0.00	129.3	1399.3	22.8	0.0	0	10	\$1,155.00	\$1,155.00	\$0.21	\$0.00	\$0.00	14.62	0.99	1.147	1.484	1.184	1.184	Install Caulking And Weatherstripping (ACH 0.65)
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	School K-12	Discretionary	678.5	0.23	0.00	72.8	1022.6	15.9	0.0	0	30	\$3,477.14	\$3,477.14	\$0.21	\$0.00	\$0.00	9.13	0.99	18.238	23.602	18.824	18.824	R-35 c.i.
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	School K-12	Lost Opportunity	678.5	0.23	0.00	80.9	1136.2	17.6	0.0	0	30	\$3,477.14	\$3,477.14	\$0.18	\$0.00	\$0.00	9.99	0.99	0.797	1.053	0.840	0.840	R-35 c.i.
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Code	School K-12	Discretionary	1,785.9	0.61	0.00	249.5	3503.6	54.4	0.0	0	30	\$15,866.08	\$15,866.08	\$0.21	\$0.00	\$0.00	6.61	0.99	30.796	39.855	31.785	31.785	R-30 c.i. (CBES 2015 Code)
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	School K-12	Discretionary	433.7	0.15	0.00	6.0	276.8	9.2	0.0	0	20	\$460.46	\$460.46	\$0.21	\$0.00	\$0.00	15.29	0.99	29.929	38.732	30.890	30.890	R-12
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	School K-12	Lost Opportunity	433.7	0.15	0.00	6.7	307.6	10.2	0.0	0	20	\$460.46	\$460.46	\$0.18	\$0.00	\$0.00	16.48	0.99	3.321	4.385	3.497	3.497	R-12
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	School K-12	Discretionary	433.7	0.15	0.00	6.0	276.8	9.2	0.0	0	20	\$1,854.57	\$1,854.57	\$0.21	\$0.00	\$0.00	3.80	0.99	22.967	29.723	23.705	23.705	R-8 (CBES 2015 Code)
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	School K-12	Discretionary	999.8	0.34	0.00	107.3	1507.0	23.4	0.0	0	30	\$6,181.59	\$6,181.59	\$0.21	\$0.00	\$0.00	7.57	0.99	8.978	11.619	9.267	9.267	R-38
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	School K-12	Lost Opportunity	999.8	0.34	0.00	119.2	1674.4	26.0	0.0	0	30	\$6,181.59	\$6,181.59	\$0.18	\$0.00	\$0.00	8.28	0.99	1.621	2.140	1.707	1.707	R-38
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	School K-12	Discretionary	1,741.4	0.60	0.00	186.9	2624.7	40.7	0.0	0	30	\$17,720.56	\$17,720.56	\$0.21	\$0.00	\$0.00	4.60	0.99	15.134	19.586	15.620	15.620	R-30 (CBES 2015 Code)
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	School K-12	Discretionary	617.6	0.21	0.00	66.3	930.8	14.4	0.0	0	30	\$2,718.66	\$2,718.66	\$0.21	\$0.00	\$0.00	10.63	0.99	9.237	11.954	9.534	9.534	R-13 + 15.6 c.i.
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	School K-12	Lost Opportunity	617.6	0.21	0.00	73.6	1034.3	16.0	0.0	0	30	\$2,718.66	\$2,718.66	\$0.18	\$0.00	\$0.00	11.63	0.99	2.462	3.250	2.592	2.592	R-13 + 15.6 c.i.
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Code	School K-12	Discretionary	574.7	0.20	0.00	72.8	1022.1	15.9	0.0	0	30	\$18,655.59	\$18,655.59	\$0.21	\$0.00	\$0.00	1.66	0.99	5.394	6.980	5.567	5.567	R-13 + 7.5 c.i. (CBES 2015 Code)
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	School K-12	Discretionary	969.4	0.33	0.00	0.0	0.0	0.0	0.0	0	15	\$159,879.03	\$159,879.03	\$0.21	\$0.00	\$0.00	0.02	0.99	1.904	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	School K-12	Lost Opportunity	969.4	0.33	0.00	0.0	0.0	0.0	0.0	0	15	\$127,903.22	\$127,903.22	\$0.18	\$0.00	\$0.00	0.03	0.99	0.120	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)
Cooling Dx Evap	Natural Ventilation	School K-12	Lost Opportunity	1,204.7	0.41	0.00	0.0	0.0	0.0	0.0	0	15	\$33,951.00	\$33,951.00	\$0.18	\$0.00	\$0.00	0.12	0.99	0.124	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling
Cooling Dx Evap	Programmable Thermostat	School K-12	Discretionary	481.9	0.16	0.00	51.7	567.7	9.2	0.0	0	11	\$42.47	\$42.47	\$0.21	\$0.00	\$0.00	195.00	0.99	33.180	42.940	34.246	34.246	Programmable Thermostat
Cooling Dx Evap	Re-Commissioning	School K-12	Discretionary	1,566.1	0.54	0.00	168.1	1685.8	27.9	0.0	0	5	\$10,185.30	\$10,185.30	\$0.21	\$0.00	\$0.00	1.18	0.99	122.303	158.278	126.231	126.231	Re-Commissioning
Cooling Dx Evap	Retrocommissioning	School K-12	Discretionary	1,787.0	0.61	0.00	191.8	1923.5	31.9	0.0	0	5	\$16,975.50	\$16,975.50	\$0.21	\$0.00	\$0.00	0.81	0.99	75.035	0.000	0.000	0.000	Retrocommissioning
Cooling Dx Evap	Strategic Energy Management (SEM)	School K-12	Discretionary	493.9	0.17	0.00	53.0	531.7	8.8	0.0	0	5	\$66.56	\$66.56	\$0.21	\$0.00	\$0.00	57.13	0.99	5.128	6.636	5.293	5.293	Identify Operations and Maintenance Improvements through Strategic Energy Man
Cooling Dx Evap	Strategic Energy Management (SEM)	School K-12	Lost Opportunity	493.9	0.17	0.00	58.9	590.7	9.8	0.0	0	5	\$66.56	\$66.56	\$0.18	\$0.00	\$0.00	62.58	0.99	3.158	4.170	3.325	3.325	Identify Operations and Maintenance Improvements through Strategic Energy Man
Cooling Dx Evap	Tune-up - DX Maintenance	School K-12	Discretionary	1,731.8	0.59	0.00	0.0	0.0	0.0	0.0	0	5	\$54,321.60	\$54,321.60	\$0.21	\$0.00	\$0.00	0.03	0.99	37.580	0.000	0.000	0.000	DX Tune-up / Diagnostics
Cooling Dx Evap	Wi-Fi Thermostat	School K-12	Discretionary	481.9	0.16	0.00	51.7	567.7	9.2	0.0	0	11	\$338.33	\$338.33	\$0.21	\$0.00	\$0.00	24.48	0.99	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)
Cooling Dx Evap	Windows - CBES 2015 - Above Code	School K-12	Discretionary	71.6	0.02	0.00	7.7	95.1	1.5	0.0	0	20	\$6,830.09	\$6,830.09	\$0.21	\$0.00	\$0.00	0.33	0.99	1.140	0.000	0.000	0.000	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Above Code	School K-12	Lost Opportunity	71.6	0.02	0.00	8.5	105.6	1.7	0.0	0	20	\$6,830.09	\$6,830.09	\$0.18	\$0.00	\$0.00	0.36	0.99	0.548	0.000	0.000	0.000	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Code	School K-12	Discretionary	163.4	0.06	0.00	18.0	223.0	3.5	0.0	0	20	\$45,103.35	\$45,103.35	\$0.21	\$0.00	\$0.00	0.12	0.99	1.761	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtu/h - Premium Efficiency	School K-12	Discretionary	6,043.7	2.07	0.00	0.0	0.0	0.0	0.0	0	15	\$185,230.49	\$185,230.49	\$0.21	\$0.00	\$0.00	0.11	0.99	155.524	0.000	0.000	0.000	Premium Efficiency - 19.0 IEER
Fax	Fax - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	8.732	0.000	0.000	0.000	ENERGY STAR Fax
Fax	Fax - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.871	0.000	0.000	0.000	ENERGY STAR Fax
Flat Screen Monitors	Monitor - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.04	\$0.04	\$0.21	\$0.00	\$0.00	0.50	1.00	214.553	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.04	\$0.04	\$0.18	\$0.00	\$0.00	0.50	1.00	20.265	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor
Freezers	Freezer (Residential) - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	13.03	1.00	1.895	1.895	1.232	1.232	ENERGY STAR Freezer
Freezers	Freezer (Residential) - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	13.03	1.00	0.256	0.167	0.167	0.167	ENERGY STAR Freezer
Freezers	Residential Freezer Recycling and Replacement	School K-12	Discretionary	43.1	0.00	0.00	0.0	0.0	0.0	0.0	0	8	\$17.27	\$17.27	\$0.21	\$0.00	\$0.00	3.13	1.00	11.980	11.980	7.791	7.791	Recycling Existing Freezer and Replacing with a Federal Standard Unit
Heat Pump	Active Chilled Beam Cooling with DOAS	School K-12	Lost Opportunity	2,736.6	0.91	0.70	0.0	0.0	0.0	0.0	0	15	-\$33,951.00	\$0.00	\$0.18	\$25,463.25	\$0.00	0.04	0.99	0.822	0.000	0.000	0.000	Active Chilled Beam Cooling with DOAS
Heat Pump	Air Source Heat Pump 135 to 240 kBtu/h - Federal Standard 2023	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.18	\$0.18	\$0.21	\$0.00	\$0.00	0.30	0.99	0.000	0.000	0.000	0.000	Federal Standard 2023 - 13.5 IEER, 3.3 COP
Heat Pump	Air Source Heat Pump 135 to 240 kBtu/h - Federal Standard 2023	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.15	\$0.15	\$0.18	\$0.00	\$0.00	0.37	0.99	0.000	0.000	0.000	0.000	Federal Standard 2023 - 13.5 IEER, 3.3 COP
Heat Pump	Air Source Heat Pump 135 to 240 kBtu/h - Premium Efficiency	School K-12	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.66	\$0.66	\$0.21	\$0.00	\$0.00	0.28	0.99	14.888	0.000	0.000	0.000	Premium Efficiency - 18.5 IEER, 3.6 COP
Heat Pump	Air Source Heat Pump 135 to 240 kBtu/h - Premium Efficiency	School K-12	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.53	\$0.53	\$0.18	\$0.00	\$0.00	0.35	0.99	1.196	0.000	0.000	0.000	Premium Efficiency - 18.5 IEER, 3.6 COP
Heat Pump	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	School K-12	Discretionary	1,236.9	0.41	0.32	0.0	0.0	0.0	0.0	0	15	\$8,487.75	\$8,487.75	\$0.21	\$0.00	\$0.00	0.51	0.99	5.053	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)
Heat Pump	Commissioning	School K-12	Lost Opportunity	1,778.8	0.59	0.46	0.0	0.0	0.0	0.0	0	5	\$39,383.16	\$39,383.16	\$0.18	\$0.00	\$0.00	0.05	0.99	1.543	0.000	0.000	0.000	Commissioning
Heat Pump	Convert Constant Volume Air System to VAV	School K-12	Discretionary	3,594.4	1.19	0.92	0.0	0.0	0.0	0.0	0	15	\$123,795.05	\$123,795.05	\$0.21	\$0.00	\$0.00	0.10	0.99	3.673	0.000	0.000	0.000	Variable Volume Air System
Heat Pump	Direct Digital Control System-Installation	School K-12	Discretionary	2,052.4	0.68	0.53	0.0	0.0	0.0	0.0	0	5	\$10,609.69	\$10,609.69	\$0.21	\$0.00	\$0.00	0.21	0.99	15.383	0.000	0.000	0.000	Installation of EMS System
Heat Pump	Direct Digital Control System-Installation	School K-12	Lost Opportunity	2,052.4	0.68	0.53	0.0	0.0	0.0	0.0	0	5	\$10,609.69	\$10,609.69	\$0.18	\$0.00	\$0.00	0.21	0.99	0.120	0.000	0.000	0.000	Installation of EMS System
Heat Pump	Duct Repair and Sealing	School K-12	Discretionary	1,189.8	0.39	0.31	0.0	0.0	0.0	0.0	0	18	\$8,148.24	\$8,148.24	\$0.21	\$0.00	\$0.00	0.62	0.99	8.725	0.000	0.000	0.000	Reduction In Duct Losses to 5 %
Heat Pump	Exhaust Air to Ventilation Air Heat Recovery	School K-12	Discretionary	2,052.4	0.68	0.53	0.0	0.0	0.0	0.0	0	14	\$99,475.28	\$99,475.28	\$0.21	\$0.00	\$0.00	0.07	0.99	1.621	0.000	0.000	0.000	Exhaust Air to Ventilation Air Heat Recovery
Heat Pump	Exhaust Hood Makeup Air	School K-12	Discretionary																					



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Heat Pump	Wi-Fi Thermostat	School K-12	Discretionary	547.3	0.18	0.14	0.0	0.0	0.0	0.0	0	11	\$338.33	\$338.33	\$0.21	\$0.00	\$0.00	4.07	0.99	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)	
Heat Pump	Windows - CBES 2015 - Above Code	School K-12	Discretionary	81.3	0.03	0.02	0.0	0.0	0.0	0.0	0	20	\$6,830.09	\$6,830.09	\$0.21	\$0.00	\$0.00	0.06	0.99	0.190	0.000	0.000	0.000	U-0.29	
Heat Pump	Windows - CBES 2015 - Above Code	School K-12	Lost Opportunity	81.3	0.03	0.02	0.0	0.0	0.0	0.0	0	20	\$6,830.09	\$6,830.09	\$0.18	\$0.00	\$0.00	0.06	0.99	0.063	0.000	0.000	0.000	U-0.29	
Heat Pump	Windows - CBES 2015 - Code	School K-12	Discretionary	185.6	0.06	0.05	0.0	0.0	0.0	0.0	0	20	\$45,103.35	\$45,103.35	\$0.21	\$0.00	\$0.00	0.02	0.99	0.429	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	School K-12	Discretionary	698.3	0.01	0.15	0.0	0.0	0.0	0.0	0	8	\$632.42	\$632.42	\$0.21	\$0.00	\$0.00	1.09	0.99	103.570	103.570	90.355	90.355	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time	
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	School K-12	Discretionary	651.7	0.01	0.14	0.0	0.0	0.0	0.0	0	8	\$132.06	\$132.06	\$0.21	\$0.00	\$0.00	4.86	0.99	135.332	135.332	118.064	118.064	Photocell	
Lighting Exterior	LED Exterior Flood Lights	School K-12	Discretionary	226.1	0.00	0.05	0.0	0.0	0.0	0.0	0	20	\$149.14	\$149.14	\$0.21	\$0.00	\$0.00	3.73	0.99	76.467	76.467	66.710	66.710	LED Exterior Flood Lights	
Lighting Exterior	LED Exterior Flood Lights	School K-12	Lost Opportunity	226.1	0.00	0.05	0.0	0.0	0.0	0.0	0	20	\$149.14	\$149.14	\$0.18	\$0.00	\$0.00	3.73	0.99	6.644	6.644	5.797	5.797	LED Exterior Flood Lights	
Lighting Exterior	LED Exterior Pole Mount Fixture	School K-12	Discretionary	128.8	0.00	0.03	0.0	0.0	0.0	0.0	0	15	\$252.66	\$252.66	\$0.21	\$0.00	\$0.00	0.94	0.99	43.575	0.000	0.000	0.000	LED Exterior Pole Mount Fixture	
Lighting Exterior	LED Exterior Pole Mount Fixture	School K-12	Lost Opportunity	128.8	0.00	0.03	0.0	0.0	0.0	0.0	0	15	\$252.66	\$252.66	\$0.18	\$0.00	\$0.00	0.94	0.99	3.786	0.000	0.000	0.000	LED Exterior Pole Mount Fixture	
Lighting Exterior	LED Exterior Wall Pack	School K-12	Discretionary	427.2	0.00	0.09	0.0	0.0	0.0	0.0	0	20	\$886.46	\$886.46	\$0.21	\$0.00	\$0.00	1.19	0.99	136.440	136.440	119.031	119.031	LED Exterior Wall Pack	
Lighting Exterior	LED Exterior Wall Pack	School K-12	Lost Opportunity	427.2	0.00	0.09	0.0	0.0	0.0	0.0	0	20	\$886.46	\$886.46	\$0.18	\$0.00	\$0.00	1.19	0.99	11.856	11.856	10.343	10.343	LED Exterior Wall Pack	
Lighting Exterior	LED Pathway Lights	School K-12	Discretionary	106.4	0.00	0.02	0.0	0.0	0.0	0.0	0	11	\$25.18	\$25.18	\$0.21	\$0.00	\$0.00	5.73	0.99	35.985	35.985	31.394	31.394	LED Pathway Lights	
Lighting Exterior	LED Pathway Lights	School K-12	Lost Opportunity	106.4	0.00	0.02	0.0	0.0	0.0	0.0	0	11	\$25.18	\$25.18	\$0.18	\$0.00	\$0.00	5.73	0.99	3.127	3.127	2.728	2.728	LED Pathway Lights	
Lighting Exterior	Occupancy Sensor Control	School K-12	Discretionary	558.6	0.01	0.12	0.0	0.0	0.0	0.0	0	10	\$1,050.29	\$1,050.29	\$0.21	\$0.00	\$0.00	0.66	0.99	82.856	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Exterior	Parking - Covered Lighting	School K-12	Discretionary	318.0	0.00	0.07	0.0	0.0	0.0	0.0	0	19	\$231.89	\$231.89	\$0.21	\$0.00	\$0.00	3.21	0.99	29.246	29.246	25.514	25.514	Covered Parking Lighting (LED)	
Lighting Exterior	Parking - Covered Lighting	School K-12	Lost Opportunity	318.0	0.00	0.07	0.0	0.0	0.0	0.0	0	19	\$231.89	\$231.89	\$0.18	\$0.00	\$0.00	3.21	0.99	2.541	2.541	2.217	2.217	Covered Parking Lighting (LED)	
Lighting Exterior	Parking - Surface Lighting	School K-12	Discretionary	171.8	0.00	0.04	0.0	0.0	0.0	0.0	0	10	\$88.27	\$88.27	\$0.21	\$0.00	\$0.00	2.40	0.99	6.796	6.796	5.929	5.929	Surface Parking Lighting (LED)	
Lighting Exterior	Parking - Surface Lighting	School K-12	Lost Opportunity	171.8	0.00	0.04	0.0	0.0	0.0	0.0	0	10	\$88.27	\$88.27	\$0.18	\$0.00	\$0.00	2.40	0.99	0.591	0.591	0.515	0.515	Surface Parking Lighting (LED)	
Lighting Exterior	Time Clock	School K-12	Discretionary	232.8	0.00	0.05	0.0	0.0	0.0	0.0	0	8	\$169.71	\$169.71	\$0.21	\$0.00	\$0.00	1.35	0.99	3.452	3.452	3.012	3.012	Time Clock	
Lighting Interior Fluorescent	Bi-Level Control, Stairwell Lighting	School K-12	Discretionary	169.8	0.03	0.02	0.0	0.0	0.0	0.0	0	8	\$395.07	\$395.07	\$0.21	\$0.00	\$0.00	0.63	0.99	14.885	0.000	0.000	0.000	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time	
Lighting Interior Fluorescent	Dimming-Stepped, Fluorescent Fixtures	School K-12	Discretionary	7,903.9	1.53	1.06	0.0	0.0	0.0	0.0	0	10	\$543.99	\$543.99	\$0.21	\$0.00	\$0.00	27.05	0.99	443.475	443.475	386.889	386.889	3-stepped Dimming of Fluorescent Fixtures (Day-Lighting)	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent - 2018 Federal Standard	School K-12	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.03	\$0.00	\$0.21	\$0.00	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	Standard Fluorescent 2018 Federal Standard Approved T-8	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 - Above Standard	School K-12	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.03	\$0.00	\$0.21	\$0.00	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 Interior Lighting	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 High Performance - Above Standard	School K-12	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.03	\$0.00	\$0.21	\$0.00	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 High Performance Interior Lighting	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 Reduced Wattage - Above Standard	School K-12	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.01	\$0.00	\$0.21	\$0.00	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 Reduced Wattage Interior Lighting	
Lighting Interior Fluorescent	Lighting Interior - TLED - Above Standard	School K-12	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.13	\$0.13	\$0.21	\$0.00	\$0.00	18.31	0.99	4101.744	4409.943	3847.255	3847.255	Above Standard TLED	
Lighting Interior Fluorescent	Occupancy Sensor Control	School K-12	Discretionary	6,774.8	1.31	0.91	0.0	0.0	0.0	0.0	0	10	\$12,738.05	\$12,738.05	\$0.21	\$0.00	\$0.00	0.99	0.99	593.939	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Interior Fluorescent	Time Clock	School K-12	Discretionary	2,822.8	0.55	0.38	0.0	0.0	0.0	0.0	0	8	\$169.71	\$169.71	\$0.21	\$0.00	\$0.00	24.56	0.99	24.747	24.747	21.590	21.590	Time Clock	
Lighting Interior HID	Lighting Interior - Efficient Metal Halide - Above Standard	School K-12	Lost Opportunity	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.31	\$0.31	\$0.21	\$0.00	\$0.00	4.61	0.99	0.000	0.000	0.000	0.000	Efficient Metal Halide	
Lighting Interior HID	Lighting Interior - Federal Standard 2017 Metal Halide - Above Standard	School K-12	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.37	\$0.37	\$0.21	\$0.01	\$0.00	0.73	0.99	0.000	0.000	0.000	0.000	Federal Standard 2017 Metal Halide	
Lighting Interior HID	Lighting Interior - High Bay Fluorescent High Output - Above Standard	School K-12	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.96	\$0.96	\$0.21	\$0.05	\$0.00	1.12	0.99	328.083	339.958	296.581	296.581	High Bay Fluorescent High Output (HO)	
Lighting Interior HID	Lighting Interior - High Bay Induction - Above Standard	School K-12	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.94	\$0.94	\$0.21	-\$0.06	\$0.00	4.21	0.99	0.000	0.000	0.000	0.000	High Bay Induction	
Lighting Interior HID	Lighting Interior - High Bay LED - Above Standard	School K-12	Lost Opportunity	0.8	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$1.11	\$1.11	\$0.21	\$0.01	\$0.00	2.01	0.99	3391.523	3685.382	3215.145	3215.145	High Bay LED	
Lighting Interior HID	Occupancy Sensor Control	School K-12	Discretionary	9,621.0	1.87	1.29	0.0	0.0	0.0	0.0	0	10	\$18,089.60	\$18,089.60	\$0.21	\$0.00	\$0.00	0.99	0.99	1177.054	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Interior HID	Time Clock	School K-12	Discretionary	4,008.7	0.78	0.54	0.0	0.0	0.0	0.0	0	8	\$169.71	\$169.71	\$0.21	\$0.00	\$0.00	34.88	0.99	49.044	49.044	42.786	42.786	Time Clock	
Lighting Interior Other	Exit Sign - LED	School K-12	Discretionary	594.8	0.12	0.08	0.0	0.0	0.0	0.0	0	16	\$836.26	\$836.26	\$0.21	\$0.00	\$0.00	2.16	0.99	145.283	145.283	126.745	126.745	LED Exit Sign	
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	School K-12	Discretionary	740.6	0.14	0.10	0.0	0.0	0.0	0.0	0	16	-\$127.32	\$0.00	\$0.21	\$0.00	\$0.00	999.00	0.99	264.359	264.359	230.628	230.628	Photoluminescent or Tritium	
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	School K-12	Lost Opportunity	740.6	0.14	0.10	0.0	0.0	0.0	0.0	0	16	-\$127.32	\$0.00	\$0.18	\$0.00	\$0.00	999.00	0.99	17.228	17.228	15.030	15.030	Photoluminescent or Tritium	
Lighting Interior Other	New Construction Lighting Package - Advanced Efficiency	School K-12	Lost Opportunity	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.58	\$0.58	\$0.18	\$0.00	\$0.00	2.54	0.99	647.746	647.746	565.097	565.097	Advanced Efficiency Lighting Package - 25% LPD Reduction	
Lighting Interior Other	New Construction Lighting Package - High Efficiency	School K-12	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.10	\$0.10	\$0.18	\$0.00	\$0.00	7.64	0.99	0.000	0.000	0.000	0.000	High Efficiency Lighting Package - 15% LPD Reduction	
Lighting Interior Other	New Construction Lighting Package - Premium Efficiency	School K-12	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.47	\$0.47	\$0.18	\$0.00	\$0.00	2.54	0.99	0.000	0.000	0.000	0.000	Premium Efficiency Lighting Package - 20% LPD Reduction	
Lighting Interior Other	Occupancy Sensor Control	School K-12	Discretionary	356.9	0.07	0.05	0.0	0.0	0.0	0.0	0	10	\$671.04	\$671.04	\$0.21	\$0.00	\$0.00	0.99	0.99	52.937	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Interior Other	Time Clock	School K-12	Discretionary	148.7	0.03	0.02	0.0	0.0	0.0	0.0	0	8	\$169.71	\$169.71	\$0.21	\$0.00	\$0.00	1.29	0.99	2.206	2.206	1.924	1.924	Time Clock	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	School K-12	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	3	\$0.01	\$0.01	\$0.21	-\$0.01	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	CFL	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base Incandescent - Backstop EISA 2020 Standard	School K-12	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	3	\$0.00	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	Backstop EISA 2020 Standard Incandescent	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base LED - Above Standard	School K-12	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.04	\$0.04	\$0.21	-\$0.01	\$0.00	999.00	0.99	151.754	152.440	132.989	132.989	LED	
Lighting Interior Screw Base - Standard	Occupancy Sensor Control	School K-12	Discretionary	2,553.2	0.50	0.34	0.0	0.0	0.0	0.0	0	10	\$4,800.53	\$4,800.53	\$0.21	\$0.00	\$0.00	0.99	0.99	147.632	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Interior Screw Base - Standard	Time Clock	School K-12	Discretionary	1,063.8	0.21	0.14	0.0	0.0	0.0	0.0	0	8	\$169.71	\$169.71	\$0.21	\$0.00	\$0.00	9.26	0.99	6.151	6.151	5.366	5.366	Time Clock	
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base CFL - Above Standard	School K-12	Discretionary	5,525.2	1.07	0.74	0.0	0.0	0.0	0.0	0	3	\$188.77	\$188.77	\$0.21	-\$104.89	\$0.00	0.00	0.99	0.000	0.000	0.000	0.000	CFL	
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base LED - Above Standard	School K-1																							

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Refrigeration	Anti-Sweat (Humidistat) Controls	School K-12	Discretionary	1,111.1	0.15	0.13	0.0	0.0	0.0	0.0	0.0	0	8	\$157.07	\$157.07	\$0.21	\$0.00	\$0.00	9.19	0.95	65.923	65.923	64.040	64.040	Anti-Sweat (Humidistat) Controls
Refrigeration	Case Replacement Low Temp	School K-12	Discretionary	642.0	0.08	0.08	0.0	0.0	0.0	0.0	0	15	\$36.02	\$36.02	\$0.21	\$0.00	\$0.00	44.30	0.95	241.247	241.247	234.358	234.358	Case Replacement Low Temp	
Refrigeration	Case Replacement Med Temp	School K-12	Discretionary	54.8	0.01	0.01	0.0	0.0	0.0	0.0	0	15	\$69.53	\$69.53	\$0.21	\$0.00	\$0.00	1.96	0.95	20.576	20.576	19.988	19.988	Case Replacement Med Temp	
Refrigeration	Demand Control Defrost - Hot Gas	School K-12	Discretionary	424.6	0.06	0.05	0.0	0.0	0.0	0.0	0	10	\$679.55	\$679.55	\$0.21	\$0.00	\$0.00	1.02	0.95	8.397	8.397	8.157	8.157	Refrigerant Defrost	
Refrigeration	Display Case Electronically Commutated Motor - Low Temp	School K-12	Discretionary	172.7	0.02	0.02	0.0	0.0	0.0	0.0	0	15	\$123.55	\$123.55	\$0.21	\$0.00	\$0.00	3.47	0.95	43.539	43.539	42.296	42.296	ECM Evaporator Fans - Low Temp	
Refrigeration	Display Case Electronically Commutated Motor - Medium Temp	School K-12	Discretionary	8.4	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$5.98	\$5.98	\$0.21	\$0.00	\$0.00	3.47	0.95	2.108	2.108	2.048	2.048	ECM Evaporator Fans - Medium Temp	
Refrigeration	Display Case LEDs (Closed Cases)	School K-12	Discretionary	134.3	0.02	0.02	0.0	0.0	0.0	0.0	0	8	\$80.03	\$80.03	\$0.21	\$0.00	\$0.00	2.18	0.95	50.473	50.473	49.031	49.031	Display Case LEDs (Closed Cases)	
Refrigeration	Display Case LEDs (Closed Cases)	School K-12	Lost Opportunity	134.3	0.02	0.02	0.0	0.0	0.0	0.0	0	8	\$35.58	\$35.58	\$0.18	\$0.00	\$0.00	4.90	0.95	4.386	4.386	4.260	4.260	Display Case LEDs (Closed Cases)	
Refrigeration	Display Case LEDs (Open Cases)	School K-12	Discretionary	11.6	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$8.10	\$8.10	\$0.21	-\$0.29	\$0.00	2.07	0.95	4.349	4.349	4.225	4.225	Display Case LEDs (Open Cases)	
Refrigeration	Display Case LEDs (Open Cases)	School K-12	Lost Opportunity	11.6	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$4.28	\$4.28	\$0.18	-\$0.25	\$0.00	4.78	0.95	0.378	0.378	0.367	0.367	Display Case LEDs (Open Cases)	
Refrigeration	Display Case Motion Sensors	School K-12	Discretionary	52.0	0.01	0.01	0.0	0.0	0.0	0.0	0	8	\$12.12	\$12.12	\$0.21	\$0.00	\$0.00	5.57	0.95	18.497	18.497	17.968	17.968	Display Case Motion Sensors	
Refrigeration	Evaporator Fan Controller - Low Temp	School K-12	Discretionary	40.2	0.01	0.00	0.0	0.0	0.0	0.0	0	16	\$31.25	\$31.25	\$0.21	\$0.00	\$0.00	3.42	0.95	14.303	14.303	13.894	13.894	ECM Evaporator Fan Controller - Low Temp	
Refrigeration	Evaporator Fan Controller - Low Temp	School K-12	Lost Opportunity	40.2	0.01	0.00	0.0	0.0	0.0	0.0	0	16	\$31.25	\$31.25	\$0.18	\$0.00	\$0.00	3.42	0.95	1.016	1.016	0.987	0.987	ECM Evaporator Fan Controller - Low Temp	
Refrigeration	Evaporator Fan Controller - Medium Temp	School K-12	Discretionary	62.7	0.01	0.01	0.0	0.0	0.0	0.0	0	16	\$58.36	\$58.36	\$0.21	\$0.00	\$0.00	2.85	0.95	22.311	22.311	21.674	21.674	ECM Evaporator Fan Controller - Medium Temp	
Refrigeration	Evaporator Fan Controller - Medium Temp	School K-12	Lost Opportunity	62.7	0.01	0.01	0.0	0.0	0.0	0.0	0	16	\$58.36	\$58.36	\$0.18	\$0.00	\$0.00	2.85	0.95	1.584	1.584	1.539	1.539	ECM Evaporator Fan Controller - Medium Temp	
Refrigeration	Floating Condenser Head Pressure Controls	School K-12	Discretionary	978.7	0.13	0.12	0.0	0.0	0.0	0.0	0	15	\$314.65	\$314.65	\$0.21	\$0.00	\$0.00	7.73	0.95	38.710	38.710	37.605	37.605	Floating Condenser Head Pressure Controls	
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	School K-12	Discretionary	29.1	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$3.95	\$3.95	\$0.21	\$0.00	\$0.00	10.81	0.95	10.935	10.935	10.623	10.623	Glass Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	School K-12	Lost Opportunity	29.1	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$3.95	\$3.95	\$0.18	\$0.00	\$0.00	10.81	0.95	0.950	0.950	0.923	0.923	Glass Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Ice Maker - High Efficiency	School K-12	Discretionary	105.7	0.01	0.01	0.0	0.0	0.0	0.0	0	8	\$6.75	\$6.75	\$0.21	\$0.00	\$0.00	20.36	0.95	41.816	41.816	40.622	40.622	High Efficiency Ice Maker	
Refrigeration	Ice Maker - High Efficiency	School K-12	Lost Opportunity	105.7	0.01	0.01	0.0	0.0	0.0	0.0	0	8	\$6.75	\$6.75	\$0.18	\$0.00	\$0.00	20.36	0.95	3.633	3.633	3.530	3.530	High Efficiency Ice Maker	
Refrigeration	Night Covers for Display Cases	School K-12	Discretionary	15.1	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$2.69	\$2.69	\$0.21	\$0.27	\$0.00	3.04	0.95	5.670	5.670	5.508	5.508	Night Covers for Display Cases	
Refrigeration	Night Covers for Display Cases	School K-12	Lost Opportunity	15.1	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$2.69	\$2.69	\$0.18	\$0.27	\$0.00	3.04	0.95	0.493	0.493	0.479	0.479	Night Covers for Display Cases	
Refrigeration	No Heat Case Doors	School K-12	Discretionary	231.4	0.03	0.03	0.0	0.0	0.0	0.0	0	15	\$165.87	\$165.87	\$0.21	\$0.00	\$0.00	3.47	0.95	45.763	45.763	44.456	44.456	No Heat Case Doors	
Refrigeration	No Heat Case Doors	School K-12	Lost Opportunity	231.4	0.03	0.03	0.0	0.0	0.0	0.0	0	15	\$165.87	\$165.87	\$0.18	\$0.00	\$0.00	3.47	0.95	7.555	7.555	7.339	7.339	No Heat Case Doors	
Refrigeration	Refrigeration Commissioning or Re-commissioning	School K-12	Discretionary	1,286.8	0.17	0.15	0.0	0.0	0.0	0.0	0	7	\$331.67	\$331.67	\$0.21	\$0.00	\$0.00	4.38	0.95	43.249	43.249	42.014	42.014	Commissioning / Re-commissioning	
Refrigeration	Refrigeration Commissioning or Re-commissioning	School K-12	Lost Opportunity	1,286.8	0.17	0.15	0.0	0.0	0.0	0.0	0	7	\$331.67	\$331.67	\$0.18	\$0.00	\$0.00	4.38	0.95	2.052	2.052	1.994	1.994	Commissioning / Re-commissioning	
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	School K-12	Discretionary	21.6	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$3.95	\$3.95	\$0.21	\$0.00	\$0.00	8.02	0.95	8.118	8.118	7.886	7.886	Solid Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	School K-12	Lost Opportunity	21.6	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$3.95	\$3.95	\$0.18	\$0.00	\$0.00	8.02	0.95	0.705	0.705	0.685	0.685	Solid Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Strip Curtains for Walk-ins	School K-12	Discretionary	512.9	0.07	0.06	0.0	0.0	0.0	0.0	0	4	\$369.01	\$369.01	\$0.21	\$0.00	\$0.00	0.87	0.95	192.719	0.000	0.000	0.000	Strip Curtains for Walk-ins	
Refrigeration	Walk-In Electronically Commutated Motor	School K-12	Discretionary	166.6	0.02	0.02	0.0	0.0	0.0	0.0	0	15	\$38.39	\$38.39	\$0.21	\$0.00	\$0.00	10.79	0.95	62.610	62.610	60.822	60.822	ECM Condensor Fans - Low Temp	
Refrigeration	Walk-In Electronically Commutated Motor	School K-12	Discretionary	180.2	0.02	0.02	0.0	0.0	0.0	0.0	0	15	\$46.92	\$46.92	\$0.21	\$0.00	\$0.00	9.54	0.95	67.694	67.694	65.761	65.761	ECM Condensor Fans - Medium Temp	
Refrigeration	Walk-In Electronically Commutated Motor	School K-12	Discretionary	166.6	0.02	0.02	0.0	0.0	0.0	0.0	0	15	\$38.39	\$38.39	\$0.21	\$0.00	\$0.00	10.79	0.95	62.610	62.610	60.822	60.822	ECM Evaporator Fans - Low Temp	
Refrigeration	Walk-In Electronically Commutated Motor	School K-12	Discretionary	180.2	0.02	0.02	0.0	0.0	0.0	0.0	0	15	\$46.92	\$46.92	\$0.21	\$0.00	\$0.00	9.54	0.95	67.694	67.694	65.761	65.761	ECM Evaporator Fans - Medium Temp	
Refrigeration	Walk-in Economizer	School K-12	Discretionary	1,372.0	0.18	0.16	0.0	0.0	0.0	0.0	0	15	\$666.81	\$666.81	\$0.21	\$0.00	\$0.00	5.11	0.95	407.008	407.008	395.385	395.385	Add Economizer to Walk-in Cooler	
Refrigeration	Walk-in Economizer	School K-12	Lost Opportunity	1,372.0	0.18	0.16	0.0	0.0	0.0	0.0	0	15	\$666.81	\$666.81	\$0.18	\$0.00	\$0.00	5.11	0.95	35.366	35.366	34.356	34.356	Add Economizer to Walk-in Cooler	
Refrigerators	Refrigerator (Residential) - CEE Tier 2	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	1.23	1.00	0.000	0.000	0.000	0.000	CEE Tier 2 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 2	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	1.23	1.00	0.000	0.000	0.000	0.000	CEE Tier 2 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 3	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	1.15	1.00	31.625	31.625	20.566	20.566	CEE Tier 3 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 3	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	1.15	1.00	4.670	4.670	3.037	3.037	CEE Tier 3 Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	1.26	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	1.26	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	1.27	1.00	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	1.27	1.00	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Refrigerator	
Refrigerators	Residential Refrigerator Recycling and Replacement	School K-12	Discretionary	301.6	0.03	0.03	0.0	0.0	0.0	0.0	0	8	\$157.02	\$157.02	\$0.21	\$0.00	\$0.00	2.41	1.00	91.300	91.300	59.371	59.371	Recycling Existing Refrigerator and Replacing with a Federal Standard Unit	
Room Cool	Ductless Air Conditioner (DAC)	School K-12	Discretionary	229.6	0.10	0.00	0.0	0.0	0.0	0.0	0	15	\$5,548.10	\$5,548.10	\$0.21	\$0.00	\$0.00	0.17	0.99	0.000	0.000	0.000	0.000	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Air Conditioner (DAC)	School K-12	Lost Opportunity	229.6	0.10	0.00	0.0	0.0	0.0	0.0	0	15	\$5,548.10	\$5,548.10	\$0.18	\$0.00	\$0.00	0.17	0.99	0.000	0.000	0.000	0.000	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Heat Pump (DHP)	School K-12	Discretionary	625.4	0.28	0.00	0.0	0.0	0.0	0.0	0	15	\$9,453.00	\$9,453.00	\$0.21	\$0.00	\$0.00	0.27	0.99	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP)	School K-12	Lost Opportunity	625.4	0.28	0.00	0.0	0.0	0.0	0.0	0	15	\$9,453.00	\$9,453.00	\$0.18	\$0.00	\$0.00	0.27	0.99	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	School K-12	Discretionary	658.5	0.30	0.00	0.0	0.0	0.0	0.0	0	15	\$9,678.98	\$9,678.98	\$0.21	\$0.00	\$0.00	0.28	0.99	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	School K-12	Lost Opportunity	658.5	0.30	0.00	0.0	0.0	0.0	0.0	0	15	\$9,678.98	\$9,678.98	\$0.18	\$0.00	\$0.00	0.28	0.99	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Duct	

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	School K-12	Discretionary	18,023.4	0.04	7.25	0.0	0.0	0.0	0.0	0.0	0	30	\$6,181.59	\$6,181.59	\$0.21	\$0.00	\$0.00	10.94	0.95	9.797	9.797	7.471	7.471	R-38
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	School K-12	Lost Opportunity	18,023.4	0.04	7.25	0.0	0.0	0.0	0.0	0	30	\$6,181.59	\$6,181.59	\$0.18	\$0.00	\$0.00	10.94	0.95	1.673	1.673	1.276	1.276	R-38	
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	School K-12	Discretionary	31,390.7	0.07	12.63	0.0	0.0	0.0	0.0	0	30	\$17,720.56	\$17,720.56	\$0.21	\$0.00	\$0.00	6.65	0.95	16.514	16.514	12.594	12.594	R-30 (CBES 2015 Code)	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	School K-12	Discretionary	11,132.5	0.02	4.48	0.0	0.0	0.0	0.0	0	30	\$2,718.66	\$2,718.66	\$0.21	\$0.00	\$0.00	15.37	0.95	10.079	10.079	7.687	7.687	R-13 + 15.6 c.i.	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	School K-12	Lost Opportunity	11,132.5	0.02	4.48	0.0	0.0	0.0	0.0	0	30	\$2,718.66	\$2,718.66	\$0.18	\$0.00	\$0.00	15.37	0.95	2.542	2.542	1.938	1.938	R-13 + 15.6 c.i.	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Code	School K-12	Discretionary	10,359.6	0.02	4.17	0.0	0.0	0.0	0.0	0	30	\$18,655.59	\$18,655.59	\$0.21	\$0.00	\$0.00	2.08	0.95	6.284	6.284	4.793	4.793	R-13 + 7.5 c.i. (CBES 2015 Code)	
Room Heat - Electric	Windows - CBES 2015 - Above Code	School K-12	Discretionary	1,290.0	0.00	0.52	0.0	0.0	0.0	0.0	0	20	\$6,830.09	\$6,830.09	\$0.21	\$0.00	\$0.00	0.47	0.95	1.848	0.000	0.000	0.000	U-0.29	
Room Heat - Electric	Windows - CBES 2015 - Above Code	School K-12	Lost Opportunity	1,290.0	0.00	0.52	0.0	0.0	0.0	0.0	0	20	\$6,830.09	\$6,830.09	\$0.18	\$0.00	\$0.00	0.47	0.95	0.559	0.000	0.000	0.000	U-0.29	
Room Heat - Electric	Windows - CBES 2015 - Code	School K-12	Discretionary	2,945.5	0.01	1.18	0.0	0.0	0.0	0.0	0	20	\$45,103.35	\$45,103.35	\$0.21	\$0.00	\$0.00	0.16	0.95	4.171	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Servers	Internal Power Supply / Server	School K-12	Discretionary	29.0	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$8.47	\$8.47	\$0.21	\$0.00	\$0.00	2.22	0.89	6.911	8.765	6.287	6.287	80 Plus power supply for Desktop Derived Server	
Servers	Internal Power Supply / Server	School K-12	Lost Opportunity	29.0	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$8.47	\$8.47	\$0.18	\$0.00	\$0.00	2.22	0.89	0.595	0.773	0.555	0.555	80 Plus power supply for Desktop Derived Server	
Servers	Server - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.04	\$0.04	\$0.21	\$0.00	\$0.00	0.32	0.89	98.709	0.000	0.000	0.000	ENERGY STAR Server	
Servers	Server - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.04	\$0.04	\$0.18	\$0.00	\$0.00	0.32	0.89	9.813	0.000	0.000	0.000	ENERGY STAR Server	
Space Heat - Electric	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	School K-12	Discretionary	53,121.5	0.11	21.37	0.0	0.0	0.0	0.0	0	15	\$8,487.75	\$8,487.75	\$0.21	\$0.00	\$0.00	11.71	0.95	0.000	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)	
Space Heat - Electric	Commissioning	School K-12	Lost Opportunity	78,474.9	0.17	31.57	0.0	0.0	0.0	0.0	0	5	\$39,383.16	\$39,383.16	\$0.18	\$0.00	\$0.00	1.24	0.95	0.000	0.000	0.000	0.000	Commissioning	
Space Heat - Electric	Convert Constant Volume Air System to VAV	School K-12	Discretionary	158,573.7	0.34	63.79	0.0	0.0	0.0	0.0	0	15	\$123,795.05	\$123,795.05	\$0.21	\$0.00	\$0.00	2.40	0.95	0.000	0.000	0.000	0.000	Variable Volume Air System	
Space Heat - Electric	Direct Digital Control System-Installation	School K-12	Discretionary	90,548.0	0.19	36.42	0.0	0.0	0.0	0.0	0	5	\$10,609.69	\$10,609.69	\$0.21	\$0.00	\$0.00	5.30	0.95	0.000	0.000	0.000	0.000	Installation of EMS System	
Space Heat - Electric	Direct Digital Control System-Installation	School K-12	Lost Opportunity	90,548.0	0.19	36.42	0.0	0.0	0.0	0.0	0	5	\$10,609.69	\$10,609.69	\$0.18	\$0.00	\$0.00	5.30	0.95	0.000	0.000	0.000	0.000	Installation of EMS System	
Space Heat - Electric	Duct Repair and Sealing	School K-12	Discretionary	52,491.6	0.11	21.12	0.0	0.0	0.0	0.0	0	18	\$8,148.24	\$8,148.24	\$0.21	\$0.00	\$0.00	14.43	0.95	0.000	0.000	0.000	0.000	Reduction In Duct Losses to 5 %	
Space Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	School K-12	Discretionary	90,548.0	0.19	36.42	0.0	0.0	0.0	0.0	0	14	\$99,475.28	\$99,475.28	\$0.21	\$0.00	\$0.00	1.59	0.95	0.000	0.000	0.000	0.000	Exhaust Air to Ventilation Air Heat Recovery	
Space Heat - Electric	Indirect Information Feedback	School K-12	Discretionary	3,141.0	0.01	1.26	0.0	0.0	0.0	0.0	0	2	\$10,450.97	\$10,450.97	\$0.21	\$0.00	\$0.00	0.07	0.95	0.000	0.000	0.000	0.000	Indirect Information Feedback	
Space Heat - Electric	Indirect Information Feedback	School K-12	Lost Opportunity	3,141.0	0.01	1.26	0.0	0.0	0.0	0.0	0	2	\$10,450.97	\$10,450.97	\$0.18	\$0.00	\$0.00	0.07	0.95	0.000	0.000	0.000	0.000	Indirect Information Feedback	
Space Heat - Electric	Infiltration Reduction	School K-12	Discretionary	60,365.3	0.13	24.28	0.0	0.0	0.0	0.0	0	10	\$1,155.00	\$1,155.00	\$0.21	\$0.00	\$0.00	65.79	0.95	0.000	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	School K-12	Discretionary	33,996.3	0.07	13.68	0.0	0.0	0.0	0.0	0	30	\$3,477.14	\$3,477.14	\$0.21	\$0.00	\$0.00	36.70	0.95	0.000	0.000	0.000	0.000	R-35 c.i.	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	School K-12	Lost Opportunity	33,996.3	0.07	13.68	0.0	0.0	0.0	0.0	0	30	\$3,477.14	\$3,477.14	\$0.18	\$0.00	\$0.00	36.70	0.95	0.000	0.000	0.000	0.000	R-35 c.i.	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	School K-12	Discretionary	89,490.1	0.19	36.00	0.0	0.0	0.0	0.0	0	30	\$15,866.08	\$15,866.08	\$0.21	\$0.00	\$0.00	21.17	0.95	0.000	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	School K-12	Discretionary	21,731.5	0.05	8.74	0.0	0.0	0.0	0.0	0	20	\$460.46	\$460.46	\$0.21	\$0.00	\$0.00	117.38	0.95	0.000	0.000	0.000	0.000	R-12	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	School K-12	Lost Opportunity	21,731.5	0.05	8.74	0.0	0.0	0.0	0.0	0	20	\$460.46	\$460.46	\$0.18	\$0.00	\$0.00	117.38	0.95	0.000	0.000	0.000	0.000	R-12	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Code	School K-12	Discretionary	21,731.5	0.05	8.74	0.0	0.0	0.0	0.0	0	20	\$1,854.57	\$1,854.57	\$0.21	\$0.00	\$0.00	29.14	0.95	0.000	0.000	0.000	0.000	R-8 (CBES 2015 Code)	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	School K-12	Discretionary	50,099.9	0.11	20.15	0.0	0.0	0.0	0.0	0	30	\$6,181.59	\$6,181.59	\$0.21	\$0.00	\$0.00	30.42	0.95	0.000	0.000	0.000	0.000	R-38	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	School K-12	Lost Opportunity	50,099.9	0.11	20.15	0.0	0.0	0.0	0.0	0	30	\$6,181.59	\$6,181.59	\$0.18	\$0.00	\$0.00	30.42	0.95	0.000	0.000	0.000	0.000	R-38	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	School K-12	Discretionary	87,257.2	0.18	35.10	0.0	0.0	0.0	0.0	0	30	\$17,720.56	\$17,720.56	\$0.21	\$0.00	\$0.00	18.48	0.95	0.000	0.000	0.000	0.000	R-30 (CBES 2015 Code)	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	School K-12	Discretionary	30,945.2	0.07	12.45	0.0	0.0	0.0	0.0	0	30	\$2,718.66	\$2,718.66	\$0.21	\$0.00	\$0.00	42.72	0.95	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	School K-12	Lost Opportunity	30,945.2	0.07	12.45	0.0	0.0	0.0	0.0	0	30	\$2,718.66	\$2,718.66	\$0.18	\$0.00	\$0.00	42.72	0.95	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Code	School K-12	Discretionary	28,796.9	0.06	11.58	0.0	0.0	0.0	0.0	0	30	\$18,655.59	\$18,655.59	\$0.21	\$0.00	\$0.00	5.79	0.95	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)	
Space Heat - Electric	Programmable Thermostat	School K-12	Discretionary	24,146.1	0.05	9.71	0.0	0.0	0.0	0.0	0	11	\$42.47	\$42.47	\$0.21	\$0.00	\$0.00	785.70	0.95	0.000	0.000	0.000	0.000	Programmable Thermostat	
Space Heat - Electric	Re-Commissioning	School K-12	Discretionary	78,474.9	0.17	31.57	0.0	0.0	0.0	0.0	0	5	\$10,185.30	\$10,185.30	\$0.21	\$0.00	\$0.00	4.79	0.95	0.000	0.000	0.000	0.000	Re-Commissioning	
Space Heat - Electric	Retrocommissioning	School K-12	Discretionary	89,541.9	0.19	36.02	0.0	0.0	0.0	0.0	0	5	\$16,975.50	\$16,975.50	\$0.21	\$0.00	\$0.00	3.28	0.95	0.000	0.000	0.000	0.000	Retrocommissioning	
Space Heat - Electric	Strategic Energy Management (SEM)	School K-12	Discretionary	24,749.8	0.05	9.96	0.0	0.0	0.0	0.0	0	5	\$3,335.40	\$3,335.40	\$0.21	\$0.00	\$0.00	4.61	0.95	0.000	0.000	0.000	0.000	Identify Operations and Maintenance Improvements through Strategic Energy Man	
Space Heat - Electric	Strategic Energy Management (SEM)	School K-12	Lost Opportunity	24,749.8	0.05	9.96	0.0	0.0	0.0	0.0	0	5	\$3,335.40	\$3,335.40	\$0.18	\$0.00	\$0.00	4.61	0.95	0.000	0.000	0.000	0.000	Identify Operations and Maintenance Improvements through Strategic Energy Man	
Space Heat - Electric	Wi-Fi Thermostat	School K-12	Discretionary	24,146.1	0.05	9.71	0.0	0.0	0.0	0.0	0	11	\$338.33	\$338.33	\$0.21	\$0.00	\$0.00	98.63	0.95	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)	
Space Heat - Electric	Windows - CBES 2015 - Above Code	School K-12	Discretionary	3,585.8	0.01	1.44	0.0	0.0	0.0	0.0	0	20	\$6,830.09	\$6,830.09	\$0.21	\$0.00	\$0.00	1.31	0.95	0.000	0.000	0.000	0.000	U-0.29	
Space Heat - Electric	Windows - CBES 2015 - Above Code	School K-12	Lost Opportunity	3,585.8	0.01	1.44	0.0	0.0	0.0	0.0	0	20	\$6,830.09	\$6,830.09	\$0.18	\$0.00	\$0.00	1.31	0.95	0.000	0.000	0.000	0.000	U-0.29	
Space Heat - Electric	Windows - CBES 2015 - Code	School K-12	Discretionary	8,187.6	0.02	3.29	0.0	0.0	0.0	0.0	0	20	\$45,103.35	\$45,103.35	\$0.21	\$0.00	\$0.00	0.45	0.95	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Vending Machines	Vending Machines - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.89	0.000	0.000	0.000	0.000	ENERGY STAR Vending Machines - 3.84 kWh/day	
Vending Machines	Vending Machines - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.89	0.000	0.000	0.000	0.000	ENERGY STAR Vending Machines - 3.84 kWh/day	
Vending Machines	Vending Machines - Federal Standard 2020	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.89	2.523	0.000	0.000	0.000	Federal Standard 2020 Vending Machines - 3.83 kWh/day	
Vending Machines	Vending Machines - Federal Standard 2020	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.89	0.136	0.000	0.000	0.000	Federal Standard 2020 Vending Machines - 3.83 kWh/day	



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	School K-12	Discretionary	110.3	0.00	0.04	0.0	0.0	0.0	0.0	0	20	\$12.99	\$12.99	\$0.21	\$0.00	\$0.00	21.12	0.89	0.294	0.313	0.181	0.181	R-3	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	School K-12	Discretionary	669.1	0.00	0.27	0.0	0.0	0.0	0.0	49	9	\$135.80	\$135.80	\$0.21	\$0.00	\$0.00	8.74	0.89	7.607	8.085	4.679	4.679	0.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	School K-12	Lost Opportunity	669.1	0.00	0.27	0.0	0.0	0.0	0.0	49	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.89	0.569	0.000	0.000	0.000	0.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	School K-12	Discretionary	472.3	0.00	0.19	0.0	0.0	0.0	0.0	35	9	\$135.80	\$135.80	\$0.21	\$0.00	\$0.00	6.17	0.89	0.000	0.000	0.000	0.000	1.0 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	School K-12	Lost Opportunity	472.3	0.00	0.19	0.0	0.0	0.0	0.0	35	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.89	0.000	0.000	0.000	0.000	1.0 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	School K-12	Discretionary	275.5	0.00	0.11	0.0	0.0	0.0	0.0	20	9	\$135.80	\$135.80	\$0.21	\$0.00	\$0.00	3.60	0.89	0.000	0.000	0.000	0.000	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	School K-12	Lost Opportunity	275.5	0.00	0.11	0.0	0.0	0.0	0.0	20	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.89	0.000	0.000	0.000	0.000	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	School K-12	Discretionary	118.1	0.00	0.05	0.0	0.0	0.0	0.0	8	9	\$135.80	\$135.80	\$0.21	\$0.00	\$0.00	1.48	0.89	0.503	0.535	0.310	0.310	2.2 GPM (Federal Code)	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	School K-12	Discretionary	12.7	0.00	0.01	0.0	0.0	0.0	0.0	2	5	\$2.42	\$2.42	\$0.21	\$0.00	\$0.00	8.41	0.89	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	School K-12	Lost Opportunity	12.7	0.00	0.01	0.0	0.0	0.0	0.0	2	5	\$2.42	\$2.42	\$0.18	\$0.00	\$0.00	8.41	0.89	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	School K-12	Discretionary	21.1	0.00	0.01	0.0	0.0	0.0	0.0	4	5	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.89	0.207	0.000	0.000	0.000	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	School K-12	Lost Opportunity	21.1	0.00	0.01	0.0	0.0	0.0	0.0	4	5	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.89	0.015	0.000	0.000	0.000	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	School K-12	Discretionary	33.9	0.00	0.01	0.0	0.0	0.0	0.0	6	5	\$2.42	\$2.42	\$0.21	\$0.00	\$0.00	22.34	0.89	0.000	0.000	0.000	0.000	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	School K-12	Lost Opportunity	33.9	0.00	0.01	0.0	0.0	0.0	0.0	6	5	\$2.42	\$2.42	\$0.18	\$0.00	\$0.00	22.34	0.89	0.006	0.006	0.004	0.004	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	School K-12	Discretionary	255.7	0.00	0.10	0.0	0.0	0.0	0.0	30	9	\$101.85	\$101.85	\$0.21	\$0.00	\$0.00	5.40	0.89	2.762	2.935	1.699	1.699	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	School K-12	Lost Opportunity	255.7	0.00	0.10	0.0	0.0	0.0	0.0	30	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.89	0.207	0.000	0.000	0.000	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	School K-12	Discretionary	191.8	0.00	0.08	0.0	0.0	0.0	0.0	23	9	\$101.85	\$101.85	\$0.21	\$0.00	\$0.00	4.05	0.89	0.000	0.000	0.000	0.000	1.75 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	School K-12	Lost Opportunity	191.8	0.00	0.08	0.0	0.0	0.0	0.0	23	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.89	0.000	0.000	0.000	0.000	1.75 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	School K-12	Discretionary	127.9	0.00	0.05	0.0	0.0	0.0	0.0	15	9	\$101.85	\$101.85	\$0.21	\$0.00	\$0.00	2.70	0.89	0.000	0.000	0.000	0.000	2.0 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	School K-12	Lost Opportunity	127.9	0.00	0.05	0.0	0.0	0.0	0.0	15	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.89	0.000	0.000	0.000	0.000	2.0 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	School K-12	Discretionary	127.9	0.00	0.05	0.0	0.0	0.0	0.0	15	9	\$101.85	\$101.85	\$0.21	\$0.00	\$0.00	2.70	0.89	0.518	0.550	0.319	0.319	2.5 GPM (Federal Code)	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	School K-12	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.18	\$0.18	\$0.21	\$0.07	\$0.00	0.43	0.89	59.254	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	School K-12	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.18	\$0.18	\$0.18	\$0.07	\$0.00	0.43	0.89	5.842	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	School K-12	Discretionary	432.9	0.00	0.17	0.0	0.0	0.0	0.0	0	20	\$2,381.46	\$2,381.46	\$0.21	\$0.00	\$0.00	0.45	0.89	4.676	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	School K-12	Lost Opportunity	432.9	0.00	0.17	0.0	0.0	0.0	0.0	0	20	\$2,381.46	\$2,381.46	\$0.18	\$0.00	\$0.00	0.45	0.89	0.350	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	School K-12	Discretionary	3,412.8	0.01	1.37	0.0	0.0	0.0	0.0	0	10	\$597.71	\$597.71	\$0.21	\$0.00	\$0.00	7.19	0.89	9.700	10.310	5.967	5.967	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End U	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	School K-12	Lost Opportunity	3,412.8	0.01	1.37	0.0	0.0	0.0	0.0	0	10	\$597.71	\$597.71	\$0.18	\$0.00	\$0.00	7.19	0.89	0.726	0.780	0.451	0.451	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End U	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	School K-12	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.04	\$0.04	\$0.21	\$0.00	\$0.00	4.38	0.89	97.677	137.624	79.650	79.650	CO2 Heat Pump Water Heater	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	School K-12	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.04	\$0.04	\$0.18	\$0.00	\$0.00	4.38	0.89	9.716	14.399	8.334	8.334	CO2 Heat Pump Water Heater	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	6.66	0.89	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	6.66	0.89	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	School K-12	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.04	\$0.04	\$0.21	\$0.00	\$0.00	4.72	0.89	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	School K-12	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.04	\$0.04	\$0.18	\$0.00	\$0.00	4.72	0.89	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	School K-12	Discretionary	4,777.9	0.01	1.92	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	236220.77	0.89	51.606	54.848	31.743	31.743	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	School K-12	Lost Opportunity	4,777.9	0.01	1.92	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	236220.77	0.89	3.861	4.150	2.402	2.402	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Tank Wrap	School K-12	Discretionary	9,613.2	0.02	3.87	0.0	0.0	0.0	0.0	0	7	\$41.55	\$41.55	\$0.21	\$0.00	\$0.00	203.42	0.89	80.546	85.606	49.545	49.545	Add R-10 Tank Wrap	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	School K-12	Discretionary	32.2	0.00	0.01	0.0	0.0	0.0	0.0	3	13	\$35.86	\$35.86	\$0.21	\$0.00	\$0.00	2.42	0.89	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	School K-12	Lost Opportunity	32.2	0.00	0.01	0.0	0.0	0.0	0.0	3	13	\$35.86	\$35.86	\$0.18	\$0.00	\$0.00	2.42	0.89	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	School K-12	Discretionary	71.3	0.00	0.03	0.0	0.0	0.0	0.0	4	13	\$66.30	\$66.30	\$0.21	\$0.00	\$0.00	2.44	0.89	0.102	0.102	0.059	0.059	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	School K-12	Lost Opportunity	71.3	0.00	0.03	0.0	0.0	0.0	0.0	4	13	\$66.30	\$66.30	\$0.18	\$0.00	\$0.00	2.44	0.89	0.007	0.007	0.004	0.004	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	School K-12	Discretionary	16.2	0.00	0.01	0.0	0.0	0.0	0.0	1	14	\$2.49	\$2.49	\$0.21	\$0.00	\$0.00	14.75	0.89	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	School K-12	Lost Opportunity	16.2	0.00	0.01	0.0	0.0	0.0	0.0	1	14	\$2.49	\$2.49	\$0.18	\$0.00	\$0.00	14.75	0.89	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	School K-12	Discretionary	25.5	0.00	0.01	0.0	0.0	0.0	0.0	2	14	\$1.02	\$1.02	\$0.21	\$0.00	\$0.00	67.69	0.89	0.193	0.193	0.111	0.111	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR	
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	School K-12	Lost Opportunity	25.5	0.00	0.01	0.0	0.0	0.0	0.0	2	14	\$1.02	\$1.02	\$0.18	\$0.00	\$0.00	67.69	0.89	0.013	0.013	0.007	0.007	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR	
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	School K-12	Discretionary	46.8	0.00	0.02	0.0	0.0	0.0	0.0	0	13	\$10.71	\$10.71	\$0.21	\$0.00	\$0.00	7.11	0.89	0.303	0.303	0.175	0.175	1.0" of Insulation, assuming R-4 (Code)	
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	School K-12	Discretionary	5,162.9	0.01	2.08	0.0	0.0	0.0	0.0	0	25	\$883.75	\$883.75	\$0.21	\$0.00	\$0.00	18.19	0.89	1.832	1.832	1.060	1.060	Install Heat Recovery Water Heater	
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	School K-12	Discretionary	110.3	0.00	0.04	0.0	0.0	0.0	0.0	0	20	\$12.99	\$12.99	\$0.21	\$0.00	\$0.00	21.12	0.89	0.279	0.279	0.162	0.162	R-3	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	School K-12	Discretionary	669.1	0.00	0.27	0.0	0.0	0.0	0.0	49	9	\$135.80	\$135.80	\$0.21	\$0.00	\$0.00	8.74	0.89	7.227	7.227	4.182	4.182	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	School K-12	Lost Opportunity	669.1	0.00	0.27	0.0	0.0	0.0	0.0	49	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.89	0.478	0.000	0.000	0.000	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	School K-12</																							

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	School K-12	Lost Opportunity	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.11	\$0.11	\$0.18	\$0.00	\$0.00	5.42	0.89	0.000	0.000	0.000	0.000	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	School K-12	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.15	\$0.15	\$0.21	\$0.00	\$0.00	4.96	0.89	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	School K-12	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.15	\$0.15	\$0.18	\$0.00	\$0.00	4.96	0.89	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	School K-12	Discretionary	4,489.4	0.01	1.81	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	221958.36	0.89	46.066	46.066	26.661	26.661	Set Water Heater to 120F	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	School K-12	Lost Opportunity	4,489.4	0.01	1.81	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	221958.36	0.89	3.044	3.044	1.762	1.762	Set Water Heater to 120F	
Water Heat LE 55 Gal	Water Heater Tank Wrap	School K-12	Discretionary	9,032.8	0.02	3.63	0.0	0.0	0.0	0.0	0	7	\$41.55	\$41.55	\$0.21	\$0.00	\$0.00	191.14	0.89	71.899	71.899	41.612	41.612	Add R-10 Tank Wrap	
Computers	Computer - ENERGY STAR	Small Office	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	2354.648	0.000	0.000	0.000	ENERGY STAR Computer	
Computers	Computer - ENERGY STAR	Small Office	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	193.790	0.000	0.000	0.000	ENERGY STAR Computer	
Computers	Network PC Power Management	Small Office	Discretionary	179.7	0.03	0.02	0.0	0.0	0.0	0.0	0	5	\$21.97	\$21.97	\$0.21	\$5.04	\$0.00	3.27	1.00	456.981	801.577	645.977	645.977	Network PC Power Management	
Computers	Network PC Power Management	Small Office	Lost Opportunity	179.7	0.03	0.02	0.0	0.0	0.0	0.0	0	5	\$21.97	\$21.97	\$0.18	\$5.04	\$0.00	3.27	1.00	44.584	78.322	63.118	63.118	Network PC Power Management	
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Small Office	Discretionary	47.3	0.02	0.00	0.0	4.9	0.0	0.0	0	15	\$416.75	\$416.75	\$0.21	\$0.00	\$0.00	0.55	1.00	22.837	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)	
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.27	\$0.27	\$0.21	\$0.00	\$0.00	0.71	1.00	90.927	0.000	0.000	0.000	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)	
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.24	\$0.24	\$0.18	\$0.00	\$0.00	0.79	1.00	11.047	0.000	0.000	0.000	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)	
Cooling Chillers	Convert Constant Volume Air System to VAV	Small Office	Discretionary	119.4	0.04	0.00	0.0	14.6	0.0	0.0	0	15	\$6,078.36	\$6,078.36	\$0.21	\$0.00	\$0.00	0.10	1.00	21.606	0.000	0.000	0.000	Variable Volume Air System	
Cooling Chillers	Direct Digital Control System-Installation	Small Office	Discretionary	68.2	0.02	0.00	0.0	7.2	0.0	0.0	0	5	\$520.94	\$520.94	\$0.21	\$0.00	\$0.00	0.21	1.00	73.704	0.000	0.000	0.000	Installation of EMS System	
Cooling Chillers	Direct Digital Control System-Installation	Small Office	Lost Opportunity	68.2	0.02	0.00	0.0	7.2	0.0	0.0	0	5	\$520.94	\$520.94	\$0.18	\$0.00	\$0.00	0.21	1.00	0.690	0.000	0.000	0.000	Installation of EMS System	
Cooling Chillers	Green Roof	Small Office	Discretionary	2.4	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$25,005.00	\$25,005.00	\$0.21	\$250.05	\$0.00	0.00	1.00	3.024	0.000	0.000	0.000	Vegetation on Roof	
Cooling Chillers	Green Roof	Small Office	Lost Opportunity	2.0	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$25,005.00	\$25,005.00	\$0.18	\$250.05	\$0.00	0.00	1.00	0.237	0.000	0.000	0.000	Vegetation on Roof	
Cooling Chillers	Indirect Information Feedback	Small Office	Discretionary	2.4	0.00	0.00	0.0	0.2	0.0	0.0	0	2	\$7.87	\$7.87	\$0.21	\$0.00	\$0.00	0.19	1.00	3.045	0.000	0.000	0.000	Indirect Information Feedback	
Cooling Chillers	Indirect Information Feedback	Small Office	Lost Opportunity	2.4	0.00	0.00	0.0	0.2	0.0	0.0	0	2	\$7.87	\$7.87	\$0.18	\$0.00	\$0.00	0.19	1.00	0.277	0.000	0.000	0.000	Indirect Information Feedback	
Cooling Chillers	Infiltration Reduction	Small Office	Discretionary	13.6	0.00	0.00	0.0	5.2	0.0	0.0	0	10	\$115.13	\$115.13	\$0.21	\$0.00	\$0.00	0.69	1.00	8.447	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)	
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Discretionary	21.1	0.01	0.00	0.0	3.1	0.0	0.0	0	30	\$281.31	\$281.31	\$0.21	\$0.00	\$0.00	0.79	1.00	11.391	0.000	0.000	0.000	R-35 c.i.	
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Lost Opportunity	21.1	0.01	0.00	0.0	3.1	0.0	0.0	0	30	\$281.31	\$281.31	\$0.18	\$0.00	\$0.00	0.79	1.00	0.438	0.000	0.000	0.000	R-35 c.i.	
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Code	Small Office	Discretionary	55.6	0.02	0.00	0.0	10.7	0.0	0.0	0	30	\$1,283.59	\$1,283.59	\$0.21	\$0.00	\$0.00	0.50	1.00	18.663	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)	
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Discretionary	31.1	0.01	0.00	0.0	4.6	0.0	0.0	0	30	\$500.10	\$500.10	\$0.21	\$0.00	\$0.00	0.66	1.00	5.572	0.000	0.000	0.000	R-38	
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Lost Opportunity	31.1	0.01	0.00	0.0	4.6	0.0	0.0	0	30	\$500.10	\$500.10	\$0.18	\$0.00	\$0.00	0.66	1.00	0.892	0.000	0.000	0.000	R-38	
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Code	Small Office	Discretionary	54.2	0.02	0.00	0.0	8.0	0.0	0.0	0	30	\$1,433.62	\$1,433.62	\$0.21	\$0.00	\$0.00	0.40	1.00	9.213	0.000	0.000	0.000	R-30 (CBES 2015 Code)	
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Small Office	Discretionary	41.0	0.01	0.00	0.0	6.1	0.0	0.0	0	30	\$469.31	\$469.31	\$0.21	\$0.00	\$0.00	0.92	1.00	12.449	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Small Office	Lost Opportunity	41.0	0.01	0.00	0.0	6.1	0.0	0.0	0	30	\$469.31	\$469.31	\$0.18	\$0.00	\$0.00	0.92	1.00	2.985	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Cooling Chillers	Insulation - Wall - CBES 2015 - Code	Small Office	Discretionary	38.2	0.01	0.00	0.0	6.6	0.0	0.0	0	30	\$3,220.43	\$3,220.43	\$0.21	\$0.00	\$0.00	0.13	1.00	6.928	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)	
Cooling Chillers	Natural Ventilation	Small Office	Lost Opportunity	45.4	0.02	0.00	0.0	0.0	0.0	0.0	0	15	\$1,667.00	\$1,667.00	\$0.18	\$0.00	\$0.00	0.10	1.00	0.272	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling	
Cooling Chillers	Programmable Thermostat	Small Office	Discretionary	18.2	0.01	0.00	0.0	2.1	0.0	0.0	0	11	\$25.78	\$25.78	\$0.21	\$0.00	\$0.00	2.61	1.00	24.432	27.229	21.906	21.906	Programmable Thermostat	
Cooling Chillers	Strategic Energy Management (SEM)	Small Office	Discretionary	18.6	0.01	0.00	0.0	2.0	0.0	0.0	0	5	\$2.51	\$2.51	\$0.21	\$0.00	\$0.00	12.06	1.00	3.886	4.330	3.484	3.484	Identify Operations and Maintenance Improvements through Strategic Energy Man	
Cooling Chillers	Strategic Energy Management (SEM)	Small Office	Lost Opportunity	18.6	0.01	0.00	0.0	2.0	0.0	0.0	0	5	\$2.51	\$2.51	\$0.18	\$0.00	\$0.00	12.06	1.00	2.116	2.426	1.952	1.952	Identify Operations and Maintenance Improvements through Strategic Energy Man	
Cooling Chillers	Wi-Fi Thermostat	Small Office	Discretionary	18.2	0.01	0.00	0.0	2.1	0.0	0.0	0	11	\$205.33	\$205.33	\$0.21	\$0.00	\$0.00	0.33	1.00	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)	
Cooling Chillers	Windows - CBES 2015 - Above Code	Small Office	Discretionary	2.7	0.00	0.00	0.0	0.4	0.0	0.0	0	20	\$680.83	\$680.83	\$0.21	\$0.00	\$0.00	0.03	1.00	1.150	0.000	0.000	0.000	U-0.29	
Cooling Chillers	Windows - CBES 2015 - Above Code	Small Office	Lost Opportunity	2.7	0.00	0.00	0.0	0.4	0.0	0.0	0	20	\$680.83	\$680.83	\$0.18	\$0.00	\$0.00	0.03	1.00	0.371	0.000	0.000	0.000	U-0.29	
Cooling Chillers	Windows - CBES 2015 - Code	Small Office	Discretionary	6.3	0.00	0.00	0.0	0.8	0.0	0.0	0	20	\$4,495.94	\$4,495.94	\$0.21	\$0.00	\$0.00	0.01	1.00	2.595	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units	Small Office	Discretionary	61.6	0.02	0.00	0.0	0.0	0.0	0.0	0	10	\$833.50	\$833.50	\$0.21	-\$600.12	\$0.00	999.00	1.00	40.813	52.101	41.915	41.915	Rooftop unit with automated fault detection and diagnostics capability	
Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units	Small Office	Lost Opportunity	61.6	0.02	0.00	0.0	0.0	0.0	0.0	0	10	\$666.80	\$666.80	\$0.18	-\$480.10	\$0.00	999.00	1.00	3.710	4.828	3.884	3.884	Rooftop unit with automated fault detection and diagnostics capability	
Cooling Dx Evap	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Small Office	Discretionary	42.6	0.01	0.00	8.1	21.7	0.0	0.0	0	15	\$416.75	\$416.75	\$0.21	\$0.00	\$0.00	1.63	1.00	11.997	15.315	12.321	12.321	Demand Controlled Ventilation (CO2 sensors)	
Cooling Dx Evap	Convert Constant Volume Air System to VAV	Small Office	Discretionary	107.5	0.04	0.00	24.1	64.9	0.0	0.0	0	15	\$6,078.36	\$6,078.36	\$0.21	\$0.00	\$0.00	0.32	1.00	11.204	0.000	0.000	0.000	Variable Volume Air System	
Cooling Dx Evap	DX Package 65 to 135 kBtuh - Federal Standard 2023	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.37	\$0.37	\$0.21	\$0.00	\$0.00	0.22	1.00	0.000	0.000	0.000	0.000	Federal Standard 2023 - 14.8 IEER	
Cooling Dx Evap	DX Package 65 to 135 kBtuh - Federal Standard 2023	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.29	\$0.29	\$0.18	\$0.00	\$0.00	0.28	1.00	0.000	0.000	0.000	0.000	Federal Standard 2023 - 14.8 IEER	
Cooling Dx Evap	DX Package 65 to 135 kBtuh - Premium Efficiency	Small Office	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$1.17	\$1.17	\$0.21	\$0.00	\$0.00	0.17	1.00	136.641	0.000	0.000	0.000	Premium Efficiency - 19.0 IEER	
Cooling Dx Evap	DX Package 65 to 135 kBtuh - Premium Efficiency	Small Office	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.94	\$0.94	\$0.18	\$0.00	\$0.00	0.22	1.00	9.077	0.000	0.000	0.000	Premium Efficiency - 19.0 IEER	
Cooling Dx Evap	DX Package-Air Side Economizer	Small Office	Discretionary	114.7	0.04	0.00	0.0	0.0	0.0	0.0	0	10	\$987.85	\$987.85	\$0.21	\$0.00	\$0.00	0.26	1.00	8.904	0.000	0.000	0.000	Air-Side Economizer	
Cooling Dx Evap	Direct Digital Control System-Installation	Small Office	Discretionary	61.4	0.02	0.00	13.8	32.1	0.0	0.0	0	5	\$520.94	\$520.94	\$0.21	\$0.00	\$0.00	0.70	1.00	38.221	0.000	0.000	0.000	Installation of EMS System	
Cooling Dx Evap	Direct Digital Control System-Installation	Small Office	Lost Opportunity	61.4	0.02	0.00	15.3	35.6	0.0	0.0	0	5	\$520.94	\$520.94	\$0.18	\$0.00	\$0.00	0.76	1.00	0.413	0.000	0.000	0.000	Installation of EMS System	
Cooling Dx Evap	Duct Repair and Sealing	Small Office	Discretionary	35.6	0.01	0.00	6.9	12.6	0.0	0.0	0	18	\$400.08	\$400.08	\$										



Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Small Office	Discretionary	2.5	0.00	0.00	0.6	1.6	0.0	0.0	0	20	\$680.83	\$680.83	\$0.21	\$0.00	\$0.00	0.09	1.00	0.502	0.000	0.000	0.000	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Small Office	Lost Opportunity	2.5	0.00	0.00	0.6	1.8	0.0	0.0	0	20	\$680.83	\$680.83	\$0.18	\$0.00	\$0.00	0.10	1.00	0.140	0.000	0.000	0.000	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Code	Small Office	Discretionary	5.6	0.00	0.00	1.3	3.7	0.0	0.0	0	20	\$4,495.94	\$4,495.94	\$0.21	\$0.00	\$0.00	0.03	1.00	1.133	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtuh - Premium Efficiency	Small Office	Discretionary	205.0	0.07	0.00	0.0	0.0	0.0	0.0	0	15	\$6,821.14	\$6,821.14	\$0.21	\$0.00	\$0.00	0.11	1.00	63.020	0.000	0.000	0.000	Premium Efficiency - 19.0 IEEER
Fax	Fax - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	45.239	0.000	0.000	0.000	ENERGY STAR Fax
Fax	Fax - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	4.514	0.000	0.000	0.000	ENERGY STAR Fax
Flat Screen Monitors	Monitor - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.04	\$0.04	\$0.21	\$0.00	\$0.00	0.56	1.00	201.027	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.04	\$0.04	\$0.18	\$0.00	\$0.00	0.56	1.00	18.987	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor
Freezers	Freezer (Residential) - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	9.41	1.00	2.943	2.943	1.914	1.914	ENERGY STAR Freezer
Freezers	Freezer (Residential) - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	9.41	1.00	0.438	0.438	0.285	0.285	ENERGY STAR Freezer
Freezers	Residential Freezer Recycling and Replacement	Small Office	Discretionary	5.5	0.00	0.00	0.0	0.0	0.0	0.0	0	8	\$2.20	\$2.20	\$0.21	\$0.00	\$0.00	3.13	1.00	28.341	28.341	18.430	18.430	Recycling Existing Freezer and Replacing with a Federal Standard Unit
Heat Pump	Air Source Heat Pump 65 to 135 kBtuh - Federal Standard 2023	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.02	\$0.02	\$0.21	\$0.00	\$0.00	0.68	1.00	0.000	0.000	0.000	0.000	Federal Standard 2023 - 14.1 IEEER, 3.4 COP
Heat Pump	Air Source Heat Pump 65 to 135 kBtuh - Federal Standard 2023	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.02	\$0.02	\$0.18	\$0.00	\$0.00	0.85	1.00	0.000	0.000	0.000	0.000	Federal Standard 2023 - 14.1 IEEER, 3.4 COP
Heat Pump	Air Source Heat Pump 65 to 135 kBtuh - Premium Efficiency	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.07	\$0.07	\$0.21	\$0.00	\$0.00	0.55	1.00	0.314	0.000	0.000	0.000	Premium Efficiency - 19.0 IEEER, 3.7 COP
Heat Pump	Air Source Heat Pump 65 to 135 kBtuh - Premium Efficiency	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.06	\$0.06	\$0.18	\$0.00	\$0.00	0.69	1.00	0.027	0.000	0.000	0.000	Premium Efficiency - 19.0 IEEER, 3.7 COP
Heat Pump	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Small Office	Discretionary	8.7	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$416.75	\$416.75	\$0.21	\$0.00	\$0.00	0.07	1.00	0.046	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)
Heat Pump	Cold Climate Heat Pump - Enhanced Efficiency	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.04	\$0.04	\$0.21	\$0.00	\$0.00	0.16	1.00	0.000	0.000	0.000	0.000	High-Performance Cold Climate Commercial Heat Pump
Heat Pump	Cold Climate Heat Pump - Enhanced Efficiency	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.04	\$0.04	\$0.18	\$0.00	\$0.00	0.20	1.00	0.000	0.000	0.000	0.000	High-Performance Cold Climate Commercial Heat Pump
Heat Pump	Convert Constant Volume Air System to VAV	Small Office	Discretionary	25.3	0.01	0.01	0.0	0.0	0.0	0.0	0	15	\$6,078.36	\$6,078.36	\$0.21	\$0.00	\$0.00	0.01	1.00	0.046	0.000	0.000	0.000	Variable Volume Air System
Heat Pump	Direct Digital Control System-Installation	Small Office	Discretionary	14.4	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$520.94	\$520.94	\$0.21	\$0.00	\$0.00	0.03	1.00	0.155	0.000	0.000	0.000	Installation of EMS System
Heat Pump	Direct Digital Control System-Installation	Small Office	Lost Opportunity	14.4	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$520.94	\$520.94	\$0.18	\$0.00	\$0.00	0.03	1.00	0.001	0.000	0.000	0.000	Installation of EMS System
Heat Pump	Duct Repair and Sealing	Small Office	Discretionary	8.4	0.00	0.00	0.0	0.0	0.0	0.0	0	18	\$400.08	\$400.08	\$0.21	\$0.00	\$0.00	0.09	1.00	0.076	0.000	0.000	0.000	Reduction In Duct Losses to 5 %
Heat Pump	Exhaust Air to Ventilation Air Heat Recovery	Small Office	Discretionary	14.4	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$4,884.25	\$4,884.25	\$0.21	\$0.00	\$0.00	0.01	1.00	0.020	0.000	0.000	0.000	Exhaust Air to Ventilation Air Heat Recovery
Heat Pump	Ground Source Heat Pump (< 135 kBtu/hr) Cooling	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.18	\$0.18	\$0.21	\$0.00	\$0.00	0.38	1.00	0.020	0.000	0.000	0.000	17.0 EER, 4.0 COP
Heat Pump	Ground Source Heat Pump (< 135 kBtu/hr) Cooling	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.15	\$0.15	\$0.18	\$0.00	\$0.00	0.47	1.00	0.002	0.000	0.000	0.000	17.0 EER, 4.0 COP
Heat Pump	HVAC Variable Refrigerant Flow	Small Office	Discretionary	57.2	0.02	0.01	0.0	0.0	0.0	0.0	0	15	\$6,334.60	\$6,334.60	\$0.21	-\$145.03	\$0.00	0.04	1.00	0.256	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems
Heat Pump	HVAC Variable Refrigerant Flow	Small Office	Lost Opportunity	57.2	0.02	0.01	0.0	0.0	0.0	0.0	0	15	\$6,334.60	\$6,334.60	\$0.18	-\$145.03	\$0.00	0.04	1.00	0.079	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems
Heat Pump	Indirect Information Feedback	Small Office	Discretionary	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0	2	\$1.67	\$1.67	\$0.21	\$0.00	\$0.00	0.12	1.00	0.009	0.000	0.000	0.000	Indirect Information Feedback
Heat Pump	Indirect Information Feedback	Small Office	Lost Opportunity	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0	2	\$1.67	\$1.67	\$0.18	\$0.00	\$0.00	0.12	1.00	0.001	0.000	0.000	0.000	Indirect Information Feedback
Heat Pump	Infiltration Reduction	Small Office	Discretionary	9.6	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$115.13	\$115.13	\$0.21	\$0.00	\$0.00	0.19	1.00	0.076	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)
Heat Pump	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Discretionary	4.5	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$281.31	\$281.31	\$0.21	\$0.00	\$0.00	0.11	1.00	0.028	0.000	0.000	0.000	R-35 c.i.
Heat Pump	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Lost Opportunity	4.5	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$281.31	\$281.31	\$0.18	\$0.00	\$0.00	0.11	1.00	0.001	0.000	0.000	0.000	R-35 c.i.
Heat Pump	Insulation - Ceiling - CBES 2015 - Code	Small Office	Discretionary	11.8	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$1,283.59	\$1,283.59	\$0.21	\$0.00	\$0.00	0.07	1.00	0.046	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)
Heat Pump	Insulation - Duct - CBES 2015 - Above Code	Small Office	Discretionary	3.5	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$22.61	\$22.61	\$0.21	\$0.00	\$0.00	0.72	1.00	0.061	0.000	0.000	0.000	R-12
Heat Pump	Insulation - Duct - CBES 2015 - Above Code	Small Office	Lost Opportunity	3.5	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$22.61	\$22.61	\$0.18	\$0.00	\$0.00	0.72	1.00	0.007	0.000	0.000	0.000	R-12
Heat Pump	Insulation - Duct - CBES 2015 - Code	Small Office	Discretionary	3.5	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$91.06	\$91.06	\$0.21	\$0.00	\$0.00	0.18	1.00	0.047	0.000	0.000	0.000	R-8 (CBES 2015 Code)
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Discretionary	6.6	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$500.10	\$500.10	\$0.21	\$0.00	\$0.00	0.09	1.00	0.014	0.000	0.000	0.000	R-38
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Lost Opportunity	6.6	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$500.10	\$500.10	\$0.18	\$0.00	\$0.00	0.09	1.00	0.003	0.000	0.000	0.000	R-38
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Code	Small Office	Discretionary	11.5	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$1,433.62	\$1,433.62	\$0.21	\$0.00	\$0.00	0.06	1.00	0.022	0.000	0.000	0.000	R-30 (CBES 2015 Code)
Heat Pump	Insulation - Wall - CBES 2015 - Above Code	Small Office	Discretionary	8.7	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$469.31	\$469.31	\$0.21	\$0.00	\$0.00	0.13	1.00	0.031	0.000	0.000	0.000	R-13 + 15.6 c.i.
Heat Pump	Insulation - Wall - CBES 2015 - Above Code	Small Office	Lost Opportunity	8.7	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$469.31	\$469.31	\$0.18	\$0.00	\$0.00	0.13	1.00	0.009	0.000	0.000	0.000	R-13 + 15.6 c.i.
Heat Pump	Insulation - Wall - CBES 2015 - Code	Small Office	Discretionary	8.1	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$3,220.43	\$3,220.43	\$0.21	\$0.00	\$0.00	0.02	1.00	0.015	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)
Heat Pump	Natural Ventilation	Small Office	Lost Opportunity	9.6	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$1,667.00	\$1,667.00	\$0.18	\$0.00	\$0.00	0.02	1.00	0.001	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling
Heat Pump	Programmable Thermostat	Small Office	Discretionary	3.8	0.00	0.00	0.0	0.0	0.0	0.0	0	11	\$25.78	\$25.78	\$0.21	\$0.00	\$0.00	0.38	1.00	0.063	0.000	0.000	0.000	Programmable Thermostat
Heat Pump	Strategic Energy Management (SEM)	Small Office	Discretionary	3.9	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$0.53	\$0.53	\$0.21	\$0.00	\$0.00	8.15	1.00	0.011	0.013	0.010	0.010	Identify Operations and Maintenance Improvements through Strategic Energy Man
Heat Pump	Strategic Energy Management (SEM)	Small Office	Lost Opportunity	3.9	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$0.53	\$0.53	\$0.18	\$0.00	\$0.00	8.15	1.00	0.007	0.008	0.006	0.006	Identify Operations and Maintenance Improvements through Strategic Energy Man
Heat Pump	Tune-up - Heat Pump Maintenance	Small Office	Discretionary	13.8	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	0.76	1.00	0.205	0.000	0.000	0.000	Heat Pump Maintenance (Tune-up)
Heat Pump	Water Source Heat Pump (>= 135 kBtu/hr and < 375 kBtu/hr) Cooling	Small Office	Discretionary	21.4	0.01	0.01	0.0	0.0	0.0	0.0	0	15	\$5.34	\$5.34	\$0.21	\$0.00	\$0.00	14.02	1.00	0.032	0.037	0.029	0.029	14 EER, 4.6 COP
Heat Pump	Water Source Heat Pump (>= 135 kBtu/hr and < 375 kBtu/hr) Cooling	Small Office	Lost Opportunity	17.1	0.01	0.00	0.0	0.0	0.0	0.0	0	15	\$4.27	\$4.27	\$0.18	\$0.00	\$0.00	14.02	1.00	0.002	0.003	0.002	0.	

Appendix B.2		EVT Non-residential Measure Assumptions																								
				Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description		
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 Reduced Wattage - Above Standard	Small Office	Lost Opportunity	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.03	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 Reduced Wattage Interior Lighting		
Lighting Interior Fluorescent	Lighting Interior - TLED - Above Standard	Small Office	Lost Opportunity	1.5	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.17	\$0.17	\$0.21	-\$0.02	\$0.00	999.00	0.99	8970.995	9749.554	8511.128	8511.128	Above Standard TLED		
Lighting Interior Fluorescent	Occupancy Sensor Control	Small Office	Discretionary	813.2	0.16	0.11	0.0	0.0	0.0	0.0	0	10	\$2,267.40	\$2,267.40	\$0.21	\$0.00	\$0.00	0.67	0.99	1531.966	0.000	0.000	0.000	Occupancy Sensor Control		
Lighting Interior Fluorescent	Time Clock	Small Office	Discretionary	338.8	0.07	0.05	0.0	0.0	0.0	0.0	0	8	\$103.00	\$103.00	\$0.21	\$0.00	\$0.00	4.86	0.99	53.193	53.193	46.436	46.436	Time Clock		
Lighting Interior Fluorescent - Early Replacement	Early Replacement Lighting Interior - TLED - Above Standard	Small Office	Discretionary	286.9	0.06	0.04	0.0	0.0	0.0	0.0	0	15	\$68.27	\$68.27	\$0.21	-\$1.55	\$0.00	0.00	0.99	2060.315	0.000	0.000	0.000	0.000	Above Standard TLED	
Lighting Interior HID	Lighting Interior - Efficient Metal Halide - Above Standard	Small Office	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.15	\$0.15	\$0.21	-\$0.02	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	Efficient Metal Halide		
Lighting Interior HID	Lighting Interior - Federal Standard 2017 Metal Halide - Above Standard	Small Office	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.18	\$0.18	\$0.21	-\$0.02	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	Federal Standard 2017 Metal Halide		
Lighting Interior HID	Lighting Interior - High Bay Fluorescent High Output - Above Standard	Small Office	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.48	\$0.48	\$0.21	\$0.05	\$0.00	1.22	0.99	1571.840	1724.442	1505.397	1505.397	High Bay Fluorescent High Output (HO)		
Lighting Interior HID	Lighting Interior - High Bay Induction - Above Standard	Small Office	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.47	\$0.47	\$0.21	-\$0.06	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	High Bay Induction		
Lighting Interior HID	Lighting Interior - High Bay LED - Above Standard	Small Office	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.55	\$0.55	\$0.21	-\$0.02	\$0.00	5.61	0.99	2295.638	2531.094	2209.584	2209.584	High Bay LED		
Lighting Interior HID	Occupancy Sensor Control	Small Office	Discretionary	334.1	0.06	0.04	0.0	0.0	0.0	0.0	0	10	\$931.56	\$931.56	\$0.21	\$0.00	\$0.00	0.67	0.99	950.827	0.000	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Interior HID	Time Clock	Small Office	Discretionary	139.2	0.03	0.02	0.0	0.0	0.0	0.0	0	8	\$103.00	\$103.00	\$0.21	\$0.00	\$0.00	2.00	0.99	33.015	33.015	28.821	28.821	Time Clock		
Lighting Interior Other	Exit Sign - LED	Small Office	Discretionary	35.0	0.01	0.00	0.0	0.0	0.0	0.0	0	16	\$49.26	\$49.26	\$0.21	\$0.00	\$0.00	2.16	0.99	159.158	159.158	138.941	138.941	LED Exit Sign		
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Small Office	Discretionary	43.6	0.01	0.01	0.0	0.0	0.0	0.0	0	16	-\$7.50	\$0.00	\$0.21	\$0.00	\$0.00	999.00	0.99	289.606	289.606	252.820	252.820	Photoluminescent or Tritium		
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Small Office	Lost Opportunity	43.6	0.01	0.01	0.0	0.0	0.0	0.0	0	16	-\$7.50	\$0.00	\$0.18	\$0.00	\$0.00	999.00	0.99	18.873	18.873	16.476	16.476	Photoluminescent or Tritium		
Lighting Interior Other	New Construction Lighting Package - Advanced Efficiency	Small Office	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.46	\$0.46	\$0.18	-\$0.02	\$0.00	7.49	0.99	827.756	827.756	722.611	722.611	Advanced Efficiency Lighting Package - 25% LPD Reduction		
Lighting Interior Other	New Construction Lighting Package - High Efficiency	Small Office	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.07	\$0.07	\$0.18	-\$0.01	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	High Efficiency Lighting Package - 15% LPD Reduction		
Lighting Interior Other	New Construction Lighting Package - Premium Efficiency	Small Office	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.37	\$0.37	\$0.18	-\$0.01	\$0.00	7.49	0.99	0.000	0.000	0.000	0.000	Premium Efficiency Lighting Package - 20% LPD Reduction		
Lighting Interior Other	Occupancy Sensor Control	Small Office	Discretionary	17.5	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$48.86	\$48.86	\$0.21	\$0.00	\$0.00	0.67	0.99	58.004	0.000	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Interior Other	Time Clock	Small Office	Discretionary	7.3	0.00	0.00	0.0	0.0	0.0	0.0	0	8	\$103.00	\$103.00	\$0.21	\$0.00	\$0.00	0.10	0.99	2.014	0.000	0.000	0.000	0.000	Time Clock	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	Small Office	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	3	\$0.01	\$0.01	\$0.21	-\$0.01	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	CFL		
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base Incandescent - Backstop EISA 2020 Standard	Small Office	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	3	\$0.00	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	Backstop EISA 2020 Standard Incandescent		
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base LED - Above Standard	Small Office	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.04	\$0.04	\$0.21	-\$0.01	\$0.00	999.00	0.99	222.681	223.890	195.451	195.451	LED		
Lighting Interior Screw Base - Standard	Occupancy Sensor Control	Small Office	Discretionary	219.7	0.04	0.03	0.0	0.0	0.0	0.0	0	10	\$612.52	\$612.52	\$0.21	\$0.00	\$0.00	0.67	0.99	241.316	0.000	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Interior Screw Base - Standard	Time Clock	Small Office	Discretionary	91.5	0.02	0.01	0.0	0.0	0.0	0.0	0	8	\$103.00	\$103.00	\$0.21	\$0.00	\$0.00	1.31	0.99	8.379	8.379	7.315	7.315	Time Clock		
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base CFL - Above Standard	Small Office	Discretionary	169.6	0.03	0.02	0.0	0.0	0.0	0.0	0	3	\$3.85	\$3.85	\$0.21	-\$3.40	\$0.00	0.00	0.99	0.000	0.000	0.000	0.000	CFL		
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base LED - Above Standard	Small Office	Discretionary	177.2	0.03	0.02	0.0	0.0	0.0	0.0	0	12	\$12.22	\$12.22	\$0.21	-\$4.01	\$0.00	0.00	0.99	1145.283	0.000	0.000	0.000	0.000	LED	
Other Plug Load	Dehumidifier - ENERGY STAR	Small Office	Discretionary	153.8	0.02	0.01	0.0	0.0	0.0	0.0	0	12	\$60.00	\$60.00	\$0.21	\$0.00	\$0.00	5.23	1.00	186.675	186.675	150.438	150.438	ENERGY STAR Dehumidifier		
Other Plug Load	Dehumidifier - ENERGY STAR	Small Office	Lost Opportunity	153.8	0.02	0.01	0.0	0.0	0.0	0.0	0	12	\$60.00	\$60.00	\$0.18	\$0.00	\$0.00	5.23	1.00	16.221	16.221	13.072	13.072	ENERGY STAR Dehumidifier		
Other Plug Load	ENERGY STAR - Scanners	Small Office	Discretionary	3.6	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	17.907	0.000	0.000	0.000	0.000	ENERGY STAR Scanners	
Other Plug Load	ENERGY STAR - Scanners	Small Office	Lost Opportunity	3.6	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	1.556	0.000	0.000	0.000	0.000	ENERGY STAR Scanners	
Other Plug Load	ENERGY STAR - Water Cooler	Small Office	Discretionary	58.2	0.01	0.01	0.0	0.0	0.0	0.0	0	10	\$0.50	\$0.50	\$0.21	\$0.00	\$0.00	196.63	1.00	406.570	406.570	327.648	327.648	ENERGY STAR Water Cooler (Hot/Cold Water)		
Other Plug Load	ENERGY STAR - Water Cooler	Small Office	Lost Opportunity	58.2	0.01	0.01	0.0	0.0	0.0	0.0	0	10	\$0.50	\$0.50	\$0.18	\$0.00	\$0.00	196.63	1.00	35.328	35.328	28.470	28.470	ENERGY STAR Water Cooler (Hot/Cold Water)		
Other Plug Load	Internal Power Supply / Com - E Star	Small Office	Discretionary	36.1	0.01	0.00	0.0	0.0	0.0	0.0	0	4	\$73.57	\$73.57	\$0.21	\$0.00	\$0.00	0.32	1.00	58.522	0.000	0.000	0.000	0.000	ENERGY STAR power supply for ENERGY STAR desktop	
Other Plug Load	Internal Power Supply / Com - E Star	Small Office	Lost Opportunity	36.1	0.01	0.00	0.0	0.0	0.0	0.0	0	4														

Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Room Cool	Windows - CBES 2015 - Above Code	Small Office	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.1	0.0	0.0	0	20	\$680.83	\$680.83	\$0.18	\$0.00	\$0.00	0.01	1.00	0.003	0.000	0.000	U-0.29
Room Cool	Windows - CBES 2015 - Code	Small Office	Discretionary	0.7	0.00	0.00	0.0	0.3	0.0	0.0	0	20	\$4,495.94	\$4,495.94	\$0.21	\$0.00	\$0.00	0.00	1.00	0.026	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Room Cool - Early Replacement	Early Replacement Room AC - ENERGY STAR	Small Office	Discretionary	10.6	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$183.37	\$183.37	\$0.21	\$0.00	\$0.00	0.00	1.00	0.276	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Heat - Electric	Ductless Heat Pump (DHP)	Small Office	Discretionary	545.9	0.00	0.22	0.0	0.0	0.0	0.0	0	15	\$464.14	\$464.14	\$0.21	\$0.00	\$0.00	2.20	0.97	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Heat - Electric	Ductless Heat Pump (DHP)	Small Office	Lost Opportunity	545.9	0.00	0.22	0.0	0.0	0.0	0.0	0	15	\$464.14	\$464.14	\$0.18	\$0.00	\$0.00	2.20	0.97	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Small Office	Discretionary	574.8	0.00	0.23	0.0	0.0	0.0	0.0	0	15	\$475.24	\$475.24	\$0.21	\$0.00	\$0.00	2.26	0.97	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Small Office	Lost Opportunity	574.8	0.00	0.23	0.0	0.0	0.0	0.0	0	15	\$475.24	\$475.24	\$0.18	\$0.00	\$0.00	2.26	0.97	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1
Room Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Small Office	Discretionary	1,949.7	0.00	0.78	0.0	0.0	0.0	0.0	0	14	\$4,884.25	\$4,884.25	\$0.21	\$0.00	\$0.00	0.70	0.97	0.000	0.000	0.000	0.000	Exhaust Air to Ventilation Air Heat Recovery
Room Heat - Electric	Infiltration Reduction	Small Office	Discretionary	1,299.8	0.00	0.52	0.0	0.0	0.0	0.0	0	10	\$115.13	\$115.13	\$0.21	\$0.00	\$0.00	14.21	0.97	0.000	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Discretionary	603.8	0.00	0.24	0.0	0.0	0.0	0.0	0	30	\$281.31	\$281.31	\$0.21	\$0.00	\$0.00	8.06	0.97	0.000	0.000	0.000	0.000	R-35 c.i.
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Lost Opportunity	603.8	0.00	0.24	0.0	0.0	0.0	0.0	0	30	\$281.31	\$281.31	\$0.18	\$0.00	\$0.00	8.06	0.97	0.000	0.000	0.000	0.000	R-35 c.i.
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Small Office	Discretionary	1,589.5	0.00	0.64	0.0	0.0	0.0	0.0	0	30	\$1,283.59	\$1,283.59	\$0.21	\$0.00	\$0.00	4.65	0.97	0.000	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Discretionary	889.9	0.00	0.36	0.0	0.0	0.0	0.0	0	30	\$500.10	\$500.10	\$0.21	\$0.00	\$0.00	6.68	0.97	0.000	0.000	0.000	0.000	R-38
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Lost Opportunity	889.9	0.00	0.36	0.0	0.0	0.0	0.0	0	30	\$500.10	\$500.10	\$0.18	\$0.00	\$0.00	6.68	0.97	0.000	0.000	0.000	0.000	R-38
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Small Office	Discretionary	1,549.8	0.00	0.62	0.0	0.0	0.0	0.0	0	30	\$1,433.62	\$1,433.62	\$0.21	\$0.00	\$0.00	4.06	0.97	0.000	0.000	0.000	0.000	R-30 (CBES 2015 Code)
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Small Office	Discretionary	1,172.8	0.00	0.47	0.0	0.0	0.0	0.0	0	30	\$469.31	\$469.31	\$0.21	\$0.00	\$0.00	9.38	0.97	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Small Office	Lost Opportunity	1,172.8	0.00	0.47	0.0	0.0	0.0	0.0	0	30	\$469.31	\$469.31	\$0.18	\$0.00	\$0.00	9.38	0.97	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Code	Small Office	Discretionary	1,091.4	0.00	0.44	0.0	0.0	0.0	0.0	0	30	\$3,220.43	\$3,220.43	\$0.21	\$0.00	\$0.00	1.27	0.97	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Electric	Windows - CBES 2015 - Above Code	Small Office	Discretionary	78.5	0.00	0.03	0.0	0.0	0.0	0.0	0	20	\$680.83	\$680.83	\$0.21	\$0.00	\$0.00	0.29	0.97	0.000	0.000	0.000	0.000	U-0.29
Room Heat - Electric	Windows - CBES 2015 - Above Code	Small Office	Lost Opportunity	78.5	0.00	0.03	0.0	0.0	0.0	0.0	0	20	\$680.83	\$680.83	\$0.18	\$0.00	\$0.00	0.29	0.97	0.000	0.000	0.000	0.000	U-0.29
Room Heat - Electric	Windows - CBES 2015 - Code	Small Office	Discretionary	179.2	0.00	0.07	0.0	0.0	0.0	0.0	0	20	\$4,495.94	\$4,495.94	\$0.21	\$0.00	\$0.00	0.10	0.97	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Servers	Internal Power Supply / Server	Small Office	Discretionary	7.7	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$2.26	\$2.26	\$0.21	\$0.00	\$0.00	2.22	0.99	34.272	43.470	34.682	34.682	80 Plus power supply for Desktop Derived Server
Servers	Internal Power Supply / Server	Small Office	Lost Opportunity	7.7	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$2.26	\$2.26	\$0.18	\$0.00	\$0.00	2.22	0.99	2.951	3.836	3.060	3.060	80 Plus power supply for Desktop Derived Server
Servers	Server - ENERGY STAR	Small Office	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.21	\$0.21	\$0.21	\$0.00	\$0.00	0.40	0.99	606.338	0.000	0.000	0.000	ENERGY STAR Server
Servers	Server - ENERGY STAR	Small Office	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.21	\$0.21	\$0.18	\$0.00	\$0.00	0.40	0.99	60.323	0.000	0.000	0.000	ENERGY STAR Server
Space Heat - Electric	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Small Office	Discretionary	1,563.7	0.00	0.63	0.0	0.0	0.0	0.0	0	15	\$416.75	\$416.75	\$0.21	\$0.00	\$0.00	7.02	0.97	6.233	6.233	4.845	4.845	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Electric	Convert Constant Volume Air System to VAV	Small Office	Discretionary	4,667.8	0.01	1.88	0.0	0.0	0.0	0.0	0	15	\$6,078.36	\$6,078.36	\$0.21	\$0.00	\$0.00	1.44	0.97	6.996	6.996	5.438	5.438	Variable Volume Air System
Space Heat - Electric	Direct Digital Control System-Installation	Small Office	Discretionary	2,665.4	0.01	1.07	0.0	0.0	0.0	0.0	0	5	\$520.94	\$520.94	\$0.21	\$0.00	\$0.00	3.18	0.97	23.773	23.773	18.481	18.481	Installation of EMS System
Space Heat - Electric	Direct Digital Control System-Installation	Small Office	Lost Opportunity	2,665.4	0.01	1.07	0.0	0.0	0.0	0.0	0	5	\$520.94	\$520.94	\$0.18	\$0.00	\$0.00	3.18	0.97	0.250	0.250	0.194	0.194	Installation of EMS System
Space Heat - Electric	Duct Repair and Sealing	Small Office	Discretionary	1,545.1	0.00	0.62	0.0	0.0	0.0	0.0	0	18	\$400.08	\$400.08	\$0.21	\$0.00	\$0.00	8.65	0.97	10.261	10.261	7.976	7.976	Reduction In Duct Losses to 5 %
Space Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Small Office	Discretionary	2,665.4	0.01	1.07	0.0	0.0	0.0	0.0	0	14	\$4,884.25	\$4,884.25	\$0.21	\$0.00	\$0.00	0.95	0.97	3.088	0.000	0.000	0.000	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Electric	Indirect Information Feedback	Small Office	Discretionary	92.5	0.00	0.04	0.0	0.0	0.0	0.0	0	2	\$307.64	\$307.64	\$0.21	\$0.00	\$0.00	0.07	0.97	0.922	0.000	0.000	0.000	Indirect Information Feedback
Space Heat - Electric	Indirect Information Feedback	Small Office	Lost Opportunity	92.5	0.00	0.04	0.0	0.0	0.0	0.0	0	2	\$307.64	\$307.64	\$0.18	\$0.00	\$0.00	0.07	0.97	0.100	0.000	0.000	0.000	Indirect Information Feedback
Space Heat - Electric	Infiltration Reduction	Small Office	Discretionary	1,776.9	0.00	0.71	0.0	0.0	0.0	0.0	0	10	\$115.13	\$115.13	\$0.21	\$0.00	\$0.00	19.43	0.97	10.165	10.165	7.902	7.902	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Discretionary	825.5	0.00	0.33	0.0	0.0	0.0	0.0	0	30	\$281.31	\$281.31	\$0.21	\$0.00	\$0.00	11.01	0.97	3.767	3.767	2.928	2.928	R-35 c.i.
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Lost Opportunity	825.5	0.00	0.33	0.0	0.0	0.0	0.0	0	30	\$281.31	\$281.31	\$0.18	\$0.00	\$0.00	11.01	0.97	0.163	0.163	0.127	0.127	R-35 c.i.
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Small Office	Discretionary	2,172.9	0.00	0.87	0.0	0.0	0.0	0.0	0	30	\$1,283.59	\$1,283.59	\$0.21	\$0.00	\$0.00	6.35	0.97	6.043	6.043	4.698	4.698	R-30 c.i. (CBES 2015 Code)
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Small Office	Discretionary	639.7	0.00	0.26	0.0	0.0	0.0	0.0	0	20	\$22.61	\$22.61	\$0.21	\$0.00	\$0.00	70.37	0.97	8.159	8.159	6.342	6.342	R-12
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Small Office	Lost Opportunity	639.7	0.00	0.26	0.0	0.0	0.0	0.0	0	20	\$22.61	\$22.61	\$0.18	\$0.00	\$0.00	70.37	0.97	0.851	0.851	0.661	0.661	R-12
Space Heat - Electric	Insulation - Duct - CBES 2015 - Code	Small Office	Discretionary	639.7	0.00	0.26	0.0	0.0	0.0	0.0	0	20	\$91.06	\$91.06	\$0.21	\$0.00	\$0.00	17.47	0.97	6.390	6.390	4.967	4.967	R-8 (CBES 2015 Code)
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Discretionary	1,216.5	0.00	0.49	0.0	0.0	0.0	0.0	0	30	\$500.10	\$500.10	\$0.21	\$0.00	\$0.00	9.13	0.97	1.859	1.859	1.445	1.445	R-38
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Lost Opportunity	1,216.5	0.00	0.49	0.0	0.0	0.0	0.0	0	30	\$500.10	\$500.10	\$0.18	\$0.00	\$0.00	9.13	0.97	0.332	0.332	0.258	0.258	R-38
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Small Office	Discretionary	2,118.7	0.00	0.85	0.0	0.0	0.0	0.0	0	30	\$1,433.62	\$1,433.62	\$0.21	\$0.00	\$0.00	5.55	0.97	2.983	2.983	2.319	2.319	R-30 (CBES 2015 Code)
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Small Office	Discretionary	1,603.3	0.00	0.64	0.0	0.0	0.0	0.0	0	30	\$469.31	\$469.31	\$0.21	\$0.00	\$0.00	12.82	0.97	4.116	4.116	3.200	3.200	R-13 + 15.6 c.i.
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Small Office	Lost Opportunity	1,603.3	0.00	0.64	0.0	0.0	0.0	0.0	0	30	\$469.31	\$469.31	\$0.18	\$0.00	\$0.00	12.82	0.97	1.110	1.110	0.863	0.863	R-13 + 15.6 c.i.
Space Heat - Electric	Insulation - Wall - CBES 2015 - Code	Small Office	Discretionary	1,492.0	0.00	0.60	0.0	0.0	0.0	0.0	0	30	\$3,220.43	\$3,220.43	\$0.21	\$0.00	\$0.00	1.74	0.97	2.243	2.243	1.744	1.744	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Electric	Programmable Thermostat	Small Office	Discretionary	710.8	0.00	0.29	0.0	0.0	0.0	0.0	0	11	\$25.78	\$25.78	\$0.21	\$0.00	\$0.00	38.11	0.97	8.493	8.493	6.603	6.603	Programmable Thermostat
Space Heat - Electric	Strategic Energy Management (SEM)	Small Office	Discretionary	728.5	0.00	0.29	0.0	0.0	0.0	0.0	0	5	\$98.18	\$98.18	\$0.21	\$0.00	\$0.00	4.61	0.97	1.096	1.096	0.852	0.852	Identify Operations and Maintenance Improvements through Strategic Energy Man
Space Heat - Electric	Strategic Energy Management (SEM)	Small Office	Lost Opportunity	728.5	0.00	0.29	0.0	0.0	0.0	0.0	0	5	\$98.18	\$98.18	\$0.18	\$0.00	\$0.00	4.61	0.97	0.698	0.698	0.543	0.543	Identify Operations and Maintenance Improvements through Strategic Energy Man
Space Heat - Electric	Wi-Fi Thermostat	Small Office	Discretionary	710.8	0.00	0.29	0.0	0.0	0.0	0.0														



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Office	Discretionary	13.1	0.00	0.01	0.0	0.0	0.0	0.0	0.0	1	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	1.11	0.94	0.367	0.557	0.342	0.342	2.2 GPM (Federal Code)
Water Heat GT 55 Gal	Low-Flow Showerheads	Small Office	Discretionary	28.3	0.00	0.01	0.0	0.0	0.0	0.0	0.0	3	9	\$1.67	\$1.67	\$0.21	\$0.00	\$0.00	36.60	0.94	2.015	3.054	1.874	1.874	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Small Office	Lost Opportunity	28.3	0.00	0.01	0.0	0.0	0.0	0.0	0.0	3	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.94	0.151	0.000	0.000	0.000	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Small Office	Discretionary	21.3	0.00	0.01	0.0	0.0	0.0	0.0	0.0	3	9	\$1.67	\$1.67	\$0.21	\$0.00	\$0.00	27.45	0.94	0.000	0.000	0.000	0.000	1.75 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Small Office	Lost Opportunity	21.3	0.00	0.01	0.0	0.0	0.0	0.0	0.0	3	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.94	0.000	0.000	0.000	0.000	1.75 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Small Office	Discretionary	14.2	0.00	0.01	0.0	0.0	0.0	0.0	0.0	2	9	\$1.67	\$1.67	\$0.21	\$0.00	\$0.00	18.30	0.94	0.000	0.000	0.000	0.000	2.0 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Small Office	Lost Opportunity	14.2	0.00	0.01	0.0	0.0	0.0	0.0	0.0	2	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.94	0.000	0.000	0.000	0.000	2.0 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Small Office	Discretionary	14.2	0.00	0.01	0.0	0.0	0.0	0.0	0.0	2	9	\$1.67	\$1.67	\$0.21	\$0.00	\$0.00	18.30	0.94	0.378	0.573	0.351	0.351	2.5 GPM (Federal Code)
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$3.74	\$3.74	\$0.21	\$1.38	\$0.00	0.00	0.94	0.409	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$3.74	\$3.74	\$0.18	\$1.38	\$0.00	0.00	0.94	0.007	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Small Office	Discretionary	48.0	0.00	0.02	0.0	0.0	0.0	0.0	0.0	0	20	\$350.72	\$350.72	\$0.21	\$0.00	\$0.00	0.34	0.94	3.412	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Small Office	Lost Opportunity	48.0	0.00	0.02	0.0	0.0	0.0	0.0	0.0	0	20	\$350.72	\$350.72	\$0.18	\$0.00	\$0.00	0.34	0.94	0.255	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Small Office	Discretionary	8.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.94	0.030	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Small Office	Lost Opportunity	8.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.94	0.002	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.91	\$0.91	\$0.21	\$0.00	\$0.00	0.01	0.94	0.764	0.000	0.000	0.000	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.91	\$0.91	\$0.18	\$0.00	\$0.00	0.01	0.94	0.014	0.000	0.000	0.000	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.18	\$0.18	\$0.21	\$0.00	\$0.00	0.02	0.94	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.18	\$0.18	\$0.18	\$0.00	\$0.00	0.02	0.94	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.73	\$0.73	\$0.21	\$0.00	\$0.00	0.01	0.94	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.73	\$0.73	\$0.18	\$0.00	\$0.00	0.01	0.94	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Small Office	Discretionary	11.4	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	563.88	0.94	0.811	1.229	0.754	0.754	Set Water Heater to 120F
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Small Office	Lost Opportunity	11.4	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	563.88	0.94	0.061	0.099	0.061	0.061	Set Water Heater to 120F
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Small Office	Discretionary	19.5	0.00	0.01	0.0	0.0	0.0	0.0	0.0	2	13	\$21.76	\$21.76	\$0.21	\$0.00	\$0.00	2.42	0.94	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Small Office	Lost Opportunity	19.5	0.00	0.01	0.0	0.0	0.0	0.0	0.0	2	13	\$21.76	\$21.76	\$0.18	\$0.00	\$0.00	2.42	0.94	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Small Office	Discretionary	43.2	0.00	0.02	0.0	0.0	0.0	0.0	0.0	2	13	\$40.24	\$40.24	\$0.21	\$0.00	\$0.00	2.44	0.94	56.158	134.731	82.649	82.649	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Small Office	Lost Opportunity	43.2	0.00	0.02	0.0	0.0	0.0	0.0	0.0	2	13	\$40.24	\$40.24	\$0.18	\$0.00	\$0.00	2.44	0.94	3.711	11.719	7.189	7.189	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Small Office	Discretionary	46.8	0.00	0.02	0.0	0.0	0.0	0.0	0.0	0	13	\$10.71	\$10.71	\$0.21	\$0.00	\$0.00	7.11	0.94	43.137	103.491	63.485	63.485	1.0" of Insulation, assuming R-4 (Code)
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Small Office	Discretionary	0.9	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	20	\$0.11	\$0.11	\$0.21	\$0.00	\$0.00	21.12	0.94	0.369	0.885	0.543	0.543	R-3
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Office	Discretionary	74.2	0.00	0.03	0.0	0.0	0.0	0.0	0.0	5	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	6.58	0.94	161.028	386.326	236.986	236.986	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Office	Lost Opportunity	74.2	0.00	0.03	0.0	0.0	0.0	0.0	0.0	5	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.94	10.641	0.000	0.000	0.000	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Office	Discretionary	52.4	0.00	0.02	0.0	0.0	0.0	0.0	0.0	4	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	4.64	0.94	0.000	0.000	0.000	0.000	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Office	Lost Opportunity	52.4	0.00	0.02	0.0	0.0	0.0	0.0	0.0	4	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.94	0.000	0.000	0.000	0.000	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Office	Discretionary	30.5	0.00	0.01	0.0	0.0	0.0	0.0	0.0	2	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	2.71	0.94	0.000	0.000	0.000	0.000	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Office	Lost Opportunity	30.5	0.00	0.01	0.0	0.0	0.0	0.0	0.0	2	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.94	0.000	0.000	0.000	0.000	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Office	Discretionary	13.1	0.00	0.01	0.0	0.0	0.0	0.0	0.0	1	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	1.11	0.94	10.656	25.566	15.683	15.683	2.2 GPM (Federal Code)
Water Heat LE 55 Gal	Low-Flow Showerheads	Small Office	Discretionary	28.3	0.00	0.01	0.0	0.0	0.0	0.0	0.0	3	9	\$1.67	\$1.67	\$0.21	\$0.00	\$0.00	36.60	0.94	58.464	140.264	86.043	86.043	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Small Office	Lost Opportunity	28.3	0.00	0.01	0.0	0.0	0.0	0.0	0.0	3	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.94	3.863	0.000	0.000	0.000	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Small Office	Discretionary	21.3	0.00	0.01	0.0	0.0	0.0	0.0	0.0	3	9	\$1.67	\$1.67	\$0.21	\$0.00	\$0.00	27.45	0.94	0.000	0.000	0.000	0.000	1.75 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Small Office	Lost Opportunity	21.3	0.00	0.01	0.0	0.0	0.0	0.0	0.0	3	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.94	0.000	0.000	0.000	0.000	1.75 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Small Office	Discretionary	14.2	0.00	0.01	0.0	0.0	0.0	0.0	0.0	2	9	\$1.67	\$1.67	\$0.21	\$0.00	\$0.00	18.30	0.94	0.000	0.000	0.000	0.000	2.0 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Small Office	Lost Opportunity	14.2	0.00	0.01	0.0	0.0	0.0	0.0	0.0	2	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.94	0.000	0.000	0.000	0.000	2.0 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Small Office	Discretionary	14.2	0.00	0.01	0.0	0.0	0.0	0.0	0.0	2	9	\$1.67	\$1.67	\$0.21	\$0.00	\$0.00	18.30	0.94	10.962	26.299	16.133	16.133	2.5 GPM (Federal Code)
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$5.38	\$5.38	\$0.21	\$1.41	\$0.00	0.00	0.94	0.000	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$5.38	\$5.38	\$0.18	\$1.41	\$0.00	0.00	0.94	0.000	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Small Office	Discretionary	48.0	0.00	0.02	0.0	0.0	0.0	0.0	0.0	0	20	\$350.72	\$350.72	\$0.21	\$0.00	\$0.00	0.34	0.94	98.985	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Small Office	Lost Opportunity	48.0	0.00	0.02	0.0	0.0	0.0	0.0	0.0	0	20	\$350.72	\$350.72	\$0.18	\$0.00	\$0.00	0.34	0.94	6.541	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Small Office	Discretionary	7.7	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.94	0.831	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Small Office	Lost Opportunity	7.7	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.94	0.055	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Small Office	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$2.55	\$2.55	\$0.21	\$0.02	\$0.00	0.01	0.94	5				

Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Computers	Network PC Power Management	Small Retail	Lost Opportunity	51.6	0.01	0.00	0.0	0.0	0.0	0.0	0	5	\$6.31	\$6.31	\$0.18	\$1.45	\$0.00	3.27	1.00	12.133	21.377	17.227	17.227	Network PC Power Management
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Small Retail	Discretionary	21.5	0.01	0.00	0.0	0.0	0.0	0.0	0	15	\$433.25	\$433.25	\$0.21	\$0.00	\$0.00	0.17	0.99	8.855	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.40	\$0.40	\$0.21	\$0.00	\$0.00	0.21	0.99	35.038	0.000	0.000	0.000	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.36	\$0.36	\$0.18	\$0.00	\$0.00	0.23	0.99	4.250	0.000	0.000	0.000	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)
Cooling Chillers	Convert Constant Volume Air System to VAV	Small Retail	Discretionary	54.4	0.02	0.00	0.0	0.0	0.0	0.0	0	15	\$6,319.01	\$6,319.01	\$0.21	\$0.00	\$0.00	0.03	0.99	8.339	0.000	0.000	0.000	Variable Volume Air System
Cooling Chillers	Direct Digital Control System-Installation	Small Retail	Discretionary	31.1	0.01	0.00	0.0	0.0	0.0	0.0	0	5	\$541.56	\$541.56	\$0.21	\$0.00	\$0.00	0.06	0.99	28.333	0.000	0.000	0.000	Installation of EMS System
Cooling Chillers	Direct Digital Control System-Installation	Small Retail	Lost Opportunity	31.1	0.01	0.00	0.0	0.0	0.0	0.0	0	5	\$541.56	\$541.56	\$0.18	\$0.00	\$0.00	0.06	0.99	0.264	0.000	0.000	0.000	Installation of EMS System
Cooling Chillers	Exhaust Hood Makeup Air	Small Retail	Discretionary	9.3	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.99	0.369	0.000	0.000	0.000	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air
Cooling Chillers	Green Roof	Small Retail	Discretionary	1.1	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$25,995.00	\$25,995.00	\$0.21	\$259.95	\$0.00	0.00	0.99	1.168	0.000	0.000	0.000	Vegetation on Roof
Cooling Chillers	Green Roof	Small Retail	Lost Opportunity	0.9	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$25,995.00	\$25,995.00	\$0.18	\$259.95	\$0.00	0.00	0.99	0.091	0.000	0.000	0.000	Vegetation on Roof
Cooling Chillers	Indirect Information Feedback	Small Retail	Discretionary	1.1	0.00	0.00	0.0	0.0	0.0	0.0	0	2	\$3.58	\$3.58	\$0.21	\$0.00	\$0.00	0.12	0.99	1.283	0.000	0.000	0.000	Indirect Information Feedback
Cooling Chillers	Indirect Information Feedback	Small Retail	Lost Opportunity	1.1	0.00	0.00	0.0	0.0	0.0	0.0	0	2	\$3.58	\$3.58	\$0.18	\$0.00	\$0.00	0.12	0.99	0.108	0.000	0.000	0.000	Indirect Information Feedback
Cooling Chillers	Infiltration Reduction	Small Retail	Discretionary	6.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$103.16	\$103.16	\$0.21	\$0.00	\$0.00	0.14	0.99	1.541	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Small Retail	Discretionary	9.7	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$292.44	\$292.44	\$0.21	\$0.00	\$0.00	0.24	0.99	4.424	0.000	0.000	0.000	R-35 c.i.
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Small Retail	Lost Opportunity	9.7	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$292.44	\$292.44	\$0.18	\$0.00	\$0.00	0.24	0.99	0.170	0.000	0.000	0.000	R-35 c.i.
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Code	Small Retail	Discretionary	25.6	0.01	0.00	0.0	0.0	0.0	0.0	0	30	\$1,334.41	\$1,334.41	\$0.21	\$0.00	\$0.00	0.14	0.99	7.313	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Retail	Discretionary	14.3	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$519.90	\$519.90	\$0.21	\$0.00	\$0.00	0.20	0.99	2.183	0.000	0.000	0.000	R-38
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Retail	Lost Opportunity	14.3	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$519.90	\$519.90	\$0.18	\$0.00	\$0.00	0.20	0.99	0.347	0.000	0.000	0.000	R-38
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Code	Small Retail	Discretionary	24.9	0.01	0.00	0.0	0.0	0.0	0.0	0	30	\$1,490.38	\$1,490.38	\$0.21	\$0.00	\$0.00	0.12	0.99	3.593	0.000	0.000	0.000	R-30 (CBES 2015 Code)
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Small Retail	Discretionary	18.5	0.01	0.00	0.0	0.0	0.0	0.0	0	30	\$478.51	\$478.51	\$0.21	\$0.00	\$0.00	0.28	0.99	4.741	0.000	0.000	0.000	R-13 + 15.6 c.i.
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Small Retail	Lost Opportunity	18.5	0.01	0.00	0.0	0.0	0.0	0.0	0	30	\$478.51	\$478.51	\$0.18	\$0.00	\$0.00	0.28	0.99	1.137	0.000	0.000	0.000	R-13 + 15.6 c.i.
Cooling Chillers	Insulation - Wall - CBES 2015 - Code	Small Retail	Discretionary	17.2	0.01	0.00	0.0	0.0	0.0	0.0	0	30	\$3,283.56	\$3,283.56	\$0.21	\$0.00	\$0.00	0.04	0.99	2.650	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)
Cooling Chillers	Natural Ventilation	Small Retail	Lost Opportunity	20.7	0.01	0.00	0.0	0.0	0.0	0.0	0	15	\$1,733.00	\$1,733.00	\$0.18	\$0.00	\$0.00	0.04	0.99	0.105	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling
Cooling Chillers	Programmable Thermostat	Small Retail	Discretionary	8.3	0.00	0.00	0.0	0.0	0.0	0.0	0	11	\$25.78	\$25.78	\$0.21	\$0.00	\$0.00	0.81	0.99	9.388	0.000	0.000	0.000	Programmable Thermostat
Cooling Chillers	Strategic Energy Management (SEM)	Small Retail	Discretionary	8.5	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$1.14	\$1.14	\$0.21	\$0.00	\$0.00	8.08	0.99	1.493	1.664	1.333	1.333	Identify Operations and Maintenance Improvements through Strategic Energy Man
Cooling Chillers	Strategic Energy Management (SEM)	Small Retail	Lost Opportunity	8.5	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$1.14	\$1.14	\$0.18	\$0.00	\$0.00	8.08	0.99	0.813	0.932	0.747	0.747	Identify Operations and Maintenance Improvements through Strategic Energy Man
Cooling Chillers	Wi-Fi Thermostat	Small Retail	Discretionary	8.3	0.00	0.00	0.0	0.0	0.0	0.0	0	11	\$205.33	\$205.33	\$0.21	\$0.00	\$0.00	0.10	0.99	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)
Cooling Chillers	Windows - CBES 2015 - Above Code	Small Retail	Discretionary	1.1	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$610.06	\$610.06	\$0.21	\$0.00	\$0.00	0.01	0.99	0.386	0.000	0.000	0.000	U-0.29
Cooling Chillers	Windows - CBES 2015 - Above Code	Small Retail	Lost Opportunity	1.1	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$610.06	\$610.06	\$0.18	\$0.00	\$0.00	0.01	0.99	0.124	0.000	0.000	0.000	U-0.29
Cooling Chillers	Windows - CBES 2015 - Code	Small Retail	Discretionary	2.5	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$4,028.61	\$4,028.61	\$0.21	\$0.00	\$0.00	0.00	0.99	0.873	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units	Small Retail	Discretionary	25.6	0.01	0.00	0.0	0.0	0.0	0.0	0	10	\$1,299.75	\$1,299.75	\$0.21	-\$935.82	\$0.00	999.00	0.99	25.776	32.353	25.921	25.921	Rooftop unit with automated fault detection and diagnostics capability
Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units	Small Retail	Lost Opportunity	25.6	0.01	0.00	0.0	0.0	0.0	0.0	0	10	\$1,039.80	\$1,039.80	\$0.18	-\$748.66	\$0.00	999.00	0.99	2.310	3.006	2.409	2.409	Rooftop unit with automated fault detection and diagnostics capability
Cooling Dx Evap	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Small Retail	Discretionary	17.7	0.01	0.00	0.0	2.2	0.0	0.0	0	15	\$433.25	\$433.25	\$0.21	\$0.00	\$0.00	0.21	0.99	7.514	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)
Cooling Dx Evap	Convert Constant Volume Air System to VAV	Small Retail	Discretionary	44.6	0.02	0.00	0.0	6.5	0.0	0.0	0	15	\$6,319.01	\$6,319.01	\$0.21	\$0.00	\$0.00	0.04	0.99	6.642	0.000	0.000	0.000	Variable Volume Air System
Cooling Dx Evap	DX Package 65 to 135 kBtuh - Federal Standard 2023	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.55	\$0.55	\$0.21	\$0.00	\$0.00	0.07	0.99	0.000	0.000	0.000	0.000	Federal Standard 2023 - 14.8 IEER
Cooling Dx Evap	DX Package 65 to 135 kBtuh - Federal Standard 2023	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.44	\$0.44	\$0.18	\$0.00	\$0.00	0.08	0.99	0.000	0.000	0.000	0.000	Federal Standard 2023 - 14.8 IEER
Cooling Dx Evap	DX Package 65 to 135 kBtuh - Premium Efficiency	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$1.76	\$1.76	\$0.21	\$0.00	\$0.00	0.05	0.99	78.648	0.000	0.000	0.000	Premium Efficiency - 19.0 IEER
Cooling Dx Evap	DX Package 65 to 135 kBtuh - Premium Efficiency	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$1.41	\$1.41	\$0.18	\$0.00	\$0.00	0.06	0.99	7.936	0.000	0.000	0.000	Premium Efficiency - 19.0 IEER
Cooling Dx Evap	DX Package-Air Side Economizer	Small Retail	Discretionary	47.5	0.02	0.00	0.0	0.0	0.0	0.0	0	10	\$1,540.44	\$1,540.44	\$0.21	\$0.00	\$0.00	0.07	0.99	5.906	0.000	0.000	0.000	Air-Side Economizer
Cooling Dx Evap	Direct Digital Control System-Installation	Small Retail	Discretionary	25.5	0.01	0.00	0.0	3.2	0.0	0.0	0	5	\$541.56	\$541.56	\$0.21	\$0.00	\$0.00	0.08	0.99	24.149	0.000	0.000	0.000	Installation of EMS System
Cooling Dx Evap	Direct Digital Control System-Installation	Small Retail	Lost Opportunity	25.5	0.01	0.00	0.0	3.6	0.0	0.0	0	5	\$541.56	\$541.56	\$0.18	\$0.00	\$0.00	0.08	0.99	0.256	0.000	0.000	0.000	Installation of EMS System
Cooling Dx Evap	Duct Repair and Sealing	Small Retail	Discretionary	14.8	0.01	0.00	0.0	2.2	0.0	0.0	0	18	\$415.92	\$415.92	\$0.21	\$0.00	\$0.00	0.23	0.99	10.466	0.000	0.000	0.000	Reduction In Duct Losses to 5 %
Cooling Dx Evap	Exhaust Hood Makeup Air	Small Retail	Discretionary	7.6	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.99	0.364	0.000	0.000	0.000	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air
Cooling Dx Evap	Green Roof	Small Retail	Discretionary	0.9	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$25,995.00	\$25,995.00	\$0.21	\$259.95	\$0.00	0.00	0.99	0.864	0.000	0.000	0.000	Vegetation on Roof
Cooling Dx Evap	Green Roof	Small Retail	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$25,995.00	\$25,995.00	\$0.18	\$259.95	\$0.00	0.00	0.99	0.079	0.000	0.000	0.000	Vegetation on Roof
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Small Retail	Discretionary	100.9	0.03	0.00	0.0	0.0	0.0	0.0	0	15	\$6,585.40	\$6,585.40	\$0.18	-\$150.77	\$0.00	0.07	0.99	11.243	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Small Retail	Lost Opportunity	100.9	0.03	0.00	0.0	0.0	0.0	0.0	0	15	\$6,585.40	\$6,585.40	\$0.18	-\$150.77	\$0.00	0.07	0.99	3.023	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems
Cooling Dx Evap	Indirect Information Feedback	Small Retail	Discretionary	0.9	0.00	0.00	0.0	0.1	0.0	0.0	0	2	\$2.94	\$2.94	\$0.21	\$0.00	\$0.00	0.20	0.99	1.129	0.000	0.000	0.000	Indirect Information Feedback
Cooling Dx Evap	Indirect Information Feedback	Small Retail	Lost Opportunity	0.9	0.00	0.00	0.0	0.1	0.0	0.0	0	2	\$2.94	\$2.94	\$0.18	\$0.00	\$0.00	0.21	0.99	0.104	0.000	0.000	0.000	Indirect Information Feedback
Cooling Dx Evap	Infiltration Reduction	Small Retail	Discretionary	5.1	0.00	0.00	0.0	2.3	0.0	0.0	0	10	\$103.16	\$103.16	\$0.21	\$0.00	\$0.00	0.32	0.99	1.449	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0



Appendix B.2		EVT Non-residential Measure Assumptions																								
				Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings									20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)			
End-Use	Measure Name	Building Type	Replacement Type									EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio					Measure Description		
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	0.50	1.00	64.209	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor		
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	0.50	1.00	6.065	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor		
Freezers	Freezer (Residential) - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	13.03	1.00	5.261	5.261	3.421	3.421	ENERGY STAR Freezer		
Freezers	Freezer (Residential) - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	13.03	1.00	0.712	0.712	0.463	0.463	ENERGY STAR Freezer		
Freezers	Residential Freezer Recycling and Replacement	Small Retail	Discretionary	6.8	0.00	0.00	0.0	0.0	0.0	0.0	0	8	\$2.72	\$2.72	\$0.21	\$0.00	\$0.00	3.13	1.00	33.255	33.255	21.625	21.625	Recycling Existing Freezer and Replacing with a Federal Standard Unit		
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	Small Retail	Discretionary	229.6	0.00	0.05	0.0	0.0	0.0	0.0	0	8	\$32.28	\$32.28	\$0.21	\$0.00	\$0.00	7.01	0.99	120.104	120.104	104.651	104.651	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time		
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	Small Retail	Discretionary	214.3	0.00	0.05	0.0	0.0	0.0	0.0	0	8	\$38.30	\$38.30	\$0.21	\$0.00	\$0.00	5.51	0.99	784.677	784.677	683.717	683.717	Photocell		
Lighting Exterior	LED Exterior Flood Lights	Small Retail	Discretionary	74.4	0.00	0.02	0.0	0.0	0.0	0.0	0	20	\$49.04	\$49.04	\$0.21	\$0.00	\$0.00	3.73	0.99	443.369	443.369	386.324	386.324	LED Exterior Flood Lights		
Lighting Exterior	LED Exterior Flood Lights	Small Retail	Lost Opportunity	74.4	0.00	0.02	0.0	0.0	0.0	0.0	0	20	\$49.04	\$49.04	\$0.18	\$0.00	\$0.00	3.73	0.99	38.525	38.525	33.568	33.568	LED Exterior Flood Lights		
Lighting Exterior	LED Exterior Pole Mount Fixture	Small Retail	Discretionary	42.4	0.00	0.01	0.0	0.0	0.0	0.0	0	15	\$83.08	\$83.08	\$0.21	\$0.00	\$0.00	0.94	0.99	252.655	0.000	0.000	0.000	LED Exterior Pole Mount Fixture		
Lighting Exterior	LED Exterior Pole Mount Fixture	Small Retail	Lost Opportunity	42.4	0.00	0.01	0.0	0.0	0.0	0.0	0	15	\$83.08	\$83.08	\$0.18	\$0.00	\$0.00	0.94	0.99	21.954	0.000	0.000	0.000	LED Exterior Pole Mount Fixture		
Lighting Exterior	LED Exterior Wall Pack	Small Retail	Discretionary	140.5	0.00	0.03	0.0	0.0	0.0	0.0	0	20	\$291.50	\$291.50	\$0.21	\$0.00	\$0.00	1.19	0.99	791.106	791.106	689.319	689.319	LED Exterior Wall Pack		
Lighting Exterior	LED Exterior Wall Pack	Small Retail	Lost Opportunity	140.5	0.00	0.03	0.0	0.0	0.0	0.0	0	20	\$291.50	\$291.50	\$0.18	\$0.00	\$0.00	1.19	0.99	68.741	68.741	59.896	59.896	LED Exterior Wall Pack		
Lighting Exterior	LED Pathway Lights	Small Retail	Discretionary	35.0	0.00	0.01	0.0	0.0	0.0	0.0	0	11	\$8.28	\$8.28	\$0.21	\$0.00	\$0.00	5.73	0.99	208.649	208.649	181.804	181.804	LED Pathway Lights		
Lighting Exterior	LED Pathway Lights	Small Retail	Lost Opportunity	35.0	0.00	0.01	0.0	0.0	0.0	0.0	0	11	\$8.28	\$8.28	\$0.18	\$0.00	\$0.00	5.73	0.99	18.130	18.130	15.797	15.797	LED Pathway Lights		
Lighting Exterior	Occupancy Sensor Control	Small Retail	Discretionary	183.7	0.00	0.04	0.0	0.0	0.0	0.0	0	10	\$576.98	\$576.98	\$0.21	\$0.00	\$0.00	0.39	0.99	288.249	0.000	0.000	0.000	Occupancy Sensor Control		
Lighting Exterior	Parking - Covered Lighting	Small Retail	Discretionary	16.2	0.00	0.00	0.0	0.0	0.0	0.0	0	19	\$11.84	\$11.84	\$0.21	\$0.00	\$0.00	3.21	0.99	26.323	26.323	22.936	22.936	Covered Parking Lighting (LED)		
Lighting Exterior	Parking - Covered Lighting	Small Retail	Lost Opportunity	16.2	0.00	0.00	0.0	0.0	0.0	0.0	0	19	\$11.84	\$11.84	\$0.18	\$0.00	\$0.00	3.21	0.99	2.287	2.287	1.993	1.993	Covered Parking Lighting (LED)		
Lighting Exterior	Parking - Surface Lighting	Small Retail	Discretionary	8.8	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$4.51	\$4.51	\$0.21	\$0.00	\$0.00	2.40	0.99	6.117	6.117	5.330	5.330	Surface Parking Lighting (LED)		
Lighting Exterior	Parking - Surface Lighting	Small Retail	Lost Opportunity	8.8	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$4.51	\$4.51	\$0.18	\$0.00	\$0.00	2.40	0.99	0.532	0.532	0.463	0.463	Surface Parking Lighting (LED)		
Lighting Exterior	Time Clock	Small Retail	Discretionary	76.5	0.00	0.02	0.0	0.0	0.0	0.0	0	8	\$103.00	\$103.00	\$0.21	\$0.00	\$0.00	0.73	0.99	20.017	0.000	0.000	0.000	Time Clock		
Lighting Interior Fluorescent	Bi-Level Control, Stairwell Lighting	Small Retail	Discretionary	169.8	0.03	0.02	0.0	0.0	0.0	0.0	0	8	\$239.78	\$239.78	\$0.21	\$0.00	\$0.00	1.05	0.99	48.487	48.487	42.249	42.249	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time		
Lighting Interior Fluorescent	Dimming-Stepped, Fluorescent Fixtures	Small Retail	Discretionary	1,787.2	0.35	0.24	0.0	0.0	0.0	0.0	0	10	\$95.75	\$95.75	\$0.21	\$0.00	\$0.00	34.75	0.99	1735.362	1735.362	1512.084	1512.084	3-stepped Dimming of Fluorescent Fixtures (Day-Lighting)		
Lighting Interior Fluorescent	Lighting Interior - Fluorescent - 2018 Federal Standard	Small Retail	Lost Opportunity	0.8	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.03	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	Standard Fluorescent 2018 Federal Standard Approved T-8		
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 - Above Standard	Small Retail	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.04	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 Interior Lighting		
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 High Performance - Above Standard	Small Retail	Lost Opportunity	0.9	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.02	\$0.00	\$0.21	\$0.00	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 High Performance Interior Lighting		
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 Reduced Wattage - Above Standard	Small Retail	Lost Opportunity	0.9	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.03	\$0.03	\$0.21	\$0.01	\$0.00	24.62	0.99	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 Reduced Wattage Interior Lighting		
Lighting Interior Fluorescent	Lighting Interior - TLED - Above Standard	Small Retail	Lost Opportunity	2.6	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.39	\$0.39	\$0.21	-\$0.02	\$0.00	34.45	0.99	15487.795	16124.146	14049.561	14049.561	Above Standard TLED		
Lighting Interior Fluorescent	Occupancy Sensor Control	Small Retail	Discretionary	1,531.9	0.30	0.21	0.0	0.0	0.0	0.0	0	10	\$4,811.81	\$4,811.81	\$0.21	\$0.00	\$0.00	0.59	0.99	1312.458	0.000	0.000	0.000	Occupancy Sensor Control		
Lighting Interior Fluorescent	Time Clock	Small Retail	Discretionary	638.3	0.12	0.09	0.0	0.0	0.0	0.0	0	8	\$103.00	\$103.00	\$0.21	\$0.00	\$0.00	9.15	0.99	91.143	91.143	79.416	79.416	Time Clock		
Lighting Interior Fluorescent - Early Replacement	Early Replacement Lighting Interior - TLED - Above Standard	Small Retail	Discretionary	506.1	0.10	0.07	0.0	0.0	0.0	0.0	0	15	\$123.35	\$123.35	\$0.21	-\$1.12	\$0.00	0.00	0.99	3477.502	0.000	0.000	0.000	Above Standard TLED		
Lighting Interior HID	Lighting Interior - Efficient Metal Halide - Above Standard	Small Retail	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.06	\$0.06	\$0.21	\$0.00	\$0.00	26.23	0.99	0.000	0.000	0.000	0.000	Efficient Metal Halide		
Lighting Interior HID	Lighting Interior - Federal Standard 2017 Metal Halide - Above Standard	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.07	\$0.07	\$0.21	\$0.00	\$0.00	2.35	0.99	0.000	0.000	0.000	0.000	Federal Standard 2017 Metal Halide		
Lighting Interior HID	Lighting Interior - High Bay Fluorescent High Output - Above Standard	Small Retail	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.18	\$0.18	\$0.21	\$0.02	\$0.00	1.37	0.99	684.092	718.064	625.676	625.676	High Bay Fluorescent High Output (HO)		
Lighting Interior HID	Lighting Interior - High Bay Induction - Above Standard	Small Retail	Lost Opportunity	0.1	0.00	0.00	0.0	0																		

Appendix B.2		EVT Non-residential Measure Assumptions																								
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description		
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	1.26	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	1.26	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	1.27	1.00	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	12	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	1.27	1.00	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Refrigerator	
Refrigerators	Residential Refrigerator Recycling and Replacement	Small Retail	Discretionary	47.5	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0	8	\$24.72	\$24.72	\$0.21	\$0.00	\$0.00	2.41	1.00	253.431	253.431	164.802	164.802	Recycling Existing Refrigerator and Replacing with a Federal Standard Unit	
Room Cool	Ductless Air Conditioner (DAC)	Small Retail	Discretionary	11.7	0.01	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$283.20	\$283.20	\$0.21	\$0.00	\$0.00	0.17	0.99	0.479	0.000	0.000	0.000	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Air Conditioner (DAC)	Small Retail	Lost Opportunity	11.7	0.01	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$283.20	\$283.20	\$0.18	\$0.00	\$0.00	0.17	0.99	0.078	0.000	0.000	0.000	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Heat Pump (DHP)	Small Retail	Discretionary	31.9	0.01	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$482.52	\$482.52	\$0.21	\$0.00	\$0.00	0.27	0.99	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP)	Small Retail	Lost Opportunity	31.9	0.01	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$482.52	\$482.52	\$0.18	\$0.00	\$0.00	0.27	0.99	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Small Retail	Discretionary	33.6	0.02	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$494.06	\$494.06	\$0.21	\$0.00	\$0.00	0.28	0.99	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Small Retail	Lost Opportunity	33.6	0.02	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$494.06	\$494.06	\$0.18	\$0.00	\$0.00	0.28	0.99	0.018	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1	
Room Cool	Exhaust Hood Makeup Air	Small Retail	Discretionary	2.4	0.00	0.00	0.0	0.0	0.0	0.0	0.0	2	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.99	0.008	0.000	0.000	0.000	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Room Cool	Green Roof	Small Retail	Discretionary	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	40	\$25,995.00	\$25,995.00	\$0.21	\$259.95	\$0.00	0.99	0.023	0.000	0.000	0.000	0.000	Vegetation on Roof	
Room Cool	Green Roof	Small Retail	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	40	\$25,995.00	\$25,995.00	\$0.18	\$259.95	\$0.00	0.99	0.001	0.000	0.000	0.000	0.000	Vegetation on Roof	
Room Cool	Infiltration Reduction	Small Retail	Discretionary	1.6	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	10	\$103.16	\$103.16	\$0.21	\$0.00	\$0.00	0.05	0.99	0.027	0.000	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Small Retail	Discretionary	2.5	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	30	\$292.44	\$292.44	\$0.21	\$0.00	\$0.00	0.08	0.99	0.075	0.000	0.000	0.000	0.000	R-35 c.i.
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Small Retail	Lost Opportunity	2.3	0.00	0.00	0.0	0.0	0.0	0.0	0.0	2	30	\$292.44	\$292.44	\$0.18	\$0.00	\$0.00	0.07	0.99	0.002	0.000	0.000	0.000	0.000	R-35 c.i.
Room Cool	Insulation - Ceiling - CBES 2015 - Code	Small Retail	Discretionary	6.7	0.00	0.00	0.0	0.0	0.0	0.1	0.0	0	30	\$1,334.41	\$1,334.41	\$0.21	\$0.00	\$0.00	0.04	0.99	0.126	0.000	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Retail	Discretionary	3.8	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	30	\$519.90	\$519.90	\$0.21	\$0.00	\$0.00	0.06	0.99	0.037	0.000	0.000	0.000	0.000	R-38
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Retail	Lost Opportunity	3.4	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	30	\$519.90	\$519.90	\$0.18	\$0.00	\$0.00	0.06	0.99	0.005	0.000	0.000	0.000	0.000	R-38
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Code	Small Retail	Discretionary	6.5	0.00	0.00	0.0	0.0	0.0	0.1	0.0	0	30	\$1,490.38	\$1,490.38	\$0.21	\$0.00	\$0.00	0.04	0.99	0.062	0.000	0.000	0.000	0.000	R-30 (CBES 2015 Code)
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Small Retail	Discretionary	4.9	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	30	\$478.51	\$478.51	\$0.21	\$0.00	\$0.00	0.09	0.99	0.080	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Small Retail	Lost Opportunity	4.4	0.00	0.00	0.0	0.0	0.0	0.1	0.0	0	30	\$478.51	\$478.51	\$0.18	\$0.00	\$0.00	0.08	0.99	0.017	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.
Room Cool	Insulation - Wall - CBES 2015 - Code	Small Retail	Discretionary	4.5	0.00	0.00	0.0	0.0	0.0	0.1	0.0	0	30	\$3,283.56	\$3,283.56	\$0.21	\$0.00	\$0.00	0.01	0.99	0.050	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Cool	Natural Ventilation	Small Retail	Lost Opportunity	4.9	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	15	\$1,733.00	\$1,733.00	\$0.18	\$0.00	\$0.00	0.01	0.99	0.002	0.000	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling
Room Cool	Room AC - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	9	\$0.03	\$0.03	\$0.21	\$0.00	\$0.00	0.25	0.99	0.673	0.000	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Cool	Room AC - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	9	\$0.03	\$0.03	\$0.18	\$0.00	\$0.00	0.25	0.99	0.068	0.000	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Cool	Windows - CBES 2015 - Above Code	Small Retail	Discretionary	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	20	\$610.06	\$610.06	\$0.21	\$0.00	\$0.00	0.00	0.99	0.008	0.000	0.000	0.000	0.000	U-0.29
Room Cool	Windows - CBES 2015 - Above Code	Small Retail	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	20	\$610.06	\$610.06	\$0.18	\$0.00	\$0.00	0.00	0.99	0.002	0.000	0.000	0.000	0.000	U-0.29
Room Cool	Windows - CBES 2015 - Code	Small Retail	Discretionary	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	20	\$4,028.61	\$4,028.61	\$0.21	\$0.00	\$0.00	0.00	0.99	0.017	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Room Cool - Early Replacement	Early Replacement Room AC - ENERGY STAR	Small Retail	Discretionary	11.1	0.01	0.00	0.0	0.0	0.0	0.0	0.0	0	9	\$190.63	\$190.63	\$0.21	\$0.00	\$0.00	0.00	0.99	0.210	0.000	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Heat - Electric	Ductless Heat Pump (DHP)	Small Retail	Discretionary	567.6	0.00	0.23	0.0	0.0	0.0	0.0	0.0	0	15	\$482.52	\$482.52	\$0.21	\$0.00	\$0.00	2.20	1.00	0.000	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Heat - Electric	Ductless Heat Pump (DHP)	Small Retail	Lost Opportunity	567.6	0.00	0.23	0.0	0.0	0.0	0.0	0.0	0	15	\$482.52	\$482.52	\$0.18	\$0.00	\$0.00	2.20	1.00	0.000	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Small Retail	Discretionary	597.5	0.00	0.24	0.0	0.0	0.0	0.0	0.0	0	15	\$494.06	\$494.06	\$0.21	\$0.00	\$0.00	2.26	1.00	0.000	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Small Retail	Lost Opportunity	597.5	0.00	0.24	0.0	0.0	0.0	0.0	0.0	0	15	\$494.06	\$494.06	\$0.18	\$0.00	\$0.00	2.26	1.00	0.115	0.115	0.092	0.092	0.092	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1
Room Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Small Retail	Discretionary	621.0	0.00	0.25	0.0	0.0	0.0	0.0	0.0	0	14	\$5,077.63	\$5,077.63	\$0.21	\$0.00	\$0.00	0.21	1.00	3.224	0.000	0.000	0.000	0.000	Exhaust Air to Ventilation Air Heat Recovery
Room Heat - Electric	Infiltration Reduction	Small Retail	Discretionary	414.0	0.00	0.17	0.0	0.0	0.0	0.0	0.0	0	10	\$103.16	\$103.16	\$0.21	\$0.00	\$0.00	5.05	1.00	4.455	4.455	3.589	3.589	3.589	Install Caulking And Weatherstripping (ACH 0.65)
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Small Retail	Discretionary	194.3	0.00	0.08	0.0	0.0	0.0	0.0	0.0	0	30	\$292.44	\$292.44	\$0.21	\$0.00	\$0.00	2.49	1.00	3.456	3.456	2.784	2.784	2.784	R-35 c.i.
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Small Retail	Lost Opportunity	194.3	0.00	0.08	0.0	0.0	0.0	0.0	0.0	0	30	\$292.44	\$292.44	\$0.18	\$0.00	\$0.00	2.49	1.00	0.142	0.142	0.114	0.114	0.114	R-35 c.i.
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Small Retail	Discretionary	511.6	0.00	0.21	0.0	0.0	0.0	0.0	0.0	0	30	\$1,334.41	\$1,334.41	\$0.21	\$0.00	\$0.00	1.44	1.00	5.656	5.656	4.556	4.556	4.556	R-30 c.i. (CBES 2015 Code)
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Retail	Discretionary	286.4	0.00	0.12	0.0	0.0	0.0	0.0	0.0	0	30	\$519.90	\$519.90	\$0.21	\$0.00	\$0.00	2.07	1.00	1.647	1.647	1.327	1.327	1.327	R-38
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Retail	Lost Opportunity	286.4	0.00	0.12	0.0	0.0	0.0	0.0	0.0	0	30	\$519.90	\$519.90	\$0.18	\$0.00	\$0.00	2.07	1.00	0.269	0.269	0.217	0.217	0.217	R-38
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Small Retail	Discretionary	498.8	0.00	0.20	0.0	0.0	0.0	0.0	0.0	0	30	\$1,490.38	\$1,490.38	\$0.21	\$0.00	\$0.00	1.26	1.00	2.792	2.792	2.249	2.249	2.249	R-30 (CBES 2015 Code)
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Small Retail	Discretionary	370.2	0.00	0.15	0.0	0.0	0.0	0.0	0.0	0	30	\$478.51	\$478.51	\$0.21	\$0.00	\$0.00	2.90	1.00	3.703	3.703	2.983	2.983	2.983	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Small Retail	Lost Opportunity	370.2	0.00	0.15	0.0	0.0	0.0	0.0	0.0	0	30	\$478.51	\$478.51	\$0.18	\$0.00	\$0.00	2.90	1.00	0.945	0.945	0.761	0.761	0.761	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Code	Small Retail	Discretionary	344.5	0.00	0.14	0.0	0.0	0.0	0.0	0.0	0	30	\$3,283.56	\$3,283.56	\$0.21	\$0.00	\$0.00	0.39	1.00	2.257	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Electric	Windows - CBES 2015 - Above Code	Small Retail																								

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Space Heat - Electric	Windows - CBES 2015 - Above Code	Small Retail	Lost Opportunity	30.9	0.00	0.01	0.0	0.0	0.0	0.0	0.0	0	20	\$610.06	\$610.06	\$0.18	\$0.00	\$0.00	0.13	1.00	0.184	0.000	0.000	0.000	U-0.29
Space Heat - Electric	Windows - CBES 2015 - Code	Small Retail	Discretionary	70.6	0.00	0.03	0.0	0.0	0.0	0.0	0	20	\$4,028.61	\$4,028.61	\$0.21	\$0.00	\$0.00	0.04	1.00	1.140	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Vending Machines	Vending Machines - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.99	0.000	0.000	0.000	0.000	0.000	ENERGY STAR Vending Machines - 3.84 kWh/day
Vending Machines	Vending Machines - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.99	0.000	0.000	0.000	0.000	0.000	ENERGY STAR Vending Machines - 3.84 kWh/day
Vending Machines	Vending Machines - Federal Standard 2020	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.99	0.068	0.000	0.000	0.000	0.000	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Machines - Federal Standard 2020	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.99	6.325	0.000	0.000	0.000	0.000	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Miser	Small Retail	Discretionary	33.4	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$5.25	\$5.25	\$0.21	\$0.00	\$0.00	4.89	0.99	139.079	139.508	111.302	111.302	0.000	Vending Machine Occupancy Sensor
Vending Machines	Vending Miser	Small Retail	Lost Opportunity	33.4	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$5.25	\$5.25	\$0.18	\$0.00	\$0.00	4.88	0.99	13.968	13.998	11.168	11.168	0.000	Vending Machine Occupancy Sensor
Ventilation And Circulation	Automated Exhaust VFD Control - Parking Garage CO sensor	Small Retail	Discretionary	83.9	0.01	0.01	0.0	0.0	0.0	0.0	0	5	\$12.21	\$12.21	\$0.21	\$0.00	\$0.00	5.31	0.95	22.067	22.067	18.697	18.697	0.000	CO Sensors
Ventilation And Circulation	Boiler Draft Fan - VFD	Small Retail	Discretionary	462.1	0.05	0.06	0.0	0.0	0.0	0.0	0	15	\$248.65	\$248.65	\$0.21	\$0.00	\$0.00	4.47	0.95	838.004	838.004	710.007	710.007	0.000	VFD Boiler Draft Fan
Ventilation And Circulation	Boiler Draft Fan - VFD	Small Retail	Lost Opportunity	462.1	0.05	0.06	0.0	0.0	0.0	0.0	0	15	\$248.65	\$248.65	\$0.18	\$0.00	\$0.00	4.47	0.95	50.411	50.411	42.711	42.711	0.000	VFD Boiler Draft Fan
Ventilation And Circulation	Convert Constant Volume Air System to VAV	Small Retail	Discretionary	350.2	0.04	0.04	0.0	0.0	0.0	0.0	0	15	\$6,319.01	\$6,319.01	\$0.21	\$0.00	\$0.00	0.13	0.95	188.561	0.000	0.000	0.000	0.000	Variable Volume Air System
Ventilation And Circulation	Cooling Tower Fan - Variable Speed Control	Small Retail	Discretionary	25.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$45.01	\$45.01	\$0.21	\$0.00	\$0.00	1.34	0.95	98.352	98.352	83.330	83.330	0.000	HVAC Fan System Installation with VSD
Ventilation And Circulation	Fan System - HVAC - Variable Speed Control	Small Retail	Discretionary	455.5	0.05	0.06	0.0	0.0	0.0	0.0	0	15	\$72.55	\$72.55	\$0.21	\$0.00	\$0.00	15.10	0.95	698.843	698.843	592.102	592.102	0.000	HVAC Fan System Optimization with VSD (Restoration)
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	Small Retail	Discretionary	16.6	0.00	0.00	0.0	0.0	0.0	0.0	0	16	\$0.36	\$0.36	\$0.21	\$0.00	\$0.00	117.21	0.95	98.728	98.728	83.649	83.649	0.000	CEE PE+ Motor for HVAC Applications
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	Small Retail	Lost Opportunity	16.6	0.00	0.00	0.0	0.0	0.0	0.0	0	16	\$0.36	\$0.36	\$0.18	\$0.00	\$0.00	117.21	0.95	8.579	8.579	7.268	7.268	0.000	CEE PE+ Motor for HVAC Applications
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	Small Retail	Discretionary	324.1	0.04	0.04	0.0	0.0	0.0	0.0	0	15	\$6,319.01	\$6,319.01	\$0.21	\$0.00	\$0.00	0.12	0.95	121.222	0.000	0.000	0.000	0.000	VAV Box High Efficiency (ECM)
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	Small Retail	Lost Opportunity	324.1	0.04	0.04	0.0	0.0	0.0	0.0	0	15	\$6,319.01	\$6,319.01	\$0.18	\$0.00	\$0.00	0.12	0.95	0.000	0.000	0.000	0.000	0.000	VAV Box High Efficiency (ECM)
Ventilation And Circulation	Motor Rewind	Small Retail	Discretionary	6.7	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.51	\$0.51	\$0.21	\$0.00	\$0.00	18.63	0.95	1.372	1.372	1.162	1.162	0.000	>15, <500 HP
Ventilation And Circulation	Variable Speed ECM Pump - Domestic Hot Water Recirculation	Small Retail	Discretionary	21.7	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$4.26	\$4.26	\$0.21	\$0.00	\$0.00	12.24	0.95	53.681	53.681	45.482	45.482	0.000	Domestic Hot Water Recirculation ECM Pump
Ventilation And Circulation	Variable Speed ECM Pump - HVAC Space Heating Recirculation	Small Retail	Discretionary	358.3	0.04	0.04	0.0	0.0	0.0	0.0	0	15	\$42.57	\$42.57	\$0.21	\$0.00	\$0.00	20.26	0.95	649.762	649.762	550.517	550.517	0.000	HVAC Space Heating Recirculation ECM Pump
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Small Retail	Discretionary	9.4	0.00	0.00	0.0	0.0	0.0	0.0	2	13	\$21.76	\$21.76	\$0.21	\$0.00	\$0.00	1.66	1.00	0.000	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Small Retail	Lost Opportunity	9.4	0.00	0.00	0.0	0.0	0.0	0.0	2	13	\$21.76	\$21.76	\$0.18	\$0.00	\$0.00	1.66	1.00	0.000	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Small Retail	Discretionary	20.8	0.00	0.01	0.0	0.0	0.0	0.0	2	13	\$40.24	\$40.24	\$0.21	\$0.00	\$0.00	1.53	1.00	0.129	0.196	0.127	0.127	0.000	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Small Retail	Lost Opportunity	20.8	0.00	0.01	0.0	0.0	0.0	0.0	2	13	\$40.24	\$40.24	\$0.18	\$0.00	\$0.00	1.53	1.00	0.010	0.016	0.010	0.010	0.000	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	Small Retail	Discretionary	22.5	0.00	0.01	0.0	0.0	0.0	0.0	0	13	\$10.71	\$10.71	\$0.21	\$0.00	\$0.00	3.42	1.00	1.724	2.613	1.699	1.699	0.000	1.0" of Insulation, assuming R-4 (Code)
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	Small Retail	Discretionary	20.7	0.00	0.01	0.0	0.0	0.0	0.0	0	25	\$707.00	\$707.00	\$0.21	\$0.00	\$0.00	0.09	1.00	0.020	0.000	0.000	0.000	0.000	Install Heat Recovery Water Heater
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	Small Retail	Discretionary	1.4	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$0.17	\$0.17	\$0.21	\$0.00	\$0.00	21.12	1.00	0.041	0.063	0.041	0.041	0.000	R-3
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Retail	Discretionary	30.1	0.00	0.01	0.0	0.0	0.0	0.0	2	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	2.67	1.00	2.809	4.257	2.768	2.768	0.000	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Retail	Lost Opportunity	30.1	0.00	0.01	0.0	0.0	0.0	0.0	2	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.210	0.000	0.000	0.000	0.000	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Retail	Discretionary	21.2	0.00	0.01	0.0	0.0	0.0	0.0	2	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	1.88	1.00	0.000	0.000	0.000	0.000	0.000	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Retail	Lost Opportunity	21.2	0.00	0.01	0.0	0.0	0.0	0.0	2	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	0.000	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Retail	Discretionary	12.4	0.00	0.00	0.0	0.0	0.0	0.0	1	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	1.10	1.00	0.000	0.000	0.000	0.000	0.000	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Retail	Lost Opportunity	12.4	0.00	0.00	0.0	0.0	0.0	0.0	1	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	0.000	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Retail	Discretionary	5.3	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	0.45	1.00	0.186	0.000	0.000	0.000	0.000	2.2 GPM (Federal Code)
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$3.60	\$3.60	\$0.21	\$1.33	\$0.00	0.00	1.00	1.446	0.000	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$3.60	\$3.60	\$0.18	\$1.33	\$0.00	0.00	1.00	0.108	0.000	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Small Retail	Discretionary	19.4	0.00	0.01	0.0	0.0	0.0	0.0	0	20	\$350.72	\$350.72	\$0.21	\$0.00	\$0.00	0.14	1.00	1.727	0.000	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Small Retail	Lost Opportunity	19.4	0.00	0.01	0.0	0.0	0.0	0.0	0	20	\$350.72	\$350.72	\$0.18	\$0.00	\$0.00	0.14	1.00	0.129	0.000	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Small Retail	Discretionary	12.9	0.00	0.01	0.0	0.0	0.0	0.0	0	10	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.060	0.000	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Small Retail	Lost Opportunity	12.9	0.00	0.01	0.0	0.0	0.0	0.0	0	10	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.005	0.000	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.88	\$0.88	\$0.21	\$0.00	\$0.00	0.02	1.00	2.531	0.000	0.000	0.000	0.000	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.88	\$0.88	\$0.18	\$0.00	\$0.00	0.02	1.00	0.181	0.000	0.000	0.000	0.000	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.18	\$0.18	\$0.21	\$0.00	\$0.00	0.03	1.00	0.000	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.18	\$0.18	\$0.18	\$0.00	\$0.00	0.03	1.00	0.000	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.70	\$0.70	\$0.21	\$0.00	\$0.00	0.02	1.00	0.000	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 Gal - EF 2.8
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.70	\$0.70	\$0.18	\$0.00	\$0.00	0.02	1.00	0.000	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 Gal - EF 2.8
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Small Retail	Discretionary	18.0	0.00	0.01	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	891.82	1.00	1.602	2.428	1.579	1.579	0.000	Set Water Heater to 120F
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Small Retail	Lost Opportunity	18.0																					



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$2.28	\$2.28	\$0.21	\$0.02	\$0.00	0.02	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$2.28	\$2.28	\$0.18	\$0.02	\$0.00	0.02	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Small Retail	Discretionary	16.9	0.00	0.01	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	837.98	1.00	26.597	63.810	41.495	41.495	Set Water Heater to 120F	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Small Retail	Lost Opportunity	16.9	0.00	0.01	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	837.98	1.00	1.758	5.550	3.609	3.609	Set Water Heater to 120F	
Water Heat LE 55 Gal	Water Heater Tank Wrap	Small Retail	Discretionary	34.1	0.00	0.01	0.0	0.0	0.0	0.0	0	7	\$41.55	\$41.55	\$0.21	\$0.00	\$0.00	0.72	1.00	13.137	0.000	0.000	0.000	Add R-10 Tank Wrap	
Compressed Air	Compressed Air Controller - Pressure/Flow Controller	University	Discretionary	44.9	0.01	0.01	0.0	0.0	0.0	0.0	0	15	\$38.17	\$38.17	\$0.21	\$0.00	\$0.00	2.81	0.89	0.174	0.125	0.125	0.125	Compressed Air Pressure/Flow Controller	
Compressed Air	Compressed Air Controller - Pressure/Flow Controller	University	Lost Opportunity	44.9	0.01	0.01	0.0	0.0	0.0	0.0	0	15	\$38.17	\$38.17	\$0.18	\$0.00	\$0.00	2.81	0.89	0.015	0.015	0.011	0.011	Compressed Air Pressure/Flow Controller	
Compressed Air	Compressed Air Heat Recovery	University	Discretionary	426.2	0.05	0.05	0.0	0.0	0.0	0.0	0	15	\$2,589.88	\$2,589.88	\$0.21	\$0.00	\$0.00	0.39	0.89	2.286	0.000	0.000	0.000	Compressed Air Heat Recovery	
Compressed Air	Compressed Air Heat Recovery	University	Lost Opportunity	426.2	0.05	0.05	0.0	0.0	0.0	0.0	0	15	\$2,589.88	\$2,589.88	\$0.18	\$0.00	\$0.00	0.39	0.89	0.199	0.000	0.000	0.000	Compressed Air Heat Recovery	
Compressed Air	Compressed Air System Leakage Reduction	University	Discretionary	194.6	0.02	0.02	0.0	0.0	0.0	0.0	0	2	\$65.94	\$65.94	\$0.21	\$0.00	\$0.00	0.86	0.89	0.754	0.000	0.000	0.000	Compressed Air System Leak Survey and Repair	
Compressed Air	Compressed Air System Leakage Reduction	University	Lost Opportunity	194.6	0.02	0.02	0.0	0.0	0.0	0.0	0	2	\$65.94	\$65.94	\$0.18	\$0.00	\$0.00	0.86	0.89	0.065	0.000	0.000	0.000	Compressed Air System Leak Survey and Repair	
Compressed Air	Cycling Dryers	University	Discretionary	772.9	0.09	0.09	0.0	0.0	0.0	0.0	0	10	\$116.44	\$116.44	\$0.21	\$0.00	\$0.00	10.48	0.89	4.389	4.389	3.148	3.148	Cycling Dryer	
Compressed Air	Cycling Dryers	University	Lost Opportunity	772.9	0.09	0.09	0.0	0.0	0.0	0.0	0	10	\$116.44	\$116.44	\$0.18	\$0.00	\$0.00	10.48	0.89	0.381	0.381	0.274	0.274	Cycling Dryer	
Compressed Air	Engineered Nozzles	University	Discretionary	68.9	0.01	0.01	0.0	0.0	0.0	0.0	0	10	\$1.77	\$1.77	\$0.21	\$0.00	\$0.00	61.48	0.89	0.056	0.056	0.040	0.040	Compressed Air Engineered Nozzle	
Compressed Air	Engineered Nozzles	University	Lost Opportunity	68.9	0.01	0.01	0.0	0.0	0.0	0.0	0	10	\$1.77	\$1.77	\$0.18	\$0.00	\$0.00	61.48	0.89	0.005	0.005	0.004	0.004	Compressed Air Engineered Nozzle	
Compressed Air	Mist Eliminators	University	Discretionary	645.1	0.07	0.07	0.0	0.0	0.0	0.0	0	15	\$858.05	\$858.05	\$0.21	\$0.00	\$0.00	1.80	0.89	0.529	0.529	0.379	0.379	Mist Eliminator Filter	
Compressed Air	Mist Eliminators	University	Lost Opportunity	645.1	0.07	0.07	0.0	0.0	0.0	0.0	0	15	\$858.05	\$858.05	\$0.18	\$0.00	\$0.00	1.80	0.89	0.046	0.046	0.033	0.033	Mist Eliminator Filter	
Compressed Air	No Air Loss Drain	University	Discretionary	398.0	0.05	0.05	0.0	0.0	0.0	0.0	0	5	\$50.52	\$50.52	\$0.21	\$0.00	\$0.00	6.05	0.89	0.237	0.237	0.170	0.170	No Air Loss Drain	
Compressed Air	No Air Loss Drain	University	Lost Opportunity	398.0	0.05	0.05	0.0	0.0	0.0	0.0	0	5	\$50.52	\$50.52	\$0.18	\$0.00	\$0.00	6.05	0.89	0.000	0.000	0.000	0.000	No Air Loss Drain	
Compressed Air	VFD Air Compressor Upgrade	University	Discretionary	831.0	0.09	0.09	0.0	0.0	0.0	0.0	0	10	\$686.04	\$686.04	\$0.21	\$0.00	\$0.00	1.91	0.89	0.495	0.495	0.355	0.355	VFD Compressor Upgrade	
Compressed Air	VFD Air Compressor Upgrade	University	Lost Opportunity	831.0	0.09	0.09	0.0	0.0	0.0	0.0	0	10	\$686.04	\$686.04	\$0.18	\$0.00	\$0.00	1.91	0.89	0.043	0.043	0.031	0.031	VFD Compressor Upgrade	
Computers	Computer - ENERGY STAR	University	Discretionary	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	1764.640	0.000	0.000	0.000	ENERGY STAR Computer	
Computers	Computer - ENERGY STAR	University	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	133.417	0.000	0.000	0.000	ENERGY STAR Computer	
Computers	Network PC Power Management	University	Discretionary	14,925.2	2.16	1.35	0.0	0.0	0.0	0.0	0	5	\$1,825.13	\$1,825.13	\$0.21	\$418.66	\$0.00	3.27	1.00	593.402	1042.395	840.048	840.048	Network PC Power Management	
Computers	Network PC Power Management	University	Lost Opportunity	14,925.2	2.16	1.35	0.0	0.0	0.0	0.0	0	5	\$1,825.13	\$1,825.13	\$0.18	\$418.66	\$0.00	3.27	1.00	57.913	101.887	82.109	82.109	Network PC Power Management	
Cooking	Combination Oven	University	Discretionary	5.3	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.94	0.011	0.000	0.000	0.000	0.000	ENERGY STAR Combination Oven
Cooking	Combination Oven	University	Lost Opportunity	5.3	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.94	0.001	0.000	0.000	0.000	0.000	ENERGY STAR Combination Oven
Cooking	Convection Oven	University	Discretionary	1.2	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.32	\$0.32	\$0.21	\$0.00	\$0.00	7.05	0.94	0.003	0.003	0.002	0.002	0.002	ENERGY STAR Convection Oven
Cooking	Convection Oven	University	Lost Opportunity	1.2	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.32	\$0.32	\$0.18	\$0.00	\$0.00	7.05	0.94	0.000	0.000	0.000	0.000	0.000	ENERGY STAR Convection Oven
Cooking	Fryers	University	Discretionary	2.5	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.42	\$0.42	\$0.21	\$0.00	\$0.00	11.17	0.94	0.008	0.008	0.006	0.006	0.006	ENERGY STAR Fryer
Cooking	Fryers	University	Lost Opportunity	2.5	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.42	\$0.42	\$0.18	\$0.00	\$0.00	11.17	0.94	0.001	0.001	0.001	0.001	0.001	ENERGY STAR Fryer
Cooking	Griddle	University	Discretionary	1.6	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.72	\$0.72	\$0.21	\$0.00	\$0.00	4.22	0.94	0.003	0.003	0.002	0.002	0.002	ENERGY STAR Griddle
Cooking	Griddle	University	Lost Opportunity	1.6	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.72	\$0.72	\$0.18	\$0.00	\$0.00	4.22	0.94	0.000	0.000	0.000	0.000	0.000	ENERGY STAR Griddle
Cooking	Hot Food Holding Cabinet	University	Discretionary	1.4	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.75	\$0.75	\$0.21	\$0.00	\$0.00	3.65	0.94	0.005	0.005	0.004	0.004	0.004	ENERGY STAR Hot Food Holding Cabinet
Cooking	Hot Food Holding Cabinet	University	Lost Opportunity	1.4	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.75	\$0.75	\$0.18	\$0.00	\$0.00	3.65	0.94	0.000	0.000	0.000	0.000	0.000	ENERGY STAR Hot Food Holding Cabinet
Cooking	Microwave - High Efficiency	University	Discretionary	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	11	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	3.38	0.94	0.000	0.000	0.000	0.000	0.000	High Efficiency Microwave
Cooking	Microwave - High Efficiency	University	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	11	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	3.38	0.94	0.000	0.000	0.000	0.000	0.000	High Efficiency Microwave
Cooking	Steam Cooker	University	Discretionary	4.2	0.00	0.00	0.0	0.0	0.0	0.0	2,224	12	\$1.42	\$1.42	\$0.21	\$0.00	\$0.00	17361.25	0.94	0.014	0.014	0.010	0.010	0.010	ENERGY STAR Steam Cooker
Cooking	Steam Cooker	University	Lost Opportunity	4.2	0.00	0.00	0.0	0.0	0.0	0.0	2,224	12	\$1.42	\$1.42	\$0.18	\$0.00	\$0.00	17361.25	0.94	0.001	0.001	0.001	0.001	0.001	ENERGY STAR Steam Cooker
Cooling Chillers	Active Chilled Beam Cooling with DOAS	University	Lost Opportunity	1,160.4	0.40	0.00	0.0	0.0	0.0	0.0	0	15	-\$42,213.75	\$0.00	\$0.18	\$31,660.31	\$0.00	0.01	0.99	0.458	0.000	0.000	0.000	0.000	Active Chilled Beam Cooling with DOAS
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	University	Discretionary	603.4	0.21	0.00	99.6	0.0	0.0	0.0	0	15	\$10,553.44	\$10,553.44	\$0.21	\$0.00	\$0.00	0.48	0.99	2.041	0.000	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	University	Discretionary	1,073.4	0.37	0.00	0.0	0.0	0.0	0.0	0	15	\$48,967.95	\$48,967.95	\$0.21	\$0.00	\$0.00	0.08	0.99	3.216	0.000	0.000	0.000	0.000	Additional Control Features
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	University	Lost Opportunity	1,073.4	0.37	0.00	0.0	0.0	0.0	0.0	0	15	\$48,967.95	\$48,967.95	\$0.18	\$0.00	\$0.00	0.08	0.99	0.222	0.000	0.000	0.000	0.000	Additional Control Features
Cooling Chillers	Chilled Water Piping Loop with VSD Control	University	Discretionary	891.9	0.31	0.00	0.0	0.0	0.0	0.0	0	10	\$44,265.02	\$44,265.02	\$0.21	\$0.00	\$0.00	0.05	0.99	1.866	0.000	0.000	0.000	0.000	VSD for Secondary Chilled Water Loop
Cooling Chillers	Chilled Water Piping Loop with VSD Control	University	Lost Opportunity	891.9	0.31	0.00	0.0	0.0	0.0	0.0	0	10	\$39,838.52	\$39,838.52	\$0.18	\$0.00	\$0.00	0.05	0.99	0.265	0.000	0.000	0.000	0.000	VSD for Secondary Chilled Water Loop
Cooling Chillers	Chilled Water Reset	University	Discretionary	290.1	0.10	0.00	0.0	0.0	0.0	0.0	0	10	\$28,761.92	\$28,761.92	\$0.21	\$0.00	\$0.00	0.02	0.99	1.750	0.000	0.000	0.000	0.000	Chilled Water Temperature Reset
Cooling Chillers	Chilled Water Reset	University	Lost Opportunity	290.1	0.10	0.00	0.0	0.0	0.0	0.0	0	10	\$28,761.92	\$28,761.92	\$0.18	\$0.00	\$0.00	0.02	0.99	0.000	0.000	0.000	0.000	0.000	Chilled Water Temperature Reset
Cooling Chillers	Chilled Water Side Economizer	University	Discretionary	1,624.2	0.56	0.00	0.0	0.0	0.0	0.0	0	15	\$293,196.59	\$293,196.59	\$0.21	\$0.00	\$0.00	0.02	0.99	5.967	0.000	0.000	0.000	0.000	Install Economizer
Cooling Chillers	Chiller - Pipe Insulation - Above Code	University	Discretionary	752.8	0.26	0.00	0.0	0.0	0.0	0.0	0	15	\$1,353.36	\$1,353.36	\$0.21	\$0.00	\$0.00	1.95	0.99	9.947	11.376	9.073	9.073	2.0" of Insulation, assuming R-8	
Cooling Chillers	Chiller - Pipe Insulation - Above Code	University	Lost Opportunity	752.8	0.26	0.00	0.0	0.0	0.0	0.0	0	15	\$1,353.36	\$1,353.36	\$0.18	\$0.00	\$0.00	1.95	0.99	0.960	1.144	0.912	0.912	2.0" of Insulation, assuming R-8	
Cooling Chillers	Chiller - Pipe Insulation - Code	University	Discretionary	1,257.0	0.43	0.00	0.0	0.0	0.0	0.0	0	15	\$2,902.20	\$2,902.20	\$0.21	\$0.00	\$0.00	1.52	0.99	17.752	20.303	16.192	16.192	1.0" of Insulation, assuming R-4 (Code)	
Cooling Chillers	Chillers > 300 tons (centrif																								

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Cooling Chillers	Insulation - Wall - CBES 2015 - Code	University	Discretionary	604.8	0.21	0.00	139.2	0.0	0.0	0.0	0.0	30	\$30,973.63	\$30,973.63	\$0.21	\$0.00	\$0.00	0.40	0.99	0.870	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)	
Cooling Chillers	Natural Ventilation	University	Lost Opportunity	580.2	0.20	0.00	0.0	0.0	0.0	0.0	0	15	\$42,213.75	\$42,213.75	\$0.18	\$0.00	\$0.00	0.05	0.99	0.026	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling	
Cooling Chillers	Programmable Thermostat	University	Discretionary	232.1	0.08	0.00	45.3	0.0	0.0	0.0	0	11	\$188.32	\$188.32	\$0.21	\$0.00	\$0.00	8.40	0.99	2.974	3.401	2.712	2.712	Programmable Thermostat	
Cooling Chillers	Re-Commissioning	University	Discretionary	754.3	0.26	0.00	147.1	0.0	0.0	0.0	0	5	\$12,664.12	\$12,664.12	\$0.21	\$0.00	\$0.00	0.18	0.99	8.884	0.000	0.000	0.000	Re-Commissioning	
Cooling Chillers	Retrocommissioning	University	Discretionary	860.7	0.29	0.00	167.9	0.0	0.0	0.0	0	5	\$21,106.87	\$21,106.87	\$0.21	\$0.00	\$0.00	0.12	0.99	5.314	0.000	0.000	0.000	Retrocommissioning	
Cooling Chillers	Strategic Energy Management (SEM)	University	Discretionary	237.9	0.08	0.00	46.4	0.0	0.0	0.0	0	5	\$32.06	\$32.06	\$0.21	\$0.00	\$0.00	22.14	0.99	0.473	0.541	0.431	0.431	Identify Operations and Maintenance Improvements through Strategic Energy Man	
Cooling Chillers	Strategic Energy Management (SEM)	University	Lost Opportunity	237.9	0.08	0.00	46.4	0.0	0.0	0.0	0	5	\$32.06	\$32.06	\$0.18	\$0.00	\$0.00	22.14	0.99	0.250	0.298	0.238	0.238	Identify Operations and Maintenance Improvements through Strategic Energy Mai	
Cooling Chillers	Tune-up - Chiller Maintenance	University	Discretionary	834.1	0.29	0.00	0.0	0.0	0.0	0.0	0	5	\$6,754.20	\$6,754.20	\$0.21	\$0.00	\$0.00	0.13	0.99	1.813	0.000	0.000	0.000	Chiller Tune-up	
Cooling Chillers	Wi-Fi Thermostat	University	Discretionary	232.1	0.08	0.00	45.3	0.0	0.0	0.0	0	11	\$1,500.14	\$1,500.14	\$0.21	\$0.00	\$0.00	1.05	0.99	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)	
Cooling Chillers	Windows - CBES 2015 - Above Code	University	Discretionary	25.4	0.01	0.00	5.0	0.0	0.0	0.0	0	20	\$3,830.56	\$3,830.56	\$0.21	\$0.00	\$0.00	0.08	0.99	0.060	0.000	0.000	0.000	U-0.29	
Cooling Chillers	Windows - CBES 2015 - Above Code	University	Lost Opportunity	25.4	0.01	0.00	5.0	0.0	0.0	0.0	0	20	\$3,830.56	\$3,830.56	\$0.18	\$0.00	\$0.00	0.08	0.99	0.028	0.000	0.000	0.000	U-0.29	
Cooling Chillers	Windows - CBES 2015 - Code	University	Discretionary	58.1	0.02	0.00	11.6	0.0	0.0	0.0	0	20	\$25,295.62	\$25,295.62	\$0.21	\$0.00	\$0.00	0.03	0.99	0.122	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Cooling Dx Evap	Active Chilled Beam Cooling with DOAS	University	Lost Opportunity	2,058.7	0.70	0.00	0.0	0.0	0.0	0.0	0	15	-\$42,213.75	\$0.00	\$0.18	\$31,660.31	\$0.00	0.02	0.99	0.716	0.000	0.000	0.000	Active Chilled Beam Cooling with DOAS	
Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units	University	Discretionary	1,549.7	0.53	0.00	0.0	0.0	0.0	0.0	0	10	\$28,142.50	\$28,142.50	\$0.21	-\$20,262.60	\$0.00	999.00	0.99	41.996	56.645	45.176	45.176	Rooftop unit with automated fault detection and diagnostics capability	
Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units	University	Lost Opportunity	1,549.7	0.53	0.00	0.0	0.0	0.0	0.0	0	10	\$22,514.00	\$22,514.00	\$0.18	-\$16,210.08	\$0.00	999.00	0.99	3.841	5.305	4.231	4.231	Rooftop unit with automated fault detection and diagnostics capability	
Cooling Dx Evap	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	University	Discretionary	1,070.5	0.37	0.00	0.0	0.0	0.0	0.0	0	15	\$10,553.44	\$10,553.44	\$0.21	\$0.00	\$0.00	0.36	0.99	7.033	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)	
Cooling Dx Evap	Commissioning	University	Lost Opportunity	1,338.1	0.46	0.00	0.0	0.0	0.0	0.0	0	5	\$48,967.95	\$48,967.95	\$0.18	\$0.00	\$0.00	0.03	0.99	1.345	0.000	0.000	0.000	Commissioning	
Cooling Dx Evap	Convert Constant Volume Air System to VAV	University	Discretionary	2,704.0	0.92	0.00	0.0	0.0	0.0	0.0	0	15	\$153,923.39	\$153,923.39	\$0.21	\$0.00	\$0.00	0.06	0.99	4.192	0.000	0.000	0.000	Variable Volume Air System	
Cooling Dx Evap	DX Package 240 to 760 kBtuh - Federal Standard 2023	University	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.19	\$0.19	\$0.21	\$0.00	\$0.00	0.44	0.99	0.000	0.000	0.000	0.000	Federal Standard 2023 - 13.2 IEER	
Cooling Dx Evap	DX Package 240 to 760 kBtuh - Federal Standard 2023	University	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.15	\$0.15	\$0.18	\$0.00	\$0.00	0.55	0.99	0.000	0.000	0.000	0.000	Federal Standard 2023 - 13.2 IEER	
Cooling Dx Evap	DX Package 240 to 760 kBtuh - Premium Efficiency	University	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.77	\$0.77	\$0.21	\$0.00	\$0.00	0.33	0.99	98.263	0.000	0.000	0.000	Premium Efficiency - 18.0 IEER	
Cooling Dx Evap	DX Package 240 to 760 kBtuh - Premium Efficiency	University	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.61	\$0.61	\$0.18	\$0.00	\$0.00	0.41	0.99	4.352	0.000	0.000	0.000	Premium Efficiency - 18.0 IEER	
Cooling Dx Evap	DX Package-Air Side Economizer	University	Discretionary	2,881.4	0.99	0.00	0.0	0.0	0.0	0.0	0	10	\$33,354.07	\$33,354.07	\$0.21	\$0.00	\$0.00	0.20	0.99	6.120	0.000	0.000	0.000	Air-Side Economizer	
Cooling Dx Evap	Direct Digital Control System-Installation	University	Discretionary	1,544.0	0.53	0.00	0.0	0.0	0.0	0.0	0	5	\$13,191.80	\$13,191.80	\$0.21	\$0.00	\$0.00	0.13	0.99	17.576	0.000	0.000	0.000	Installation of EMS System	
Cooling Dx Evap	Direct Digital Control System-Installation	University	Lost Opportunity	1,544.0	0.53	0.00	0.0	0.0	0.0	0.0	0	5	\$13,191.80	\$13,191.80	\$0.18	\$0.00	\$0.00	0.13	0.99	0.104	0.000	0.000	0.000	Installation of EMS System	
Cooling Dx Evap	Duct Repair and Sealing	University	Discretionary	895.1	0.31	0.00	0.0	0.0	0.0	0.0	0	18	\$10,131.30	\$10,131.30	\$0.21	\$0.00	\$0.00	0.38	0.99	9.797	0.000	0.000	0.000	Reduction In Duct Losses to 5 %	
Cooling Dx Evap	Exhaust Hood Makeup Air	University	Discretionary	463.2	0.16	0.00	0.0	0.0	0.0	0.0	0	12	\$2.58	\$2.58	\$0.21	\$0.00	\$0.00	493.95	0.99	3.705	4.997	3.985	3.985	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Cooling Dx Evap	Green Roof	University	Discretionary	54.8	0.02	0.00	0.0	0.0	0.0	0.0	0	40	\$173,343.15	\$173,343.15	\$0.21	\$1,733.43	\$0.00	0.00	0.99	0.542	0.000	0.000	0.000	Vegetation on Roof	
Cooling Dx Evap	Green Roof	University	Lost Opportunity	45.1	0.02	0.00	0.0	0.0	0.0	0.0	0	40	\$173,343.15	\$173,343.15	\$0.18	\$1,733.43	\$0.00	0.00	0.99	0.029	0.000	0.000	0.000	Vegetation on Roof	
Cooling Dx Evap	HVAC Variable Refrigerant Flow	University	Discretionary	6,114.2	2.09	0.00	0.0	0.0	0.0	0.0	0	15	\$160,412.24	\$160,412.24	\$0.21	-\$3,672.60	\$0.00	0.18	0.99	57.245	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Cooling Dx Evap	HVAC Variable Refrigerant Flow	University	Lost Opportunity	6,114.2	2.09	0.00	0.0	0.0	0.0	0.0	0	15	\$160,412.24	\$160,412.24	\$0.18	-\$3,672.60	\$0.00	0.18	0.99	15.707	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Cooling Dx Evap	Indirect Information Feedback	University	Discretionary	53.6	0.02	0.00	0.0	0.0	0.0	0.0	0	2	\$178.21	\$178.21	\$0.21	\$0.00	\$0.00	0.12	0.99	0.636	0.000	0.000	0.000	Indirect Information Feedback	
Cooling Dx Evap	Indirect Information Feedback	University	Lost Opportunity	53.6	0.02	0.00	0.0	0.0	0.0	0.0	0	2	\$178.21	\$178.21	\$0.18	\$0.00	\$0.00	0.12	0.99	0.042	0.000	0.000	0.000	Indirect Information Feedback	
Cooling Dx Evap	Infiltration Reduction	University	Discretionary	308.8	0.11	0.00	0.0	0.0	0.0	0.0	0	10	\$647.77	\$647.77	\$0.21	\$0.00	\$0.00	1.08	0.99	0.278	0.375	0.299	0.299	Install Caulking And Weatherstripping (ACH 0.65)	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	University	Discretionary	427.9	0.15	0.00	0.0	0.0	0.0	0.0	0	30	\$1,950.11	\$1,950.11	\$0.21	\$0.00	\$0.00	1.61	0.99	3.372	4.548	3.627	3.627	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	University	Lost Opportunity	427.9	0.15	0.00	0.0	0.0	0.0	0.0	0	30	\$1,950.11	\$1,950.11	\$0.18	\$0.00	\$0.00	1.61	0.99	0.143	0.197	0.157	0.157	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Code	University	Discretionary	1,126.3	0.39	0.00	0.0	0.0	0.0	0.0	0	30	\$8,898.28	\$8,898.28	\$0.21	\$0.00	\$0.00	0.93	0.99	5.721	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	University	Discretionary	370.6	0.13	0.00	0.0	0.0	0.0	0.0	0	20	\$572.52	\$572.52	\$0.21	\$0.00	\$0.00	3.09	0.99	7.621	10.280	8.198	8.198	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	University	Lost Opportunity	370.6	0.13	0.00	0.0	0.0	0.0	0.0	0	20	\$572.52	\$572.52	\$0.18	\$0.00	\$0.00	3.09	0.99	0.848	1.171	0.934	0.934	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	University	Discretionary	370.6	0.13	0.00	0.0	0.0	0.0	0.0	0	20	\$2,305.93	\$2,305.93	\$0.21	\$0.00	\$0.00	0.77	0.99	5.840	0.000	0.000	0.000	R-8 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	University	Discretionary	630.6	0.22	0.00	0.0	0.0	0.0	0.0	0	30	\$3,466.86	\$3,466.86	\$0.21	\$0.00	\$0.00	1.34	0.99	1.666	2.248	1.793	1.793	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	University	Lost Opportunity	630.6	0.22	0.00	0.0	0.0	0.0	0.0	0	30	\$3,466.86	\$3,466.86	\$0.18	\$0.00	\$0.00	1.34	0.99	0.291	0.401	0.320	0.320	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	University	Discretionary	1,098.2	0.38	0.00	0.0	0.0	0.0	0.0	0	30	\$9,938.34	\$9,938.34	\$0.21	\$0.00	\$0.00	0.81	0.99	2.831	0.000	0.000	0.000	R-30 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	University	Discretionary	1,153.0	0.39	0.00	0.0	0.0	0.0	0.0	0	30	\$4,513.75	\$4,513.75	\$0.21	\$0.00	\$0.00	1.88	0.99	5.144	6.939	5.534	5.534	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	University	Lost Opportunity	1,153.0	0.39	0.00	0.0	0.0	0.0	0.0	0	30	\$4,513.75	\$4,513.75	\$0.18	\$0.00	\$0.00	1.88	0.99	1.373	1.897	1.513	1.513	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Code	University	Discretionary	1,072.9	0.37	0.00	0.0	0.0	0.0	0.0	0	30	\$30,973.63	\$30,973.63	\$0.21	\$0.00	\$0.00	0.25	0.99	2.996	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	University	Discretionary	828.3	0.28	0.00	0.0	0.0	0.0	0.0	0	15	\$198,789.23	\$198,789.23	\$0.21	\$0.00	\$0.00	0.01	0.99	1.074	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	University	Lost Opportunity	828.3	0.28	0.00	0.0	0.0	0.0	0.0	0	15	\$159,031.38	\$159,031.38	\$0.18	\$0.00	\$0.00	0.02	0.99	0.069	0.000	0.000	0.000	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Natural Ventilation	University	Lost Opportunity	1,029.3	0.35	0.00	0.0	0.0	0.0	0.0	0	15	\$42,213.75	\$42,213.75	\$0.18	\$0.00	\$0.00	0.09	0.99	0.041	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling	
Cooling Dx Evap	Programmable Thermostat	University	Discretionary	411.7	0.14	0.00	0.0																		



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Heat Pump	Direct Digital Control System-Installation	University	Lost Opportunity	4,220.8	1.40	1.09	0.0	0.0	0.0	0.0	0.0	0	5	\$13,191.80	\$13,191.80	\$0.18	\$0.00	\$0.00	0.35	0.99	0.066	0.000	0.000	0.000	Installation of EMS System
Heat Pump	Duct Repair and Sealing	University	Discretionary	2,446.9	0.81	0.63	0.0	0.0	0.0	0.0	0	18	\$10,131.30	\$10,131.30	\$0.21	\$0.00	\$0.00	1.02	0.99	5.264	5.701	4.547	4.547	0.000	Reduction In Duct Losses to 5 %
Heat Pump	Exhaust Air to Ventilation Air Heat Recovery	University	Discretionary	4,220.8	1.40	1.09	0.0	0.0	0.0	0.0	0	14	\$123,684.85	\$123,684.85	\$0.21	\$0.00	\$0.00	0.11	0.99	0.961	0.000	0.000	0.000	0.000	Exhaust Air to Ventilation Air Heat Recovery
Heat Pump	Exhaust Hood Makeup Air	University	Discretionary	1,266.2	0.42	0.33	0.0	0.0	0.0	0.0	0	12	\$2.58	\$2.58	\$0.21	\$0.00	\$0.00	1350.37	0.99	1.792	1.941	1.548	1.548	0.000	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air
Heat Pump	Ground Source Heat Pump (< 135 kBTU/hr) Cooling	University	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$1.71	\$1.71	\$0.21	\$0.00	\$0.00	0.40	0.99	1.039	0.000	0.000	0.000	0.000	17.0 EER, 4.0 COP
Heat Pump	Ground Source Heat Pump (< 135 kBTU/hr) Cooling	University	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$1.36	\$1.36	\$0.18	\$0.00	\$0.00	0.50	0.99	0.085	0.000	0.000	0.000	0.000	17.0 EER, 4.0 COP
Heat Pump	HVAC Variable Refrigerant Flow	University	Discretionary	16,714.2	5.54	4.30	0.0	0.0	0.0	0.0	0	15	\$160,412.24	\$160,412.24	\$0.21	-\$3,672.60	\$0.00	0.50	0.99	27.694	0.000	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems
Heat Pump	HVAC Variable Refrigerant Flow	University	Lost Opportunity	16,714.2	5.54	4.30	0.0	0.0	0.0	0.0	0	15	\$160,412.24	\$160,412.24	\$0.18	-\$3,672.60	\$0.00	0.50	0.99	7.831	0.000	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems
Heat Pump	Indirect Information Feedback	University	Discretionary	146.4	0.05	0.04	0.0	0.0	0.0	0.0	0	2	\$487.16	\$487.16	\$0.21	\$0.00	\$0.00	0.12	0.99	0.293	0.000	0.000	0.000	0.000	Indirect Information Feedback
Heat Pump	Indirect Information Feedback	University	Lost Opportunity	146.4	0.05	0.04	0.0	0.0	0.0	0.0	0	2	\$487.16	\$487.16	\$0.18	\$0.00	\$0.00	0.12	0.99	0.026	0.000	0.000	0.000	0.000	Indirect Information Feedback
Heat Pump	Infiltration Reduction	University	Discretionary	2,813.9	0.93	0.72	0.0	0.0	0.0	0.0	0	10	\$647.77	\$647.77	\$0.21	\$0.00	\$0.00	9.88	0.99	0.538	0.583	0.465	0.465	0.000	Install Caulking And Weatherstripping (ACH 0.65)
Heat Pump	Insulation - Ceiling - CBES 2015 - Above Code	University	Discretionary	1,169.7	0.39	0.30	0.0	0.0	0.0	0.0	0	30	\$1,950.11	\$1,950.11	\$0.21	\$0.00	\$0.00	4.29	0.99	1.810	1.960	1.563	1.563	0.000	R-35 c.i.
Heat Pump	Insulation - Ceiling - CBES 2015 - Above Code	University	Lost Opportunity	1,169.7	0.39	0.30	0.0	0.0	0.0	0.0	0	30	\$1,950.11	\$1,950.11	\$0.18	\$0.00	\$0.00	4.29	0.99	0.079	0.088	0.070	0.070	0.000	R-35 c.i.
Heat Pump	Insulation - Ceiling - CBES 2015 - Code	University	Discretionary	3,079.0	1.02	0.79	0.0	0.0	0.0	0.0	0	30	\$8,898.28	\$8,898.28	\$0.21	\$0.00	\$0.00	2.47	0.99	3.074	3.329	2.655	2.655	0.000	R-30 c.i. (CBES 2015 Code)
Heat Pump	Insulation - Duct - CBES 2015 - Above Code	University	Discretionary	1,013.0	0.34	0.26	0.0	0.0	0.0	0.0	0	20	\$572.52	\$572.52	\$0.21	\$0.00	\$0.00	8.36	0.99	4.107	4.448	3.548	3.548	0.000	R-12
Heat Pump	Insulation - Duct - CBES 2015 - Above Code	University	Lost Opportunity	1,013.0	0.34	0.26	0.0	0.0	0.0	0.0	0	20	\$572.52	\$572.52	\$0.18	\$0.00	\$0.00	8.36	0.99	0.483	0.536	0.427	0.427	0.000	R-12
Heat Pump	Insulation - Duct - CBES 2015 - Code	University	Discretionary	1,013.0	0.34	0.26	0.0	0.0	0.0	0.0	0	20	\$2,305.93	\$2,305.93	\$0.21	\$0.00	\$0.00	2.08	0.99	3.137	3.398	2.710	2.710	0.000	R-8 (CBES 2015 Code)
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Above Code	University	Discretionary	1,723.7	0.57	0.44	0.0	0.0	0.0	0.0	0	30	\$3,466.86	\$3,466.86	\$0.21	\$0.00	\$0.00	3.55	0.99	0.894	0.969	0.773	0.773	0.000	R-38
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Above Code	University	Lost Opportunity	1,723.7	0.57	0.44	0.0	0.0	0.0	0.0	0	30	\$3,466.86	\$3,466.86	\$0.18	\$0.00	\$0.00	3.55	0.99	0.161	0.179	0.143	0.143	0.000	R-38
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Code	University	Discretionary	3,002.2	0.99	0.77	0.0	0.0	0.0	0.0	0	30	\$9,938.34	\$9,938.34	\$0.21	\$0.00	\$0.00	2.16	0.99	1.521	1.647	1.314	1.314	0.000	R-30 (CBES 2015 Code)
Heat Pump	Insulation - Wall - CBES 2015 - Above Code	University	Discretionary	3,151.9	1.04	0.81	0.0	0.0	0.0	0.0	0	30	\$4,513.75	\$4,513.75	\$0.21	\$0.00	\$0.00	4.99	0.99	2.761	2.991	2.385	2.385	0.000	R-13 + 15.6 c.i.
Heat Pump	Insulation - Wall - CBES 2015 - Above Code	University	Lost Opportunity	3,151.9	1.04	0.81	0.0	0.0	0.0	0.0	0	30	\$4,513.75	\$4,513.75	\$0.18	\$0.00	\$0.00	4.99	0.99	0.763	0.846	0.674	0.674	0.000	R-13 + 15.6 c.i.
Heat Pump	Insulation - Wall - CBES 2015 - Code	University	Discretionary	2,933.1	0.97	0.75	0.0	0.0	0.0	0.0	0	30	\$30,973.63	\$30,973.63	\$0.21	\$0.00	\$0.00	0.68	0.99	1.499	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)
Heat Pump	Natural Ventilation	University	Lost Opportunity	2,813.9	0.93	0.72	0.0	0.0	0.0	0.0	0	15	\$42,213.75	\$42,213.75	\$0.18	\$0.00	\$0.00	0.23	0.99	0.026	0.000	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling
Heat Pump	Programmable Thermostat	University	Discretionary	1,125.6	0.37	0.29	0.0	0.0	0.0	0.0	0	11	\$188.32	\$188.32	\$0.21	\$0.00	\$0.00	15.02	0.99	4.539	4.916	3.921	3.921	0.000	Programmable Thermostat
Heat Pump	Re-Commissioning	University	Discretionary	3,658.0	1.21	0.94	0.0	0.0	0.0	0.0	0	5	\$12,664.12	\$12,664.12	\$0.21	\$0.00	\$0.00	0.32	0.99	12.243	0.000	0.000	0.000	0.000	Re-Commissioning
Heat Pump	Retrocommissioning	University	Discretionary	4,173.9	1.38	1.07	0.0	0.0	0.0	0.0	0	5	\$21,106.87	\$21,106.87	\$0.21	\$0.00	\$0.00	0.22	0.99	7.540	0.000	0.000	0.000	0.000	Retrocommissioning
Heat Pump	Strategic Energy Management (SEM)	University	Discretionary	1,153.7	0.38	0.30	0.0	0.0	0.0	0.0	0	5	\$155.48	\$155.48	\$0.21	\$0.00	\$0.00	8.15	0.99	0.677	0.734	0.585	0.585	0.000	Identify Operations and Maintenance Improvements through Strategic Energy Man
Heat Pump	Strategic Energy Management (SEM)	University	Lost Opportunity	1,153.7	0.38	0.30	0.0	0.0	0.0	0.0	0	5	\$155.48	\$155.48	\$0.18	\$0.00	\$0.00	8.15	0.99	0.435	0.483	0.385	0.385	0.000	Identify Operations and Maintenance Improvements through Strategic Energy Man
Heat Pump	Tune-up - Heat Pump Maintenance	University	Discretionary	4,045.0	1.34	1.04	0.0	0.0	0.0	0.0	0	5	\$4,727.94	\$4,727.94	\$0.21	\$0.00	\$0.00	0.94	0.99	10.996	0.000	0.000	0.000	0.000	Heat Pump Maintenance (Tune-up)
Heat Pump	Water Source Heat Pump (>= 135 kBTU/hr and < 375 kBTU/hr) Cooling	University	Discretionary	5,049.3	1.67	1.30	0.0	0.0	0.0	0.0	0	15	\$1,260.97	\$1,260.97	\$0.21	\$0.00	\$0.00	14.02	0.99	1.609	1.742	1.390	1.390	0.000	14 EER, 4.6 COP
Heat Pump	Water Source Heat Pump (>= 135 kBTU/hr and < 375 kBTU/hr) Cooling	University	Lost Opportunity	4,039.5	1.34	1.04	0.0	0.0	0.0	0.0	0	15	\$1,008.78	\$1,008.78	\$0.18	\$0.00	\$0.00	14.02	0.99	0.126	0.139	0.111	0.111	0.000	14 EER, 4.6 COP
Heat Pump	Wi-Fi Thermostat	University	Discretionary	1,125.6	0.37	0.29	0.0	0.0	0.0	0.0	0	11	\$1,500.14	\$1,500.14	\$0.21	\$0.00	\$0.00	1.89	0.99	0.000	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)
Heat Pump	Windows - CBES 2015 - Above Code	University	Discretionary	123.4	0.04	0.03	0.0	0.0	0.0	0.0	0	20	\$3,830.56	\$3,830.56	\$0.21	\$0.00	\$0.00	0.15	0.99	0.085	0.000	0.000	0.000	0.000	U-0.29
Heat Pump	Windows - CBES 2015 - Above Code	University	Lost Opportunity	123.4	0.04	0.03	0.0	0.0	0.0	0.0	0	20	\$3,830.56	\$3,830.56	\$0.18	\$0.00	\$0.00	0.15	0.99	0.026	0.000	0.000	0.000	0.000	U-0.29
Heat Pump	Windows - CBES 2015 - Code	University	Discretionary	281.7	0.09	0.07	0.0	0.0	0.0	0.0	0	20	\$25,295.62	\$25,295.62	\$0.21	\$0.00	\$0.00	0.05	0.99	0.188	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	University	Discretionary	868.2	0.01	0.18	0.0	0.0	0.0	0.0	0	8	\$786.34	\$786.34	\$0.21	\$0.00	\$0.00	1.09	0.99	37.459	37.459	32.679	32.679	0.000	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	University	Discretionary	810.3	0.01	0.17	0.0	0.0	0.0	0.0	0	8	\$98.90	\$98.90	\$0.21	\$0.00	\$0.00	8.07	0.99	48.946	48.946	42.701	42.701	0.000	Photocell
Lighting Exterior	LED Exterior Flood Lights	University	Discretionary	281.1	0.00	0.06	0.0	0.0	0.0	0.0	0	20	\$185.44	\$185.44	\$0.21	\$0.00	\$0.00	3.73	0.99	27.656	27.656	24.127	24.127	0.000	LED Exterior Flood Lights
Lighting Exterior	LED Exterior Flood Lights	University	Lost Opportunity	281.1	0.00	0.06	0.0	0.0	0.0	0.0	0	20	\$185.44	\$185.44	\$0.18	\$0.00	\$0.00	3.73	0.99	2.403	2.403	2.096	2.096	0.000	LED Exterior Flood Lights
Lighting Exterior	LED Exterior Pole Mount Fixture	University	Discretionary	160.2	0.00	0.03	0.0	0.0	0.0	0.0	0	15	\$314.15	\$314.15	\$0.21	\$0.00	\$0.00	0.94	0.99	15.760	0.000	0.000	0.000	0.000	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Pole Mount Fixture	University	Lost Opportunity	160.2	0.00	0.03	0.0	0.0	0.0	0.0	0	15	\$314.15	\$314.15	\$0.18	\$0.00	\$0.00	0.94	0.99	1.369	0.000	0.000	0.000	0.000	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Wall Pack	University	Discretionary	531.1	0.01	0.11	0.0	0.0	0.0	0.0	0	20	\$1,102.20	\$1,102.20	\$0.21	\$0.00	\$0.00	1.19	0.99	49.347	49.347	43.051	43.051	0.000	LED Exterior Wall Pack
Lighting Exterior	LED Exterior Wall Pack	University	Lost Opportunity	531.1	0.01	0.11	0.0	0.0	0.0	0.0	0	20	\$1,102.20	\$1,102.20	\$0.18	\$0.00	\$0.00	1.19	0.99	4.288	4.288	3.741	3.741	0.000	LED Exterior Wall Pack
Lighting Exterior	LED Pathway Lights	University	Discretionary	132.3	0.00	0.03	0.0	0.0	0.0	0.0	0	11	\$31.30	\$31.30	\$0.21	\$0.00	\$0.00	5.73	0.99	13.015	13.015	11.354	11.354	0.000	LED Pathway Lights
Lighting Exterior	LED Pathway Lights	University	Lost Opportunity	132.3	0.00	0.03	0.0	0.0	0.0	0.0	0	11	\$31.30	\$31.30	\$0.18	\$0.00	\$0.00	5.73	0.99	1.131	1.131	0.987	0.987	0.000	LED Pathway Lights
Lighting Exterior	Occupancy Sensor Control	University	Discretionary	694.5	0.01	0.15	0.0	0.0	0.0	0.0	0	10	\$1,816.36	\$1,816.36	\$0.21	\$0.00	\$0.00	0.47	0.99	29.967	0.000	0.000	0.000	0.000	Occupancy Sensor Control
Lighting Exterior	Parking - Covered Lighting	University	Discretionary	395.4	0.00	0.08	0.0	0.0	0.0	0.0	0	19	\$288.32	\$288.32	\$0.21	\$0.00	\$0.00	3.21	0.99	10.578	10.578	9.228	9.228	0.000	Covered Parking Lighting (LED)
Lighting Exterior	Parking - Covered Lighting	University	Lost Opportunity	395.4																					

Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	University	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	3	\$0.01	\$0.01	\$0.21	-\$0.01	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	CFL
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base Incandescent - Backstop EISA 2020 Standard	University	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	3	\$0.00	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	0.99	0.000	0.000	0.000	0.000	Backstop EISA 2020 Standard Incandescent
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base LED - Above Standard	University	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.04	\$0.04	\$0.21	-\$0.01	\$0.00	999.00	0.99	76.339	76.684	66.900	66.900	LED
Lighting Interior Screw Base - Standard	Occupancy Sensor Control	University	Discretionary	4,415.4	0.86	0.59	0.0	0.0	0.0	0.0	0	10	\$11,547.00	\$11,547.00	\$0.21	\$0.00	\$0.00	0.71	0.99	74.266	0.000	0.000	0.000	Occupancy Sensor Control
Lighting Interior Screw Base - Standard	Time Clock	University	Discretionary	1,839.8	0.36	0.25	0.0	0.0	0.0	0.0	0	8	\$376.25	\$376.25	\$0.21	\$0.00	\$0.00	7.22	0.99	3.094	3.094	2.700	2.700	Time Clock
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base CFL - Above Standard	University	Discretionary	9,555.1	1.85	1.28	0.0	0.0	0.0	0.0	0	3	\$234.72	\$234.72	\$0.21	-\$189.22	\$0.00	0.00	0.99	0.000	0.000	0.000	0.000	CFL
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base LED - Above Standard	University	Discretionary	9,983.7	1.94	1.34	0.0	0.0	0.0	0.0	0	12	\$742.37	\$742.37	\$0.21	-\$227.39	\$0.00	0.00	0.99	1089.775	0.000	0.000	0.000	LED
Other Plug Load	Dehumidifier - ENERGY STAR	University	Discretionary	561.8	0.08	0.05	0.0	0.0	0.0	0.0	0	12	\$219.17	\$219.17	\$0.21	\$0.00	\$0.00	5.23	1.00	10.666	10.666	8.596	8.596	ENERGY STAR Dehumidifier
Other Plug Load	Dehumidifier - ENERGY STAR	University	Lost Opportunity	561.8	0.08	0.05	0.0	0.0	0.0	0.0	0	12	\$219.17	\$219.17	\$0.18	\$0.00	\$0.00	5.23	1.00	0.927	0.927	0.747	0.747	ENERGY STAR Dehumidifier
Other Plug Load	ENERGY STAR - Scanners	University	Discretionary	20.9	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	1.621	0.000	0.000	0.000	ENERGY STAR Scanners
Other Plug Load	ENERGY STAR - Scanners	University	Lost Opportunity	20.9	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.141	0.000	0.000	0.000	ENERGY STAR Scanners
Other Plug Load	ENERGY STAR - Water Cooler	University	Discretionary	212.5	0.03	0.02	0.0	0.0	0.0	0.0	0	10	\$1.83	\$1.83	\$0.21	\$0.00	\$0.00	196.63	1.00	23.230	23.230	18.721	18.721	ENERGY STAR Water Cooler (Hot/Cold Water)
Other Plug Load	ENERGY STAR - Water Cooler	University	Lost Opportunity	212.5	0.03	0.02	0.0	0.0	0.0	0.0	0	10	\$1.83	\$1.83	\$0.18	\$0.00	\$0.00	196.63	1.00	2.019	2.019	1.627	1.627	ENERGY STAR Water Cooler (Hot/Cold Water)
Other Plug Load	Internal Power Supply / Com - E Star	University	Discretionary	1,663.8	0.24	0.15	0.0	0.0	0.0	0.0	0	4	\$3,395.44	\$3,395.44	\$0.21	\$0.00	\$0.00	0.32	1.00	42.895	0.000	0.000	0.000	ENERGY STAR power supply for ENERGY STAR desktop
Other Plug Load	Internal Power Supply / Com - E Star	University	Lost Opportunity	1,663.8	0.24	0.15	0.0	0.0	0.0	0.0	0	4	\$3,395.44	\$3,395.44	\$0.18	\$0.00	\$0.00	0.32	1.00	3.727	0.000	0.000	0.000	ENERGY STAR power supply for ENERGY STAR desktop
Other Plug Load	Smart Strip Plug Outlet	University	Discretionary	1,777.4	0.26	0.16	0.0	0.0	0.0	0.0	0	4	\$1,336.25	\$1,336.25	\$0.21	\$0.00	\$0.00	0.86	1.00	40.899	0.000	0.000	0.000	Advanced Power Strip - Load Sensing
Other Plug Load	Smart Strip Plug Outlet	University	Lost Opportunity	1,777.4	0.26	0.16	0.0	0.0	0.0	0.0	0	4	\$1,336.25	\$1,336.25	\$0.18	\$0.00	\$0.00	0.86	1.00	3.554	0.000	0.000	0.000	Advanced Power Strip - Load Sensing
Other Plug Load	Smart Strip Plug Outlet	University	Discretionary	1,080.7	0.16	0.10	0.0	0.0	0.0	0.0	0	4	\$3,236.11	\$3,236.11	\$0.21	\$0.00	\$0.00	0.22	1.00	0.000	0.000	0.000	0.000	Advanced Power Strip with Occupancy Sensor
Other Plug Load	Smart Strip Plug Outlet	University	Lost Opportunity	1,080.7	0.16	0.10	0.0	0.0	0.0	0.0	0	4	\$3,236.11	\$3,236.11	\$0.18	\$0.00	\$0.00	0.22	1.00	0.000	0.000	0.000	0.000	Advanced Power Strip with Occupancy Sensor
Photo Copiers	Copiers - ENERGY STAR	University	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.89	16.603	0.000	0.000	0.000	ENERGY STAR Copiers
Photo Copiers	Copiers - ENERGY STAR	University	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.89	1.571	0.000	0.000	0.000	ENERGY STAR Copiers
Pool Pump	Pool Pump - Two Speed	University	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	36.81	0.89	0.000	0.000	0.000	0.000	Pool Pump - Two Speed
Pool Pump	Pool Pump - Two Speed	University	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	36.81	0.89	0.000	0.000	0.000	0.000	Pool Pump - Two Speed
Pool Pump	Pool Pump - VSD	University	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	31.35	0.89	0.000	0.000	0.000	0.000	Pool Pump - VSD
Pool Pump	Pool Pump - VSD	University	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	31.35	0.89	0.000	0.000	0.000	0.000	Pool Pump - VSD
Pool Pump	Pool Pump Timer	University	Discretionary	7,420.8	0.85	0.85	0.0	0.0	0.0	0.0	0	10	\$150.00	\$150.00	\$0.21	\$0.00	\$0.00	78.07	0.89	0.000	0.000	0.000	0.000	Pool Pump Timer
Printers	Printers - ENERGY STAR	University	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	157.215	0.000	0.000	0.000	ENERGY STAR Printers
Printers	Printers - ENERGY STAR	University	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	15.686	0.000	0.000	0.000	ENERGY STAR Printers
Refrigeration	Add Doors to Refrigerated Open Display Cases	University	Discretionary	11.3	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$17.48	\$17.48	\$0.21	\$0.00	\$0.00	1.27	0.95	0.039	0.039	0.038	0.038	Add Doors to Refrigerated Open Display Cases
Refrigeration	Add Doors to Refrigerated Open Display Cases	University	Lost Opportunity	11.3	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$17.48	\$17.48	\$0.18	\$0.00	\$0.00	1.27	0.95	0.015	0.015	0.014	0.014	Add Doors to Refrigerated Open Display Cases
Refrigeration	Anti-Sweat (Humidistat) Controls	University	Discretionary	373.8	0.05	0.04	0.0	0.0	0.0	0.0	0	8	\$52.84	\$52.84	\$0.21	\$0.00	\$0.00	9.19	0.95	6.451	6.451	6.267	6.267	Anti-Sweat (Humidistat) Controls
Refrigeration	Case Replacement Low Temp	University	Discretionary	20.7	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$1.16	\$1.16	\$0.21	\$0.00	\$0.00	44.30	0.95	2.258	2.258	2.193	2.193	Case Replacement Low Temp
Refrigeration	Case Replacement Med Temp	University	Discretionary	1.8	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$2.24	\$2.24	\$0.21	\$0.00	\$0.00	1.96	0.95	0.193	0.193	0.187	0.187	Case Replacement Med Temp
Refrigeration	Demand Control Defrost - Hot Gas	University	Discretionary	142.8	0.02	0.02	0.0	0.0	0.0	0.0	0	10	\$228.60	\$228.60	\$0.21	\$0.00	\$0.00	1.02	0.95	0.822	0.822	0.798	0.798	Refrigerant Defrost
Refrigeration	Display Case Electronically Commutated Motor - Low Temp	University	Discretionary	58.1	0.01	0.01	0.0	0.0	0.0	0.0	0	15	\$41.56	\$41.56	\$0.21	\$0.00	\$0.00	3.47	0.95	4.260	4.260	4.139	4.139	ECM Evaporator Fans - Low Temp
Refrigeration	Display Case Electronically Commutated Motor - Medium Temp	University	Discretionary	7.3	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$5.26	\$5.26	\$0.21	\$0.00	\$0.00	3.47	0.95	0.539	0.539	0.523	0.523	ECM Evaporator Fans - Medium Temp
Refrigeration	Display Case LEDs (Closed Cases)	University	Discretionary	45.2	0.01	0.01	0.0	0.0	0.0	0.0	0	8	\$26.92	\$26.92	\$0.21	\$0.00	\$0.00	2.18	0.95	4.939	4.939	4.798	4.798	Display Case LEDs (Closed Cases)
Refrigeration	Display Case LEDs (Closed Cases)	University	Lost Opportunity	45.2	0.01	0.01	0.0	0.0	0.0	0.0	0	8	\$11.97	\$11.97	\$0.18	\$0.00	\$0.00	4.90	0.95	0.429	0.429	0.417	0.417	Display Case LEDs (Closed Cases)
Refrigeration	Display Case LEDs (Open Cases)	University	Discretionary	10.2	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$7.12	\$7.12	\$0.21	-\$0.25	\$0.00	2.07	0.95	1.112	1.112	1.080	1.080	Display Case LEDs (Open Cases)
Refrigeration	Display Case LEDs (Open Cases)	University	Lost Opportunity	10.2	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$3.76	\$3.76	\$0.18	-\$0.22	\$0.00	4.78	0.95	0.097	0.097	0.094	0.094	Display Case LEDs (Open Cases)
Refrigeration	Display Case Motion Sensors	University	Discretionary	17.5	0.00	0.00	0.0	0.0	0.0	0.0	0	8	\$4.08	\$4.08	\$0.21	\$0.00	\$0.00	5.57	0.95	1.810	1.810	1.758	1.758	Display Case Motion Sensors
Refrigeration	Evaporator Fan Controller - Low Temp	University	Discretionary	1.1	0.00	0.00	0.0	0.0	0.0	0.0	0	16	\$0.87	\$0.87	\$0.21	\$0.00	\$0.00	3.42	0.95	0.115	0.115	0.112	0.112	ECM Evaporator Fan Controller - Low Temp
Refrigeration	Evaporator Fan Controller - Low Temp	University	Lost Opportunity	1.1	0.00	0.00	0.0	0.0	0.0	0.0	0	16	\$0.87	\$0.87	\$0.18	\$0.00	\$0.00	3.42	0.95	0.008	0.008	0.008	0.008	ECM Evaporator Fan Controller - Low Temp
Refrigeration	Evaporator Fan Controller - Medium Temp	University	Discretionary	1.7	0.00	0.00	0.0	0.0	0.0	0.0	0	16	\$1.62	\$1.62	\$0.21	\$0.00	\$0.00	2.85	0.95	0.180	0.180	0.175	0.175	ECM Evaporator Fan Controller - Medium Temp
Refrigeration	Evaporator Fan Controller - Medium Temp	University	Lost Opportunity	1.7	0.00	0.00	0.0	0.0	0.0	0.0	0	16	\$1.62	\$1.62	\$0.18	\$0.00	\$0.00	2.85	0.95	0.013	0.013	0.012	0.012	ECM Evaporator Fan Controller - Medium Temp
Refrigeration	Floating Condenser Head Pressure Controls	University	Discretionary	31.5	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$10.12	\$10.12	\$0.21	\$0.00	\$0.00	7.73	0.95	0.362	0.362	0.352	0.352	Floating Condenser Head Pressure Controls
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	University	Discretionary	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.05	\$0.05	\$0.21	\$0.00	\$0.00	10.81	0.95	0.040	0.040	0.039	0.039	Glass Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	University	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.05	\$0.05	\$0.18	\$0.00	\$0.00	10.81	0.95	0.004	0.004	0.003	0.003	Glass Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Ice Maker - High Efficiency	University	Discretionary	6.5	0.00	0.00	0.0	0.0	0.0	0.0	0	8	\$0.42	\$0.42	\$0.21	\$0.00	\$0.00	20.36	0.95	0.748	0.748	0.727	0.727	High Efficiency Ice Maker
Refrigeration	Ice Maker - High Efficiency	University	Lost Opportunity	6.5	0.00	0.00	0.0	0.0	0.0	0.0	0	8	\$0.42	\$0.42	\$0.18	\$0.00	\$0.00	20.36	0.95	0.065	0.065	0.063	0.063	High Efficiency Ice Maker
Refrigeration	Night Covers for Display Cases	University	Discretionary	13.3	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$2.37	\$2.37	\$0.21	\$0.24	\$0.00	3.04	0.95	1.449	1.449	1.408	1.408	Night Covers for Display Cases
Refrigeration	Night Covers for Display Cases	University	Lost Opportunity	13.3	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$2.37	\$2.37	\$0.18	\$0.24	\$0.00	3.04	0.95	0.126	0.126	0.122	0.122	Night Covers for Display Cases
Refrigeration	No Heat Case Doors	University	Discretionary	77.8	0.01	0.01	0.0	0.0	0.															

Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Room Cool	Ductless Heat Pump (DHP)	University	Discretionary	777.7	0.35	0.00	0.0	0.0	0.0	0.0	0	15	\$11,753.60	\$11,753.60	\$0.21	\$0.00	\$0.00	0.27	0.99	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Cool	Ductless Heat Pump (DHP)	University	Lost Opportunity	777.7	0.35	0.00	0.0	0.0	0.0	0.0	0	15	\$11,753.60	\$11,753.60	\$0.18	\$0.00	\$0.00	0.27	0.99	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	University	Discretionary	818.7	0.37	0.00	0.0	0.0	0.0	0.0	0	15	\$12,034.58	\$12,034.58	\$0.21	\$0.00	\$0.00	0.28	0.99	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	University	Lost Opportunity	818.7	0.37	0.00	0.0	0.0	0.0	0.0	0	15	\$12,034.58	\$12,034.58	\$0.18	\$0.00	\$0.00	0.28	0.99	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1
Room Cool	Exhaust Hood Makeup Air	University	Discretionary	59.5	0.03	0.00	0.0	0.0	0.0	0.0	0	12	\$2.58	\$2.58	\$0.21	\$0.00	\$0.00	73.23	0.99	0.000	0.000	0.000	0.000	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air
Room Cool	Green Roof	University	Discretionary	7.0	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$173,343.15	\$173,343.15	\$0.21	\$1,733.43	\$0.00	0.00	0.99	0.000	0.000	0.000	0.000	Vegetation on Roof
Room Cool	Green Roof	University	Lost Opportunity	5.2	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$173,343.15	\$173,343.15	\$0.18	\$1,733.43	\$0.00	0.00	0.99	0.000	0.000	0.000	0.000	Vegetation on Roof
Room Cool	Infiltration Reduction	University	Discretionary	39.7	0.02	0.00	0.0	0.0	0.0	0.0	0	10	\$647.77	\$647.77	\$0.21	\$0.00	\$0.00	0.16	0.99	0.000	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	University	Discretionary	55.0	0.02	0.00	0.0	0.0	0.0	0.0	0	30	\$1,950.11	\$1,950.11	\$0.21	\$0.00	\$0.00	0.24	0.99	0.000	0.000	0.000	0.000	R-35 c.i.
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	University	Lost Opportunity	49.4	0.02	0.00	0.0	0.0	0.0	0.0	0	30	\$1,950.11	\$1,950.11	\$0.18	\$0.00	\$0.00	0.21	0.99	0.000	0.000	0.000	0.000	R-35 c.i.
Room Cool	Insulation - Ceiling - CBES 2015 - Code	University	Discretionary	144.7	0.07	0.00	0.0	0.0	0.0	0.0	0	30	\$8,898.28	\$8,898.28	\$0.21	\$0.00	\$0.00	0.14	0.99	0.000	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	University	Discretionary	81.0	0.04	0.00	0.0	0.0	0.0	0.0	0	30	\$3,466.86	\$3,466.86	\$0.21	\$0.00	\$0.00	0.20	0.99	0.000	0.000	0.000	0.000	R-38
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	University	Lost Opportunity	72.8	0.03	0.00	0.0	0.0	0.0	0.0	0	30	\$3,466.86	\$3,466.86	\$0.18	\$0.00	\$0.00	0.18	0.99	0.000	0.000	0.000	0.000	R-38
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Code	University	Discretionary	141.1	0.06	0.00	0.0	0.0	0.0	0.0	0	30	\$9,938.34	\$9,938.34	\$0.21	\$0.00	\$0.00	0.12	0.99	0.000	0.000	0.000	0.000	R-30 (CBES 2015 Code)
Room Cool	Insulation - Wall - CBES 2015 - Above Code	University	Discretionary	148.1	0.07	0.00	0.0	0.0	0.0	0.0	0	30	\$4,513.75	\$4,513.75	\$0.21	\$0.00	\$0.00	0.28	0.99	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.
Room Cool	Insulation - Wall - CBES 2015 - Above Code	University	Lost Opportunity	133.2	0.06	0.00	0.0	0.0	0.0	0.0	0	30	\$4,513.75	\$4,513.75	\$0.18	\$0.00	\$0.00	0.25	0.99	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.
Room Cool	Insulation - Wall - CBES 2015 - Code	University	Discretionary	137.8	0.06	0.00	0.0	0.0	0.0	0.0	0	30	\$30,973.63	\$30,973.63	\$0.21	\$0.00	\$0.00	0.04	0.99	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Cool	Natural Ventilation	University	Lost Opportunity	118.9	0.05	0.00	0.0	0.0	0.0	0.0	0	15	\$42,213.75	\$42,213.75	\$0.18	\$0.00	\$0.00	0.01	0.99	0.000	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling
Room Cool	Room AC - ENERGY STAR	University	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.03	\$0.03	\$0.21	\$0.00	\$0.00	0.25	0.99	0.000	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Cool	Room AC - ENERGY STAR	University	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.03	\$0.03	\$0.18	\$0.00	\$0.00	0.25	0.99	0.000	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Cool	Windows - CBES 2015 - Above Code	University	Discretionary	5.8	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$3,830.56	\$3,830.56	\$0.21	\$0.00	\$0.00	0.01	0.99	0.000	0.000	0.000	0.000	U-0.29
Room Cool	Windows - CBES 2015 - Above Code	University	Lost Opportunity	5.2	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$3,830.56	\$3,830.56	\$0.18	\$0.00	\$0.00	0.01	0.99	0.000	0.000	0.000	0.000	U-0.29
Room Cool	Windows - CBES 2015 - Code	University	Discretionary	13.2	0.01	0.00	0.0	0.0	0.0	0.0	0	20	\$25,295.62	\$25,295.62	\$0.21	\$0.00	\$0.00	0.00	0.99	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Room Cool - Early Replacement	Early Replacement Room AC - ENERGY STAR	University	Discretionary	269.7	0.12	0.00	0.0	0.0	0.0	0.0	0	9	\$4,643.51	\$4,643.51	\$0.21	\$0.00	\$0.00	0.00	0.99	0.000	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Heat - Electric	Ductless Heat Pump (DHP)	University	Discretionary	13,825.1	0.03	5.56	0.0	0.0	0.0	0.0	0	15	\$11,753.60	\$11,753.60	\$0.21	\$0.00	\$0.00	2.20	0.95	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Heat - Electric	Ductless Heat Pump (DHP)	University	Lost Opportunity	13,825.1	0.03	5.56	0.0	0.0	0.0	0.0	0	15	\$11,753.60	\$11,753.60	\$0.18	\$0.00	\$0.00	2.20	0.95	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	University	Discretionary	14,554.8	0.03	5.85	0.0	0.0	0.0	0.0	0	15	\$12,034.58	\$12,034.58	\$0.21	\$0.00	\$0.00	2.26	0.95	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	University	Lost Opportunity	14,554.8	0.03	5.85	0.0	0.0	0.0	0.0	0	15	\$12,034.58	\$12,034.58	\$0.18	\$0.00	\$0.00	2.26	0.95	0.071	0.071	0.054	0.054	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1
Room Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	University	Discretionary	85,127.6	0.18	34.24	0.0	0.0	0.0	0.0	0	14	\$123,684.85	\$123,684.85	\$0.21	\$0.00	\$0.00	1.20	0.95	11.901	11.901	8.809	8.809	Exhaust Air to Ventilation Air Heat Recovery
Room Heat - Electric	Infiltration Reduction	University	Discretionary	56,751.7	0.12	22.83	0.0	0.0	0.0	0.0	0	10	\$647.77	\$647.77	\$0.21	\$0.00	\$0.00	110.29	0.95	3.177	3.177	2.423	2.423	Install Caulking And Weatherstripping (ACH 0.65)
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	University	Discretionary	23,590.5	0.05	9.49	0.0	0.0	0.0	0.0	0	30	\$1,950.11	\$1,950.11	\$0.21	\$0.00	\$0.00	45.41	0.95	10.973	10.973	8.369	8.369	R-35 c.i.
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	University	Lost Opportunity	23,590.5	0.05	9.49	0.0	0.0	0.0	0.0	0	30	\$1,950.11	\$1,950.11	\$0.18	\$0.00	\$0.00	45.41	0.95	0.439	0.439	0.335	0.335	R-35 c.i.
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	University	Discretionary	62,098.4	0.13	24.98	0.0	0.0	0.0	0.0	0	30	\$8,898.28	\$8,898.28	\$0.21	\$0.00	\$0.00	26.19	0.95	18.637	18.637	14.213	14.213	R-30 c.i. (CBES 2015 Code)
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	University	Discretionary	34,765.0	0.07	13.98	0.0	0.0	0.0	0.0	0	30	\$3,466.86	\$3,466.86	\$0.21	\$0.00	\$0.00	37.64	0.95	5.423	5.423	4.136	4.136	R-38
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	University	Lost Opportunity	34,765.0	0.07	13.98	0.0	0.0	0.0	0.0	0	30	\$3,466.86	\$3,466.86	\$0.18	\$0.00	\$0.00	37.64	0.95	0.893	0.893	0.681	0.681	R-38
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	University	Discretionary	60,549.0	0.13	24.36	0.0	0.0	0.0	0.0	0	30	\$9,938.34	\$9,938.34	\$0.21	\$0.00	\$0.00	22.87	0.95	9.221	9.221	7.032	7.032	R-30 (CBES 2015 Code)
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	University	Discretionary	63,568.9	0.13	25.57	0.0	0.0	0.0	0.0	0	30	\$4,513.75	\$4,513.75	\$0.21	\$0.00	\$0.00	52.86	0.95	16.742	16.742	12.768	12.768	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	University	Lost Opportunity	63,568.9	0.13	25.57	0.0	0.0	0.0	0.0	0	30	\$4,513.75	\$4,513.75	\$0.18	\$0.00	\$0.00	52.86	0.95	4.222	4.222	3.219	3.219	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Code	University	Discretionary	59,155.8	0.13	23.80	0.0	0.0	0.0	0.0	0	30	\$30,973.63	\$30,973.63	\$0.21	\$0.00	\$0.00	7.17	0.95	10.557	10.557	8.051	8.051	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Electric	Windows - CBES 2015 - Above Code	University	Discretionary	2,488.3	0.01	1.00	0.0	0.0	0.0	0.0	0	20	\$3,830.56	\$3,830.56	\$0.21	\$0.00	\$0.00	1.62	0.95	1.043	1.043	0.795	0.795	U-0.29
Room Heat - Electric	Windows - CBES 2015 - Above Code	University	Lost Opportunity	2,488.3	0.01	1.00	0.0	0.0	0.0	0.0	0	20	\$3,830.56	\$3,830.56	\$0.18	\$0.00	\$0.00	1.62	0.95	0.304	0.304	0.232	0.232	U-0.29
Room Heat - Electric	Windows - CBES 2015 - Code	University	Discretionary	5,681.5	0.01	2.29	0.0	0.0	0.0	0.0	0	20	\$25,295.62	\$25,295.62	\$0.21	\$0.00	\$0.00	0.56	0.95	2.326	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)
Servers	IT Systems - Decommissioning of Unused Servers	University	Discretionary	61.6	0.01	0.01	0.0	0.0	0.0	0.0	0	5	\$1.89	\$1.91	\$0.21	\$0.00	\$0.00	26.51	0.89	4.558	5.781	4.146	4.146	Decommissioning of Unused Servers
Servers	IT Systems - Decommissioning of Unused Servers	University	Lost Opportunity	60.7	0.01	0.01	0.0	0.0	0.0	0.0	0	5	\$1.88	\$1.88	\$0.18	\$0.00	\$0.00	26.51	0.89	0.387	0.503	0.361	0.361	Decommissioning of Unused Servers
Servers	IT Systems - Energy Efficient Data Storage Management	University	Discretionary	51.2	0.01	0.00	0.0	0.0	0.0	0.0	0	5	\$3.70	\$3.70	\$0.21	\$0.00	\$0.00	11.36	0.89	3.786	4.802	3.444	3.444	Energy Efficient Data Storage Management
Servers	IT Systems - Energy Efficient Data Storage Management	University	Lost Opportunity	50.5	0.01	0.00	0.0	0.0	0.0	0.0	0	5	\$3.65	\$3.65	\$0.18	\$0.00	\$0.00	11.36	0.89	0.322	0.418	0.300	0.300	Energy Efficient Data Storage Management
Servers	IT Systems - Hot or Cold Aisle Configuration	University	Discretionary	1.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.20	\$0.20	\$0.21	\$0.00	\$0.00	10.23	0.89	0.090	0.114	0.082	0.082	Hot or Cold Aisle Configuration
Servers	IT Systems - Hot or Cold Aisle Configuration	University	Lost Opportunity	1.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.20	\$0.20	\$0.18	\$0.00	\$0.00	10.23	0.89	0.008	0.010	0.007	0.007	Hot or Cold Aisle Configuration
Servers	IT Systems - Hot or Cold Aisle Configuration with Containment	University	Discretionary	2.4	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.50											



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	University	Lost Opportunity	76,524.2	0.16	30.78	0.0	0.0	0.0	0.0	0.0	0	30	\$3,466.86	\$3,466.86	\$0.18	\$0.00	\$0.00	82.85	0.95	0.000	0.000	0.000	0.000	R-38
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	University	Discretionary	133,279.6	0.28	53.61	0.0	0.0	0.0	0.0	0	30	\$9,938.34	\$9,938.34	\$0.21	\$0.00	\$0.00	50.34	0.95	0.000	0.000	0.000	0.000	R-30 (CBES 2015 Code)	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	University	Discretionary	139,927.2	0.30	56.29	0.0	0.0	0.0	0.0	0	30	\$4,513.75	\$4,513.75	\$0.21	\$0.00	\$0.00	116.36	0.95	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	University	Lost Opportunity	139,927.2	0.30	56.29	0.0	0.0	0.0	0.0	0	30	\$4,513.75	\$4,513.75	\$0.18	\$0.00	\$0.00	116.36	0.95	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Code	University	Discretionary	130,213.1	0.28	52.38	0.0	0.0	0.0	0.0	0	30	\$30,973.63	\$30,973.63	\$0.21	\$0.00	\$0.00	15.78	0.95	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)	
Space Heat - Electric	Programmable Thermostat	University	Discretionary	49,968.5	0.11	20.10	0.0	0.0	0.0	0.0	0	11	\$188.32	\$188.32	\$0.21	\$0.00	\$0.00	366.70	0.95	0.000	0.000	0.000	0.000	Programmable Thermostat	
Space Heat - Electric	Re-Commissioning	University	Discretionary	162,397.5	0.34	65.33	0.0	0.0	0.0	0.0	0	5	\$12,664.12	\$12,664.12	\$0.21	\$0.00	\$0.00	7.97	0.95	0.000	0.000	0.000	0.000	Re-Commissioning	
Space Heat - Electric	Retrocommissioning	University	Discretionary	185,299.7	0.39	74.54	0.0	0.0	0.0	0.0	0	5	\$21,106.87	\$21,106.87	\$0.21	\$0.00	\$0.00	5.46	0.95	0.000	0.000	0.000	0.000	Retrocommissioning	
Space Heat - Electric	Strategic Energy Management (SEM)	University	Discretionary	51,217.7	0.11	20.60	0.0	0.0	0.0	0.0	0	5	\$6,902.34	\$6,902.34	\$0.21	\$0.00	\$0.00	4.61	0.95	0.000	0.000	0.000	0.000	Identify Operations and Maintenance Improvements through Strategic Energy Man	
Space Heat - Electric	Strategic Energy Management (SEM)	University	Lost Opportunity	51,217.7	0.11	20.60	0.0	0.0	0.0	0.0	0	5	\$6,902.34	\$6,902.34	\$0.18	\$0.00	\$0.00	4.61	0.95	0.000	0.000	0.000	0.000	Identify Operations and Maintenance Improvements through Strategic Energy Man	
Space Heat - Electric	Wi-Fi Thermostat	University	Discretionary	49,968.5	0.11	20.10	0.0	0.0	0.0	0.0	0	11	\$1,500.14	\$1,500.14	\$0.21	\$0.00	\$0.00	46.03	0.95	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)	
Space Heat - Electric	Windows - CBES 2015 - Above Code	University	Discretionary	5,477.1	0.01	2.20	0.0	0.0	0.0	0.0	0	20	\$3,830.56	\$3,830.56	\$0.21	\$0.00	\$0.00	3.56	0.95	0.000	0.000	0.000	0.000	U-0.29	
Space Heat - Electric	Windows - CBES 2015 - Above Code	University	Lost Opportunity	5,477.1	0.01	2.20	0.0	0.0	0.0	0.0	0	20	\$3,830.56	\$3,830.56	\$0.18	\$0.00	\$0.00	3.56	0.95	0.000	0.000	0.000	0.000	U-0.29	
Space Heat - Electric	Windows - CBES 2015 - Code	University	Discretionary	12,505.9	0.03	5.03	0.0	0.0	0.0	0.0	0	20	\$25,295.62	\$25,295.62	\$0.21	\$0.00	\$0.00	1.23	0.95	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Vending Machines	Vending Machines - ENERGY STAR	University	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.89	0.000	0.000	0.000	0.000	ENERGY STAR Vending Machines - 3.84 kWh/day	
Vending Machines	Vending Machines - ENERGY STAR	University	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.89	0.000	0.000	0.000	0.000	ENERGY STAR Vending Machines - 3.84 kWh/day	
Vending Machines	Vending Machines - Federal Standard 2020	University	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.89	0.131	0.000	0.000	0.000	0.000	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Machines - Federal Standard 2020	University	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.89	0.007	0.000	0.000	0.000	0.000	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Miser	University	Discretionary	43.1	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$6.89	\$6.89	\$0.21	\$0.00	\$0.00	4.80	0.89	2.958	2.967	2.128	2.128	Vending Machine Occupancy Sensor	
Vending Machines	Vending Miser	University	Lost Opportunity	43.0	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$6.89	\$6.89	\$0.18	\$0.00	\$0.00	4.80	0.89	0.297	0.298	0.214	0.214	Vending Machine Occupancy Sensor	
Ventilation And Circulation	Automated Exhaust VFD Control - Parking Garage CO sensor	University	Discretionary	1,674.8	0.19	0.21	0.0	0.0	0.0	0.0	0	5	\$243.76	\$243.76	\$0.21	\$0.00	\$0.00	5.31	0.95	7.054	7.054	6.034	6.034	CO Sensors	
Ventilation And Circulation	Boiler Draft Fan - VFD	University	Discretionary	11,257.0	1.29	1.39	0.0	0.0	0.0	0.0	0	15	\$6,056.90	\$6,056.90	\$0.21	\$0.00	\$0.00	4.47	0.95	336.748	336.748	288.030	288.030	VFD Boiler Draft Fan	
Ventilation And Circulation	Boiler Draft Fan - VFD	University	Lost Opportunity	11,257.0	1.29	1.39	0.0	0.0	0.0	0.0	0	15	\$6,056.90	\$6,056.90	\$0.18	\$0.00	\$0.00	4.47	0.95	20.257	20.257	17.327	17.327	VFD Boiler Draft Fan	
Ventilation And Circulation	Convert Constant Volume Air System to VAV	University	Discretionary	6,993.1	0.80	0.86	0.0	0.0	0.0	0.0	0	15	\$153,923.39	\$153,923.39	\$0.21	\$0.00	\$0.00	0.11	0.95	57.022	0.000	0.000	0.000	Variable Volume Air System	
Ventilation And Circulation	Cooking Hood Controls	University	Discretionary	3.1	0.00	0.00	0.0	0.0	0.0	0.0	0	18	\$10.42	\$10.42	\$0.21	\$0.00	\$0.00	0.87	0.95	0.274	0.000	0.000	0.000	Demand-Ventilation Control	
Ventilation And Circulation	Cooking Hood Controls	University	Lost Opportunity	3.1	0.00	0.00	0.0	0.0	0.0	0.0	0	18	\$10.42	\$10.42	\$0.18	\$0.00	\$0.00	0.87	0.95	0.024	0.000	0.000	0.000	Demand-Ventilation Control	
Ventilation And Circulation	Cooling Tower Fan - Variable Speed Control	University	Discretionary	394.5	0.05	0.05	0.0	0.0	0.0	0.0	0	15	\$1,096.30	\$1,096.30	\$0.21	\$0.00	\$0.00	0.87	0.95	25.529	0.000	0.000	0.000	HVAC Fan System Installation with VSD	
Ventilation And Circulation	Fan System - HVAC - Variable Speed Control	University	Discretionary	9,095.8	1.04	1.12	0.0	0.0	0.0	0.0	0	15	\$1,448.93	\$1,448.93	\$0.21	\$0.00	\$0.00	15.10	0.95	230.235	230.235	196.927	196.927	HVAC Fan System Optimization with VSD (Restoration)	
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	University	Discretionary	330.6	0.04	0.04	0.0	0.0	0.0	0.0	0	16	\$7.25	\$7.25	\$0.21	\$0.00	\$0.00	117.21	0.95	32.526	32.526	27.821	27.821	CEE PE+ Motor for HVAC Applications	
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	University	Lost Opportunity	330.6	0.04	0.04	0.0	0.0	0.0	0.0	0	16	\$7.25	\$7.25	\$0.18	\$0.00	\$0.00	117.21	0.95	2.826	2.826	2.417	2.417	CEE PE+ Motor for HVAC Applications	
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	University	Discretionary	6,472.6	0.74	0.80	0.0	0.0	0.0	0.0	0	15	\$153,923.39	\$153,923.39	\$0.21	\$0.00	\$0.00	0.10	0.95	36.658	0.000	0.000	0.000	VAV Box High Efficiency (ECM)	
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	University	Lost Opportunity	6,472.6	0.74	0.80	0.0	0.0	0.0	0.0	0	15	\$153,923.39	\$153,923.39	\$0.18	\$0.00	\$0.00	0.10	0.95	0.000	0.000	0.000	0.000	VAV Box High Efficiency (ECM)	
Ventilation And Circulation	Motor Rewind	University	Discretionary	133.5	0.02	0.02	0.0	0.0	0.0	0.0	0	9	\$10.21	\$10.21	\$0.21	\$0.00	\$0.00	18.63	0.95	0.452	0.452	0.387	0.387	>15, <500 HP	
Ventilation And Circulation	Optimized Variable Volume Lab Hood Design	University	Discretionary	746.2	0.09	0.09	0.0	0.0	0.0	0.0	0	13	\$6,101.74	\$6,101.74	\$0.21	\$0.00	\$0.00	0.25	0.95	54.731	0.000	0.000	0.000	Optimized Variable Volume Lab Hood Design	
Ventilation And Circulation	Optimized Variable Volume Lab Hood Design	University	Lost Opportunity	746.2	0.09	0.09	0.0	0.0	0.0	0.0	0	13	\$6,101.74	\$6,101.74	\$0.18	\$0.00	\$0.00	0.25	0.95	4.756	0.000	0.000	0.000	Optimized Variable Volume Lab Hood Design	
Ventilation And Circulation	Pump System - Chiller - Variable Speed Control	University	Discretionary	2,695.2	0.31	0.33	0.0	0.0	0.0	0.0	0	15	\$502.30	\$502.30	\$0.21	\$0.00	\$0.00	12.91	0.95	86.828	86.828	74.266	74.266	Chiller Pump System Optimization with VSD (Restoration)	
Ventilation And Circulation	Variable Speed ECM Pump - Domestic Hot Water Recirculation	University	Discretionary	412.7	0.05	0.05	0.0	0.0	0.0	0.0	0	15	\$81.14	\$81.14	\$0.21	\$0.00	\$0.00	12.24	0.95	16.882	16.882	14.439	14.439	Domestic Hot Water Recirculation ECM Pump	
Ventilation And Circulation	Variable Speed ECM Pump - HVAC Space Heating Recirculation	University	Discretionary	6,830.6	0.78	0.84	0.0	0.0	0.0	0.0	0	15	\$811.40	\$811.40	\$0.21	\$0.00	\$0.00	20.26	0.95	204.335	204.335	174.773	174.773	HVAC Space Heating Recirculation ECM Pump	
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	University	Discretionary	34.3	0.00	0.01	0.0	0.0	0.0	0.0	6	13	\$79.49	\$79.49	\$0.21	\$0.00	\$0.00	1.66	0.89	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	University	Lost Opportunity	34.3	0.00	0.01	0.0	0.0	0.0	0.0	6	13	\$79.49	\$79.49	\$0.18	\$0.00	\$0.00	1.66	0.89	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	University	Discretionary	76.0	0.00	0.03	0.0	0.0	0.0	0.0	9	13	\$146.98	\$146.98	\$0.21	\$0.00	\$0.00	1.53	0.89	0.033	0.033	0.019	0.019	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	University	Lost Opportunity	76.0	0.00	0.03	0.0	0.0	0.0	0.0	9	13	\$146.98	\$146.98	\$0.18	\$0.00	\$0.00	1.53	0.89	0.003	0.003	0.001	0.001	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	University	Discretionary	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.13	\$0.13	\$0.21	\$0.00	\$0.00	8.85	0.89	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	University	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.13	\$0.13	\$0.18	\$0.00	\$0.00	8.85	0.89	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	University	Discretionary	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.05	\$0.05	\$0.21	\$0.00	\$0.00	44.94	0.89	0.001	0.001	0.001	0.001	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR	
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	University	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.05	\$0.05	\$0.18	\$0.00	\$0.00	44.94	0.89	0.000	0.000	0.000	0.000	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR	
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	University	Discretionary	22.5	0.00	0.01	0.0	0.0	0.0	0.0	0	13	\$10.71	\$10.71	\$0.21	\$0.00	\$0.00	3.42	0.89	0.043	0.043	0.025	0.025	1.0" of Insulation, assuming R-4 (Code)	
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	University	Discretionary	13,136.9	0.03	5.28	0.0	0.0	0.0	0.0	0	25	\$883.75	\$883.75	\$0.21	\$0.00	\$0.00	46.29	0.89	1.391	1.391	0.805	0.805	Install Heat Recovery Water Heater	
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	University	Discretionary	352.2	0.00	0.14	0.0	0.0	0.0	0.0	0	20	\$41.48	\$41.48	\$0.21	\$0.00	\$0.00	21.12	0.89	0.264	0.264	0.153	0.153	R-3	
Water Heat GT 55 Gal	Low-Flow																								

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	University	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	15.93	0.89	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	University	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.03	\$0.03	\$0.21	\$0.00	\$0.00	11.29	0.89	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	University	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.03	\$0.03	\$0.18	\$0.00	\$0.00	11.29	0.89	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	University	Discretionary	11,423.4	0.02	4.60	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	564770.53	0.89	35.890	35.890	20.771	20.771	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	University	Lost Opportunity	11,423.4	0.02	4.60	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	564770.53	0.89	2.685	2.685	1.554	1.554	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Tank Wrap	University	Discretionary	22,983.8	0.05	9.25	0.0	0.0	0.0	0.0	0	7	\$41.55	\$41.55	\$0.21	\$0.00	\$0.00	486.35	0.89	54.401	54.401	31.485	31.485	Add R-10 Tank Wrap	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	University	Discretionary	71.3	0.00	0.03	0.0	0.0	0.0	0.0	6	13	\$79.49	\$79.49	\$0.21	\$0.00	\$0.00	2.42	0.89	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	University	Lost Opportunity	71.3	0.00	0.03	0.0	0.0	0.0	0.0	6	13	\$79.49	\$79.49	\$0.18	\$0.00	\$0.00	2.42	0.89	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	University	Discretionary	158.0	0.00	0.06	0.0	0.0	0.0	0.0	9	13	\$146.98	\$146.98	\$0.21	\$0.00	\$0.00	2.44	0.89	0.066	0.066	0.038	0.038	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	University	Lost Opportunity	158.0	0.00	0.06	0.0	0.0	0.0	0.0	9	13	\$146.98	\$146.98	\$0.18	\$0.00	\$0.00	2.44	0.89	0.004	0.004	0.003	0.003	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	University	Discretionary	0.8	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.13	\$0.13	\$0.21	\$0.00	\$0.00	14.75	0.89	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	University	Lost Opportunity	0.8	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.13	\$0.13	\$0.18	\$0.00	\$0.00	14.75	0.89	0.000	0.000	0.000	0.000	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	University	Discretionary	1.3	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.05	\$0.05	\$0.21	\$0.00	\$0.00	67.69	0.89	0.003	0.003	0.002	0.002	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR	
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	University	Lost Opportunity	1.3	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$0.05	\$0.05	\$0.18	\$0.00	\$0.00	67.69	0.89	0.000	0.000	0.000	0.000	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR	
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	University	Discretionary	46.8	0.00	0.02	0.0	0.0	0.0	0.0	0	13	\$10.71	\$10.71	\$0.21	\$0.00	\$0.00	7.11	0.89	0.085	0.085	0.049	0.049	1.0" of Insulation, assuming R-4 (Code)	
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	University	Discretionary	12,343.7	0.03	4.97	0.0	0.0	0.0	0.0	0	25	\$883.75	\$883.75	\$0.21	\$0.00	\$0.00	43.50	0.89	1.242	1.242	0.719	0.719	Install Heat Recovery Water Heater	
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	University	Discretionary	352.2	0.00	0.14	0.0	0.0	0.0	0.0	0	20	\$41.48	\$41.48	\$0.21	\$0.00	\$0.00	21.12	0.89	0.250	0.250	0.145	0.145	R-3	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	University	Discretionary	1,256.5	0.00	0.51	0.0	0.0	0.0	0.0	93	9	\$168.86	\$168.86	\$0.21	\$0.00	\$0.00	13.20	0.89	3.948	3.948	2.285	2.285	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	University	Lost Opportunity	1,256.5	0.00	0.51	0.0	0.0	0.0	0.0	93	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.89	0.261	0.000	0.000	0.5 GPM		
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	University	Discretionary	887.0	0.00	0.36	0.0	0.0	0.0	0.0	66	9	\$168.86	\$168.86	\$0.21	\$0.00	\$0.00	9.32	0.89	0.000	0.000	0.000	0.000	1.0 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	University	Lost Opportunity	887.0	0.00	0.36	0.0	0.0	0.0	0.0	66	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.89	0.000	0.000	0.000	0.000	1.0 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	University	Discretionary	517.4	0.00	0.21	0.0	0.0	0.0	0.0	38	9	\$168.86	\$168.86	\$0.21	\$0.00	\$0.00	5.44	0.89	0.000	0.000	0.000	0.000	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	University	Lost Opportunity	517.4	0.00	0.21	0.0	0.0	0.0	0.0	38	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.89	0.000	0.000	0.000	0.000	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	University	Discretionary	221.7	0.00	0.09	0.0	0.0	0.0	0.0	14	9	\$168.86	\$168.86	\$0.21	\$0.00	\$0.00	2.23	0.89	0.261	0.261	0.151	0.151	2.2 GPM (Federal Code)	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	University	Discretionary	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$0.13	\$0.13	\$0.21	\$0.00	\$0.00	8.41	0.89	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	University	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$0.13	\$0.13	\$0.18	\$0.00	\$0.00	8.41	0.89	0.000	0.000	0.000	0.000	1.28 GPM (2020 Federal Standard)	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	University	Discretionary	1.1	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	0.89	0.003	0.000	0.000	0.000	0.75 GPM	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	University	Lost Opportunity	1.1	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.89	0.000	0.000	0.000	0.000	0.75 GPM	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	University	Discretionary	1.8	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$0.13	\$0.13	\$0.21	\$0.00	\$0.00	22.34	0.89	0.000	0.000	0.000	0.000	0.75 GPM	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	University	Lost Opportunity	1.8	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$0.13	\$0.13	\$0.18	\$0.00	\$0.00	22.34	0.89	0.000	0.000	0.000	0.000	0.75 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	University	Discretionary	480.2	0.00	0.19	0.0	0.0	0.0	0.0	56	9	\$126.64	\$126.64	\$0.21	\$0.00	\$0.00	8.16	0.89	1.433	1.433	0.830	0.830	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	University	Lost Opportunity	480.2	0.00	0.19	0.0	0.0	0.0	0.0	56	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.89	0.095	0.000	0.000	0.000	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	University	Discretionary	360.2	0.00	0.14	0.0	0.0	0.0	0.0	42	9	\$126.64	\$126.64	\$0.21	\$0.00	\$0.00	6.12	0.89	0.000	0.000	0.000	0.000	1.75 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	University	Lost Opportunity	360.2	0.00	0.14	0.0	0.0	0.0	0.0	42	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.89	0.000	0.000	0.000	0.000	1.75 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	University	Discretionary	240.1	0.00	0.10	0.0	0.0	0.0	0.0	28	9	\$126.64	\$126.64	\$0.21	\$0.00	\$0.00	4.08	0.89	0.000	0.000	0.000	0.000	2.0 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	University	Lost Opportunity	240.1	0.00	0.10	0.0	0.0	0.0	0.0	28	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	0.89	0.000	0.000	0.000	0.000	2.0 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	University	Discretionary	240.1	0.00	0.10	0.0	0.0	0.0	0.0	28	9	\$126.64	\$126.64	\$0.21	\$0.00	\$0.00	4.08	0.89	0.269	0.269	0.156	0.156	2.5 GPM (Federal Code)	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	University	Lost Opportunity	0.9	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.27	\$0.27	\$0.21	\$0.07	\$0.00	1.54	0.89	0.000	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	University	Lost Opportunity	0.9	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.27	\$0.27	\$0.18	\$0.07	\$0.00	1.54	0.89	0.000	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	University	Discretionary	813.1	0.00	0.33	0.0	0.0	0.0	0.0	0	20	\$2,961.04	\$2,961.04	\$0.21	\$0.00	\$0.00	0.68	0.89	2.427	0.000	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Ultrasonic Faucet Control	University	Lost Opportunity	813.1	0.00	0.33	0.0	0.0	0.0	0.0	0	20	\$2,961.04	\$2,961.04	\$0.18	\$0.00	\$0.00	0.68	0.89	0.160	0.000	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	University	Discretionary	7,666.9	0.02	3.08	0.0	0.0	0.0	0.0	0	10	\$19.23	\$19.23	\$0.21	\$0.00	\$0.00	501.87	0.89	6.022	6.022	3.485	3.485	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End U	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	University	Lost Opportunity	7,666.9	0.02	3.08	0.0	0.0	0.0	0.0	0	10	\$19.23	\$19.23	\$0.18	\$0.00	\$0.00	501.87	0.89	0.398	0.398	0.230	0.230	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End U	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	University	Lost Opportunity	1.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.13	\$0.13	\$0.21	\$0.00	\$0.00	11.45	0.89	253.368	255.421	147.826	147.826	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	University	Lost Opportunity	1.2	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.13	\$0.13	\$0.18	\$0.00	\$0.00	11.45	0.89	29.156	30.324	17.550	17.550	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	University	Lost Opportunity	0.9	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.08	\$0.08	\$0.21	\$0.00	\$0.00	13.16	0.89	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	University	Lost Opportunity	0.9	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.08	\$0.08	\$0.18	\$0.00	\$0.00	13.16	0.89	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	University	Lost Opportunity	1.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.09	\$0.09	\$0.21	\$0.00	\$0.00	12.95	0.89	0.000	0.000	0.000	0.000	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	University	Lost Opportunity	1.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.09	\$0.09	\$0.18	\$0.00	\$0.00	12.95	0.89	0.000	0.000	0.000	0.000	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	University	Lost Opportunity	1.2	0.00	0.00	0.0	0.0	0.0	0.0															



Appendix B.2		EVT Non-residential Measure Assumptions																								
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description		
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Warehouse	Discretionary	86.9	0.03	0.00	0.0	0.0	0.0	0.0	0	15	\$14,191.44	\$14,191.44	\$0.21	\$0.00	\$0.00	0.02	1.00	0.037	0.000	0.000	0.000	Additional Control Features		
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Warehouse	Lost Opportunity	86.9	0.03	0.00	0.0	0.0	0.0	0.0	0	15	\$14,191.44	\$14,191.44	\$0.18	\$0.00	\$0.00	0.02	1.00	0.004	0.000	0.000	0.000	0.000	Additional Control Features	
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Warehouse	Discretionary	62.3	0.02	0.00	0.0	0.0	0.0	0.0	0	10	\$7,216.02	\$7,216.02	\$0.21	\$0.00	\$0.00	0.02	1.00	0.082	0.000	0.000	0.000	0.000	VSD for Secondary Chilled Water Loop	
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Warehouse	Lost Opportunity	62.3	0.02	0.00	0.0	0.0	0.0	0.0	0	10	\$6,494.42	\$6,494.42	\$0.18	\$0.00	\$0.00	0.02	1.00	0.017	0.000	0.000	0.000	0.000	VSD for Secondary Chilled Water Loop	
Cooling Chillers	Chilled Water Reset	Warehouse	Discretionary	23.5	0.01	0.00	0.0	0.0	0.0	0.0	0	10	\$8,335.51	\$8,335.51	\$0.21	\$0.00	\$0.00	0.01	1.00	0.069	0.000	0.000	0.000	0.000	Chilled Water Temperature Reset	
Cooling Chillers	Chilled Water Reset	Warehouse	Lost Opportunity	23.5	0.01	0.00	0.0	0.0	0.0	0.0	0	10	\$8,335.51	\$8,335.51	\$0.18	\$0.00	\$0.00	0.01	1.00	0.000	0.000	0.000	0.000	0.000	Chilled Water Temperature Reset	
Cooling Chillers	Chilled Water Side Economizer	Warehouse	Discretionary	131.6	0.04	0.00	0.0	0.0	0.0	0.0	0	15	\$47,796.49	\$47,796.49	\$0.21	\$0.00	\$0.00	0.01	1.00	0.216	0.000	0.000	0.000	0.000	Install Economizer	
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Warehouse	Discretionary	218.2	0.07	0.00	0.0	0.0	0.0	0.0	0	15	\$392.22	\$392.22	\$0.21	\$0.00	\$0.00	1.95	1.00	3.727	4.153	3.346	3.346	2.0" of Insulation, assuming R-8		
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Warehouse	Lost Opportunity	218.2	0.07	0.00	0.0	0.0	0.0	0.0	0	15	\$392.22	\$392.22	\$0.18	\$0.00	\$0.00	1.95	1.00	0.382	0.438	0.353	0.353	2.0" of Insulation, assuming R-8		
Cooling Chillers	Chiller - Pipe Insulation - Code	Warehouse	Discretionary	364.3	0.12	0.00	0.0	0.0	0.0	0.0	0	15	\$841.09	\$841.09	\$0.21	\$0.00	\$0.00	1.52	1.00	5.000	5.572	4.489	4.489	1.0" of Insulation, assuming R-4 (Code)		
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.20	\$0.20	\$0.21	\$0.00	\$0.00	0.13	1.00	0.678	0.000	0.000	0.000	0.000	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)	
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.18	\$0.18	\$0.18	\$0.00	\$0.00	0.15	1.00	0.066	0.000	0.000	0.000	0.000	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)	
Cooling Chillers	Commissioning	Warehouse	Lost Opportunity	61.0	0.02	0.00	0.0	0.0	0.0	0.0	0	5	\$14,191.44	\$14,191.44	\$0.18	\$0.00	\$0.00	0.00	1.00	0.059	0.000	0.000	0.000	0.000	Commissioning	
Cooling Chillers	Convert Constant Volume Air System to VAV	Warehouse	Discretionary	123.3	0.04	0.00	0.0	0.0	0.0	0.0	0	15	\$66,912.99	\$66,912.99	\$0.21	\$0.00	\$0.00	0.01	1.00	0.055	0.000	0.000	0.000	0.000	Variable Volume Air System	
Cooling Chillers	Direct Digital Control System-Installation	Warehouse	Discretionary	70.4	0.02	0.00	0.0	0.0	0.0	0.0	0	5	\$3,823.13	\$3,823.13	\$0.21	\$0.00	\$0.00	0.02	1.00	0.184	0.000	0.000	0.000	0.000	Installation of EMS System	
Cooling Chillers	Direct Digital Control System-Installation	Warehouse	Lost Opportunity	70.4	0.02	0.00	0.0	0.0	0.0	0.0	0	5	\$3,823.13	\$3,823.13	\$0.18	\$0.00	\$0.00	0.02	1.00	0.005	0.000	0.000	0.000	0.000	Installation of EMS System	
Cooling Chillers	Green Roof	Warehouse	Discretionary	2.5	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$183,510.00	\$183,510.00	\$0.21	\$1,835.10	\$0.00	0.00	1.00	0.006	0.000	0.000	0.000	0.000	Vegetation on Roof	
Cooling Chillers	Green Roof	Warehouse	Lost Opportunity	2.1	0.00	0.00	0.0	0.0	0.0	0.0	0	40	\$183,510.00	\$183,510.00	\$0.18	\$1,835.10	\$0.00	0.00	1.00	0.002	0.000	0.000	0.000	0.000	Vegetation on Roof	
Cooling Chillers	Indirect Information Feedback	Warehouse	Discretionary	2.4	0.00	0.00	0.0	0.0	0.0	0.0	0	2	\$8.13	\$8.13	\$0.21	\$0.00	\$0.00	0.12	1.00	0.011	0.000	0.000	0.000	0.000	Indirect Information Feedback	
Cooling Chillers	Indirect Information Feedback	Warehouse	Lost Opportunity	2.4	0.00	0.00	0.0	0.0	0.0	0.0	0	2	\$8.13	\$8.13	\$0.18	\$0.00	\$0.00	0.12	1.00	0.002	0.000	0.000	0.000	0.000	Indirect Information Feedback	
Cooling Chillers	Infiltration Reduction	Warehouse	Discretionary	14.1	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$183.33	\$183.33	\$0.21	\$0.00	\$0.00	0.17	1.00	0.003	0.000	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)	
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Discretionary	28.2	0.01	0.00	0.0	0.0	0.0	0.0	0	30	\$2,064.49	\$2,064.49	\$0.21	\$0.00	\$0.00	0.10	1.00	0.045	0.000	0.000	0.000	0.000	R-35 c.i.	
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Lost Opportunity	28.2	0.01	0.00	0.0	0.0	0.0	0.0	0	30	\$2,064.49	\$2,064.49	\$0.18	\$0.00	\$0.00	0.10	1.00	0.004	0.000	0.000	0.000	0.000	R-35 c.i.	
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Code	Warehouse	Discretionary	74.1	0.03	0.00	0.0	0.0	0.0	0.0	0	30	\$9,420.18	\$9,420.18	\$0.21	\$0.00	\$0.00	0.06	1.00	0.076	0.000	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)	
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Discretionary	41.5	0.01	0.00	0.0	0.0	0.0	0.0	0	30	\$3,670.20	\$3,670.20	\$0.21	\$0.00	\$0.00	0.08	1.00	0.022	0.000	0.000	0.000	0.000	R-38	
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Lost Opportunity	41.5	0.01	0.00	0.0	0.0	0.0	0.0	0	30	\$3,670.20	\$3,670.20	\$0.18	\$0.00	\$0.00	0.08	1.00	0.009	0.000	0.000	0.000	0.000	R-38	
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Code	Warehouse	Discretionary	72.3	0.02	0.00	0.0	0.0	0.0	0.0	0	30	\$10,521.24	\$10,521.24	\$0.21	\$0.00	\$0.00	0.05	1.00	0.037	0.000	0.000	0.000	0.000	R-30 (CBES 2015 Code)	
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Discretionary	20.2	0.01	0.00	0.0	0.0	0.0	0.0	0	30	\$1,271.38	\$1,271.38	\$0.21	\$0.00	\$0.00	0.12	1.00	0.018	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Lost Opportunity	20.2	0.01	0.00	0.0	0.0	0.0	0.0	0	30	\$1,271.38	\$1,271.38	\$0.18	\$0.00	\$0.00	0.12	1.00	0.010	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Cooling Chillers	Insulation - Wall - CBES 2015 - Code	Warehouse	Discretionary	18.8	0.01	0.00	0.0	0.0	0.0	0.0	0	30	\$8,724.29	\$8,724.29	\$0.21	\$0.00	\$0.00	0.02	1.00	0.011	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)	
Cooling Chillers	Natural Ventilation	Warehouse	Lost Opportunity	47.0	0.02	0.00	0.0	0.0	0.0	0.0	0	15	\$12,234.00	\$12,234.00	\$0.18	\$0.00	\$0.00	0.01	1.00	0.002	0.000	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling	
Cooling Chillers	Programmable Thermostat	Warehouse	Discretionary	18.8	0.01	0.00	0.0	0.0	0.0	0.0	0	11	\$25.78	\$25.78	\$0.21	\$0.00	\$0.00	1.83	1.00	0.199	0.222	0.179	0.179	0.179	Programmable Thermostat	
Cooling Chillers	Re-Commissioning	Warehouse	Discretionary	61.0	0.02	0.00	0.0	0.0	0.0	0.0	0	5	\$3,670.20	\$3,670.20	\$0.21	\$0.00	\$0.00	0.02	1.00	0.308	0.000	0.000	0.000	0.000	Re-Commissioning	
Cooling Chillers	Retrocommissioning	Warehouse	Discretionary	69.7	0.02	0.00	0.0	0.0	0.0	0.0	0	5	\$6,117.00	\$6,117.00	\$0.21	\$0.00	\$0.00	0.01	1.00	0.163	0.000	0.000	0.000	0.000	Retrocommissioning	
Cooling Chillers	Strategic Energy Management (SEM)	Warehouse	Discretionary	19.3	0.01	0.00	0.0	0.0	0.0	0.0	0	5	\$2.59	\$2.59	\$0.21	\$0.00	\$0.00	8.08	1.00	0.046	0.051	0.041	0.041	0.041	Identify Operations and Maintenance Improvements through Strategic Energy Man	
Cooling Chillers	Strategic Energy Management (SEM)	Warehouse	Lost Opportunity	19.3	0.01	0.00	0.0	0.0	0.0	0.0	0	5	\$2.59	\$2.59	\$0.18	\$0.00	\$0.00	8.08	1.00	0.025	0.029	0.023	0.023	0.023	Identify Operations and Maintenance Improvements through Strategic Energy Man	
Cooling Chillers	Tune-up - Chiller Maintenance	Warehouse	Discretionary	67.5	0.02	0.00	0.0	0.0	0.0	0.0	0	5	\$1,957.44	\$1,957.44	\$0.21	\$0.00	\$0.00	0.04	1.00	0.078	0.000	0.000	0.000	0.000	Chiller Tune-up	
Cooling Chillers	Wi-Fi Thermostat	Warehouse	Discretionary	18.8	0.01	0.00	0.0	0.0	0.0	0.0	0	11	\$205.33	\$205.33	\$0.21	\$0.00	\$0.00	0.23	1.00	0.000	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)	
Cooling Chillers	Windows - CBES 2015 - Above Code	Warehouse	Discretionary	0.8	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$1,084.13	\$1,084.13	\$0.21	\$0.00	\$0.00	0.00	1.00	0.001	0.000	0.000	0.000	0.000	U-0.29	
Cooling Chillers	Windows - CBES 2015 - Above Code	Warehouse	Lost Opportunity	0.8	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$1,084.13	\$1,084.13	\$0.18	\$0.00	\$0.00	0.00	1.00	0.001	0.000	0.000	0.000	0.000	U-0.29	
Cooling Chillers	Windows - CBES 2015 - Code	Warehouse	Discretionary	1.8	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$7,159.18	\$7,159.18	\$0.21	\$0.00	\$0.00	0.00	1.00	0.001	0.000	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Cooling Dx Evap	Active Chilled Beam Cooling with DOAS	Warehouse	Lost Opportunity	84.0	0.03	0.00	0.0	0.0	0.0	0.0	0	15	-\$12,234.00	\$0.00	\$0.18	\$9,175.50	\$0.00	0.00	1.00	0.048	0.000	0.000	0.000	0.000	0.000	Active Chilled Beam Cooling with DOAS
Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units	Warehouse	Discretionary	63.2	0.02	0.00	0.0	0.0	0.0	0.0	0	10	\$4,587.75	\$4,587.75	\$0.21	-\$3,303.18	\$0.00	999.00	1.00	1.279	1.653	1.332	1.332	1.332	Rooftop unit with automated fault detection and diagnostics capability	
Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units	Warehouse	Lost Opportunity	63.2	0.02	0.00	0.0	0.0	0.0	0.0	0	10	\$3,670.20	\$3,670.20	\$0.18	-\$2,642.54	\$0.00	999.00	1.00	0.116	0.154	0.124	0.124	0.124	Rooftop unit with automated fault detection and diagnostics capability	
Cooling Dx Evap	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Warehouse	Discretionary	43.7	0.01	0.00	41.9	9.6	0.0	0.0	0	15	\$3,058.50	\$3,058.50	\$0.21	\$0.00	\$0.00	0.50	1.00	0.045	0.000	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)	
Cooling Dx Evap	Commissioning	Warehouse	Lost Opportunity	54.6	0.02	0.00	68.7	13.7	0.0	0.0	0	5	\$14,191.44	\$14,191.44	\$0.18	\$0.00	\$0.00	0.06	1.00	0.104	0.000	0.000	0.000	0.000	Commissioning	
Cooling Dx Evap	Convert Constant Volume Air System to VAV	Warehouse	Discretionary	110.3	0.04	0.00	125.0	28.8	0.1	0.0	0	15	\$66,912.99	\$66,912.99	\$0.21	\$0.00	\$0.00	0.07	1.00	0.174	0.000	0.000	0.000	0.000	Variable Volume Air System	
Cooling Dx Evap	DX Package 135 to 240 kBtuh - Federal Standard 2023	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.36	\$0.36	\$0.21	\$0.00	\$0.00	0.03	1.00	0.000	0.000	0.000	0.000	0.000	Federal Standard 2023 - 14.2 IEER	
Cooling Dx Evap	DX Package 135 to 240 kBtuh																									

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Cooling Dx Evap	Retrocommissioning	Warehouse	Discretionary	62.3	0.02	0.00	70.6	14.1	0.0	0.0	0	5	\$6,117.00	\$6,117.00	\$0.21	\$0.00	\$0.00	0.13	1.00	0.600	0.000	0.000	0.000	Retrocommissioning	
Cooling Dx Evap	Strategic Energy Management (SEM)	Warehouse	Discretionary	17.2	0.01	0.00	19.5	3.9	0.0	0.0	0	5	\$2.32	\$2.32	\$0.21	\$0.00	\$0.00	98.26	1.00	0.041	0.053	0.042	0.042	Identify Operations and Maintenance Improvements through Strategic Energy Man	
Cooling Dx Evap	Strategic Energy Management (SEM)	Warehouse	Lost Opportunity	17.2	0.01	0.00	21.7	4.3	0.0	0.0	0	5	\$2.32	\$2.32	\$0.18	\$0.00	\$0.00	108.28	1.00	0.024	0.032	0.026	0.026	Identify Operations and Maintenance Improvements through Strategic Energy Man	
Cooling Dx Evap	Tune-up - DX Maintenance	Warehouse	Discretionary	60.4	0.02	0.00	0.0	0.0	0.0	0.0	0	5	\$11,010.60	\$11,010.60	\$0.21	\$0.00	\$0.00	0.01	1.00	0.406	0.000	0.000	0.000	DX Tune-up / Diagnostics	
Cooling Dx Evap	Wi-Fi Thermostat	Warehouse	Discretionary	16.8	0.01	0.00	19.0	4.2	0.0	0.0	0	11	\$205.33	\$205.33	\$0.21	\$0.00	\$0.00	2.46	1.00	0.000	0.000	0.000	0.000	Wi-Fi Thermostat (Learning Type)	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Warehouse	Discretionary	0.7	0.00	0.00	0.8	0.2	0.0	0.0	0	20	\$1,084.13	\$1,084.13	\$0.21	\$0.00	\$0.00	0.04	1.00	0.003	0.000	0.000	0.000	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Warehouse	Lost Opportunity	0.7	0.00	0.00	0.9	0.2	0.0	0.0	0	20	\$1,084.13	\$1,084.13	\$0.18	\$0.00	\$0.00	0.04	1.00	0.001	0.000	0.000	0.000	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Code	Warehouse	Discretionary	1.6	0.00	0.00	1.9	0.5	0.0	0.0	0	20	\$7,159.18	\$7,159.18	\$0.21	\$0.00	\$0.00	0.01	1.00	0.005	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtu/h - Premium Efficiency	Warehouse	Discretionary	211.8	0.07	0.00	0.0	0.0	0.0	0.0	0	15	\$37,544.90	\$37,544.90	\$0.21	\$0.00	\$0.00	0.02	1.00	1.204	0.000	0.000	0.000	Premium Efficiency - 19.0 IEER	
Fax	Fax - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.244	0.000	0.000	0.000	ENERGY STAR Fax	
Fax	Fax - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.024	0.000	0.000	0.000	ENERGY STAR Fax	
Flat Screen Monitors	Monitor - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.50	1.00	2.120	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	7	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.50	1.00	0.200	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Monitor	
Freezers	Freezer (Residential) - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	13.03	1.00	0.094	0.094	0.061	0.061	ENERGY STAR Freezer	
Freezers	Freezer (Residential) - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	13.03	1.00	0.013	0.013	0.008	0.008	ENERGY STAR Freezer	
Freezers	Residential Freezer Recycling and Replacement	Warehouse	Discretionary	7.5	0.00	0.00	0.0	0.0	0.0	0.0	0	8	\$3.00	\$3.00	\$0.21	\$0.00	\$0.00	3.13	1.00	0.595	0.595	0.387	0.387	Recycling Existing Freezer and Replacing with a Federal Standard Unit	
Heat Pump	Active Chilled Beam Cooling with DOAS	Warehouse	Lost Opportunity	1.4	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$12,234.00	\$0.00	\$0.18	\$9,175.50	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	Active Chilled Beam Cooling with DOAS	
Heat Pump	Air Source Heat Pump 135 to 240 kBtu/h - Federal Standard 2023	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	Federal Standard 2023 - 13.5 IEER, 3.3 COP	
Heat Pump	Air Source Heat Pump 135 to 240 kBtu/h - Federal Standard 2023	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	Federal Standard 2023 - 13.5 IEER, 3.3 COP	
Heat Pump	Air Source Heat Pump 135 to 240 kBtu/h - Premium Efficiency	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.002	0.000	0.000	0.000	Premium Efficiency - 18.5 IEER, 3.6 COP	
Heat Pump	Air Source Heat Pump 135 to 240 kBtu/h - Premium Efficiency	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	Premium Efficiency - 18.5 IEER, 3.6 COP	
Heat Pump	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Warehouse	Discretionary	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$3,058.50	\$3,058.50	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	Demand Controlled Ventilation (CO2 sensors)	
Heat Pump	Commissioning	Warehouse	Lost Opportunity	0.9	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$14,191.44	\$14,191.44	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	Commissioning	
Heat Pump	Convert Constant Volume Air System to VAV	Warehouse	Discretionary	1.9	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$66,912.99	\$66,912.99	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	Variable Volume Air System	
Heat Pump	Direct Digital Control System-Installation	Warehouse	Discretionary	1.1	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$3,823.13	\$3,823.13	\$0.21	\$0.00	\$0.00	0.00	1.00	0.001	0.000	0.000	0.000	Installation of EMS System	
Heat Pump	Direct Digital Control System-Installation	Warehouse	Lost Opportunity	1.1	0.00	0.00	0.0	0.0	0.0	0.0	0	5	\$3,823.13	\$3,823.13	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	Installation of EMS System	
Heat Pump	Duct Repair and Sealing	Warehouse	Discretionary	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	18	\$2,936.16	\$2,936.16	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	Reduction In Duct Losses to 5 %	
Heat Pump	Exhaust Air to Ventilation Air Heat Recovery	Warehouse	Discretionary	1.1	0.00	0.00	0.0	0.0	0.0	0.0	0	14	\$53,767.81	\$53,767.81	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	Exhaust Air to Ventilation Air Heat Recovery	
Heat Pump	Ground Source Heat Pump (< 135 kBtu/hr) Cooling	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	17.0 EER, 4.0 COP	
Heat Pump	Ground Source Heat Pump (< 135 kBtu/hr) Cooling	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	25	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	17.0 EER, 4.0 COP	
Heat Pump	HVAC Variable Refrigerant Flow	Warehouse	Discretionary	4.2	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$46,489.20	\$46,489.20	\$0.21	-\$1,064.36	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Heat Pump	HVAC Variable Refrigerant Flow	Warehouse	Lost Opportunity	4.2	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$46,489.20	\$46,489.20	\$0.18	-\$1,064.36	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Heat Pump	Indirect Information Feedback	Warehouse	Discretionary	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	2	\$0.12	\$0.12	\$0.21	\$0.00	\$0.00	0.12	1.00	0.000	0.000	0.000	0.000	Indirect Information Feedback	
Heat Pump	Indirect Information Feedback	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	2	\$0.12	\$0.12	\$0.18	\$0.00	\$0.00	0.12	1.00	0.000	0.000	0.000	0.000	Indirect Information Feedback	
Heat Pump	Infiltration Reduction	Warehouse	Discretionary	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$183.33	\$183.33	\$0.21	\$0.00	\$0.00	0.01	1.00	0.000	0.000	0.000	0.000	Install Caulking And Weatherstripping (ACH 0.65)	
Heat Pump	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Discretionary	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$2,064.49	\$2,064.49	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	R-35 c.i.	
Heat Pump	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$2,064.49	\$2,064.49	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	R-35 c.i.	
Heat Pump	Insulation - Ceiling - CBES 2015 - Code	Warehouse	Discretionary	1.1	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$9,420.18	\$9,420.18	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)	
Heat Pump	Insulation - Duct - CBES 2015 - Above Code	Warehouse	Discretionary	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$165.92	\$165.92	\$0.21	\$0.00	\$0.00	0.01	1.00	0.000	0.000	0.000	0.000	R-12	
Heat Pump	Insulation - Duct - CBES 2015 - Above Code	Warehouse	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$165.92	\$165.92	\$0.18	\$0.00	\$0.00	0.01	1.00	0.000	0.000	0.000	0.000	R-12	
Heat Pump	Insulation - Duct - CBES 2015 - Code	Warehouse	Discretionary	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$668.28	\$668.28	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	R-8 (CBES 2015 Code)	
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Discretionary	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$3,670.20	\$3,670.20	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	R-38	
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$3,670.20	\$3,670.20	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	R-38	
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Code	Warehouse	Discretionary	1.1	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$10,521.24	\$10,521.24	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	R-30 (CBES 2015 Code)	
Heat Pump	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Discretionary	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$1,271.38	\$1,271.38	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Heat Pump	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$1,271.38	\$1,271.38	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	R-13 + 15.6 c.i.	
Heat Pump	Insulation - Wall - CBES 2015 - Code	Warehouse	Discretionary	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	30	\$8,724.29	\$8,724.29	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)	
Heat Pump	Natural Ventilation	Warehouse	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$12,234.00	\$12,234.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling	
Heat Pump	Programmable Thermostat	Warehouse	Discretionary	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	11	\$25.78	\$25.78	\$0.21	\$0.00	\$0.00	0.03	1.00	0.000	0.00				

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent - 2018 Federal Standard	Warehouse	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.04	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	1.00	0.000	0.000	0.000	0.000	Standard Fluorescent 2018 Federal Standard Approved T-8	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 - Above Standard	Warehouse	Lost Opportunity	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.05	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	1.00	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 Interior Lighting	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 High Performance - Above Standard	Warehouse	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	15	-\$0.03	\$0.00	\$0.21	-\$0.01	\$0.00	999.00	1.00	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 High Performance Interior Lighting	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 Reduced Wattage - Above Standard	Warehouse	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	94.16	1.00	0.000	0.000	0.000	0.000	Above Standard Fluorescent T8 Reduced Wattage Interior Lighting	
Lighting Interior Fluorescent	Lighting Interior - TLED - Above Standard	Warehouse	Lost Opportunity	1.9	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.26	\$0.26	\$0.21	-\$0.02	\$0.00	75.85	1.00	1361.761	1474.332	1299.692	1299.692	Above Standard TLED	
Lighting Interior Fluorescent	Occupancy Sensor Control	Warehouse	Discretionary	7,853.8	1.52	1.05	0.0	0.0	0.0	0.0	0	10	\$24,104.48	\$24,104.48	\$0.21	\$0.00	\$0.00	0.61	1.00	214.948	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Interior Fluorescent	Time Clock	Warehouse	Discretionary	3,272.4	0.63	0.44	0.0	0.0	0.0	0.0	0	8	\$103.00	\$103.00	\$0.21	\$0.00	\$0.00	46.91	1.00	7.463	7.463	6.579	6.579	Time Clock	
Lighting Interior Fluorescent - Early Replacement	Early Replacement Lighting Interior - TLED - Above Standard	Warehouse	Discretionary	392.5	0.08	0.05	0.0	0.0	0.0	0.0	0	15	\$94.18	\$94.18	\$0.21	-\$1.16	\$0.00	0.00	1.00	43.495	0.000	0.000	0.000	Above Standard TLED	
Lighting Interior HID	Lighting Interior - Efficient Metal Halide - Above Standard	Warehouse	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.09	\$0.09	\$0.21	-\$0.01	\$0.00	25.63	1.00	0.000	0.000	0.000	0.000	Efficient Metal Halide	
Lighting Interior HID	Lighting Interior - Federal Standard 2017 Metal Halide - Above Standard	Warehouse	Lost Opportunity	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.11	\$0.11	\$0.21	\$0.00	\$0.00	2.29	1.00	0.000	0.000	0.000	0.000	Federal Standard 2017 Metal Halide	
Lighting Interior HID	Lighting Interior - High Bay Fluorescent High Output - Above Standard	Warehouse	Lost Opportunity	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.29	\$0.29	\$0.21	\$0.03	\$0.00	1.34	1.00	0.000	0.000	0.000	0.000	High Bay Fluorescent High Output (HO)	
Lighting Interior HID	Lighting Interior - High Bay Induction - Above Standard	Warehouse	Lost Opportunity	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.29	\$0.29	\$0.21	-\$0.02	\$0.00	6.33	1.00	0.000	0.000	0.000	0.000	High Bay Induction	
Lighting Interior HID	Lighting Interior - High Bay LED - Above Standard	Warehouse	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.34	\$0.34	\$0.21	-\$0.01	\$0.00	5.66	1.00	172.099	190.105	167.586	167.586	High Bay LED	
Lighting Interior HID	Occupancy Sensor Control	Warehouse	Discretionary	1,570.5	0.30	0.21	0.0	0.0	0.0	0.0	0	10	\$4,820.05	\$4,820.05	\$0.21	\$0.00	\$0.00	0.61	1.00	71.289	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Interior HID	Time Clock	Warehouse	Discretionary	654.4	0.13	0.09	0.0	0.0	0.0	0.0	0	8	\$103.00	\$103.00	\$0.21	\$0.00	\$0.00	9.38	1.00	2.475	2.475	2.182	2.182	Time Clock	
Lighting Interior Other	Exit Sign - LED	Warehouse	Discretionary	214.3	0.04	0.03	0.0	0.0	0.0	0.0	0	16	\$301.34	\$301.34	\$0.21	\$0.00	\$0.00	2.16	1.00	14.956	14.956	13.185	13.185	LED Exit Sign	
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Warehouse	Discretionary	266.9	0.05	0.04	0.0	0.0	0.0	0.0	0	16	-\$45.88	\$0.00	\$0.21	\$0.00	\$0.00	999.00	1.00	27.215	27.215	23.991	23.991	Photoluminescent or Tritium	
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Warehouse	Lost Opportunity	266.9	0.05	0.04	0.0	0.0	0.0	0.0	0	16	-\$45.88	\$0.00	\$0.18	\$0.00	\$0.00	999.00	1.00	1.774	1.774	1.563	1.563	Photoluminescent or Tritium	
Lighting Interior Other	New Construction Lighting Package - Advanced Efficiency	Warehouse	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.19	\$0.19	\$0.18	-\$0.01	\$0.00	17.91	1.00	82.723	82.723	72.924	72.924	Advanced Efficiency Lighting Package - 25% LPD Reduction	
Lighting Interior Other	New Construction Lighting Package - High Efficiency	Warehouse	Lost Opportunity	0.4	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	999.00	1.00	0.000	0.000	0.000	0.000	High Efficiency Lighting Package - 15% LPD Reduction	
Lighting Interior Other	New Construction Lighting Package - Premium Efficiency	Warehouse	Lost Opportunity	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.04	\$0.04	\$0.18	\$0.00	\$0.00	392.65	1.00	0.000	0.000	0.000	0.000	Premium Efficiency Lighting Package - 20% LPD Reduction	
Lighting Interior Other	Occupancy Sensor Control	Warehouse	Discretionary	128.6	0.02	0.02	0.0	0.0	0.0	0.0	0	10	\$394.70	\$394.70	\$0.21	\$0.00	\$0.00	0.61	1.00	6.540	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Interior Other	Time Clock	Warehouse	Discretionary	53.6	0.01	0.01	0.0	0.0	0.0	0.0	0	8	\$103.00	\$103.00	\$0.21	\$0.00	\$0.00	0.77	1.00	0.227	0.000	0.000	0.000	Time Clock	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	Warehouse	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	3	\$0.01	\$0.01	\$0.21	-\$0.01	\$0.00	999.00	1.00	0.000	0.000	0.000	0.000	CFL	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base Incandescent - Backstop EISA 2020 Standard	Warehouse	Lost Opportunity	0.5	0.00	0.00	0.0	0.0	0.0	0.0	0	3	\$0.01	\$0.01	\$0.21	-\$0.01	\$0.00	999.00	1.00	0.000	0.000	0.000	0.000	Backstop EISA 2020 Standard Incandescent	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base LED - Above Standard	Warehouse	Lost Opportunity	0.7	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.06	\$0.06	\$0.21	-\$0.02	\$0.00	999.00	1.00	32.378	32.554	28.698	28.698	LED	
Lighting Interior Screw Base - Standard	Occupancy Sensor Control	Warehouse	Discretionary	2,278.1	0.44	0.31	0.0	0.0	0.0	0.0	0	10	\$6,991.90	\$6,991.90	\$0.21	\$0.00	\$0.00	0.61	1.00	44.244	0.000	0.000	0.000	Occupancy Sensor Control	
Lighting Interior Screw Base - Standard	Time Clock	Warehouse	Discretionary	949.2	0.18	0.13	0.0	0.0	0.0	0.0	0	8	\$103.00	\$103.00	\$0.21	\$0.00	\$0.00	13.61	1.00	1.536	1.536	1.354	1.354	Time Clock	
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base CFL - Above Standard	Warehouse	Discretionary	935.1	0.18	0.13	0.0	0.0	0.0	0.0	0	3	\$19.66	\$19.66	\$0.21	-\$15.83	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	CFL	
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base LED - Above Standard	Warehouse	Discretionary	977.5	0.19	0.13	0.0	0.0	0.0	0.0	0	12	\$62.25	\$62.25	\$0.21	-\$22.58	\$0.00	0.00	1.00	73.923	0.000	0.000	0.000	LED	
Other Plug Load	Dehumidifier - ENERGY STAR	Warehouse	Discretionary	153.8	0.02	0.01	0.0	0.0	0.0	0.0	0	12	\$60.00	\$60.00	\$0.21	\$0.00	\$0.00	5.23	1.00	2.868	2.868	2.311	2.311	ENERGY STAR Dehumidifier	
Other Plug Load	Dehumidifier - ENERGY STAR	Warehouse	Lost Opportunity	153.8	0.02	0.01	0.0	0.0	0.0	0.0	0	12	\$60.00	\$60.00	\$0.18	\$0.00	\$0.00	5.23	1.00	0.249	0.249	0.201	0.201	ENERGY STAR Dehumidifier	
Other Plug Load	ENERGY STAR - Scanners	Warehouse	Discretionary	1.5	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.116	0.000	0.000	0.000	ENERGY STAR Scanners	
Other Plug Load	ENERGY STAR - Scanners	Warehouse	Lost Opportunity	1.5	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.010	0.000	0.000	0.000	ENERGY STAR Scanners	
Other Plug Load	ENERGY STAR - Water Cooler	Warehouse	Discretionary	58.2	0.01	0.01	0.0	0.0	0.0	0.0	0	10	\$0.50	\$0.50	\$0.21	\$0.00	\$0.00	196.63	1.00	6.246	6.246	5.033	5.033	ENERGY STAR Water Cooler (Hot/Cold Water)	
Other Plug Load	ENERGY STAR - Water Cooler	Warehouse	Lost Opportunity	58.2	0.01	0.01	0.0	0.0	0.0	0.0	0	10	\$0.50	\$0.50	\$0.18	\$0.00	\$0.00	196.63	1.00	0.543	0.543	0.437	0.437	ENERGY STAR Water Cooler (Hot/Cold Water)	
Other Plug Load	Internal Power Supply / Com - E Star	Warehouse	Discretionary	26.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$53.42	\$53.42	\$0.21	\$0.00	\$0.00	0.32	1.00	0.662	0.000	0.000	0.000	ENERGY STAR power supply for ENERGY STAR desktop	
Other Plug Load	Internal Power Supply / Com - E Star	Warehouse	Lost Opportunity	26.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$53.42	\$53.42	\$0.18	\$0.00	\$0.00	0.32	1.00	0.058	0.000	0.000	0.000	ENERGY STAR power supply for ENERGY STAR desktop	
Other Plug Load	Smart Strip Plug Outlet	Warehouse	Discretionary	51.5	0.01	0.00	0.0	0.0	0.0	0.0	0	4	\$38.73	\$38.73	\$0.21	\$0.00	\$0.00	0.86	1.00	1.164	0.000	0.000	0.000	Advanced Power Strip - Load Sensing	
Other Plug Load	Smart Strip Plug Outlet	Warehouse	Lost Opportunity	51.5	0.01	0.00	0.0	0.0	0.0	0.0	0	4	\$38.73	\$38.73	\$0.18	\$0.00	\$0.00	0.86	1.00	0.101	0.000	0.000	0.000	Advanced Power Strip - Load Sensing	
Other Plug Load	Smart Strip Plug Outlet	Warehouse	Discretionary	31.3	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$93.79	\$93.79	\$0.21	\$0.00	\$0.00	0.22	1.00	0.000	0.000	0.000	0.000	Advanced Power Strip with Occupancy Sensor	
Other Plug Load	Smart Strip Plug Outlet	Warehouse	Lost Opportunity	31.3	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$93.79	\$93.79	\$0.18	\$0.00	\$0.00	0.22	1.00	0.000	0.000	0.000	0.000	Advanced Power Strip with Occupancy Sensor	
Photo Copiers	Copiers - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	1.191	0.000	0.000	0.000	ENERGY STAR Copiers	
Photo Copiers	Copiers - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.113	0.000	0.000	0.000	ENERGY STAR Copiers	
Printers	Printers - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	6.719	0.000	0.000	0.000	ENERGY STAR Printers	
Printers	Printers - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	6	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.670	0.000	0.000	0.000	ENERGY STAR Printers	
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	1.23	1.00	0.000	0.000	0.000	0.000	CEE Tier 2 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	1.23	1.00	0.000	0.000	0.000	0.000	CEE Tier 2 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	1.15	1.00	1.570	1.570	1.021	1.021	CEE Tier 3 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	1.15	1.00	0.232	0.232	0.151	0.151	CEE Tier 3 Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	1.26	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.																		



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Room Cool	Natural Ventilation	Warehouse	Lost Opportunity	34.5	0.02	0.00	0.0	0.0	0.0	0.0	0	15	\$12,234.00	\$12,234.00	\$0.18	\$0.00	\$0.00	0.01	1.00	0.000	0.000	0.000	0.000	Natural Ventilation Design Reduction in Cooling	
Room Cool	Room AC - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.03	\$0.03	\$0.21	\$0.00	\$0.00	0.25	1.00	0.110	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)	
Room Cool	Room AC - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.03	\$0.03	\$0.18	\$0.00	\$0.00	0.25	1.00	0.011	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)	
Room Cool	Windows - CBES 2015 - Above Code	Warehouse	Discretionary	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$1,084.13	\$1,084.13	\$0.21	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	U-0.29	
Room Cool	Windows - CBES 2015 - Above Code	Warehouse	Lost Opportunity	0.6	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$1,084.13	\$1,084.13	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	U-0.29	
Room Cool	Windows - CBES 2015 - Code	Warehouse	Discretionary	1.5	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$7,159.18	\$7,159.18	\$0.21	\$0.00	\$0.00	0.00	1.00	0.001	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Room Cool - Early Replacement	Early Replacement Room AC - ENERGY STAR	Warehouse	Discretionary	78.2	0.04	0.00	0.0	0.0	0.0	0.0	0	9	\$1,345.74	\$1,345.74	\$0.21	\$0.00	\$0.00	0.00	1.00	0.034	0.000	0.000	0.000	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)	
Room Heat - Electric	Ductless Heat Pump (DHP)	Warehouse	Discretionary	4,006.7	0.01	1.61	0.0	0.0	0.0	0.0	0	15	\$3,406.32	\$3,406.32	\$0.21	\$0.00	\$0.00	2.20	1.00	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Heat - Electric	Ductless Heat Pump (DHP)	Warehouse	Lost Opportunity	4,006.7	0.01	1.61	0.0	0.0	0.0	0.0	0	15	\$3,406.32	\$3,406.32	\$0.18	\$0.00	\$0.00	2.20	1.00	0.000	0.000	0.000	0.000	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Warehouse	Discretionary	4,218.1	0.01	1.70	0.0	0.0	0.0	0.0	0	15	\$3,487.75	\$3,487.75	\$0.21	\$0.00	\$0.00	2.26	1.00	0.000	0.000	0.000	0.000	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1	
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Warehouse	Lost Opportunity	4,218.1	0.01	1.70	0.0	0.0	0.0	0.0	0	15	\$3,487.75	\$3,487.75	\$0.18	\$0.00	\$0.00	2.26	1.00	0.018	0.018	0.015	0.015	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 1	
Room Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Warehouse	Discretionary	1,970.6	0.00	0.79	0.0	0.0	0.0	0.0	0	14	\$53,767.81	\$53,767.81	\$0.21	\$0.00	\$0.00	0.06	1.00	0.209	0.000	0.000	0.000	Exhaust Air to Ventilation Air Heat Recovery	
Room Heat - Electric	Infiltration Reduction	Warehouse	Discretionary	1,313.7	0.00	0.53	0.0	0.0	0.0	0.0	0	10	\$183.33	\$183.33	\$0.21	\$0.00	\$0.00	9.02	1.00	0.059	0.059	0.048	0.048	Install Caulking And Weatherstripping (ACH 0.65)	
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Discretionary	787.8	0.00	0.32	0.0	0.0	0.0	0.0	0	30	\$2,064.49	\$2,064.49	\$0.21	\$0.00	\$0.00	1.43	1.00	0.278	0.278	0.224	0.224	R-35 c.i.	
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Lost Opportunity	787.8	0.00	0.32	0.0	0.0	0.0	0.0	0	30	\$2,064.49	\$2,064.49	\$0.18	\$0.00	\$0.00	1.43	1.00	0.011	0.011	0.009	0.009	R-35 c.i.	
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Warehouse	Discretionary	2,073.7	0.00	0.83	0.0	0.0	0.0	0.0	0	30	\$9,420.18	\$9,420.18	\$0.21	\$0.00	\$0.00	0.83	1.00	0.468	0.000	0.000	0.000	R-30 c.i. (CBES 2015 Code)	
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Discretionary	1,160.9	0.00	0.47	0.0	0.0	0.0	0.0	0	30	\$3,670.20	\$3,670.20	\$0.21	\$0.00	\$0.00	1.19	1.00	0.137	0.137	0.110	0.110	R-38	
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Lost Opportunity	1,160.9	0.00	0.47	0.0	0.0	0.0	0.0	0	30	\$3,670.20	\$3,670.20	\$0.18	\$0.00	\$0.00	1.19	1.00	0.022	0.022	0.017	0.017	R-38	
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Warehouse	Discretionary	2,022.0	0.00	0.81	0.0	0.0	0.0	0.0	0	30	\$10,521.24	\$10,521.24	\$0.21	\$0.00	\$0.00	0.72	1.00	0.230	0.000	0.000	0.000	R-30 (CBES 2015 Code)	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Discretionary	564.8	0.00	0.23	0.0	0.0	0.0	0.0	0	30	\$1,271.38	\$1,271.38	\$0.21	\$0.00	\$0.00	1.67	1.00	0.110	0.110	0.089	0.089	R-13 + 15.6 c.i.	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Lost Opportunity	564.8	0.00	0.23	0.0	0.0	0.0	0.0	0	30	\$1,271.38	\$1,271.38	\$0.18	\$0.00	\$0.00	1.67	1.00	0.026	0.026	0.021	0.021	R-13 + 15.6 c.i.	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Code	Warehouse	Discretionary	525.6	0.00	0.21	0.0	0.0	0.0	0.0	0	30	\$8,724.29	\$8,724.29	\$0.21	\$0.00	\$0.00	0.23	1.00	0.070	0.000	0.000	0.000	R-13 + 7.5 c.i. (CBES 2015 Code)	
Room Heat - Electric	Windows - CBES 2015 - Above Code	Warehouse	Discretionary	22.2	0.00	0.01	0.0	0.0	0.0	0.0	0	20	\$1,084.13	\$1,084.13	\$0.21	\$0.00	\$0.00	0.05	1.00	0.007	0.000	0.000	0.000	U-0.29	
Room Heat - Electric	Windows - CBES 2015 - Above Code	Warehouse	Lost Opportunity	22.2	0.00	0.01	0.0	0.0	0.0	0.0	0	20	\$1,084.13	\$1,084.13	\$0.18	\$0.00	\$0.00	0.05	1.00	0.002	0.000	0.000	0.000	U-0.29	
Room Heat - Electric	Windows - CBES 2015 - Code	Warehouse	Discretionary	50.7	0.00	0.02	0.0	0.0	0.0	0.0	0	20	\$7,159.18	\$7,159.18	\$0.21	\$0.00	\$0.00	0.02	1.00	0.016	0.000	0.000	0.000	U-0.36 (CBES 2015 Code)	
Servers	Internal Power Supply / Server	Warehouse	Discretionary	4.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$1.22	\$1.22	\$0.21	\$0.00	\$0.00	2.22	1.00	0.284	0.360	0.290	0.290	80 Plus power supply for Desktop Derived Server	
Servers	Internal Power Supply / Server	Warehouse	Lost Opportunity	4.2	0.00	0.00	0.0	0.0	0.0	0.0	0	4	\$1.22	\$1.22	\$0.18	\$0.00	\$0.00	2.22	1.00	0.024	0.032	0.026	0.026	80 Plus power supply for Desktop Derived Server	
Servers	Server - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.02	\$0.02	\$0.21	\$0.00	\$0.00	0.32	1.00	4.051	0.000	0.000	0.000	ENERGY STAR Server	
Servers	Server - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	9	\$0.02	\$0.02	\$0.18	\$0.00	\$0.00	0.32	1.00	0.403	0.000	0.000	0.000	ENERGY STAR Server	
Space Heat - Electric	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Warehouse	Discretionary	2,689.3	0.01	1.08	0.0	0.0	0.0	0.0	0	15	\$3,058.50	\$3,058.50	\$0.21	\$0.00	\$0.00	1.64	1.00	0.142	0.142	0.115	0.115	Demand Controlled Ventilation (CO2 sensors)	
Space Heat - Electric	Commissioning	Warehouse	Lost Opportunity	3,972.8	0.01	1.60	0.0	0.0	0.0	0.0	0	5	\$14,191.44	\$14,191.44	\$0.18	\$0.00	\$0.00	0.17	1.00	0.389	0.000	0.000	0.000	Commissioning	
Space Heat - Electric	Convert Constant Volume Air System to VAV	Warehouse	Discretionary	8,027.7	0.02	3.23	0.0	0.0	0.0	0.0	0	15	\$66,912.99	\$66,912.99	\$0.21	\$0.00	\$0.00	0.22	1.00	0.680	0.000	0.000	0.000	Variable Volume Air System	
Space Heat - Electric	Direct Digital Control System-Installation	Warehouse	Discretionary	4,584.0	0.01	1.84	0.0	0.0	0.0	0.0	0	5	\$3,823.13	\$3,823.13	\$0.21	\$0.00	\$0.00	0.75	1.00	2.862	0.000	0.000	0.000	Installation of EMS System	
Space Heat - Electric	Direct Digital Control System-Installation	Warehouse	Lost Opportunity	4,584.0	0.01	1.84	0.0	0.0	0.0	0.0	0	5	\$3,823.13	\$3,823.13	\$0.18	\$0.00	\$0.00	0.75	1.00	0.030	0.000	0.000	0.000	Installation of EMS System	
Space Heat - Electric	Duct Repair and Sealing	Warehouse	Discretionary	2,657.4	0.01	1.07	0.0	0.0	0.0	0.0	0	18	\$2,936.16	\$2,936.16	\$0.21	\$0.00	\$0.00	2.03	1.00	1.221	1.221	0.984	0.984	Reduction in Duct Losses to 5 %	
Space Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Warehouse	Discretionary	4,584.0	0.01	1.84	0.0	0.0	0.0	0.0	0	14	\$53,767.81	\$53,767.81	\$0.21	\$0.00	\$0.00	0.15	1.00	0.300	0.000	0.000	0.000	Exhaust Air to Ventilation Air Heat Recovery	
Space Heat - Electric	Indirect Information Feedback	Warehouse	Discretionary	159.0	0.00	0.06	0.0	0.0	0.0	0.0	0	2	\$529.08	\$529.08	\$0.21	\$0.00	\$0.00	0.07	1.00	0.090	0.000	0.000	0.000	Indirect Information Feedback	
Space Heat - Electric	Indirect Information Feedback	Warehouse	Lost Opportunity	159.0	0.00	0.06	0.0	0.0	0.0	0.0	0	2	\$529.08	\$529.08	\$0.18	\$0.00	\$0.00	0.07	1.00	0.010	0.000	0.000	0.000	Indirect Information Feedback	
Space Heat - Electric	Infiltration Reduction	Warehouse	Discretionary	3,056.0	0.01	1.23	0.0	0.0	0.0	0.0	0	10	\$183.33	\$183.33	\$0.21	\$0.00	\$0.00	20.98	1.00	0.120	0.120	0.097	0.097	Install Caulking And Weatherstripping (ACH 0.65)	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Discretionary	1,832.5	0.00	0.74	0.0	0.0	0.0	0.0	0	30	\$2,064.49	\$2,064.49	\$0.21	\$0.00	\$0.00	3.33	1.00	0.582	0.582	0.468	0.468	R-35 c.i.	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Lost Opportunity	1,832.5	0.00	0.74	0.0	0.0	0.0	0.0	0	30	\$2,064.49	\$2,064.49	\$0.18	\$0.00	\$0.00	3.33	1.00	0.025	0.025	0.020	0.020	R-35 c.i.	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Warehouse	Discretionary	4,823.8	0.01	1.94	0.0	0.0	0.0	0.0	0	30	\$9,420.18	\$9,420.18	\$0.21	\$0.00	\$0.00	1.92	1.00	0.948	0.948	0.764	0.764	R-30 c.i. (CBES 2015 Code)	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Warehouse	Discretionary	1,100.2	0.00	0.44	0.0	0.0	0.0	0.0	0	20	\$165.92	\$165.92	\$0.21	\$0.00	\$0.00	16.49	1.00	0.915	0.915	0.737	0.737	R-12	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Warehouse	Lost Opportunity	1,100.2	0.00	0.44	0.0	0.0	0.0	0.0	0	20	\$165.92	\$165.92	\$0.18	\$0.00	\$0.00	16.49	1.00	0.098	0.098	0.079	0.079	R-12	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Code	Warehouse	Discretionary	1,100.2	0.00	0.44	0.0	0.0	0.0	0.0	0	20	\$668.28	\$668.28	\$0.21	\$0.00	\$0.00	4.09	1.00	0.754	0.754	0.607	0.607	R-8 (CBES 2015 Code)	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Discretionary	2,700.5	0.01	1.09	0.0	0.0	0.0	0.0	0	30	\$3,670.20	\$3,670.20	\$0.21	\$0.00	\$0.00	2.76	1.00	0.286	0.286	0.230	0.230	R-38	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Lost Opportunity	2,700.5	0.01	1.09	0.0	0.0	0.0	0.0	0	30	\$3,670.20	\$3,670.20	\$0.18	\$0.00	\$0.00	2.76	1.00	0.050	0.050	0.040	0.040	R-38	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Warehouse	Discretionary	4,703.4	0.01	1.89	0.0	0.0	0.0	0.0	0	30	\$10,521.24	\$10,521.24	\$0.21	\$0.00	\$0.00	1.68	1.00	0.465	0.465	0.375	0.375	R-30 (CBES 2015 Code)	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Discretionary	1,313.8	0.00	0.53	0.0	0.0	0.0	0.0	0	30	\$1,271.38	\$1,271.38	\$0.21	\$0.00	\$0.00	3.88	1.00	0.231	0.231	0.186	0.186	R-13 + 15.6 c.i.	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Lost Opportunity																						

Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Ventilation And Circulation	Variable Speed ECM Pump - HVAC Space Heating Recirculation	Warehouse	Discretionary	322.3	0.04	0.04	0.0	0.0	0.0	0.0	0	15	\$38.28	\$38.28	\$0.21	\$0.00	\$0.00	20.26	1.00	9.468	9.468	8.489	8.489	HVAC Space Heating Recirculation ECM Pump
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Warehouse	Discretionary	9.4	0.00	0.00	0.0	0.0	0.0	0.0	2	13	\$21.76	\$21.76	\$0.21	\$0.00	\$0.00	1.66	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Warehouse	Lost Opportunity	9.4	0.00	0.00	0.0	0.0	0.0	0.0	2	13	\$21.76	\$21.76	\$0.18	\$0.00	\$0.00	1.66	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Warehouse	Discretionary	20.8	0.00	0.01	0.0	0.0	0.0	0.0	2	13	\$40.24	\$40.24	\$0.21	\$0.00	\$0.00	1.53	1.00	0.032	0.048	0.031	0.031	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Warehouse	Lost Opportunity	20.8	0.00	0.01	0.0	0.0	0.0	0.0	2	13	\$40.24	\$40.24	\$0.18	\$0.00	\$0.00	1.53	1.00	0.002	0.004	0.003	0.003	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	Warehouse	Discretionary	22.5	0.00	0.01	0.0	0.0	0.0	0.0	0	13	\$10.71	\$10.71	\$0.21	\$0.00	\$0.00	3.42	1.00	0.046	0.069	0.045	0.045	1.0" of Insulation, assuming R-4 (Code)
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	Warehouse	Discretionary	89.5	0.00	0.04	0.0	0.0	0.0	0.0	0	25	\$707.00	\$707.00	\$0.21	\$0.00	\$0.00	0.39	1.00	0.005	0.000	0.000	0.000	Install Heat Recovery Water Heater
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	Warehouse	Discretionary	2.3	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$0.27	\$0.27	\$0.21	\$0.00	\$0.00	21.12	1.00	0.002	0.003	0.002	0.002	R-3
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	92.6	0.00	0.04	0.0	0.0	0.0	0.0	7	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	8.22	1.00	0.284	0.430	0.280	0.280	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Warehouse	Lost Opportunity	92.6	0.00	0.04	0.0	0.0	0.0	0.0	7	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.021	0.000	0.000	0.000	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	65.4	0.00	0.03	0.0	0.0	0.0	0.0	5	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	5.80	1.00	0.000	0.000	0.000	0.000	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Warehouse	Lost Opportunity	65.4	0.00	0.03	0.0	0.0	0.0	0.0	5	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	38.1	0.00	0.02	0.0	0.0	0.0	0.0	3	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	3.38	1.00	0.000	0.000	0.000	0.000	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Warehouse	Lost Opportunity	38.1	0.00	0.02	0.0	0.0	0.0	0.0	3	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	16.3	0.00	0.01	0.0	0.0	0.0	0.0	1	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	1.39	1.00	0.019	0.028	0.019	0.019	2.2 GPM (Federal Code)
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.51	\$0.51	\$0.21	\$0.19	\$0.00	0.01	1.00	0.227	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.51	\$0.51	\$0.18	\$0.19	\$0.00	0.01	1.00	0.018	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Warehouse	Discretionary	59.9	0.00	0.02	0.0	0.0	0.0	0.0	0	20	\$350.72	\$350.72	\$0.21	\$0.00	\$0.00	0.43	1.00	0.174	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Warehouse	Lost Opportunity	59.9	0.00	0.02	0.0	0.0	0.0	0.0	0	20	\$350.72	\$350.72	\$0.18	\$0.00	\$0.00	0.43	1.00	0.013	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Warehouse	Discretionary	55.6	0.00	0.02	0.0	0.0	0.0	0.0	0	10	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.004	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Warehouse	Lost Opportunity	55.6	0.00	0.02	0.0	0.0	0.0	0.0	0	10	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.12	\$0.12	\$0.21	\$0.00	\$0.00	0.07	1.00	0.387	0.000	0.000	0.000	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.12	\$0.12	\$0.18	\$0.00	\$0.00	0.07	1.00	0.031	0.000	0.000	0.000	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.02	\$0.02	\$0.21	\$0.00	\$0.00	0.11	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.02	\$0.02	\$0.18	\$0.00	\$0.00	0.11	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.10	\$0.10	\$0.21	\$0.00	\$0.00	0.08	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 Gal - EF 2.8
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	10	\$0.10	\$0.10	\$0.18	\$0.00	\$0.00	0.08	1.00	0.000	0.000	0.000	0.000	Advanced Efficiency Heat Pump Water Heater > 55 Gal - EF 2.8
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Warehouse	Discretionary	77.8	0.00	0.03	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.21	\$0.00	\$0.00	3847.81	1.00	0.226	0.343	0.223	0.223	Set Water Heater to 120F
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Warehouse	Lost Opportunity	77.8	0.00	0.03	0.0	0.0	0.0	0.0	0	4	\$0.01	\$0.01	\$0.18	\$0.00	\$0.00	3847.81	1.00	0.017	0.028	0.018	0.018	Set Water Heater to 120F
Water Heat GT 55 Gal	Water Heater Tank Wrap	Warehouse	Discretionary	156.6	0.00	0.06	0.0	0.0	0.0	0.0	0	7	\$41.55	\$41.55	\$0.21	\$0.00	\$0.00	3.31	1.00	0.274	0.415	0.270	0.270	Add R-10 Tank Wrap
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Warehouse	Discretionary	19.5	0.00	0.01	0.0	0.0	0.0	0.0	2	13	\$21.76	\$21.76	\$0.21	\$0.00	\$0.00	2.42	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Warehouse	Lost Opportunity	19.5	0.00	0.01	0.0	0.0	0.0	0.0	2	13	\$21.76	\$21.76	\$0.18	\$0.00	\$0.00	2.42	1.00	0.000	0.000	0.000	0.000	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Warehouse	Discretionary	43.2	0.00	0.02	0.0	0.0	0.0	0.0	2	13	\$40.24	\$40.24	\$0.21	\$0.00	\$0.00	2.44	1.00	0.502	1.203	0.783	0.783	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Warehouse	Lost Opportunity	43.2	0.00	0.02	0.0	0.0	0.0	0.0	2	13	\$40.24	\$40.24	\$0.18	\$0.00	\$0.00	2.44	1.00	0.033	0.105	0.068	0.068	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Warehouse	Discretionary	46.8	0.00	0.02	0.0	0.0	0.0	0.0	0	13	\$10.71	\$10.71	\$0.21	\$0.00	\$0.00	7.11	1.00	0.012	1.708	1.111	1.111	1.0" of Insulation, assuming R-4 (Code)
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Warehouse	Discretionary	84.1	0.00	0.03	0.0	0.0	0.0	0.0	0	25	\$707.00	\$707.00	\$0.21	\$0.00	\$0.00	0.37	1.00	0.031	0.000	0.000	0.000	Install Heat Recovery Water Heater
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Warehouse	Discretionary	2.3	0.00	0.00	0.0	0.0	0.0	0.0	0	20	\$0.27	\$0.27	\$0.21	\$0.00	\$0.00	21.12	1.00	0.017	0.040	0.026	0.026	R-3
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	92.6	0.00	0.04	0.0	0.0	0.0	0.0	7	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	8.22	1.00	2.155	5.171	3.363	3.363	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Warehouse	Lost Opportunity	92.6	0.00	0.04	0.0	0.0	0.0	0.0	7	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.142	0.000	0.000	0.000	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	65.4	0.00	0.03	0.0	0.0	0.0	0.0	5	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	5.80	1.00	0.000	0.000	0.000	0.000	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Warehouse	Lost Opportunity	65.4	0.00	0.03	0.0	0.0	0.0	0.0	5	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	38.1	0.00	0.02	0.0	0.0	0.0	0.0	3	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	3.38	1.00	0.000	0.000	0.000	0.000	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Warehouse	Lost Opportunity	38.1	0.00	0.02	0.0	0.0	0.0	0.0	3	9	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.000	0.000	0.000	0.000	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	16.3	0.00	0.01	0.0	0.0	0.0	0.0	1	9	\$20.00	\$20.00	\$0.21	\$0.00	\$0.00	1.39	1.00	0.143	0.342	0.223	0.223	2.2 GPM (Federal Code)
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.73	\$0.73	\$0.21	\$0.19	\$0.00	0.01	1.00	0.000	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0	15	\$0.73	\$0.73	\$0.18	\$0.19	\$0.00	0.01	1.00	0.000	0.000	0.000	0.000	Complete solar (assisted) residential water heating system (freeze-protected and r
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Warehouse	Discretionary	59.9	0.00	0.02	0.0	0.0	0.0	0.0	0	20	\$350.72	\$350.72	\$0.21	\$0.00	\$0.00	0.43	1.00	1.325	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Warehouse	Lost Opportunity	59.9	0.00	0.02	0.0	0.0	0.0	0.0	0	20	\$350.72	\$350.72	\$0.18	\$0.00	\$0.00	0.43	1.00	0.088	0.000	0.000	0.000	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Warehouse	Discretionary	52.2	0.00	0.02	0.0	0.0	0.0	0.0	0	10	\$0.00	\$0.00	\$0.21	\$0.00	\$0.00	0.00	1.00	0.030	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Warehouse	Lost Opportunity	52.2	0.00	0.02	0.0	0.0	0.0	0.0	0	10	\$0.00	\$0.00	\$0.18	\$0.00	\$0.00	0.00	1.00	0.002	0.000	0.000	0.000	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End u
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.0	0.0	0.0															



Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Indirect Boiler	Equipment Upgrade - Boiler Replacement	Electrical Equipment Mfg	Discretionary	86,608.0	0.18	34.84	0.0	0.0	0.0	0.0	0	25	\$30,623.44	\$30,623.44	\$0.21	\$0.00	\$0.00	8.84	0.86	101.028	101.028	72.438	72.438	
Lighting	Lighting Controls - Occupancy Sensors, Photocell Controls, And Timers	Electrical Equipment Mfg	Discretionary	289,850.3	46.01	30.13	0.0	0.0	0.0	0.0	0	8	\$16,155.25	\$16,155.25	\$0.21	\$0.00	\$0.00	24.95	1.00	51.547	51.547	43.159	43.159	
Lighting	Lighting Interior Fluorescent	Electrical Equipment Mfg	Discretionary	882,753.1	140.14	91.76	0.0	0.0	0.0	0.0	0	15	\$312,129.80	\$312,129.80	\$0.21	-\$0.01	\$0.00	7.55	1.00	1029.734	1029.734	862.163	862.163	
Lighting	Lighting Interior HID	Electrical Equipment Mfg	Discretionary	167,208.6	26.54	17.38	0.0	0.0	0.0	0.0	0	15	\$59,122.73	\$59,122.73	\$0.21	-\$0.01	\$0.00	7.55	1.00	195.049	195.049	163.308	163.308	
Lighting	Lighting Interior Screw Base - Standard	Electrical Equipment Mfg	Discretionary	513,325.8	81.49	53.36	0.0	0.0	0.0	0.0	0	3	\$181,505.20	\$181,505.20	\$0.21	-\$0.03	\$0.00	1.38	1.00	598.796	598.796	501.352	501.352	
Lighting	Lighting Operations - Scheduling Improvements And Maintenance	Electrical Equipment Mfg	Discretionary	305,654.7	48.52	31.77	0.0	0.0	0.0	0.0	0	5	\$6,487.03	\$6,487.03	\$0.21	\$0.00	\$0.00	40.07	1.00	54.772	54.772	45.859	45.859	
Lighting	Optimize Lighting System - Install Skylights And Use Daylighting	Electrical Equipment Mfg	Discretionary	540,713.9	85.84	56.21	0.0	0.0	0.0	0.0	0	20	\$101,134.07	\$101,134.07	\$0.21	\$0.00	\$0.00	19.23	1.00	167.798	167.798	140.492	140.492	
Motors Other	Motor - CEE Premium-Efficiency Plus	Electrical Equipment Mfg	Discretionary	76,552.4	16.16	16.16	0.0	0.0	0.0	0.0	0	6	\$27,067.90	\$27,067.90	\$0.21	\$0.00	\$0.00	3.07	1.00	89.299	89.299	74.767	74.767	
Process AirComp	Eliminate Leaks In Compressed Air Lines And Valves	Electrical Equipment Mfg	Discretionary	534,818.9	122.13	122.13	0.0	0.0	0.0	0.0	0	10	\$11,035.12	\$11,035.12	\$0.21	\$0.00	\$0.00	95.15	1.00	222.017	222.017	185.887	185.887	
Process AirComp	Eliminate Or Reduce Compressed Air Used For Cooling, Agitating Liquids, Moving Product, Or Drying	Electrical Equipment Mfg	Discretionary	572,552.0	130.75	130.75	0.0	0.0	0.0	0.0	0	10	\$29,473.67	\$29,473.67	\$0.21	\$0.00	\$0.00	38.14	1.00	237.681	237.681	199.002	199.002	
Process AirComp	Equipment Upgrade - Air Compressor	Electrical Equipment Mfg	Discretionary	912,096.4	208.29	208.29	0.0	0.0	0.0	0.0	0	10	\$93,795.33	\$93,795.33	\$0.21	\$0.00	\$0.00	19.09	1.00	181.938	181.938	152.331	152.331	
Process AirComp	Install Compressor Controls	Electrical Equipment Mfg	Discretionary	854,250.7	195.08	195.08	0.0	0.0	0.0	0.0	0	10	\$57,412.70	\$57,412.70	\$0.21	\$0.00	\$0.00	29.21	1.00	314.341	314.341	263.188	263.188	
Process AirComp	Optimize Compressor Air Intakes	Electrical Equipment Mfg	Discretionary	410,769.9	93.81	93.81	0.0	0.0	0.0	0.0	0	10	\$11,904.06	\$11,904.06	\$0.21	\$0.00	\$0.00	67.74	1.00	160.249	160.249	134.172	134.172	
Process AirComp	Reduce The Pressure Of Compressed Air To The Minimum Required	Electrical Equipment Mfg	Discretionary	564,326.0	128.87	128.87	0.0	0.0	0.0	0.0	0	10	\$12,985.78	\$12,985.78	\$0.21	\$0.00	\$0.00	85.32	1.00	227.293	227.293	190.305	190.305	
Process Electro Chemical	Plant Operations - Laboratory Fume Hood Scheduling Improvements	Electrical Equipment Mfg	Discretionary	645,803.3	147.48	147.48	0.0	0.0	0.0	0.0	0	10	\$17,918.34	\$17,918.34	\$0.21	\$0.00	\$0.00	70.76	1.00	203.399	203.399	170.300	170.300	
Process Electro Chemical	Redesign Chem Process To Reduce Energy Requirments	Electrical Equipment Mfg	Discretionary	212,683.8	48.57	48.57	0.0	0.0	0.0	0.0	0	10	\$7,088.07	\$7,088.07	\$0.21	\$0.00	\$0.00	58.91	1.00	125.633	125.633	105.189	105.189	
Process Heat	Thermal Systems Add Insulation To Equipment	Electrical Equipment Mfg	Discretionary	660,717.7	150.89	150.89	0.0	0.0	0.0	0.0	0	10	\$26,611.73	\$26,611.73	\$0.21	\$0.00	\$0.00	48.74	0.86	412.123	412.123	295.495	295.495	
Process Heat	Thermal Systems Recover Heat And Use For Preheating, Space Heating, Power Generation, Steam Generation, Transformers, Exhausts, Engines, Compressors, Dryers, Waste Process Heat, Etc	Electrical Equipment Mfg	Discretionary	925,537.5	211.36	211.36	0.0	0.0	0.0	0.0	0	14	\$127,233.39	\$127,233.39	\$0.21	\$0.00	\$0.00	20.27	0.86	555.339	555.339	398.181	398.181	
Process Heat	Thermal Systems Reduce Infiltration; Isolate Hot Or Cold Equipment	Electrical Equipment Mfg	Discretionary	343,898.5	78.53	78.53	0.0	0.0	0.0	0.0	0	10	\$39,481.90	\$39,481.90	\$0.21	\$0.00	\$0.00	17.10	0.86	195.348	195.348	140.065	140.065	
Process Other	Plant Equipment - Operation And Maintenance	Electrical Equipment Mfg	Discretionary	484,631.1	110.67	110.67	0.0	0.0	0.0	0.0	0	10	\$18,475.76	\$18,475.76	\$0.21	\$0.00	\$0.00	51.50	0.86	152.637	152.637	109.442	109.442	
Process Other	Plant Operations - Equipment Scheduling Improvements	Electrical Equipment Mfg	Discretionary	328,731.3	75.07	75.07	0.0	0.0	0.0	0.0	0	10	\$12,938.73	\$12,938.73	\$0.21	\$0.00	\$0.00	49.88	0.86	97.660	97.660	70.023	70.023	
Process Other	Process Improvements To Reduce Energy Requirments	Electrical Equipment Mfg	Discretionary	585,578.0	133.73	133.73	0.0	0.0	0.0	0.0	0	10	\$40,510.26	\$40,510.26	\$0.21	\$0.00	\$0.00	28.38	0.86	167.267	167.267	119.931	119.931	
Process Refrig and Cooling	Cooling Tower Operation And Maintenance	Electrical Equipment Mfg	Discretionary	556,736.9	127.14	127.14	0.0	0.0	0.0	0.0	0	20	\$52,327.00	\$52,327.00	\$0.21	\$0.00	\$0.00	42.73	1.00	179.257	179.257	150.086	150.086	
Process Refrig and Cooling	Economize Cooling Process With Outside Air And Other Free Cooling Methods	Electrical Equipment Mfg	Discretionary	353,909.1	80.82	80.82	0.0	0.0	0.0	0.0	0	20	\$39,399.78	\$39,399.78	\$0.21	\$0.00	\$0.00	36.08	1.00	109.933	109.933	92.043	92.043	
Process Refrig and Cooling	Equipment Upgrade - Replace Existing Chiller With High Efficiency Model	Electrical Equipment Mfg	Discretionary	372,915.9	85.16	85.16	0.0	0.0	0.0	0.0	0	25	\$131,858.14	\$131,858.14	\$0.21	\$0.00	\$0.00	14.21	1.00	435.007	435.007	364.218	364.218	
Process Refrig and Cooling	Optimize Chiller And Refrigeration Systems	Electrical Equipment Mfg	Discretionary	412,986.4	94.31	94.31	0.0	0.0	0.0	0.0	0	20	\$27,289.39	\$27,289.39	\$0.21	\$0.00	\$0.00	60.78	1.00	136.544	136.544	114.324	114.324	
Pumps	Optimize Pump Systems	Electrical Equipment Mfg	Discretionary	516,559.7	109.05	109.05	0.0	0.0	0.0	0.0	0	15	\$55,123.14	\$55,123.14	\$0.21	\$0.00	\$0.00	26.84	1.00	92.992	92.992	77.860	77.860	
Fans	Fan System Controls	Fabricated Metal Products	Discretionary	73,172.8	15.45	15.45	0.0	0.0	0.0	0.0	0	10	\$2,278.50	\$2,278.50	\$0.21	\$0.00	\$0.00	59.73	1.00	25.265	25.265	21.154	21.154	
Fans	Optimize Fan System	Fabricated Metal Products	Discretionary	122,255.1	25.81	25.81	0.0	0.0	0.0	0.0	0	10	\$11,280.80	\$11,280.80	\$0.21	\$0.00	\$0.00	20.16	1.00	41.101	41.101	34.412	34.412	
HVAC	Building Envelope Infiltration Improvements	Fabricated Metal Products	Discretionary	141,723.8	48.47	0.00	0.0	0.0	0.0	0.0	0	20	\$20,320.80	\$20,320.80	\$0.21	\$0.00	\$0.00	33.25	0.95	40.580	40.580	32.107	32.107	
HVAC	Building Envelope Infiltration, Insulation, And Duct System Improvements	Fabricated Metal Products	Discretionary	209,114.1	71.52	0.00	0.0	0.0	0.0	0.0	0	20	\$13,969.08	\$13,969.08	\$0.21	\$0.00	\$0.00	71.37	0.95	64.527	64.527	51.055	51.055	
HVAC	Building Envelope Insulation Improvements	Fabricated Metal Products	Discretionary	148,168.0	50.67	0.00	0.0	0.0	0.0	0.0	0	20	\$27,494.14	\$27,494.14	\$0.21	\$0.00	\$0.00	25.69	0.95	41.265	41.265	32.649	32.649	
HVAC	Install Controls On Air Conditioning System	Fabricated Metal Products	Discretionary	100,076.2	34.23	0.00	0.0	0.0	0.0	0.0	0	11	\$2,944.23	\$2,944.23	\$0.21	\$0.00	\$0.00	86.07	0.95	33.088	33.088	26.180	26.180	
HVAC	Install Outside Air Damper / Economizer On HVAC Unit	Fabricated Metal Products	Discretionary	163,217.8	55.82	0.00	0.0	0.0	0.0	0.0	0	10	\$11,143.64	\$11,143.64	\$0.21	\$0.00	\$0.00	33.54	0.95	50.737	50.737	40.144	40.144	
HVAC	Optimize Space Cooling Zone And Schedule	Fabricated Metal Products	Discretionary	138,038.0	47.21	0.00	0.0	0.0	0.0	0.0	0	5	\$16,937.47	\$16,937.47	\$0.21	\$0.00	\$0.00	9.00	0.95	26.755	26.755	21.169	21.169	
HVAC	Optimize Ventilation System	Fabricated Metal Products	Discretionary	73,570.3	25.16	0.00	0.0	0.0	0.0	0.0	0	10	\$12,246.11	\$12,246.11	\$0.21	\$0.00	\$0.00	13.76	0.95	19.288	19.288	15.261	15.261	
HVAC	Upgrade Equipment - Replace Existing HVAC Unit With High Efficiency Model	Fabricated Metal Products	Discretionary	319,373.1	109.23	0.00	0.0	0.0	0.0	0.0	0	15	\$112,926.11	\$112,926.11	\$0.21	\$0.00	\$0.00	9.98	0.95	372.550	372.550	294.768	294.768	
HVAC	Utilize An Evaporative Air Pre-Cooler Or Other Heat Exchanger In Ac System	Fabricated Metal Products	Discretionary	177,458.7	60.69	0.00	0.0	0.0	0.0	0.0	0	14	\$25,758.90	\$25,758.90	\$0.21	\$0.00	\$0.00	22.59	0.95	53.344	53.344	42.206	42.206	
Indirect Boiler	Electric Impacts From Heat Treating Thermal Systems Improvements	Fabricated Metal Products	Discretionary	9,094.5	0.02	3.66	0.0	0.0	0.0	0.0	0	10	\$1,071.52	\$1,071.52	\$0.21	\$0.00	\$0.00	10.50	0.86	5.673	5.673	4.067	4.067	
Indirect Boiler	Electric Impacts From Steam Thermal Systems Improvements	Fabricated Metal Products	Discretionary	8,375.6	0.02	3.37	0.0	0.0	0.0	0.0	0	10	\$2,299.22	\$2,299.22	\$0.21	\$0.00	\$0.00	4.51	0.86	3.971	3.971	2.847	2.847	
Indirect Boiler	Equipment Upgrade - Boiler Replacement	Fabricated Metal Products	Discretionary	5,404.0	0.01	2.17	0.0	0.0	0.0	0.0	0	25	\$1,910.80	\$1,910.80	\$0.21	\$0.00	\$0.00	8.84	0.86	6.304	6.304	4.520	4.520	
Lighting	Lighting Controls - Occupancy Sensors, Photocell Controls, And Timers	Fabricated Metal Products	Discretionary	74,303.0	11.80	7.72	0.0	0.0	0.0	0.0	0	8	\$4,661.19	\$4,661.19	\$0.21	\$0.00	\$0.00	22.17	1.00	13.214	13.214	11.064	11.064	
Lighting	Lighting Interior Fluorescent	Fabricated Metal Products	Discretionary	226,293.4	35.92	23.52	0.0	0.0	0.0	0.0	0	15	\$80,014.36	\$80,014.36	\$0.21	-\$0.01	\$0.00	7.55	1.00	263.972	263.972	221.015	221.015	
Lighting	Lighting Interior HID	Fabricated Metal Products	Discretionary	42,863.8	6.80	4.46	0.0	0.0	0.0	0.0	0	15	\$15,156.09	\$15,156.09	\$0.21	-\$0.01	\$0.00	7.55	1.00	50.001	50.001	41.864	41.864	
Lighting	Lighting Interior Screw Base - Standard	Fabricated Metal Products	Discretionary	131,590.9	20.89	13.68	0.0	0.0	0.0	0.0	0	3	\$46,528.79	\$46,528.79	\$0.21	-\$0.03	\$0.00	1.38	1.00	153.501	153.501	128.522	128.522	
Lighting	Lighting Operations - Scheduling Improvements And Maintenance	Fabricated Metal Products	Discretionary	78,354.5	12.44	8.15	0.0	0.0	0.0	0.0	0	5	\$2,245.11	\$2,245.11	\$0.21	\$0.00	\$0.00	29.68	1.00	14.041	14.041	11.756	11.756	
Lighting	Optimize Lighting System - Install Skylights And Use Daylighting	Fabricated Metal Products	Discretionary	138,611.8	22.01	14.41	0.0	0.0	0.0	0.0	0	20	\$25,282.62	\$25,282.62	\$0.21	\$0.00	\$0.00	19.72	1.00	43.015	43.015	36.015	36.015	
Motors Other	Motor - CEE Premium-Efficiency Plus	Fabricated Metal Products	Discretionary	29,065.4	6.14	6.14	0.0	0.0	0.0	0.0	0	6	\$10,277.15	\$10,277.15	\$0.21	\$0.00	\$0.00	3.07	1.00	33.905	33.905	28.387	28.387	
Process AirComp	Eliminate Leaks In Compressed Air Lines And Valves	Fabricated Metal Products	Discretionary	79,295.6	18.11	18.11																		

Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Process Refrig and Cooling	Equipment Upgrade - Replace Existing Chiller With High Efficiency Model	Fabricated Metal Products	Discretionary	74,550.1	17.02	17.02	0.0	0.0	0.0	0.0	0	25	\$26,359.93	\$26,359.93	\$0.21	\$0.00	\$0.00	14.21	1.00	86.963	86.963	72.811	72.811	
Process Refrig and Cooling	Optimize Chiller And Refrigeration Systems	Fabricated Metal Products	Discretionary	82,560.6	18.85	18.85	0.0	0.0	0.0	0.0	0	20	\$5,455.46	\$5,455.46	\$0.21	\$0.00	\$0.00	60.78	1.00	27.297	27.297	22.855	22.855	
Pumps	Optimize Pump Systems	Fabricated Metal Products	Discretionary	128,074.8	27.04	27.04	0.0	0.0	0.0	0.0	0	15	\$13,667.12	\$13,667.12	\$0.21	\$0.00	\$0.00	26.84	1.00	23.056	23.056	19.304	19.304	
Fans	Optimize Fan System	Food Mfg	Discretionary	621,999.6	131.31	131.31	0.0	0.0	0.0	0.0	0	10	\$57,393.56	\$57,393.56	\$0.21	\$0.00	\$0.00	20.16	1.00	214.767	214.767	179.817	179.817	
HVAC	Building Envelope Infiltration Improvements	Food Mfg	Discretionary	1,025,551.8	350.74	0.00	0.0	0.0	0.0	0.0	0	20	\$147,177.02	\$147,177.02	\$0.21	\$0.00	\$0.00	33.22	0.95	285.554	285.554	225.936	225.936	
HVAC	Building Envelope Infiltration, Insulation, And Duct System Improvements	Food Mfg	Discretionary	1,513,206.6	517.52	0.00	0.0	0.0	0.0	0.0	0	20	\$101,084.10	\$101,084.10	\$0.21	\$0.00	\$0.00	71.37	0.95	466.932	466.932	369.445	369.445	
HVAC	Building Envelope Insulation Improvements	Food Mfg	Discretionary	1,072,183.8	366.69	0.00	0.0	0.0	0.0	0.0	0	20	\$198,955.09	\$198,955.09	\$0.21	\$0.00	\$0.00	25.69	0.95	290.374	290.374	229.749	229.749	
HVAC	Install Controls On Air Conditioning System	Food Mfg	Discretionary	724,178.5	247.67	0.00	0.0	0.0	0.0	0.0	0	11	\$21,305.25	\$21,305.25	\$0.21	\$0.00	\$0.00	86.07	0.95	239.432	239.432	189.443	189.443	
HVAC	Install Outside Air Damper / Economizer On HVAC Unit	Food Mfg	Discretionary	1,181,088.5	403.93	0.00	0.0	0.0	0.0	0.0	0	10	\$80,638.44	\$80,638.44	\$0.21	\$0.00	\$0.00	33.54	0.95	357.027	357.027	282.486	282.486	
HVAC	Optimize Space Cooling Zone And Schedule	Food Mfg	Discretionary	998,880.6	341.62	0.00	0.0	0.0	0.0	0.0	0	5	\$45,426.26	\$45,426.26	\$0.21	\$0.00	\$0.00	24.29	0.95	275.862	275.862	218.267	218.267	
HVAC	Optimize Ventilation System	Food Mfg	Discretionary	532,374.9	182.07	0.00	0.0	0.0	0.0	0.0	0	10	\$88,616.18	\$88,616.18	\$0.21	\$0.00	\$0.00	13.76	0.95	131.932	131.932	104.387	104.387	
HVAC	Upgrade Equipment - Replace Existing HVAC Unit With High Efficiency Model	Food Mfg	Discretionary	2,311,071.0	790.39	0.00	0.0	0.0	0.0	0.0	0	15	\$817,164.15	\$817,164.15	\$0.21	\$0.00	\$0.00	9.98	0.95	2695.871	2695.871	2133.021	2133.021	
HVAC	Use Direct Air Supply To Exhaust Hoods	Food Mfg	Discretionary	925,569.8	316.54	0.00	0.0	0.0	0.0	0.0	0	10	\$59,641.30	\$59,641.30	\$0.21	\$0.00	\$0.00	35.53	0.95	306.017	306.017	242.126	242.126	
HVAC	Utilize An Evaporative Air Pre-Cooler Or Other Heat Exchanger In Ac System	Food Mfg	Discretionary	1,284,139.4	439.18	0.00	0.0	0.0	0.0	0.0	0	14	\$186,398.43	\$186,398.43	\$0.21	\$0.00	\$0.00	22.59	0.95	364.875	364.875	288.696	288.696	
Indirect Boiler	Electric Impacts From Furnaces & Boilers, Ovens & Directly Fired Improvements	Food Mfg	Discretionary	570,261.8	1.21	229.39	0.0	0.0	0.0	0.0	0	10	\$84,016.17	\$84,016.17	\$0.21	\$0.00	\$0.00	8.40	0.86	310.787	310.787	222.836	222.836	
Indirect Boiler	Electric Impacts From Furnaces & Boilers, Ovens & Directly Fired, And Other Thermal System Improvements	Food Mfg	Discretionary	956,333.1	2.02	384.69	0.0	0.0	0.0	0.0	0	10	\$602,096.59	\$602,096.59	\$0.21	\$0.00	\$0.00	1.97	0.86	427.785	427.785	306.724	306.724	
Indirect Boiler	Electric Impacts From Steam Thermal Systems Improvements	Food Mfg	Discretionary	716,479.4	1.52	288.21	0.0	0.0	0.0	0.0	0	10	\$196,682.63	\$196,682.63	\$0.21	\$0.00	\$0.00	4.51	0.86	357.952	357.952	256.654	256.654	
Indirect Boiler	Equipment Upgrade - Boiler Replacement	Food Mfg	Discretionary	462,278.9	0.98	185.96	0.0	0.0	0.0	0.0	0	25	\$163,455.72	\$163,455.72	\$0.21	\$0.00	\$0.00	8.84	0.86	539.250	539.250	386.645	386.645	
Lighting	Lighting Controls - Occupancy Sensors, Photocell Controls, And Timers	Food Mfg	Discretionary	462,078.3	73.36	48.03	0.0	0.0	0.0	0.0	0	8	\$44,230.24	\$44,230.24	\$0.21	\$0.00	\$0.00	14.53	1.00	80.242	80.242	67.184	67.184	
Lighting	Lighting Interior Fluorescent	Food Mfg	Discretionary	1,407,281.7	223.41	146.29	0.0	0.0	0.0	0.0	0	15	\$497,596.21	\$497,596.21	\$0.21	-\$0.01	\$0.00	7.55	1.00	1641.598	1641.598	1374.457	1374.457	
Lighting	Lighting Interior HID	Food Mfg	Discretionary	266,563.3	42.32	27.71	0.0	0.0	0.0	0.0	0	15	\$94,253.25	\$94,253.25	\$0.21	-\$0.01	\$0.00	7.55	1.00	310.947	310.947	260.346	260.346	
Lighting	Lighting Interior Screw Base - Standard	Food Mfg	Discretionary	818,342.1	129.91	85.07	0.0	0.0	0.0	0.0	0	3	\$289,354.94	\$289,354.94	\$0.21	-\$0.03	\$0.00	1.38	1.00	954.598	954.598	799.254	799.254	
Lighting	Lighting Operations - Scheduling Improvements And Maintenance	Food Mfg	Discretionary	487,273.6	77.36	50.65	0.0	0.0	0.0	0.0	0	5	\$10,341.61	\$10,341.61	\$0.21	\$0.00	\$0.00	40.07	1.00	87.318	87.318	73.109	73.109	
Lighting	Optimize Lighting System - Install Skylights And Use Daylighting	Food Mfg	Discretionary	862,004.1	136.85	89.61	0.0	0.0	0.0	0.0	0	20	\$161,227.58	\$161,227.58	\$0.21	\$0.00	\$0.00	19.23	1.00	269.438	269.438	225.591	225.591	
Motors Other	Motor - CEE Premium-Efficiency Plus	Food Mfg	Discretionary	270,121.4	57.03	57.03	0.0	0.0	0.0	0.0	0	6	\$95,511.37	\$95,511.37	\$0.21	\$0.00	\$0.00	3.07	1.00	315.097	315.097	263.821	263.821	
Process AirComp	Eliminate Leaks In Compressed Air Lines And Valves	Food Mfg	Discretionary	359,140.9	82.02	82.02	0.0	0.0	0.0	0.0	0	10	\$7,648.38	\$7,648.38	\$0.21	\$0.00	\$0.00	92.19	1.00	149.088	149.088	124.827	124.827	
Process AirComp	Eliminate Or Reduce Compressed Air Used For Cooling, Agitating Liquids, Moving Product, Or Drying	Food Mfg	Discretionary	384,479.4	87.80	87.80	0.0	0.0	0.0	0.0	0	10	\$34,243.37	\$34,243.37	\$0.21	\$0.00	\$0.00	22.04	1.00	159.607	159.607	133.634	133.634	
Process AirComp	Equipment Upgrade - Air Compressor	Food Mfg	Discretionary	612,489.8	139.87	139.87	0.0	0.0	0.0	0.0	0	10	\$62,985.31	\$62,985.31	\$0.21	\$0.00	\$0.00	19.09	1.00	122.175	122.175	102.293	102.293	
Process AirComp	Install Compressor Controls	Food Mfg	Discretionary	573,645.3	131.00	131.00	0.0	0.0	0.0	0.0	0	10	\$38,553.70	\$38,553.70	\$0.21	\$0.00	\$0.00	29.21	1.00	218.674	218.674	183.089	183.089	
Process AirComp	Install Direct Acting Units In Place Of Compressed Air Pressure System In Safety System	Food Mfg	Discretionary	205,668.8	46.97	46.97	0.0	0.0	0.0	0.0	0	10	\$17,602.17	\$17,602.17	\$0.21	\$0.00	\$0.00	22.94	1.00	85.378	85.378	71.484	71.484	
Process AirComp	Optimize Compressor Air Intakes	Food Mfg	Discretionary	275,839.6	62.99	62.99	0.0	0.0	0.0	0.0	0	10	\$12,628.53	\$12,628.53	\$0.21	\$0.00	\$0.00	42.88	1.00	107.610	107.610	90.099	90.099	
Process AirComp	Reduce The Pressure Of Compressed Air To The Minimum Required	Food Mfg	Discretionary	378,955.4	86.54	86.54	0.0	0.0	0.0	0.0	0	10	\$11,036.78	\$11,036.78	\$0.21	\$0.00	\$0.00	67.41	1.00	152.632	152.632	127.793	127.793	
Process Heat	Thermal Systems Add Insulation To Equipment	Food Mfg	Discretionary	419,639.5	95.83	95.83	0.0	0.0	0.0	0.0	0	10	\$97,410.75	\$97,410.75	\$0.21	\$0.00	\$0.00	8.46	0.86	242.892	242.892	174.155	174.155	
Process Heat	Thermal Systems Recover Heat And Use For Preheating, Space Heating, Power Generation, Steam Generation, Transformers, Exhausts, Engines, Compressors, Dryers, Waste Process Heat, Etc	Food Mfg	Discretionary	587,833.6	134.24	134.24	0.0	0.0	0.0	0.0	0	14	\$80,809.33	\$80,809.33	\$0.21	\$0.00	\$0.00	20.27	0.86	366.662	366.662	262.898	262.898	
Process Heat	Thermal Systems Reduce Infiltration; Isolate Hot Or Cold Equipment	Food Mfg	Discretionary	218,419.2	49.88	49.88	0.0	0.0	0.0	0.0	0	10	\$25,076.01	\$25,076.01	\$0.21	\$0.00	\$0.00	17.10	0.86	128.978	128.978	92.478	92.478	
Process Other	Plant Equipment - Operation And Maintenance	Food Mfg	Discretionary	141,319.2	32.27	32.27	0.0	0.0	0.0	0.0	0	10	\$5,387.56	\$5,387.56	\$0.21	\$0.00	\$0.00	51.50	0.86	44.509	44.509	31.913	31.913	
Process Other	Plant Operations - Equipment Scheduling Improvements	Food Mfg	Discretionary	95,858.5	21.89	21.89	0.0	0.0	0.0	0.0	0	10	\$3,772.95	\$3,772.95	\$0.21	\$0.00	\$0.00	49.88	0.86	28.478	28.478	20.419	20.419	
Process Refrig and Cooling	Cooling Tower Operation And Maintenance	Food Mfg	Discretionary	6,523,122.3	1489.66	1489.66	0.0	0.0	0.0	0.0	0	20	\$613,100.02	\$613,100.02	\$0.21	\$0.00	\$0.00	42.73	1.00	2100.297	2100.297	1758.510	1758.510	
Process Refrig and Cooling	Economize Cooling Process With Outside Air And Other Free Cooling Methods	Food Mfg	Discretionary	4,146,648.0	946.95	946.95	0.0	0.0	0.0	0.0	0	20	\$461,635.59	\$461,635.59	\$0.21	\$0.00	\$0.00	36.08	1.00	1288.047	1288.047	1078.440	1078.440	
Process Refrig and Cooling	Equipment Upgrade - Replace Existing Chiller With High Efficiency Model	Food Mfg	Discretionary	4,369,345.9	997.81	997.81	0.0	0.0	0.0	0.0	0	25	\$1,544,942.91	\$1,544,942.91	\$0.21	\$0.00	\$0.00	14.21	1.00	5096.854	5096.854	4267.431	4267.431	
Process Refrig and Cooling	Optimize Chiller And Refrigeration Systems	Food Mfg	Discretionary	4,838,839.3	1105.02	1105.02	0.0	0.0	0.0	0.0	0	20	\$353,568.74	\$353,568.74	\$0.21	\$0.00	\$0.00	54.97	1.00	1599.844	1599.844	1339.497	1339.497	
Pumps	Optimize Pump Systems	Food Mfg	Discretionary	787,114.9	166.17	166.17	0.0	0.0	0.0	0.0	0	15	\$83,994.64	\$83,994.64	\$0.21	\$0.00	\$0.00	26.84	1.00	141.699	141.699	118.640	118.640	
HVAC	Building Envelope Infiltration Improvements	Furniture Mfg	Discretionary	148,782.8	50.88	0.00	0.0	0.0	0.0	0.0	0	20	\$21,332.94	\$21,332.94	\$0.21	\$0.00	\$0.00	33.25	0.95	42.601	42.601	33.707	33.707	
HVAC	Building Envelope Infiltration, Insulation, And Duct System Improvements	Furniture Mfg	Discretionary	219,529.7	75.08	0.00	0.0	0.0	0.0	0.0	0	20	\$14,664.86	\$14,664.86	\$0.21	\$0.00	\$0.00	71.37	0.95	67.741	67.741	53.598	53.598	
HVAC	Install Controls On Air Conditioning System	Furniture Mfg	Discretionary	105,060.8	35.93	0.00	0.0	0.0	0.0	0.0	0	11	\$3,090.88	\$3,090.88	\$0.21	\$0.00	\$0.00	86.07	0.95	34.736	34.736	27.484	27.484	
HVAC	Install Outside Air Damper / Economizer On HVAC Unit	Furniture Mfg	Discretionary	171,347.4	58.60	0.00	0.0	0.0	0.0	0.0	0	10	\$11,698.69	\$11,698.69	\$0.21	\$0.00	\$0.00	33.54	0.95	53.264	53.264	42.143	42.143	
HVAC	Optimize Space Cooling Zone And Schedule	Furniture Mfg	Discretionary	144,913.4	49.56	0.00	0.0	0.0	0.0	0.0	0	5	\$10,671.63	\$10,671.63	\$0.21	\$0.00	\$0.00	15.00	0.95	42.366	42.366	33.521	33.521	
HVAC	Optimize Ventilation System	Furniture Mfg	Discretionary	77,234.7	26.41	0.00	0.0	0.0	0.0	0.0	0	10	\$12,856.07	\$12,856.07	\$0.21	\$0.00	\$0.00	13.76	0.95	21.063				

Appendix B.2		EVT Non-residential Measure Assumptions																								
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description		
Process Heat	Thermal Systems Add Insulation To Equipment	Furniture Mfg	Discretionary	29,119.7	6.65	6.65	0.0	0.0	0.0	0.0	0	10	\$1,172.85	\$1,172.85	\$0.21	\$0.00	\$0.00	48.74	0.86	18.163	18.163	13.023	13.023			
Process Other	Plant Operations - Equipment Scheduling Improvements	Furniture Mfg	Discretionary	21,585.1	4.93	4.93	0.0	0.0	0.0	0.0	0	10	\$849.58	\$849.58	\$0.21	\$0.00	\$0.00	49.88	0.86	6.798	6.798	4.874	4.874			
Process Refrig and Cooling	Cooling Tower Operation And Maintenance	Furniture Mfg	Discretionary	44,864.5	10.25	10.25	0.0	0.0	0.0	0.0	0	20	\$4,216.76	\$4,216.76	\$0.21	\$0.00	\$0.00	42.73	1.00	14.445	14.445	12.095	12.095			
Process Refrig and Cooling	Economize Cooling Process With Outside Air And Other Free Cooling Methods	Furniture Mfg	Discretionary	28,519.7	6.51	6.51	0.0	0.0	0.0	0.0	0	20	\$3,175.02	\$3,175.02	\$0.21	\$0.00	\$0.00	36.08	1.00	8.859	8.859	7.417	7.417			
Process Refrig and Cooling	Equipment Upgrade - Replace Existing Chiller With High Efficiency Model	Furniture Mfg	Discretionary	30,051.4	6.86	6.86	0.0	0.0	0.0	0.0	0	25	\$10,625.76	\$10,625.76	\$0.21	\$0.00	\$0.00	14.21	1.00	35.055	35.055	29.350	29.350			
Process Refrig and Cooling	Optimize Chiller And Refrigeration Systems	Furniture Mfg	Discretionary	33,280.4	7.60	7.60	0.0	0.0	0.0	0.0	0	20	\$2,199.11	\$2,199.11	\$0.21	\$0.00	\$0.00	60.78	1.00	11.003	11.003	9.213	9.213			
Pumps	Optimize Pump Systems	Furniture Mfg	Discretionary	82,023.7	17.32	17.32	0.0	0.0	0.0	0.0	0	15	\$8,752.92	\$8,752.92	\$0.21	\$0.00	\$0.00	26.84	1.00	14.766	14.766	12.363	12.363			
Fans	Optimize Fan System	Industrial Machinery	Discretionary	162,482.0	34.30	34.30	0.0	0.0	0.0	0.0	0	10	\$14,992.65	\$14,992.65	\$0.21	\$0.00	\$0.00	20.16	1.00	56.103	56.103	46.973	46.973			
HVAC	Building Envelope Infiltration Improvements	Industrial Machinery	Discretionary	407,125.4	139.24	0.00	0.0	0.0	0.0	0.0	0	20	\$58,374.92	\$58,374.92	\$0.21	\$0.00	\$0.00	33.25	0.95	113.360	113.360	89.692	89.692			
HVAC	Building Envelope Infiltration, Insulation, And Duct System Improvements	Industrial Machinery	Discretionary	600,715.5	205.44	0.00	0.0	0.0	0.0	0.0	0	20	\$40,128.55	\$40,128.55	\$0.21	\$0.00	\$0.00	71.37	0.95	185.363	185.363	146.663	146.663			
HVAC	Building Envelope Insulation Improvements	Industrial Machinery	Discretionary	425,637.5	145.57	0.00	0.0	0.0	0.0	0.0	0	20	\$78,981.56	\$78,981.56	\$0.21	\$0.00	\$0.00	25.69	0.95	115.273	115.273	91.206	91.206			
HVAC	Install Controls On Air Conditioning System	Industrial Machinery	Discretionary	287,485.7	98.32	0.00	0.0	0.0	0.0	0.0	0	11	\$8,457.80	\$8,457.80	\$0.21	\$0.00	\$0.00	86.07	0.95	95.050	95.050	75.205	75.205			
HVAC	Install Outside Air Damper / Economizer On HVAC Unit	Industrial Machinery	Discretionary	468,870.7	160.35	0.00	0.0	0.0	0.0	0.0	0	10	\$32,012.00	\$32,012.00	\$0.21	\$0.00	\$0.00	33.54	0.95	141.733	141.733	112.142	112.142			
HVAC	Optimize Space Cooling Zone And Schedule	Industrial Machinery	Discretionary	396,537.5	135.62	0.00	0.0	0.0	0.0	0.0	0	5	\$20,155.30	\$20,155.30	\$0.21	\$0.00	\$0.00	21.73	0.95	109.512	109.512	86.648	86.648			
HVAC	Optimize Ventilation System	Industrial Machinery	Discretionary	211,343.2	72.28	0.00	0.0	0.0	0.0	0.0	0	10	\$35,179.02	\$35,179.02	\$0.21	\$0.00	\$0.00	13.76	0.95	54.446	54.446	43.079	43.079			
HVAC	Upgrade Equipment - Replace Existing HVAC Unit With High Efficiency Model	Industrial Machinery	Discretionary	917,453.2	313.77	0.00	0.0	0.0	0.0	0.0	0	15	\$324,399.32	\$324,399.32	\$0.21	\$0.00	\$0.00	9.98	0.95	1070.212	1070.212	846.771	846.771			
HVAC	Use Direct Air Supply To Exhaust Hoods	Industrial Machinery	Discretionary	367,434.4	125.66	0.00	0.0	0.0	0.0	0.0	0	10	\$23,676.51	\$23,676.51	\$0.21	\$0.00	\$0.00	35.53	0.95	121.483	121.483	96.120	96.120			
Lighting	Lighting Controls - Occupancy Sensors, Photocell Controls, And Timers	Industrial Machinery	Discretionary	137,348.9	21.80	14.28	0.0	0.0	0.0	0.0	0	8	\$8,702.15	\$8,702.15	\$0.21	\$0.00	\$0.00	21.95	1.00	24.426	24.426	20.451	20.451			
Lighting	Lighting Interior Fluorescent	Industrial Machinery	Discretionary	418,302.8	66.41	43.48	0.0	0.0	0.0	0.0	0	15	\$147,906.35	\$147,906.35	\$0.21	-\$0.01	\$0.00	7.55	1.00	487.951	487.951	408.546	408.546			
Lighting	Lighting Interior HID	Industrial Machinery	Discretionary	79,233.7	12.58	8.24	0.0	0.0	0.0	0.0	0	15	\$28,016.00	\$28,016.00	\$0.21	-\$0.01	\$0.00	7.55	1.00	92.426	92.426	77.386	77.386			
Lighting	Lighting Interior Screw Base - Standard	Industrial Machinery	Discretionary	243,245.4	38.62	25.29	0.0	0.0	0.0	0.0	0	3	\$86,008.36	\$86,008.36	\$0.21	-\$0.03	\$0.00	1.38	1.00	283.746	283.746	237.572	237.572			
Lighting	Lighting Operations - Scheduling Improvements And Maintenance	Industrial Machinery	Discretionary	144,838.0	22.99	15.06	0.0	0.0	0.0	0.0	0	5	\$3,073.96	\$3,073.96	\$0.21	\$0.00	\$0.00	40.07	1.00	25.955	25.955	21.731	21.731			
Lighting	Optimize Lighting System - Install Skylights And Use Daylighting	Industrial Machinery	Discretionary	256,223.6	40.68	26.64	0.0	0.0	0.0	0.0	0	20	\$47,923.56	\$47,923.56	\$0.21	\$0.00	\$0.00	19.23	1.00	79.513	79.513	66.574	66.574			
Motors Other	Motor - CEE Premium-Efficiency Plus	Industrial Machinery	Discretionary	38,629.1	8.16	8.16	0.0	0.0	0.0	0.0	0	6	\$13,658.75	\$13,658.75	\$0.21	\$0.00	\$0.00	3.07	1.00	45.061	45.061	37.728	37.728			
Process AirComp	Eliminate Leaks In Compressed Air Lines And Valves	Industrial Machinery	Discretionary	105,387.0	24.07	24.07	0.0	0.0	0.0	0.0	0	10	\$1,842.00	\$1,842.00	\$0.21	\$0.00	\$0.00	112.32	1.00	43.749	43.749	36.629	36.629			
Process AirComp	Eliminate Or Reduce Compressed Air Used For Cooling, Agitating Liquids, Moving Product, Or Drying	Industrial Machinery	Discretionary	112,822.4	25.76	25.76	0.0	0.0	0.0	0.0	0	10	\$8,503.40	\$8,503.40	\$0.21	\$0.00	\$0.00	26.05	1.00	46.835	46.835	39.214	39.214			
Process AirComp	Equipment Upgrade - Air Compressor	Industrial Machinery	Discretionary	179,730.2	41.04	41.04	0.0	0.0	0.0	0.0	0	10	\$18,482.54	\$18,482.54	\$0.21	\$0.00	\$0.00	19.09	1.00	35.851	35.851	30.017	30.017			
Process AirComp	Install Compressor Controls	Industrial Machinery	Discretionary	168,331.6	38.44	38.44	0.0	0.0	0.0	0.0	0	10	\$11,313.27	\$11,313.27	\$0.21	\$0.00	\$0.00	29.21	1.00	64.168	64.168	53.726	53.726			
Process AirComp	Optimize Compressor Air Intakes	Industrial Machinery	Discretionary	80,942.9	18.48	18.48	0.0	0.0	0.0	0.0	0	10	\$2,601.57	\$2,601.57	\$0.21	\$0.00	\$0.00	61.08	1.00	31.577	31.577	26.439	26.439			
Process AirComp	Reduce The Pressure Of Compressed Air To The Minimum Required	Industrial Machinery	Discretionary	111,201.5	25.39	25.39	0.0	0.0	0.0	0.0	0	10	\$2,868.55	\$2,868.55	\$0.21	\$0.00	\$0.00	76.11	1.00	44.789	44.789	37.500	37.500			
Process Heat	Thermal Systems Add Insulation To Equipment	Industrial Machinery	Discretionary	160,878.7	36.74	36.74	0.0	0.0	0.0	0.0	0	10	\$6,231.61	\$6,231.61	\$0.21	\$0.00	\$0.00	50.68	0.86	100.348	100.348	71.950	71.950			
Process Heat	Thermal Systems Recover Heat And Use For Preheating, Space Heating, Power Generation, Steam Generation, Transformers, Exhausts, Engines, Compressors, Dryers, Waste Process Heat, Etc	Industrial Machinery	Discretionary	225,359.9	51.46	51.46	0.0	0.0	0.0	0.0	0	14	\$30,980.16	\$30,980.16	\$0.21	\$0.00	\$0.00	20.27	0.86	135.220	135.220	96.954	96.954			
Process Heat	Thermal Systems Reduce Infiltration; Isolate Hot Or Cold Equipment	Industrial Machinery	Discretionary	83,736.1	19.12	19.12	0.0	0.0	0.0	0.0	0	10	\$9,613.48	\$9,613.48	\$0.21	\$0.00	\$0.00	17.10	0.86	47.565	47.565	34.105	34.105			
Process Other	Plant Equipment - Operation And Maintenance	Industrial Machinery	Discretionary	111,741.0	25.52	25.52	0.0	0.0	0.0	0.0	0	10	\$4,259.94	\$4,259.94	\$0.21	\$0.00	\$0.00	51.50	0.86	33.839	33.839	24.262	24.262			
Process Other	Plant Operations - Equipment Scheduling Improvements	Industrial Machinery	Discretionary	75,795.3	17.31	17.31	0.0	0.0	0.0	0.0	0	10	\$1,925.62	\$1,925.62	\$0.21	\$0.00	\$0.00	77.27	0.86	23.872	23.872	17.116	17.116			
Process Refrig and Cooling	Cooling Tower Operation And Maintenance	Industrial Machinery	Discretionary	132,609.6	30.28	30.28	0.0	0.0	0.0	0.0	0	20	\$12,463.81	\$12,463.81	\$0.21	\$0.00	\$0.00	42.73	1.00	42.697	42.697	35.749	35.749			
Process Refrig and Cooling	Economize Cooling Process With Outside Air And Other Free Cooling Methods	Industrial Machinery	Discretionary	84,297.9	19.25	19.25	0.0	0.0	0.0	0.0	0	20	\$9,384.67	\$9,384.67	\$0.21	\$0.00	\$0.00	36.08	1.00	26.185	26.185	21.924	21.924			
Process Refrig and Cooling	Equipment Upgrade - Replace Existing Chiller With High Efficiency Model	Industrial Machinery	Discretionary	88,825.2	20.28	20.28	0.0	0.0	0.0	0.0	0	25	\$31,407.40	\$31,407.40	\$0.21	\$0.00	\$0.00	14.21	1.00	103.615	103.615	86.753	86.753			
Process Refrig and Cooling	Optimize Chiller And Refrigeration Systems	Industrial Machinery	Discretionary	98,369.6	22.46	22.46	0.0	0.0	0.0	0.0	0	20	\$6,500.08	\$6,500.08	\$0.21	\$0.00	\$0.00	60.78	1.00	32.523	32.523	27.231	27.231			
Pumps	Optimize Pump Systems	Industrial Machinery	Discretionary	170,216.6	35.93	35.93	0.0	0.0	0.0	0.0	0	15	\$18,164.16	\$18,164.16	\$0.21	\$0.00	\$0.00	26.84	1.00	30.643	30.643	25.656	25.656			
Fans	Fan System Controls	Miscellaneous Mfg	Discretionary	1,290,919.6	272.53	272.53	0.0	0.0	0.0	0.0	0	10	\$40,197.44	\$40,197.44	\$0.21	\$0.00	\$0.00	59.73	1.00	445.735	445.735	373.199	373.199			
Fans	Optimize Fan System	Miscellaneous Mfg	Discretionary	2,156,832.7	455.33	455.33	0.0	0.0	0.0	0.0	0	10	\$199,016.69	\$199,016.69	\$0.21	\$0.00	\$0.00	20.16	1.00	725.100	725.100	607.103	607.103			
HVAC	Building Envelope Infiltration Improvements	Miscellaneous Mfg	Discretionary	8,229,244.3	2814.40	0.00	0.0	0.0	0.0	0.0	0	20	\$1,179,934.85	\$1,179,934.85	\$0.21	\$0.00	\$0.00	33.25	0.95	2356.279	2356.279	1864.330	1864.330			
HVAC	Building Envelope Infiltration, Insulation, And Duct System Improvements	Miscellaneous Mfg	Discretionary	12,142,289.2	4152.66	0.00	0.0	0.0	0.0	0.0	0	20	\$811,120.19	\$811,120.19	\$0.21	\$0.00	\$0.00	71.37	0.95	3746.760	3746.760	2964.503	2964.503			
HVAC	Building Envelope Insulation Improvements	Miscellaneous Mfg	Discretionary	8,603,429.1	2942.37	0.00	0.0	0.0	0.0	0.0	0	20	\$1,596,457.65	\$1,596,457.65	\$0.21	\$0.00	\$0.00	25.69	0.95	2396.052	2396.052	1895.799	1895.799			
HVAC	Install Controls On Air Conditioning System	Miscellaneous Mfg	Discretionary	5,810,961.5	1987.35	0.00	0.0	0.0	0.0	0.0	0	11	\$170,957.79	\$170,957.79	\$0.21	\$0.00	\$0.00	86.07	0.95	1921.252	1921.252	1520.129	1520.129			
HVAC	Install Outside Air Damper / Economizer On HVAC Unit	Miscellaneous Mfg	Discretionary	9,477,303.9	3241.24	0.00	0.0	0.0	0.0	0.0	0	10	\$647,059.88	\$647,059.88	\$0.21	\$0.00	\$0.00	33.54	0.95	2946.046	2946.046	2330.964	2330.964			
HVAC	Optimize Space Cooling Zone And Schedule	Miscellaneous Mfg	Discretionary	8,015,229.2	2741.21	0.00	0.0	0.0	0.0	0.0	0	5	\$590,252.89	\$590,252.89	\$0.21	\$0.00	\$0.00	15.00	0.95	2276.302	2276.302	1				



Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Process Heat	Thermal Systems Add Insulation To Equipment	Miscellaneous Mfg	Discretionary	2,480,657.7	566.50	566.50	0.0	0.0	0.0	0.0	0	10	\$99,913.47	\$99,913.47	\$0.21	\$0.00	\$0.00	48.74	0.86	1547.312	1547.312	1109.431	1109.431		
Process Heat	Thermal Systems Recover Heat And Use For Preheating, Space Heating, Power Generation, Steam Generation, Transformers, Exhausts, Engines, Compressors, Dryers, Waste Process Heat, Etc	Miscellaneous Mfg	Discretionary	3,474,920.9	793.55	793.55	0.0	0.0	0.0	0.0	0	14	\$477,696.44	\$477,696.44	\$0.21	\$0.00	\$0.00	20.27	0.86	2085.016	2085.016	1494.968	1494.968		
Process Heat	Thermal Systems Reduce Infiltration; Isolate Hot Or Cold Equipment	Miscellaneous Mfg	Discretionary	1,291,163.4	294.86	294.86	0.0	0.0	0.0	0.0	0	10	\$148,234.37	\$148,234.37	\$0.21	\$0.00	\$0.00	17.10	0.86	733.431	733.431	525.874	525.874		
Process Other	Plant Equipment - Operation And Maintenance	Miscellaneous Mfg	Discretionary	1,900,560.2	434.02	434.02	0.0	0.0	0.0	0.0	0	10	\$72,455.73	\$72,455.73	\$0.21	\$0.00	\$0.00	51.50	0.86	598.592	598.592	429.194	429.194		
Process Other	Plant Operations - Equipment Scheduling Improvements	Miscellaneous Mfg	Discretionary	1,289,173.6	294.40	294.40	0.0	0.0	0.0	0.0	0	10	\$50,741.35	\$50,741.35	\$0.21	\$0.00	\$0.00	49.88	0.86	382.988	382.988	274.605	274.605		
Process Other	Process Improvements To Reduce Energy Requirments	Miscellaneous Mfg	Discretionary	2,296,440.3	524.43	524.43	0.0	0.0	0.0	0.0	0	10	\$158,867.65	\$158,867.65	\$0.21	\$0.00	\$0.00	28.38	0.86	655.964	655.964	470.330	470.330		
Process Refrig and Cooling	Cooling Tower Operation And Maintenance	Miscellaneous Mfg	Discretionary	1,858,676.5	424.46	424.46	0.0	0.0	0.0	0.0	0	20	\$174,694.65	\$174,694.65	\$0.21	\$0.00	\$0.00	42.73	1.00	598.451	598.451	501.064	501.064		
Process Refrig and Cooling	Economize Cooling Process With Outside Air And Other Free Cooling Methods	Miscellaneous Mfg	Discretionary	1,181,531.9	269.82	269.82	0.0	0.0	0.0	0.0	0	20	\$131,536.89	\$131,536.89	\$0.21	\$0.00	\$0.00	36.08	1.00	367.012	367.012	307.287	307.287		
Process Refrig and Cooling	Equipment Upgrade - Replace Existing Chiller With High Efficiency Model	Miscellaneous Mfg	Discretionary	1,244,986.7	284.31	284.31	0.0	0.0	0.0	0.0	0	25	\$440,210.82	\$440,210.82	\$0.21	\$0.00	\$0.00	14.21	1.00	1452.280	1452.280	1215.947	1215.947		
Process Refrig and Cooling	Optimize Chiller And Refrigeration Systems	Miscellaneous Mfg	Discretionary	1,378,762.6	314.86	314.86	0.0	0.0	0.0	0.0	0	20	\$91,106.12	\$91,106.12	\$0.21	\$0.00	\$0.00	60.78	1.00	455.854	455.854	381.672	381.672		
HVAC	Building Envelope Infiltration Improvements	Ionmetallic Mineral Product	Discretionary	1,309,349.5	447.80	0.00	0.0	0.0	0.0	0.0	0	20	\$187,738.64	\$187,738.64	\$0.21	\$0.00	\$0.00	33.25	0.95	374.906	374.906	296.632	296.632		
HVAC	Building Envelope Infiltration, Insulation, And Duct System Improvements	Ionmetallic Mineral Product	Discretionary	1,931,951.4	660.73	0.00	0.0	0.0	0.0	0.0	0	20	\$129,056.79	\$129,056.79	\$0.21	\$0.00	\$0.00	71.37	0.95	596.144	596.144	471.680	471.680		
HVAC	Install Controls On Air Conditioning System	Ionmetallic Mineral Product	Discretionary	924,578.2	316.21	0.00	0.0	0.0	0.0	0.0	0	11	\$27,200.98	\$27,200.98	\$0.21	\$0.00	\$0.00	86.07	0.95	305.689	305.689	241.867	241.867		
HVAC	Install Outside Air Damper / Economizer On HVAC Unit	Ionmetallic Mineral Product	Discretionary	1,507,927.4	515.71	0.00	0.0	0.0	0.0	0.0	0	10	\$102,953.26	\$102,953.26	\$0.21	\$0.00	\$0.00	33.54	0.95	468.743	468.743	370.878	370.878		
HVAC	Optimize Space Cooling Zone And Schedule	Ionmetallic Mineral Product	Discretionary	1,275,297.7	436.15	0.00	0.0	0.0	0.0	0.0	0	5	\$93,914.74	\$93,914.74	\$0.21	\$0.00	\$0.00	15.00	0.95	372.841	372.841	294.998	294.998		
HVAC	Optimize Ventilation System	Ionmetallic Mineral Product	Discretionary	679,697.4	232.46	0.00	0.0	0.0	0.0	0.0	0	10	\$113,138.66	\$113,138.66	\$0.21	\$0.00	\$0.00	13.76	0.95	185.366	185.366	146.665	146.665		
HVAC	Upgrade Equipment - Replace Existing HVAC Unit With High Efficiency Model	Ionmetallic Mineral Product	Discretionary	2,950,606.4	1009.11	0.00	0.0	0.0	0.0	0.0	0	15	\$1,043,295.41	\$1,043,295.41	\$0.21	\$0.00	\$0.00	9.98	0.95	3441.890	3441.890	2723.285	2723.285		
Indirect Boiler	Electric Impacts From Furnaces & Boilers, Ovens & Directly Fired Improvements	Ionmetallic Mineral Product	Discretionary	118,943.1	0.25	47.85	0.0	0.0	0.0	0.0	0	10	\$17,523.78	\$17,523.78	\$0.21	\$0.00	\$0.00	8.40	0.86	64.823	64.823	46.478	46.478		
Indirect Boiler	Equipment Upgrade - Boiler Replacement	Ionmetallic Mineral Product	Discretionary	96,420.4	0.20	38.79	0.0	0.0	0.0	0.0	0	25	\$34,092.99	\$34,092.99	\$0.21	\$0.00	\$0.00	8.84	0.86	112.475	112.475	80.645	80.645		
Lighting	Lighting Controls - Occupancy Sensors, Photocell Controls, And Timers	Ionmetallic Mineral Product	Discretionary	557,740.1	88.54	57.98	0.0	0.0	0.0	0.0	0	8	\$28,354.15	\$28,354.15	\$0.21	\$0.00	\$0.00	27.36	1.00	99.189	99.189	83.048	83.048		
Lighting	Lighting Interior Fluorescent	Ionmetallic Mineral Product	Discretionary	1,698,624.4	269.66	176.58	0.0	0.0	0.0	0.0	0	15	\$600,611.13	\$600,611.13	\$0.21	-\$0.01	\$0.00	7.55	1.00	1981.450	1981.450	1659.004	1659.004		
Lighting	Lighting Interior HID	Ionmetallic Mineral Product	Discretionary	321,748.6	51.08	33.45	0.0	0.0	0.0	0.0	0	15	\$113,766.04	\$113,766.04	\$0.21	-\$0.01	\$0.00	7.55	1.00	375.321	375.321	314.244	314.244		
Lighting	Lighting Interior Screw Base - Standard	Ionmetallic Mineral Product	Discretionary	987,759.5	156.81	102.68	0.0	0.0	0.0	0.0	0	3	\$349,258.68	\$349,258.68	\$0.21	-\$0.03	\$0.00	1.38	1.00	1152.224	1152.224	964.720	964.720		
Lighting	Lighting Operations - Scheduling Improvements And Maintenance	Ionmetallic Mineral Product	Discretionary	588,151.4	93.37	61.14	0.0	0.0	0.0	0.0	0	5	\$12,482.58	\$12,482.58	\$0.21	\$0.00	\$0.00	40.07	1.00	105.395	105.395	88.244	88.244		
Lighting	Optimize Lighting System - Install Skylights And Use Daylighting	Ionmetallic Mineral Product	Discretionary	1,040,460.6	165.18	108.16	0.0	0.0	0.0	0.0	0	20	\$194,605.74	\$194,605.74	\$0.21	\$0.00	\$0.00	19.23	1.00	322.883	322.883	270.340	270.340		
Motors Other	Motor - CEE Premium-Efficiency Plus	Ionmetallic Mineral Product	Discretionary	573,159.2	121.00	121.00	0.0	0.0	0.0	0.0	0	6	\$202,661.51	\$202,661.51	\$0.21	\$0.00	\$0.00	3.07	1.00	668.592	668.592	559.790	559.790		
Process AirComp	Eliminate Leaks In Compressed Air Lines And Valves	Ionmetallic Mineral Product	Discretionary	1,563,678.3	357.09	357.09	0.0	0.0	0.0	0.0	0	10	\$34,279.33	\$34,279.33	\$0.21	\$0.00	\$0.00	89.55	1.00	649.122	649.122	543.489	543.489		
Process AirComp	Eliminate Or Reduce Compressed Air Used For Cooling, Agitating Liquids, Moving Product, Or Drying	Ionmetallic Mineral Product	Discretionary	1,674,000.6	382.28	382.28	0.0	0.0	0.0	0.0	0	10	\$86,173.73	\$86,173.73	\$0.21	\$0.00	\$0.00	38.14	1.00	694.920	694.920	581.834	581.834		
Process AirComp	Equipment Upgrade - Air Compressor	Ionmetallic Mineral Product	Discretionary	2,666,744.6	608.99	608.99	0.0	0.0	0.0	0.0	0	10	\$274,234.37	\$274,234.37	\$0.21	\$0.00	\$0.00	19.09	1.00	531.941	531.941	445.377	445.377		
Process AirComp	Install Compressor Controls	Ionmetallic Mineral Product	Discretionary	2,497,617.9	570.37	570.37	0.0	0.0	0.0	0.0	0	10	\$167,860.54	\$167,860.54	\$0.21	\$0.00	\$0.00	29.21	1.00	919.056	919.056	769.496	769.496		
Process AirComp	Optimize Compressor Air Intakes	Ionmetallic Mineral Product	Discretionary	1,200,989.5	274.26	274.26	0.0	0.0	0.0	0.0	0	10	\$53,334.16	\$53,334.16	\$0.21	\$0.00	\$0.00	44.21	1.00	468.529	468.529	392.284	392.284		
Process AirComp	Reduce The Pressure Of Compressed Air To The Minimum Required	Ionmetallic Mineral Product	Discretionary	1,649,949.8	376.79	376.79	0.0	0.0	0.0	0.0	0	10	\$50,026.72	\$50,026.72	\$0.21	\$0.00	\$0.00	64.75	1.00	664.549	664.549	556.405	556.405		
Process Heat	Thermal Systems Add Insulation To Equipment	Ionmetallic Mineral Product	Discretionary	4,143,393.6	946.21	946.21	0.0	0.0	0.0	0.0	0	10	\$166,883.49	\$166,883.49	\$0.21	\$0.00	\$0.00	48.74	0.86	2584.444	2584.444	1853.061	1853.061		
Process Heat	Thermal Systems Recover Heat And Use For Preheating, Space Heating, Power Generation, Steam Generation, Transformers, Exhausts, Engines, Compressors, Dryers, Waste Process Heat, Etc	Ionmetallic Mineral Product	Discretionary	5,804,091.8	1325.45	1325.45	0.0	0.0	0.0	0.0	0	14	\$797,886.93	\$797,886.93	\$0.21	\$0.00	\$0.00	20.27	0.86	3482.561	3482.561	2497.016	2497.016		
Process Heat	Thermal Systems Reduce Infiltration; Isolate Hot Or Cold Equipment	Ionmetallic Mineral Product	Discretionary	2,156,604.8	492.49	492.49	0.0	0.0	0.0	0.0	0	10	\$247,592.94	\$247,592.94	\$0.21	\$0.00	\$0.00	17.10	0.86	1225.035	1225.035	878.357	878.357		
Process Other	Plant Equipment - Operation And Maintenance	Ionmetallic Mineral Product	Discretionary	839,495.6	191.71	191.71	0.0	0.0	0.0	0.0	0	10	\$32,004.39	\$32,004.39	\$0.21	\$0.00	\$0.00	51.50	0.86	264.404	264.404	189.579	189.579		
Process Other	Plant Operations - Equipment Scheduling Improvements	Ionmetallic Mineral Product	Discretionary	569,440.3	130.04	130.04	0.0	0.0	0.0	0.0	0	10	\$22,412.94	\$22,412.94	\$0.21	\$0.00	\$0.00	49.88	0.86	169.170	169.170	121.296	121.296		
Process Other	Process Improvements To Reduce Energy Requirments	Ionmetallic Mineral Product	Discretionary	1,014,359.7	231.64	231.64	0.0	0.0	0.0	0.0	0	10	\$70,173.36	\$70,173.36	\$0.21	\$0.00	\$0.00	28.38	0.86	289.746	289.746	207.749	207.749		
Process Refrig and Cooling	Cooling Tower Operation And Maintenance	Ionmetallic Mineral Product	Discretionary	1,784,996.6	407.63	407.63	0.0	0.0	0.0	0.0	0	20	\$167,769.57	\$167,769.57	\$0.21	\$0.00	\$0.00	42.73	1.00	574.728	574.728	481.201	481.201		
Process Refrig and Cooling	Economize Cooling Process With Outside Air And Other Free Cooling Methods	Ionmetallic Mineral Product	Discretionary	1,134,694.7	259.12	259.12	0.0	0.0	0.0	0.0	0	20	\$126,322.63	\$126,322.63	\$0.21	\$0.00	\$0.00	36.08	1.00	352.463	352.463	295.106	295.106		
Process Refrig and Cooling	Equipment Upgrade - Replace Existing Chiller With High Efficiency Model	Ionmetallic Mineral Product	Discretionary	1,195,634.1	273.04	273.04	0.0	0.0	0.0	0.0	0	25	\$422,760.40	\$422,760.40	\$0.21	\$0.00	\$0.00	14.21	1.00	1394.710	1394.710	1167.746	1167.746		
Process Refrig and Cooling	Optimize Chiller And Refrigeration Systems	Ionmetallic Mineral Product	Discretionary	1,324,106.9	302.38	302.38	0.0	0.0	0.0	0.0	0	20	\$87,494.58	\$87,494.58	\$0.21	\$0.00	\$0.00	60.78	1.00	437.784	437.784	366.542	366.542		
Pumps	Optimize Pump Systems	Ionmetallic Mineral Product	Discretionary	2,525,586.2	533.18	533.18	0.0	0.0	0.0	0.0	0	15	\$269,510.45	\$269,510.45	\$0.21	\$0.00	\$0.00	26.84	1.00	454.663	454.663	380.674	380.674		
Fans	Optimize Fan System	Paper Mfg	Discretionary	2,932,459.9	619.07	619.07	0.0	0.0	0.0	0.0	0	10	\$270,585.88	\$270,585.88	\$0.21	\$0.00	\$0.00	20.16	1.00	1012.534	1012.534	847.762	847.762		
HVAC	Building Envelope Infiltration Improvements	Paper Mfg	Discretionary	590,653.9	202.00	0.00	0.0	0.0	0.0	0.0	0	20	\$84,689.81	\$84,689.81	\$0.21	\$0.00	\$0.00	33.25	0.95	171.573	171.573	135.751	135.751		
HVAC	Building Envelope Insulation Improvements	Paper Mfg	Discretionary	617,511.1	211.19	0.00	0.0	0.0	0.0	0.0	0	20	\$114,585.73	\$114,585.73	\$0.21	\$0.00	\$0.00	25.69	0.95	174.469	174.469	138.043	138.043		
HVAC	Install Controls On Air Conditioning System	Paper Mfg	Discretionary	417,081.7	142.64	0.00	0.0	0.0	0.0	0.0	0	11	\$12,270.49	\$12,270.49	\$0.21	\$0.00	\$0.00								

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Process AirComp	Eliminate Leaks In Compressed Air Lines And Valves	Paper Mfg	Discretionary	383,151.0	87.50	87.50	0.0	0.0	0.0	0.0	0.0	0	10	\$4,691.32	\$4,691.32	\$0.21	\$0.00	\$0.00	160.34	1.00	154.060	154.060	128.990	128.990	
Process AirComp	Eliminate Or Reduce Compressed Air Used For Cooling, Agitating Liquids, Moving Product, Or Drying	Paper Mfg	Discretionary	410,183.5	93.67	93.67	0.0	0.0	0.0	0.0	0	10	\$13,355.78	\$13,355.78	\$0.21	\$0.00	\$0.00	60.29	1.00	170.278	170.278	142.568	142.568		
Process AirComp	Equipment Upgrade - Air Compressor	Paper Mfg	Discretionary	653,437.4	149.22	149.22	0.0	0.0	0.0	0.0	0	10	\$67,196.16	\$67,196.16	\$0.21	\$0.00	\$0.00	19.09	1.00	130.342	130.342	109.132	109.132		
Process AirComp	Install Compressor Controls	Paper Mfg	Discretionary	611,996.0	139.76	139.76	0.0	0.0	0.0	0.0	0	10	\$41,131.18	\$41,131.18	\$0.21	\$0.00	\$0.00	29.21	1.00	225.383	225.383	188.706	188.706		
Process AirComp	Optimize Compressor Air Intakes	Paper Mfg	Discretionary	294,280.7	67.20	67.20	0.0	0.0	0.0	0.0	0	10	\$12,457.32	\$12,457.32	\$0.21	\$0.00	\$0.00	46.38	1.00	110.912	110.912	92.863	92.863		
Process AirComp	Reduce The Pressure Of Compressed Air To The Minimum Required	Paper Mfg	Discretionary	404,290.3	92.33	92.33	0.0	0.0	0.0	0.0	0	10	\$3,533.18	\$3,533.18	\$0.21	\$0.00	\$0.00	224.64	1.00	167.831	167.831	140.520	140.520		
Process Heat	Thermal Systems Add Insulation To Equipment	Paper Mfg	Discretionary	255,808.5	58.42	58.42	0.0	0.0	0.0	0.0	0	10	\$10,303.20	\$10,303.20	\$0.21	\$0.00	\$0.00	48.74	0.86	159.561	159.561	114.406	114.406		
Process Heat	Thermal Systems Recover Heat And Use For Preheating, Space Heating, Power Generation, Steam Generation, Transformers, Exhausts, Engines, Compressors, Dryers, Waste Process Heat, Etc	Paper Mfg	Discretionary	358,338.1	81.83	81.83	0.0	0.0	0.0	0.0	0	14	\$49,260.64	\$49,260.64	\$0.21	\$0.00	\$0.00	20.27	0.86	215.009	215.009	154.163	154.163		
Process Heat	Thermal Systems Reduce Infiltration; Isolate Hot Or Cold Equipment	Paper Mfg	Discretionary	133,146.4	30.41	30.41	0.0	0.0	0.0	0.0	0	10	\$15,286.11	\$15,286.11	\$0.21	\$0.00	\$0.00	17.10	0.86	75.632	75.632	54.229	54.229		
Process Other	Plant Equipment - Operation And Maintenance	Paper Mfg	Discretionary	1,205,050.0	275.19	275.19	0.0	0.0	0.0	0.0	0	10	\$45,940.54	\$45,940.54	\$0.21	\$0.00	\$0.00	51.50	0.86	379.537	379.537	272.130	272.130		
Process Other	Plant Operations - Equipment Scheduling Improvements	Paper Mfg	Discretionary	817,400.4	186.67	186.67	0.0	0.0	0.0	0.0	0	10	\$32,172.55	\$32,172.55	\$0.21	\$0.00	\$0.00	49.88	0.86	242.834	242.834	174.113	174.113		
Process Refrig and Cooling	Cooling Tower Operation And Maintenance	Paper Mfg	Discretionary	866,601.5	197.90	197.90	0.0	0.0	0.0	0.0	0	20	\$81,450.78	\$81,450.78	\$0.21	\$0.00	\$0.00	42.73	1.00	279.026	279.026	233.619	233.619		
Process Refrig and Cooling	Economize Cooling Process With Outside Air And Other Free Cooling Methods	Paper Mfg	Discretionary	550,885.1	125.80	125.80	0.0	0.0	0.0	0.0	0	20	\$61,328.62	\$61,328.62	\$0.21	\$0.00	\$0.00	36.08	1.00	171.118	171.118	143.272	143.272		
Process Refrig and Cooling	Equipment Upgrade - Replace Existing Chiller With High Efficiency Model	Paper Mfg	Discretionary	580,470.7	132.56	132.56	0.0	0.0	0.0	0.0	0	25	\$205,246.77	\$205,246.77	\$0.21	\$0.00	\$0.00	14.21	1.00	677.121	677.121	566.931	566.931		
Process Refrig and Cooling	Optimize Chiller And Refrigeration Systems	Paper Mfg	Discretionary	642,843.3	146.80	146.80	0.0	0.0	0.0	0.0	0	20	\$42,477.91	\$42,477.91	\$0.21	\$0.00	\$0.00	60.78	1.00	212.540	212.540	177.953	177.953		
Pumps	Optimize Pump Systems	Paper Mfg	Discretionary	2,691,299.4	568.16	568.16	0.0	0.0	0.0	0.0	0	15	\$287,194.04	\$287,194.04	\$0.21	\$0.00	\$0.00	26.84	1.00	484.495	484.495	405.652	405.652		
Fans	Optimize Fan System	Petroleum and Coal Product	Discretionary	2,170.4	0.46	0.46	0.0	0.0	0.0	0.0	0	10	\$200.27	\$200.27	\$0.21	\$0.00	\$0.00	20.16	1.00	0.749	0.749	0.627	0.627		
HVAC	Install Controls On Air Conditioning System	Petroleum and Coal Product	Discretionary	5,847.4	2.00	0.00	0.0	0.0	0.0	0.0	0	11	\$172.03	\$172.03	\$0.21	\$0.00	\$0.00	86.07	0.95	1.933	1.933	1.530	1.530		
HVAC	Optimize Space Cooling Zone And Schedule	Petroleum and Coal Product	Discretionary	8,065.5	2.76	0.00	0.0	0.0	0.0	0.0	0	5	\$593.96	\$593.96	\$0.21	\$0.00	\$0.00	15.00	0.95	2.613	2.613	2.067	2.067		
HVAC	Upgrade Equipment - Replace Existing HVAC Unit With High Efficiency Model	Petroleum and Coal Product	Discretionary	18,660.9	6.38	0.00	0.0	0.0	0.0	0.0	0	15	\$6,598.25	\$6,598.25	\$0.21	\$0.00	\$0.00	9.98	0.95	21.768	21.768	17.223	17.223		
Indirect Boiler	Equipment Upgrade - Boiler Replacement	Petroleum and Coal Product	Discretionary	293.9	0.00	0.12	0.0	0.0	0.0	0.0	0	25	\$103.92	\$103.92	\$0.21	\$0.00	\$0.00	8.84	0.86	0.343	0.343	0.246	0.246		
Lighting	Lighting Controls - Occupancy Sensors, Photocell Controls, And Timers	Petroleum and Coal Product	Discretionary	2,124.1	0.34	0.22	0.0	0.0	0.0	0.0	0	8	\$57.02	\$57.02	\$0.21	\$0.00	\$0.00	51.82	1.00	0.381	0.381	0.319	0.319		
Lighting	Lighting Interior Fluorescent	Petroleum and Coal Product	Discretionary	6,469.0	1.03	0.67	0.0	0.0	0.0	0.0	0	15	\$2,287.37	\$2,287.37	\$0.21	-\$0.01	\$0.00	7.55	1.00	7.546	7.546	6.318	6.318		
Lighting	Lighting Interior HID	Petroleum and Coal Product	Discretionary	1,225.3	0.19	0.13	0.0	0.0	0.0	0.0	0	15	\$433.27	\$433.27	\$0.21	-\$0.01	\$0.00	7.55	1.00	1.429	1.429	1.197	1.197		
Lighting	Lighting Interior Screw Base - Standard	Petroleum and Coal Product	Discretionary	3,761.8	0.60	0.39	0.0	0.0	0.0	0.0	0	3	\$1,330.12	\$1,330.12	\$0.21	-\$0.03	\$0.00	1.38	1.00	4.388	4.388	3.674	3.674		
Lighting	Lighting Operations - Scheduling Improvements And Maintenance	Petroleum and Coal Product	Discretionary	2,239.9	0.36	0.23	0.0	0.0	0.0	0.0	0	5	\$47.54	\$47.54	\$0.21	\$0.00	\$0.00	40.07	1.00	0.399	0.399	0.334	0.334		
Lighting	Optimize Lighting System - Install Skylights And Use Daylighting	Petroleum and Coal Product	Discretionary	3,962.5	0.63	0.41	0.0	0.0	0.0	0.0	0	20	\$741.14	\$741.14	\$0.21	\$0.00	\$0.00	19.23	1.00	1.230	1.230	1.030	1.030		
Motors Other	Motor - CEE Premium-Efficiency Plus	Petroleum and Coal Product	Discretionary	729.8	0.15	0.15	0.0	0.0	0.0	0.0	0	6	\$258.04	\$258.04	\$0.21	\$0.00	\$0.00	3.07	1.00	0.851	0.851	0.713	0.713		
Process AirComp	Eliminate Leaks In Compressed Air Lines And Valves	Petroleum and Coal Product	Discretionary	1,140.8	0.26	0.26	0.0	0.0	0.0	0.0	0	10	\$20.45	\$20.45	\$0.21	\$0.00	\$0.00	109.53	1.00	0.474	0.474	0.397	0.397		
Process AirComp	Eliminate Or Reduce Compressed Air Used For Cooling, Agitating Liquids, Moving Product, Or Drying	Petroleum and Coal Product	Discretionary	1,221.3	0.28	0.28	0.0	0.0	0.0	0.0	0	10	\$62.87	\$62.87	\$0.21	\$0.00	\$0.00	38.14	1.00	0.507	0.507	0.424	0.424		
Process AirComp	Equipment Upgrade - Air Compressor	Petroleum and Coal Product	Discretionary	1,945.6	0.44	0.44	0.0	0.0	0.0	0.0	0	10	\$200.08	\$200.08	\$0.21	\$0.00	\$0.00	19.09	1.00	0.388	0.388	0.325	0.325		
Process AirComp	Optimize Compressor Air Intakes	Petroleum and Coal Product	Discretionary	876.2	0.20	0.20	0.0	0.0	0.0	0.0	0	10	\$31.59	\$31.59	\$0.21	\$0.00	\$0.00	54.45	1.00	0.342	0.342	0.286	0.286		
Process AirComp	Reduce The Pressure Of Compressed Air To The Minimum Required	Petroleum and Coal Product	Discretionary	1,203.8	0.27	0.27	0.0	0.0	0.0	0.0	0	10	\$30.27	\$30.27	\$0.21	\$0.00	\$0.00	78.07	1.00	0.485	0.485	0.406	0.406		
Process Other	Plant Equipment - Operation And Maintenance	Petroleum and Coal Product	Discretionary	1,912.5	0.44	0.44	0.0	0.0	0.0	0.0	0	10	\$72.91	\$72.91	\$0.21	\$0.00	\$0.00	51.50	0.86	0.602	0.602	0.432	0.432		
Process Other	Plant Operations - Equipment Scheduling Improvements	Petroleum and Coal Product	Discretionary	1,297.3	0.30	0.30	0.0	0.0	0.0	0.0	0	10	\$51.06	\$51.06	\$0.21	\$0.00	\$0.00	49.88	0.86	0.385	0.385	0.276	0.276		
Process Refrig and Cooling	Economize Cooling Process With Outside Air And Other Free Cooling Methods	Petroleum and Coal Product	Discretionary	1,188.9	0.27	0.27	0.0	0.0	0.0	0.0	0	20	\$132.36	\$132.36	\$0.21	\$0.00	\$0.00	36.08	1.00	0.393	0.393	0.329	0.329		
Process Refrig and Cooling	Equipment Upgrade - Replace Existing Chiller With High Efficiency Model	Petroleum and Coal Product	Discretionary	1,252.8	0.29	0.29	0.0	0.0	0.0	0.0	0	25	\$442.97	\$442.97	\$0.21	\$0.00	\$0.00	14.21	1.00	1.461	1.461	1.224	1.224		
Pumps	Optimize Pump Systems	Petroleum and Coal Product	Discretionary	714.2	0.15	0.15	0.0	0.0	0.0	0.0	0	15	\$76.22	\$76.22	\$0.21	\$0.00	\$0.00	26.84	1.00	0.129	0.129	0.108	0.108		
Fans	Fan System Controls	Plastics Rubber Products	Discretionary	349,715.6	73.83	73.83	0.0	0.0	0.0	0.0	0	10	\$10,889.66	\$10,889.66	\$0.21	\$0.00	\$0.00	59.73	1.00	120.751	120.751	101.101	101.101		
Fans	Optimize Fan System	Plastics Rubber Products	Discretionary	584,295.2	123.35	123.35	0.0	0.0	0.0	0.0	0	10	\$53,914.47	\$53,914.47	\$0.21	\$0.00	\$0.00	20.16	1.00	196.433	196.433	164.467	164.467		
HVAC	Building Envelope Infiltration Improvements	Plastics Rubber Products	Discretionary	665,715.6	227.67	0.00	0.0	0.0	0.0	0.0	0	20	\$95,452.39	\$95,452.39	\$0.21	\$0.00	\$0.00	33.25	0.95	185.362	185.362	146.661	146.661		
HVAC	Building Envelope Infiltration, Insulation, And Duct System Improvements	Plastics Rubber Products	Discretionary	982,266.6	335.94	0.00	0.0	0.0	0.0	0.0	0	20	\$65,616.64	\$65,616.64	\$0.21	\$0.00	\$0.00	71.37	0.95	309.370	309.370	244.779	244.779		
HVAC	Building Envelope Insulation Improvements	Plastics Rubber Products	Discretionary	695,985.8	238.03	0.00	0.0	0.0	0.0	0.0	0	20	\$129,147.55	\$129,147.55	\$0.21	\$0.00	\$0.00	25.69	0.95	188.490	188.490	149.137	149.137		
HVAC	Install Controls On Air Conditioning System	Plastics Rubber Products	Discretionary	470,085.4	160.77	0.00	0.0	0.0	0.0	0.0	0	11	\$21,043.52	\$21,043.52	\$0.21	\$0.00	\$0.00	56.57	0.95	149.151	149.151	118.011	118.011		
HVAC	Install Outside Air Damper / Economizer On HVAC Unit	Plastics Rubber Products	Discretionary	766,679.0	262.20	0.00	0.0	0.0	0.0	0.0	0	10	\$52,344.77	\$52,344.77	\$0.21	\$0.00	\$0.00	33.54	0.95	231.757	231.757	183.370	183.370		
HVAC	Optimize Space Cooling Zone And Schedule	Plastics Rubber Products	Discretionary	648,402.6	221.75	0.00	0.0	0.0	0.0	0.0	0	5	\$47,749.29	\$47,749.29	\$0.21	\$0.00	\$0.00	15.00	0.95	179.070	179.070	141.683	141.683		
HVAC	Optimize Ventilation System	Plastics Rubber Products	Discretionary	345,580.1	118.19	0.00	0.0	0.0	0.0	0.0	0	10	\$57,523.35	\$57,523.35	\$0.21	\$0.00	\$0.00	13.76	0.95	89.028	89.028	70.441	70.441		
HVAC	Upgrade Equipment - Replace Existing HVAC Unit With High Efficiency Model	Plastics Rubber Products	Discretionary	1,500,183.7	513.06	0.00	0.0	0.0	0.0	0.0	0	15	\$530,445.10	\$530,445.10	\$0.21	\$0.00	\$0.00	9.98	0.95	1749.968	1749.968	1384.606	1384.606		
HVAC	Use Direct Air Supply To Exhaust Hoods	Plastics Rubber Products	Discretionary	600,814.3	205.48	0.00	0.0	0.0	0.0	0.0	0	10	\$38,714.91	\$38,714.91	\$0.21	\$0.00	\$0.00	35.53	0.95	198.645	198.645	157.171	157.171		
Indirect Boiler	Electric Impacts From Furnaces & Boilers, Ovens & Directly Fired Improvements	Plastics Rubber Products	Discretionary	97,127.8	0.21</																				



Appendix B.2		EVT Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Process AirComp	Install Direct Acting Units in Place Of Compressed Air Pressure System In Safety System	Plastics Rubber Products	Discretionary	217,028.9	49.56	49.56	0.0	0.0	0.0	0.0	0	10	\$18,574.43	\$18,574.43	\$0.21	\$0.00	\$0.00	22.94	1.00	90.094	90.094	75.433	75.433	
Process AirComp	Optimize Compressor Air Intakes	Plastics Rubber Products	Discretionary	291,075.7	66.47	66.47	0.0	0.0	0.0	0.0	0	10	\$10,611.36	\$10,611.36	\$0.21	\$0.00	\$0.00	53.85	1.00	113.554	113.554	95.075	95.075	
Process AirComp	Reduce The Pressure Of Compressed Air To The Minimum Required	Plastics Rubber Products	Discretionary	399,887.1	91.32	91.32	0.0	0.0	0.0	0.0	0	10	\$6,112.54	\$6,112.54	\$0.21	\$0.00	\$0.00	128.43	1.00	161.062	161.062	134.852	134.852	
Process Heat	Thermal Systems Add Insulation To Equipment	Plastics Rubber Products	Discretionary	867,826.8	198.18	198.18	0.0	0.0	0.0	0.0	0	10	\$26,229.47	\$26,229.47	\$0.21	\$0.00	\$0.00	64.95	0.86	541.308	541.308	388.120	388.120	
Process Heat	Thermal Systems Recover Heat And Use For Preheating, Space Heating, Power Generation, Steam Generation, Transformers, Exhausts, Engines, Compressors, Dryers, Waste Process Heat, Etc	Plastics Rubber Products	Discretionary	1,215,657.2	277.61	277.61	0.0	0.0	0.0	0.0	0	14	\$167,116.07	\$167,116.07	\$0.21	\$0.00	\$0.00	20.27	0.86	729.417	729.417	522.996	522.996	
Process Heat	Thermal Systems Reduce Infiltration; Isolate Hot Or Cold Equipment	Plastics Rubber Products	Discretionary	451,697.2	103.15	103.15	0.0	0.0	0.0	0.0	0	10	\$51,857.92	\$51,857.92	\$0.21	\$0.00	\$0.00	17.10	0.86	256.581	256.581	183.970	183.970	
Process Other	Plant Equipment - Operation And Maintenance	Plastics Rubber Products	Discretionary	430,321.2	98.27	98.27	0.0	0.0	0.0	0.0	0	10	\$16,405.29	\$16,405.29	\$0.21	\$0.00	\$0.00	51.50	0.86	135.532	135.532	97.177	97.177	
Process Other	Plant Operations - Equipment Scheduling Improvements	Plastics Rubber Products	Discretionary	291,892.2	66.66	66.66	0.0	0.0	0.0	0.0	0	10	\$18,154.97	\$18,154.97	\$0.21	\$0.00	\$0.00	31.56	0.86	86.716	86.716	62.176	62.176	
Process Other	Process Improvements To Reduce Energy Requirments	Plastics Rubber Products	Discretionary	519,955.7	118.74	118.74	0.0	0.0	0.0	0.0	0	10	\$35,970.51	\$35,970.51	\$0.21	\$0.00	\$0.00	28.38	0.86	148.522	148.522	106.491	106.491	
Process Refrig and Cooling	Cooling Tower Operation And Maintenance	Plastics Rubber Products	Discretionary	1,164,034.4	265.83	265.83	0.0	0.0	0.0	0.0	0	20	\$80,337.33	\$80,337.33	\$0.21	\$0.00	\$0.00	58.20	1.00	374.793	374.793	313.802	313.802	
Process Refrig and Cooling	Economize Cooling Process With Outside Air And Other Free Cooling Methods	Plastics Rubber Products	Discretionary	739,958.7	168.98	168.98	0.0	0.0	0.0	0.0	0	20	\$82,377.69	\$82,377.69	\$0.21	\$0.00	\$0.00	36.08	1.00	229.849	229.849	192.445	192.445	
Process Refrig and Cooling	Equipment Upgrade - Replace Existing Chiller With High Efficiency Model	Plastics Rubber Products	Discretionary	779,698.6	178.06	178.06	0.0	0.0	0.0	0.0	0	25	\$275,691.10	\$275,691.10	\$0.21	\$0.00	\$0.00	14.21	1.00	909.520	909.520	761.512	761.512	
Process Refrig and Cooling	Optimize Chiller And Refrigeration Systems	Plastics Rubber Products	Discretionary	863,478.5	197.19	197.19	0.0	0.0	0.0	0.0	0	20	\$57,057.09	\$57,057.09	\$0.21	\$0.00	\$0.00	60.78	1.00	285.488	285.488	239.030	239.030	
Pumps	Optimize Pump Systems	Plastics Rubber Products	Discretionary	612,109.2	129.22	129.22	0.0	0.0	0.0	0.0	0	15	\$65,319.42	\$65,319.42	\$0.21	\$0.00	\$0.00	26.84	1.00	110.194	110.194	92.261	92.261	
Fans	Optimize Fan System	Primary Metal Mfg	Discretionary	40,004.6	8.45	8.45	0.0	0.0	0.0	0.0	0	10	\$3,691.33	\$3,691.33	\$0.21	\$0.00	\$0.00	20.16	1.00	13.813	13.813	11.565	11.565	
HVAC	Building Envelope Infiltration Improvements	Primary Metal Mfg	Discretionary	23,975.3	8.20	0.00	0.0	0.0	0.0	0.0	0	20	\$3,437.65	\$3,437.65	\$0.21	\$0.00	\$0.00	33.25	0.95	6.865	6.865	5.432	5.432	
HVAC	Building Envelope Infiltration, Insulation, And Duct System Improvements	Primary Metal Mfg	Discretionary	35,375.6	12.10	0.00	0.0	0.0	0.0	0.0	0	20	\$2,363.14	\$2,363.14	\$0.21	\$0.00	\$0.00	71.37	0.95	10.916	10.916	8.637	8.637	
HVAC	Building Envelope Insulation Improvements	Primary Metal Mfg	Discretionary	25,065.4	8.57	0.00	0.0	0.0	0.0	0.0	0	20	\$4,651.16	\$4,651.16	\$0.21	\$0.00	\$0.00	25.69	0.95	6.981	6.981	5.523	5.523	
HVAC	Install Controls On Air Conditioning System	Primary Metal Mfg	Discretionary	16,929.8	5.79	0.00	0.0	0.0	0.0	0.0	0	11	\$498.07	\$498.07	\$0.21	\$0.00	\$0.00	86.07	0.95	5.597	5.597	4.429	4.429	
HVAC	Install Outside Air Damper / Economizer On HVAC Unit	Primary Metal Mfg	Discretionary	27,611.4	9.44	0.00	0.0	0.0	0.0	0.0	0	10	\$1,885.16	\$1,885.16	\$0.21	\$0.00	\$0.00	33.54	0.95	8.583	8.583	6.791	6.791	
HVAC	Optimize Space Cooling Zone And Schedule	Primary Metal Mfg	Discretionary	23,351.8	7.99	0.00	0.0	0.0	0.0	0.0	0	5	\$1,719.66	\$1,719.66	\$0.21	\$0.00	\$0.00	15.00	0.95	6.632	6.632	5.247	5.247	
HVAC	Optimize Ventilation System	Primary Metal Mfg	Discretionary	12,445.8	4.26	0.00	0.0	0.0	0.0	0.0	0	10	\$2,071.66	\$2,071.66	\$0.21	\$0.00	\$0.00	13.76	0.95	3.297	3.297	2.609	2.609	
HVAC	Upgrade Equipment - Replace Existing HVAC Unit With High Efficiency Model	Primary Metal Mfg	Discretionary	54,028.1	18.48	0.00	0.0	0.0	0.0	0.0	0	15	\$19,103.61	\$19,103.61	\$0.21	\$0.00	\$0.00	9.98	0.95	63.024	63.024	49.866	49.866	
Indirect Boiler	Electric Impacts From Furnaces & Boilers, Ovens & Directly Fired Improvements	Primary Metal Mfg	Discretionary	2,441.2	0.01	0.98	0.0	0.0	0.0	0.0	0	10	\$359.66	\$359.66	\$0.21	\$0.00	\$0.00	8.40	0.86	1.330	1.330	0.954	0.954	
Indirect Boiler	Equipment Upgrade - Boiler Replacement	Primary Metal Mfg	Discretionary	1,979.0	0.00	0.80	0.0	0.0	0.0	0.0	0	25	\$699.74	\$699.74	\$0.21	\$0.00	\$0.00	8.84	0.86	2.308	2.308	1.655	1.655	
Lighting	Lighting Controls - Occupancy Sensors, Photocell Controls, And Timers	Primary Metal Mfg	Discretionary	10,171.2	1.61	1.06	0.0	0.0	0.0	0.0	0	8	\$784.56	\$784.56	\$0.21	\$0.00	\$0.00	18.03	1.00	1.766	1.766	1.479	1.479	
Lighting	Lighting Interior Fluorescent	Primary Metal Mfg	Discretionary	30,976.9	4.92	3.22	0.0	0.0	0.0	0.0	0	15	\$10,953.01	\$10,953.01	\$0.21	-\$0.01	\$0.00	7.55	1.00	36.135	36.135	30.254	30.254	
Lighting	Lighting Interior HID	Primary Metal Mfg	Discretionary	5,867.5	0.93	0.61	0.0	0.0	0.0	0.0	0	15	\$2,074.69	\$2,074.69	\$0.21	-\$0.01	\$0.00	7.55	1.00	6.845	6.845	5.731	5.731	
Lighting	Lighting Interior Screw Base - Standard	Primary Metal Mfg	Discretionary	18,013.2	2.86	1.87	0.0	0.0	0.0	0.0	0	3	\$6,369.23	\$6,369.23	\$0.21	-\$0.03	\$0.00	1.38	1.00	21.012	21.012	17.593	17.593	
Lighting	Lighting Operations - Scheduling Improvements And Maintenance	Primary Metal Mfg	Discretionary	10,725.8	1.70	1.11	0.0	0.0	0.0	0.0	0	5	\$227.64	\$227.64	\$0.21	\$0.00	\$0.00	40.07	1.00	1.922	1.922	1.609	1.609	
Lighting	Optimize Lighting System - Install Skylights And Use Daylighting	Primary Metal Mfg	Discretionary	18,974.3	3.01	1.97	0.0	0.0	0.0	0.0	0	20	\$3,548.92	\$3,548.92	\$0.21	\$0.00	\$0.00	19.23	1.00	5.931	5.931	4.966	4.966	
Motors Other	Motor - CEE Premium-Efficiency Plus	Primary Metal Mfg	Discretionary	13,451.3	2.84	2.84	0.0	0.0	0.0	0.0	0	6	\$4,756.21	\$4,756.21	\$0.21	\$0.00	\$0.00	3.07	1.00	15.691	15.691	13.138	13.138	
Process AirComp	Eliminate Leaks In Compressed Air Lines And Valves	Primary Metal Mfg	Discretionary	21,028.1	4.80	4.80	0.0	0.0	0.0	0.0	0	10	\$286.91	\$286.91	\$0.21	\$0.00	\$0.00	143.89	1.00	8.729	8.729	7.309	7.309	
Process AirComp	Eliminate Or Reduce Compressed Air Used For Cooling, Agitating Liquids, Moving Product, Or Drying	Primary Metal Mfg	Discretionary	22,511.7	5.14	5.14	0.0	0.0	0.0	0.0	0	10	\$828.93	\$828.93	\$0.21	\$0.00	\$0.00	53.32	1.00	9.345	9.345	7.824	7.824	
Process AirComp	Equipment Upgrade - Air Compressor	Primary Metal Mfg	Discretionary	35,862.0	8.19	8.19	0.0	0.0	0.0	0.0	0	10	\$3,687.86	\$3,687.86	\$0.21	\$0.00	\$0.00	19.09	1.00	7.153	7.153	5.989	5.989	
Process AirComp	Install Compressor Controls	Primary Metal Mfg	Discretionary	33,587.6	7.67	7.67	0.0	0.0	0.0	0.0	0	10	\$2,257.36	\$2,257.36	\$0.21	\$0.00	\$0.00	29.21	1.00	12.373	12.373	10.360	10.360	
Process AirComp	Install Direct Acting Units in Place Of Compressed Air Pressure System In Safety System	Primary Metal Mfg	Discretionary	12,042.1	2.75	2.75	0.0	0.0	0.0	0.0	0	10	\$1,030.63	\$1,030.63	\$0.21	\$0.00	\$0.00	22.94	1.00	4.999	4.999	4.185	4.185	
Process AirComp	Optimize Compressor Air Intakes	Primary Metal Mfg	Discretionary	16,150.7	3.69	3.69	0.0	0.0	0.0	0.0	0	10	\$409.13	\$409.13	\$0.21	\$0.00	\$0.00	77.50	1.00	6.505	6.505	5.446	5.446	
Process AirComp	Reduce The Pressure Of Compressed Air To The Minimum Required	Primary Metal Mfg	Discretionary	22,188.3	5.07	5.07	0.0	0.0	0.0	0.0	0	10	\$1,012.36	\$1,012.36	\$0.21	\$0.00	\$0.00	43.03	1.00	8.439	8.439	7.066	7.066	
Process Heat	Thermal Systems Add Insulation To Equipment	Primary Metal Mfg	Discretionary	144,681.9	33.04	33.04	0.0	0.0	0.0	0.0	0	10	\$3,565.77	\$3,565.77	\$0.21	\$0.00	\$0.00	79.66	0.86	90.245	90.245	64.706	64.706	
Process Heat	Thermal Systems Recover Heat And Use For Preheating, Space Heating, Power Generation, Steam Generation, Transformers, Exhausts, Engines, Compressors, Dryers, Waste Process Heat, Etc	Primary Metal Mfg	Discretionary	202,671.3	46.28	46.28	0.0	0.0	0.0	0.0	0	14	\$27,861.17	\$27,861.17	\$0.21	\$0.00	\$0.00	20.27	0.86	121.606	121.606	87.193	87.193	
Process Heat	Thermal Systems Reduce Infiltration; Isolate Hot Or Cold Equipment	Primary Metal Mfg	Discretionary	75,305.8	17.20	17.20	0.0	0.0	0.0	0.0	0	10	\$8,645.62	\$8,645.62	\$0.21	\$0.00	\$0.00	17.10	0.86	42.777	42.777	30.671	30.671	
Process Other	Plant Equipment - Operation And Maintenance	Primary Metal Mfg	Discretionary	42,236.6	9.65	9.65	0.0	0.0	0.0	0.0	0	10	\$1,610.20	\$1,610.20	\$0.21	\$0.00	\$0.00	51.50	0.86	13.303	13.303	9.538	9.538	
Process Other	Plant Operations - Equipment Scheduling Improvements	Primary Metal Mfg	Discretionary	28,649.6	6.54	6.54	0.0	0.0	0.0	0.0	0	10	\$1,127.64	\$1,127.64	\$0.21	\$0.00	\$0.00	49.88	0.86	8.511	8.511	6.103	6.103	
Process Refrig and Cooling	Cooling Tower Operation And Maintenance	Primary Metal Mfg	Discretionary	9,564.5	2.18	2.18	0.0	0.0	0.0	0.0	0	20	\$898.96	\$898.96	\$0.21	\$0.00	\$0.00	42.73	1.00	3.080	3.080	2.578	2.578	
Process Refrig and Cooling	Economize Cooling Process With Outside Air And Other Free Cooling Methods	Primary Metal Mfg	Discretionary	6,080.0	1.39	1.39	0.0	0.0	0.0	0.0	0	20	\$676.87	\$676.87	\$0.21	\$0.00	\$0.00	36.08	1.00	1.889	1.889	1.581	1.581	
Process Refrig and Cooling	Equipment Upgrade - Replace Existing Chiller With High Efficiency Model	Primary Metal Mfg	Discretionary	6,406.6	1.46	1.46	0.0	0.0	0.0	0.0	0	25	\$2,265.27	\$2,265.27	\$0.21	\$0.00	\$0.00	14.21	1.00	7.473	7.473	6.257	6.257	
Process Refrig and Cooling	Optimize Chiller And Refrigeration Systems	Primary Metal Mfg	Discretionary	7,095.0	1.62	1.62	0.0	0.0	0.0	0.0	0	20	\$468.82	\$468.82	\$0.21	\$0.00	\$0.00	60.78	1.00	2.346	2.346	1.964	1.964	
Pumps	Optimize Pump Systems	Primary Metal Mfg	Discretionary	13,164.5	2.78	2.78	0.0	0.0	0.0	0.0	0	15	\$1,404.81	\$1,404.81	\$0.21	\$0.00	\$0.00	26.84	1.00	2.370	2.370	1.984	1.984	
Fans	Optimize Fan System	Printing Related Support	Discretionary	111,439.7	23.53	23.53	0.0	0.0	0.0	0.0	0	10	\$10											

Appendix B.2		EVT Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Lighting	Printing Interior Screw Base - Standard	Printing Related Support	Discretionary	90,699.1	14.40	9.43	0.0	0.0	0.0	0.0	0	3	\$32,070.02	\$32,070.02	\$0.21	-\$0.03	\$0.00	1.38	1.00	105.801	105.801	88.584	88.584		
Lighting	Lighting Operations - Scheduling Improvements And Maintenance	Printing Related Support	Discretionary	54,005.9	8.57	5.61	0.0	0.0	0.0	0.0	0	5	\$1,146.19	\$1,146.19	\$0.21	\$0.00	\$0.00	40.07	1.00	9.678	9.678	8.103	8.103		
Lighting	Optimize Lighting System - Install Skylights And Use Daylighting	Printing Related Support	Discretionary	95,538.3	15.17	9.93	0.0	0.0	0.0	0.0	0	20	\$17,869.30	\$17,869.30	\$0.21	\$0.00	\$0.00	19.23	1.00	29.648	29.648	24.823	24.823		
Motors Other	Motor - CEE Premium-Efficiency Plus	Printing Related Support	Discretionary	26,494.1	5.59	5.59	0.0	0.0	0.0	0.0	0	6	\$9,367.97	\$9,367.97	\$0.21	\$0.00	\$0.00	3.07	1.00	30.905	30.905	25.876	25.876		
Process AirComp	Eliminate Leaks In Compressed Air Lines And Valves	Printing Related Support	Discretionary	72,280.6	16.51	16.51	0.0	0.0	0.0	0.0	0	10	\$1,079.52	\$1,079.52	\$0.21	\$0.00	\$0.00	131.45	1.00	30.005	30.005	25.123	25.123		
Process AirComp	Eliminate Or Reduce Compressed Air Used For Cooling, Agitating Liquids, Moving Product, Or Drying	Printing Related Support	Discretionary	77,380.2	17.67	17.67	0.0	0.0	0.0	0.0	0	10	\$3,983.36	\$3,983.36	\$0.21	\$0.00	\$0.00	38.14	1.00	32.122	32.122	26.895	26.895		
Process AirComp	Equipment Upgrade - Air Compressor	Printing Related Support	Discretionary	123,269.5	28.15	28.15	0.0	0.0	0.0	0.0	0	10	\$12,676.40	\$12,676.40	\$0.21	\$0.00	\$0.00	19.09	1.00	24.589	24.589	20.587	20.587		
Process AirComp	Install Compressor Controls	Printing Related Support	Discretionary	115,451.6	26.37	26.37	0.0	0.0	0.0	0.0	0	10	\$7,759.30	\$7,759.30	\$0.21	\$0.00	\$0.00	29.21	1.00	42.483	42.483	35.570	35.570		
Process AirComp	Install Direct Acting Units In Place Of Compressed Air Pressure System In Safety System	Printing Related Support	Discretionary	41,392.8	9.45	9.45	0.0	0.0	0.0	0.0	0	10	\$3,542.61	\$3,542.61	\$0.21	\$0.00	\$0.00	22.94	1.00	17.183	17.183	14.387	14.387		
Process AirComp	Optimize Compressor Air Intakes	Printing Related Support	Discretionary	55,515.4	12.68	12.68	0.0	0.0	0.0	0.0	0	10	\$1,647.51	\$1,647.51	\$0.21	\$0.00	\$0.00	66.15	1.00	21.658	21.658	18.133	18.133		
Process AirComp	Reduce The Pressure Of Compressed Air To The Minimum Required	Printing Related Support	Discretionary	76,268.4	17.42	17.42	0.0	0.0	0.0	0.0	0	10	\$1,418.01	\$1,418.01	\$0.21	\$0.00	\$0.00	105.59	1.00	30.719	30.719	25.720	25.720		
Process Heat	Thermal Systems Add Insulation To Equipment	Printing Related Support	Discretionary	34,170.6	7.80	7.80	0.0	0.0	0.0	0.0	0	10	\$1,376.29	\$1,376.29	\$0.21	\$0.00	\$0.00	48.74	0.86	21.314	21.314	15.282	15.282		
Process Heat	Thermal Systems Recover Heat And Use For Preheating, Space Heating, Power Generation, Steam Generation, Transformers, Exhausts, Engines, Compressors, Dryers, Waste Process Heat, Etc	Printing Related Support	Discretionary	47,866.4	10.93	10.93	0.0	0.0	0.0	0.0	0	14	\$6,580.18	\$6,580.18	\$0.21	\$0.00	\$0.00	20.27	0.86	28.721	28.721	20.593	20.593		
Process Heat	Thermal Systems Reduce Infiltration; Isolate Hot Or Cold Equipment	Printing Related Support	Discretionary	17,785.5	4.06	4.06	0.0	0.0	0.0	0.0	0	10	\$2,041.90	\$2,041.90	\$0.21	\$0.00	\$0.00	17.10	0.86	10.103	10.103	7.244	7.244		
Process Other	Plant Operations - Equipment Scheduling Improvements	Printing Related Support	Discretionary	22,004.5	5.03	5.03	0.0	0.0	0.0	0.0	0	10	\$866.09	\$866.09	\$0.21	\$0.00	\$0.00	49.88	0.86	6.930	6.930	4.969	4.969		
Process Refrig and Cooling	Cooling Tower Operation And Maintenance	Printing Related Support	Discretionary	118,745.2	27.12	27.12	0.0	0.0	0.0	0.0	0	20	\$11,160.71	\$11,160.71	\$0.21	\$0.00	\$0.00	42.73	1.00	38.233	38.233	32.011	32.011		
Process Refrig and Cooling	Economize Cooling Process With Outside Air And Other Free Cooling Methods	Printing Related Support	Discretionary	75,484.5	17.24	17.24	0.0	0.0	0.0	0.0	0	20	\$8,403.49	\$8,403.49	\$0.21	\$0.00	\$0.00	36.08	1.00	23.447	23.447	19.632	19.632		
Process Refrig and Cooling	Equipment Upgrade - Replace Existing Chiller With High Efficiency Model	Printing Related Support	Discretionary	79,538.4	18.16	18.16	0.0	0.0	0.0	0.0	0	25	\$28,123.74	\$28,123.74	\$0.21	\$0.00	\$0.00	14.21	1.00	92.782	92.782	77.683	77.683		
Process Refrig and Cooling	Optimize Chiller And Refrigeration Systems	Printing Related Support	Discretionary	88,085.0	20.12	20.12	0.0	0.0	0.0	0.0	0	20	\$5,820.50	\$5,820.50	\$0.21	\$0.00	\$0.00	60.78	1.00	29.123	29.123	24.384	24.384		
Pumps	Optimize Pump Systems	Printing Related Support	Discretionary	116,744.5	24.65	24.65	0.0	0.0	0.0	0.0	0	15	\$12,458.04	\$12,458.04	\$0.21	\$0.00	\$0.00	26.84	1.00	21.017	21.017	17.597	17.597		
Fans	Optimize Fan System	Wood Product Mfg	Discretionary	270,446.1	57.09	57.09	0.0	0.0	0.0	0.0	0	10	\$24,954.78	\$24,954.78	\$0.21	\$0.00	\$0.00	20.16	1.00	93.381	93.381	78.185	78.185		
HVAC	Building Envelope Infiltration, Insulation, And Duct System Improvements	Wood Product Mfg	Discretionary	172,028.8	58.83	0.00	0.0	0.0	0.0	0.0	0	20	\$11,491.74	\$11,491.74	\$0.21	\$0.00	\$0.00	71.37	0.95	53.083	53.083	42.000	42.000		
HVAC	Install Controls On Air Conditioning System	Wood Product Mfg	Discretionary	82,328.2	28.16	0.00	0.0	0.0	0.0	0.0	0	11	\$2,422.09	\$2,422.09	\$0.21	\$0.00	\$0.00	86.07	0.95	27.220	27.220	21.537	21.537		
HVAC	Optimize Space Cooling Zone And Schedule	Wood Product Mfg	Discretionary	113,557.7	38.84	0.00	0.0	0.0	0.0	0.0	0	5	\$8,362.55	\$8,362.55	\$0.21	\$0.00	\$0.00	15.00	0.95	35.300	35.300	27.930	27.930		
HVAC	Optimize Ventilation System	Wood Product Mfg	Discretionary	60,523.0	20.70	0.00	0.0	0.0	0.0	0.0	0	10	\$10,074.33	\$10,074.33	\$0.21	\$0.00	\$0.00	13.76	0.95	17.550	17.550	13.886	13.886		
HVAC	Upgrade Equipment - Replace Existing HVAC Unit With High Efficiency Model	Wood Product Mfg	Discretionary	262,734.0	89.86	0.00	0.0	0.0	0.0	0.0	0	15	\$92,899.27	\$92,899.27	\$0.21	\$0.00	\$0.00	12.66	0.95	51.626	51.626	40.848	40.848		
Indirect Boiler	Electric Impacts From Steam Thermal Systems Improvements	Wood Product Mfg	Discretionary	39,352.2	0.08	15.83	0.0	0.0	0.0	0.0	0	10	\$10,802.67	\$10,802.67	\$0.21	\$0.00	\$0.00	4.51	0.86	18.347	18.347	13.155	13.155		
Indirect Boiler	Equipment Upgrade - Boiler Replacement	Wood Product Mfg	Discretionary	25,390.4	0.05	10.21	0.0	0.0	0.0	0.0	0	25	\$8,977.70	\$8,977.70	\$0.21	\$0.00	\$0.00	8.84	0.86	29.618	29.618	21.236	21.236		
Lighting	Lighting Controls - Occupancy Sensors, Photocell Controls, And Timers	Wood Product Mfg	Discretionary	66,571.4	10.57	6.92	0.0	0.0	0.0	0.0	0	8	\$6,640.14	\$6,640.14	\$0.21	\$0.00	\$0.00	13.94	1.00	11.203	11.203	9.380	9.380		
Lighting	Lighting Interior Fluorescent	Wood Product Mfg	Discretionary	202,746.6	32.19	21.08	0.0	0.0	0.0	0.0	0	15	\$71,688.50	\$71,688.50	\$0.21	-\$0.01	\$0.00	7.55	1.00	236.504	236.504	198.017	198.017		
Lighting	Lighting Interior HID	Wood Product Mfg	Discretionary	38,403.7	6.10	3.99	0.0	0.0	0.0	0.0	0	15	\$13,579.03	\$13,579.03	\$0.21	-\$0.01	\$0.00	7.55	1.00	44.798	44.798	37.508	37.508		
Lighting	Lighting Interior Screw Base - Standard	Wood Product Mfg	Discretionary	117,898.2	18.72	12.26	0.0	0.0	0.0	0.0	0	3	\$41,687.26	\$41,687.26	\$0.21	-\$0.03	\$0.00	1.38	1.00	137.529	137.529	115.148	115.148		
Lighting	Lighting Operations - Scheduling Improvements And Maintenance	Wood Product Mfg	Discretionary	70,201.3	11.14	7.30	0.0	0.0	0.0	0.0	0	5	\$1,489.91	\$1,489.91	\$0.21	\$0.00	\$0.00	40.07	1.00	12.580	12.580	10.533	10.533		
Lighting	Optimize Lighting System - Install Skylights And Use Daylighting	Wood Product Mfg	Discretionary	124,188.6	19.72	12.91	0.0	0.0	0.0	0.0	0	20	\$23,228.00	\$23,228.00	\$0.21	\$0.00	\$0.00	19.23	1.00	38.524	38.524	32.255	32.255		
Motors Other	Motor - CEE Premium-Efficiency Plus	Wood Product Mfg	Discretionary	64,297.0	13.57	13.57	0.0	0.0	0.0	0.0	0	6	\$22,734.55	\$22,734.55	\$0.21	\$0.00	\$0.00	3.07	1.00	75.003	75.003	62.797	62.797		
Process AirComp	Eliminate Leaks In Compressed Air Lines And Valves	Wood Product Mfg	Discretionary	175,413.3	40.06	40.06	0.0	0.0	0.0	0.0	0	10	\$4,217.48	\$4,217.48	\$0.21	\$0.00	\$0.00	81.65	1.00	72.818	72.818	60.969	60.969		
Process AirComp	Eliminate Or Reduce Compressed Air Used For Cooling, Agitating Liquids, Moving Product, Or Drying	Wood Product Mfg	Discretionary	187,789.3	42.88	42.88	0.0	0.0	0.0	0.0	0	10	\$7,427.95	\$7,427.95	\$0.21	\$0.00	\$0.00	49.63	1.00	77.956	77.956	65.270	65.270		
Process AirComp	Equipment Upgrade - Air Compressor	Wood Product Mfg	Discretionary	299,155.2	68.32	68.32	0.0	0.0	0.0	0.0	0	10	\$30,763.59	\$30,763.59	\$0.21	\$0.00	\$0.00	19.09	1.00	59.673	59.673	49.962	49.962		
Process AirComp	Install Compressor Controls	Wood Product Mfg	Discretionary	280,182.6	63.98	63.98	0.0	0.0	0.0	0.0	0	10	\$18,830.58	\$18,830.58	\$0.21	\$0.00	\$0.00	29.21	1.00	90.665	90.665	75.911	75.911		
Process AirComp	Install Direct Acting Units In Place Of Compressed Air Pressure System In Safety System	Wood Product Mfg	Discretionary	100,453.7	22.94	22.94	0.0	0.0	0.0	0.0	0	10	\$8,597.34	\$8,597.34	\$0.21	\$0.00	\$0.00	22.94	1.00	41.701	41.701	34.915	34.915		
Process AirComp	Optimize Compressor Air Intakes	Wood Product Mfg	Discretionary	134,726.9	30.77	30.77	0.0	0.0	0.0	0.0	0	10	\$5,315.17	\$5,315.17	\$0.21	\$0.00	\$0.00	49.76	1.00	49.394	49.394	41.356	41.356		
Process AirComp	Reduce The Pressure Of Compressed Air To The Minimum Required	Wood Product Mfg	Discretionary	185,091.2	42.27	42.27	0.0	0.0	0.0	0.0	0	10	\$6,908.09	\$6,908.09	\$0.21	\$0.00	\$0.00	52.60	1.00	72.330	72.330	60.560	60.560		
Process Heat	Thermal Systems Add Insulation To Equipment	Wood Product Mfg	Discretionary	77,366.0	17.67	17.67	0.0	0.0	0.0	0.0	0	10	\$3,116.07	\$3,116.07	\$0.21	\$0.00	\$0.00	48.74	0.86	48.257	48.257	34.601	34.601		
Process Heat	Thermal Systems Recover Heat And Use For Preheating, Space Heating, Power Generation, Steam Generation, Transformers, Exhausts, Engines, Compressors, Dryers, Waste Process Heat, Etc	Wood Product Mfg	Discretionary	108,374.7	24.75	24.75	0.0	0.0	0.0	0.0	0	14	\$14,898.24	\$14,898.24	\$0.21	\$0.00	\$0.00	20.27	0.86	62.553	62.553	44.851	44.851		
Process Other	Plant Equipment - Operation And Maintenance	Wood Product Mfg	Discretionary	23,791.4	5.43	5.43	0.0	0.0	0.0	0.0	0	10	\$907.01	\$907.01	\$0.21	\$0.00	\$0.00	51.50	0.86	7.493	7.493	5.373	5.373		
Process Other	Plant Operations - Equipment Scheduling Improvements	Wood Product Mfg	Discretionary	16,138.0	3.69	3.69	0.0	0.0	0.0	0.0	0	10	\$635.19	\$635.19	\$0.21	\$0.00	\$0.00	49.88	0.86	4.522	4.522	3.242	3.242		
Process Refrig and Cooling	Cooling Tower Operation And Maintenance	Wood Product Mfg	Discretionary	141,353.4	32.28	32.28	0.0	0.0	0.0	0.0	0	20	\$13,285.63	\$13,285.63	\$0.21	\$0.00	\$0.00	42.73	1.00	44.322	44.322	37.109	37.109		
Process Refrig and Cooling	Economize Cooling Process With Outside Air And Other Free Cooling Methods	Wood Product Mfg	Discretionary	89,856.2	20.52	20.52	0.0	0.0	0.0	0.0	0	20	\$10,003.46	\$10,003.46	\$0.21	\$0.00	\$0.00	36.08	1.00	26.223	26.223	21.956	21.956		
Process Refrig and Cooling	Equipment Upgrade - Replace Existing Chiller With High Efficiency Model	Wood Product Mfg	Discretionary	94,682.0	21.62	21.62	0.0	0.0	0.0	0.0	0	25	\$33,478.29	\$33,478.29	\$0.21	\$0.00	\$0.00	14.21	1.00	110.447	110.447	92.473	92.473		
Process Refrig and																									

Appendix B.3		BED Residential Measure Assumptions																															
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive		O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential		20 YR Economic Potential		Measure Description			
																				Cost (\$/kWh)	Benefits					(MWh)	Potential (MWh)	MAP (MWh)	RAP (MWh)				
1001	Refrigeration	ENERGY STAR Refrigerator	BED	SF	NLI	MO	564.8	10%	56.5	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$11.00	\$40.00	\$0.06	\$0.00	\$0.00	3.21	0.50	0	0	29	29	Installation of an ENERGY STAR qualifying residential refrigerator instead of a baseline efficiency refrigerator				
1002	Refrigeration	CEE Tier 2 Refrigerator	BED	SF	NLI	MO	564.8	15%	84.7	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$20.00	\$75.00	\$0.06	\$0.00	\$0.00	2.57	0.90	0	0	78	78	Installation of CEE Tier 2 qualifying residential refrigerator instead of a baseline efficiency refrigerator				
1003	Refrigeration	CEE Tier 3 Refrigerator	BED	SF	NLI	MO	564.8	20%	113.0	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$59.00	\$75.00	\$0.06	\$0.00	\$0.00	3.42	1.00	570	670	259	258	Installation of CEE Tier 3 qualifying residential refrigerator instead of a baseline efficiency refrigerator				
1004	Refrigeration	Refrigerator Early Removal - Single-family not low-income	BED	SF	NLI	Recycle	744.7	100%	744.7	0.1	0.1	0.0	0.0	0.0	0.0	0	8	\$50.00	\$50.00	\$0.06	\$0.00	\$0.00	16.59	0.72	566	566	350	350	Removal of existing inefficient secondary refrigerator from service				
1005	Refrigeration	Freezer Early Removal - Single family	BED	SF	NLI	Recycle	956.5	100%	956.5	0.1	0.1	0.0	0.0	0.0	0.0	0	8	\$50.00	\$50.00	\$0.06	\$0.00	\$0.00	21.31	0.81	136	136	95	95	Removal of existing inefficient freezer from service				
1006	Refrigeration	ENERGY STAR Refrigerator	BED	SF	LI	DI	564.8	10%	56.5	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$753.00	\$753.00	\$1.32	\$0.00	\$0.00	0.19	1.00	0	0	0	0	Installation of an ENERGY STAR qualifying residential refrigerator instead of a baseline efficiency refrigerator				
1007	Refrigeration	CEE Tier 2 Refrigerator	BED	SF	LI	DI	564.8	15%	84.7	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$762.00	\$762.00	\$1.32	\$0.00	\$0.00	0.28	1.00	0	0	0	0	Installation of CEE Tier 2 qualifying residential refrigerator instead of a baseline efficiency refrigerator				
1008	Refrigeration	CEE Tier 3 Refrigerator	BED	SF	LI	DI	564.8	20%	113.0	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$801.00	\$801.00	\$1.32	\$0.00	\$0.00	0.35	1.00	122	0	0	0	Installation of CEE Tier 3 qualifying residential refrigerator instead of a baseline efficiency refrigerator				
1009	Refrigeration	Refrigerator Early Removal - Single-family low-income	BED	SF	LI	Recycle	625.6	100%	625.6	0.1	0.1	0.0	0.0	0.0	0.0	0	8	\$50.00	\$50.00	\$1.32	\$0.00	\$0.00	15.31	1.00	65	65	56	56	Removal of existing inefficient secondary refrigerator from service				
1010	Refrigeration	Freezer Early Removal - Single family	BED	SF	LI	Recycle	956.5	100%	956.5	0.1	0.1	0.0	0.0	0.0	0.0	0	8	\$50.00	\$50.00	\$1.32	\$0.00	\$0.00	23.41	1.00	19	19	16	16	Removal of existing inefficient freezer from service				
1011	Refrigeration	ENERGY STAR Freezer	BED	SF	All	MO	285.1	10%	28.5	0.0	0.0	0.0	0.0	0.0	0.0	0	16	\$35.00	\$25.00	\$0.06	\$0.00	\$0.00	1.75	1.00	56	56	48	38	Installation of an ENERGY STAR qualifying residential freezer instead of a baseline efficiency freezer				
1012	Refrigeration	ENERGY STAR Refrigerator	BED	SF	All	NC	564.8	10%	56.5	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$11.00	\$40.00	\$0.06	\$0.00	\$0.00	3.21	0.50	0	0	3	3	Installation of an ENERGY STAR qualifying residential refrigerator instead of a baseline efficiency refrigerator				
1013	Refrigeration	CEE Tier 2 Refrigerator	BED	SF	All	NC	564.8	15%	84.7	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$20.00	\$75.00	\$0.06	\$0.00	\$0.00	2.57	0.90	0	0	9	9	Installation of CEE Tier 2 qualifying residential refrigerator instead of a baseline efficiency refrigerator				
1014	Refrigeration	CEE Tier 3 Refrigerator	BED	SF	All	NC	564.8	20%	113.0	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$59.00	\$75.00	\$0.06	\$0.00	\$0.00	3.42	1.00	63	63	27	27	Installation of CEE Tier 3 qualifying residential refrigerator instead of a baseline efficiency refrigerator				
1015	Refrigeration	ENERGY STAR Freezer	BED	SF	All	NC	285.1	10%	28.5	0.0	0.0	0.0	0.0	0.0	0.0	0	16	\$35.00	\$25.00	\$0.06	\$0.00	\$0.00	1.75	1.00	6	6	5	4	Installation of an ENERGY STAR qualifying residential freezer instead of a baseline efficiency freezer				
1016	Refrigeration	ENERGY STAR Refrigerator	BED	MF	NLI	MO	564.8	10%	56.5	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$11.00	\$100.00	\$0.06	\$0.00	\$0.00	1.28	0.50	0	0	56	46	Installation of an ENERGY STAR qualifying residential refrigerator instead of a baseline efficiency refrigerator				
1017	Refrigeration	CEE Tier 2 Refrigerator	BED	MF	NLI	MO	564.8	15%	84.7	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$20.00	\$150.00	\$0.06	\$0.00	\$0.00	1.28	0.90	0	0	152	124	Installation of CEE Tier 2 qualifying residential refrigerator instead of a baseline efficiency refrigerator				
1018	Refrigeration	CEE Tier 3 Refrigerator	BED	MF	NLI	MO	564.8	20%	113.0	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$59.00	\$200.00	\$0.06	\$0.00	\$0.00	1.28	1.00	891	1,048	450	368	Installation of CEE Tier 3 qualifying residential refrigerator instead of a baseline efficiency refrigerator				
1019	Refrigeration	Refrigerator Early Removal - Multifamily	BED	MF	NLI	Recycle	536.2	100%	536.2	0.1	0.1	0.0	0.0	0.0	0.0	0	8	\$50.00	\$50.00	\$0.06	\$0.00	\$0.00	11.95	0.72	0	0	0	0	Removal of existing inefficient secondary refrigerator from service				
1020	Refrigeration	Freezer Early Removal - Multifamily	BED	MF	NLI	Recycle	688.7	100%	688.7	0.1	0.1	0.0	0.0	0.0	0.0	0	8	\$50.00	\$50.00	\$0.06	\$0.00	\$0.00	15.34	0.81	54	54	37	31	Removal of existing inefficient freezer from service				
1021	Refrigeration	ENERGY STAR Refrigerator	BED	MF	LI	DI	564.8	10%	56.5	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$753.00	\$753.00	\$1.32	\$0.00	\$0.00	0.19	1.00	0	0	0	0	Installation of an ENERGY STAR qualifying residential refrigerator instead of a baseline efficiency refrigerator				
1022	Refrigeration	CEE Tier 2 Refrigerator	BED	MF	LI	DI	564.8	15%	84.7	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$762.00	\$762.00	\$1.32	\$0.00	\$0.00	0.28	1.00	0	0	0	0	Installation of CEE Tier 2 qualifying residential refrigerator instead of a baseline efficiency refrigerator				
1023	Refrigeration	CEE Tier 3 Refrigerator	BED	MF	LI	DI	564.8	20%	113.0	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$801.00	\$801.00	\$1.32	\$0.00	\$0.00	0.35	1.00	191	0	0	0	Installation of CEE Tier 3 qualifying residential refrigerator instead of a baseline efficiency refrigerator				
1024	Refrigeration	Refrigerator Early Removal - Multifamily	BED	MF	LI	Recycle	536.2	100%	536.2	0.1	0.1	0.0	0.0	0.0	0.0	0	8	\$50.00	\$50.00	\$1.32	\$0.00	\$0.00	13.12	1.00	0	0	0	0	Removal of existing inefficient secondary refrigerator from service				
1025	Refrigeration	Freezer Early Removal - Multifamily	BED	MF	LI	Recycle	688.7	100%	688.7	0.1	0.1	0.0	0.0	0.0	0.0	0	8	\$50.00	\$50.00	\$1.32	\$0.00	\$0.00	16.85	1.00	7	7	6	5	Removal of existing inefficient freezer from service				
1026	Refrigeration	ENERGY STAR Freezer	BED	MF	All	MO	285.1	10%	28.5	0.0	0.0	0.0	0.0	0.0	0.0	0	16	\$35.00	\$25.00	\$0.06	\$0.00	\$0.00	1.75	1.00	30	30	26	17	Installation of an ENERGY STAR qualifying residential freezer instead of a baseline efficiency freezer				
1027	Refrigeration	ENERGY STAR Refrigerator	BED	MF	All	NC	564.8	10%	56.5	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$11.00	\$100.00	\$0.06	\$0.00	\$0.00	1.28	0.50	0	0	5	4	Installation of an ENERGY STAR qualifying residential refrigerator instead of a baseline efficiency refrigerator				
1028	Refrigeration	CEE Tier 2 Refrigerator	BED	MF	All	NC	564.8	15%	84.7	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$20.00	\$150.00	\$0.06	\$0.00	\$0.00	1.28	0.90	0	0	14	12	Installation of CEE Tier 2 qualifying residential refrigerator instead of a baseline efficiency refrigerator				
1029	Refrigeration	CEE Tier 3 Refrigerator	BED	MF	All	NC	564.8	20%	113.0	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$59.00	\$200.00	\$0.06	\$0.00	\$0.00	1.28	1.00	98	98	42	35	Installation of CEE Tier 3 qualifying residential refrigerator instead of a baseline efficiency refrigerator				
1030	Refrigeration	ENERGY STAR Freezer	BED	MF	All	NC	285.1	10%	28.5	0.0	0.0	0.0	0.0	0.0	0.0	0	16	\$35.00	\$25.00	\$0.06	\$0.00	\$0.00	1.75	1.00	3	3	3	2	Installation of an ENERGY STAR qualifying residential freezer instead of a baseline efficiency freezer				
2001	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Electric Dryer	BED	SF	NLI	MO	0.0	0%	177.6	0.6	0.6	0.0	0.0	0.0	0.0	2,244	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	19.23	0.70	0	0	15	1					

Appendix B.3		BED Residential Measure Assumptions																												
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR	20 YR	20 YR	20 YR	Measure Description	
																									Potential (MWh)	Potential (MWh)	MAP (MWh)	RAP (MWh)		
2018	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/propane Dryer	BED	SF	NLI	MO	0.0	0%	-1.8	0.0	0.0	1.2	0.0	0.3	0.0	2,992	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	1.99	1.15	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and propane drying	
2019	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/Electric Dryer	BED	SF	NLI	MO	0.0	0%	84.0	0.3	0.3	0.0	0.4	0.0	0.0	2,244	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	18.97	0.70	0	0	2	2	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and electric drying	
2020	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/Electric Dryer	BED	SF	NLI	MO	0.0	0%	96.3	0.3	0.3	0.0	0.7	0.0	0.0	2,992	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	2.70	1.00	0	0	4	3	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and electric drying	
2021	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/Electric Dryer	BED	SF	NLI	MO	0.0	0%	117.1	0.4	0.4	0.0	0.7	0.0	0.0	2,992	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	2.44	1.15	24	24	12	8	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and electric drying	
2022	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/NG Dryer	BED	SF	NLI	MO	0.0	0%	11.2	0.0	0.0	0.3	0.4	0.0	0.0	2,244	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	16.81	0.70	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and natural gas drying	
2023	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/NG Dryer	BED	SF	NLI	MO	0.0	0%	-4.4	0.0	0.0	0.3	1.1	0.0	0.0	2,992	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	2.68	1.00	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and natural gas drying	
2024	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/NG Dryer	BED	SF	NLI	MO	0.0	0%	-1.8	0.0	0.0	0.3	1.2	0.0	0.0	2,992	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	2.42	1.15	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and natural gas drying	
2025	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/propane Dryer	BED	SF	NLI	MO	0.0	0%	11.2	0.0	0.0	0.0	0.4	0.3	0.0	2,244	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	17.90	0.70	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and propane drying	
2026	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/propane Dryer	BED	SF	NLI	MO	0.0	0%	-4.4	0.0	0.0	0.0	1.1	0.3	0.0	2,992	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	2.79	1.00	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and propane drying	
2027	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/propane Dryer	BED	SF	NLI	MO	0.0	0%	-1.8	0.0	0.0	0.0	1.2	0.3	0.0	2,992	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	2.52	1.15	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and propane drying	
2028	Clothes Washer/Dryer	ENERGY STAR Electric Dryer	BED	SF	NLI	MO	0.0	0%	194.0	0.6	0.6	0.0	0.0	0.0	0.0	0	12	\$61.00	\$50.00	\$0.06	\$0.00	\$0.00	5.08	1.00	0	0	26	22	Installation of ENERGY STAR electric dryer	
2029	Clothes Washer/Dryer	ENERGY STAR Gas Dryer	VGS	SF	NLI	MO	0.0	0%	36.0	0.1	0.1	0.2	0.0	0.0	0.0	0	12	\$61.00	\$50.00	\$0.06	\$0.00	\$0.00	1.45	1.00	0	0	0	0	Installation of ENERGY STAR gas dryer	
2030	Clothes Washer/Dryer	Vented Hybrid Heat Pump Dryer	BED	SF	NLI	MO	0.0	0%	366.0	1.1	1.1	0.0	0.0	0.0	0.0	0	12	\$412.00	\$200.00	\$0.06	\$0.00	\$0.00	1.46	1.20	0	0	87	62	Installation of vented hybrid heat pump dryer	
2031	Clothes Washer/Dryer	Ventless Hybrid Heat Pump Dryer	BED	SF	NLI	MO	0.0	0%	457.0	1.4	1.4	0.2	0.0	0.0	0.0	0	12	\$412.00	\$200.00	\$0.06	\$0.00	\$0.00	1.91	1.20	0	0	109	78	Installation of ventless hybrid heat pump dryer	
2032	Clothes Washer/Dryer	Ventless Full Heat Pump Dryer	BED	SF	NLI	MO	0.0	0%	658.0	2.0	2.0	0.1	0.0	0.0	0.0	0	12	\$412.00	\$400.00	\$0.06	\$0.00	\$0.00	2.68	1.20	812	812	419	409	Installation of ventless full heat pump dryer	
2033	Clothes Washer/Dryer	ENERGY STAR Dryer FS	BED	SF	NLI	MO	0.0	0%	977.0	4.8	4.8	-3.3	0.0	0.0	0.0	0	14	\$580.00	\$200.00	\$0.06	\$0.00	\$20.00	1.64	0.70	603	603	363	234	Replacement of an electric clothes dryer with a fossil fuel based clothes dryer	
2034	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Electric Dryer	BED	SF	LI	DI	0.0	0%	177.6	0.6	0.6	0.0	0.0	0.0	0.0	2,244	14	\$855.00	\$855.00	\$1.32	\$0.00	\$0.00	0.94	1.00	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and electric drying	
2035	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Electric Dryer	BED	SF	LI	DI	0.0	0%	264.3	0.8	0.8	0.0	0.0	0.0	0.0	2,992	14	\$1,216.00	\$1,216.00	\$1.32	\$0.00	\$0.00	0.93	1.00	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and electric drying	
2036	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Electric Dryer	BED	SF	LI	DI	0.0	0%	289.2	0.9	0.9	0.0	0.0	0.0	0.0	2,992	14	\$1,277.00	\$1,277.00	\$1.32	\$0.00	\$0.00	0.93	1.00	32	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and electric drying
2037	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/NG Dryer	BED	SF	LI	DI	0.0	0%	104.7	0.3	0.3	0.3	0.0	0.0	0.0	2,244	14	\$855.00	\$855.00	\$1.32	\$0.00	\$0.00	0.83	1.00	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and natural gas drying
2038	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/NG Dryer	BED	SF	LI	DI	0.0	0%	163.6	0.5	0.5	0.3	0.0	0.0	0.0	2,992	14	\$1,216.00	\$1,216.00	\$1.32	\$0.00	\$0.00	0.82	1.00	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and natural gas drying
2039	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/NG Dryer	BED	SF	LI	DI	0.0	0%	170.3	0.5	0.5	0.4	0.0	0.0	0.0	2,992	14	\$1,277.00	\$1,277.00	\$1.32	\$0.00	\$0.00	0.80	1.00	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and natural gas drying
2040	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Propane Dryer	BED	SF	LI	DI	0.0	0%	104.7	0.3	0.3	0.0	0.0	0.3	0.0	2,244	14	\$855.00	\$855.00	\$1.32	\$0.00	\$0.00	0.89	1.00	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and propane drying
2041	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Propane Dryer	BED	SF	LI	DI	0.0	0%	163.6	0.5	0.5	0.0	0.0	0.3	0.0	2,992	14	\$1,216.00	\$1,216.00	\$1.32	\$0.00	\$0.00	0.88	1.00	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and propane drying
2042	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Propane Dryer	BED	SF	LI	DI	0.0	0%	170.3	0.5	0.5	0.0	0.0	0.4	0.0	2,992	14	\$1,277.00	\$1,277.00	\$1.32	\$0.00	\$0.00	0.87	1.00	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and propane drying
2043	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/Electric Dryer	BED	SF	LI	DI	0.0	0%	84.0	0.3	0.3	0.4	0.0	0.0	0.0	2,244	14	\$855.00	\$855.00	\$1.32	\$0.00	\$0.00	0.82	1.00	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and electric drying
2044	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/Electric Dryer	BED	SF	LI	DI	0.0	0%	96.3	0.3	0.3	0.7	0.0	0.0	0.0	2,992	14	\$1,216.00	\$1,216.00	\$1.32	\$0.00	\$0.00	0.77	1.00	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and electric drying
2045	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/Electric Dryer	BED	SF	LI	DI	0.0	0%	117.1	0.4	0.4	0.7	0.0	0.0	0.0	2,992	14	\$1,277.00	\$1,277.00	\$1.32	\$0.00	\$0.00	0.77	1.00	39	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and electric drying
2046	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/NG Dryer	BED	SF	LI	DI	0.0	0%	11.2	0.0	0.0	0.7	0.0	0.0	0.0	2,244	14	\$855.00	\$855.00	\$1.32	\$0.00	\$0.00	0.70							



Appendix B.3		BED Residential Measure Assumptions																											
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NC Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
2056	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/NG Dryer	BED	SF	LI	DI	0.0	0%	-4.4	0.0	0.0	0.3	1.1	0.0	0.0	2,992	14	\$1,216.00	\$1,216.00	\$1.32	\$0.00	\$0.00	0.92	1.00	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and natural gas drying
2057	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/NG Dryer	BED	SF	LI	DI	0.0	0%	-1.8	0.0	0.0	0.3	1.2	0.0	0.0	2,992	14	\$1,277.00	\$1,277.00	\$1.32	\$0.00	\$0.00	0.91	1.00	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and natural gas drying
2058	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/propane Dryer	BED	SF	LI	DI	0.0	0%	11.2	0.0	0.0	0.0	0.4	0.3	0.0	2,244	14	\$855.00	\$855.00	\$1.32	\$0.00	\$0.00	0.87	1.00	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and propane drying
2059	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/propane Dryer	BED	SF	LI	DI	0.0	0%	-4.4	0.0	0.0	0.0	1.1	0.3	0.0	2,992	14	\$1,216.00	\$1,216.00	\$1.32	\$0.00	\$0.00	0.96	1.00	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and propane drying
2060	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/propane Dryer	BED	SF	LI	DI	0.0	0%	-1.8	0.0	0.0	0.0	1.2	0.3	0.0	2,992	14	\$1,277.00	\$1,277.00	\$1.32	\$0.00	\$0.00	0.95	1.00	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and propane drying
2061	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Electric Dryer	BED	SF	All	NC	0.0	0%	177.6	0.6	0.6	0.0	0.0	0.0	0.0	2,244	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	19.23	0.70	0	0	2	2	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and electric drying
2062	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Electric Dryer	BED	SF	All	NC	0.0	0%	264.3	0.8	0.8	0.0	0.0	0.0	0.0	2,992	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	2.74	0.75	0	0	3	2	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and electric drying
2063	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Electric Dryer	BED	SF	All	NC	0.0	0%	289.2	0.9	0.9	0.0	0.0	0.0	0.0	2,992	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	2.48	1.15	19	19	10	5	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and electric drying
2064	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/NG Dryer	BED	SF	All	NC	0.0	0%	104.7	0.3	0.3	0.3	0.0	0.0	0.0	2,244	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	17.06	0.70	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and natural gas drying
2065	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/NG Dryer	BED	SF	All	NC	0.0	0%	163.6	0.5	0.5	0.3	0.0	0.0	0.0	2,992	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	2.44	0.75	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and natural gas drying
2066	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/NG Dryer	BED	SF	All	NC	0.0	0%	170.3	0.5	0.5	0.4	0.0	0.0	0.0	2,992	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	2.17	1.15	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and natural gas drying
2067	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Propane Dryer	BED	SF	All	NC	0.0	0%	104.7	0.3	0.3	0.0	0.0	0.3	0.0	2,244	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	18.16	0.70	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and propane drying
2068	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Propane Dryer	BED	SF	All	NC	0.0	0%	163.6	0.5	0.5	0.0	0.0	0.3	0.0	2,992	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	2.59	0.75	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and propane drying
2069	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Propane Dryer	BED	SF	All	NC	0.0	0%	170.3	0.5	0.5	0.0	0.0	0.4	0.0	2,992	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	2.33	1.15	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and propane drying
2070	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/Electric Dryer	BED	SF	All	NC	0.0	0%	84.0	0.3	0.3	0.4	0.0	0.0	0.0	2,244	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	16.86	0.70	0	0	3	3	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and electric drying
2071	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/Electric Dryer	BED	SF	All	NC	0.0	0%	96.3	0.3	0.3	0.7	0.0	0.0	0.0	2,992	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	2.31	0.75	0	0	3	2	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and electric drying
2072	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/Electric Dryer	BED	SF	All	NC	0.0	0%	117.1	0.4	0.4	0.7	0.0	0.0	0.0	2,992	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	2.10	1.15	23	23	12	7	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and electric drying
2073	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/NG Dryer	BED	SF	All	NC	0.0	0%	11.2	0.0	0.0	0.7	0.0	0.0	0.0	2,244	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	14.70	0.70	2	2	1	1	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and natural gas drying
2074	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/NG Dryer	BED	SF	All	NC	0.0	0%	-4.4	0.0	0.0	1.1	0.0	0.0	0.0	2,992	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	1.99	0.75	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and natural gas drying
2075	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/NG Dryer	BED	SF	All	NC	0.0	0%	-1.8	0.0	0.0	1.2	0.0	0.0	0.0	2,992	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	1.78	1.15	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and natural gas drying
2076	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/propane Dryer	BED	SF	All	NC	0.0	0%	11.2	0.0	0.0	0.4	0.0	0.3	0.0	2,244	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	15.79	0.70	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and propane drying
2077	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/propane Dryer	BED	SF	All	NC	0.0	0%	-4.4	0.0	0.0	1.1	0.0	0.3	0.0	2,992	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	2.23	0.75	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and propane drying
2078	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/propane Dryer	BED	SF	All	NC	0.0	0%	-1.8	0.0	0.0	1.2	0.0	0.3	0.0	2,992	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	1.99	1.15	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and propane drying
2079	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/Electric Dryer	BED	SF	All	NC	0.0	0%	84.0	0.3	0.3	0.0	0.4	0.0	0.0	2,244	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	18.97	0.70	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and electric drying
2080	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/Electric Dryer	BED	SF	All	NC	0.0	0%	96.3	0.3	0.3	0.0	0.7	0.0	0.0	2,992	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	2.70	0.75	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and electric drying
2081	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/Electric Dryer	BED	SF	All	NC	0.0	0%	117.1	0.4	0.4	0.0	0.7	0.0	0.0	2,992	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	2.44	1.15	3	3	1	1	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and electric drying
2082	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/NG Dryer	BED	SF	All	NC	0.0	0%	11.2	0.0	0.0	0.3	0.4	0.0	0.0	2,244	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	16.81	0.70	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and natural gas drying
2083	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/NG Dryer	BED	SF	All	NC	0.0	0%	-4.4	0.0	0.0	0.3	1.1	0.0	0.0	2,992	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	2.68	0.75	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and natural gas drying
2084	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/NG Dryer	BED	SF	All	NC	0.0	0%	-1.8	0.0	0.0	0.3	1.2	0.0	0.0	2,992	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	2.42	1.15	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and natural gas drying
2085	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/propane Dryer	BED	SF	All	NC	0.0	0%	11.2	0.0	0.0	0.0	0.4	0.3	0.0	2,244	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	17.90	0.70	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and propane drying
2086	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/propane Dryer	BED	SF	All	NC	0.0	0%	-4.4	0.0	0.0	0.0	1.1	0.3	0.0	2,992	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	2.79	0.75	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and propane drying
2087	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/propane Dryer	BED	SF	All	NC	0.0	0%	-1.8	0.0	0.0	0.0	1.2	0.3	0.0	2,992	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	2.52	1.15	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and propane drying
2088	Clothes Washer/Dryer	ENERGY STAR Electric Dryer	BED	SF	All	NC	0.0	0%	194.0	0.6	0.6	0.0	0.0	0.0	0.0	0	12	\$61.00	\$50.00	\$0.06	\$0.00	\$0.00	5.08	1.00	0	0	2	2	Installation of ENERGY STAR electric dryer
2089	Clothes Washer/Dryer	ENERGY STAR Gas Dryer	VGS	SF	All	NC	0.0	0%	36.0	0.1	0.1	0.2	0.0	0.0	0.0	0	12	\$61.00	\$50.00	\$0.06	\$0.00	\$0.00	1.45	1.00	0	0	0	0	Installation of ENERGY STAR gas dryer
2090	Clothes Washer/Dryer	Vented Hybrid Heat Pump Dryer	BED	SF	All	NC	0.0	0%	366.0	1.1	1.1	0.0	0.0	0.0	0.0	0	12	\$412.00	\$200.00	\$0.06	\$0.00	\$0.00	1.46	1.20	0	0	11	8	Installation of vented hybrid heat pump dryer
2091	Clothes Washer/Dryer	Ventless Hybrid Heat Pump Dryer	BED	SF	All	NC	0.0	0%	457.0	1.4	1.4	0.2	0.0	0.0	0.0	0	12	\$412.00	\$200.00	\$0.06	\$0.00	\$0.00	1.91	1.20	0	0	14	10	Installation of ventless hybrid heat pump dryer
2092	Clothes Washer/Dryer	Ventless Full Heat Pump Dryer	BED	SF	All	NC	0.0	0%	658.0	2.0	2.0	0.1	0.0	0.0	0.0	0	12	\$412.00	\$400.00	\$0.06	\$0.00	\$0.00	2.68	1.20	95	95	49	48	Installation of ventless full heat pump dryer



Appendix B.3		BED Residential Measure Assumptions																																															
							Base Annual Electric (kWh)		Per Unit Elec Savings (kWh)		Per Unit Summer NCP kW		Per Unit Winter NCP kW		Per unit NG Saving (MMBTu)		Per Unit Oil Savings (MMBTu)		Per Unit Propane Savings (MMBTu)		Per Unit Wood Savings (MMBTu)		Per Unit Water Savings (Gallons)		EE EUL		Measure Cost		Incentive Amount		Non-Incentive Cost (\$/kWh)		O&M Benefits		O&M Costs		Measure Level VT Societal		NTG Ratio		20 YR Technical Potential (MWh)		20 YR Economic Potential (MWh)		20 YR MAP (MWh)		20 YR RAP (MWh)		
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type																																									Measure Description		
2093	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Electric Dryer	BED	MF	NLI	MO	0.0	0%	146.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	1,795	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	15.98	0.95	0	0	11	9	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and electric drying																		
2094	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Electric Dryer	BED	MF	NLI	MO	0.0	0%	217.1	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	2,468	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	2.32	0.95	0	0	17	8	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and electric drying																		
2095	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Electric Dryer	BED	MF	NLI	MO	0.0	0%	237.6	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	2,468	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	2.09	0.95	96	96	42	19	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and electric drying																		
2096	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/NG Dryer	BED	MF	NLI	MO	0.0	0%	86.3	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	1,795	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	14.05	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and natural gas drying																		
2097	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/NG Dryer	BED	MF	NLI	MO	0.0	0%	134.4	0.5	0.5	0.3	0.0	0.0	0.0	0.0	0.0	2,468	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	2.04	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and natural gas drying																		
2098	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/NG Dryer	BED	MF	NLI	MO	0.0	0%	139.9	0.5	0.5	0.3	0.0	0.0	0.0	0.0	0.0	2,468	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	1.81	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and natural gas drying																		
2099	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Propane Dryer	BED	MF	NLI	MO	0.0	0%	86.3	0.3	0.3	0.0	0.0	0.2	0.0	0.0	0.0	1,795	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	14.97	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and propane drying																		
2100	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Propane Dryer	BED	MF	NLI	MO	0.0	0%	134.4	0.5	0.5	0.0	0.0	0.3	0.0	0.0	0.0	2,468	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	2.17	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and propane drying																		
2101	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Propane Dryer	BED	MF	NLI	MO	0.0	0%	139.9	0.5	0.5	0.0	0.0	0.3	0.0	0.0	0.0	2,468	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	1.94	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and propane drying																		
2102	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/Electric Dryer	BED	MF	NLI	MO	0.0	0%	69.5	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	1,795	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	13.83	0.95	0	0	16	13	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and electric drying																		
2103	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/Electric Dryer	BED	MF	NLI	MO	0.0	0%	79.1	0.3	0.3	0.6	0.0	0.0	0.0	0.0	0.0	2,468	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	1.92	0.95	0	0	18	9	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and electric drying																		
2104	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/Electric Dryer	BED	MF	NLI	MO	0.0	0%	96.2	0.4	0.4	0.6	0.0	0.0	0.0	0.0	0.0	2,468	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	1.75	0.95	116	116	50	23	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and electric drying																		
2105	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/NG Dryer	BED	MF	NLI	MO	0.0	0%	9.2	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	1,795	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	11.90	0.95	12	12	10	8	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and natural gas drying																		
2106	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/NG Dryer	BED	MF	NLI	MO	0.0	0%	-3.6	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	2,468	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	1.64	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and natural gas drying																		
2107	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/NG Dryer	BED	MF	NLI	MO	0.0	0%	-1.5	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	2,468	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	1.47	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and natural gas drying																		
2108	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/propane Dryer	BED	MF	NLI	MO	0.0	0%	9.2	0.0	0.0	0.3	0.0	0.2	0.0	0.0	0.0	1,795	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	12.82	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and propane drying																		
2109	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/propane Dryer	BED	MF	NLI	MO	0.0	0%	-3.6	0.0	0.0	0.6	0.0	0.3	0.0	0.0	0.0	2,468	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	1.77	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and propane drying																		
2110	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/propane Dryer	BED	MF	NLI	MO	0.0	0%	-1.5	0.0	0.0	0.6	0.0	0.3	0.0	0.0	0.0	2,468	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	1.59	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and propane drying																		
2111	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/Electric Dryer	BED	MF	NLI	MO	0.0	0%	69.5	0.3	0.3	0.0	0.3	0.0	0.0	0.0	0.0	1,795	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	15.57	0.95	0	0	2	1	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and electric drying																		
2112	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/Electric Dryer	BED	MF	NLI	MO	0.0	0%	79.1	0.3	0.3	0.0	0.6	0.0	0.0	0.0	0.0	2,468	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	2.24	0.95	0	0	2	1	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and electric drying																		
2113	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/Electric Dryer	BED	MF	NLI	MO	0.0	0%	96.2	0.4	0.4	0.0	0.6	0.0	0.0	0.0	0.0	2,468	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	2.03	0.95	13	13	6	3	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and electric drying																		
2114	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/NG Dryer	BED	MF	NLI	MO	0.0	0%	9.2	0.0	0.0	0.2	0.3	0.0	0.0	0.0	0.0	1,795	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	13.64	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and natural gas drying																		
2115	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/NG Dryer	BED	MF	NLI	MO	0.0	0%	-3.6	0.0	0.0	0.3	0.6	0.0	0.0	0.0	0.0	2,468	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	1.95	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and natural gas drying																		
2116	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/NG Dryer	BED	MF	NLI	MO	0.0	0%	-1.5	0.0	0.0	0.3	0.6	0.0	0.0	0.0	0.0	2,468	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	1.75	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and natural gas drying																		
2117	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/propane Dryer	BED	MF	NLI	MO	0.0	0%	9.2	0.0	0.0	0.0	0.3	0.2	0.0	0.0	0.0	1,795	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	14.56	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and propane drying																		
2118	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/propane Dryer	BED	MF																																													

Appendix B.3		BED Residential Measure Assumptions																												
							Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type																								
2131	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/NG Dryer	BED	MF	LI	DI	0.0	0%	139.9	0.5	0.5	0.3	0.0	0.0	0.0	2,468	14	\$1,277.00	\$1,277.00	\$1.32	\$0.00	\$0.00	0.67	1.00	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and natural gas drying	
2132	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Propane Dryer	BED	MF	LI	DI	0.0	0%	86.3	0.3	0.3	0.0	0.0	0.2	0.0	1,795	14	\$855.00	\$855.00	\$1.32	\$0.00	\$0.00	0.73	1.00	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and propane drying	
2133	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Propane Dryer	BED	MF	LI	DI	0.0	0%	134.4	0.5	0.5	0.0	0.0	0.3	0.0	2,468	14	\$1,216.00	\$1,216.00	\$1.32	\$0.00	\$0.00	0.73	1.00	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and propane drying	
2134	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Propane Dryer	BED	MF	LI	DI	0.0	0%	139.9	0.5	0.5	0.0	0.0	0.3	0.0	2,468	14	\$1,277.00	\$1,277.00	\$1.32	\$0.00	\$0.00	0.73	1.00	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and propane drying	
2135	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/Electric Dryer	BED	MF	LI	DI	0.0	0%	69.5	0.3	0.3	0.3	0.0	0.0	0.0	1,795	14	\$855.00	\$855.00	\$1.32	\$0.00	\$0.00	0.67	1.00	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and electric drying	
2136	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/Electric Dryer	BED	MF	LI	DI	0.0	0%	79.1	0.3	0.3	0.6	0.0	0.0	0.0	2,468	14	\$1,216.00	\$1,216.00	\$1.32	\$0.00	\$0.00	0.64	1.00	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and electric drying	
2137	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/Electric Dryer	BED	MF	LI	DI	0.0	0%	96.2	0.4	0.4	0.6	0.0	0.0	0.0	2,468	14	\$1,277.00	\$1,277.00	\$1.32	\$0.00	\$0.00	0.65	1.00	21	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and electric drying
2138	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/NG Dryer	BED	MF	LI	DI	0.0	0%	9.2	0.0	0.0	0.5	0.0	0.0	0.0	1,795	14	\$855.00	\$855.00	\$1.32	\$0.00	\$0.00	0.57	1.00	2	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and natural gas drying
2139	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/NG Dryer	BED	MF	LI	DI	0.0	0%	-3.6	0.0	0.0	0.9	0.0	0.0	0.0	2,468	14	\$1,216.00	\$1,216.00	\$1.32	\$0.00	\$0.00	0.55	1.00	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and natural gas drying
2140	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/NG Dryer	BED	MF	LI	DI	0.0	0%	-1.5	0.0	0.0	0.9	0.0	0.0	0.0	2,468	14	\$1,277.00	\$1,277.00	\$1.32	\$0.00	\$0.00	0.54	1.00	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and natural gas drying
2141	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/propane Dryer	BED	MF	LI	DI	0.0	0%	9.2	0.0	0.0	0.3	0.0	0.2	0.0	1,795	14	\$855.00	\$855.00	\$1.32	\$0.00	\$0.00	0.62	1.00	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and propane drying
2142	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/propane Dryer	BED	MF	LI	DI	0.0	0%	-3.6	0.0	0.0	0.6	0.0	0.3	0.0	2,468	14	\$1,216.00	\$1,216.00	\$1.32	\$0.00	\$0.00	0.60	1.00	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and propane drying
2143	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/propane Dryer	BED	MF	LI	DI	0.0	0%	-1.5	0.0	0.0	0.6	0.0	0.3	0.0	2,468	14	\$1,277.00	\$1,277.00	\$1.32	\$0.00	\$0.00	0.59	1.00	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and propane drying
2144	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/Electric Dryer	BED	MF	LI	DI	0.0	0%	69.5	0.3	0.3	0.0	0.3	0.0	0.0	1,795	14	\$855.00	\$855.00	\$1.32	\$0.00	\$0.00	0.76	1.00	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and electric drying
2145	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/Electric Dryer	BED	MF	LI	DI	0.0	0%	79.1	0.3	0.3	0.0	0.6	0.0	0.0	2,468	14	\$1,216.00	\$1,216.00	\$1.32	\$0.00	\$0.00	0.76	1.00	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and electric drying
2146	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/Electric Dryer	BED	MF	LI	DI	0.0	0%	96.2	0.4	0.4	0.0	0.6	0.0	0.0	2,468	14	\$1,277.00	\$1,277.00	\$1.32	\$0.00	\$0.00	0.76	1.00	2	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and electric drying
2147	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/NG Dryer	BED	MF	LI	DI	0.0	0%	9.2	0.0	0.0	0.2	0.3	0.0	0.0	1,795	14	\$855.00	\$855.00	\$1.32	\$0.00	\$0.00	0.66	1.00	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and natural gas drying
2148	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/NG Dryer	BED	MF	LI	DI	0.0	0%	-3.6	0.0	0.0	0.3	0.6	0.0	0.0	2,468	14	\$1,216.00	\$1,216.00	\$1.32	\$0.00	\$0.00	0.66	1.00	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and natural gas drying
2149	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/NG Dryer	BED	MF	LI	DI	0.0	0%	-1.5	0.0	0.0	0.3	0.6	0.0	0.0	2,468	14	\$1,277.00	\$1,277.00	\$1.32	\$0.00	\$0.00	0.65	1.00	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and natural gas drying
2150	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/propane Dryer	BED	MF	LI	DI	0.0	0%	9.2	0.0	0.0	0.0	0.3	0.2	0.0	1,795	14	\$855.00	\$855.00	\$1.32	\$0.00	\$0.00	0.71	1.00	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and propane drying
2151	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/propane Dryer	BED	MF	LI	DI	0.0	0%	-3.6	0.0	0.0	0.0	0.6	0.3	0.0	2,468	14	\$1,216.00	\$1,216.00	\$1.32	\$0.00	\$0.00	0.71	1.00	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and propane drying
2152	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/propane Dryer	BED	MF	LI	DI	0.0	0%	-1.5	0.0	0.0	0.0	0.6	0.3	0.0	2,468	14	\$1,277.00	\$1,277.00	\$1.32	\$0.00	\$0.00	0.70	1.00	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and propane drying
2153	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Electric Dryer - CA	BED	MF	All	MO	0.0	0%	2,492.2	9.4	9.4	0.0	0.0	0.0	0.0	30,518	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	271.63	0.95	0	0	12	10	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and electric drying	
2154	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Electric Dryer - CA	BED	MF	All	MO	0.0	0%	3,690.7	14.0	14.0	0.0	0.0	0.0	0.0	41,963	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	39.37	0.95	0	0	18	8	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and electric drying	
2155	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Electric Dryer - CA	BED	MF	All	MO	0.0	0%	4,039.2	15.3	15.3	0.0	0.0	0.0	0.0	41,963	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	35.61	0.95	101	101	44	20	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and electric drying	
2156	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/NG Dryer - CA	BED	MF	All	MO	0.0	0%	1,467.1	5.5	5.5	3.6	0.0	0.0	0.0	30,518	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	238.77	0.95	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and natural gas drying
2157	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/NG Dryer - CA	BED	MF	All	MO	0.0	0%	2,284.8	8.6	8.6	4.8	0.0	0.0	0.0	41,963	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	34.71	0.95	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and natural gas drying
2158	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/NG Dryer - CA	BED	MF	All	MO	0.0	0%	2,378.3	9.0	9.0	5.6	0.0	0.0	0.0	41,963	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	30.85	0.95	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and natural gas drying
2159	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Propane Dryer - CA	BED	MF	All	MO	0.0	0%	1,467.1	5.5	5.5	0.0	0.0	3.6	0.0	30,518	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	254.46	0.95	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and propane drying
2160	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Propane Dryer - CA	BED	MF	All	MO	0.0	0%	2,284.8	8.6	8.6	0.0	0.0	4.8	0.0	41,963	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	36.83	0.95	0	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and propane drying
2161	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Propane Dryer - CA	BED	MF	All	MO	0.0	0%	2,378.3	9.0	9.0	0.0	0.0	5.6	0.0	4														

Appendix B.3		BED Residential Measure Assumptions																											
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
2165	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/NG Dryer - CA	BED	MF	All	MO	0.0	0%	156.4	0.6	0.6	9.2	0.0	0.0	0.0	30,518	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	202.23	0.95	13	13	11	9	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and natural gas drying
2166	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/NG Dryer - CA	BED	MF	All	MO	0.0	0%	-61.2	-0.2	-0.2	15.0	0.0	0.0	0.0	41,963	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	21.63	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and natural gas drying
2167	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/NG Dryer - CA	BED	MF	All	MO	0.0	0%	-25.5	-0.1	-0.1	16.0	0.0	0.0	0.0	41,963	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	22.51	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and natural gas drying
2168	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/propane Dryer - CA	BED	MF	All	MO	0.0	0%	156.4	0.6	0.6	5.6	0.0	3.6	0.0	30,518	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	217.91	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and propane drying
2169	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/propane Dryer - CA	BED	MF	All	MO	0.0	0%	-61.2	-0.2	-0.2	10.2	0.0	4.8	0.0	41,963	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	23.25	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and propane drying
2170	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/propane Dryer - CA	BED	MF	All	MO	0.0	0%	-25.5	-0.1	-0.1	10.4	0.0	5.6	0.0	41,963	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	24.45	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and propane drying
2171	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/Electric Dryer - CA	BED	MF	All	MO	0.0	0%	1,181.5	4.5	4.5	0.0	5.6	0.0	0.0	30,518	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	264.69	0.95	0	0	2	2	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and electric drying
2172	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/Electric Dryer - CA	BED	MF	All	MO	0.0	0%	1,344.7	5.1	5.1	0.0	10.0	0.0	0.0	41,963	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	38.08	0.95	0	0	2	1	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and electric drying
2173	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/Electric Dryer - CA	BED	MF	All	MO	0.0	0%	1,635.4	6.2	6.2	0.0	10.4	0.0	0.0	41,963	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	34.57	0.95	13	13	6	3	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and electric drying
2174	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/NG Dryer - CA	BED	MF	All	MO	0.0	0%	156.4	0.6	0.6	3.6	5.6	0.0	0.0	30,518	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	231.84	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and natural gas drying
2175	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/NG Dryer - CA	BED	MF	All	MO	0.0	0%	-61.2	-0.2	-0.2	4.8	10.0	0.0	0.0	41,963	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	25.66	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and natural gas drying
2176	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/NG Dryer - CA	BED	MF	All	MO	0.0	0%	-25.5	-0.1	-0.1	5.6	10.4	0.0	0.0	41,963	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	26.83	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and natural gas drying
2177	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/propane Dryer - CA	BED	MF	All	MO	0.0	0%	156.4	0.6	0.6	0.0	5.6	3.6	0.0	30,518	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	247.52	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and propane drying
2178	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/propane Dryer - CA	BED	MF	All	MO	0.0	0%	-61.2	-0.2	-0.2	0.0	10.0	4.8	0.0	41,963	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	27.27	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and propane drying
2179	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/propane Dryer - CA	BED	MF	All	MO	0.0	0%	-25.5	-0.1	-0.1	0.0	10.4	5.6	0.0	41,963	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	28.78	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and propane drying
2180	Clothes Washer/Dryer	ENERGY STAR Dryer F5 - CA	BED	MF	All	MO	0.0	0%	16,609.0	81.6	81.6	-56.6	0.0	0.0	0.0	0	14	\$580.00	\$200.00	\$0.06	\$0.00	\$0.00	2.93	0.70	785	785	472	250	Replacement of an electric clothes dryer with a fossil fuel based clothes dryer - common area
2181	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Electric Dryer	BED	MF	All	NC	0.0	0%	146.6	0.6	0.6	0.0	0.0	0.0	0.0	1,795	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	15.98	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and electric drying
2182	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Electric Dryer	BED	MF	All	NC	0.0	0%	217.1	0.8	0.8	0.0	0.0	0.0	0.0	2,468	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	2.32	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and electric drying
2183	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Electric Dryer	BED	MF	All	NC	0.0	0%	237.6	0.9	0.9	0.0	0.0	0.0	0.0	2,468	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	2.09	0.95	3	3	1	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and electric drying
2184	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/NG Dryer	BED	MF	All	NC	0.0	0%	86.3	0.3	0.3	0.2	0.0	0.0	0.0	1,795	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	14.05	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and natural gas drying
2185	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/NG Dryer	BED	MF	All	NC	0.0	0%	134.4	0.5	0.5	0.3	0.0	0.0	0.0	2,468	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	2.04	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and natural gas drying
2186	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/NG Dryer	BED	MF	All	NC	0.0	0%	139.9	0.5	0.5	0.3	0.0	0.0	0.0	2,468	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	1.81	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and natural gas drying
2187	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Propane Dryer	BED	MF	All	NC	0.0	0%	86.3	0.3	0.3	0.0	0.0	0.2	0.0	1,795	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	14.97	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and propane drying
2188	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Propane Dryer	BED	MF	All	NC	0.0	0%	134.4	0.5	0.5	0.0	0.0	0.3	0.0	2,468	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	2.17	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and propane drying
2189	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Propane Dryer	BED	MF	All	NC	0.0	0%	139.9	0.5	0.5	0.0	0.0	0.3	0.0	2,468	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	1.94	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and propane drying
2190	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/Electric Dryer	BED	MF	All	NC	0.0	0%	69.5	0.3	0.3	0.3	0.0	0.0	0.0	1,795	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	13.83	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and electric drying
2191	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/Electric Dryer	BED	MF	All	NC	0.0	0%	79.1	0.3	0.3	0.6	0.0	0.0	0.0	2,468	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	1.92	0.95	0	0	1	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and electric drying
2192	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/Electric Dryer	BED	MF	All	NC	0.0	0%	96.2	0.4	0.4	0.6	0.0	0.0	0.0	2,468	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	1.75	0.95	3	3	1	1	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and electric drying
2193	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/NG Dryer	BED	MF	All	NC	0.0	0%	9.2	0.0	0.0	0.5	0.0	0.0	0.0	1,795	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	11.90	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and natural gas drying
2194	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/NG Dryer	BED	MF	All	NC	0.0	0%	-3.6	0.0	0.0	0.9	0.0	0.0	0.0	2,468	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	1.64	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and natural gas drying
2195	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/NG Dryer	BED	MF	All	NC	0.0	0%	-1.5	0.0	0.0	0.9	0.0	0.0	0.0	2,468	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	1.47	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and natural gas drying
2196	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/propane Dryer	BED	MF	All	NC	0.0	0%	9.2	0.0	0.0	0.3	0.0	0.2	0.0	1,795	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	12.82	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and propane drying
2197	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/propane Dryer	BED	MF	All	NC	0.0	0%	-3.6	0.0	0.0	0.6	0.0	0.3	0.0	2,468	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	1.77	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and propane drying
2198	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/propane Dryer	BED	MF	All	NC	0.0	0%	-1.5	0.0	0.0	0.6	0.0	0.3	0.0	2,468	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	1.59	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and propane drying

Appendix B.3		BED Residential Measure Assumptions																											
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
2199	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/Electric Dryer	BED	MF	All	NC	0.0	0%	69.5	0.3	0.3	0.0	0.3	0.0	0.0	1,795	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	15.57	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and electric drying
2200	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/Electric Dryer	BED	MF	All	NC	0.0	0%	79.1	0.3	0.3	0.0	0.6	0.0	0.0	2,468	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	2.24	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and electric drying
2201	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/Electric Dryer	BED	MF	All	NC	0.0	0%	96.2	0.4	0.4	0.0	0.6	0.0	0.0	2,468	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	2.03	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and electric drying
2202	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/NG Dryer	BED	MF	All	NC	0.0	0%	9.2	0.0	0.0	0.2	0.3	0.0	0.0	1,795	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	13.64	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and natural gas drying
2203	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/NG Dryer	BED	MF	All	NC	0.0	0%	-3.6	0.0	0.0	0.3	0.6	0.0	0.0	2,468	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	1.95	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and natural gas drying
2204	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/NG Dryer	BED	MF	All	NC	0.0	0%	-1.5	0.0	0.0	0.3	0.6	0.0	0.0	2,468	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	1.75	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and natural gas drying
2205	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/propane Dryer	BED	MF	All	NC	0.0	0%	9.2	0.0	0.0	0.0	0.3	0.2	0.0	1,795	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	14.56	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and propane drying
2206	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/propane Dryer	BED	MF	All	NC	0.0	0%	-3.6	0.0	0.0	0.0	0.6	0.3	0.0	2,468	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	2.07	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and propane drying
2207	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/propane Dryer	BED	MF	All	NC	0.0	0%	-1.5	0.0	0.0	0.0	0.6	0.3	0.0	2,468	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	1.87	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and propane drying
2208	Clothes Washer/Dryer	ENERGY STAR Electric Dryer	BED	MF	All	NC	0.0	0%	194.0	0.6	0.6	0.0	0.0	0.0	0.0	0	12	\$61.00	\$50.00	\$0.06	\$0.00	\$0.00	5.08	1.00	0	0	3	2	Installation of ENERGY STAR electric dryer
2209	Clothes Washer/Dryer	ENERGY STAR Gas Dryer	VGS	MF	All	NC	0.0	0%	36.0	0.1	0.1	0.2	0.0	0.0	0.0	0	12	\$61.00	\$50.00	\$0.06	\$0.00	\$0.00	1.45	1.00	0	0	0	0	Installation of ENERGY STAR gas dryer
2210	Clothes Washer/Dryer	Vented Hybrid Heat Pump Dryer	BED	MF	All	NC	0.0	0%	366.0	1.1	1.1	0.0	0.0	0.0	0.0	0	12	\$412.00	\$200.00	\$0.06	\$0.00	\$0.00	1.46	1.20	0	0	13	7	Installation of vented hybrid heat pump dryer
2211	Clothes Washer/Dryer	Ventless Hybrid Heat Pump Dryer	BED	MF	All	NC	0.0	0%	457.0	1.4	1.4	0.2	0.0	0.0	0.0	0	12	\$412.00	\$200.00	\$0.06	\$0.00	\$0.00	1.91	1.20	0	0	16	9	Installation of ventless hybrid heat pump dryer
2212	Clothes Washer/Dryer	Ventless Full Heat Pump Dryer	BED	MF	All	NC	0.0	0%	658.0	2.0	2.0	0.1	0.0	0.0	0.0	0	12	\$412.00	\$400.00	\$0.06	\$0.00	\$0.00	2.68	1.20	109	109	56	45	Installation of ventless full heat pump dryer
2213	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Electric Dryer - CA	BED	MF	All	NC	0.0	0%	4,251.4	16.1	16.1	0.0	0.0	0.0	0.0	52,061	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	463.37	0.95	0	0	2	1	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and electric drying
2214	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Electric Dryer - CA	BED	MF	All	NC	0.0	0%	6,295.9	23.8	23.8	0.0	0.0	0.0	0.0	71,584	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	67.15	0.95	0	0	2	1	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and electric drying
2215	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Electric Dryer - CA	BED	MF	All	NC	0.0	0%	6,890.4	26.0	26.0	0.0	0.0	0.0	0.0	71,584	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	60.75	0.95	13	13	5	3	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and electric drying
2216	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/NG Dryer - CA	BED	MF	All	NC	0.0	0%	2,502.7	9.5	9.5	6.1	0.0	0.0	0.0	52,061	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	407.32	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and natural gas drying
2217	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/NG Dryer - CA	BED	MF	All	NC	0.0	0%	3,897.6	14.7	14.7	8.1	0.0	0.0	0.0	71,584	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	59.20	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and natural gas drying
2218	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/NG Dryer - CA	BED	MF	All	NC	0.0	0%	4,057.1	15.3	15.3	9.6	0.0	0.0	0.0	71,584	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	52.62	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and natural gas drying
2219	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Electric WH/Propane Dryer - CA	BED	MF	All	NC	0.0	0%	2,502.7	9.5	9.5	0.0	0.0	6.1	0.0	52,061	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	434.07	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with electric water heating and propane drying
2220	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Electric WH/Propane Dryer - CA	BED	MF	All	NC	0.0	0%	3,897.6	14.7	14.7	0.0	0.0	8.1	0.0	71,584	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	62.83	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with electric water heating and propane drying
2221	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Electric WH/Propane Dryer - CA	BED	MF	All	NC	0.0	0%	4,057.1	15.3	15.3	0.0	0.0	9.6	0.0	71,584	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	56.32	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with electric water heating and propane drying
2222	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/Electric Dryer - CA	BED	MF	All	NC	0.0	0%	2,015.5	7.6	7.6	9.6	0.0	0.0	0.0	52,061	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	401.03	0.95	0	0	2	2	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and electric drying
2223	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/Electric Dryer - CA	BED	MF	All	NC	0.0	0%	2,293.9	8.7	8.7	17.1	0.0	0.0	0.0	71,584	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	55.77	0.95	0	0	3	1	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and electric drying
2224	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/Electric Dryer - CA	BED	MF	All	NC	0.0	0%	2,789.8	10.6	10.6	17.7	0.0	0.0	0.0	71,584	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	50.74	0.95	16	16	6	3	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and electric drying
2225	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/NG Dryer - CA	BED	MF	All	NC	0.0	0%	266.8	1.0	1.0	15.7	0.0	0.0	0.0	52,061	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	344.98	0.95	2	2	1	1	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and natural gas drying
2226	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/NG Dryer - CA	BED	MF	All	NC	0.0	0%	-104.4	-0.4	-0.4	25.5	0.0	0.0	0.0	71,584	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	31.56	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and natural gas drying
2227	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/NG Dryer - CA	BED	MF	All	NC	0.0	0%	-43.5	-0.2	-0.2	27.3	0.0	0.0	0.0	71,584	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	35.80	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and natural gas drying
2228	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; NG WH/propane Dryer - CA	BED	MF	All	NC	0.0	0%	266.8	1.0	1.0	9.6	0.0	6.1	0.0	52,061	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	371.73	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with natural gas water heating and propane drying
2229	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; NG WH/propane Dryer - CA	BED	MF	All	NC	0.0	0%	-104.4	-0.4	-0.4	17.4	0.0	8.1	0.0	71,584	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	33.92	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with natural gas water heating and propane drying
2230	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; NG WH/propane Dryer - CA	BED	MF	All	NC	0.0	0%	-43.5	-0.2	-0.2	17.7	0.0	9.6	0.0	71,584	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	38.90	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with natural gas water heating and propane drying
2231	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/Electric Dryer - CA	BED	MF	All	NC	0.0	0%	2,015.5	7.6	7.6	0.0	9.6	0.0	0.0	52,061	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	451.54	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and electric drying
2232	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/Electric Dryer - CA	BED	MF	All	NC	0.0	0%	2,293.9	8.7	8.7	0.0	17.1	0.0	0.0	71,584	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	64.96	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and electric drying
2233	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/Electric Dryer - CA	BED	MF	All	NC	0.0	0%	2,789.8	10.6	10.6	0.0	17.7	0.0	0.0	71,584	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	58.97	0.95	2	2	1	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and electric drying
2234	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/NG Dryer - CA	BED	MF	All	NC	0.0	0%	266.8	1.0	1.0	6.1	9.6	0.0	0.0	52,061	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	395.49	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and natural gas drying
2235	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/NG Dryer - CA	BED	MF	All	NC	0.0	0%	-104.4	-0.4	-0.4	8.1	17.1	0.0	0.0	71,584	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	37.44	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and natural gas drying



Appendix B.3		BED Residential Measure Assumptions																															
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR	20 YR	20 YR	20 YR	Measure Description				
																									Potential (MWh)	Economic Potential (MWh)	MAP (MWh)	RAP (MWh)					
2236	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/NG Dryer - CA	BED	MF	All	NC	0.0	0%	-43.5	-0.2	-0.2	9.6	17.7	0.0	0.0	71,584	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	42.68	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and natural gas drying				
2237	Clothes Washer/Dryer	Clothes Washer (Energy Star) ; Oil/other WH/propane Dryer - CA	BED	MF	All	NC	0.0	0%	266.8	1.0	1.0	0.0	9.6	6.1	0.0	52,061	14	\$32.00	\$40.00	\$0.06	\$0.00	\$0.00	422.24	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR / CEE Tier 1, in homes with oil water heating and propane drying				
2238	Clothes Washer/Dryer	Clothes Washer (CEE Tier 2) ; Oil/other WH/propane Dryer - CA	BED	MF	All	NC	0.0	0%	-104.4	-0.4	-0.4	0.0	17.1	8.1	0.0	71,584	14	\$393.00	\$75.00	\$0.06	\$0.00	\$0.00	39.80	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 2, in homes with oil water heating and propane drying				
2239	Clothes Washer/Dryer	Clothes Washer (CEE Tier 3) ; Oil/other WH/propane Dryer - CA	BED	MF	All	NC	0.0	0%	-43.5	-0.2	-0.2	0.0	17.7	9.6	0.0	71,584	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	45.78	0.95	0	0	0	0	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3, in homes with oil water heating and propane drying				
3000	Dishwasher	ENERGY STAR Dishwasher - electric water heating	BED	SF	All	MO	307.0	12%	37.0	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.06	\$0.00	\$0.00	4.50	0.70	20	20	12	8	Installation of ENERGY STAR dishwasher in home with electric water heating				
3001	Dishwasher	ENERGY STAR Dishwasher - gas water heating	BED	SF	All	MO	135.1	12%	16.3	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.06	\$0.00	\$0.00	2.56	0.70	79	79	48	32	Installation of ENERGY STAR dishwasher in home with gas water heating				
3002	Dishwasher	ENERGY STAR Dishwasher - other water heating	BED	SF	All	MO	135.1	12%	16.3	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.06	\$0.00	\$0.00	2.40	0.70	4	4	3	2	Installation of ENERGY STAR dishwasher in home with fuel water heating				
3003	Dishwasher	ENERGY STAR Dishwasher - electric water heating	BED	SF	All	NC	307.0	12%	37.0	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.06	\$0.00	\$0.00	4.50	1.00	2	2	1	1	Installation of ENERGY STAR dishwasher in home with electric water heating				
3004	Dishwasher	ENERGY STAR Dishwasher - gas water heating	BED	SF	All	NC	135.1	12%	16.3	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.06	\$0.00	\$0.00	2.56	1.00	7	7	6	4	Installation of ENERGY STAR dishwasher in home with gas water heating				
3005	Dishwasher	ENERGY STAR Dishwasher - other water heating	BED	SF	All	NC	135.1	12%	16.3	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.06	\$0.00	\$0.00	2.40	1.00	0	0	0	0	Installation of ENERGY STAR dishwasher in home with fuel water heating				
3006	Dishwasher	ENERGY STAR Dishwasher - electric water heating	BED	MF	All	MO	307.0	12%	37.0	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.06	\$0.00	\$0.00	4.50	1.00	37	37	32	18	Installation of ENERGY STAR dishwasher in home with electric water heating				
3007	Dishwasher	ENERGY STAR Dishwasher - gas water heating	BED	MF	All	MO	135.1	12%	16.3	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.06	\$0.00	\$0.00	2.56	1.00	25	25	21	12	Installation of ENERGY STAR dishwasher in home with gas water heating				
3008	Dishwasher	ENERGY STAR Dishwasher - other water heating	BED	MF	All	MO	135.1	12%	16.3	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.06	\$0.00	\$0.00	2.40	1.00	25	25	21	12	Installation of ENERGY STAR dishwasher in home with fuel water heating				
3009	Dishwasher	ENERGY STAR Dishwasher - electric water heating	BED	MF	All	NC	307.0	12%	37.0	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.06	\$0.00	\$0.00	4.50	1.00	3	3	3	1	Installation of ENERGY STAR dishwasher in home with electric water heating				
3010	Dishwasher	ENERGY STAR Dishwasher - gas water heating	BED	MF	All	NC	135.1	12%	16.3	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.06	\$0.00	\$0.00	2.56	1.00	2	2	2	1	Installation of ENERGY STAR dishwasher in home with gas water heating				
3011	Dishwasher	ENERGY STAR Dishwasher - other water heating	BED	MF	All	NC	135.1	12%	16.3	0.1	0.1	0.0	0.0	0.0	0.0	210	13	\$50.00	\$20.00	\$0.06	\$0.00	\$0.00	2.40	1.00	2	2	2	1	Installation of ENERGY STAR dishwasher in home with fuel water heating				
4000	Electronics	Ultraefficient LCD Monitors	BED	SF	All	MO	65.8	25%	16.4	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$2.60	\$6.00	\$0.06	\$0.00	\$0.00	1.30	1.00	58	58	46	46	Installation of LED monitor that meets/exceeds Energy Star Version 7.0				
4001	Electronics	Televisions (Energy Star 7.0)	BED	SF	All	MO	240.0	25%	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0	6	\$14.30	\$6.00	\$0.06	\$0.00	\$0.00	3.48	1.00	0	0	0	0	Installation of television which meets or exceeds ENERGY STAR Version 7.0				
4002	Electronics	Televisions (4K UHD Energy Star 7.0)	BED	SF	All	MO	230.8	25%	57.7	0.0	0.0	0.0	0.0	0.0	0.0	0	6	\$14.30	\$6.00	\$0.06	\$0.00	\$0.00	3.33	1.00	654	654	522	384	Installation of television which meets or exceeds ENERGY STAR Version 7.0				
4003	Electronics	Tier 1 Powerstrips - home offices	BED	SF	NU	MO	197.9	19%	38.4	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$15.00	\$7.00	\$0.06	\$0.00	\$0.00	1.41	0.90	117	117	84	56	Installation of controlled power strip (Tier 1) in home offices				
4004	Electronics	Tier 2 Powerstrips - home entertainment centers	BED	SF	NU	MO	678.4	51%	346.0	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$70.00	\$7.00	\$0.06	\$0.00	\$0.00	2.65	0.90	1,380	1,380	992	505	Installation of controlled power strip (Tier 2) in home entertainment centers				
4005	Electronics	Desktop Computers	BED	SF	All	MO	48.4	12%	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$20.00	\$7.00	\$0.06	\$0.00	\$0.00	0.13	1.00	0	0	0	0	Installation of a desktop computer with ENERGY STAR Version 6.0 rating				
4006	Electronics	Desktop Computers w/ 80 PLUS	BED	SF	All	MO	48.4	16%	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$25.00	\$7.00	\$0.06	\$0.00	\$0.00	0.15	1.00	34	0	0	0	Installation of a desktop computer with ENERGY STAR Version 6.0 rating with an 80 PLUS PSU				
4007	Electronics	Sound Bars	BED	SF	All	MO	48.7	49%	24.0	0.0	0.0	0.0	0.0	0.0	0.0	0	5	\$5.00	\$5.00	\$0.06	\$0.00	\$0.00	2.76	1.00	40	40	32	32	Installation of ENERGY STAR + 50% sound bar				
4008	Electronics	Room Air Cleaners	BED	SF	All	MO	531.0	40%	213.9	0.0	0.0	0.0	0.0	0.0	0.0	0	9	\$50.00	\$40.00	\$0.06	\$0.00	\$0.00	5.35	1.00	202	202	161	135	Installation of ENERGY STAR air purifier				
4009	Electronics	Ultraefficient LCD Monitors	BED	SF	All	NC	65.8	25%	16.4	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$2.60	\$6.00	\$0.06	\$0.00	\$0.00	1.30	1.00	4	4	3	3	Installation of LED monitor that meets/exceeds Energy Star Version 7.0				
4010	Electronics	Televisions (Energy Star 7.0)	BED	SF	All	NC	240.0	25%	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0	6	\$14.30	\$6.00	\$0.06	\$0.00	\$0.00	3.48	1.00	0	0	0	0	Installation of television which meets or exceeds ENERGY STAR Version 7.0				
4011	Electronics	Televisions (4K UHD Energy Star 7.0)	BED	SF	All	NC	230.8	25%	57.7	0.0	0.0	0.0	0.0	0.0	0.0	0	6	\$14.30	\$6.00	\$0.06	\$0.00	\$0.00	3.33	1.00	63	63	50	3					



Appendix B.3		BED Residential Measure Assumptions																											
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
5027	Hot Water	Tankless whole-house water heater - 0.82 EF	VGS	SF	All	MO	0.0	0%	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0	13	\$605.00	\$300.00	\$0.31	\$0.00	\$0.00	1.03	1.00	0	0	0	0	Installation of high efficiency tankless water heater (EF 0.82) in homes with gas water heating
5028	Hot Water	Tankless whole-house water heater - 0.90 EF	VGS	SF	All	MO	0.0	0%	0.0	0.0	0.0	4.3	0.0	0.0	0.0	0	13	\$1,050.00	\$500.00	\$0.31	\$0.00	\$0.00	0.80	1.00	0	0	0	0	Installation of high efficiency tankless water heater (EF 0.90) in homes with gas water heating
5029	Hot Water	Solar Water Heater	VGS	SF	All	MO	0.0	0%	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0	15	\$4,500.00	\$950.00	\$0.31	\$0.00	\$0.00	0.39	1.00	0	0	0	0	Installation of solar water heater (EF 1.20) in homes with gas water heating
5030	Hot Water	Thermostatic Shower Restriction Valve (Electric WH)	BED	SF	All	Retrofit	0.0	0%	50.1	0.1	0.1	0.0	0.0	0.0	0.0	426	7	\$12.00	\$6.00	\$0.31	\$0.00	\$0.00	9.22	1.00	24	31	35	30	Installation of a thermostatically initiated shower restriction valve, in conjunction with a low flow showerhead - homes with electric water heating
5031	Hot Water	Thermostatic Shower Restriction Valve (NatGas WH)	VGS	SF	All	Retrofit	0.0	0%	0.0	0.0	0.0	0.2	0.0	0.0	0.0	426	7	\$12.00	\$6.00	\$0.31	\$0.00	\$0.00	5.78	1.00	0	0	0	0	Installation of a thermostatically initiated shower restriction valve, in conjunction with a low flow showerhead - homes with gas water heating
5032	Hot Water	Drain Water Heat Recovery - electric water heating	BED	SF	All	Retrofit	2,069.1	20%	420.4	0.0	0.0	0.0	0.0	0.0	0.0	0	25	\$902.00	\$300.00	\$0.31	\$0.00	\$0.00	1.14	1.00	102	129	146	103	Installation of a heat exchanger installed to capture and reuse energy from main drain pipe to preheat incoming cold water to water heater and shower - homes with electric water heating
5033	Hot Water	Drain Water Heat Recovery - gas water heating	VGS	SF	All	Retrofit	0.0	0%	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0	25	\$902.00	\$300.00	\$0.31	\$0.00	\$0.00	0.74	1.00	0	0	0	0	Installation of a heat exchanger installed to capture and reuse energy from main drain pipe to preheat incoming cold water to water heater and shower - homes with gas water heating
5034	Hot Water	Heat Pump DHW (< 2.35 EF)	BED	SF	All	NC	2,069.1	50%	1,041.4	0.4	0.4	0.0	0.0	0.0	0.0	0	13	\$973.00	\$600.00	\$0.31	\$0.00	\$0.00	1.84	1.10	0	0	18	13	Installation of an ENERGY STAR heat pump water heater <2.35 EF in place of a baseline water heater
5035	Hot Water	Heat Pump DHW (> 2.35 EF)	BED	SF	All	NC	2,069.1	62%	1,285.7	0.5	0.5	0.0	0.0	0.0	0.0	0	13	\$1,101.00	\$600.00	\$0.31	\$0.00	\$0.00	2.01	1.10	77	77	43	32	Installation of an ENERGY STAR heat pump water heater >=2.35 EF in place of a baseline water heater
5036	Hot Water	Drain Water Heat Recovery - electric water heating	BED	SF	All	NC	2,069.1	20%	420.4	0.0	0.0	0.0	0.0	0.0	0.0	0	25	\$902.00	\$300.00	\$0.31	\$0.00	\$0.00	1.14	1.00	11	11	9	4	Installation of a heat exchanger installed to capture and reuse energy from main drain pipe to preheat incoming cold water to water heater and shower - homes with electric water heating
5037	Hot Water	Drain Water Heat Recovery - gas water heating	VGS	SF	All	NC	0.0	0%	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0	25	\$902.00	\$300.00	\$0.31	\$0.00	\$0.00	0.74	1.00	0	0	0	0	Installation of a heat exchanger installed to capture and reuse energy from main drain pipe to preheat incoming cold water to water heater and shower - homes with gas water heating
5038	Hot Water	Thermostatic Shower Restriction Valve (Electric WH)	BED	SF	All	NC	0.0	0%	50.1	0.1	0.1	0.0	0.0	0.0	0.0	426	7	\$12.00	\$6.00	\$0.31	\$0.00	\$0.00	9.22	1.00	3	3	2	2	Installation of a thermostatically initiated shower restriction valve, in conjunction with a low flow showerhead - homes with electric water heating
5039	Hot Water	LF Showerhead (Electric WH)	BED	SF	All	NC	0.0	0%	136.0	0.0	0.0	0.0	0.0	0.0	0.0	1,227	9	\$15.00	\$15.00	\$0.31	\$0.00	\$0.00	21.25	0.90	7	7	5	5	Installation of low flow showerhead in homes with electric water heating
5040	Hot Water	LF Faucet Aerator (Electric WH)	BED	SF	All	NC	0.0	0%	61.2	0.0	0.0	0.0	0.0	0.0	0.0	726	9	\$10.00	\$10.00	\$0.31	\$0.00	\$0.00	16.65	0.90	5	5	4	4	Installation of a low flow faucet aerator (1.0 gpm) in homes with electric water heating
5041	Hot Water	Gas Storage Water Heater - 0.67 EF	VGS	SF	All	NC	0.0	0%	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0	13	\$400.00	\$200.00	\$0.31	\$0.00	\$0.00	0.82	1.00	0	0	0	0	Installation of high efficiency gas storage tank water heater (EF 0.67) in homes with gas water heating
5042	Hot Water	Condensing Gas Storage Water Heater - 0.80 EF	VGS	SF	All	NC	0.0	0%	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0	13	\$685.00	\$200.00	\$0.31	\$0.00	\$0.00	1.14	1.00	0	0	0	0	Installation of high efficiency condensing gas storage tank water heater (EF 0.80) in homes with gas water heating
5043	Hot Water	Tankless whole-house water heater - 0.82 EF	VGS	SF	All	NC	0.0	0%	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0	13	\$605.00	\$300.00	\$0.31	\$0.00	\$0.00	1.03	1.00	0	0	0	0	Installation of high efficiency tankless water heater (EF 0.82) in homes with gas water heating
5044	Hot Water	Tankless whole-house water heater - 0.90 EF	VGS	SF	All	NC	0.0	0%	0.0	0.0	0.0	4.3	0.0	0.0	0.0	0	13	\$1,050.00	\$500.00	\$0.31	\$0.00	\$0.00	0.80	1.00	0	0	0	0	Installation of high efficiency tankless water heater (EF 0.90) in homes with gas water heating
5045	Hot Water	Solar Water Heater	VGS	SF	All	NC	0.0	0%	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0	15	\$4,500.00	\$950.00	\$0.31	\$0.00	\$0.00	0.39	1.00	0	0	0	0	Installation of solar water heater (EF 1.20) in homes with gas water heating
5046	Hot Water	Thermostatic Shower Restriction Valve (NatGas WH)	VGS	SF	All	NC	0.0	0%	0.0	0.0	0.0	0.2	0.0	0.0	0.0	426	7	\$12.00	\$6.00	\$0.31	\$0.00	\$0.00	5.78	1.00	0	0	0	0	Installation of a thermostatically initiated shower restriction valve, in conjunction with a low flow showerhead - homes with gas water heating
5047	Hot Water	LF Showerhead (NatGas WH)	VGS	SF	All	NC	0.0	0%	0.0	0.0	0.0	0.6	0.0	0.0	0.0	1,227	9	\$15.00	\$15.00	\$0.31	\$0.00	\$0.00	16.43	0.90	0	0	0	0	Installation of low flow showerhead in homes with gas water heating
5048	Hot Water	LF Faucet Aerator (NatGas WH)	VGS	SF	All	NC	0.0	0%	0.0	0.0	0.0	0.3	0.0	0.0	0.0	726	9	\$10.00	\$10.00	\$0.31	\$0.00	\$0.00	13.38	0.90	0	0	0	0	Installation of a low flow faucet aerator (1.0 gpm) in homes with gas water heating
5049	Hot Water	DHW Tank Wrap (Electric WH)	BED	MF	NLI	Retrofit	0.0	0%	113.0	0.0	0.0	0.0	0.0	0.0	0.0	0	6	\$35.00	\$17.50	\$0.31	\$0.00	\$0.00	2.71	0.90	0	0	0	0	Installation of insulation to water heater tank - electric water heating
5050	Hot Water	DHW Pipe Wrap (Electric WH)	BED	MF	NLI	Retrofit	0.0	0%	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0	15	\$18.00	\$9.00	\$0.31	\$0.00	\$0.00	3.38	0.90	11	14	15	11	Installation of insulating pipe wrap on water heater pipes - 6ft total - homes with electric water heating
5051	Hot Water	Tank Temperature Turn Down (Electric WH)	BED	MF	NLI	Retrofit	0.0	0%	45.5	0.0	0.0	0.0	0.0	0.0	0.0	0	2	\$5.00	\$0.00	\$0.31	\$0.00	\$0.00	2.30	1.00	0	0	0	0	Domestic hot water tank thermostat is lowered to reduce standby losses - electric water heater
5052	Hot Water	LF Showerhead (Electric WH)	BED	MF	NLI	Retrofit	0.0	0%	158.0	0.0	0.0	0.0	0.0	0.0	0.0	1,429	9	\$15.00	\$15.00	\$0.31	\$0.00	\$0.00	24.72	0.90	92	115	124	128	Installation of low flow showerhead in homes with electric water heating
5053	Hot Water	LF Faucet Aerator (Electric WH)	BED	MF	NLI	Retrofit	0.0	0%	61.2	0.0	0.0	0.0	0.0	0.0	0.0	726	9	\$10.00	\$10.00	\$0.31	\$0.00	\$0.00	16.65	0.90	71	89	96	99	Installation of a low flow faucet aerator (1.0 gpm) in homes with electric water heating
5054	Hot Water	DHW Tank Wrap (NatGas WH)	VGS	MF	NLI	Retrofit	0.0	0%	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0	6	\$35.00	\$17.50	\$0.31	\$0.00	\$0.00	1.18	0.90	0	0	0	0	Installation of insulation to water heater tank - gas water heating
5055	Hot Water	DHW Pipe Wrap (NatGas WH)	VGS	MF	NLI	Retrofit	0.0	0%	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0	15	\$18.00	\$9.00	\$0.31	\$0.00	\$0.00	1.62	0.90	0	0	0	0	Installation of insulating pipe wrap on water heater pipes - 6ft total - homes with gas water heating
5056	Hot Water	Tank Temperature Turn Down (NatGas WH)	VGS	MF	NLI	Retrofit	0.0	0%	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0	2	\$5.00	\$0.00	\$0.31	\$0.00	\$0.00	1.24	1.00	0	0	0	0	Domestic hot water tank thermostat is lowered to reduce standby losses - gas water heater
5057	Hot Water	LF Showerhead (NatGas WH)	VGS	MF	NLI	Retrofit	0.0	0%	0.0	0.0	0.0	0.7	0.0	0.0	0.0	1,429	9	\$15.00	\$15.00	\$0.31	\$0.00	\$0.00	19.10	0.90	0	0	0	0	Installation of low flow showerhead in homes with gas water heating
5058	Hot Water	LF Faucet Aerator (NatGas WH)	VGS	MF	NLI	Retrofit	0.0	0%	0.0	0.0	0.0	0.3	0.0	0.0	0.0	726	9	\$10.00	\$10.00	\$0.31	\$0.00	\$0.00	13.38	0.90	0	0	0	0	Installation of a low flow faucet aerator (1.0 gpm) in homes with gas water heating
5059	Hot Water	DHW Water Recirculation Pipe Insulation (NatGas WH)	VGS	MF	NLI	Retrofit	0.0	0%	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0	20	\$6.00	\$3.00	\$0.31	\$0.00	\$0.00	12.29	1.00	0	0	0	0	Installation of insulation on hot water recirculation pipe that is continuously circulating - 2 inches of insulation instead of a baseline level of 0.5 inch
5060	Hot Water	Boiler Hot Water Distribution Pipe Insuation (NatGas WH)	VGS	MF	NLI	Retrofit	0.0	0%	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0	20	\$6.00	\$3.00	\$0.31	\$0.00	\$0.00	8.88	1.00	0	0	0	0	Boiler hot water recirculation pipe that is continuously circulating during the heating season is insulated with 2 inches of insulation, 6ft of insulation
5061	Hot Water	DHW Tank Wrap (Electric WH)	BED	MF	LI	DI	0.0	0%	113.0	0.0	0.0	0.0	0.0	0.0	0.0	0	6	\$35.00	\$35.00	\$1.32	\$0.00	\$0.00	2.97	1.00	0	0	0	0	Installation of insulation to water heater tank - electric water heating
5062	Hot Water	DHW Pipe Wrap (Electric WH)	BED	MF	LI	DI	0.0	0%	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0	15	\$18.00	\$18.00	\$1.32	\$0.00	\$0.00	3.74	1.00	2	2	3	2	Installation of insulating pipe wrap on water heater pipes - 6ft total - homes with electric water heating
5063	Hot Water	Tank Temperature Turn Down (Electric WH)	BED	MF	LI	DI	0.0	0%	45.5	0.0	0.0	0.0	0.0	0.0	0.0	0	2	\$5.00	\$5.00	\$1.32	\$0.00	\$0.00	2.49	1.00	0	0	0	0	Domestic hot water tank thermostat is lowered to reduce standby losses - electric water heater
5064	Hot Water	LF Showerhead (Electric WH)	BED	MF	LI	DI	0.0	0%	158.0	0.0	0.0	0.0	0.0	0.0	0.0	1,429	9	\$15.00	\$15.00	\$1.32	\$0.00	\$0.00	25.87	0.90	17	21	23	10	Installation of low flow showerhead in homes with electric water heating
5065	Hot Water	LF Faucet Aerator (Electric WH)	BED	MF	LI	DI	0.0	0%	61.2	0.0	0.0	0.0	0.0	0.0	0.0	726	9	\$10.00	\$10.00	\$1.32	\$0.00	\$0.00	17.31	0.90	13	16	18	8	Installation of a low flow faucet aerator (1.0 gpm) in homes with electric water heating
5066	Hot Water	DHW Tank Wrap (NatGas WH)	VGS	MF	LI	DI	0.0	0%	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0	6	\$35.00	\$35.00	\$1.32	\$0.00	\$0.00	1.28	1.00	0	0	0	0	Installation of insulation to water heater tank - gas water heating
5067	Hot Water	DHW Pipe Wrap (NatGas WH)	VGS	MF	LI	DI	0.0	0%	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0	15	\$18.00	\$18.00	\$1.32	\$0.00	\$0.00	1.77	1.00	0	0	0	0	Installation of insulating pipe wrap on water heater pipes - 6ft total - homes with gas water heating
5068	Hot Water	Tank Temperature Turn Down (NatGas WH)	VGS	MF	LI	DI	0.0	0%	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0	2	\$5.00	\$5.00	\$1.32	\$0.00	\$0.00	1.34	1.00	0	0	0	0	Domestic hot water tank thermostat is lowered to reduce standby losses - gas water heater
5069	Hot Water	LF Showerhead (NatGas WH)	VGS	MF	LI	DI	0.0	0%	0.0	0.0	0.0	0.7	0.0	0.0	0.0	1,429	9	\$15.00	\$15.00	\$1.32	\$0.00	\$0.00	19.70	0.90	0	0	0	0	Installation of low flow showerhead in homes with gas water heating
5070	Hot Water	LF Faucet Aerator (NatGas WH)	VGS	MF	LI	DI	0.0	0%	0.0	0.0	0.0	0.3	0.0	0.0	0.0	726	9	\$10.00	\$10.00	\$1.32	\$0.00	\$0.00	13.72	0.90	0	0	0	0	Installation of a low flow faucet aerator (1.0 gpm) in homes with gas water heating
5071	Hot Water	DHW Water Recirculation Pipe Insulation (NatGas WH)	VGS	MF	LI	DI	0.0	0%	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0	20	\$6.00	\$6.00	\$1.32	\$0.00	\$0.00	13.45	1.00	0	0	0	0	Installation of insulation on hot water recirculation pipe that is continuously circulating - 2 inches of insulation instead of a baseline level of 0.5 inch
5072	Hot Water	Boiler Hot Water Distribution Pipe Insuation (NatGas WH)	VGS	MF	LI	DI	0.0	0%	0.0	0.0	0.0	0.2	0.0																

Appendix B.3

BED Residential Measure Assumptions

Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Eloc Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR	20 YR	20 YR	20 YR	Measure Description	
																									Technical Potential (MWh)	Economic Potential (MWh)	MAP (MWh)	RAP (MWh)		
5086	Hot Water	Thermostatic Shower Restriction Valve (NatGas WH)	VGS	MF	All	Retrofit	0.0	0%	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	426	7	\$12.00	\$6.00	\$0.31	\$0.00	\$0.00	5.78	1.00	0	0	0	0	Installation of a thermostatically initiated shower restriction valve, in conjunction with a low flow showerhead - homes with gas water heating
5087	Hot Water	Heat Pump DHW (< 2.35 EF)	BED	MF	All	NC	2,069.1	50%	1,041.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	13	\$973.00	\$600.00	\$0.31	\$0.00	\$0.00	1.84	1.10	0	0	37	19	Installation of an ENERGY STAR heat pump water heater <2.35 EF in place of a baseline water heater	
5088	Hot Water	Heat Pump DHW (> 2.35 EF)	BED	MF	All	NC	2,069.1	62%	1,285.7	0.5	0.5	0.0	0.0	0.0	0.0	0.0	13	\$1,101.00	\$600.00	\$0.31	\$0.00	\$0.00	2.01	1.10	214	214	135	69	Installation of an ENERGY STAR heat pump water heater >=2.35 EF in place of a baseline water heater	
5089	Hot Water	Drain Water Heat Recovery - electric water heating	BED	MF	All	NC	2,069.1	15%	315.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25	\$902.00	\$300.00	\$0.31	\$0.00	\$0.00	0.86	1.00	25	0	0	0	0	Installation of a heat exchanger installed to capture and reuse energy from main drain pipe to preheat incoming cold water to water heater and shower - homes with electric water heating
5090	Hot Water	Drain Water Heat Recovery - gas water heating	VGS	MF	All	NC	0.0	0%	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	25	\$902.00	\$300.00	\$0.31	\$0.00	\$0.00	0.56	1.00	0	0	0	0	0	Installation of a heat exchanger installed to capture and reuse energy from main drain pipe to preheat incoming cold water to water heater and shower - homes with gas water heating
5091	Hot Water	Thermostatic Shower Restriction Valve (Electric WH)	BED	MF	All	NC	0.0	0%	50.1	0.1	0.1	0.0	0.0	0.0	0.0	426	7	\$12.00	\$6.00	\$0.31	\$0.00	\$0.00	9.22	1.00	4	4	3	2	Installation of a thermostatically initiated shower restriction valve, in conjunction with a low flow showerhead - homes with electric water heating	
5092	Hot Water	LF Showerhead (Electric WH)	BED	MF	All	NC	0.0	0%	158.0	0.0	0.0	0.0	0.0	0.0	0.0	1,429	9	\$15.00	\$15.00	\$0.31	\$0.00	\$0.00	24.72	0.90	12	12	9	7	Installation of low flow showerhead in homes with electric water heating	
5093	Hot Water	LF Faucet Aerator (Electric WH)	BED	MF	All	NC	0.0	0%	61.2	0.0	0.0	0.0	0.0	0.0	0.0	726	9	\$10.00	\$10.00	\$0.31	\$0.00	\$0.00	16.65	0.90	10	10	7	5	Installation of a low flow faucet aerator (1.0 gpm) in homes with electric water heating	
5094	Hot Water	Gas Storage Water Heater - 0.67 EF	VGS	MF	All	NC	0.0	0%	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0	13	\$400.00	\$200.00	\$0.31	\$0.00	\$0.00	0.82	1.00	0	0	0	0	0	Installation of high efficiency gas storage tank water heater (EF 0.67) in homes with gas water heating
5095	Hot Water	Condensing Gas Storage Water Heater - 0.80 EF	VGS	MF	All	NC	0.0	0%	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0	13	\$685.00	\$200.00	\$0.31	\$0.00	\$0.00	1.14	1.00	0	0	0	0	0	Installation of high efficiency condensing gas storage tank water heater (EF 0.80) in homes with gas water heating
5096	Hot Water	Tankless whole-house water heater - 0.82 EF	VGS	MF	All	NC	0.0	0%	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0	13	\$605.00	\$300.00	\$0.31	\$0.00	\$0.00	1.03	1.00	0	0	0	0	0	Installation of high efficiency tankless water heater (EF 0.82) in homes with gas water heating
5097	Hot Water	Tankless whole-house water heater - 0.90 EF	VGS	MF	All	NC	0.0	0%	0.0	0.0	0.0	4.3	0.0	0.0	0.0	0	13	\$1,050.00	\$500.00	\$0.31	\$0.00	\$0.00	0.80	1.00	0	0	0	0	0	Installation of high efficiency tankless water heater (EF 0.90) in homes with gas water heating
5098	Hot Water	Solar Water Heater	VGS	MF	All	NC	0.0	0%	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	15	\$4,500.00	\$950.00	\$0.31	\$0.00	\$0.00	0.39	1.00	0	0	0	0	0	Installation of solar water heater (EF 1.20) in homes with gas water heating
5099	Hot Water	Thermostatic Shower Restriction Valve (NatGas WH)	VGS	MF	All	NC	0.0	0%	0.0	0.0	0.0	0.2	0.0	0.0	0.0	426	7	\$12.00	\$6.00	\$0.31	\$0.00	\$0.00	5.78	1.00	0	0	0	0	0	Installation of a thermostatically initiated shower restriction valve, in conjunction with a low flow showerhead - homes with gas water heating
5100	Hot Water	LF Showerhead (NatGas WH)	VGS	MF	All	NC	0.0	0%	0.0	0.0	0.0	0.7	0.0	0.0	0.0	1,429	9	\$15.00	\$15.00	\$0.31	\$0.00	\$0.00	19.10	0.90	0	0	0	0	0	Installation of low flow showerhead in homes with gas water heating
5101	Hot Water	LF Faucet Aerator (NatGas WH)	VGS	MF	All	NC	0.0	0%	0.0	0.0	0.0	0.3	0.0	0.0	0.0	726	9	\$10.00	\$10.00	\$0.31	\$0.00	\$0.00	13.38	0.90	0	0	0	0	0	Installation of a low flow faucet aerator (1.0 gpm) in homes with gas water heating
5102	Hot Water	DHW Water Recirculation Pipe Insulation (NatGas WH)	VGS	MF	All	NC	0.0	0%	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0	20	\$6.00	\$3.00	\$0.31	\$0.00	\$0.00	12.29	1.00	0	0	0	0	0	Installation of insulation on hot water recirculation pipe that is continuously circulating - 2 inches of insulation instead of a baseline level of 0.5 inch
5103	Hot Water	Boiler Hot Water Distribution Pipe Insuation (NatGas WH)	VGS	MF	All	NC	0.0	0%	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0	20	\$6.00	\$3.00	\$0.31	\$0.00	\$0.00	8.88	1.00	0	0	0	0	0	Boiler hot water recirculation pipe that is continuously circulating during the heating season is insulated with 1.5 or 2 inches of insulation
6000	Pool/Spa	ENERGY STAR Two-speed pool pump	BED	SF	All	MO	2,388.2	69%	1,649.2	1.2	0.0	0.0	0.0	0.0	0.0	0	10	\$100.00	\$100.00	\$0.06	\$0.00	\$0.00	41.06	1.00	0	0	114	114	Installation of ENERGY STAR two-speed pool pump instead of single-speed unit	
6001	Pool/Spa	ENERGY STAR variable-speed pool pump	BED	SF	All	MO	2,388.2	88%	2,110.5	1.7	0.0	0.0	0.0	0.0	0.0	0	10	\$846.00	\$600.00	\$0.06	\$0.00	\$0.00	61.06	1.00	1,082	1,082	297	261	Installation of ENERGY STAR variable-speed pool pump instead of single-speed unit	
6002	Pool/Spa	ENERGY STAR Two-speed pool pump	BED	SF	All	NC	2,388.2	69%	1,649.2	1.2	0.0	0.0	0.0	0.0	0.0	0	10	\$100.00	\$100.00	\$0.06	\$0.00	\$0.00	41.06	1.00	0	0	11	11	Installation of ENERGY STAR two-speed pool pump instead of single-speed unit	
6003	Pool/Spa	ENERGY STAR variable-speed pool pump	BED	SF	All	NC	2,388.2	88%	2,110.5	1.7	0.0	0.0	0.0	0.0	0.0	0	10	\$846.00	\$600.00	\$0.06	\$0.00	\$0.00	61.06	1.00	1,011	1,011	28	22	Installation of ENERGY STAR variable-speed pool pump instead of single-speed unit	
7000	Lighting	Omnidirectional LED Bulb	BED	SF	NLI	MO	56.0	74%	41.4	0.0	0.0	0.0	0.0	0.0	0.0	0	15	\$7.06	\$5.11	\$0.06	\$0.00	\$0.00	11.71	0.80	0	0	0	0	0	Installation of standard/specialty LED Bulb replacing pre-2020 EISA (via Upstream)
7001	Lighting	Omnidirectional LED Bulb (DI)	BED	SF	NLI	DI	60.3	74%	44.6	0.0	0.0	0.0	0.0	0.0	0.0	0	15	\$10.06	\$10.06	\$0.06	\$0.00	\$0.00	8.86	1.00	0	0	0	0	0	Installation of standard/specialty LED Bulb replacing pre-2020 EISA (via Direct Install)
7002	Lighting	Directional LED Bulb	BED	SF	NLI	MO	87.3	79%	68.7	0.1	0.1	0.0	0.0	0.0	0.0	0	15	\$9.68	\$5.73	\$0.06	\$0.00	\$0.00	14.19	0.80	0	0	0	0	0	Installation of directional LED Bulb replacing pre-2020 EISA (via Upstream)
7003	Lighting	Directional LED Bulb (DI)	BED	SF	NLI	DI	94.1	79%	74.0	0.1	0.1	0.0	0.0	0.0	0.0	0	15	\$12.68	\$12.68	\$0.06	\$0.00	\$0.00	11.67	1.00	0	0	0	0	0	Installation of directional LED Bulb replacing pre-2020 EISA (via Direct Install)
7004	Lighting	LED Light Fixture	BED	SF	NLI	MO	78.9	74%	58.6	0.0	0.0	0.0	0.0	0.0	0.0	0	15	\$28.50	\$24.55	\$0.06	\$0.00	\$0.00	4.11	1.00	0	0	0	0	0	Installation of LED fixture replacing pre-2020 EISA fixture
7005	Lighting	HPT8 Tube Fluorescent	BED	SF	NLI	MO	54.9	17%	9.3	0.0	0.0	0.0	0.0	0.0	0.0	0	20	\$17.50	\$10.00	\$0.06	\$0.00	\$0.00	1.47	0.90	190	190	148	109	Installation of HPT8 fixture replacing standard T8 linear fluorescent fixture	
7006	Lighting	Omnidirectional LED Bulb (DI)	BED	SF	LI	DI	60.3	74%	44.6	0.0	0.0	0.0	0.0	0.0	0.0	0	15	\$10.06	\$10.06	\$0.06	\$0.00	\$0.00	9.78	1.00	0	0	0	0	0	Installation of standard/specialty LED Bulb replacing pre-2020 EISA (via Direct Install)
7007	Lighting	Directional LED Bulb (DI)	BED	SF	LI	DI	94.1	79%	74.0	0.1	0.1	0.0	0.0	0.0	0.0	0	15	\$12.68	\$12.68	\$0.06	\$0.00	\$0.00	12.89	1.00	0	0	0	0	0	Installation of directional LED Bulb replacing pre-2020 EISA (via Direct Install)
7008	Lighting	HPT8 Tube Fluorescent (DI)	BED	SF	LI	DI	54.9	17%	9.3	0.0	0.0	0.0	0.0	0.0	0.0	0	20	\$20.50	\$20.50	\$0.06	\$0.00	\$0.00	1.39	1.00	35	35	30	30	Installation of HPT8 fixture replacing standard T8 linear fluorescent fixture (via Direct Install)	
7009	Lighting	Omnidirectional LED Bulb	BED	SF	All	NC	56.0	74%	41.4	0.0	0.0	0.0	0.0	0.0	0.0	0	15	\$7.06	\$5.11	\$0.06	\$0.00	\$0.00	11.71	0.80	0	0	0	0	0	Installation of standard/specialty LED Bulb replacing pre-2020 EISA (via Upstream)
7010	Lighting	Directional LED Bulb	BED	SF	All	NC	87.3	79%	68.7	0.1	0.1	0.0	0.0	0.0	0.0	0	15	\$9.68	\$5.73	\$0.06	\$0.00	\$0.00	14.19	0.80	0	0	0	0	0	Installation of directional LED Bulb replacing pre-2020 EISA (via Upstream)
7011	Lighting	LED Light Fixture	BED	SF	All	NC	54.7	63%	34.3	0.0	0.0	0.0	0.0	0.0	0.0	0	15	\$28.50	\$24.55	\$0.06	\$0.00	\$0.00	2.83	1.00	0	0	0	0	0	Installation of LED fixture replacing pre-2020 EISA fixture
7012	Lighting	HPT8 Tube Fluorescent	BED	SF	All	NC	54.9	17%	9.3	0.0	0.0	0.0	0.0	0.0	0.0	0	20	\$17.50	\$10.00	\$0.06	\$0.00	\$0.00	1.47	0.50	16	16	7	4	4	Installation of HPT8 fixture replacing standard T8 linear fluorescent fixture
7013	Lighting	Omnidirectional LED Bulb	BED	MF	NLI	MO	56.0	74%	41.4	0.0	0.0	0.0	0.0	0.0	0.0	0	15	\$7.06	\$5.11	\$0.06	\$0.00	\$0.00	11.71	0.80	0	0	0	0	0	Installation of standard/specialty LED Bulb replacing pre-2020 EISA (via Upstream)
7014	Lighting	Omnidirectional LED Bulb (DI)	BED	MF	NLI	DI	60.3	74%	44.6	0.0	0.0	0.0	0.0	0.0	0.0	0	15	\$10.06	\$10.06	\$0.06	\$0.00	\$0.00	8.86	1.00	0	0	0	0	0	Installation of standard/specialty LED Bulb replacing pre-2020 EISA (via Direct Install)
7015	Lighting	Directional LED Bulb	BED	MF	NLI	MO	87.3	79%	68.7	0.1	0.1	0.0	0.0	0.0	0.0	0	15	\$9.68	\$5.73	\$0.06	\$0.00	\$0.00	14.19	0.80	0	0	0	0	0	Installation of directional LED Bulb replacing pre-2020 EISA (via Upstream)
7016	Lighting	Directional LED Bulb (DI)	BED	MF	NLI	DI	94.1	79%	74.0	0.1	0.1	0.0	0.0	0.0	0.0	0	15	\$12.68	\$12.68	\$0.06	\$0.00	\$0.00	11.67	1.00	0	0	0	0	0	Installation of directional LED Bulb replacing pre-2020 EISA (via Direct Install)
7017	Lighting	LED Light Fixture	BED	MF	NLI	MO	78.9	74%	58.6	0.0	0.0	0.0	0.0	0.0	0.0	0	15	\$28.50	\$24.55	\$0.06	\$0.00	\$0.00	4.11	1.00	0	0	0	0	0	Installation of LED fixture replacing pre-2020 EISA fixture
7018	Lighting	HPT8 Tube Fluorescent	BED	MF	NLI	MO	54.9	17%	9.3	0.0	0.0	0.0	0.0	0.0	0.0	0	20	\$17.50	\$10.00	\$0.06	\$0.00	\$0.00	1.47	0.90	128	128	99	68	Installation of HPT8 fixture replacing standard T8 linear fluorescent fixture	
7019	Lighting	CA Omnidirectional LED Bulb	BED	MF	NLI	MO	407.2	74%	300.8	0.0	0.0	0.0	0.0	0.0	0.0	0	5	\$7.06	\$5.11	\$0.06	\$0.00	\$0.00	29.76	0.80	0	0	0	0	0	Installation of standard/specialty LED Bulb replacing pre-2020 EISA (via Upstream)
7020	Lighting	CA Directional LED Bulb	BED	MF	NLI	MO	635.2	79%	499.6	0.1	0.1	0.0	0.0	0.0	0.0	0	5	\$9.68	\$5.73	\$0.06	\$0.00	\$0.00	36.05	0.80	0	0	0	0	0	Installation of directional LED Bulb replacing pre-2020 EISA (via Upstream)
7021	Lighting	CA HPT8 Tube Fluorescent	BED	MF	NLI	MO	506.5	17%	85.8	0.0	0.0	0.0	0.0	0.0	0.0	0	5	\$17.50	\$10.00	\$0.06	\$0.00	\$0.00	3.43	0.90	101	101	79	58	Installation of HPT8 fixture replacing standard T8 linear fluorescent fixture	
7022	Lighting	Omnidirectional LED Bulb (DI)	BED	MF	LI	DI	60.3	74%	44.6	0.0	0.0	0.0	0.0	0.0	0.0	0	15	\$10.06	\$10.06	\$0.06	\$0.00	\$0.00	9.78	1.00	0	0	0	0	0	Installation of standard/specialty LED Bulb replacing pre-2020 EISA (via Direct Install)
7023	Lighting	Directional LED Bulb (DI)	BED	MF	LI	DI	94.1	79%	74.0	0.1	0.1																			

Appendix B.3		BED Residential Measure Assumptions																															
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive		O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential		20 YR Economic Potential		Measure Description			
																				Cost (\$/kWh)	Cost (\$/kWh)					(MWh)	(MWh)	(MWh)	(MWh)				
9018	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	SF	All	Retrofit	555.2	2%	9.9	0.0	0.0	1.2	0.0	0.0	0.2	0	25	\$1,139.60	\$398.86	\$1.32	\$0.00	\$0.00	0.58	1.00	0	0	0	0	R60 ceiling insulation (R-37 baseline)- homes with gas heating, no cooling, wood stove back-up heating				
9019	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	SF	All	Retrofit	565.6	3%	18.9	0.0	0.0	2.4	0.0	0.0	0.3	0	25	\$907.20	\$317.52	\$1.32	\$0.00	\$0.00	1.39	1.00	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with gas heating, no cooling, wood stove back-up heating				
9020	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	VGS	SF	All	Retrofit	594.3	6%	35.9	0.0	0.0	4.5	0.0	0.0	0.6	0	25	\$1,305.60	\$456.96	\$1.32	\$0.00	\$0.00	1.83	1.00	0	0	0	0	R15 basement wall insulation - homes with gas heating, no cooling, wood stove back-up heating				
9021	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	SF	All	Retrofit	928.3	10%	88.7	0.0	0.1	12.5	0.0	0.0	1.8	0	25	\$1,549.06	\$542.17	\$1.32	\$0.00	\$0.00	4.36	1.00	0	0	0	0	30% air leakage reduction - homes with gas heating, room AC cooling, wood stove back-up heating				
9022	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	SF	All	Retrofit	1,255.6	21%	264.6	0.1	0.2	33.7	0.0	0.0	4.8	0	25	\$1,549.06	\$542.17	\$1.32	\$0.00	\$0.00	11.85	1.00	0	0	0	0	40% air leakage reduction - homes with gas heating, room AC cooling, wood stove back-up heating				
9023	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	SF	All	Retrofit	928.3	8%	71.5	0.1	0.0	3.2	0.0	0.0	0.5	0	25	\$6,726.00	\$2,354.10	\$1.32	\$0.00	\$0.00	0.36	1.00	0	0	0	0	ENERGY STAR windows (u=0.32) - homes with gas heating, room AC cooling, wood stove back-up heating				
9024	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	SF	All	Retrofit	986.7	9%	88.4	0.1	0.0	6.3	0.0	0.0	0.9	0	25	\$1,554.00	\$543.90	\$1.32	\$0.00	\$0.00	2.55	1.00	0	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, room AC cooling, wood stove back-up heating				
9025	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	SF	All	Retrofit	909.5	2%	18.3	0.0	0.0	1.2	0.0	0.0	0.2	0	25	\$1,139.60	\$398.86	\$1.32	\$0.00	\$0.00	0.68	1.00	0	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with gas heating, room AC cooling, wood stove back-up heating				
9026	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	SF	All	Retrofit	928.3	-5%	-49.1	-0.1	0.0	2.4	0.0	0.0	0.3	0	25	\$907.20	\$317.52	\$1.32	\$0.00	\$0.00	0.77	1.00	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with gas heating, room AC cooling, wood stove back-up heating				
9027	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	VGS	SF	All	Retrofit	931.2	0%	2.3	-0.1	0.0	4.5	0.0	0.0	0.6	0	25	\$1,305.60	\$456.96	\$1.32	\$0.00	\$0.00	1.44	1.00	0	0	0	0	R15 basement wall insulation - homes with gas heating, room AC cooling, wood stove back-up heating				
9028	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	SF	All	Retrofit	1,265.2	28%	353.2	0.0	0.1	12.5	0.0	0.0	0.0	0	25	\$1,549.06	\$542.17	\$1.32	\$0.00	\$0.00	4.49	1.00	0	0	0	0	30% air leakage reduction - homes with gas heating, no cooling, electric resistance back-up heating				
9029	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	SF	All	Retrofit	2,016.3	39%	778.1	0.0	0.2	33.7	0.0	0.0	0.0	0	25	\$1,549.06	\$542.17	\$1.32	\$0.00	\$0.00	11.81	1.00	0	0	0	0	40% air leakage reduction - homes with gas heating, no cooling, electric resistance back-up heating				
9030	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	SF	All	Retrofit	1,265.2	16%	207.9	0.0	0.0	3.2	0.0	0.0	0.0	0	25	\$6,726.00	\$2,354.10	\$1.32	\$0.00	\$0.00	0.31	1.00	0	0	0	0	ENERGY STAR windows (u=0.32) - homes with gas heating, no cooling, electric resistance back-up heating				
9031	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	SF	All	Retrofit	1,340.8	20%	265.9	0.0	0.0	6.3	0.0	0.0	0.0	0	25	\$1,554.00	\$543.90	\$1.32	\$0.00	\$0.00	2.38	1.00	0	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, no cooling, electric resistance back-up heating				
9032	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	SF	All	Retrofit	1,241.9	14%	174.6	0.0	0.0	1.2	0.0	0.0	0.0	0	25	\$1,139.60	\$398.86	\$1.32	\$0.00	\$0.00	0.89	1.00	0	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with gas heating, no cooling, electric resistance back-up heating				
9033	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	SF	All	Retrofit	1,265.2	15%	194.7	0.0	0.0	2.4	0.0	0.0	0.0	0	25	\$907.20	\$317.52	\$1.32	\$0.00	\$0.00	1.78	1.00	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with gas heating, no cooling, electric resistance back-up heating				
9034	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	VGS	SF	All	Retrofit	1,344.9	19%	252.8	0.0	0.0	4.5	0.0	0.0	0.0	0	25	\$1,305.60	\$456.96	\$1.32	\$0.00	\$0.00	2.13	1.00	0	0	0	0	R15 basement wall insulation - homes with gas heating, no cooling, electric resistance back-up heating				
9035	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	SF	All	Retrofit	1,627.9	21%	341.8	0.0	0.1	12.5	0.0	0.0	0.0	0	25	\$1,549.06	\$542.17	\$1.32	\$0.00	\$0.00	4.53	1.00	0	0	0	0	30% air leakage reduction - homes with gas heating, room AC cooling, electric resistance back-up heating				
9036	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	SF	All	Retrofit	2,370.4	33%	774.1	0.1	0.2	33.7	0.0	0.0	0.0	0	25	\$1,549.06	\$542.17	\$1.32	\$0.00	\$0.00	12.05	1.00	0	0	0	0	40% air leakage reduction - homes with gas heating, room AC cooling, electric resistance back-up heating				
9037	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	SF	All	Retrofit	1,627.9	16%	253.9	0.1	0.0	3.2	0.0	0.0	0.0	0	25	\$6,726.00	\$2,354.10	\$1.32	\$0.00	\$0.00	0.41	1.00	0	0	0	0	ENERGY STAR windows (u=0.32) - homes with gas heating, room AC cooling, electric resistance back-up heating				
9038	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	SF	All	Retrofit	1,727.8	18%	303.7	0.1	0.0	6.3	0.0	0.0	0.0	0	25	\$1,554.00	\$543.90	\$1.32	\$0.00	\$0.00	2.77	1.00	0	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, room AC cooling, electric resistance back-up heating				
9039	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	SF	All	Retrofit	1,596.3	11%	183.0	0.0	0.0	1.2	0.0	0.0	0.0	0	25	\$1,139.60	\$398.86	\$1.32	\$0.00	\$0.00	0.99	1.00	0	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with gas heating, room AC cooling, electric resistance back-up heating				
9040	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	SF	All	Retrofit	1,627.9	8%	126.7	-0.1	0.0	2.4	0.0	0.0	0.0	0	25	\$907.20	\$317.52	\$1.32	\$0.00	\$0.00	1.01	1.00	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with gas heating, room AC cooling, electric resistance back-up heating				
9041	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	VGS	SF	All	Retrofit	1,681.8	13%	219.2	-0.1	0.0	4.5	0.0	0.0	0.0	0	25	\$1,305.60	\$456.96	\$1.32	\$0.00	\$0.00	1.84	1.00	0	0	0	0	R15 basement wall insulation - homes with gas heating, room AC cooling, electric resistance back-up heating				
9042	HVAC Shell	Duct sealing	VGS	SF	All	Retrofit	565.6	3%	18.2	0.0	0.0	2.3	0.0	0.0	0.3	0	20	\$288.88	\$101.11	\$1.32	\$0.00	\$0.00	3.67	1.00	0	0	0	0	Duct sealing - homes with gas furnaces				
9043	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	BED	SF	All	Retrofit	95.3	18%	17.3	0.0	0.0	0.0	13.5	0.0	14.0	0	25	\$1,549.06	\$542.17	\$1.32	\$0.00	\$0.00	8.01	1.00	0	0	0	0	30% air leakage reduction - homes with oil heating, no cooling, wood stove back-up heating				
9044	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	BED	SF	All	Retrofit	154.0	31%	47.0	0.0	0.0	0.0	35.0	0.0	36.1	0	25	\$1,549.06	\$542.17	\$1.32	\$0.00	\$0.00	20.76	1.00	0	0	0	0	40% air leakage reduction - homes with oil heating, no cooling, wood stove back-up heating				
9045	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	BED	SF	All	Retrofit	95.3	5%	4.4	0.0	0.0	0.0	3.4	0.0	3.6	0	25	\$6,726.00	\$2,354.10	\$1.32	\$0.00	\$0.00	0.47	1.00	0	0	0	0	ENERGY STAR windows (u=0.32) - homes with oil heating, no cooling, wood stove back-up heating				
9046	HVAC Shell	Ceiling Insulation (R-16 to R-49)	BED	SF	All	Retrofit	101.2	9%	8.7	0.0	0.0	0.0	6.8	0.0	7.0	0																	



Appendix B.3		BED Residential Measure Assumptions																															
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive		O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical		20 YR Economic		Measure Description			
																				Cost (\$/kWh)	Benefits					Potential (MWh)	Potential (MWh)	MAP (MWh)	RAP (MWh)				
9070	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	BED	SF	All	Retrofit	1,103.5	3%	32.1	-0.1	0.0	0.0	6.4	0.0	0.0	0	25	\$1,305.60	\$456.96	\$1.32	\$0.00	\$0.00	3.06	1.00	4	4	3	2	R15 basement wall insulation - homes with oil heating, room AC cooling, electric resistance back-up heating				
9071	HVAC Shell	ENERGY STAR New Home (gas heat)	VGS	SF	All	NC	805.9	17%	139.3	0.1	0.0	12.4	0.0	0.0	0.0	0	25	\$3,627.00	\$1,269.45	\$2.19	\$0.00	\$0.00	1.88	1.05	0	0	0	0	ENERGY STAR new home with gas heat				
9072	HVAC Shell	ENERGY STAR New Home (electric heat)	BED	SF	All	NC	8,426.9	20%	1,713.6	0.1	0.9	0.0	0.0	0.0	0.0	0	25	\$3,627.00	\$1,269.45	\$2.19	\$0.00	\$0.00	1.38	1.05	74	74	59	25	ENERGY STAR new home with electric heat				
9073	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	BED	MF	All	Retrofit	4,864.1	18%	865.2	0.0	0.7	0.0	0.0	0.0	0.0	0	25	\$730.00	\$365.00	\$1.32	\$0.00	\$0.00	3.46	1.05	22	22	17	7	30% air leakage reduction - homes with electric heating, no cooling				
9074	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	BED	MF	All	Retrofit	8,007.2	32%	2,537.8	0.0	2.2	0.0	0.0	0.0	0.0	0	25	\$730.00	\$365.00	\$1.32	\$0.00	\$0.00	10.19	1.05	63	63	50	20	40% air leakage reduction - homes with electric heating, no cooling				
9075	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	BED	MF	All	Retrofit	4,864.1	8%	369.6	0.0	0.4	0.0	0.0	0.0	0.0	0	25	\$3,154.00	\$1,577.00	\$1.32	\$0.00	\$0.00	0.35	1.05	33	0	0	0	ENERGY STAR windows (u=0.32) - homes with electric heating, no cooling				
9076	HVAC Shell	Ceiling Insulation (R-16 to R-49)	BED	MF	All	Retrofit	5,055.9	6%	291.5	0.0	0.2	0.0	0.0	0.0	0.0	0	25	\$1,500.00	\$750.00	\$1.32	\$0.00	\$0.00	0.56	1.05	7	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with electric heating, no cooling				
9077	HVAC Shell	Ceiling Insulation (R-37 to R-60)	BED	MF	All	Retrofit	4,809.6	2%	73.9	0.0	0.1	0.0	0.0	0.0	0.0	0	25	\$1,100.00	\$550.00	\$1.32	\$0.00	\$0.00	0.19	1.05	2	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with electric heating, no cooling				
9078	HVAC Shell	Floor Insulation (R-6 to R-30)	BED	MF	All	Retrofit	4,864.1	100%	4,864.1	0.0	4.7	0.0	0.0	0.0	0.0	0	25	\$907.20	\$453.60	\$1.32	\$0.00	\$0.00	16.01	1.05	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with electric heating, no cooling				
9079	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	BED	MF	All	Retrofit	5,201.3	16%	852.1	0.0	0.7	0.0	0.0	0.0	0.0	0	25	\$730.00	\$365.00	\$1.32	\$0.00	\$0.00	3.44	1.05	85	85	67	27	30% air leakage reduction - homes with electric heating, room AC cooling				
9080	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	BED	MF	All	Retrofit	8,309.9	30%	2,511.5	0.0	2.2	0.0	0.0	0.0	0.0	0	25	\$730.00	\$365.00	\$1.32	\$0.00	\$0.00	10.22	1.05	250	250	198	80	40% air leakage reduction - homes with electric heating, room AC cooling				
9081	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	BED	MF	All	Retrofit	5,201.3	7%	384.0	0.1	0.4	0.0	0.0	0.0	0.0	0	25	\$3,154.00	\$1,577.00	\$1.32	\$0.00	\$0.00	0.44	1.05	136	0	0	0	ENERGY STAR windows (u=0.32) - homes with electric heating, room AC cooling				
9082	HVAC Shell	Ceiling Insulation (R-16 to R-49)	BED	MF	All	Retrofit	5,394.1	5%	293.5	0.0	0.2	0.0	0.0	0.0	0.0	0	25	\$1,500.00	\$750.00	\$1.32	\$0.00	\$0.00	0.64	1.05	29	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with electric heating, room AC cooling				
9083	HVAC Shell	Ceiling Insulation (R-37 to R-60)	BED	MF	All	Retrofit	5,146.3	1%	74.6	0.0	0.1	0.0	0.0	0.0	0.0	0	25	\$1,100.00	\$550.00	\$1.32	\$0.00	\$0.00	0.19	1.05	7	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with electric heating, room AC cooling				
9084	HVAC Shell	Floor Insulation (R-6 to R-30)	BED	MF	All	Retrofit	5,201.3	100%	5,201.3	0.0	4.7	0.0	0.0	0.0	0.0	0	25	\$907.20	\$453.60	\$1.32	\$0.00	\$0.00	17.08	1.05	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with electric heating, room AC cooling				
9085	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	MF	All	Retrofit	238.4	18%	41.8	0.0	0.0	5.4	0.0	0.0	0.8	0	25	\$730.00	\$365.00	\$1.32	\$0.00	\$0.00	3.96	1.05	0	0	0	0	30% air leakage reduction - homes with gas heating, no cooling, wood stove back-up heating				
9086	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	MF	All	Retrofit	390.4	31%	122.7	0.0	0.1	15.9	0.0	0.0	2.3	0	25	\$730.00	\$365.00	\$1.32	\$0.00	\$0.00	11.64	1.05	0	0	0	0	40% air leakage reduction - homes with gas heating, no cooling, wood stove back-up heating				
9087	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	MF	All	Retrofit	238.4	8%	18.2	0.0	0.0	2.4	0.0	0.0	0.3	0	25	\$3,154.00	\$1,577.00	\$1.32	\$0.00	\$0.00	0.40	1.05	0	0	0	0	ENERGY STAR windows (u=0.32)- homes with gas heating, no cooling, wood stove back-up heating				
9088	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	MF	All	Retrofit	248.3	6%	15.1	0.0	0.0	2.0	0.0	0.0	0.3	0	25	\$1,500.00	\$750.00	\$1.32	\$0.00	\$0.00	0.70	1.05	0	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, no cooling, wood stove back-up heating				
9089	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	MF	All	Retrofit	235.5	2%	3.9	0.0	0.0	0.5	0.0	0.0	0.1	0	25	\$1,100.00	\$550.00	\$1.32	\$0.00	\$0.00	0.24	1.05	0	0	0	0	R60 ceiling insulation (R-37 baseline)- homes with gas heating, no cooling, wood stove back-up heating				
9090	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	MF	All	Retrofit	238.4	100%	238.4	0.0	0.2	30.9	0.0	0.0	4.4	0	25	\$907.20	\$453.60	\$1.32	\$0.00	\$0.00	18.19	1.05	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with gas heating, no cooling, wood stove back-up heating				
9091	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	MF	All	Retrofit	575.6	5%	28.7	0.0	0.0	5.4	0.0	0.0	0.8	0	25	\$730.00	\$365.00	\$1.32	\$0.00	\$0.00	3.91	1.05	0	0	0	0	30% air leakage reduction - homes with gas heating, room AC cooling, wood stove back-up heating				
9092	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	MF	All	Retrofit	693.1	14%	96.4	0.0	0.1	15.9	0.0	0.0	2.3	0	25	\$730.00	\$365.00	\$1.32	\$0.00	\$0.00	11.56	1.05	0	0	0	0	40% air leakage reduction - homes with gas heating, room AC cooling, wood stove back-up heating				
9093	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	MF	All	Retrofit	575.6	6%	32.5	0.1	0.0	2.4	0.0	0.0	0.3	0	25	\$3,154.00	\$1,577.00	\$1.32	\$0.00	\$0.00	0.49	1.05	0	0	0	0	ENERGY STAR windows (u=0.32) - homes with gas heating, room AC cooling, wood stove back-up heating				
9094	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	MF	All	Retrofit	586.5	3%	17.1	0.0	0.0	2.0	0.0	0.0	0.3	0	25	\$1,500.00	\$750.00	\$1.32	\$0.00	\$0.00	0.77	1.05	0	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, room AC cooling, wood stove back-up heating				
9095	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	MF	All	Retrofit	572.2	1%	4.5	0.0	0.0	0.5	0.0	0.0	0.1	0	25	\$1,100.00	\$550.00	\$1.32	\$0.00	\$0.00	0.25	1.05	0	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with gas heating, room AC cooling, wood stove back-up heating				
9096	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	MF	All	Retrofit	575.6	100%	575.6	0.0	0.2	30.9	0.0	0.0	4.4	0	25	\$907.20	\$453.60	\$1.32	\$0.00	\$0.00	19.09	1.05	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with gas heating, room AC cooling, wood stove back-up heating				
9097	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	MF	All	Retrofit	972.8	28%	272.5	0.0	0.0	5.4	0.0	0.0	0.0	0	25	\$730.00	\$365.00	\$1.32	\$0.00	\$0.00	4.51	1.05	0	0	0	0	30% air leakage reduction - homes with gas heating, no cooling, electric resistance back-up heating				
9098	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	MF	All	Retrofit	1,599.5	40%	642.6	0.0	0.1	15.9	0.0	0.0	0.0	0	25	\$730.00	\$365.00	\$1.32	\$0.00	\$0.00	12.73	1.05	0	0	0	0	40% air leakage reduction - homes with gas heating, no cooling, electric resistance				

Appendix B.3		BED Residential Measure Assumptions																												
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR R&P (MWh)	Measure Description	
9128	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	BED	MF	All	Retrofit	903.1	10%	87.8	0.0	0.0	0.0	5.5	0.0	0.0	0	25	\$730.00	\$365.00	\$1.32	\$0.00	\$0.00	5.67	1.05	0	0	0	0	30% air leakage reduction - homes with oil heating, room AC cooling, electric resistance back-up heating	
9129	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	BED	MF	All	Retrofit	1,235.1	22%	269.6	0.0	0.0	0.0	15.4	0.0	0.0	0	25	\$730.00	\$365.00	\$1.32	\$0.00	\$0.00	16.02	1.05	18	18	14	6	40% air leakage reduction - homes with oil heating, room AC cooling, electric resistance back-up heating	
9130	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	BED	MF	All	Retrofit	903.1	6%	57.4	0.1	0.0	0.0	2.3	0.0	0.0	0	25	\$3,154.00	\$1,577.00	\$1.32	\$0.00	\$0.00	0.65	1.05	14	0	0	0	ENERGY STAR windows (u=0.32) - homes with oil heating, room AC cooling, electric resistance back-up heating	
9131	HVAC Shell	Ceiling Insulation (R-16 to R-49)	BED	MF	All	Retrofit	926.5	4%	36.0	0.0	0.0	0.0	1.9	0.0	0.0	0	25	\$1,500.00	\$750.00	\$1.32	\$0.00	\$0.00	1.01	1.05	2	2	2	1	R49 ceiling insulation (R-16 or less baseline) - homes with oil heating, room AC cooling, electric resistance back-up heating	
9132	HVAC Shell	Ceiling Insulation (R-37 to R-60)	BED	MF	All	Retrofit	896.2	1%	9.2	0.0	0.0	0.0	0.5	0.0	0.0	0	25	\$1,100.00	\$550.00	\$1.32	\$0.00	\$0.00	0.35	1.05	1	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with oil heating, room AC cooling, electric resistance back-up heating	
9133	HVAC Shell	Floor Insulation (R-6 to R-30)	BED	MF	All	Retrofit	903.1	100%	903.1	0.5	0.0	0.0	31.5	0.0	0.0	0	25	\$907.20	\$453.60	\$1.32	\$0.00	\$0.00	30.11	1.05	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with oil heating, room AC cooling, electric resistance back-up heating	
9134	HVAC Shell	ENERGY STAR New Home (gas heat)	VGS	MF	All	NC	547.7	14%	77.6	0.1	0.0	4.4	0.0	0.0	0.0	0	25	\$3,627.00	\$1,813.50	\$2.19	\$0.00	\$0.00	0.70	1.05	0	0	0	0	ENERGY STAR new home with gas heat	
9135	HVAC Shell	ENERGY STAR New Home (electric heat)	BED	MF	All	NC	2,442.3	21%	513.0	0.0	0.2	0.0	0.0	0.0	0.0	0	25	\$3,627.00	\$1,813.50	\$2.19	\$0.00	\$0.00	0.42	1.05	0	0	0	0	ENERGY STAR new home with electric heat	
10000	HVAC Equipment	ENERGY STAR Dehumidifiers	BED	SF	All	MO	1,005.1	20%	201.0	0.0	0.1	0.0	0.0	0.0	0.0	0	12	\$60.00	\$40.00	\$1.32	\$0.00	\$0.00	6.28	0.77	571	571	337	291	ENERGY STAR dehumidifier to replace standard efficiency unit	
10001	HVAC Equipment	Room Air Conditioner	BED	SF	All	MO	354.8	9%	32.5	0.1	0.1	0.0	0.0	0.0	0.0	0	12	\$39.00	\$19.50	\$1.32	\$0.00	\$0.00	2.51	1.00	175	175	134	80	ENERGY STAR room air conditioner to replace standard efficiency unit	
10002	HVAC Equipment	Brushless Permanent Magnet Circulator Pump	BED	SF	All	MO	116.2	84%	97.1	0.1	0.1	0.0	0.0	0.0	0.0	0	20	\$100.00	\$100.00	\$1.32	\$0.00	\$0.00	2.27	1.00	170	170	130	118	Installing fractional horsepower circulator pumps with brushless permanent magnet pump (BLPM) motors	
10003	HVAC Equipment	ENERGY STAR Central AC (SEER 15)	BED	SF	All	MO	1,038.5	13%	138.5	0.2	0.2	0.0	0.0	0.0	0.0	0	14	\$276.00	\$200.00	\$1.32	\$0.00	\$0.00	2.79	1.00	0	0	3	2	Installing 15 SEER central air conditioner in homes with central air	
10004	HVAC Equipment	ENERGY STAR Central AC Tier 2 (SEER 16)	BED	SF	All	MO	1,038.5	19%	194.7	0.3	0.3	0.0	0.0	0.0	0.0	0	14	\$552.00	\$200.00	\$1.32	\$0.00	\$0.00	2.12	1.00	0	0	4	2	Installing 16 SEER central air conditioner in homes with central air	
10005	HVAC Equipment	ENERGY STAR Central AC Tier 3 (SEER 17)	BED	SF	All	MO	1,038.5	24%	244.3	0.4	0.4	0.0	0.0	0.0	0.0	0	14	\$828.00	\$400.00	\$1.32	\$0.00	\$0.00	1.85	1.00	0	0	7	4	Installing 17 SEER central air conditioner in homes with central air	
10006	HVAC Equipment	ENERGY STAR Central AC Tier 4 (SEER 18)	BED	SF	All	MO	1,038.5	28%	288.5	0.5	0.5	0.0	0.0	0.0	0.0	0	14	\$1,107.00	\$400.00	\$1.32	\$0.00	\$0.00	1.64	1.00	52	52	20	11	Installing 18 SEER central air conditioner in homes with central air	
10007	HVAC Equipment	DMSHP (Primary Electric) - Replacing ASHP	BED	SF	All	MO	3,496.5	38%	1,330.7	0.1	0.3	0.0	0.0	0.0	0.0	0	15	\$833.00	\$600.00	\$1.32	\$0.00	\$0.00	2.70	0.88	125	125	85	65	Installation of ductless heat pump instead of standard central heat pump	
10008	HVAC Equipment	DMSHP (Secondary Electric) - Replacing ASHP	BED	SF	All	MO	426.9	38%	162.4	0.0	0.0	0.0	0.0	0.0	0.0	0	15	\$591.00	\$600.00	\$1.32	\$0.00	\$0.00	0.46	0.88	240	0	0	0	Installation of ductless heat pump instead to air source heat pump to offset secondary electric heating load	
10009	HVAC Equipment	Advanced Thermostats - Electric Heating	BED	SF	All	Retrofit	6,097.5	7%	432.9	0.0	0.0	0.0	0.0	0.0	0.0	0	10	\$200.00	\$150.00	\$1.32	\$0.00	\$0.00	2.18	1.00	20	20	16	12	Installation of advanced ("smart") thermostat in homes with electric primary heating	
10010	HVAC Equipment	Gas Boiler Tier 1	VGS	SF	All	MO	0.0	0%	0.0	0.0	0.0	10.2	0.0	0.0	0.0	0	25	\$2,030.00	\$600.00	\$1.32	\$0.00	\$0.00	\$20.86	2.25	1.00	0	0	0	0	Installation of 95 AFUE boiler in homes with gas boilers
10011	HVAC Equipment	Gas Boiler Tier 2	VGS	SF	All	MO	0.0	0%	0.0	0.0	0.0	13.5	0.0	0.0	0.0	0	25	\$2,417.00	\$800.00	\$1.32	\$0.00	\$0.00	\$20.86	2.50	1.00	0	0	0	0	Installation of 98 AFUE boiler in homes with gas boilers
10012	HVAC Equipment	Gas Furnace Tier 1	VGS	SF	All	MO	0.0	0%	0.0	0.0	0.0	6.3	0.0	0.0	0.0	0	20	\$742.00	\$400.00	\$1.32	\$0.00	\$0.00	\$22.88	3.14	1.00	0	0	0	0	Installation of 95 AFUE furnace in homes with gas furnaces
10013	HVAC Equipment	Gas Furnace Tier 2	VGS	SF	All	MO	0.0	0%	0.0	0.0	0.0	8.7	0.0	0.0	0.0	0	20	\$851.50	\$500.00	\$1.32	\$0.00	\$0.00	\$22.88	3.81	1.00	0	0	0	0	Installation of 98 AFUE furnace in homes with gas furnaces
10014	HVAC Equipment	Dual-Fuel DMS HP	VGS	SF	All	MO	1,696.3	-59%	-997.2	0.4	-1.3	70.8	0.0	0.0	0.0	0	18	\$6,000.00	\$600.00	\$1.32	\$0.00	\$0.00	4.21	1.00	0	0	0	0	Installation of dual-fuel ductless heat pump gas furnace	
10015	HVAC Equipment	Combination Boiler / DHW Tier 1	VGS	SF	All	MO	1,696.3	-59%	-997.2	0.4	-1.3	10.3	0.0	0.0	0.0	0	19	\$629.00	\$900.00	\$1.32	\$0.00	\$0.00	1.12	1.00	0	0	0	0	Installation of 90 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers	
10016	HVAC Equipment	Combination Boiler / DHW Tier 2	VGS	SF	All	MO	1,696.3	-59%	-997.2	0.4	-1.3	12.8	0.0	0.0	0.0	0	19	\$1,999.00	\$1,100.00	\$1.32	\$0.00	\$0.00	1.05	1.00	0	0	0	0	Installation of 95 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers	
10017	HVAC Equipment	Indirect-Fired Storage Tank	VGS	SF	All	MO	1,696.3	-59%	-997.2	0.4	-1.3	18.2	0.0	0.0	0.0	0	25	\$3,307.00	\$100.00	\$1.32	\$0.00	\$0.00	1.27	1.00	0	0	0	0	Installation of indirect water heater to high efficiency boiler	
10018	HVAC Equipment	Advanced Thermostats - Gas Heating	VGS	SF	All	Retrofit	565.6	7%	40.2	0.0	0.0	5.0	0.0	0.0	0.0	0	10	\$200.00	\$150.00	\$1.32	\$0.00	\$0.00	5.59	1.00	0	0	0	0	Installation of advanced ("smart") thermostat in homes with gas primary heating	
10019	HVAC Equipment	ENERGY STAR Dehumidifiers	BED	SF	All	NC	1,005.1	20%	201.0	0.1	0.1	0.0	0.0	0.0	0.0	0	12	\$60.00	\$40.00	\$2.19	\$0.00	\$0.00	6.28	0.77	42	42	25	17	ENERGY STAR dehumidifier to replace standard efficiency unit	
10020	HVAC Equipment	Room Air Conditioner	BED	SF	All	NC	354.8	9%	32.5	0.1	0.1	0.0	0.0	0.0	0.0	0	12	\$39.00	\$19.50	\$2.19	\$0.00	\$0.00	2.51	1.00	14	14	11	7	ENERGY STAR room air conditioner to replace standard efficiency unit	
10021	HVAC Equipment	Brushless Permanent Magnet Circulator Pump	BED	SF	All	NC	116.2	84%	97.1	0.1	0.1	0.0	0.0	0.0	0.0	0	20	\$100.00	\$100.00	\$2.19	\$0.00	\$0.00	2.27	1.00	5	5	4	3	Installing fractional horsepower circulator pumps with brushless permanent magnet pump (BLPM) motors	
10022	HVAC Equipment	ENERGY STAR Central AC (SEER 15)	BED	SF	All	NC	1,038.5	13%	138.5	0.2	0.2	0.0	0.0	0.0	0.0	0	14	\$276.00	\$200.00	\$2.19	\$0.00	\$0.00	2.79	1.00	0	0	2	2	Installing 15 SEER central air conditioner in homes with central air	
10023	HVAC Equipment	ENERGY STAR Central AC Tier 2 (SEER 16)	BED	SF	All	NC	1,038.5	19%	194.7	0.3	0.3	0.0	0.0	0.0	0.0	0	14	\$552.00	\$200.00	\$2.19	\$0.00	\$0.00	2.12	1.00	0	0	3	1	Installing 16 SEER central air conditioner in homes with central air	
10024	HVAC Equipment	ENERGY STAR Central AC Tier 3 (SEER 17)	BED	SF	All	NC	1,038.5	24%	244.3	0.4	0.4	0.0	0.0	0.0	0.0	0	14	\$828.00	\$400.00	\$2.19	\$0.00	\$0.00	1.85	1.00	0	0	4	2	Installing 17 SEER central air conditioner in homes with central air	
10025	HVAC Equipment	ENERGY STAR Central AC Tier 4 (SEER 18)	BED	SF	All	NC	1,038.5	28%	288.5	0.5	0.5	0.0	0.0	0.0	0.0	0	14	\$1,107.00	\$400.00	\$2.19	\$0.00	\$0.00	1.64	1.00	21	22	4	2	Installing 18 SEER central air conditioner in homes with central air	
10026	HVAC Equipment	DMSHP (Primary Electric) - Replacing ASHP	BED	SF	All	NC	3,252.9	35%	849.2	0.1	0.1	0.0	0.0	0.0	0.0	0	15	\$833.00	\$600.00	\$2.19	\$0.00	\$0.00	1.80	0.88	28	30	20	15	Installation of ductless heat pump instead of standard central heat pump	
10027	HVAC Equipment	DMSHP (Secondary Electric) - Replacing ASHP	BED	SF	All	NC	292.8	35%	103.7	0.0	0.0	0.0	0.0	0.0	0.0	0	15	\$591.00	\$600.00	\$2.19	\$0.00	\$0.00	0.29	0.88	8	0	0	0	Installation of ductless heat pump instead to air source heat pump to offset secondary electric heating load	
10028	HVAC Equipment	Advanced Thermostats - Electric Heating	BED	SF	All	NC	3,041.8	5%	161.2	0.0	0.0	0.0	0.0	0.0	0.0	0	10	\$200.00	\$150.00	\$2.19	\$0.00	\$0.00	0.81	1.00	2	0	0	0	Installation of advanced ("smart") thermostat in homes with electric primary heating	
10029	HVAC Equipment	Gas Boiler Tier 1	VGS	SF	All	NC	0.0	0%	0.0	0.0	0.0	10.2	0.0	0.0	0.0	0	25	\$2,030.00	\$600.00	\$2.19	\$0.00	\$0.00	\$20.86	2.25	1.00	0	0	0	0	Installation of 95 AFUE boiler in homes with gas boilers
10030	HVAC Equipment	Gas Boiler Tier 2	VGS	SF	All	NC	0.0	0%	0.0	0.0	0.0	13.5	0.0	0.0	0.0	0	25	\$2,417.00	\$800.00	\$2.19	\$0.00	\$0.00	\$20.86	2.50	1.00	0	0	0	0	Installation of 98 AFUE boiler in homes with gas boilers
10031	HVAC Equipment	Gas Furnace Tier 1	VGS	SF	All	NC	0.0	0%	0.0	0.0	0.0	6.3	0.0	0.0	0.0	0	20	\$742.00	\$400.00	\$2.19	\$0.00	\$0.00	\$22.88	3.14	1.00	0	0	0	0	Installation of 95 AFUE furnace in homes with gas furnaces
10032	HVAC Equipment	Gas Furnace Tier 2	VGS	SF	All	NC	0.0	0%	0.0	0.0	0.0	8.7	0.0	0.0	0.0	0	20	\$851.50	\$500.00	\$2.19	\$0.00	\$0.00	\$22.88	3.81	1.00	0	0	0	0	Installation of 98 AFUE furnace in homes with gas furnaces
10033	HVAC Equipment	Dual-Fuel DMS HP	VGS	SF	All	NC	605.5	-248%	-1,504.4	0.1	-0.8	44.7	0.0	0.0	0.0	0	18	\$6,000.00	\$600.00	\$2.19	\$0.00	\$0.00	1.92	1.00	0	0	0	0	Installation of dual-fuel ductless heat pump gas furnace	
10034	HVAC Equipment	Combination Boiler / DHW Tier 1	VGS	SF	All	NC	0.0	0%	0.0	0.0	0.0	10.3	0.0	0.0	0.0	0	19	\$629.00	\$900.00	\$2.19	\$0.00	\$0.00	4.24	1.00	0	0	0	0	Installation of 90 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers	
10035	HVAC Equipment	Combination Boiler / DHW Tier 2	VGS	SF	All	NC	0.0	0%	0.0	0.0	0.0	12.8	0.0	0.0	0.0	0	19	\$1,999.00	\$1,100.00	\$2.19	\$0.00	\$0.00	2.37	1.00	0	0	0	0	Installation of 95 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers	
10036	HVAC Equipment	Indirect-Fired Storage Tank	VGS	SF	All	NC	0.0	0%	0.0	0.0	0.0	18.2	0.0	0.0	0.0	0	25	\$3,307.00	\$100.00</											



Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR R&P (MWh)	Measure Description
10073	HVAC Equipment	Combination Boiler / DHW Tier 2	VGS	MF	All	NC	0.0	0%	0.0	0.0	0.0	8.5	0.0	0.0	0.0	0	19	\$1,332.67	\$1,100.00	\$2.19	\$0.00	\$0.00	2.37	1.00	0	0	0	0	Installation of 95 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers
10074	HVAC Equipment	Indirect-Fired Storage Tank	VGS	MF	All	NC	0.0	0%	0.0	0.0	0.0	12.1	0.0	0.0	0.0	0	25	\$2,204.67	\$100.00	\$2.19	\$0.00	\$0.00	2.50	1.00	0	0	0	0	Installation of indirect water heater to high efficiency boiler
10075	HVAC Equipment	Advanced Thermostats - Gas Heating	VGS	MF	All	NC	547.7	5%	29.0	0.0	0.0	0.8	0.0	0.0	0.0	0	10	\$200.00	\$150.00	\$2.19	\$0.00	\$0.00	0.95	1.00	0	0	0	0	Installation of advanced ("smart") thermostat in homes with gas primary heating
11000	Behavioral	HER - Low (Gas Heating)	BED	SF	All	Retrofit	3,290.2	0%	14.5	0.0	0.0	0.4	0.0	0.0	0.0	0	1	\$7.20	\$7.20	\$0.12	\$0.00	\$0.00	1.41	1.20	39	40	49	52	Home energy report in homes with low energy use (bottom-third of customers) and natural gas heating
11001	Behavioral	HER - Low (Other Heating)	BED	SF	All	Retrofit	3,290.2	0%	14.5	0.0	0.0	0.0	0.3	0.0	0.1	0	1	\$7.20	\$7.20	\$0.12	\$0.00	\$0.00	1.69	1.20	7	7	9	9	Home energy report in homes with low energy use (bottom-third of customers) and other fossil fuel heating
11002	Behavioral	HER - Medium (Gas Heating)	BED	SF	All	Retrofit	5,340.5	0%	20.9	0.0	0.0	0.3	0.0	0.0	0.0	0	1	\$7.20	\$7.20	\$0.12	\$0.00	\$0.00	1.41	1.20	50	52	64	68	Home energy report in homes with medium energy use (middle-third of customers) and natural gas heating

Appendix B.3		BED Residential Measure Assumptions																													
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Savings (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR	20 YR	20 YR	20 YR	Measure Description		
																									Technical Potential (MWh)	Economic Potential (MWh)	MAP (MWh)	RAP (MWh)			
11003	Behavioral	HER - Medium (Other Heating)	BED	SF	All	Retrofit	5,340.5	0%	20.9	0.0	0.0	0.0	0.3	0.0	0.0	0.1	0	1	\$7.20	\$7.20	\$0.12	\$0.00	\$0.00	1.81	1.20	9	9	11	12	Home energy report in homes with medium energy use (middle-third of customers) and other fossil fuel heating	
11004	Behavioral	HER - High (Gas Heating)	BED	SF	All	Retrofit	8,630.8	1%	71.1	0.0	0.0	0.7	0.0	0.0	0.0	0	1	\$7.20	\$7.20	\$0.12	\$0.00	\$0.00	3.47	1.20	99	103	125	134	Home energy report in homes with high energy use (top-third of customers) and natural gas heating		
11005	Behavioral	HER - High (Other Heating)	BED	SF	All	Retrofit	8,630.8	1%	71.1	0.0	0.0	0.0	0.3	0.0	0.0	0.1	0	1	\$7.20	\$7.20	\$0.12	\$0.00	\$0.00	2.77	1.20	17	18	22	24	Home energy report in homes with high energy use (top-third of customers) and other fossil fuel heating	
11006	Behavioral	HER - Medium (Gas Heating)	BED	SF	All	NC	5,340.5	0%	20.9	0.0	0.0	0.3	0.0	0.0	0.0	0	1	\$7.20	\$7.20	\$0.12	\$0.00	\$0.00	1.41	1.20	17	17	21	23	Home energy report in homes with medium energy use (middle-third of customers) and natural gas heating		
11007	Behavioral	HER - Medium (Other Heating)	BED	SF	All	NC	5,340.5	0%	20.9	0.0	0.0	0.0	0.3	0.0	0.0	0.1	0	1	\$7.20	\$7.20	\$0.12	\$0.00	\$0.00	1.81	1.20	3	3	4	4	Home energy report in homes with medium energy use (middle-third of customers) and other fossil fuel heating	
11008	Behavioral	HER - Low (Gas Heating)	BED	MF	All	Retrofit	3,290.2	0%	14.5	0.0	0.0	0.4	0.0	0.0	0.0	0	1	\$7.20	\$7.20	\$0.12	\$0.00	\$0.00	1.41	1.20	60	63	76	82	Home energy report in homes with low energy use (bottom-third of customers) and natural gas heating		
11009	Behavioral	HER - Low (Other Heating)	BED	MF	All	Retrofit	3,290.2	0%	14.5	0.0	0.0	0.0	0.3	0.0	0.0	0.1	0	1	\$7.20	\$7.20	\$0.12	\$0.00	\$0.00	1.69	1.20	11	11	13	14	Home energy report in homes with low energy use (bottom-third of customers) and other fossil fuel heating	
11010	Behavioral	HER - Medium (Gas Heating)	BED	MF	All	Retrofit	5,340.5	0%	20.9	0.0	0.0	0.3	0.0	0.0	0.0	0	1	\$7.20	\$7.20	\$0.12	\$0.00	\$0.00	1.41	1.20	79	82	100	107	Home energy report in homes with medium energy use (middle-third of customers) and natural gas heating		
11011	Behavioral	HER - Medium (Other Heating)	BED	MF	All	Retrofit	5,340.5	0%	20.9	0.0	0.0	0.0	0.3	0.0	0.0	0.1	0	1	\$7.20	\$7.20	\$0.12	\$0.00	\$0.00	1.81	1.20	14	14	18	19	Home energy report in homes with medium energy use (middle-third of customers) and other fossil fuel heating	
11012	Behavioral	HER - High (Gas Heating)	BED	MF	All	Retrofit	8,630.8	1%	71.1	0.0	0.0	0.7	0.0	0.0	0.0	0	1	\$7.20	\$7.20	\$0.12	\$0.00	\$0.00	3.47	1.20	154	160	196	209	Home energy report in homes with high energy use (top-third of customers) and natural gas heating		
11013	Behavioral	HER - High (Other Heating)	BED	MF	All	Retrofit	8,630.8	1%	71.1	0.0	0.0	0.0	0.3	0.0	0.0	0.1	0	1	\$7.20	\$7.20	\$0.12	\$0.00	\$0.00	2.77	1.20	27	28	35	37	Home energy report in homes with high energy use (top-third of customers) and other fossil fuel heating	
11014	Behavioral	HER - Medium (Gas Heating)	BED	MF	All	NC	5,340.5	0%	20.9	0.0	0.0	0.3	0.0	0.0	0.0	0	1	\$7.20	\$7.20	\$0.12	\$0.00	\$0.00	1.41	1.20	26	27	33	35	Home energy report in homes with medium energy use (middle-third of customers) and natural gas heating		
11015	Behavioral	HER - Medium (Other Heating)	BED	MF	All	NC	5,340.5	0%	20.9	0.0	0.0	0.0	0.3	0.0	0.0	0.1	0	1	\$7.20	\$7.20	\$0.12	\$0.00	\$0.00	1.81	1.20	5	5	6	6	Home energy report in homes with medium energy use (middle-third of customers) and other fossil fuel heating	
12000	ER Refrigeration	Refrigerator (CEE Tier 3)	BED	SF	NLI	ER1	898.0	41%	365.0	0.0	0.0	0.0	0.0	0.0	0.0	0	6	\$410.52	\$75.00	\$0.06	\$0.00	\$0.00	0.74	1.00	97	0	0	0	0	Installation of CEE Tier 3 qualifying residential refrigerator to replace inefficient unit before end of its useful life	
12001	ER Refrigeration	Refrigerator (CEE Tier 3)	BED	SF	NLI	ER2	564.8	10%	56.5	0.0	0.0	0.0	0.0	0.0	0.0	0	11	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	1.00	28	0	0	0	0	Installation of CEE Tier 3 qualifying residential refrigerator to replace inefficient unit before end of its useful life	
12002	ER Refrigeration	Refrigerator (CEE Tier 3)	BED	SF	NLI	ER3	564.8	10%	56.5	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$59.00	\$75.00	\$0.06	\$0.00	\$0.00	1.71	1.00	8	0	0	0	0	Installation of CEE Tier 3 qualifying residential refrigerator to replace inefficient unit before end of its useful life	
12003	ER Refrigeration	ENERGY STAR Freezer	BED	SF	NLI	ER1	898.0	30%	269.0	0.0	0.0	0.0	0.0	0.0	0.0	0	3	\$159.31	\$25.00	\$0.06	\$0.00	\$0.00	0.69	1.00	12	12	10	6	Installation of ENERGY STAR freezer to replace inefficient unit before end of its useful life		
12004	ER Refrigeration	ENERGY STAR Freezer	BED	SF	NLI	ER2	285.1	10%	28.5	0.0	0.0	0.0	0.0	0.0	0.0	0	13	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	1.00	6	6	5	3	Installation of ENERGY STAR freezer to replace inefficient unit before end of its useful life		
12005	ER Refrigeration	ENERGY STAR Freezer	BED	SF	NLI	ER3	285.1	10%	28.5	0.0	0.0	0.0	0.0	0.0	0.0	0	16	\$35.00	\$25.00	\$0.06	\$0.00	\$0.00	1.75	1.00	2	2	1	1	Installation of ENERGY STAR freezer to replace inefficient unit before end of its useful life		
12006	ER Refrigeration	Refrigerator (CEE Tier 3)	BED	MF	NLI	ER1	898.0	41%	365.0	0.0	0.0	0.0	0.0	0.0	0.0	0	6	\$410.52	\$200.00	\$0.06	\$0.00	\$0.00	0.74	0.90	141	0	0	0	0	Installation of CEE Tier 3 qualifying residential refrigerator to replace inefficient unit before end of its useful life	
12007	ER Refrigeration	Refrigerator (CEE Tier 3)	BED	MF	NLI	ER2	564.8	10%	56.5	0.0	0.0	0.0	0.0	0.0	0.0	0	11	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	0.90	40	0	0	0	0	Installation of CEE Tier 3 qualifying residential refrigerator to replace inefficient unit before end of its useful life	
12008	ER Refrigeration	Refrigerator (CEE Tier 3)	BED	MF	NLI	ER3	564.8	10%	56.5	0.0	0.0	0.0	0.0	0.0	0.0	0	17	\$59.00	\$200.00	\$0.06	\$0.00	\$0.00	0.64	0.90	11	0	0	0	0	Installation of CEE Tier 3 qualifying residential refrigerator to replace inefficient unit before end of its useful life	
12009	ER Refrigeration	ENERGY STAR Freezer	BED	MF	NLI	ER1	646.6	10%	193.7	0.0	0.0	0.0	0.0	0.0	0.0	0	3	\$159.31	\$25.00	\$0.06	\$0.00	\$0.00	0.50	1.00	4	4	4	2	Installation of ENERGY STAR freezer to replace inefficient unit before end of its useful life		
12010	ER Refrigeration	ENERGY STAR Freezer	BED	MF	NLI	ER2	285.1	10%	28.5	0.0	0.0	0.0	0.0	0.0	0.0	0	13	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	1.00	3	3	2	1	Installation of ENERGY STAR freezer to replace inefficient unit before end of its useful life		
12011	ER Refrigeration	ENERGY STAR Freezer	BED	MF	NLI	ER3	285.1	10%	28.5	0.0	0.0	0.0	0.0	0.0	0.0	0	16	\$35.00	\$25.00	\$0.06	\$0.00	\$0.00	1.75	1.00	1	1	1	0	Installation of ENERGY STAR freezer to replace inefficient unit before end of its useful life		
13000	ER Clothes Washer/Drye	Clothes Washer (CEE Tier 3) ; fuel type unknown	BED	SF	NLI	ER1	881.2	50%	440.6	1.3	1.3	1.4	1.6	0.0	0.0	4,787	3	\$693.64	\$75.00	\$0.06	\$0.00	\$0.00	0.88	1.00	54	54	46	25	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3		
13001	ER Clothes Washer/Drye	Clothes Washer (CEE Tier 3) ; fuel type unknown	BED	SF	NLI	ER2	504.7	30%	151.4	0.5	0.5	0.2	0.3	0.1	0.0	2,992	11	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	1.00	68	68	59	32	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3		
13002	ER Clothes Washer/Drye	Clothes Washer (CEE Tier 3) ; fuel type unknown	BED	SF	NLI	ER3	504.7	30%	151.4	0.5	0.5	0.2	0.3	0.1	0.0	2,992	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	2.34	1.00	37	37	32	13	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3		
13003	ER Clothes Washer/Drye	Clothes Washer (CEE Tier 3) ; fuel type unknown	BED	MF	NLI	ER1	723.9	50%	362.0	1.3	1.3	1.2	1.3	0.0	0.0	3,890	3	\$693.64	\$75.00	\$0.06	\$0.00	\$0.00	0.73	1.00	30	30	26	11	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3		
13004	ER Clothes Washer/Drye	Clothes Washer (CEE Tier 3) ; fuel type unknown	BED	MF	NLI	ER2	504.7	30%	151.4	0.5	0.5	0.2	0.3	0.1	0.0	2,468	11	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	1.00	46	46	39	18	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3		
13005	ER Clothes Washer/Drye	Clothes Washer (CEE Tier 3) ; fuel type unknown	BED	MF	NLI	ER3	504.7	30%	151.4	0.5	0.5	0.2	0.3	0.1	0.0	2,468	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	2.12	1.00	25	25	21	7	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3		
13006	ER Clothes Washer/Drye	Clothes Washer (CEE Tier 3) ; fuel type unknown - CA	BED	MF	All	ER1	12,306.3	50%	6,153.2	22.8	22.8	19.9	22.4	0.0	0.0	66,123	3	\$693.64	\$75.00	\$0.06	\$0.00	\$0.00	12.42	1.00	31	31	26	12	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3 - in multifamily common area		
13007	ER Clothes Washer/Drye	Clothes Washer (CEE Tier 3) ; fuel type unknown - CA	BED	MF	All	ER2	8,579.3	30%	2,573.8	8.0	8.0	2.9	4.6	2.2	0.0	41,963	11	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	1.00	47	47	40	18	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3 - in multifamily common area		
13008	ER Clothes Washer/Drye	Clothes Washer (CEE Tier 3) ; fuel type unknown - CA	BED	MF	All	ER3	8,579.3	30%	2,573.8	8.0	8.0	2.9	4.6	2.2	0.0	41,963	14	\$454.00	\$75.00	\$0.06	\$0.00	\$0.00	35.98	1.00	26	26	22	8	Installation of a new clothes washer exceeding minimum qualifying efficiency standards established as ENERGY STAR Most Efficient / CEE Tier 3 - in multifamily common area		
14000	ER Hot Water	Heat Pump DHW (< 2.35 EF)	BED	SF	All	ER1	2,730.0	53%	1,439.6	0.6	0.6	0.0	0.0	0.0	0.0	0	4	\$1,211.55	\$600.00	\$0.31	\$0.00	\$0.00	0.64	1.10	0	0	0	0	0	Installation of an ENERGY STAR heat pump water heater <2.35 EF to replace inefficient unit before end of its useful life	
14001	ER Hot Water	Heat Pump DHW (< 2.35 EF)	BED	SF	All	ER2	2,586.3	50%	1,301.8	0.5	0.5	0.0	0.0	0.0	0.0	0	9	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	1.10	0	0	0	0	0	Installation of an ENERGY STAR heat pump water heater <2.35 EF to replace inefficient unit before end of its useful life	
14002	ER Hot Water	Heat Pump DHW (< 2.35 EF)	BED	SF	All	ER3	2,586.3	50%	1,301.8	0.5	0.5	0.0	0.0	0.0	0.0	0	13	\$973.00	\$600.00	\$0.31	\$0.00	\$0.00	2.30	1.10	0	0	0	0	0	Installation of an ENERGY STAR heat pump water heater <2.35 EF to replace inefficient unit before end of its useful life	
14003	ER Hot Water	Heat Pump DHW (> 2.35 EF)	BED	SF	All	ER1	2,730.0	64%	1,744.9	0.7	0.7	0.0	0.0	0.0	0.0	0	4	\$1,339.55	\$600.00	\$0.31	\$0.00	\$0.00	0.71	1.10	81	81	69	47	Installation of an ENERGY STAR heat pump water heater >=2.35 EF to replace inefficient unit before end of its useful life		
14004	ER Hot Water	Heat Pump DHW (> 2.35 EF)	BED	SF	All	ER2	2,586.3	62%	1,607.2	0.6	0.6	0.0	0.0	0.0	0.0	0	9	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	1.10	169	169	143	97	Installation of an ENERGY STAR heat pump water heater >=2.35 EF to replace inefficient unit before end of its useful life		
14005	ER Hot Water	Heat Pump DHW (> 2.35 EF)	BED	SF	All	ER3	2,586.3	62%	1,607.2	0.6	0.6	0.0	0.0	0.0	0.0	0	13	\$1,101.00	\$600.00	\$0.31	\$0.00	\$0.00	2.51	1.10	131	131	111	60	Installation of an ENERGY STAR heat pump water heater >=2.35 EF to replace inefficient unit before end of its useful life		
14006	ER Hot Water	Heat Pump DHW (< 2.35 EF)	BED	MF	All	ER1	2,730.0	53%	1,439.6	0.6	0.6	0.0	0.0	0.0	0.0	0	4	\$1,211.55	\$600.00	\$0.31	\$0.00	\$0.00	0.64	1.10	0	0	87	43	Installation of an ENERGY STAR heat pump water heater <2.35 EF to replace inefficient unit before end of its useful life		
14007	ER Hot Water	Heat Pump DHW (< 2.35 EF)	BED	MF	All	ER2	2,586.3	50%	1,301.8	0.5	0.5	0.0	0.0	0.0	0.0	0	9	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	1.10	0	0	177	87	Installation of an ENERGY STAR heat pump water heater <2.35 EF to replace inefficient unit before end of its useful life		
14008	ER Hot Water	Heat Pump DHW (< 2.35 EF)	BED	MF	All	ER3	2,586.3	50%	1,301.8	0.5	0.5	0.0	0.0	0.0	0.0	0	13	\$973.00	\$600.00	\$0.31	\$0.00	\$0.00	2.30	1.10	0	0	138	54	Installation of an ENERGY STAR heat pump water heater <2.35 EF to replace inefficient unit before end of its useful life		
14009	ER Hot Water	Heat Pump DHW (> 2.35 EF)	BED	MF	All	ER1	2,730.0	64%	1,744.9	0.7	0.7	0.0	0.0	0.0	0.0	0	4	\$1,339.55	\$600.00	\$0.31	\$0.00	\$0.00	0.71	1.10	52	52	29	14	Installation of an ENERGY STAR heat pump water heater >=2.35 EF to replace inefficient unit before end of its useful life		
14010																															

Appendix B.3		BED Residential Measure Assumptions																											
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Base Annual Electric (kWh)	% Elec Savings	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
15014	ER HVAC Equipment	DMSHP (Primary Electric) - Replacing ASHP	BED	MF	All	ER3	2,925.4	31%	908.4	0.1	0.2	0.0	0.0	0.0	0.0	0	15	\$693.00	\$600.00	\$1.32	\$0.00	\$0.00	2.20	1.00	19	8	15	4	Installation of ductless heat pump instead of current primary electric heat system
15015	ER HVAC Equipment	DMSHP (Secondary Electric) - Replacing ASHP	BED	MF	All	ER1	783.1	61%	479.5	0.0	0.1	0.0	0.0	0.0	0.0	0	5	\$1,826.09	\$600.00	\$1.32	\$0.00	\$0.00	0.16	1.00	68	0	0	0	Installation of efficient ductless heat pump instead of secondary electric baseboard and/or new ff conversion to standard dmshp
15016	ER HVAC Equipment	DMSHP (Secondary Electric) - Replacing ASHP	BED	MF	All	ER2	440.4	31%	136.8	0.0	0.0	0.0	0.0	0.0	0.0	0	10	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	1.00	39	0	0	0	Installation of efficient ductless heat pump instead of secondary electric baseboard and/or new ff conversion to standard dmshp
15017	ER HVAC Equipment	DMSHP (Secondary Electric) - Replacing ASHP	BED	MF	All	ER3	440.4	31%	136.8	0.0	0.0	0.0	0.0	0.0	0.0	0	15	\$591.00	\$600.00	\$1.32	\$0.00	\$0.00	0.38	1.00	19	0	0	0	Installation of efficient ductless heat pump instead of secondary electric baseboard and/or new ff conversion to standard dmshp
15018	ER HVAC Equipment	Efficient Furnace Fan Motor (Heat)	BED	MF	All	ER1	1,284.0	50%	642.0	0.0	0.4	0.0	0.0	0.0	0.0	0	6	\$422.43	\$100.00	\$1.32	\$0.00	\$0.00	1.13	0.95	72	32	53	18	Installation of efficient fan motor - homes with furnace and no central air
15019	ER HVAC Equipment	Efficient Furnace Fan Motor (Heat)	BED	MF	All	ER2	400.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	0.95	0	0	0	0	Installation of efficient fan motor - homes with furnace and no central air
15020	ER HVAC Equipment	Efficient Furnace Fan Motor (Heat)	BED	MF	All	ER3	400.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	18	\$97.00	\$100.00	\$1.32	\$0.00	\$0.00	0.00	0.95	0	0	0	0	Installation of efficient fan motor - homes with furnace and no central air
15021	ER HVAC Equipment	Efficient Furnace Fan Motor (Heat & Cool)	BED	MF	All	ER1	1,350.0	50%	675.0	0.1	0.4	0.0	0.0	0.0	0.0	0	6	\$422.43	\$100.00	\$1.32	\$0.00	\$0.00	1.46	0.95	113	51	83	28	Installation of efficient fan motor - homes with furnace and central air
15022	ER HVAC Equipment	Efficient Furnace Fan Motor (Heat & Cool)	BED	MF	All	ER2	400.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	12	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	0.95	0	0	0	0	Installation of efficient fan motor - homes with furnace and central air
15023	ER HVAC Equipment	Efficient Furnace Fan Motor (Heat & Cool)	BED	MF	All	ER3	400.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	18	\$97.00	\$100.00	\$1.32	\$0.00	\$0.00	0.00	0.95	0	0	0	0	Installation of efficient fan motor - homes with furnace and central air
4036	Electronics	Tier 1 Powerstrips - home offices	BED	SF	LI	DI	197.9	19%	38.4	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$35.00	\$35.00	\$1.32	\$0.00	\$0.00	0.66	1.00	21	0	0	0	Installation of controlled power strip (Tier 1) in home offices
4037	Electronics	Tier 2 Powerstrips - home entertainment centers	BED	SF	LI	DI	678.4	51%	346.0	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$95.00	\$95.00	\$1.32	\$0.00	\$0.00	2.13	1.00	251	251	200	40	Installation of controlled power strip (Tier 2) in home entertainment centers
4038	Electronics	Tier 1 Powerstrips - home offices	BED	SF	LI	DI	197.9	19%	38.4	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$35.00	\$35.00	\$1.32	\$0.00	\$0.00	0.66	1.00	20	0	0	0	Installation of controlled power strip (Tier 1) in home offices
4039	Electronics	Tier 2 Powerstrips - home entertainment centers	BED	MF	LI	DI	678.4	51%	346.0	0.0	0.0	0.0	0.0	0.0	0.0	0	4	\$95.00	\$95.00	\$1.32	\$0.00	\$0.00	2.13	1.00	322	322	257	48	Installation of controlled power strip (Tier 2) in home entertainment centers
5104	Hot Water	Electric Hot Water Fuel Switch - Propane	BED	SF	LI	DI	2,069.1	100%	2,069.1	0.8	0.8	0.0	0.0	-14.4	0.0	0	15	\$2,250.00	\$2,250.00	\$1.32	\$0.00	\$25.00	0.51	1.00	11	0	0	0	Convert water heating from electric tank to liquid propane indirect-fired storage tank
5105	Hot Water	Electric Hot Water Fuel Switch - Nat Gas	BED	SF	LI	DI	2,069.1	100%	2,069.1	0.8	0.8	-18.3	0.0	0.0	0.0	0	15	\$975.00	\$975.00	\$1.32	\$0.00	\$7.00	0.83	1.00	19	0	0	0	Convert water heating from electric tank to natural gas stand-alone storage tank
5106	Hot Water	Electric Hot Water Fuel Switch - Oil	BED	SF	LI	DI	2,069.1	100%	2,069.1	0.8	0.8	0.0	-16.9	0.0	0.0	0	15	\$1,650.00	\$1,650.00	\$1.32	\$0.00	\$0.00	0.45	1.00	24	0	0	0	Convert water heating from electric tank to oil stand-alone storage tank
5107	Hot Water	Electric Hot Water Fuel Switch - Propane	BED	MF	LI	DI	2,069.1	100%	2,069.1	0.8	0.8	0.0	0.0	-12.0	0.0	0	15	\$2,250.00	\$2,250.00	\$1.32	\$0.00	\$25.00	0.58	1.00	33	0	0	0	Convert water heating from electric tank to liquid propane indirect-fired storage tank
5108	Hot Water	Electric Hot Water Fuel Switch - Nat Gas	BED	MF	LI	DI	2,069.1	100%	2,069.1	0.8	0.8	-15.3	0.0	0.0	0.0	0	15	\$975.00	\$975.00	\$1.32	\$0.00	\$7.00	0.96	1.00	58	0	0	0	Convert water heating from electric tank to natural gas stand-alone storage tank
5109	Hot Water	Electric Hot Water Fuel Switch - Oil	BED	MF	LI	DI	2,069.1	100%	2,069.1	0.8	0.8	0.0	-14.1	0.0	0.0	0	15	\$1,650.00	\$1,650.00	\$1.32	\$0.00	\$0.00	0.52	1.00	75	0	0	0	Convert water heating from electric tank to oil stand-alone storage tank



Appendix B.4		BED Non-residential Measure Assumptions																									
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description			
Computers	Computer - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	60.37	0.00	0.00	0.00	ENERGY STAR Computer			
Computers	Computer - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	3.00	0.00	0.00	0.00	ENERGY STAR Computer			
Computers	Network PC Power Management	Assembly	Discretionary	220.6	0.03	0.02	0.00	0.00	0.0	0.0	0.0	5	\$26.98	\$18.88	\$0.17	\$6.19	\$0.00	3.27	1.00	10.30	18.10	11.98	11.98	Network PC Power Management			
Computers	Network PC Power Management	Assembly	Lost Opportunity	220.6	0.03	0.02	0.00	0.00	0.0	0.0	0.0	5	\$26.98	\$18.88	\$0.11	\$6.19	\$0.00	3.27	1.00	0.64	1.12	0.74	0.74	Network PC Power Management			
Cooking	Combination Oven	Assembly	Discretionary	83.0	0.01	0.01	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.97	0.88	0.00	0.00	0.00	ENERGY STAR Combination Oven			
Cooking	Combination Oven	Assembly	Lost Opportunity	83.0	0.01	0.01	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.97	0.05	0.00	0.00	0.00	ENERGY STAR Combination Oven			
Cooking	Convection Oven	Assembly	Discretionary	18.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$5.06	\$3.54	\$0.17	\$0.00	\$0.00	7.05	0.97	0.37	0.37	0.24	0.24	ENERGY STAR Convection Oven			
Cooking	Convection Oven	Assembly	Lost Opportunity	18.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$5.06	\$3.54	\$0.11	\$0.00	\$0.00	7.05	0.97	0.02	0.02	0.01	0.01	ENERGY STAR Convection Oven			
Cooking	Fryers	Assembly	Discretionary	38.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$6.60	\$4.62	\$0.17	\$0.00	\$0.00	11.17	0.97	0.59	0.59	0.38	0.38	ENERGY STAR Fryer			
Cooking	Fryers	Assembly	Lost Opportunity	38.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$6.60	\$4.62	\$0.11	\$0.00	\$0.00	11.17	0.97	0.03	0.03	0.02	0.02	ENERGY STAR Fryer			
Cooking	Griddle	Assembly	Discretionary	24.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$11.21	\$7.85	\$0.17	\$0.00	\$0.00	4.22	0.97	0.30	0.30	0.19	0.19	ENERGY STAR Griddle			
Cooking	Griddle	Assembly	Lost Opportunity	24.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$11.21	\$7.85	\$0.11	\$0.00	\$0.00	4.22	0.97	0.02	0.02	0.01	0.01	ENERGY STAR Griddle			
Cooking	Hot Food Holding Cabinet	Assembly	Discretionary	22.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$11.76	\$8.23	\$0.17	\$0.00	\$0.00	3.65	0.97	0.42	0.42	0.27	0.27	ENERGY STAR Hot Food Holding Cabinet			
Cooking	Hot Food Holding Cabinet	Assembly	Lost Opportunity	22.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$11.76	\$8.23	\$0.11	\$0.00	\$0.00	3.65	0.97	0.02	0.02	0.01	0.01	ENERGY STAR Hot Food Holding Cabinet			
Cooking	Microwave - High Efficiency	Assembly	Discretionary	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$0.06	\$0.05	\$0.17	\$0.00	\$0.00	3.38	0.97	0.00	0.00	0.00	0.00	High Efficiency Microwave			
Cooking	Microwave - High Efficiency	Assembly	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$0.06	\$0.05	\$0.11	\$0.00	\$0.00	3.38	0.97	0.00	0.00	0.00	0.00	High Efficiency Microwave			
Cooking	Steam Cooker	Assembly	Discretionary	65.0	0.01	0.01	0.00	0.00	0.0	0.0	2,224.3	12	\$22.16	\$15.51	\$0.17	\$0.00	\$0.00	1115.51	0.97	1.06	1.06	0.68	0.68	ENERGY STAR Steam Cooker			
Cooking	Steam Cooker	Assembly	Lost Opportunity	65.0	0.01	0.01	0.00	0.00	0.0	0.0	2,224.3	12	\$22.16	\$15.51	\$0.11	\$0.00	\$0.00	1115.51	0.97	0.06	0.06	0.04	0.04	ENERGY STAR Steam Cooker			
Cooling Chillers	Active Chilled Beam Cooling with DOAS	Assembly	Lost Opportunity	682.9	0.23	0.00	0.00	0.00	0.0	0.0	0.0	15	\$10,434.00	\$0.00	\$0.11	\$7,825.50	\$0.00	0.03	0.98	0.29	0.00	0.00	0.00	Active Chilled Beam Cooling with DOAS			
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Assembly	Discretionary	355.1	0.12	0.00	0.36	14.45	0.0	0.0	0.0	15	\$2,608.50	\$1,825.95	\$0.17	\$0.00	\$0.00	0.56	0.98	0.41	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)			
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Assembly	Discretionary	631.7	0.22	0.00	0.00	0.00	0.0	0.0	0.0	15	\$12,103.44	\$8,472.41	\$0.17	\$0.00	\$0.00	0.18	0.98	3.70	0.00	0.00	0.00	Additional Control Features			
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Assembly	Lost Opportunity	631.7	0.22	0.00	0.00	0.00	0.0	0.0	0.0	15	\$12,103.44	\$8,472.41	\$0.11	\$0.00	\$0.00	0.18	0.98	0.03	0.00	0.00	0.00	Additional Control Features			
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Assembly	Discretionary	453.1	0.15	0.00	0.00	0.00	0.0	0.0	0.0	10	\$9,102.19	\$6,371.53	\$0.17	\$0.00	\$0.00	0.11	0.98	1.69	0.00	0.00	0.00	VSD for Secondary Chilled Water Loop			
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Assembly	Lost Opportunity	453.1	0.15	0.00	0.00	0.00	0.0	0.0	0.0	10	\$8,191.97	\$5,734.38	\$0.11	\$0.00	\$0.00	0.13	0.98	0.14	0.00	0.00	0.00	VSD for Secondary Chilled Water Loop			
Cooling Chillers	Chilled Water Reset	Assembly	Discretionary	170.7	0.06	0.00	0.00	0.00	0.0	0.0	0.0	10	\$7,109.10	\$4,976.37	\$0.17	\$0.00	\$0.00	0.05	0.98	1.79	0.00	0.00	0.00	Chilled Water Temperature Reset			
Cooling Chillers	Chilled Water Reset	Assembly	Lost Opportunity	170.7	0.06	0.00	0.00	0.00	0.0	0.0	0.0	10	\$7,109.10	\$4,976.37	\$0.11	\$0.00	\$0.00	0.05	0.98	0.00	0.00	0.00	0.00	Chilled Water Temperature Reset			
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Assembly	Discretionary	186.1	0.06	0.00	0.00	0.00	0.0	0.0	0.0	15	\$334.51	\$234.16	\$0.17	\$0.00	\$0.00	1.95	0.98	3.68	4.12	2.71	2.71	2.0" of Insulation, assuming R-8			
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Assembly	Lost Opportunity	186.1	0.06	0.00	0.00	0.00	0.0	0.0	0.0	15	\$334.51	\$234.16	\$0.11	\$0.00	\$0.00	1.95	0.98	0.25	0.28	0.18	0.18	2.0" of Insulation, assuming R-8			
Cooling Chillers	Chiller - Pipe Insulation - Code	Assembly	Discretionary	310.7	0.11	0.00	0.00	0.00	0.0	0.0	0.0	15	\$717.34	\$502.14	\$0.17	\$0.00	\$0.00	1.52	0.98	6.94	7.76	5.10	5.10	1.0" of Insulation, assuming R-4 (Code)			
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.29	\$0.21	\$0.17	\$0.00	\$0.00	0.77	0.98	7.44	0.00	0.00	0.00	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)			
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.26	\$0.19	\$0.11	\$0.00	\$0.00	0.86	0.98	0.52	0.00	0.00	0.00	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)			
Cooling Chillers	Commissioning	Assembly	Lost Opportunity	443.9	0.15	0.00	0.54	18.47	0.0	0.0	0.0	5	\$12,103.44	\$8,472.41	\$0.11	\$0.00	\$0.00	0.05	0.98	0.54	0.00	0.00	0.00	Commissioning			
Cooling Chillers	Convert Constant Volume Air System to VAV	Assembly	Discretionary	897.0	0.31	0.00	1.09	43.13	0.0	0.0	0.0	15	\$57,068.02	\$39,947.61	\$0.17	\$0.00	\$0.00	0.07	0.98	1.43	0.00	0.00	0.00	Variable Volume Air System			
Cooling Chillers	Direct Digital Control System-Installation	Assembly	Discretionary	512.2	0.18	0.00	0.62	21.31	0.0	0.0	0.0	5	\$3,260.63	\$2,282.44	\$0.17	\$0.00	\$0.00	0.21	0.98	6.57	0.00	0.00	0.00	Installation of EMS System			
Cooling Chillers	Direct Digital Control System-Installation	Assembly	Lost Opportunity	512.2	0.18	0.00	0.62	21.31	0.0	0.0	0.0	5	\$3,260.63	\$2,282.44	\$0.11	\$0.00	\$0.00	0.21	0.98	0.04	0.00	0.00	0.00	Installation of EMS System			
Cooling Chillers	Exhaust Hood Makeup Air	Assembly	Discretionary	153.7	0.05	0.00	0.00	0.00	0.0	0.0	0.0	12	\$40.42	\$28.29	\$0.17	\$0.00	\$0.00	10.48	0.98	0.04	0.04	0.03	0.03	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air			
Cooling Chillers	Green Roof	Assembly	Discretionary	18.2	0.01	0.00	0.00	0.00	0.0	0.0	0.0	40	\$92,568.75	\$64,798.13	\$0.17	\$925.69	\$0.00	0.00	0.98	0.19	0.00	0.00	0.00	Vegetation on Roof			
Cooling Chillers	Green Roof	Assembly	Lost Opportunity	15.0	0.01	0.00	0.00	0.00	0.0	0.0	0.0	40	\$92,568.75	\$64,798.13	\$0.11	\$925.69	\$0.00	0.00	0.98	0.01	0.00	0.00	0.00	Vegetation on Roof			
Cooling Chillers	Indirect Information Feedback	Assembly	Discretionary	17.8	0.01	0.00	0.02	0.70	0.0	0.0	0.0	2	\$59.11	\$41.38	\$0.17	\$0.00	\$0.00	0.15	0.98	0.22	0.00	0.00	0.00	Indirect Information Feedback			
Cooling Chillers	Indirect Information Feedback	Assembly	Lost Opportunity	17.8	0.01	0.00	0.02	0.70	0.0	0.0	0.0	2	\$59.11	\$41.38	\$0.11	\$0.00	\$0.00	0.15	0.98	0.02	0.00	0.00	0.00	Indirect Information Feedback			
Cooling Chillers	Infiltration Reduction	Assembly	Discretionary	102.4	0.04	0.00	0.41	15.33	0.0	0.0	0.0	10	\$187.97	\$131.58	\$0.17	\$0.00	\$0.00	2.05	0.98	0.09	0.10	0.07	0.07	Install Caulking And Weatherstripping (ACH 0.65)			
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Assembly	Discretionary	168.0	0.06	0.00	0.20	9.79	0.0	0.0	0.0	30	\$1,041.40	\$728.98	\$0.17	\$0.00	\$0.00	1.40	0.98	1.11	1.24	0.81	0.81	R-35 c.i.			
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Assembly	Lost Opportunity	168.0	0.06	0.00	0.20	9.79	0.0	0.0	0.0	30	\$1,041.40	\$728.98	\$0.11	\$0.00	\$0.00	1.40	0.98	0.03	0.03	0.02	0.02	R-35 c.i.			
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Code	Assembly	Discretionary	575.7	0.20	0.00	0.70	33.54	0.0	0.0	0.0	30	\$4,751.86	\$3,326.30	\$0.17	\$0.00	\$0.00	1.05	0.98	2.44	2.73	1.79	1.79	R-30 c.i. (CBES 2015 Code)			
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Assembly	Discretionary	247.6	0.08	0.00	0.30	14.43	0.0	0.0	0.0	30	\$1,851.38	\$1,295.96	\$0.17	\$0.00	\$0.00	1.16	0.98	0.55	0.61	0.40	0.40	R-38			
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Assembly	Lost Opportunity	247.6	0.08	0.00	0.30	14.43	0.0	0.0	0.0	30	\$1,851.38	\$1,295.96	\$0.11	\$0.00	\$0.00	1.16	0.98	0.06	0.07	0.04	0.04	R-38			
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Code	Assembly	Discretionary	431.3	0.15	0.00	0.52	25.13	0.0	0.0	0.0	30	\$5,307.28	\$3,715.09	\$0.17	\$0.00	\$0.00	0.71	0.98	0.92	0.00	0.00	0.00	R-30 (CBES 2015 Code)			
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Assembly	Discretionary	286.8	0.10	0.00	0.35	16.71	0.0	0.0	0.0	30	\$1,526.71	\$1,068.70	\$0.17	\$0.00	\$0.00	1.63	0.98	1.15	1.28	0.84	0.84	R-13 + 15.6 c.i.			
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Assembly	Lost Opportunity	286.8	0.10	0.00	0.35	16.71	0.0	0.0	0.0	30	\$1,526.71	\$1,068.70	\$0.11	\$0.00	\$0.00	1.63	0.98	0.17	0.20	0.11	0.11	R-13 + 15.6 c.i.			
Cooling Chillers	Insulation - Wall - CBES 2015 - Code	Assembly	Discretionary	314.9	0.11	0.00	0.38	18.35	0.0	0.0	0.0	30	\$10,476.35	\$7,333.45	\$0.17	\$0.00	\$0.00	0.26	0.98	0.76	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)			
Cooling Chillers																											



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Cooling Dx Evap	Indirect Information Feedback	Assembly	Discretionary	15.9	0.01	0.00	0.31	2.30	0.0	0.0	0.0	2	\$52.88	\$37.02	\$0.17	\$0.00	\$0.00	0.24	0.98	0.22	0.00	0.00	0.00	Indirect Information Feedback	
Cooling Dx Evap	Indirect Information Feedback	Assembly	Lost Opportunity	15.9	0.01	0.00	0.34	2.55	0.0	0.0	0.0	2	\$52.88	\$37.02	\$0.11	\$0.00	\$0.00	0.25	0.98	0.02	0.00	0.00	0.00	Indirect Information Feedback	
Cooling Dx Evap	Infiltration Reduction	Assembly	Discretionary	91.6	0.03	0.00	5.93	50.01	0.0	0.0	0.0	10	\$187.97	\$131.58	\$0.17	\$0.00	\$0.00	4.26	0.98	0.08	0.10	0.07	0.07	Install Caulking And Weatherstripping (ACH 0.65)	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Assembly	Discretionary	150.3	0.05	0.00	2.92	31.93	0.0	0.0	0.0	30	\$1,041.40	\$728.98	\$0.17	\$0.00	\$0.00	1.89	0.98	1.07	1.38	0.91	0.91	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Assembly	Lost Opportunity	150.3	0.05	0.00	3.24	35.48	0.0	0.0	0.0	30	\$1,041.40	\$728.98	\$0.11	\$0.00	\$0.00	1.98	0.98	0.03	0.04	0.02	0.02	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Code	Assembly	Discretionary	515.0	0.18	0.00	10.00	109.41	0.0	0.0	0.0	30	\$4,751.86	\$3,326.30	\$0.17	\$0.00	\$0.00	1.42	0.98	2.35	3.05	2.00	2.00	R-30 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Assembly	Discretionary	110.0	0.04	0.00	1.98	0.00	0.0	0.0	0.0	20	\$141.51	\$99.06	\$0.17	\$0.00	\$0.00	4.27	0.98	2.03	2.62	1.72	1.72	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Assembly	Lost Opportunity	110.0	0.04	0.00	2.20	0.00	0.0	0.0	0.0	20	\$141.51	\$99.06	\$0.11	\$0.00	\$0.00	4.33	0.98	0.14	0.19	0.10	0.10	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	Assembly	Discretionary	110.0	0.04	0.00	1.98	0.00	0.0	0.0	0.0	20	\$569.96	\$398.97	\$0.17	\$0.00	\$0.00	1.06	0.98	1.56	2.02	1.33	1.33	R-8 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Assembly	Discretionary	221.5	0.08	0.00	4.30	47.06	0.0	0.0	0.0	30	\$1,851.38	\$1,295.96	\$0.17	\$0.00	\$0.00	1.57	0.98	0.53	0.68	0.45	0.45	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Assembly	Lost Opportunity	221.5	0.08	0.00	4.78	52.29	0.0	0.0	0.0	30	\$1,851.38	\$1,295.96	\$0.11	\$0.00	\$0.00	1.64	0.98	0.06	0.08	0.04	0.04	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	Assembly	Discretionary	385.8	0.13	0.00	7.49	81.96	0.0	0.0	0.0	30	\$5,307.28	\$3,715.09	\$0.17	\$0.00	\$0.00	0.95	0.98	0.87	0.00	0.00	0.00	R-30 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Assembly	Discretionary	256.6	0.09	0.00	4.98	54.50	0.0	0.0	0.0	30	\$1,526.71	\$1,068.70	\$0.17	\$0.00	\$0.00	2.20	0.98	1.02	1.33	0.87	0.87	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Assembly	Lost Opportunity	256.6	0.09	0.00	5.54	60.56	0.0	0.0	0.0	30	\$1,526.71	\$1,068.70	\$0.11	\$0.00	\$0.00	2.31	0.98	0.17	0.23	0.13	0.13	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Code	Assembly	Discretionary	281.7	0.10	0.00	5.47	59.85	0.0	0.0	0.0	30	\$10,476.35	\$7,333.45	\$0.17	\$0.00	\$0.00	0.35	0.98	0.71	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Assembly	Discretionary	245.8	0.08	0.00	0.00	0.00	0.0	0.0	0.0	15	\$40,876.90	\$28,613.83	\$0.17	\$0.00	\$0.00	0.02	0.98	0.14	0.00	0.00	0.00	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Assembly	Lost Opportunity	245.8	0.08	0.00	0.00	0.00	0.0	0.0	0.0	15	\$32,701.52	\$22,891.07	\$0.11	\$0.00	\$0.00	0.03	0.98	0.01	0.00	0.00	0.00	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Natural Ventilation	Assembly	Lost Opportunity	305.5	0.10	0.00	0.00	0.00	0.0	0.0	0.0	15	\$10,434.00	\$7,303.80	\$0.11	\$0.00	\$0.00	0.10	0.98	0.01	0.00	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling
Cooling Dx Evap	Programmable Thermostat	Assembly	Discretionary	122.2	0.04	0.00	2.37	20.29	0.0	0.0	0.0	11	\$43.58	\$30.51	\$0.17	\$0.00	\$0.00	13.03	0.98	2.21	2.87	2.27	1.88	Programmable Thermostat	
Cooling Dx Evap	Re-Commissioning	Assembly	Discretionary	397.1	0.14	0.00	7.71	60.25	0.0	0.0	0.0	5	\$3,130.20	\$2,191.14	\$0.17	\$0.00	\$0.00	0.26	0.98	8.30	0.00	0.00	0.00	0.00	Re-Commissioning
Cooling Dx Evap	Retrocommissioning	Assembly	Discretionary	453.1	0.15	0.00	8.80	68.74	0.0	0.0	0.0	5	\$5,217.00	\$3,651.90	\$0.17	\$0.00	\$0.00	0.18	0.98	3.78	0.00	0.00	0.00	0.00	Retrocommissioning
Cooling Dx Evap	Strategic Energy Management (SEM)	Assembly	Discretionary	125.2	0.04	0.00	2.43	19.00	0.0	0.0	0.0	5	\$16.88	\$11.81	\$0.17	\$0.00	\$0.00	15.21	0.98	0.35	0.46	0.30	0.30	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Strategic Energy Management (SEM)	Assembly	Lost Opportunity	125.2	0.04	0.00	2.70	21.11	0.0	0.0	0.0	5	\$16.88	\$11.81	\$0.11	\$0.00	\$0.00	16.00	0.98	0.14	0.18	0.12	0.12	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Tune-up - DX Maintenance	Assembly	Discretionary	439.1	0.15	0.00	0.00	0.00	0.0	0.0	0.0	5	\$13,888.62	\$9,722.03	\$0.17	\$0.00	\$0.00	0.03	0.98	2.78	0.00	0.00	0.00	0.00	DX Tune-up / Diagnostics
Cooling Dx Evap	Wi-Fi Thermostat	Assembly	Discretionary	122.2	0.04	0.00	2.37	20.29	0.0	0.0	0.0	11	\$347.17	\$243.02	\$0.17	\$0.00	\$0.00	1.64	0.98	0.00	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Assembly	Discretionary	8.6	0.00	0.00	0.17	1.61	0.0	0.0	0.0	20	\$1,111.56	\$778.09	\$0.17	\$0.00	\$0.00	0.07	0.98	0.03	0.00	0.00	0.00	0.00	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Assembly	Lost Opportunity	8.6	0.00	0.00	0.19	1.79	0.0	0.0	0.0	20	\$1,111.56	\$778.09	\$0.11	\$0.00	\$0.00	0.07	0.98	0.00	0.00	0.00	0.00	0.00	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Code	Assembly	Discretionary	20.2	0.01	0.00	0.39	3.78	0.0	0.0	0.0	20	\$7,340.35	\$5,138.24	\$0.17	\$0.00	\$0.00	0.02	0.98	0.06	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtuh - Premium Efficiency	Assembly	Discretionary	1,540.4	0.53	0.00	0.00	0.00	0.0	0.0	0.0	15	\$47,358.61	\$33,151.03	\$0.17	\$0.00	\$0.00	0.11	0.98	10.47	0.00	0.00	0.00	0.00	Premium Efficiency - 19.0 IEER
Fax	Fax - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	1.39	0.00	0.00	0.00	0.00	ENERGY STAR Fax
Fax	Fax - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.07	0.00	0.00	0.00	0.00	ENERGY STAR Fax
Flat Screen Monitors	Monitor - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	0.50	1.00	5.22	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	0.50	1.00	0.28	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor
Freezers	Freezer (Residential) - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	13.03	1.00	0.37	0.37	0.21	0.21	ENERGY STAR Freezer	
Freezers	Freezer (Residential) - ENERGY STAR	Assembly	Freezer Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	13.03	1.00	0.03	0.03	0.02	0.02	ENERGY STAR Freezer	
Freezers	Residential Freezer Recycling and Replacement	Assembly	Discretionary	24.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$9.99	\$7.00	\$0.17	\$0.00	\$0.00	3.13	1.00	2.36	2.36	1.32	1.32	Recycling Existing Freezer and Replacing with a Federal Standard Unit	
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	Assembly	Discretionary	3,423.7	0.04	0.72	0.00	0.00	0.0	0.0	0.0	8	\$194.36	\$136.05	\$0.17	\$0.00	\$0.00	17.35	0.99	86.75	86.75	64.92	64.92	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time	
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	Assembly	Discretionary	3,195.5	0.04	0.67	0.00	0.00	0.0	0.0	0.0	8	\$72.27	\$50.59	\$0.17	\$0.00	\$0.00	43.56	0.99	226.69	226.69	169.66	169.66	Photocell	
Lighting Exterior	LED Exterior Flood Lights	Assembly	Discretionary	1,108.7	0.01	0.23	0.00	0.00	0.0	0.0	0.0	20	\$731.29	\$511.90	\$0.17	\$0.00	\$0.00	3.73	0.99	128.09	128.09	95.86	95.86	LED Exterior Flood Lights	
Lighting Exterior	LED Exterior Flood Lights	Assembly	Lost Opportunity	1,108.7	0.01	0.23	0.00	0.00	0.0	0.0	0.0	20	\$731.29	\$511.90	\$0.11	\$0.00	\$0.00	3.73	0.99	7.07	7.07	4.57	4.57	LED Exterior Flood Lights	
Lighting Exterior	LED Exterior Pole Mount Fixture	Assembly	Discretionary	631.8	0.01	0.13	0.00	0.00	0.0	0.0	0.0	15	\$1,238.85	\$867.19	\$0.17	\$0.00	\$0.00	0.94	0.99	72.99	0.00	0.00	0.00	0.00	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Pole Mount Fixture	Assembly	Lost Opportunity	631.8	0.01	0.13	0.00	0.00	0.0	0.0	0.0	15	\$1,238.85	\$867.19	\$0.11	\$0.00	\$0.00	0.94	0.99	4.03	0.00	0.00	0.00	0.00	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Wall Pack	Assembly	Discretionary	2,094.6	0.02	0.44	0.00	0.00	0.0	0.0	0.0	20	\$4,346.60	\$3,042.62	\$0.17	\$0.00	\$0.00	1.19	0.99	228.55	228.55	171.05	171.05	LED Exterior Wall Pack	
Lighting Exterior	LED Exterior Wall Pack	Assembly	Lost Opportunity	2,094.6	0.02	0.44	0.00	0.00	0.0	0.0	0.0	20	\$4,346.60	\$3,042.62	\$0.11	\$0.00	\$0.00	1.19	0.99	12.62	12.62	8.16	8.16	LED Exterior Wall Pack	
Lighting Exterior	LED Pathway Lights	Assembly	Discretionary	521.7	0.01	0.11	0.00	0.00	0.0	0.0	0.0	11	\$123.45	\$86.41	\$0.17	\$0.00	\$0.00	5.73	0.99	60.28	60.28	45.11	45.11	LED Pathway Lights	
Lighting Exterior	LED Pathway Lights	Assembly	Lost Opportunity	521.7	0.01	0.11	0.00	0.00	0.0	0.0	0.0	11	\$123.45	\$86.41	\$0.11	\$0.00	\$0.00	5.73	0.99	3.33	3.33	2.49	2.49	LED Pathway Lights	
Lighting Exterior	Occupancy Sensor Control	Assembly	Discretionary	2,739.0	0.03	0.58	0.00	0.00	0.0	0.0	0.0	10	\$6,364.00	\$4,454.80	\$0.17	\$0.00	\$0.00	0.53	0.99	166.55	0.00	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Exterior	Parking - Covered Lighting	Assembly	Discretionary	97.7	0.00	0.02	0.00	0.00	0.0	0.0	0.0	19	\$71.26	\$49.88	\$0.										



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Lighting Interior Other	Occupancy Sensor Control	Assembly	Discretionary	109.7	0.02	0.01	0.00	0.00	0.0	0.0	0.0	10	\$254.84	\$178.39	\$0.17	\$0.00	\$0.00	0.80	0.99	6.67	0.00	0.00	0.00	Occupancy Sensor Control	
Lighting Interior Other	Time Clock	Assembly	Discretionary	45.7	0.01	0.01	0.00	0.00	0.0	0.0	0.0	8	\$174.15	\$121.90	\$0.17	\$0.00	\$0.00	0.39	0.99	0.23	0.00	0.00	0.00	Time Clock	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	Assembly	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3	\$0.01	\$0.01	\$0.17	-\$0.01	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	CFL	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base Incandescent - Backstop EISA 2020 Standard	Assembly	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3	\$0.00	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	Backstop EISA 2020 Standard Incandescent	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base LED - Above Standard	Assembly	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.04	\$0.03	\$0.17	-\$0.01	\$0.00	999.00	0.99	15.14	15.22	11.39	11.39	LED	
Lighting Interior Screw Base - Standard	Occupancy Sensor Control	Assembly	Discretionary	900.6	0.17	0.12	0.00	0.00	0.0	0.0	0.0	10	\$2,092.57	\$1,464.80	\$0.17	\$0.00	\$0.00	0.80	0.99	18.83	0.00	0.00	0.00	Occupancy Sensor Control	
Lighting Interior Screw Base - Standard	Time Clock	Assembly	Discretionary	375.3	0.07	0.05	0.00	0.00	0.0	0.0	0.0	8	\$174.15	\$121.90	\$0.17	\$0.00	\$0.00	3.18	0.99	0.65	0.65	0.49	0.49	Time Clock	
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base CFL - Above Standard	Assembly	Discretionary	1,778.4	0.35	0.24	0.00	0.00	0.0	0.0	0.0	3	\$49.39	\$34.57	\$0.17	-\$33.73	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	CFL	
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base LED - Above Standard	Assembly	Discretionary	1,858.8	0.36	0.25	0.00	0.00	0.0	0.0	0.0	12	\$156.29	\$109.41	\$0.17	-\$41.95	\$0.00	999.00	0.99	16.81	16.81	12.58	12.58	LED	
Other Plug Load	Dehumidifier - ENERGY STAR	Assembly	Discretionary	260.0	0.04	0.02	0.00	0.00	0.0	0.0	0.0	12	\$101.44	\$71.01	\$0.17	\$0.00	\$0.00	5.23	1.00	5.80	5.80	3.84	3.84	ENERGY STAR Dehumidifier	
Other Plug Load	Dehumidifier - ENERGY STAR	Assembly	Lost Opportunity	260.0	0.04	0.02	0.00	0.00	0.0	0.0	0.0	12	\$101.44	\$71.01	\$0.11	\$0.00	\$0.00	5.23	1.00	0.32	0.32	0.21	0.21	ENERGY STAR Dehumidifier	
Other Plug Load	ENERGY STAR - Scanners	Assembly	Discretionary	6.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.57	0.00	0.00	0.00	ENERGY STAR Scanners	
Other Plug Load	ENERGY STAR - Scanners	Assembly	Lost Opportunity	6.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.03	0.00	0.00	0.00	ENERGY STAR Scanners	
Other Plug Load	ENERGY STAR - Water Cooler	Assembly	Discretionary	98.4	0.01	0.01	0.00	0.00	0.0	0.0	0.0	10	\$0.85	\$0.59	\$0.17	\$0.00	\$0.00	196.63	1.00	12.63	12.63	8.36	8.36	ENERGY STAR Water Cooler (Hot/Cold Water)	
Other Plug Load	ENERGY STAR - Water Cooler	Assembly	Lost Opportunity	98.4	0.01	0.01	0.00	0.00	0.0	0.0	0.0	10	\$0.85	\$0.59	\$0.11	\$0.00	\$0.00	196.63	1.00	0.70	0.70	0.46	0.46	ENERGY STAR Water Cooler (Hot/Cold Water)	
Other Plug Load	Internal Power Supply / Com - E Star	Assembly	Discretionary	44.3	0.01	0.00	0.00	0.00	0.0	0.0	0.0	4	\$90.33	\$63.23	\$0.17	\$0.00	\$0.00	0.32	1.00	1.34	0.00	0.00	0.00	ENERGY STAR power supply for ENERGY STAR desktop	
Other Plug Load	Internal Power Supply / Com - E Star	Assembly	Lost Opportunity	44.3	0.01	0.00	0.00	0.00	0.0	0.0	0.0	4	\$90.33	\$63.23	\$0.11	\$0.00	\$0.00	0.32	1.00	0.07	0.00	0.00	0.00	ENERGY STAR power supply for ENERGY STAR desktop	
Other Plug Load	Smart Strip Plug Outlet	Assembly	Discretionary	439.3	0.06	0.04	0.00	0.00	0.0	0.0	0.0	4	\$330.28	\$231.20	\$0.17	\$0.00	\$0.00	0.86	1.00	11.87	0.00	0.00	0.00	Advanced Power Strip - Load Sensing	
Other Plug Load	Smart Strip Plug Outlet	Assembly	Lost Opportunity	439.3	0.06	0.04	0.00	0.00	0.0	0.0	0.0	4	\$330.28	\$231.20	\$0.11	\$0.00	\$0.00	0.86	1.00	0.66	0.00	0.00	0.00	Advanced Power Strip - Load Sensing	
Other Plug Load	Smart Strip Plug Outlet	Assembly	Discretionary	267.1	0.04	0.02	0.00	0.00	0.0	0.0	0.0	4	\$799.87	\$559.91	\$0.17	\$0.00	\$0.00	0.22	1.00	0.00	0.00	0.00	0.00	Advanced Power Strip with Occupancy Sensor	
Other Plug Load	Smart Strip Plug Outlet	Assembly	Lost Opportunity	267.1	0.04	0.02	0.00	0.00	0.0	0.0	0.0	4	\$799.87	\$559.91	\$0.11	\$0.00	\$0.00	0.22	1.00	0.00	0.00	0.00	0.00	Advanced Power Strip with Occupancy Sensor	
Photo Copiers	Copiers - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	6.41	0.00	0.00	0.00	ENERGY STAR Copiers	
Photo Copiers	Copiers - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.33	0.00	0.00	0.00	ENERGY STAR Copiers	
Printers	Printers - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	16.35	0.00	0.00	0.00	ENERGY STAR Printers	
Printers	Printers - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.85	0.00	0.00	0.00	ENERGY STAR Printers	
Refrigeration	Add Doors to Refrigerated Open Display Cases	Assembly	Discretionary	3.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$4.75	\$3.32	\$0.17	\$0.00	\$0.00	1.27	0.98	0.01	0.01	0.01	0.01	Add Doors to Refrigerated Open Display Cases	
Refrigeration	Add Doors to Refrigerated Open Display Cases	Assembly	Lost Opportunity	3.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$4.75	\$3.32	\$0.11	\$0.00	\$0.00	1.27	0.98	0.00	0.00	0.00	0.00	Add Doors to Refrigerated Open Display Cases	
Refrigeration	Anti-Sweat (Humidistat) Controls	Assembly	Discretionary	574.7	0.08	0.07	0.00	0.00	0.0	0.0	0.0	8	\$81.25	\$56.87	\$0.17	\$0.00	\$0.00	9.19	0.98	3.88	3.88	3.44	3.44	Anti-Sweat (Humidistat) Controls	
Refrigeration	Case Replacement Low Temp	Assembly	Discretionary	360.1	0.05	0.04	0.00	0.00	0.0	0.0	0.0	15	\$20.20	\$14.14	\$0.17	\$0.00	\$0.00	44.30	0.98	46.22	46.22	46.12	40.91	Case Replacement Low Temp	
Refrigeration	Case Replacement Med Temp	Assembly	Discretionary	30.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$39.00	\$27.30	\$0.17	\$0.00	\$0.00	1.96	0.98	3.94	3.94	3.49	3.49	Case Replacement Med Temp	
Refrigeration	Demand Control Defrost - Hot Gas	Assembly	Discretionary	219.6	0.03	0.03	0.00	0.00	0.0	0.0	0.0	10	\$351.51	\$246.06	\$0.17	\$0.00	\$0.00	1.02	0.98	1.48	1.48	1.31	1.31	Refrigerant Defrost	
Refrigeration	Display Case Electronically Commutated Motor - Low Temp	Assembly	Discretionary	89.3	0.01	0.01	0.00	0.00	0.0	0.0	0.0	15	\$63.91	\$44.74	\$0.17	\$0.00	\$0.00	3.47	0.98	7.69	7.69	6.81	6.81	ECM Evaporator Fans - Low Temp	
Refrigeration	Display Case Electronically Commutated Motor - Medium Temp	Assembly	Discretionary	2.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1.43	\$1.00	\$0.17	\$0.00	\$0.00	3.47	0.98	0.17	0.17	0.15	0.15	ECM Evaporator Fans - Medium Temp	
Refrigeration	Display Case LEDs (Closed Cases)	Assembly	Discretionary	69.5	0.01	0.01	0.00	0.00	0.0	0.0	0.0	8	\$41.40	\$28.98	\$0.17	\$0.00	\$0.00	2.18	0.98	8.92	8.92	7.89	7.89	Display Case LEDs (Closed Cases)	
Refrigeration	Display Case LEDs (Closed Cases)	Assembly	Lost Opportunity	69.5	0.01	0.01	0.00	0.00	0.0	0.0	0.0	8	\$18.41	\$12.88	\$0.11	\$0.00	\$0.00	4.90	0.98	0.49	0.49	0.44	0.44	Display Case LEDs (Closed Cases)	
Refrigeration	Display Case LEDs (Open Cases)	Assembly	Discretionary	2.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$1.93	\$1.35	\$0.17	-\$0.07	\$0.00	2.07	0.98	0.35	0.35	0.31	0.31	Display Case LEDs (Open Cases)	
Refrigeration	Display Case LEDs (Open Cases)	Assembly	Lost Opportunity	2.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$1.02	\$0.71	\$0.11	-\$0.06	\$0.00	4.78	0.98	0.02	0.02	0.02	0.02	Display Case LEDs (Open Cases)	
Refrigeration	Display Case Motion Sensors	Assembly	Discretionary	26.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$6.27	\$4.39	\$0.17	\$0.00	\$0.00	5.57	0.98	3.27	3.27	2.89	2.89	Display Case Motion Sensors	
Refrigeration	Evaporator Fan Controller - Low Temp	Assembly	Discretionary	4.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	16	\$3.32	\$2.32	\$0.17	\$0.00	\$0.00	3.42	0.98	0.52	0.52	0.46	0.46	ECM Evaporator Fan Controller - Low Temp	
Refrigeration	Evaporator Fan Controller - Low Temp	Assembly	Lost Opportunity	4.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	16	\$3.32	\$2.32	\$0.11	\$0.00	\$0.00	3.42	0.98	0.02	0.02	0.02	0.02	ECM Evaporator Fan Controller - Low Temp	
Refrigeration	Evaporator Fan Controller - Medium Temp	Assembly	Discretionary	6.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	16	\$6.20	\$4.34	\$0.17	\$0.00	\$0.00	2.85	0.98	0.81	0.81	0.72	0.72	ECM Evaporator Fan Controller - Medium Temp	
Refrigeration	Evaporator Fan Controller - Medium Temp	Assembly	Lost Opportunity	6.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	16	\$6.20	\$4.34	\$0.11	\$0.00	\$0.00	2.85	0.98	0.04	0.04	0.03	0.03	ECM Evaporator Fan Controller - Medium Temp	
Refrigeration	Floating Condenser Head Pressure Controls	Assembly	Discretionary	548.9	0.07	0.06	0.00	0.00	0.0	0.0	0.0	15	\$176.47	\$123.53	\$0.17	\$0.00	\$0.00	7.73	0.98	3.71	3.71	3.70	3.28	Floating Condenser Head Pressure Controls	
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Assembly	Discretionary	13.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$1.87	\$1.31	\$0.17	\$0.00	\$0.00	10.81	0.98	1.77	1.77	1.77	1.57	Glass Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Assembly	Lost Opportunity	13.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$1.87	\$1.31	\$0.11	\$0.00	\$0.00	10.81	0.98	0.10	0.10	0.10	0.09	Glass Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Ice Maker - High Efficiency	Assembly	Discretionary	5.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$0.36	\$0.25	\$0.17	\$0.00	\$0.00	20.36	0.98	0.75	0.75	0.67	0.67	High Efficiency Ice Maker	
Refrigeration	Ice Maker - High Efficiency	Assembly	Lost Opportunity	5.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$0.36	\$0.25	\$0.11	\$0.00	\$0.00	20.36	0.98	0.04	0.04	0.04	0.04	High Efficiency Ice Maker	
Refrigeration	Night Covers for Display Cases	Assembly	Discretionary	3.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$0.64	\$0.45	\$0.17	\$0.07	\$0.00	3.04	0.98	0.46	0.46	0.41	0.41	Night Covers for Display Cases	
Refrigeration	Night Covers for Display Cases	Assembly	Lost Opportunity	3.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$0.64	\$0.45	\$0.11	\$0.07	\$0.00	3.04	0.98	0.03	0.03	0.02	0.02	Night Covers for Display Cases	
Refrigeration	No Heat Case Doors	Assembly	Discretionary	119.7	0.02	0.01	0.00	0.00	0.0	0.0	0.0	15	\$85.80	\$60.06	\$0.17	\$0.00	\$0.00	3.47	0.98	8.09	8.09	7.16	7.16	No Heat Case Doors	
Refrigeration	No Heat Case Doors	Assembly	Lost Opportunity	119.7	0.02	0.01	0.00	0.00	0.0	0.0	0.0	15	\$85.80	\$60.06	\$0.11	\$0.00	\$0.00	3.47	0.98	0.85	0.85	0.74	0.74	No Heat Case Doors	
Refrigeration	Refrigeration Commissioning or Re-commissioning	Assembly	Discretionary	721.7	0.10	0.09	0.00	0.00	0.0	0.0	0.0	7	\$186.02	\$130.21	\$0.17	\$0.00	\$0.00	4.38	0.98	9.16	9.16	8.10	8.10	Commissioning / Re-com	



Appendix B.4		BED Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Room Cool	Exhaust Hood Makeup Air	Assembly	Discretionary	14.7	0.01	0.00	0.00	0.00	0.0	0.0	0.0	12	\$40.42	\$28.29	\$0.17	\$0.00	\$0.00	1.16	0.98	0.00	0.00	0.00	0.00	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air
Room Cool	Green Roof	Assembly	Discretionary	1.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$92,568.75	\$64,798.13	\$0.17	\$925.69	\$0.00	0.00	0.98	0.00	0.00	0.00	0.00	Vegetation on Roof
Room Cool	Green Roof	Assembly	Lost Opportunity	1.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$92,568.75	\$64,798.13	\$0.11	\$925.69	\$0.00	0.00	0.98	0.00	0.00	0.00	0.00	Vegetation on Roof
Room Cool	Infiltration Reduction	Assembly	Discretionary	9.8	0.00	0.00	0.02	1.20	0.1	0.0	0.0	10	\$187.97	\$131.58	\$0.17	\$0.00	\$0.00	0.20	0.98	0.00	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Assembly	Discretionary	16.1	0.01	0.00	0.01	0.77	0.1	0.0	0.0	30	\$1,041.40	\$728.98	\$0.17	\$0.00	\$0.00	0.15	0.98	0.01	0.00	0.00	0.00	R-35 c.i.
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Assembly	Lost Opportunity	14.5	0.01	0.00	0.01	0.85	0.1	0.0	0.0	30	\$1,041.40	\$728.98	\$0.11	\$0.00	\$0.00	0.14	0.98	0.00	0.00	0.00	0.00	R-35 c.i.
Room Cool	Insulation - Ceiling - CBES 2015 - Code	Assembly	Discretionary	55.1	0.02	0.00	0.04	2.62	0.2	0.0	0.0	30	\$4,751.86	\$3,326.30	\$0.17	\$0.00	\$0.00	0.11	0.98	0.03	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Assembly	Discretionary	23.7	0.01	0.00	0.02	1.13	0.1	0.0	0.0	30	\$1,851.38	\$1,295.96	\$0.17	\$0.00	\$0.00	0.12	0.98	0.01	0.00	0.00	0.00	R-38
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Assembly	Lost Opportunity	21.3	0.01	0.00	0.02	1.25	0.1	0.0	0.0	30	\$1,851.38	\$1,295.96	\$0.11	\$0.00	\$0.00	0.11	0.98	0.00	0.00	0.00	0.00	R-38
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Code	Assembly	Discretionary	41.3	0.02	0.00	0.03	1.97	0.1	0.0	0.0	30	\$5,307.28	\$3,715.09	\$0.17	\$0.00	\$0.00	0.07	0.98	0.01	0.00	0.00	0.00	R-30 (CBES 2015 Code)
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Assembly	Discretionary	27.4	0.01	0.00	0.02	1.31	0.1	0.0	0.0	30	\$1,526.71	\$1,068.70	\$0.17	\$0.00	\$0.00	0.17	0.98	0.01	0.00	0.00	0.00	R-13 + 15.6 c.i.
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Assembly	Lost Opportunity	24.7	0.01	0.00	0.02	1.45	0.1	0.0	0.0	30	\$1,526.71	\$1,068.70	\$0.11	\$0.00	\$0.00	0.16	0.98	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Room Cool	Insulation - Wall - CBES 2015 - Code	Assembly	Discretionary	30.1	0.01	0.00	0.02	1.44	0.1	0.0	0.0	30	\$10,476.35	\$7,333.45	\$0.17	\$0.00	\$0.00	0.03	0.98	0.01	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Cool	Natural Ventilation	Assembly	Lost Opportunity	29.4	0.01	0.00	0.00	0.00	0.0	0.0	0.0	15	\$10,434.00	\$7,303.80	\$0.11	\$0.00	\$0.00	0.01	0.98	0.00	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling
Room Cool	Room AC - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.03	\$0.02	\$0.17	\$0.00	\$0.00	0.25	0.98	0.12	0.00	0.00	0.00	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Cool	Room AC - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.03	\$0.02	\$0.11	\$0.00	\$0.00	0.25	0.98	0.01	0.00	0.00	0.00	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Cool	Windows - CBES 2015 - Above Code	Assembly	Discretionary	0.9	0.00	0.00	0.00	0.04	0.0	0.0	0.0	20	\$1,111.56	\$778.09	\$0.17	\$0.00	\$0.00	0.01	0.98	0.00	0.00	0.00	0.00	U-0.29
Room Cool	Windows - CBES 2015 - Above Code	Assembly	Lost Opportunity	0.8	0.00	0.00	0.00	0.04	0.0	0.0	0.0	20	\$1,111.56	\$778.09	\$0.11	\$0.00	\$0.00	0.00	0.98	0.00	0.00	0.00	0.00	U-0.29
Room Cool	Windows - CBES 2015 - Code	Assembly	Discretionary	2.2	0.00	0.00	0.00	0.09	0.0	0.0	0.0	20	\$7,340.35	\$5,138.24	\$0.17	\$0.00	\$0.00	0.00	0.98	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Room Cool - Early Replacement	Early Replacement Room AC - ENERGY STAR	Assembly	Discretionary	66.7	0.03	0.00	0.00	0.00	0.0	0.0	0.0	9	\$1,147.74	\$803.42	\$0.17	\$0.00	\$0.00	0.14	0.98	0.03	0.00	0.00	0.00	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Heat - Electric	Ductless Heat Pump (DHP)	Assembly	Discretionary	3,417.2	0.01	1.37	0.00	0.00	0.0	0.0	0.0	15	\$2,905.14	\$2,033.60	\$0.17	\$0.00	\$0.00	2.20	0.97	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Heat - Electric	Ductless Heat Pump (DHP)	Assembly	Lost Opportunity	3,417.2	0.01	1.37	0.00	0.00	0.0	0.0	0.0	15	\$2,905.14	\$2,033.60	\$0.11	\$0.00	\$0.00	2.20	0.97	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Assembly	Discretionary	3,597.5	0.01	1.45	0.00	0.00	0.0	0.0	0.0	15	\$2,974.59	\$2,082.22	\$0.17	\$0.00	\$0.00	2.26	0.97	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Assembly	Lost Opportunity	3,597.5	0.01	1.45	0.00	0.00	0.0	0.0	0.0	15	\$2,974.59	\$2,082.22	\$0.11	\$0.00	\$0.00	2.26	0.97	0.01	0.01	0.01	0.01	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0
Room Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Assembly	Discretionary	7,724.3	0.02	3.11	0.00	0.00	0.0	0.0	0.0	14	\$45,856.90	\$32,099.83	\$0.17	\$0.00	\$0.00	0.29	0.97	1.02	0.00	0.00	0.00	Exhaust Air to Ventilation Air Heat Recovery
Room Heat - Electric	Infiltration Reduction	Assembly	Discretionary	5,149.6	0.01	2.07	0.00	0.00	0.0	0.0	0.0	10	\$187.97	\$131.58	\$0.17	\$0.00	\$0.00	34.49	0.97	0.28	0.28	0.18	0.18	Install Caulking And Weatherstripping (ACH 0.65)
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Assembly	Discretionary	2,534.1	0.01	1.02	0.00	0.00	0.0	0.0	0.0	30	\$1,041.40	\$728.98	\$0.17	\$0.00	\$0.00	9.13	0.97	1.14	1.14	0.74	0.74	R-35 c.i.
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Assembly	Lost Opportunity	2,534.1	0.01	1.02	0.00	0.00	0.0	0.0	0.0	30	\$1,041.40	\$728.98	\$0.11	\$0.00	\$0.00	9.13	0.97	0.03	0.03	0.02	0.02	R-35 c.i.
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Assembly	Discretionary	8,682.2	0.02	3.49	0.00	0.00	0.0	0.0	0.0	30	\$4,751.86	\$3,326.30	\$0.17	\$0.00	\$0.00	6.86	0.97	2.52	2.52	1.63	1.63	R-30 c.i. (CBES 2015 Code)
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Assembly	Discretionary	3,734.5	0.01	1.50	0.00	0.00	0.0	0.0	0.0	30	\$1,851.38	\$1,295.96	\$0.17	\$0.00	\$0.00	7.57	0.97	0.56	0.56	0.36	0.36	R-38
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Assembly	Lost Opportunity	3,734.5	0.01	1.50	0.00	0.00	0.0	0.0	0.0	30	\$1,851.38	\$1,295.96	\$0.11	\$0.00	\$0.00	7.57	0.97	0.06	0.06	0.03	0.03	R-38
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Assembly	Discretionary	6,504.2	0.01	2.62	0.00	0.00	0.0	0.0	0.0	30	\$5,307.28	\$3,715.09	\$0.17	\$0.00	\$0.00	4.60	0.97	0.95	0.95	0.61	0.61	R-30 (CBES 2015 Code)
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Assembly	Discretionary	4,325.1	0.01	1.74	0.00	0.00	0.0	0.0	0.0	30	\$1,526.71	\$1,068.70	\$0.17	\$0.00	\$0.00	10.63	0.97	1.10	1.10	0.71	0.71	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Assembly	Lost Opportunity	4,325.1	0.01	1.74	0.00	0.00	0.0	0.0	0.0	30	\$1,526.71	\$1,068.70	\$0.11	\$0.00	\$0.00	10.63	0.97	0.18	0.18	0.10	0.10	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Code	Assembly	Discretionary	4,749.2	0.01	1.91	0.00	0.00	0.0	0.0	0.0	30	\$10,476.35	\$7,333.45	\$0.17	\$0.00	\$0.00	1.70	0.97	0.80	0.80	0.51	0.51	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Electric	Windows - CBES 2015 - Above Code	Assembly	Discretionary	145.2	0.00	0.06	0.00	0.00	0.0	0.0	0.0	20	\$1,111.56	\$778.09	\$0.17	\$0.00	\$0.00	0.33	0.97	0.06	0.00	0.00	0.00	U-0.29
Room Heat - Electric	Windows - CBES 2015 - Above Code	Assembly	Lost Opportunity	145.2	0.00	0.06	0.00	0.00	0.0	0.0	0.0	20	\$1,111.56	\$778.09	\$0.11	\$0.00	\$0.00	0.33	0.97	0.01	0.00	0.00	0.00	U-0.29
Room Heat - Electric	Windows - CBES 2015 - Code	Assembly	Discretionary	340.6	0.00	0.14	0.00	0.00	0.0	0.0	0.0	20	\$7,340.35	\$5,138.24	\$0.17	\$0.00	\$0.00	0.12	0.97	0.13	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Servers	Internal Power Supply / Server	Assembly	Discretionary	4.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$1.22	\$0.86	\$0.17	\$0.00	\$0.00	2.22	1.00	0.34	0.43	0.29	0.29	80 Plus power supply for Desktop Derived Server
Servers	Internal Power Supply / Server	Assembly	Lost Opportunity	4.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$1.22	\$0.86	\$0.11	\$0.00	\$0.00	2.22	1.00	0.02	0.02	0.02	0.02	80 Plus power supply for Desktop Derived Server
Servers	Server - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.02	\$0.01	\$0.17	\$0.00	\$0.00	0.32	1.00	5.33	0.00	0.00	0.00	ENERGY STAR Server
Servers	Server - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.02	\$0.01	\$0.11	\$0.00	\$0.00	0.32	1.00	0.29	0.00	0.00	0.00	ENERGY STAR Server
Space Heat - Electric	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Assembly	Discretionary	7,959.6	0.02	3.20	0.00	0.00	0.0	0.0	0.0	15	\$2,608.50	\$1,825.95	\$0.17	\$0.00	\$0.00	5.71	0.97	0.50	0.50	0.32	0.32	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Electric	Commissioning	Assembly	Lost Opportunity	11,758.6	0.02	4.73	0.00	0.00	0.0	0.0	0.0	5	\$12,103.44	\$8,472.41	\$0.11	\$0.00	\$0.00	0.60	0.97	0.85	0.00	0.00	0.00	Commissioning
Space Heat - Electric	Convert Constant Volume Air System to VAV	Assembly	Discretionary	23,760.4	0.05	9.56	0.00	0.00	0.0	0.0	0.0	15	\$57,068.02	\$39,947.61	\$0.17	\$0.00	\$0.00	0.78	0.97	2.37	0.00	0.00	0.00	Variable Volume Air System
Space Heat - Electric	Direct Digital Control System-Installation	Assembly	Discretionary	13,567.6	0.03	5.46	0.00	0.00	0.0	0.0	0.0	5	\$3,260.63	\$2,282.44	\$0.17	\$0.00	\$0.00	2.59	0.97	9.87	9.87	6.37	6.37	Installation of EMS System
Space Heat - Electric	Direct Digital Control System-Installation	Assembly	Lost Opportunity	13,567.6	0.03	5.46	0.00	0.00	0.0	0.0	0.0	5	\$3,260.63	\$2,282.44	\$0.11	\$0.00	\$0.00	2.59	0.97	0.07	0.07	0.04	0.04	Installation of EMS System
Space Heat - Electric	Duct Repair and Sealing	Assembly	Discretionary	7,865.3	0.02	3.16	0.00	0.00	0.0	0.0	0.0	18	\$2,504.16	\$1,752.91	\$0.17	\$0.00	\$0.00	7.03	0.97	4.14	4.14	2.67	2.67	Reduction In Duct Losses to 5 %
Space Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Assembly	Discretionary	13,567.6	0.03	5.46	0.00	0.00	0.0	0.0	0.0	14	\$45,856.90	\$32,099.83	\$0.17	\$0.00	\$0.00	0.52	0.97	1.04	0.00	0.00</		



Appendix B.4		BED Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Ventilation And Circulation	Automated Exhaust VFD Control - Parking Garage CO sensor	Assembly	Discretionary	227.4	0.03	0.03	0.00	0.00	0.0	0.0	0.0	5	\$33.10	\$23.17	\$0.17	\$0.00	\$0.00	5.31	0.98	1.08	1.08	0.77	0.77	CO Sensors
Ventilation And Circulation	Boiler Draft Fan - VFD	Assembly	Discretionary	2,086.8	0.24	0.26	0.00	0.00	0.0	0.0	0.0	15	\$1,122.82	\$785.97	\$0.17	\$0.00	\$0.00	4.47	0.98	73.32	73.32	52.39	52.39	VFD Boiler Draft Fan
Ventilation And Circulation	Boiler Draft Fan - VFD	Assembly	Lost Opportunity	2,086.8	0.24	0.26	0.00	0.00	0.0	0.0	0.0	15	\$1,122.82	\$785.97	\$0.11	\$0.00	\$0.00	4.47	0.98	2.80	2.80	1.97	1.97	VFD Boiler Draft Fan
Ventilation And Circulation	Convert Constant Volume Air System to VAV	Assembly	Discretionary	1,266.1	0.14	0.16	0.00	0.00	0.0	0.0	0.0	15	\$57,068.02	\$39,947.61	\$0.17	\$0.00	\$0.00	0.05	0.98	11.61	0.00	0.00	0.00	Variable Volume Air System
Ventilation And Circulation	Cooking Hood Controls	Assembly	Discretionary	48.6	0.01	0.01	0.00	0.00	0.0	0.0	0.0	18	\$162.97	\$114.08	\$0.17	\$0.00	\$0.00	0.87	0.98	3.84	0.00	0.00	0.00	Demand-Ventilation Control
Ventilation And Circulation	Cooking Hood Controls	Assembly	Lost Opportunity	48.6	0.01	0.01	0.00	0.00	0.0	0.0	0.0	18	\$162.97	\$114.08	\$0.11	\$0.00	\$0.00	0.87	0.98	0.21	0.00	0.00	0.00	Demand-Ventilation Control
Ventilation And Circulation	Cooling Tower Fan - Variable Speed Control	Assembly	Discretionary	45.3	0.01	0.01	0.00	0.00	0.0	0.0	0.0	15	\$203.23	\$142.26	\$0.17	\$0.00	\$0.00	0.54	0.98	3.44	0.00	0.00	0.00	HVAC Fan System Installation with VSD
Ventilation And Circulation	Fan System - HVAC - Variable Speed Control	Assembly	Discretionary	2,470.2	0.28	0.30	0.00	0.00	0.0	0.0	0.0	15	\$393.50	\$275.45	\$0.17	\$0.00	\$0.00	15.10	0.98	73.43	73.43	52.47	52.47	HVAC Fan System Optimization with VSD (Restoration)
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	Assembly	Discretionary	59.9	0.01	0.01	0.00	0.00	0.0	0.0	0.0	16	\$0.99	\$0.69	\$0.17	\$0.00	\$0.00	156.28	0.98	6.92	6.92	4.94	4.94	CEE PE+ Motor for HVAC Applications
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	Assembly	Lost Opportunity	59.9	0.01	0.01	0.00	0.00	0.0	0.0	0.0	16	\$0.99	\$0.69	\$0.11	\$0.00	\$0.00	156.28	0.98	0.38	0.38	0.26	0.26	CEE PE+ Motor for HVAC Applications
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	Assembly	Discretionary	1,171.9	0.13	0.14	0.00	0.00	0.0	0.0	0.0	15	\$57,068.02	\$39,947.61	\$0.17	\$0.00	\$0.00	0.05	0.98	7.82	0.00	0.00	0.00	VAV Box High Efficiency (ECM)
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	Assembly	Lost Opportunity	1,171.9	0.13	0.14	0.00	0.00	0.0	0.0	0.0	15	\$57,068.02	\$39,947.61	\$0.11	\$0.00	\$0.00	0.05	0.98	0.00	0.00	0.00	0.00	VAV Box High Efficiency (ECM)
Ventilation And Circulation	Motor Rewind	Assembly	Discretionary	36.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$2.77	\$0.17	\$0.17	\$0.00	\$0.00	18.63	0.98	0.14	0.14	0.10	0.10	>15, <500 HP
Ventilation And Circulation	Pump System - Chiller - Variable Speed Control	Assembly	Discretionary	309.7	0.04	0.04	0.00	0.00	0.0	0.0	0.0	15	\$57.71	\$40.40	\$0.17	\$0.00	\$0.00	12.91	0.98	11.72	11.72	8.37	8.37	Chiller Pump System Optimization with VSD (Restoration)
Ventilation And Circulation	Variable Speed ECM Pump - Domestic Hot Water Recirculation	Assembly	Discretionary	77.4	0.01	0.01	0.00	0.00	0.0	0.0	0.0	15	\$15.22	\$10.65	\$0.17	\$0.00	\$0.00	12.24	0.98	3.72	3.72	2.66	2.66	Domestic Hot Water Recirculation ECM Pump
Ventilation And Circulation	Variable Speed ECM Pump - HVAC Space Heating Recirculation	Assembly	Discretionary	1,280.9	0.15	0.16	0.00	0.00	0.0	0.0	0.0	15	\$152.15	\$106.51	\$0.17	\$0.00	\$0.00	20.26	0.98	45.00	45.00	32.16	32.16	HVAC Space Heating Recirculation ECM Pump
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Assembly	Discretionary	15.9	0.00	0.01	0.00	0.00	0.0	0.0	3.0	13	\$36.79	\$25.76	\$0.17	\$0.00	\$0.00	1.66	0.95	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Assembly	Lost Opportunity	15.9	0.00	0.01	0.00	0.00	0.0	0.0	3.0	13	\$36.79	\$25.76	\$0.11	\$0.00	\$0.00	1.66	0.95	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Assembly	Discretionary	35.2	0.00	0.01	0.00	0.00	0.0	0.0	4.0	13	\$68.03	\$47.62	\$0.17	\$0.00	\$0.00	1.53	0.95	0.06	0.10	0.05	0.05	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Assembly	Lost Opportunity	35.2	0.00	0.01	0.00	0.00	0.0	0.0	4.0	13	\$68.03	\$47.62	\$0.11	\$0.00	\$0.00	1.53	0.95	0.00	0.00	0.00	0.00	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Assembly	Discretionary	6.4	0.00	0.00	0.00	0.00	0.0	0.0	0.5	14	\$2.04	\$1.43	\$0.17	\$0.00	\$0.00	8.85	0.95	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Assembly	Lost Opportunity	6.4	0.00	0.00	0.00	0.00	0.0	0.0	0.5	14	\$2.04	\$1.43	\$0.11	\$0.00	\$0.00	8.85	0.95	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Assembly	Discretionary	10.0	0.00	0.00	0.00	0.00	0.0	0.0	1.6	14	\$0.83	\$0.58	\$0.17	\$0.00	\$0.00	44.94	0.95	0.00	0.01	0.00	0.00	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Assembly	Lost Opportunity	10.0	0.00	0.00	0.00	0.00	0.0	0.0	1.6	14	\$0.83	\$0.58	\$0.11	\$0.00	\$0.00	44.94	0.95	0.00	0.00	0.00	0.00	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	Assembly	Discretionary	33.7	0.00	0.01	0.00	0.00	0.0	0.0	0.0	13	\$16.07	\$11.25	\$0.17	\$0.00	\$0.00	3.42	0.95	0.06	0.09	0.05	0.05	1.0" of Insulation, assuming R-4 (Code)
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	Assembly	Discretionary	145.7	0.00	0.06	0.00	0.00	0.0	0.0	0.0	25	\$1,590.75	\$1,113.53	\$0.17	\$0.00	\$0.00	0.29	0.95	0.01	0.00	0.00	0.00	Install Heat Recovery Water Heater
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	Assembly	Discretionary	5.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$0.63	\$0.44	\$0.17	\$0.00	\$0.00	21.12	0.95	0.01	0.01	0.00	0.00	R-3
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Assembly	Discretionary	130.5	0.00	0.05	0.00	0.00	0.0	0.0	9.6	9	\$41.74	\$29.22	\$0.17	\$0.00	\$0.00	5.55	0.95	0.47	0.72	0.38	0.38	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Assembly	Lost Opportunity	130.5	0.00	0.05	0.00	0.00	0.0	0.0	9.6	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.95	0.02	0.00	0.00	0.00	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Assembly	Discretionary	92.1	0.00	0.04	0.00	0.00	0.0	0.0	6.8	9	\$41.74	\$29.22	\$0.17	\$0.00	\$0.00	3.92	0.95	0.00	0.00	0.00	0.00	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Assembly	Lost Opportunity	92.1	0.00	0.04	0.00	0.00	0.0	0.0	6.8	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.95	0.00	0.00	0.00	0.00	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Assembly	Discretionary	53.7	0.00	0.02	0.00	0.00	0.0	0.0	4.0	9	\$41.74	\$29.22	\$0.17	\$0.00	\$0.00	2.28	0.95	0.00	0.00	0.00	0.00	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Assembly	Lost Opportunity	53.7	0.00	0.02	0.00	0.00	0.0	0.0	4.0	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.95	0.00	0.00	0.00	0.00	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Assembly	Discretionary	23.0	0.00	0.01	0.00	0.00	0.0	0.0	1.5	9	\$41.74	\$29.22	\$0.17	\$0.00	\$0.00	0.94	0.95	0.03	0.00	0.00	0.00	2.2 GPM (Federal Code)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Assembly	Discretionary	10.4	0.00	0.00	0.00	0.00	0.0	0.0	2.0	5	\$1.98	\$1.39	\$0.17	\$0.00	\$0.00	8.41	0.95	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Assembly	Lost Opportunity	10.4	0.00	0.00	0.00	0.00	0.0	0.0	2.0	5	\$1.98	\$1.39	\$0.11	\$0.00	\$0.00	8.41	0.95	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Discretionary	17.3	0.00	0.01	0.00	0.00	0.0	0.0	3.3	5	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.95	0.05	0.00	0.00	0.00	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Lost Opportunity	17.3	0.00	0.01	0.00	0.00	0.0	0.0	3.3	5	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.95	0.00	0.00	0.00	0.00	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Discretionary	27.7	0.00	0.01	0.00	0.00	0.0	0.0	5.3	5	\$1.98	\$1.39	\$0.17	\$0.00	\$0.00	22.34	0.95	0.00	0.00	0.00	0.00	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Lost Opportunity	27.7	0.00	0.01	0.00	0.00	0.0	0.0	5.3	5	\$1.98	\$1.39	\$0.11	\$0.00	\$0.00	22.34	0.95	0.00	0.00	0.00	0.00	0.75 GPM
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.67	\$0.47	\$0.17	\$0.25	\$0.00	0.01	0.95	0.46	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.67	\$0.47	\$0.11	\$0.25	\$0.00	0.01	0.95	0.02	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Assembly	Discretionary	84.4	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$731.88	\$512.32	\$0.17	\$0.00	\$0.00	0.29	0.95	0.29	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Assembly	Lost Opportunity	84.4	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$731.88	\$512.32	\$0.11	\$0.00	\$0.00	0.29	0.95	0.01	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Assembly	Discretionary	90.5	0.00	0.04	0.00	0.00	0.0	0.0	0.0	10	\$335.22	\$234.65	\$0.17	\$0.00	\$0.00	0.34	0.95	0.02	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Assembly	Lost Opportunity	90.5	0.00	0.04	0.00	0.00	0.0	0.0	0.0	10	\$335.22	\$234.65	\$0.11	\$0.00	\$0.00	0.34	0.95	0.00	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.16	\$0.11	\$0.17	\$0.00	\$0.00	0.10	0.95	0.77	0.00	0.00	0.00	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.16	\$0.11	\$0.11	\$0.00	\$0.00	0.10	0.95	0.04	0.00	0.00	0.00	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.03	\$0.02	\$0.17	\$0.00	\$0.00	0.16	0.95	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.03	\$0.02	\$0.11	\$0.00	\$0.00	0.16	0.95	0.00	0.00	0.00		



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Assembly	Lost Opportunity	10.4	0.00	0.00	0.00	0.00	0.0	0.0	2.0	5	\$1.98	\$1.39	\$0.11	\$0.00	\$0.00	8.41	0.95	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Discretionary	17.3	0.00	0.01	0.00	0.00	0.0	0.0	3.3	5	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.95	0.40	0.00	0.00	0.00	0.75 GPM	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Lost Opportunity	17.3	0.00	0.01	0.00	0.00	0.0	0.0	3.3	5	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.95	0.02	0.00	0.00	0.00	0.75 GPM	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Discretionary	27.7	0.00	0.01	0.00	0.00	0.0	0.0	5.3	5	\$1.98	\$1.39	\$0.17	\$0.00	\$0.00	22.34	0.95	0.00	0.00	0.00	0.00	0.75 GPM	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Lost Opportunity	27.7	0.00	0.01	0.00	0.00	0.0	0.0	5.3	5	\$1.98	\$1.39	\$0.11	\$0.00	\$0.00	22.34	0.95	0.00	0.01	0.01	0.01	0.75 GPM	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1.93	\$1.35	\$0.17	\$0.51	\$0.00	0.01	0.95	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1.93	\$1.35	\$0.11	\$0.51	\$0.00	0.01	0.95	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Assembly	Discretionary	84.4	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$731.88	\$512.32	\$0.17	\$0.00	\$0.00	0.29	0.95	2.17	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Assembly	Lost Opportunity	84.4	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$731.88	\$512.32	\$0.11	\$0.00	\$0.00	0.29	0.95	0.09	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Assembly	Discretionary	85.0	0.00	0.03	0.00	0.00	0.0	0.0	0.0	10	\$335.22	\$234.65	\$0.17	\$0.00	\$0.00	0.32	0.95	0.11	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Assembly	Lost Opportunity	85.0	0.00	0.03	0.00	0.00	0.0	0.0	0.0	10	\$335.22	\$234.65	\$0.11	\$0.00	\$0.00	0.32	0.95	0.00	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Assembly	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.92	\$0.64	\$0.17	\$0.01	\$0.00	0.07	0.95	21.33	0.00	0.00	0.00	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Assembly	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.92	\$0.64	\$0.11	\$0.01	\$0.00	0.07	0.95	1.19	0.00	0.00	0.00	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.59	\$0.41	\$0.17	\$0.01	\$0.00	0.08	0.95	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.59	\$0.41	\$0.11	\$0.01	\$0.00	0.08	0.95	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.65	\$0.46	\$0.17	\$0.01	\$0.00	0.08	0.95	0.00	0.00	0.00	0.00	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Assembly	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.65	\$0.46	\$0.11	\$0.01	\$0.00	0.08	0.95	0.00	0.00	0.00	0.00	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Assembly	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.85	\$0.60	\$0.17	\$0.01	\$0.00	0.07	0.95	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Assembly	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.85	\$0.60	\$0.11	\$0.01	\$0.00	0.07	0.95	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Assembly	Discretionary	119.0	0.00	0.05	0.00	0.00	0.0	0.0	0.0	4	\$0.02	\$0.01	\$0.17	\$0.00	\$0.00	3923.77	0.95	3.05	7.55	4.00	4.00	Set Water Heater to 120F	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Assembly	Lost Opportunity	119.0	0.00	0.05	0.00	0.00	0.0	0.0	0.0	4	\$0.02	\$0.01	\$0.11	\$0.00	\$0.00	3923.77	0.95	0.13	0.42	0.22	0.22	Set Water Heater to 120F	
Water Heat LE 55 Gal	Water Heater Tank Wrap	Assembly	Discretionary	239.5	0.00	0.10	0.00	0.00	0.0	0.0	0.0	7	\$62.33	\$43.63	\$0.17	\$0.00	\$0.00	3.38	0.95	3.37	8.33	4.41	4.41	Add R-10 Tank Wrap	
Computers	Computer - ENERGY STAR	Grocery	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.70	9.56	0.00	0.00	0.00	ENERGY STAR Computer	
Computers	Computer - ENERGY STAR	Grocery	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.70	0.47	0.00	0.00	0.00	ENERGY STAR Computer	
Computers	Network PC Power Management	Grocery	Discretionary	211.1	0.03	0.02	0.00	0.00	0.0	0.0	0.0	5	\$25.81	\$18.07	\$0.17	\$5.92	\$0.00	3.27	0.70	1.77	3.10	1.44	1.44	Network PC Power Management	
Computers	Network PC Power Management	Grocery	Lost Opportunity	211.1	0.03	0.02	0.00	0.00	0.0	0.0	0.0	5	\$25.81	\$18.07	\$0.11	\$5.92	\$0.00	3.27	0.70	0.11	0.19	0.09	0.09	Network PC Power Management	
Cooking	Combination Oven	Grocery	Discretionary	1,404.4	0.16	0.16	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.95	5.00	0.00	0.00	0.00	ENERGY STAR Combination Oven	
Cooking	Combination Oven	Grocery	Lost Opportunity	1,404.4	0.16	0.16	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.95	0.28	0.00	0.00	0.00	ENERGY STAR Combination Oven	
Cooking	Convection Oven	Grocery	Discretionary	317.3	0.04	0.04	0.00	0.00	0.0	0.0	0.0	12	\$85.57	\$59.90	\$0.17	\$0.00	\$0.00	7.05	0.95	2.07	2.07	1.30	1.30	ENERGY STAR Convection Oven	
Cooking	Convection Oven	Grocery	Lost Opportunity	317.3	0.04	0.04	0.00	0.00	0.0	0.0	0.0	12	\$85.57	\$59.90	\$0.11	\$0.00	\$0.00	7.05	0.95	0.11	0.11	0.07	0.07	ENERGY STAR Convection Oven	
Cooking	Fryers	Grocery	Discretionary	655.2	0.07	0.07	0.00	0.00	0.0	0.0	0.0	12	\$111.60	\$78.12	\$0.17	\$0.00	\$0.00	11.17	0.95	3.33	3.33	2.09	2.09	ENERGY STAR Fryer	
Cooking	Fryers	Grocery	Lost Opportunity	655.2	0.07	0.07	0.00	0.00	0.0	0.0	0.0	12	\$111.60	\$78.12	\$0.11	\$0.00	\$0.00	11.17	0.95	0.18	0.18	0.12	0.12	ENERGY STAR Fryer	
Cooking	Griddle	Grocery	Discretionary	421.0	0.05	0.05	0.00	0.00	0.0	0.0	0.0	12	\$189.67	\$132.77	\$0.17	\$0.00	\$0.00	4.22	0.95	1.68	1.68	1.06	1.06	ENERGY STAR Griddle	
Cooking	Griddle	Grocery	Lost Opportunity	421.0	0.05	0.05	0.00	0.00	0.0	0.0	0.0	12	\$189.67	\$132.77	\$0.11	\$0.00	\$0.00	4.22	0.95	0.09	0.09	0.06	0.06	ENERGY STAR Griddle	
Cooking	Hot Food Holding Cabinet	Grocery	Discretionary	381.6	0.04	0.04	0.00	0.00	0.0	0.0	0.0	12	\$198.94	\$139.25	\$0.17	\$0.00	\$0.00	3.65	0.95	2.35	2.35	1.48	1.48	ENERGY STAR Hot Food Holding Cabinet	
Cooking	Hot Food Holding Cabinet	Grocery	Lost Opportunity	381.6	0.04	0.04	0.00	0.00	0.0	0.0	0.0	12	\$198.94	\$139.25	\$0.11	\$0.00	\$0.00	3.65	0.95	0.13	0.13	0.08	0.08	ENERGY STAR Hot Food Holding Cabinet	
Cooking	Microwave - High Efficiency	Grocery	Discretionary	2.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$1.09	\$0.77	\$0.17	\$0.00	\$0.00	3.38	0.95	0.01	0.01	0.01	0.01	High Efficiency Microwave	
Cooking	Microwave - High Efficiency	Grocery	Lost Opportunity	2.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$1.09	\$0.77	\$0.11	\$0.00	\$0.00	3.38	0.95	0.00	0.00	0.00	0.00	High Efficiency Microwave	
Cooking	Steam Cooker	Grocery	Discretionary	1,099.1	0.13	0.13	0.00	0.00	0.0	0.0	2,224.3	12	\$374.93	\$262.45	\$0.17	\$0.00	\$0.00	71.19	0.95	5.98	5.98	3.76	3.76	ENERGY STAR Steam Cooker	
Cooking	Steam Cooker	Grocery	Lost Opportunity	1,099.1	0.13	0.13	0.00	0.00	0.0	0.0	2,224.3	12	\$374.93	\$262.45	\$0.11	\$0.00	\$0.00	71.19	0.95	0.33	0.33	0.21	0.21	ENERGY STAR Steam Cooker	
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Grocery	Discretionary	206.7	0.07	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1,982.25	\$1,387.58	\$0.17	\$0.00	\$0.00	0.37	0.98	0.00	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)	
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.27	\$0.19	\$0.17	\$0.00	\$0.00	0.65	0.98	0.00	0.00	0.00	0.00	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)	
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.24	\$0.17	\$0.11	\$0.00	\$0.00	0.73	0.98	0.00	0.00	0.00	0.00	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)	
Cooling Chillers	Convert Constant Volume Air System to VAV	Grocery	Discretionary	522.2	0.18	0.00	0.00	0.00	0.0	0.0	0.0	15	\$28,911.40	\$20,237.98	\$0.17	\$0.00	\$0.00	0.06	0.98	0.00	0.00	0.00	0.00	Variable Volume Air System	
Cooling Chillers	Direct Digital Control System-Installation	Grocery	Discretionary	298.2	0.10	0.00	0.00	0.00	0.0	0.0	0.0	5	\$2,477.81	\$1,734.47	\$0.17	\$0.00	\$0.00	0.13	0.98	0.00	0.00	0.00	0.00	Installation of EMS System	
Cooling Chillers	Direct Digital Control System-Installation	Grocery	Lost Opportunity	298.2	0.10	0.00	0.00	0.00	0.0	0.0	0.0	5	\$2,477.81	\$1,734.47	\$0.11	\$0.00	\$0.00	0.13	0.98	0.00	0.00	0.00	0.00	Installation of EMS System	
Cooling Chillers	Exhaust Hood Makeup Air	Grocery	Discretionary	89.4	0.03	0.00	0.00	0.00	0.0	0.0	0.0	12	\$683.70	\$478.59	\$0.17	\$0.00	\$0.00	0.36	0.98	0.00	0.00	0.00	0.00	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Cooling Chillers	Green Roof	Grocery	Discretionary	10.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$62,699.73	\$43,889.81	\$0.17	\$627.00	\$0.00	0.00	0.98	0.00	0.00	0.00	0.00	Vegetation on Roof	
Cooling Chillers	Green Roof	Grocery	Lost Opportunity	8.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$62,699.73	\$43,889.81	\$0.11	\$627.00	\$0.00	0.00	0.98	0.00	0.00	0.00	0.00	Vegetation on Roof	
Cooling Chillers	Indirect Information Feedback	Grocery	Discretionary	10.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2	\$34.41	\$24.09	\$0.17	\$0.00	\$0.00	0.12	0.98	0.00	0.00	0.00	0.00	Indirect Information Feedback	
Cooling Chillers	Indirect Information Feedback	Grocery	Lost Opportunity	10.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2	\$34.41	\$24.09	\$0.11	\$									



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Cooling Dx Evap	DX Package 135 to 240 kBtuh - Premium Efficiency	Grocery	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1.61	\$1.13	\$0.17	\$0.00	\$0.00	0.12	0.98	5.00	0.00	0.00	0.00	Premium Efficiency - 18.5 IEER	
Cooling Dx Evap	DX Package 135 to 240 kBtuh - Premium Efficiency	Grocery	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1.29	\$0.90	\$0.11	\$0.00	\$0.00	0.16	0.98	0.24	0.00	0.00	0.00	Premium Efficiency - 18.5 IEER	
Cooling Dx Evap	DX Package-Air Side Economizer	Grocery	Discretionary	502.5	0.17	0.00	0.00	0.00	0.0	0.0	0.0	10	\$4,698.67	\$3,289.07	\$0.17	\$0.00	\$0.00	0.24	0.98	0.28	0.00	0.00	0.00	Air-Side Economizer	
Cooling Dx Evap	Direct Digital Control System-Installation	Grocery	Discretionary	269.0	0.09	0.00	23.01	252.65	27.9	0.0	0.0	5	\$2,477.81	\$1,734.47	\$0.17	\$0.00	\$0.00	0.78	0.98	1.17	0.00	0.00	0.00	Installation of EMS System	
Cooling Dx Evap	Direct Digital Control System-Installation	Grocery	Lost Opportunity	269.0	0.09	0.00	25.56	280.72	31.0	0.0	0.0	5	\$2,477.81	\$1,734.47	\$0.11	\$0.00	\$0.00	0.86	0.98	0.01	0.00	0.00	0.00	Installation of EMS System	
Cooling Dx Evap	Duct Repair and Sealing	Grocery	Discretionary	156.0	0.05	0.00	13.34	25.81	18.8	0.0	0.0	18	\$1,902.96	\$1,332.07	\$0.17	\$0.00	\$0.00	0.96	0.98	0.49	0.00	0.00	0.00	Reduction In Duct Losses to 5 %	
Cooling Dx Evap	Exhaust Hood Makeup Air	Grocery	Discretionary	80.7	0.03	0.00	0.00	0.00	0.0	0.0	0.0	12	\$683.70	\$478.59	\$0.17	\$0.00	\$0.00	0.33	0.98	0.08	0.00	0.00	0.00	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Cooling Dx Evap	Green Roof	Grocery	Discretionary	9.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$62,699.73	\$43,889.81	\$0.17	\$627.00	\$0.00	0.00	0.98	0.04	0.00	0.00	0.00	Vegetation on Roof	
Cooling Dx Evap	Green Roof	Grocery	Lost Opportunity	7.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$62,699.73	\$43,889.81	\$0.11	\$627.00	\$0.00	0.00	0.98	0.00	0.00	0.00	0.00	Vegetation on Roof	
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Grocery	Discretionary	1,065.3	0.36	0.00	0.00	0.00	0.0	0.0	0.0	15	\$30,130.20	\$21,091.14	\$0.17	-\$689.82	\$0.00	0.17	0.98	0.59	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Grocery	Lost Opportunity	1,065.3	0.36	0.00	0.00	0.00	0.0	0.0	0.0	15	\$30,130.20	\$21,091.14	\$0.11	-\$689.82	\$0.00	0.17	0.98	0.10	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Cooling Dx Evap	Indirect Information Feedback	Grocery	Discretionary	9.3	0.00	0.00	0.80	8.34	0.9	0.0	0.0	2	\$31.05	\$21.74	\$0.17	\$0.00	\$0.00	0.85	0.98	0.05	0.00	0.00	0.00	Indirect Information Feedback	
Cooling Dx Evap	Indirect Information Feedback	Grocery	Lost Opportunity	9.3	0.00	0.00	0.89	9.27	1.0	0.0	0.0	2	\$31.05	\$21.74	\$0.11	\$0.00	\$0.00	0.93	0.98	0.00	0.00	0.00	0.00	Indirect Information Feedback	
Cooling Dx Evap	Infiltration Reduction	Grocery	Discretionary	53.8	0.02	0.00	15.34	181.75	19.8	0.0	0.0	10	\$176.73	\$123.71	\$0.17	\$0.00	\$0.00	13.24	0.98	0.02	0.02	0.01	0.01	Install Caulking And Weatherstripping (ACH 0.65)	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Grocery	Discretionary	79.3	0.03	0.00	6.78	104.25	10.8	0.0	0.0	30	\$705.37	\$493.76	\$0.17	\$0.00	\$0.00	4.93	0.98	0.19	0.24	0.16	0.16	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Grocery	Lost Opportunity	79.3	0.03	0.00	7.53	115.83	12.0	0.0	0.0	30	\$705.37	\$493.76	\$0.11	\$0.00	\$0.00	5.38	0.98	0.01	0.01	0.00	0.00	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Code	Grocery	Discretionary	271.6	0.09	0.00	23.23	357.17	37.0	0.0	0.0	30	\$3,218.59	\$2,253.01	\$0.17	\$0.00	\$0.00	3.70	0.98	0.41	0.53	0.35	0.35	R-30 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Grocery	Discretionary	64.6	0.02	0.00	5.52	10.97	7.9	0.0	0.0	20	\$107.54	\$75.28	\$0.17	\$0.00	\$0.00	7.81	0.98	0.39	0.51	0.34	0.34	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Grocery	Lost Opportunity	64.6	0.02	0.00	6.14	12.18	8.8	0.0	0.0	20	\$107.54	\$75.28	\$0.11	\$0.00	\$0.00	8.35	0.98	0.03	0.04	0.02	0.02	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	Grocery	Discretionary	64.6	0.02	0.00	5.52	10.97	7.9	0.0	0.0	20	\$433.12	\$303.19	\$0.17	\$0.00	\$0.00	1.94	0.98	0.30	0.39	0.26	0.26	R-8 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Grocery	Discretionary	116.8	0.04	0.00	9.99	153.63	15.9	0.0	0.0	30	\$1,253.99	\$877.80	\$0.17	\$0.00	\$0.00	4.08	0.98	0.09	0.12	0.08	0.08	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Grocery	Lost Opportunity	116.8	0.04	0.00	11.10	170.70	17.7	0.0	0.0	30	\$1,253.99	\$877.80	\$0.11	\$0.00	\$0.00	4.46	0.98	0.01	0.01	0.01	0.01	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	Grocery	Discretionary	203.5	0.07	0.00	17.40	267.57	27.7	0.0	0.0	30	\$3,594.78	\$2,516.35	\$0.17	\$0.00	\$0.00	2.48	0.98	0.16	0.20	0.13	0.13	R-30 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Grocery	Discretionary	184.4	0.06	0.00	15.77	242.55	25.1	0.0	0.0	30	\$1,409.69	\$986.78	\$0.17	\$0.00	\$0.00	5.73	0.98	0.24	0.32	0.21	0.21	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Grocery	Lost Opportunity	184.4	0.06	0.00	17.53	269.50	27.9	0.0	0.0	30	\$1,409.69	\$986.78	\$0.11	\$0.00	\$0.00	6.27	0.98	0.04	0.05	0.03	0.03	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Code	Grocery	Discretionary	202.5	0.07	0.00	17.32	266.34	27.6	0.0	0.0	30	\$9,673.36	\$6,771.35	\$0.17	\$0.00	\$0.00	0.92	0.98	0.17	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Grocery	Discretionary	144.3	0.05	0.00	0.00	0.00	0.0	0.0	0.0	15	\$28,003.91	\$19,602.73	\$0.17	\$0.00	\$0.00	0.02	0.98	0.21	0.00	0.00	0.00	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Grocery	Lost Opportunity	144.3	0.05	0.00	0.00	0.00	0.0	0.0	0.0	15	\$22,403.13	\$15,682.19	\$0.11	\$0.00	\$0.00	0.02	0.98	0.01	0.00	0.00	0.00	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Natural Ventilation	Grocery	Lost Opportunity	179.3	0.06	0.00	0.00	0.00	0.0	0.0	0.0	15	\$7,929.00	\$5,550.30	\$0.11	\$0.00	\$0.00	0.08	0.98	0.00	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling	
Cooling Dx Evap	Programmable Thermostat	Grocery	Discretionary	71.7	0.02	0.00	6.14	73.74	8.0	0.0	0.0	11	\$48.90	\$34.23	\$0.17	\$0.00	\$0.00	23.64	0.98	0.43	0.56	0.44	0.37	Programmable Thermostat	
Cooling Dx Evap	Strategic Energy Management (SEM)	Grocery	Discretionary	73.5	0.03	0.00	6.29	69.06	7.6	0.0	0.0	5	\$9.91	\$6.94	\$0.17	\$0.00	\$0.00	53.63	0.98	0.07	0.09	0.06	0.06	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Strategic Energy Management (SEM)	Grocery	Lost Opportunity	73.5	0.03	0.00	6.99	76.73	8.5	0.0	0.0	5	\$9.91	\$6.94	\$0.11	\$0.00	\$0.00	58.69	0.98	0.03	0.03	0.02	0.02	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Tune-up - DX Maintenance	Grocery	Discretionary	257.8	0.09	0.00	0.00	0.00	0.0	0.0	0.0	5	\$9,514.80	\$6,660.36	\$0.17	\$0.00	\$0.00	0.03	0.98	0.82	0.00	0.00	0.00	DX Tune-up / Diagnostics	
Cooling Dx Evap	Wi-Fi Thermostat	Grocery	Discretionary	71.7	0.02	0.00	6.14	73.74	8.0	0.0	0.0	11	\$389.50	\$272.65	\$0.17	\$0.00	\$0.00	2.97	0.98	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Grocery	Discretionary	6.3	0.00	0.00	0.54	7.31	0.8	0.0	0.0	20	\$1,045.07	\$731.55	\$0.17	\$0.00	\$0.00	0.18	0.98	0.01	0.00	0.00	0.00	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Grocery	Lost Opportunity	6.3	0.00	0.00	0.60	8.12	0.9	0.0	0.0	20	\$1,045.07	\$731.55	\$0.11	\$0.00	\$0.00	0.19	0.98	0.00	0.00	0.00	0.00	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Code	Grocery	Discretionary	14.8	0.01	0.00	1.26	17.14	1.8	0.0	0.0	20	\$6,901.27	\$4,830.89	\$0.17	\$0.00	\$0.00	0.06	0.98	0.82	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtuh - Premium Efficiency	Grocery	Discretionary	896.7	0.31	0.00	0.00	0.00	0.0	0.0	0.0	15	\$32,444.39	\$22,711.07	\$0.17	\$0.00	\$0.00	0.10	0.98	2.05	0.00	0.00	0.00	Premium Efficiency - 19.0 IEER	
Fax	Fax - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.70	0.13	0.00	0.00	0.00	ENERGY STAR Fax	
Fax	Fax - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.70	0.01	0.00	0.00	0.00	ENERGY STAR Fax	
Flat Screen Monitors	Monitor - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.70	0.00	0.00	0.00	0.00	ENERGY STAR Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.70	0.00	0.00	0.00	0.00	ENERGY STAR Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	0.50	0.70	0.80	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	0.50	0.70	0.04	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor	
Freezers	Freezer (Residential) - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	13.03	0.70	0.14	0.14	0.05	0.05	ENERGY STAR Freezer	
Freezers	Freezer (Residential) - ENERGY STAR	Grocery	Freezer Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	13.03	0.70	0.01	0.01	0.00	0.00	ENERGY STAR Freezer	
Freezers	Residential Freezer Recycling and Replacement	Grocery	Discretionary	51.1	0.01	0.01	0.00	0.00	0.0	0.0	0.0	8	\$20.49	\$14.34	\$0.17	\$0.00	\$0.00	3.13	0.70	0.87	0.87	0.34	0.34	Recycling Existing Freezer and Replacing with a Federal Standard Unit	
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	Grocery	Discretionary	2,211.5	0.02	0.47	0.00	0.00	0.0	0.0	0.0	8	\$147.70	\$103.39	\$0.17	\$0.00	\$0.00	14.75	0.98	10.05	10.05	7.45	7.45	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time	
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	Grocery	Discretionary	2,064.1	0.02	0.43	0.00	0.00	0.0	0.0	0.0	8	\$59.48	\$41.64	\$0.17	\$0.00	\$0.00	34.19	0.98	26.26	26.26	19.48	19.48	Photocell	
Lighting Exterior	LED Exterior Flood Lights	Grocery	Discretionary	716.1	0.01	0.15	0.00	0.00	0.0	0.0	0.0	20	\$472.37	\$330.66	\$0.17	\$0.00	\$0.00								



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Lighting Interior HID	Lighting Interior - High Bay LED - Above Standard	Grocery	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.14	\$0.10	\$0.17	\$0.00	\$0.00	6.86	0.98	18.97	19.87	14.35	14.35	High Bay LED	
Lighting Interior HID	Occupancy Sensor Control	Grocery	Discretionary	872.2	0.17	0.12	0.00	0.00	0.0	0.0	0.0	10	\$4,019.15	\$2,813.41	\$0.17	\$0.00	\$0.00	0.40	0.98	3.33	0.00	0.00	0.00	Occupancy Sensor Control	
Lighting Interior HID	Time Clock	Grocery	Discretionary	363.4	0.07	0.05	0.00	0.00	0.0	0.0	0.0	8	\$195.38	\$136.77	\$0.17	\$0.00	\$0.00	2.75	0.98	0.23	0.23	0.17	0.17	Time Clock	
Lighting Interior Other	Exit Sign - LED	Grocery	Discretionary	138.9	0.03	0.02	0.00	0.00	0.0	0.0	0.0	16	\$195.30	\$136.71	\$0.17	\$0.00	\$0.00	2.16	0.98	2.08	2.08	1.54	1.54	LED Exit Sign	
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Grocery	Discretionary	173.0	0.03	0.02	0.00	0.00	0.0	0.0	0.0	16	-\$29.73	\$0.00	\$0.17	\$0.00	\$0.00	999.00	0.98	3.78	3.78	2.81	2.81	Photoluminescent or Tritium	
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Grocery	Lost Opportunity	173.0	0.03	0.02	0.00	0.00	0.0	0.0	0.0	16	-\$29.73	\$0.00	\$0.11	\$0.00	\$0.00	999.00	0.98	0.16	0.16	0.11	0.11	Photoluminescent or Tritium	
Lighting Interior Other	New Construction Lighting Package - Advanced Efficiency	Grocery	Lost Opportunity	1.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.25	\$0.17	\$0.11	\$0.01	\$0.00	13.27	0.98	20.06	20.06	14.63	14.63	Advanced Efficiency Lighting Package - 25% LPD Reduction	
Lighting Interior Other	New Construction Lighting Package - High Efficiency	Grocery	Lost Opportunity	1.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.04	\$0.03	\$0.11	-\$0.01	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	High Efficiency Lighting Package - 15% LPD Reduction	
Lighting Interior Other	New Construction Lighting Package - Premium Efficiency	Grocery	Lost Opportunity	1.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.20	\$0.14	\$0.11	\$0.01	\$0.00	13.27	0.98	0.00	0.00	0.00	0.00	Premium Efficiency Lighting Package - 20% LPD Reduction	
Lighting Interior Other	Occupancy Sensor Control	Grocery	Discretionary	83.3	0.02	0.01	0.00	0.00	0.0	0.0	0.0	10	\$384.07	\$268.85	\$0.17	\$0.00	\$0.00	0.40	0.98	0.45	0.00	0.00	0.00	Occupancy Sensor Control	
Lighting Interior Other	Time Clock	Grocery	Discretionary	34.7	0.01	0.00	0.00	0.00	0.0	0.0	0.0	8	\$195.38	\$136.77	\$0.17	\$0.00	\$0.00	0.26	0.98	0.03	0.00	0.00	0.00	Time Clock	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	Grocery	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3	\$0.00	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	CFL	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base Incandescent - Backstop EISA 2020 Standard	Grocery	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3	\$0.00	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	Backstop EISA 2020 Standard Incandescent	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base LED - Above Standard	Grocery	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.02	\$0.01	\$0.17	-\$0.01	\$0.00	999.00	0.98	2.46	2.47	1.83	1.83	LED	
Lighting Interior Screw Base - Standard	Occupancy Sensor Control	Grocery	Discretionary	784.8	0.15	0.11	0.00	0.00	0.0	0.0	0.0	10	\$3,616.11	\$2,531.28	\$0.17	\$0.00	\$0.00	0.40	0.98	1.27	0.00	0.00	0.00	Occupancy Sensor Control	
Lighting Interior Screw Base - Standard	Time Clock	Grocery	Discretionary	327.0	0.06	0.04	0.00	0.00	0.0	0.0	0.0	8	\$195.38	\$136.77	\$0.17	\$0.00	\$0.00	2.47	0.98	0.09	0.09	0.07	0.07	Time Clock	
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base CFL - Above Standard	Grocery	Discretionary	784.1	0.15	0.11	0.00	0.00	0.0	0.0	0.0	3	\$10.82	\$7.58	\$0.17	-\$15.79	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	CFL	
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base LED - Above Standard	Grocery	Discretionary	819.3	0.16	0.11	0.00	0.00	0.0	0.0	0.0	12	\$34.32	\$24.03	\$0.17	-\$17.87	\$0.00	999.00	0.98	1.65	1.65	1.22	1.22	LED	
Other Plug Load	Dehumidifier - ENERGY STAR	Grocery	Discretionary	291.8	0.04	0.03	0.00	0.00	0.0	0.0	0.0	12	\$113.81	\$79.67	\$0.17	\$0.00	\$0.00	5.23	0.70	1.17	1.17	0.54	0.54	ENERGY STAR Dehumidifier	
Other Plug Load	Dehumidifier - ENERGY STAR	Grocery	Lost Opportunity	291.8	0.04	0.03	0.00	0.00	0.0	0.0	0.0	12	\$113.81	\$79.67	\$0.11	\$0.00	\$0.00	5.23	0.70	0.06	0.06	0.03	0.03	ENERGY STAR Dehumidifier	
Other Plug Load	ENERGY STAR - Scanners	Grocery	Discretionary	3.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.70	0.05	0.00	0.00	0.00	ENERGY STAR Scanners	
Other Plug Load	ENERGY STAR - Scanners	Grocery	Lost Opportunity	3.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.70	0.00	0.00	0.00	0.00	ENERGY STAR Scanners	
Other Plug Load	ENERGY STAR - Water Cooler	Grocery	Discretionary	110.4	0.02	0.01	0.00	0.00	0.0	0.0	0.0	10	\$0.95	\$0.66	\$0.17	\$0.00	\$0.00	196.63	0.70	2.54	2.54	1.18	1.18	ENERGY STAR Water Cooler (Hot/Cold Water)	
Other Plug Load	ENERGY STAR - Water Cooler	Grocery	Lost Opportunity	110.4	0.02	0.01	0.00	0.00	0.0	0.0	0.0	10	\$0.95	\$0.66	\$0.11	\$0.00	\$0.00	196.63	0.70	0.14	0.14	0.07	0.07	ENERGY STAR Water Cooler (Hot/Cold Water)	
Other Plug Load	Internal Power Supply / Com - E Star	Grocery	Discretionary	42.4	0.01	0.00	0.00	0.00	0.0	0.0	0.0	4	\$86.44	\$60.51	\$0.17	\$0.00	\$0.00	0.32	0.70	0.23	0.00	0.00	0.00	ENERGY STAR power supply for ENERGY STAR desktop	
Other Plug Load	Internal Power Supply / Com - E Star	Grocery	Lost Opportunity	42.4	0.01	0.00	0.00	0.00	0.0	0.0	0.0	4	\$86.44	\$60.51	\$0.11	\$0.00	\$0.00	0.32	0.70	0.01	0.00	0.00	0.00	ENERGY STAR power supply for ENERGY STAR desktop	
Other Plug Load	Smart Strip Plug Outlet	Grocery	Discretionary	333.8	0.05	0.03	0.00	0.00	0.0	0.0	0.0	4	\$250.99	\$175.69	\$0.17	\$0.00	\$0.00	0.86	0.70	1.62	0.00	0.00	0.00	Advanced Power Strip - Load Sensing	
Other Plug Load	Smart Strip Plug Outlet	Grocery	Lost Opportunity	333.8	0.05	0.03	0.00	0.00	0.0	0.0	0.0	4	\$250.99	\$175.69	\$0.11	\$0.00	\$0.00	0.86	0.70	0.09	0.00	0.00	0.00	Advanced Power Strip - Load Sensing	
Other Plug Load	Smart Strip Plug Outlet	Grocery	Discretionary	203.0	0.03	0.02	0.00	0.00	0.0	0.0	0.0	4	\$607.84	\$425.49	\$0.17	\$0.00	\$0.00	0.22	0.70	0.00	0.00	0.00	0.00	Advanced Power Strip with Occupancy Sensor	
Other Plug Load	Smart Strip Plug Outlet	Grocery	Lost Opportunity	203.0	0.03	0.02	0.00	0.00	0.0	0.0	0.0	4	\$607.84	\$425.49	\$0.11	\$0.00	\$0.00	0.22	0.70	0.00	0.00	0.00	0.00	Advanced Power Strip with Occupancy Sensor	
Photo Copiers	Copiers - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.59	0.00	0.00	0.00	ENERGY STAR Copiers	
Photo Copiers	Copiers - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.03	0.00	0.00	0.00	ENERGY STAR Copiers	
Printers	Printers - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.70	3.42	0.00	0.00	0.00	0.00	ENERGY STAR Printers
Printers	Printers - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.70	0.18	0.00	0.00	0.00	0.00	ENERGY STAR Printers
Refrigeration	Add Doors to Refrigerated Open Display Cases	Grocery	Discretionary	2,191.8	0.29	0.26	0.00	0.00	0.0	0.0	0.0	12	\$3,398.14	\$2,378.70	\$0.17	\$0.00	\$0.00	1.27	0.97	1.62	1.62	1.42	1.42	Add Doors to Refrigerated Open Display Cases	
Refrigeration	Add Doors to Refrigerated Open Display Cases	Grocery	Lost Opportunity	2,191.8	0.29	0.26	0.00	0.00	0.0	0.0	0.0	12	\$3,398.14	\$2,378.70	\$0.11	\$0.00	\$0.00	1.27	0.97	0.39	0.39	0.34	0.34	Add Doors to Refrigerated Open Display Cases	
Refrigeration	Anti-Sweat (Humidistat) Controls	Grocery	Discretionary	8,065.8	1.06	0.95	0.00	0.00	0.0	0.0	0.0	8	\$1,140.22	\$798.15	\$0.17	\$0.00	\$0.00	9.19	0.97	175.92	175.92	154.72	154.72	Anti-Sweat (Humidistat) Controls	
Refrigeration	Case Replacement Low Temp	Grocery	Discretionary	7,750.3	1.02	0.91	0.00	0.00	0.0	0.0	0.0	15	\$434.88	\$304.41	\$0.17	\$0.00	\$0.00	44.30	0.97	178.43	178.43	176.92	156.93	Case Replacement Low Temp	
Refrigeration	Case Replacement Med Temp	Grocery	Discretionary	661.0	0.09	0.08	0.00	0.00	0.0	0.0	0.0	15	\$839.38	\$587.57	\$0.17	\$0.00	\$0.00	1.96	0.97	15.22	15.22	13.38	13.38	Case Replacement Med Temp	
Refrigeration	Demand Control Defrost - Hot Gas	Grocery	Discretionary	3,082.1	0.41	0.36	0.00	0.00	0.0	0.0	0.0	10	\$4,933.01	\$3,453.11	\$0.17	\$0.00	\$0.00	1.02	0.97	70.96	70.96	62.41	62.41	Refrigerant Defrost	
Refrigeration	Display Case Electronically Commutated Motor - Low Temp	Grocery	Discretionary	1,253.4	0.17	0.15	0.00	0.00	0.0	0.0	0.0	15	\$896.91	\$627.84	\$0.17	\$0.00	\$0.00	3.47	0.97	19.36	19.36	17.03	17.03	ECM Evaporator Fans - Low Temp	
Refrigeration	Display Case Electronically Commutated Motor - Medium Temp	Grocery	Discretionary	1,428.0	0.19	0.17	0.00	0.00	0.0	0.0	0.0	15	\$1,021.81	\$715.27	\$0.17	\$0.00	\$0.00	3.47	0.97	22.06	22.06	19.40	19.40	ECM Evaporator Fans - Medium Temp	
Refrigeration	Display Case LEDs (Closed Cases)	Grocery	Discretionary	975.1	0.13	0.11	0.00	0.00	0.0	0.0	0.0	8	\$580.95	\$406.67	\$0.17	\$0.00	\$0.00	2.18	0.97	22.45	22.45	19.74	19.74	Display Case LEDs (Closed Cases)	
Refrigeration	Display Case LEDs (Closed Cases)	Grocery	Lost Opportunity	975.1	0.13	0.11	0.00	0.00	0.0	0.0	0.0	8	\$258.31	\$180.82	\$0.11	\$0.00	\$0.00	4.90	0.97	1.24	1.24	1.09	1.09	Display Case LEDs (Closed Cases)	
Refrigeration	Display Case LEDs (Open Cases)	Grocery	Discretionary	1,977.1	0.26	0.23	0.00	0.00	0.0	0.0	0.0	7	\$1,384.11	\$968.88	\$0.17	-\$49.28	\$0.00	2.07	0.97	45.52	45.52	40.03	40.03	Display Case LEDs (Open Cases)	
Refrigeration	Display Case LEDs (Open Cases)	Grocery	Lost Opportunity	1,977.1	0.26	0.23	0.00	0.00	0.0	0.0	0.0	7	\$730.43	\$511.30	\$0.11	-\$42.24	\$0.00	4.78	0.97	2.51	2.51	2.21	2.21	Display Case LEDs (Open Cases)	
Refrigeration	Display Case Motion Sensors	Grocery	Discretionary	377.2	0.05	0.04	0.00	0.00	0.0	0.0	0.0	8	\$88.01	\$61.61	\$0.17	\$0.00	\$0.00	5.57	0.97	8.23	8.23	7.24	7.24	Display Case Motion Sensors	
Refrigeration	Evaporator Fan Controller - Low Temp	Grocery	Discretionary	155.8	0.02	0.02	0.00	0.00	0.0	0.0	0.0	16	\$121.20	\$84.84	\$0.17	\$0.00	\$0.00	3.42	0.97	3.40	3.40	2.99	2.99	ECM Evaporator Fan Controller - Low Temp	
Refrigeration	Evaporator Fan Controller - Low Temp	Grocery	Lost Opportunity	155.8	0.02	0.02	0.00	0.00	0.0	0.0	0.0	16	\$121.20	\$84.84	\$0.11	\$0.00	\$0.00	3.42	0.97	0.15	0.15	0.13	0.13	ECM Evaporator Fan Controller - Low Temp	
Refrigeration	Evaporator Fan Controller - Medium Temp	Grocery	Discretionary	243.1	0.03	0.03	0.00	0.00	0.0	0.0	0.0	16	\$226.32	\$158.43	\$0.17	\$0.00	\$0.00	2.85	0.97	5.30	5.30	4.66	4.66	ECM Evaporator Fan Controller - Medium Temp	
Refrigeration	Evaporator Fan Controller - Medium Temp	Grocery	Lost Opportunity	243.1	0.03	0.03	0.00	0.00	0.0	0.0	0.0	16	\$226.32	\$158.43	\$0.11	\$0.00	\$0.00	2.85	0.97	0.24	0.24	0.20	0.20	ECM Evaporator Fan Controller - Medium Temp	
Refrigeration	Floating Condenser Head Pressure Controls	Grocery																							



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Refrigerators	Residential Refrigerator Recycling and Replacement	Grocery	Discretionary	357.8	0.04	0.04	0.00	0.00	0.0	0.0	0.0	8	\$186.29	\$130.40	\$0.17	\$0.00	\$0.00	2.41	0.70	6.61	6.61	2.59	2.59	Recycling Existing Refrigerator and Replacing with a Federal Standard Unit	
Room Cool	Ductless Air Conditioner (DAC)	Grocery	Discretionary	53.6	0.02	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1,295.72	\$907.00	\$0.17	\$0.00	\$0.00	0.17	0.98	0.00	0.00	0.00	0.00	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Air Conditioner (DAC)	Grocery	Lost Opportunity	53.6	0.02	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1,295.72	\$907.00	\$0.11	\$0.00	\$0.00	0.17	0.98	0.00	0.00	0.00	0.00	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Heat Pump (DHP)	Grocery	Discretionary	146.1	0.07	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2,207.68	\$1,545.37	\$0.17	\$0.00	\$0.00	0.27	0.98	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP)	Grocery	Lost Opportunity	146.1	0.07	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2,207.68	\$1,545.37	\$0.11	\$0.00	\$0.00	0.27	0.98	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Grocery	Discretionary	153.8	0.07	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2,260.45	\$1,582.32	\$0.17	\$0.00	\$0.00	0.28	0.98	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Grocery	Lost Opportunity	153.8	0.07	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2,260.45	\$1,582.32	\$0.11	\$0.00	\$0.00	0.28	0.98	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0	
Room Cool	Exhaust Hood Makeup Air	Grocery	Discretionary	11.2	0.01	0.00	0.00	0.00	0.0	0.0	0.0	12	\$683.70	\$478.59	\$0.17	\$0.00	\$0.00	0.05	0.98	0.00	0.00	0.00	0.00	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Room Cool	Green Roof	Grocery	Discretionary	1.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$62,699.73	\$43,889.81	\$0.17	\$627.00	\$0.00	0.00	0.98	0.00	0.00	0.00	0.00	0.00	Vegetation on Roof
Room Cool	Green Roof	Grocery	Lost Opportunity	1.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$62,699.73	\$43,889.81	\$0.11	\$627.00	\$0.00	0.00	0.98	0.00	0.00	0.00	0.00	0.00	Vegetation on Roof
Room Cool	Infiltration Reduction	Grocery	Discretionary	7.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$176.73	\$123.71	\$0.17	\$0.00	\$0.00	0.11	0.98	0.00	0.00	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Grocery	Discretionary	11.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$705.37	\$493.76	\$0.17	\$0.00	\$0.00	0.13	0.98	0.00	0.00	0.00	0.00	0.00	R-35 c.i.
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Grocery	Lost Opportunity	9.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$705.37	\$493.76	\$0.11	\$0.00	\$0.00	0.12	0.98	0.00	0.00	0.00	0.00	0.00	R-35 c.i.
Room Cool	Insulation - Ceiling - CBES 2015 - Code	Grocery	Discretionary	37.6	0.02	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,218.59	\$2,253.01	\$0.17	\$0.00	\$0.00	0.10	0.98	0.00	0.00	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Grocery	Discretionary	16.2	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,253.99	\$877.80	\$0.17	\$0.00	\$0.00	0.11	0.98	0.00	0.00	0.00	0.00	0.00	R-38
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Grocery	Lost Opportunity	14.5	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,253.99	\$877.80	\$0.11	\$0.00	\$0.00	0.10	0.98	0.00	0.00	0.00	0.00	0.00	R-38
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Code	Grocery	Discretionary	28.2	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,594.78	\$2,516.35	\$0.17	\$0.00	\$0.00	0.07	0.98	0.00	0.00	0.00	0.00	0.00	R-30 (CBES 2015 Code)
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Grocery	Discretionary	25.5	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,409.69	\$986.78	\$0.17	\$0.00	\$0.00	0.15	0.98	0.00	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Grocery	Lost Opportunity	23.0	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,409.69	\$986.78	\$0.11	\$0.00	\$0.00	0.14	0.98	0.00	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Room Cool	Insulation - Wall - CBES 2015 - Code	Grocery	Discretionary	28.0	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$9,673.36	\$6,771.35	\$0.17	\$0.00	\$0.00	0.02	0.98	0.00	0.00	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Cool	Natural Ventilation	Grocery	Lost Opportunity	22.3	0.01	0.00	0.00	0.00	0.0	0.0	0.0	15	\$7,929.00	\$5,550.30	\$0.11	\$0.00	\$0.00	0.01	0.98	0.00	0.00	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling
Room Cool	Room AC - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.03	\$0.02	\$0.17	\$0.00	\$0.00	0.25	0.98	0.00	0.00	0.00	0.00	0.00	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Cool	Room AC - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.03	\$0.02	\$0.11	\$0.00	\$0.00	0.25	0.98	0.00	0.00	0.00	0.00	0.00	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Cool	Windows - CBES 2015 - Above Code	Grocery	Discretionary	0.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$1,045.07	\$731.55	\$0.17	\$0.00	\$0.00	0.00	0.98	0.00	0.00	0.00	0.00	0.00	U-0.29
Room Cool	Windows - CBES 2015 - Above Code	Grocery	Lost Opportunity	0.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$1,045.07	\$731.55	\$0.11	\$0.00	\$0.00	0.00	0.98	0.00	0.00	0.00	0.00	0.00	U-0.29
Room Cool	Windows - CBES 2015 - Code	Grocery	Discretionary	2.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$6,901.27	\$4,830.89	\$0.17	\$0.00	\$0.00	0.00	0.98	0.00	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Room Cool - Early Replacement	Early Replacement Room AC - ENERGY STAR	Grocery	Discretionary	50.7	0.02	0.00	0.00	0.00	0.0	0.0	0.0	9	\$872.19	\$610.53	\$0.17	\$0.00	\$0.00	0.14	0.98	0.00	0.00	0.00	0.00	0.00	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Heat - Electric	Ductless Heat Pump (DHP)	Grocery	Discretionary	2,596.8	0.01	1.04	0.00	0.00	0.0	0.0	0.0	15	\$2,207.68	\$1,545.37	\$0.17	\$0.00	\$0.00	2.20	0.98	0.00	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Heat - Electric	Ductless Heat Pump (DHP)	Grocery	Lost Opportunity	2,596.8	0.01	1.04	0.00	0.00	0.0	0.0	0.0	15	\$2,207.68	\$1,545.37	\$0.11	\$0.00	\$0.00	2.20	0.98	0.00	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Grocery	Discretionary	2,733.8	0.01	1.10	0.00	0.00	0.0	0.0	0.0	15	\$2,260.45	\$1,582.32	\$0.17	\$0.00	\$0.00	2.26	0.98	0.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Grocery	Lost Opportunity	2,733.8	0.01	1.10	0.00	0.00	0.0	0.0	0.0	15	\$2,260.45	\$1,582.32	\$0.11	\$0.00	\$0.00	2.26	0.98	0.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0
Room Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Grocery	Discretionary	6,651.1	0.01	2.68	0.00	0.00	0.0	0.0	0.0	14	\$23,231.70	\$16,262.19	\$0.17	\$0.00	\$0.00	0.50	0.98	0.00	0.00	0.00	0.00	0.00	Exhaust Air to Ventilation Air Heat Recovery
Room Heat - Electric	Infiltration Reduction	Grocery	Discretionary	4,434.1	0.01	1.78	0.00	0.00	0.0	0.0	0.0	10	\$176.73	\$123.71	\$0.17	\$0.00	\$0.00	31.58	0.98	0.00	0.00	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Grocery	Discretionary	1,959.9	0.00	0.79	0.00	0.00	0.0	0.0	0.0	30	\$705.37	\$493.76	\$0.17	\$0.00	\$0.00	10.43	0.98	0.00	0.00	0.00	0.00	0.00	R-35 c.i.
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Grocery	Lost Opportunity	1,959.9	0.00	0.79	0.00	0.00	0.0	0.0	0.0	30	\$705.37	\$493.76	\$0.11	\$0.00	\$0.00	10.43	0.98	0.00	0.00	0.00	0.00	0.00	R-35 c.i.
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Grocery	Discretionary	6,714.8	0.01	2.70	0.00	0.00	0.0	0.0	0.0	30	\$3,218.59	\$2,253.01	\$0.17	\$0.00	\$0.00	7.83	0.98	0.00	0.00	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Grocery	Discretionary	2,888.2	0.01	1.16	0.00	0.00	0.0	0.0	0.0	30	\$1,253.99	\$877.80	\$0.17	\$0.00	\$0.00	8.65	0.98	0.00	0.00	0.00	0.00	0.00	R-38
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Grocery	Lost Opportunity	2,888.2	0.01	1.16	0.00	0.00	0.0	0.0	0.0	30	\$1,253.99	\$877.80	\$0.11	\$0.00	\$0.00	8.65	0.98	0.00	0.00	0.00	0.00	0.00	R-38
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Grocery	Discretionary	5,030.4	0.01	2.02	0.00	0.00	0.0	0.0	0.0	30	\$3,594.78	\$2,516.35	\$0.17	\$0.00	\$0.00	5.25	0.98	0.00	0.00	0.00	0.00	0.00	R-30 (CBES 2015 Code)
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Grocery	Discretionary	4,560.0	0.01	1.83	0.00	0.00	0.0	0.0	0.0	30	\$1,409.69	\$986.78	\$0.17	\$0.00	\$0.00	12.14	0.98	0.00	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Grocery	Lost Opportunity	4,560.0	0.01	1.83	0.00	0.00	0.0	0.0	0.0	30	\$1,409.69	\$986.78	\$0.11	\$0.00	\$0.00	12.14	0.98	0.00	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Code	Grocery	Discretionary	5,007.2	0.01	2.01	0.00	0.00	0.0	0.0	0.0	30	\$9,673.36	\$6,771.35	\$0.17	\$0.00	\$0.00	1.94	0.98	0.00	0.00	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Electric	Windows - CBES 2015 - Above Code	Grocery	Discretionary	155.9	0.00	0.06	0.00	0.00	0.0	0.0	0.0	20	\$1,045.07	\$731.55	\$0.17	\$0.00	\$0.00	0.37	0.98	0.00	0.00	0.00	0.00	0.00	U-0.29
Room Heat - Electric	Windows - CBES 2015 - Above Code	Grocery	Lost Opportunity	155.9	0.00	0.06	0.00	0.00	0.0	0.0	0.0	20	\$1,045.07	\$731.55	\$0.11	\$0.00	\$0.00	0.37	0.98	0.00	0.00	0.00	0.00	0.00	U-0.29
Room Heat - Electric	Windows - CBES 2015 - Code	Grocery	Discretionary	365.7	0.00	0.15	0.00	0.00	0.0	0.0	0.0	20	\$6,901.27	\$4,830.89	\$0.17	\$0.00	\$0.00	0.13	0.98	0.00	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Servers	Internal Power Supply / Server	Grocery	Discretionary	5.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$1.73	\$1.21	\$0.17	\$0.00	\$0.00	2.22	1.00	0.09	0.11	0.07	0.07	0.07	80 Plus power supply for Desktop Derived Server
Servers	Internal Power Supply / Server	Grocery	Lost Opportunity	5.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$1.73	\$1.21	\$0.11	\$0.00	\$0.0								



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Vending Machines	Vending Machines - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Vending Machines - 3.84 kWh/day	
Vending Machines	Vending Machines - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Vending Machines - 3.84 kWh/day	
Vending Machines	Vending Machines - Federal Standard 2020	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.35	0.00	0.00	0.00	0.00	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Machines - Federal Standard 2020	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.01	0.00	0.00	0.00	0.00	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Miser	Grocery	Discretionary	444.4	0.05	0.05	0.00	0.00	0.0	0.0	0.0	5	\$68.43	\$47.90	\$0.17	\$0.00	\$0.00	4.99	1.00	6.42	6.44	4.24	4.24	4.24	Vending Machine Occupancy Sensor
Vending Machines	Vending Miser	Grocery	Lost Opportunity	444.0	0.05	0.05	0.00	0.00	0.0	0.0	0.0	5	\$68.43	\$47.90	\$0.11	\$0.00	\$0.00	4.98	1.00	0.41	0.41	0.27	0.27	0.27	Vending Machine Occupancy Sensor
Ventilation And Circulation	Automated Exhaust VFD Control - Parking Garage CO sensor	Grocery	Discretionary	777.9	0.09	0.10	0.00	0.00	0.0	0.0	0.0	5	\$113.22	\$79.26	\$0.17	\$0.00	\$0.00	5.31	0.97	0.75	0.75	0.53	0.53	0.53	CO Sensors
Ventilation And Circulation	Boiler Draft Fan - VFD	Grocery	Discretionary	2,114.4	0.24	0.26	0.00	0.00	0.0	0.0	0.0	15	\$1,137.67	\$796.37	\$0.17	\$0.00	\$0.00	4.47	0.97	13.32	13.32	9.46	9.46	9.46	VFD Boiler Draft Fan
Ventilation And Circulation	Boiler Draft Fan - VFD	Grocery	Lost Opportunity	2,114.4	0.24	0.26	0.00	0.00	0.0	0.0	0.0	15	\$1,137.67	\$796.37	\$0.11	\$0.00	\$0.00	4.47	0.97	0.51	0.51	0.36	0.36	0.36	VFD Boiler Draft Fan
Ventilation And Circulation	Convert Constant Volume Air System to VAV	Grocery	Discretionary	3,248.3	0.37	0.40	0.00	0.00	0.0	0.0	0.0	15	\$28,911.40	\$20,237.98	\$0.17	\$0.00	\$0.00	0.27	0.97	6.56	0.00	0.00	0.00	0.00	Variable Volume Air System
Ventilation And Circulation	Cooking Hood Controls	Grocery	Discretionary	822.6	0.09	0.10	0.00	0.00	0.0	0.0	0.0	18	\$2,756.87	\$1,929.81	\$0.17	\$0.00	\$0.00	0.87	0.97	11.66	0.00	0.00	0.00	0.00	Demand-Ventilation Control
Ventilation And Circulation	Cooking Hood Controls	Grocery	Lost Opportunity	822.6	0.09	0.10	0.00	0.00	0.0	0.0	0.0	18	\$2,756.87	\$1,929.81	\$0.11	\$0.00	\$0.00	0.87	0.97	0.64	0.00	0.00	0.00	0.00	Demand-Ventilation Control
Ventilation And Circulation	Fan System - HVAC - Variable Speed Control	Grocery	Discretionary	4,224.9	0.48	0.52	0.00	0.00	0.0	0.0	0.0	15	\$673.02	\$471.11	\$0.17	\$0.00	\$0.00	15.10	0.97	22.53	22.53	15.99	15.99	15.99	HVAC Fan System Optimization with VSD (Restoration)
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	Grocery	Discretionary	153.6	0.02	0.02	0.00	0.00	0.0	0.0	0.0	16	\$3.37	\$2.36	\$0.17	\$0.00	\$0.00	117.21	0.97	3.18	3.18	2.26	2.26	2.26	CEE PE+ Motor for HVAC Applications
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	Grocery	Lost Opportunity	153.6	0.02	0.02	0.00	0.00	0.0	0.0	0.0	16	\$3.37	\$2.36	\$0.11	\$0.00	\$0.00	117.21	0.97	0.18	0.18	0.12	0.12	0.12	CEE PE+ Motor for HVAC Applications
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	Grocery	Discretionary	3,006.5	0.34	0.37	0.00	0.00	0.0	0.0	0.0	15	\$28,911.40	\$20,237.98	\$0.17	\$0.00	\$0.00	0.25	0.97	4.22	0.00	0.00	0.00	0.00	VAV Box High Efficiency (ECM)
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	Grocery	Lost Opportunity	3,006.5	0.34	0.37	0.00	0.00	0.0	0.0	0.0	15	\$28,911.40	\$20,237.98	\$0.11	\$0.00	\$0.00	0.25	0.97	0.00	0.00	0.00	0.00	0.00	VAV Box High Efficiency (ECM)
Ventilation And Circulation	Motor Rewind	Grocery	Discretionary	62.0	0.01	0.01	0.00	0.00	0.0	0.0	0.0	9	\$4.74	\$3.32	\$0.17	\$0.00	\$0.00	18.63	0.97	0.04	0.04	0.03	0.03	0.03	>15, <500 HP
Ventilation And Circulation	Variable Speed ECM Pump - Domestic Hot Water Recirculation	Grocery	Discretionary	91.3	0.01	0.01	0.00	0.00	0.0	0.0	0.0	15	\$17.95	\$12.56	\$0.17	\$0.00	\$0.00	12.24	0.97	0.79	0.79	0.56	0.56	0.56	Domestic Hot Water Recirculation ECM Pump
Ventilation And Circulation	Variable Speed ECM Pump - HVAC Space Heating Recirculation	Grocery	Discretionary	1,510.8	0.17	0.19	0.00	0.00	0.0	0.0	0.0	15	\$179.47	\$125.63	\$0.17	\$0.00	\$0.00	20.26	0.97	9.52	9.52	6.76	6.76	6.76	HVAC Space Heating Recirculation ECM Pump
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Grocery	Discretionary	17.8	0.00	0.01	0.00	0.00	0.0	0.0	3.3	13	\$41.28	\$28.90	\$0.17	\$0.00	\$0.00	1.66	1.00	0.00	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Grocery	Lost Opportunity	17.8	0.00	0.01	0.00	0.00	0.0	0.0	3.3	13	\$41.28	\$28.90	\$0.11	\$0.00	\$0.00	1.66	1.00	0.00	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Grocery	Discretionary	39.5	0.00	0.02	0.00	0.00	0.0	0.0	4.4	13	\$76.32	\$53.43	\$0.17	\$0.00	\$0.00	1.53	1.00	0.01	0.02	0.01	0.01	0.01	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Grocery	Lost Opportunity	39.5	0.00	0.02	0.00	0.00	0.0	0.0	4.4	13	\$76.32	\$53.43	\$0.11	\$0.00	\$0.00	1.53	1.00	0.00	0.00	0.00	0.00	0.00	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Grocery	Discretionary	107.9	0.00	0.04	0.00	0.00	0.0	0.0	9.3	14	\$34.46	\$24.12	\$0.17	\$0.00	\$0.00	8.85	1.00	0.00	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Grocery	Lost Opportunity	107.9	0.00	0.04	0.00	0.00	0.0	0.0	9.3	14	\$34.46	\$24.12	\$0.11	\$0.00	\$0.00	8.85	1.00	0.00	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Grocery	Discretionary	169.9	0.00	0.07	0.00	0.00	0.0	0.0	26.7	14	\$14.08	\$9.85	\$0.17	\$0.00	\$0.00	44.94	1.00	0.08	0.12	0.07	0.07	0.07	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Grocery	Lost Opportunity	169.9	0.00	0.07	0.00	0.00	0.0	0.0	26.7	14	\$14.08	\$9.85	\$0.11	\$0.00	\$0.00	44.94	1.00	0.00	0.01	0.00	0.00	0.00	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Grocery	Discretionary	121.1	0.00	0.05	0.00	0.00	0.0	0.0	9.0	9	\$31.72	\$22.20	\$0.17	\$0.00	\$0.00	6.77	1.00	0.14	0.21	0.12	0.12	0.12	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Grocery	Lost Opportunity	121.1	0.00	0.05	0.00	0.00	0.0	0.0	9.0	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.01	0.00	0.00	0.00	0.00	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Grocery	Discretionary	85.5	0.00	0.03	0.00	0.00	0.0	0.0	6.3	9	\$31.72	\$22.20	\$0.17	\$0.00	\$0.00	4.78	1.00	0.00	0.00	0.00	0.00	0.00	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Grocery	Lost Opportunity	85.5	0.00	0.03	0.00	0.00	0.0	0.0	6.3	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Grocery	Discretionary	49.9	0.00	0.02	0.00	0.00	0.0	0.0	3.7	9	\$31.72	\$22.20	\$0.17	\$0.00	\$0.00	2.79	1.00	0.00	0.00	0.00	0.00	0.00	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Grocery	Lost Opportunity	49.9	0.00	0.02	0.00	0.00	0.0	0.0	3.7	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Grocery	Discretionary	21.4	0.00	0.01	0.00	0.00	0.0	0.0	1.4	9	\$31.72	\$22.20	\$0.17	\$0.00	\$0.00	1.14	1.00	0.01	0.01	0.01	0.01	0.01	2.2 GPM (Federal Code)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Grocery	Discretionary	176.7	0.00	0.07	0.00	0.00	0.0	0.0	33.8	5	\$33.52	\$23.47	\$0.17	\$0.00	\$0.00	8.41	1.00	0.00	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Grocery	Lost Opportunity	176.7	0.00	0.07	0.00	0.00	0.0	0.0	33.8	5	\$33.52	\$23.47	\$0.11	\$0.00	\$0.00	8.41	1.00	0.00	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Grocery	Discretionary	292.6	0.00	0.12	0.00	0.00	0.0	0.0	56.0	5	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.29	0.00	0.00	0.00	0.00	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Grocery	Lost Opportunity	292.6	0.00	0.12	0.00	0.00	0.0	0.0	56.0	5	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.01	0.00	0.00	0.00	0.00	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Grocery	Discretionary	469.3	0.00	0.19	0.00	0.00	0.0	0.0	89.8	5	\$33.52	\$23.47	\$0.17	\$0.00	\$0.00	22.34	1.00	0.00	0.00	0.00	0.00	0.00	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Grocery	Lost Opportunity	469.3	0.00	0.19	0.00	0.00	0.0	0.0	89.8	5	\$33.52	\$23.47	\$0.11	\$0.00	\$0.00	22.34	1.00	0.00	0.01	0.00	0.00	0.00	0.75 GPM
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.98	\$0.69	\$0.17	\$0.36	\$0.00	0.01	1.00	0.07	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.98	\$0.69	\$0.11	\$0.36	\$0.00	0.01	1.00	0.00	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Grocery	Discretionary	78.3	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$556.17	\$389.32	\$0.17	\$0.00	\$0.00	0.35	1.00	0.09	0.00	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Grocery	Lost Opportunity	78.3	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$556.17	\$389.32	\$0.11	\$0.00	\$0.00	0.35	1.00	0.00	0.00	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Grocery	Discretionary	56.8	0.00	0.02	0.00	0.00	0.0	0.0	0.0	10	\$7,215.39	\$5,050.77	\$0.17	\$0.00	\$0.00	0.01	1.00	0.04	0.00	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Grocery	Lost Opportunity	56.8	0.00	0.02	0.00	0.00	0.0	0.0	0.0	10	\$7,215.39	\$5,050.77	\$0.11	\$0.00	\$0.00	0.01	1.00	0.00	0.00	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.24	\$0.17	\$0.17	\$0.00	\$0.00	0.06	1.00	0.13	0.00	0.00	0.00	0.00	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT																								



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Grocery	Discretionary	469.3	0.00	0.19	0.00	0.00	0.0	0.0	89.8	5	\$33.52	\$23.47	\$0.17	\$0.00	\$0.00	22.34	1.00	0.00	0.00	0.00	0.00	0.75 GPM	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Grocery	Lost Opportunity	469.3	0.00	0.19	0.00	0.00	0.0	0.0	89.8	5	\$33.52	\$23.47	\$0.11	\$0.00	\$0.00	22.34	1.00	0.00	0.02	0.01	0.01	0.75 GPM	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2.83	\$1.98	\$0.17	\$0.74	\$0.00	0.01	1.00	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2.83	\$1.98	\$0.11	\$0.74	\$0.00	0.01	1.00	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Grocery	Discretionary	78.3	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$556.17	\$389.32	\$0.17	\$0.00	\$0.00	0.35	1.00	0.13	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Grocery	Lost Opportunity	78.3	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$556.17	\$389.32	\$0.11	\$0.00	\$0.00	0.35	1.00	0.01	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Grocery	Discretionary	53.3	0.00	0.02	0.00	0.00	0.0	0.0	0.0	10	\$7,215.39	\$5,050.77	\$0.17	\$0.00	\$0.00	0.01	1.00	0.05	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Grocery	Lost Opportunity	53.3	0.00	0.02	0.00	0.00	0.0	0.0	0.0	10	\$7,215.39	\$5,050.77	\$0.11	\$0.00	\$0.00	0.01	1.00	0.00	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.34	\$0.94	\$0.17	\$0.01	\$0.00	0.04	1.00	0.65	0.00	0.00	0.00	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.34	\$0.94	\$0.11	\$0.01	\$0.00	0.04	1.00	0.01	0.00	0.00	0.00	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.86	\$0.60	\$0.17	\$0.01	\$0.00	0.05	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.86	\$0.60	\$0.11	\$0.01	\$0.00	0.05	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.96	\$0.67	\$0.17	\$0.01	\$0.00	0.05	1.00	0.00	0.00	0.00	0.00	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.96	\$0.67	\$0.11	\$0.01	\$0.00	0.05	1.00	0.00	0.00	0.00	0.00	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.24	\$0.87	\$0.17	\$0.01	\$0.00	0.04	1.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Grocery	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.24	\$0.87	\$0.11	\$0.01	\$0.00	0.04	1.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Grocery	Discretionary	74.7	0.00	0.03	0.00	0.00	0.0	0.0	0.0	4	\$0.02	\$0.01	\$0.17	\$0.00	\$0.00	2214.92	1.00	0.12	0.31	0.17	0.17	Set Water Heater to 120F	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Grocery	Lost Opportunity	74.7	0.00	0.03	0.00	0.00	0.0	0.0	0.0	4	\$0.02	\$0.01	\$0.11	\$0.00	\$0.00	2214.92	1.00	0.01	0.02	0.01	0.01	Set Water Heater to 120F	
Computers	Computer - ENERGY STAR	Health Care Other	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	302.37	0.00	0.00	0.00	ENERGY STAR Computer	
Computers	Computer - ENERGY STAR	Health Care Other	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	14.92	0.00	0.00	0.00	ENERGY STAR Computer	
Computers	Network PC Power Management	Health Care Other	Discretionary	311.4	0.05	0.03	0.00	0.00	0.0	0.0	0.0	5	\$38.08	\$26.66	\$0.17	\$8.74	\$0.00	3.27	1.00	60.86	106.69	70.63	70.63	Network PC Power Management	
Computers	Network PC Power Management	Health Care Other	Lost Opportunity	311.4	0.05	0.03	0.00	0.00	0.0	0.0	0.0	5	\$38.08	\$26.66	\$0.11	\$8.74	\$0.00	3.27	1.00	3.77	6.62	4.38	4.38	Network PC Power Management	
Cooking	Combination Oven	Health Care Other	Discretionary	72.0	0.01	0.01	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.98	2.56	0.00	0.00	0.00	ENERGY STAR Combination Oven	
Cooking	Combination Oven	Health Care Other	Lost Opportunity	72.0	0.01	0.01	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.98	0.14	0.00	0.00	0.00	ENERGY STAR Combination Oven	
Cooking	Convection Oven	Health Care Other	Discretionary	16.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$4.39	\$3.07	\$0.17	\$0.00	\$0.00	7.05	0.98	0.71	0.71	0.46	0.46	ENERGY STAR Convection Oven	
Cooking	Convection Oven	Health Care Other	Lost Opportunity	16.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$4.39	\$3.07	\$0.11	\$0.00	\$0.00	7.05	0.98	0.04	0.04	0.03	0.03	ENERGY STAR Convection Oven	
Cooking	Fryers	Health Care Other	Discretionary	33.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$5.72	\$4.01	\$0.17	\$0.00	\$0.00	11.17	0.98	1.71	1.71	1.10	1.10	ENERGY STAR Fryer	
Cooking	Fryers	Health Care Other	Lost Opportunity	33.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$5.72	\$4.01	\$0.11	\$0.00	\$0.00	11.17	0.98	0.09	0.09	0.06	0.06	ENERGY STAR Fryer	
Cooking	Griddle	Health Care Other	Discretionary	21.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$9.73	\$6.81	\$0.17	\$0.00	\$0.00	4.22	0.98	0.86	0.86	0.56	0.56	ENERGY STAR Griddle	
Cooking	Griddle	Health Care Other	Lost Opportunity	21.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$9.73	\$6.81	\$0.11	\$0.00	\$0.00	4.22	0.98	0.05	0.05	0.03	0.03	ENERGY STAR Griddle	
Cooking	Hot Food Holding Cabinet	Health Care Other	Discretionary	19.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$10.20	\$7.14	\$0.17	\$0.00	\$0.00	3.65	0.98	1.21	1.21	0.78	0.78	ENERGY STAR Hot Food Holding Cabinet	
Cooking	Hot Food Holding Cabinet	Health Care Other	Lost Opportunity	19.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$10.20	\$7.14	\$0.11	\$0.00	\$0.00	3.65	0.98	0.07	0.07	0.04	0.04	ENERGY STAR Hot Food Holding Cabinet	
Cooking	Microwave - High Efficiency	Health Care Other	Discretionary	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$0.06	\$0.04	\$0.17	\$0.00	\$0.00	3.38	0.98	0.01	0.01	0.00	0.00	High Efficiency Microwave	
Cooking	Microwave - High Efficiency	Health Care Other	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$0.06	\$0.04	\$0.11	\$0.00	\$0.00	3.38	0.98	0.00	0.00	0.00	0.00	High Efficiency Microwave	
Cooking	Steam Cooker	Health Care Other	Discretionary	56.4	0.01	0.01	0.00	0.00	0.0	0.0	2,224.3	12	\$19.23	\$13.46	\$0.17	\$0.00	\$0.00	1284.75	0.98	3.07	3.07	1.98	1.98	ENERGY STAR Steam Cooker	
Cooking	Steam Cooker	Health Care Other	Lost Opportunity	56.4	0.01	0.01	0.00	0.00	0.0	0.0	2,224.3	12	\$19.23	\$13.46	\$0.11	\$0.00	\$0.00	1284.75	0.98	0.17	0.17	0.11	0.11	ENERGY STAR Steam Cooker	
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Health Care Other	Discretionary	81.2	0.03	0.00	0.00	0.00	0.0	0.0	0.0	15	\$752.50	\$526.75	\$0.17	\$0.00	\$0.00	0.38	0.97	0.00	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)	
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.27	\$0.19	\$0.17	\$0.00	\$0.00	0.68	0.97	0.00	0.00	0.00	0.00	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)	
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.24	\$0.17	\$0.11	\$0.00	\$0.00	0.75	0.97	0.00	0.00	0.00	0.00	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)	
Cooling Chillers	Convert Constant Volume Air System to VAV	Health Care Other	Discretionary	205.2	0.07	0.00	0.00	0.00	0.0	0.0	0.0	15	\$7,316.88	\$5,121.82	\$0.17	\$0.00	\$0.00	0.10	0.97	0.00	0.00	0.00	0.00	Variable Volume Air System	
Cooling Chillers	Direct Digital Control System-Installation	Health Care Other	Discretionary	117.2	0.04	0.00	0.00	0.00	0.0	0.0	0.0	5	\$940.63	\$658.44	\$0.17	\$0.00	\$0.00	0.14	0.97	0.00	0.00	0.00	0.00	Installation of EMS System	
Cooling Chillers	Direct Digital Control System-Installation	Health Care Other	Lost Opportunity	117.2	0.04	0.00	0.00	0.00	0.0	0.0	0.0	5	\$940.63	\$658.44	\$0.11	\$0.00	\$0.00	0.14	0.97	0.00	0.00	0.00	0.00	Installation of EMS System	
Cooling Chillers	Exhaust Hood Makeup Air	Health Care Other	Discretionary	35.2	0.01	0.00	0.00	0.00	0.0	0.0	0.0	12	\$35.07	\$24.55	\$0.17	\$0.00	\$0.00	2.76	0.97	0.00	0.00	0.00	0.00	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Cooling Chillers	Green Roof	Health Care Other	Discretionary	4.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$45,150.00	\$31,605.00	\$0.17	\$451.50	\$0.00	0.00	0.97	0.00	0.00	0.00	0.00	0.00	Vegetation on Roof
Cooling Chillers	Green Roof	Health Care Other	Lost Opportunity	3.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$45,150.00	\$31,605.00	\$0.11	\$451.50	\$0.00	0.00	0.97	0.00	0.00	0.00	0.00	0.00	Vegetation on Roof
Cooling Chillers	Indirect Information Feedback	Health Care Other	Discretionary	4.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2	\$13.52	\$9.47	\$0.17	\$0.00	\$0.00	0.12	0.97	0.00	0.00	0.00	0.00	0.00	Indirect Information Feedback
Cooling Chillers	Indirect Information Feedback	Health Care Other	Lost Opportunity	4.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2	\$13.52	\$9.47	\$0.11	\$0.00	\$0.00	0.12	0.97	0.00	0.00	0.00	0.00	0.00	Indirect Information Feedback
Cooling Chillers	Infiltration Reduction	Health Care Other	Discretionary	23.4	0.01	0.00	0.00	0.00	0.0	0.0	0.0	10	\$165.87	\$116.11	\$0.17	\$0.00	\$0.00	0.32	0.97	0.00	0.00	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Health Care Other	Discretionary	39.8	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$507.94	\$355.56	\$0.17	\$0.00	\$0.00	0.58	0.97	0.00	0.00	0.00	0.00	0.00	R-35 c.i.
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	39.8	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$507.94	\$355.56	\$0.11	\$0.00	\$0.00	0.58	0.97	0.00	0.00	0.00	0.00	0.00	R-35 c.i.
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Code	Health Care Other	Discretionary	136.3	0.05	0.00	0.00	0.00	0																



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Cooling Dx Evap	Direct Digital Control System-Installation	Health Care Other	Lost Opportunity	105.2	0.04	0.00	0.82	21.54	0.0	0.0	0.0	5	\$940.63	\$658.44	\$0.11	\$0.00	\$0.00	0.25	0.97	0.02	0.00	0.00	0.00	Installation of EMS System	
Cooling Dx Evap	Duct Repair and Sealing	Health Care Other	Discretionary	61.0	0.02	0.00	0.40	0.00	0.0	0.0	0.0	18	\$722.40	\$505.68	\$0.17	\$0.00	\$0.00	0.38	0.97	1.01	0.00	0.00	0.00	Reduction In Duct Losses to 5 %	
Cooling Dx Evap	Exhaust Hood Makeup Air	Health Care Other	Discretionary	31.5	0.01	0.00	0.00	0.00	0.0	0.0	0.0	12	\$35.07	\$24.55	\$0.17	\$0.00	\$0.00	2.48	0.97	0.04	0.05	0.03	0.03	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Cooling Dx Evap	Green Roof	Health Care Other	Discretionary	3.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$45,150.00	\$31,605.00	\$0.17	\$451.50	\$0.00	0.00	0.97	0.07	0.00	0.00	0.00	Vegetation on Roof	
Cooling Dx Evap	Green Roof	Health Care Other	Lost Opportunity	3.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$45,150.00	\$31,605.00	\$0.11	\$451.50	\$0.00	0.00	0.97	0.00	0.00	0.00	0.00	Vegetation on Roof	
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Health Care Other	Discretionary	416.4	0.14	0.00	0.00	0.00	0.0	0.0	0.0	15	\$11,438.00	\$8,006.60	\$0.17	-\$261.87	\$0.00	0.18	0.97	6.10	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Health Care Other	Lost Opportunity	416.4	0.14	0.00	0.00	0.00	0.0	0.0	0.0	15	\$11,438.00	\$8,006.60	\$0.11	-\$261.87	\$0.00	0.18	0.97	1.06	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Cooling Dx Evap	Indirect Information Feedback	Health Care Other	Discretionary	3.6	0.00	0.00	0.03	0.64	0.0	0.0	0.0	2	\$12.14	\$8.50	\$0.17	\$0.00	\$0.00	0.24	0.97	0.11	0.00	0.00	0.00	Indirect Information Feedback	
Cooling Dx Evap	Indirect Information Feedback	Health Care Other	Lost Opportunity	3.6	0.00	0.00	0.03	0.71	0.0	0.0	0.0	2	\$12.14	\$8.50	\$0.11	\$0.00	\$0.00	0.26	0.97	0.01	0.00	0.00	0.00	Indirect Information Feedback	
Cooling Dx Evap	Infiltration Reduction	Health Care Other	Discretionary	21.0	0.01	0.00	0.49	13.94	0.0	0.0	0.0	10	\$165.87	\$116.11	\$0.17	\$0.00	\$0.00	1.14	0.97	0.03	0.04	0.03	0.03	Install Caulking And Weatherstripping (ACH 0.65)	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Health Care Other	Discretionary	35.7	0.01	0.00	0.25	9.21	0.0	0.0	0.0	30	\$507.94	\$355.56	\$0.17	\$0.00	\$0.00	0.94	0.97	0.44	0.00	0.00	0.00	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	35.7	0.01	0.00	0.28	10.24	0.0	0.0	0.0	30	\$507.94	\$355.56	\$0.11	\$0.00	\$0.00	0.99	0.97	0.01	0.00	0.00	0.00	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Code	Health Care Other	Discretionary	122.3	0.04	0.00	0.85	31.57	0.0	0.0	0.0	30	\$2,317.70	\$1,622.39	\$0.17	\$0.00	\$0.00	0.71	0.97	0.94	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Health Care Other	Discretionary	25.2	0.01	0.00	0.16	0.00	0.0	0.0	0.0	20	\$40.82	\$28.58	\$0.17	\$0.00	\$0.00	3.11	0.97	0.80	1.02	0.66	0.66	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	25.2	0.01	0.00	0.18	0.00	0.0	0.0	0.0	20	\$40.82	\$28.58	\$0.11	\$0.00	\$0.00	3.13	0.97	0.06	0.07	0.04	0.04	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	Health Care Other	Discretionary	25.2	0.01	0.00	0.16	0.00	0.0	0.0	0.0	20	\$164.42	\$115.09	\$0.17	\$0.00	\$0.00	0.77	0.97	0.63	0.00	0.00	0.00	R-8 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Health Care Other	Discretionary	52.6	0.02	0.00	0.37	13.58	0.0	0.0	0.0	30	\$903.00	\$632.10	\$0.17	\$0.00	\$0.00	0.78	0.97	0.21	0.00	0.00	0.00	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	52.6	0.02	0.00	0.41	15.09	0.0	0.0	0.0	30	\$903.00	\$632.10	\$0.11	\$0.00	\$0.00	0.82	0.97	0.02	0.00	0.00	0.00	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	Health Care Other	Discretionary	91.6	0.03	0.00	0.64	23.65	0.0	0.0	0.0	30	\$2,588.60	\$1,812.02	\$0.17	\$0.00	\$0.00	0.47	0.97	0.35	0.00	0.00	0.00	R-30 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Health Care Other	Discretionary	51.6	0.02	0.00	0.36	13.32	0.0	0.0	0.0	30	\$630.63	\$441.44	\$0.17	\$0.00	\$0.00	1.09	0.97	0.35	0.45	0.29	0.29	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	51.6	0.02	0.00	0.40	14.80	0.0	0.0	0.0	30	\$630.63	\$441.44	\$0.11	\$0.00	\$0.00	1.15	0.97	0.06	0.08	0.04	0.04	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Code	Health Care Other	Discretionary	56.7	0.02	0.00	0.40	14.63	0.0	0.0	0.0	30	\$4,327.42	\$3,029.19	\$0.17	\$0.00	\$0.00	0.18	0.97	0.22	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Health Care Other	Discretionary	56.4	0.02	0.00	0.00	0.00	0.0	0.0	0.0	15	\$10,630.82	\$7,441.57	\$0.17	\$0.00	\$0.00	0.02	0.97	0.35	0.00	0.00	0.00	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Health Care Other	Lost Opportunity	56.4	0.02	0.00	0.00	0.00	0.0	0.0	0.0	15	\$8,504.65	\$5,953.26	\$0.11	\$0.00	\$0.00	0.02	0.97	0.01	0.00	0.00	0.00	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Natural Ventilation	Health Care Other	Lost Opportunity	70.1	0.02	0.00	0.00	0.00	0.0	0.0	0.0	15	\$3,010.00	\$2,107.00	\$0.11	\$0.00	\$0.00	0.08	0.97	0.00	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling	
Cooling Dx Evap	Programmable Thermostat	Health Care Other	Discretionary	28.0	0.01	0.00	0.20	5.66	0.0	0.0	0.0	11	\$25.78	\$18.04	\$0.17	\$0.00	\$0.00	5.16	0.97	0.87	1.11	0.87	0.72	Programmable Thermostat	
Cooling Dx Evap	Strategic Energy Management (SEM)	Health Care Other	Discretionary	28.7	0.01	0.00	0.20	5.30	0.0	0.0	0.0	5	\$3.87	\$2.71	\$0.17	\$0.00	\$0.00	15.54	0.97	0.14	0.18	0.11	0.11	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Strategic Energy Management (SEM)	Health Care Other	Lost Opportunity	28.7	0.01	0.00	0.22	5.89	0.0	0.0	0.0	5	\$3.87	\$2.71	\$0.11	\$0.00	\$0.00	16.37	0.97	0.05	0.07	0.04	0.04	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Tune-up - DX Maintenance	Health Care Other	Discretionary	100.8	0.03	0.00	0.00	0.00	0.0	0.0	0.0	5	\$3,612.00	\$2,528.40	\$0.17	\$0.00	\$0.00	0.03	0.97	1.37	0.00	0.00	0.00	DX Tune-up / Diagnostics	
Cooling Dx Evap	Wi-Fi Thermostat	Health Care Other	Discretionary	28.0	0.01	0.00	0.20	5.66	0.0	0.0	0.0	11	\$205.33	\$143.73	\$0.17	\$0.00	\$0.00	0.65	0.97	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Health Care Other	Discretionary	3.7	0.00	0.00	0.03	0.84	0.0	0.0	0.0	20	\$980.86	\$686.60	\$0.17	\$0.00	\$0.00	0.03	0.97	0.03	0.00	0.00	0.00	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	3.7	0.00	0.00	0.03	0.94	0.0	0.0	0.0	20	\$980.86	\$686.60	\$0.11	\$0.00	\$0.00	0.04	0.97	0.00	0.00	0.00	0.00	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Code	Health Care Other	Discretionary	8.7	0.00	0.00	0.06	1.98	0.0	0.0	0.0	20	\$6,477.23	\$4,534.06	\$0.17	\$0.00	\$0.00	0.01	0.97	0.05	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtuh - Premium Efficiency	Health Care Other	Discretionary	352.4	0.12	0.00	0.00	0.00	0.0	0.0	0.0	15	\$12,316.51	\$8,621.56	\$0.17	\$0.00	\$0.00	0.10	0.97	4.32	0.00	0.00	0.00	Premium Efficiency - 19.0 IEER	
Fax	Fax - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	2.41	0.00	0.00	0.00	ENERGY STAR Fax	
Fax	Fax - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.13	0.00	0.00	0.00	ENERGY STAR Fax	
Flat Screen Monitors	Monitor - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.03	\$0.02	\$0.17	\$0.00	\$0.00	0.50	1.00	24.31	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.03	\$0.02	\$0.11	\$0.00	\$0.00	0.50	1.00	1.29	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor	
Freezers	Freezer (Residential) - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	13.03	1.00	0.48	0.48	0.27	0.27	ENERGY STAR Freezer	
Freezers	Freezer (Residential) - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	13.03	1.00	0.04	0.04	0.02	0.02	ENERGY STAR Freezer	
Freezers	Residential Freezer Recycling and Replacement	Health Care Other	Discretionary	7.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$3.09	\$2.17	\$0.17	\$0.00	\$0.00	3.13	1.00	3.06	3.06	1.71	1.71	Recycling Existing Freezer and Replacing with a Federal Standard Unit	
Heat Pump	Air Source Heat Pump 65 to 135 kBtuh - Federal Standard 2023	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.37	\$0.26	\$0.17	\$0.00	\$0.00	0.32	0.97	0.00	0.00	0.00	0.00	Federal Standard 2023 - 14.1 IEER, 3.4 COP	
Heat Pump	Air Source Heat Pump 65 to 135 kBtuh - Federal Standard 2023	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.30	\$0.21	\$0.11	\$0.00	\$0.00	0.41	0.97	0.00	0.00	0.00	0.00	Federal Standard 2023 - 14.1 IEER, 3.4 COP	
Heat Pump	Air Source Heat Pump 65 to 135 kBtuh - Premium Efficiency	Health Care Other	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1.32	\$0.93	\$0.17	\$0.00	\$0.00	0.28	0.97	9.80	0.00	0.00	0.00	Premium Efficiency - 19.0 IEER, 3.7 COP	
Heat Pump	Air Source Heat Pump 65 to 135 kBtuh - Premium Efficiency	Health Care Other	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1.06	\$0.74	\$0.11	\$0.00	\$0.00	0.36	0.97	0.55	0.00	0.00	0.00	Premium Efficiency - 19.0 IEER, 3.7 COP	
Heat Pump	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Health Care Other	Discretionary	158.3	0.05	0.04	0.00	0.00	0.0	0.0	0.0	15	\$752.50	\$526.75	\$0.17	\$0.00	\$0.00	0.74	0.97	0.57	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)	
Heat Pump	Cold Climate Heat Pump - Enhanced Efficiency	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.85	\$0.59	\$0.17	\$0.00	\$0.00	0.14	0.97	0.00	0.00	0.00	0.00	High-Performance Cold Climate Commercial Heat Pump	
Heat Pump	Cold Climate Heat Pump - Enhanced Efficiency	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.68	\$0.47	\$0.11	\$0.00	\$0.00	0.17	0.97	0.					



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Heat Pump	Strategic Energy Management (SEM)	Health Care Other	Lost Opportunity	71.8	0.02	0.02	0.00	0.00	0.0	0.0	0.0	5	\$9.68	\$6.77	\$0.11	\$0.00	\$0.00	8.15	0.97	0.25	0.29	0.19	0.19	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Heat Pump	Tune-up - Heat Pump Maintenance	Health Care Other	Discretionary	251.8	0.08	0.06	0.00	0.00	0.0	0.0	0.0	5	\$686.28	\$480.40	\$0.17	\$0.00	\$0.00	0.40	0.97	7.71	0.00	0.00	0.00	Heat Pump Maintenance (Tune-up)	
Heat Pump	Water Source Heat Pump (>= 135 kBtu/hr and < 375 kBtu/hr) Cooling	Health Care Other	Discretionary	732.9	0.24	0.19	0.00	0.00	0.0	0.0	0.0	15	\$183.04	\$128.12	\$0.17	\$0.00	\$0.00	14.02	0.97	3.38	3.71	2.41	2.41	14 EER, 4.6 COP	
Heat Pump	Water Source Heat Pump (>= 135 kBtu/hr and < 375 kBtu/hr) Cooling	Health Care Other	Lost Opportunity	586.3	0.19	0.15	0.00	0.00	0.0	0.0	0.0	15	\$146.43	\$102.50	\$0.11	\$0.00	\$0.00	14.02	0.97	0.17	0.19	0.12	0.12	14 EER, 4.6 COP	
Heat Pump	Wi-Fi Thermostat	Health Care Other	Discretionary	70.1	0.02	0.02	0.00	0.00	0.0	0.0	0.0	11	\$205.33	\$143.73	\$0.17	\$0.00	\$0.00	0.86	0.97	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)	
Heat Pump	Windows - CBES 2015 - Above Code	Health Care Other	Discretionary	9.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$980.86	\$686.60	\$0.17	\$0.00	\$0.00	0.04	0.97	0.11	0.00	0.00	0.00	U-0.29	
Heat Pump	Windows - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	9.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$980.86	\$686.60	\$0.11	\$0.00	\$0.00	0.04	0.97	0.02	0.00	0.00	0.00	U-0.29	
Heat Pump	Windows - CBES 2015 - Code	Health Care Other	Discretionary	21.7	0.01	0.01	0.00	0.00	0.0	0.0	0.0	20	\$6,477.23	\$4,534.06	\$0.17	\$0.00	\$0.00	0.02	0.97	0.26	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	Health Care Other	Discretionary	827.2	0.01	0.17	0.00	0.00	0.0	0.0	0.0	8	\$56.07	\$39.25	\$0.17	\$0.00	\$0.00	14.53	0.98	297.95	297.95	220.60	220.60	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time	
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	Health Care Other	Discretionary	772.1	0.01	0.16	0.00	0.00	0.0	0.0	0.0	8	\$50.47	\$35.33	\$0.17	\$0.00	\$0.00	15.07	0.98	229.02	229.02	169.56	169.56	Photocell	
Lighting Exterior	LED Exterior Flood Lights	Health Care Other	Discretionary	267.9	0.00	0.06	0.00	0.00	0.0	0.0	0.0	20	\$176.69	\$123.68	\$0.17	\$0.00	\$0.00	3.73	0.98	129.40	129.40	95.81	95.81	LED Exterior Flood Lights	
Lighting Exterior	LED Exterior Flood Lights	Health Care Other	Lost Opportunity	267.9	0.00	0.06	0.00	0.00	0.0	0.0	0.0	20	\$176.69	\$123.68	\$0.11	\$0.00	\$0.00	3.73	0.98	7.15	7.15	4.57	4.57	LED Exterior Flood Lights	
Lighting Exterior	LED Exterior Pole Mount Fixture	Health Care Other	Discretionary	152.6	0.00	0.03	0.00	0.00	0.0	0.0	0.0	15	\$299.32	\$209.52	\$0.17	\$0.00	\$0.00	0.94	0.98	73.74	0.00	0.00	0.00	LED Exterior Pole Mount Fixture	
Lighting Exterior	LED Exterior Pole Mount Fixture	Health Care Other	Lost Opportunity	152.6	0.00	0.03	0.00	0.00	0.0	0.0	0.0	15	\$299.32	\$209.52	\$0.11	\$0.00	\$0.00	0.94	0.98	4.07	0.00	0.00	0.00	LED Exterior Pole Mount Fixture	
Lighting Exterior	LED Exterior Wall Pack	Health Care Other	Discretionary	506.1	0.01	0.11	0.00	0.00	0.0	0.0	0.0	20	\$1,050.18	\$735.13	\$0.17	\$0.00	\$0.00	1.19	0.98	230.89	230.89	170.95	170.95	LED Exterior Wall Pack	
Lighting Exterior	LED Exterior Wall Pack	Health Care Other	Lost Opportunity	506.1	0.01	0.11	0.00	0.00	0.0	0.0	0.0	20	\$1,050.18	\$735.13	\$0.11	\$0.00	\$0.00	1.19	0.98	12.75	12.75	8.15	8.15	LED Exterior Wall Pack	
Lighting Exterior	LED Pathway Lights	Health Care Other	Discretionary	126.1	0.00	0.03	0.00	0.00	0.0	0.0	0.0	11	\$29.83	\$20.88	\$0.17	\$0.00	\$0.00	5.73	0.98	60.90	60.90	45.09	45.09	LED Pathway Lights	
Lighting Exterior	LED Pathway Lights	Health Care Other	Lost Opportunity	126.1	0.00	0.03	0.00	0.00	0.0	0.0	0.0	11	\$29.83	\$20.88	\$0.11	\$0.00	\$0.00	5.73	0.98	3.36	3.36	2.49	2.49	LED Pathway Lights	
Lighting Exterior	Occupancy Sensor Control	Health Care Other	Discretionary	661.8	0.01	0.14	0.00	0.00	0.0	0.0	0.0	10	\$1,845.13	\$1,291.59	\$0.17	\$0.00	\$0.00	0.44	0.98	168.26	0.00	0.00	0.00	Occupancy Sensor Control	
Lighting Exterior	Parking - Covered Lighting	Health Care Other	Discretionary	28.2	0.00	0.01	0.00	0.00	0.0	0.0	0.0	19	\$20.56	\$14.39	\$0.17	\$0.00	\$0.00	3.21	0.98	3.70	3.70	2.74	2.74	Covered Parking Lighting (LED)	
Lighting Exterior	Parking - Covered Lighting	Health Care Other	Lost Opportunity	28.2	0.00	0.01	0.00	0.00	0.0	0.0	0.0	19	\$20.56	\$14.39	\$0.11	\$0.00	\$0.00	3.21	0.98	0.20	0.20	0.14	0.14	Covered Parking Lighting (LED)	
Lighting Exterior	Parking - Surface Lighting	Health Care Other	Discretionary	15.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$7.83	\$5.48	\$0.17	\$0.00	\$0.00	2.40	0.98	0.86	0.86	0.64	0.64	Surface Parking Lighting (LED)	
Lighting Exterior	Parking - Surface Lighting	Health Care Other	Lost Opportunity	15.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$7.83	\$5.48	\$0.11	\$0.00	\$0.00	2.40	0.98	0.05	0.05	0.04	0.04	Surface Parking Lighting (LED)	
Lighting Exterior	Time Clock	Health Care Other	Discretionary	275.7	0.00	0.06	0.00	0.00	0.0	0.0	0.0	8	\$103.00	\$72.10	\$0.17	\$0.00	\$0.00	2.64	0.98	5.84	5.84	4.33	4.33	Time Clock	
Lighting Interior Fluorescent	Bi-Level Control, Stairwell Lighting	Health Care Other	Discretionary	169.8	0.03	0.02	0.00	0.00	0.0	0.0	0.0	8	\$239.78	\$167.84	\$0.17	\$0.00	\$0.00	1.05	0.98	29.74	29.74	22.02	22.02	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time	
Lighting Interior Fluorescent	Dimming-Continuous, Fluorescent Fixtures	Health Care Other	Discretionary	2,386.9	0.46	0.32	0.00	0.00	0.0	0.0	0.0	10	\$126.19	\$88.33	\$0.17	\$0.00	\$0.00	35.22	0.98	0.00	0.00	0.00	0.00	Continuous Dimming, Fluorescent Fixtures (Day-Lighting)	
Lighting Interior Fluorescent	Dimming-Stepped, Fluorescent Fixtures	Health Care Other	Discretionary	2,386.9	0.46	0.32	0.00	0.00	0.0	0.0	0.0	10	\$126.19	\$88.33	\$0.17	\$0.00	\$0.00	35.22	0.98	49.19	49.19	36.42	36.42	3-stepped Dimming of Fluorescent Fixtures (Day-Lighting)	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent - 2018 Federal Standard	Health Care Other	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.07	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	Standard Fluorescent 2018 Federal Standard Approved T-8	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 - Above Standard	Health Care Other	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.07	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 Interior Lighting	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 High Performance - Above Standard	Health Care Other	Lost Opportunity	0.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.06	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 High Performance Interior Lighting	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 Reduced Wattage - Above Standard	Health Care Other	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.01	\$0.00	\$0.17	\$0.00	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 Reduced Wattage Interior Lighting	
Lighting Interior Fluorescent	Lighting Interior - TLED - Above Standard	Health Care Other	Lost Opportunity	2.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.27	\$0.19	\$0.17	-\$0.02	\$0.00	999.00	0.98	1787.24	1951.36	1407.43	1407.43	Above Standard TLED	
Lighting Interior Fluorescent	Occupancy Sensor Control	Health Care Other	Discretionary	2,045.9	0.40	0.27	0.00	0.00	0.0	0.0	0.0	10	\$5,704.45	\$3,993.12	\$0.17	\$0.00	\$0.00	0.67	0.98	252.96	0.00	0.00	0.00	Occupancy Sensor Control	
Lighting Interior Fluorescent	Time Clock	Health Care Other	Discretionary	852.5	0.17	0.11	0.00	0.00	0.0	0.0	0.0	8	\$103.00	\$72.10	\$0.17	\$0.00	\$0.00	12.22	0.98	8.78	8.78	6.50	6.50	Time Clock	
Lighting Interior Fluorescent - Early Replacement	Early Replacement Lighting Interior - TLED - Above Standard	Health Care Other	Discretionary	1,120.0	0.22	0.15	0.00	0.00	0.0	0.0	0.0	15	\$283.09	\$198.16	\$0.17	-\$5.16	\$0.00	14.39	0.98	59.46	59.46	44.02	44.02	Above Standard TLED	
Lighting Interior HID	Lighting Interior - Efficient Metal Halide - Above Standard	Health Care Other	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.11	\$0.08	\$0.17	-\$0.02	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	Efficient Metal Halide	
Lighting Interior HID	Lighting Interior - Federal Standard 2017 Metal Halide - Above Standard	Health Care Other	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.13	\$0.09	\$0.17	-\$0.02	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	Federal Standard 2017 Metal Halide	
Lighting Interior HID	Lighting Interior - High Bay Fluorescent High Output - Above Standard	Health Care Other	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.35	\$0.24	\$0.17	\$0.03	\$0.00	1.22	0.98	174.55	193.61	139.71	139.71	High Bay Fluorescent High Output (HO)	
Lighting Interior HID	Lighting Interior - High Bay Induction - Above Standard	Health Care Other	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.34	\$0.24	\$0.17	-\$0.04	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	High Bay Induction	
Lighting Interior HID	Lighting Interior - High Bay LED - Above Standard	Health Care Other	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.40	\$0.28	\$0.17	-\$0.01	\$0.00	5.61	0.98	254.94	282.78	204.05	204.05	High Bay LED	
Lighting Interior HID	Occupancy Sensor Control	Health Care Other	Discretionary	431.1	0.08	0.06	0.00	0.00	0.0	0.0	0.0	10	\$1,201.95	\$841.36	\$0.17	\$0.00	\$0.00	0.67	0.98	95.33	0.00	0.00	0.00	Occupancy Sensor Control	
Lighting Interior HID	Time Clock	Health Care Other	Discretionary	179.6	0.03	0.02	0.00	0.00	0.0	0.0	0.0	8	\$103.00	\$72.10	\$0.17	\$0.00	\$0.00	2.58	0.98	3.31	3.31	2.45	2.45	Time Clock	
Lighting Interior Other	Exit Sign - LED	Health Care Other	Discretionary	52.7	0.01	0.01	0.00	0.00	0.0	0.0	0.0	16	\$74.14	\$51.90	\$0.17	\$0.00	\$0.00	2.16	0.98	18.40	18.40	13.62	13.62	LED Exit Sign	
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Health Care Other	Discretionary	65.7	0.01	0.01	0.00	0.00	0.0	0.0	0.0	16	-\$11.29	\$0.00	\$0.17	\$0.00	\$0.00	999.00	0.98	33.48	33.48	24.79	24.79	Photoluminescent or Tritium	
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Health Care Other	Lost Opportunity	65.7	0.01	0.01	0.00	0.00	0.0	0.0	0.0	16	-\$11.29	\$0.00	\$0.11	\$0.00	\$0.00	999.00	0.98	1.39	1.39	1.00	1.00	Photoluminescent or Tritium	
Lighting Interior Other	New Construction Lighting Package - Advanced Efficiency	Health Care Other	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.47	\$0.33	\$0.11	-\$0.02	\$0.00	8.57	0.98	69.65	69.65	50.71	50.71	Advanced Efficiency Lighting Package - 25% LPD Reduction	
Lighting Interior Other	New Construction Lighting Package - High Efficiency	Health Care Other	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.09	\$0.07	\$0.11	-\$0.01	\$0.00	39.86	0.98	0.00	0.00	0.00	0.00	High Efficiency Lighting Package - 15% LPD Reduction	
Lighting Interior Other	New Construction Lighting Package - Premium Efficiency	Health Care Other	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.26	\$0.18	\$0.11	-\$0.01	\$0.00	13.95	0.98	0.00	0.00	0.00	0.00	Premium Efficiency Lighting Package - 20% LPD Reduction	
Lighting Interior Other	Occupancy Sensor Control	Health Care Other	Discretionary	31.6	0.01	0.00	0.00	0.00	0.0	0.0	0.0	10	\$88.22	\$61.75	\$0.17	\$0.00	\$0.00	0.67	0.98	8.04	0.00	0.00	0.00	Occupancy Sensor Control	
Lighting Interior Other	Time Clock	Health Care Other	Discretionary	13.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$103.00	\$72.10	\$0.17	\$0.00	\$0.00	0.19	0.98	0.28	0.00	0.00	0.00	Time Clock	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	Health Care Other	Lost Opportunity	4.4	0.00																				



Appendix B.4		BED Non-residential Measure Assumptions																									
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description			
Refrigeration	Case Replacement Low Temp	Health Care Other	Discretionary	66.5	0.01	0.01	0.00	0.00	0.0	0.0	0.0	15	\$3.73	\$2.61	\$0.17	\$0.00	\$0.00	44.30	0.98	35.68	35.68	35.88	31.82	Case Replacement Low Temp			
Refrigeration	Case Replacement Med Temp	Health Care Other	Discretionary	5.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$7.20	\$5.04	\$0.17	\$0.00	\$0.00	1.96	0.98	3.04	3.04	2.71	2.71	Case Replacement Med Temp			
Refrigeration	Demand Control Defrost - Hot Gas	Health Care Other	Discretionary	73.2	0.01	0.01	0.00	0.00	0.0	0.0	0.0	10	\$117.18	\$82.03	\$0.17	\$0.00	\$0.00	1.02	0.98	2.07	2.07	1.84	1.84	Refrigerant Defrost			
Refrigeration	Display Case Electronically Commutated Motor - Low Temp	Health Care Other	Discretionary	29.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$21.31	\$14.91	\$0.17	\$0.00	\$0.00	3.47	0.98	10.72	10.72	9.57	9.57	ECM Evaporator Fans - Low Temp			
Refrigeration	Display Case Electronically Commutated Motor - Medium Temp	Health Care Other	Discretionary	3.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2.53	\$1.77	\$0.17	\$0.00	\$0.00	3.47	0.98	1.27	1.27	1.13	1.13	ECM Evaporator Fans - Medium Temp			
Refrigeration	Display Case LEDs (Closed Cases)	Health Care Other	Discretionary	23.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$13.80	\$9.66	\$0.17	\$0.00	\$0.00	2.18	0.98	12.43	12.43	11.09	11.09	Display Case LEDs (Closed Cases)			
Refrigeration	Display Case LEDs (Closed Cases)	Health Care Other	Lost Opportunity	23.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$6.14	\$4.30	\$0.11	\$0.00	\$0.00	4.90	0.98	0.69	0.69	0.61	0.61	Display Case LEDs (Closed Cases)			
Refrigeration	Display Case LEDs (Open Cases)	Health Care Other	Discretionary	4.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$3.42	\$2.40	\$0.17	-\$0.12	\$0.00	2.07	0.98	2.63	2.63	2.34	2.34	Display Case LEDs (Open Cases)			
Refrigeration	Display Case LEDs (Open Cases)	Health Care Other	Lost Opportunity	4.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$1.81	\$1.26	\$0.11	-\$0.10	\$0.00	4.78	0.98	0.14	0.14	0.13	0.13	Display Case LEDs (Open Cases)			
Refrigeration	Display Case Motion Sensors	Health Care Other	Discretionary	9.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$2.09	\$1.46	\$0.17	\$0.00	\$0.00	5.57	0.98	4.56	4.56	4.06	4.06	Display Case Motion Sensors			
Refrigeration	Evaporator Fan Controller - Low Temp	Health Care Other	Discretionary	1.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	16	\$1.48	\$1.04	\$0.17	\$0.00	\$0.00	3.42	0.98	0.97	0.97	0.86	0.86	ECM Evaporator Fan Controller - Low Temp			
Refrigeration	Evaporator Fan Controller - Low Temp	Health Care Other	Lost Opportunity	1.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	16	\$1.48	\$1.04	\$0.11	\$0.00	\$0.00	3.42	0.98	0.04	0.04	0.04	0.04	ECM Evaporator Fan Controller - Low Temp			
Refrigeration	Evaporator Fan Controller - Medium Temp	Health Care Other	Discretionary	3.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	16	\$2.77	\$1.94	\$0.17	\$0.00	\$0.00	2.85	0.98	1.51	1.51	1.35	1.35	ECM Evaporator Fan Controller - Medium Temp			
Refrigeration	Evaporator Fan Controller - Medium Temp	Health Care Other	Lost Opportunity	3.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	16	\$2.77	\$1.94	\$0.11	\$0.00	\$0.00	2.85	0.98	0.07	0.07	0.06	0.06	ECM Evaporator Fan Controller - Medium Temp			
Refrigeration	Floating Condenser Head Pressure Controls	Health Care Other	Discretionary	101.3	0.01	0.01	0.00	0.00	0.0	0.0	0.0	15	\$32.58	\$22.80	\$0.17	\$0.00	\$0.00	7.73	0.98	2.86	2.86	2.88	2.55	Floating Condenser Head Pressure Controls			
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Health Care Other	Discretionary	3.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.50	\$0.35	\$0.17	\$0.00	\$0.00	10.81	0.98	1.99	1.99	2.00	1.77	Glass Door ENERGY STAR Refrigerators/Freezers			
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Health Care Other	Lost Opportunity	3.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.50	\$0.35	\$0.11	\$0.00	\$0.00	10.81	0.98	0.11	0.11	0.11	0.10	Glass Door ENERGY STAR Refrigerators/Freezers			
Refrigeration	Ice Maker - High Efficiency	Health Care Other	Discretionary	64.0	0.01	0.01	0.00	0.00	0.0	0.0	0.0	8	\$4.08	\$2.86	\$0.17	\$0.00	\$0.00	20.36	0.98	36.14	36.14	32.23	32.23	High Efficiency Ice Maker			
Refrigeration	Ice Maker - High Efficiency	Health Care Other	Lost Opportunity	64.0	0.01	0.01	0.00	0.00	0.0	0.0	0.0	8	\$4.08	\$2.86	\$0.11	\$0.00	\$0.00	20.36	0.98	2.00	2.00	1.78	1.78	High Efficiency Ice Maker			
Refrigeration	Night Covers for Display Cases	Health Care Other	Discretionary	6.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$1.14	\$0.80	\$0.17	\$0.12	\$0.00	3.04	0.98	3.42	3.42	3.05	3.05	Night Covers for Display Cases			
Refrigeration	Night Covers for Display Cases	Health Care Other	Lost Opportunity	6.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$1.14	\$0.80	\$0.11	\$0.12	\$0.00	3.04	0.98	0.19	0.19	0.17	0.17	Night Covers for Display Cases			
Refrigeration	No Heat Case Doors	Health Care Other	Discretionary	39.9	0.01	0.00	0.00	0.00	0.0	0.0	0.0	15	\$28.60	\$20.02	\$0.17	\$0.00	\$0.00	3.47	0.98	11.27	11.27	10.05	10.05	No Heat Case Doors			
Refrigeration	No Heat Case Doors	Health Care Other	Lost Opportunity	39.9	0.01	0.00	0.00	0.00	0.0	0.0	0.0	15	\$28.60	\$20.02	\$0.11	\$0.00	\$0.00	3.47	0.98	1.18	1.18	1.04	1.04	No Heat Case Doors			
Refrigeration	Refrigeration Commissioning or Re-commissioning	Health Care Other	Discretionary	133.2	0.02	0.02	0.00	0.00	0.0	0.0	0.0	7	\$34.34	\$24.04	\$0.17	\$0.00	\$0.00	4.38	0.98	6.59	6.59	5.88	5.88	Commissioning / Re-commissioning			
Refrigeration	Refrigeration Commissioning or Re-commissioning	Health Care Other	Lost Opportunity	133.2	0.02	0.02	0.00	0.00	0.0	0.0	0.0	7	\$34.34	\$24.04	\$0.11	\$0.00	\$0.00	4.38	0.98	0.19	0.19	0.17	0.17	Commissioning / Re-commissioning			
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Health Care Other	Discretionary	2.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.50	\$0.35	\$0.17	\$0.00	\$0.00	8.02	0.98	1.48	1.48	1.32	1.32	Solid Door ENERGY STAR Refrigerators/Freezers			
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Health Care Other	Lost Opportunity	2.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.50	\$0.35	\$0.11	\$0.00	\$0.00	8.02	0.98	0.08	0.08	0.07	0.07	Solid Door ENERGY STAR Refrigerators/Freezers			
Refrigeration	Strip Curtains for Walk-Ins	Health Care Other	Discretionary	24.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$17.51	\$12.26	\$0.17	\$0.00	\$0.00	0.87	0.98	2.06	0.00	0.00	0.00	Strip Curtains for Walk-Ins			
Refrigeration	Walk-in Electronically Commutated Motor	Health Care Other	Discretionary	7.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1.82	\$1.28	\$0.17	\$0.00	\$0.00	10.79	0.98	4.24	4.24	3.78	3.78	ECM Condensor Fans - Low Temp			
Refrigeration	Walk-in Electronically Commutated Motor	Health Care Other	Discretionary	8.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2.23	\$1.56	\$0.17	\$0.00	\$0.00	9.54	0.98	4.59	4.59	4.09	4.09	ECM Condensor Fans - Medium Temp			
Refrigeration	Walk-In Electronically Commutated Motor	Health Care Other	Discretionary	7.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1.82	\$1.28	\$0.17	\$0.00	\$0.00	10.79	0.98	4.24	4.24	3.78	3.78	ECM Evaporator Fans - Low Temp			
Refrigeration	Walk-in Electronically Commutated Motor	Health Care Other	Discretionary	8.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2.23	\$1.56	\$0.17	\$0.00	\$0.00	9.54	0.98	4.59	4.59	4.09	4.09	ECM Evaporator Fans - Medium Temp			
Refrigeration	Walk-in Economizer	Health Care Other	Discretionary	65.1	0.01	0.01	0.00	0.00	0.0	0.0	0.0	15	\$31.64	\$22.15	\$0.17	\$0.00	\$0.00	5.11	0.98	27.58	27.58	24.60	24.60	Add Economizer to Walk-in Cooler			
Refrigeration	Walk-in Economizer	Health Care Other	Lost Opportunity	65.1	0.01	0.01	0.00	0.00	0.0	0.0	0.0	15	\$31.64	\$22.15	\$0.11	\$0.00	\$0.00	5.11	0.98	1.52	1.52	1.34	1.34	Add Economizer to Walk-in Cooler			
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	1.23	1.00	0.00	0.00	0.00	0.00	CEE Tier 2 Refrigerator			
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	1.23	1.00	0.00	0.00	0.00	0.00	CEE Tier 2 Refrigerator			
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	1.15	1.00	8.22	8.22	4.60	4.60	CEE Tier 3 Refrigerator			
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	1.15	1.00	0.72	0.72	0.41	0.41	CEE Tier 3 Refrigerator			
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.00	\$0.17	\$0.00	\$0.00	1.26	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Refrigerator			
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.00	\$0.11	\$0.00	\$0.00	1.26	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Refrigerator			
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.00	\$0.17	\$0.00	\$0.00	1.27	1.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Refrigerator			
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.00	\$0.11	\$0.00	\$0.00	1.27	1.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Refrigerator			
Refrigerators	Residential Refrigerator Recycling and Replacement	Health Care Other	Discretionary	54.0	0.01	0.01	0.00	0.00	0.0	0.0	0.0	8	\$28.12	\$19.69	\$0.17	\$0.00	\$0.00	2.41	1.00	23.27	23.27	13.03	13.03	Recycling Existing Refrigerator and Replacing with a Federal Standard Unit			
Room Cool	Ductless Air Conditioner (DAC)	Health Care Other	Discretionary	20.4	0.01	0.00	0.00	0.00	0.0	0.0	0.0	15	\$491.88	\$344.32	\$0.17	\$0.00	\$0.00	0.17	0.97	0.07	0.00	0.00	0.00	Ductless Air Conditioner - SEER/EER 18/12.5			
Room Cool	Ductless Air Conditioner (DAC)	Health Care Other	Lost Opportunity	20.4	0.01	0.00	0.00	0.00	0.0	0.0	0.0	15	\$491.88	\$344.32	\$0.11	\$0.00	\$0.00	0.17	0.97	0.01	0.00	0.00	0.00	Ductless Air Conditioner - SEER/EER 18/12.5			
Room Cool	Ductless Heat Pump (DHP)	Health Care Other	Discretionary	55.4	0.03	0.00	0.00	0.00	0.0	0.0	0.0	15	\$838.08	\$586.65	\$0.17	\$0.00	\$0.00	0.27	0.97	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0			
Room Cool	Ductless Heat Pump (DHP)	Health Care Other	Lost Opportunity	55.4	0.03	0.00	0.00	0.00	0.0	0.0	0.0	15	\$838.08	\$586.65	\$0.11	\$0.00	\$0.00	0.27	0.97	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0			
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Health Care Other	Discretionary	58.4	0.03	0.00	0.00	0.00	0.0	0.0	0.0	15	\$858.11	\$600.68	\$0.17	\$0.00	\$0.00	0.28	0.97	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0			
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Health Care Other	Lost Opportunity	58.4	0.03	0.00	0.00	0.00	0.0	0.0	0.0	15	\$858.11	\$600.68	\$0.11	\$0.00	\$0.00	0.28	0.97	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0			
Room Cool	Exhaust Hood Makeup Air	Health Care Other	Discretionary	4.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$35.07	\$24.55	\$0.17	\$0.00	\$0.00	0.38	0.97	0.00	0.00	0.00	0.00				



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR	20 YR	20 YR MAP	20 YR RAP	Measure Description	
																				Technical Potential (MWh)	Economic Potential (MWh)				
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Health Care Other	Discretionary	975.2	0.00	0.39	0.00	0.00	0.0	0.0	0.0	30	\$903.00	\$632.10	\$0.17	\$0.00	\$0.00	4.05	0.96	0.00	0.00	0.00	0.00	R-38	
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	975.2	0.00	0.39	0.00	0.00	0.0	0.0	0.0	30	\$903.00	\$632.10	\$0.11	\$0.00	\$0.00	4.05	0.96	0.00	0.00	0.00	0.00	R-38	
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Health Care Other	Discretionary	1,698.5	0.00	0.68	0.00	0.00	0.0	0.0	0.0	30	\$2,588.60	\$1,812.02	\$0.17	\$0.00	\$0.00	2.46	0.96	0.00	0.00	0.00	0.00	R-30 (CBES 2015 Code)	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Health Care Other	Discretionary	956.5	0.00	0.38	0.00	0.00	0.0	0.0	0.0	30	\$630.63	\$441.44	\$0.17	\$0.00	\$0.00	5.69	0.96	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	956.5	0.00	0.38	0.00	0.00	0.0	0.0	0.0	30	\$630.63	\$441.44	\$0.11	\$0.00	\$0.00	5.69	0.96	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Code	Health Care Other	Discretionary	1,050.3	0.00	0.42	0.00	0.00	0.0	0.0	0.0	30	\$4,327.42	\$3,029.19	\$0.17	\$0.00	\$0.00	0.91	0.96	0.00	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)	
Room Heat - Electric	Windows - CBES 2015 - Above Code	Health Care Other	Discretionary	68.6	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$980.86	\$686.60	\$0.17	\$0.00	\$0.00	0.17	0.96	0.00	0.00	0.00	0.00	U-0.29	
Room Heat - Electric	Windows - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	68.6	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$980.86	\$686.60	\$0.11	\$0.00	\$0.00	0.17	0.96	0.00	0.00	0.00	0.00	U-0.29	
Room Heat - Electric	Windows - CBES 2015 - Code	Health Care Other	Discretionary	160.9	0.00	0.06	0.00	0.00	0.0	0.0	0.0	20	\$6,477.23	\$4,534.06	\$0.17	\$0.00	\$0.00	0.06	0.96	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Servers	Internal Power Supply / Server	Health Care Other	Discretionary	1.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.48	\$0.34	\$0.17	\$0.00	\$0.00	2.22	1.00	0.56	0.71	0.47	0.47	80 Plus power supply for Desktop Derived Server	
Servers	Internal Power Supply / Server	Health Care Other	Lost Opportunity	1.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.48	\$0.34	\$0.11	\$0.00	\$0.00	2.22	1.00	0.03	0.04	0.03	0.03	80 Plus power supply for Desktop Derived Server	
Servers	Server - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.02	\$0.02	\$0.17	\$0.00	\$0.00	0.32	1.00	8.78	0.00	0.00	0.00	ENERGY STAR Server	
Servers	Server - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.02	\$0.02	\$0.11	\$0.00	\$0.00	0.32	1.00	0.48	0.00	0.00	0.00	ENERGY STAR Server	
Space Heat - Electric	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Health Care Other	Discretionary	2,488.6	0.01	1.00	0.00	0.00	0.0	0.0	0.0	15	\$752.50	\$526.75	\$0.17	\$0.00	\$0.00	6.19	0.96	0.18	0.18	0.12	0.12	Demand Controlled Ventilation (CO2 sensors)	
Space Heat - Electric	Convert Constant Volume Air System to VAV	Health Care Other	Discretionary	7,428.7	0.02	2.99	0.00	0.00	0.0	0.0	0.0	15	\$7,316.88	\$5,121.82	\$0.17	\$0.00	\$0.00	1.90	0.96	1.05	1.05	0.67	0.67	Variable Volume Air System	
Space Heat - Electric	Direct Digital Control System-Installation	Health Care Other	Discretionary	4,241.9	0.01	1.71	0.00	0.00	0.0	0.0	0.0	5	\$940.63	\$658.44	\$0.17	\$0.00	\$0.00	2.80	0.96	3.57	3.57	2.29	2.29	Installation of EMS System	
Space Heat - Electric	Direct Digital Control System-Installation	Health Care Other	Lost Opportunity	4,241.9	0.01	1.71	0.00	0.00	0.0	0.0	0.0	5	\$940.63	\$658.44	\$0.11	\$0.00	\$0.00	2.80	0.96	0.02	0.02	0.01	0.01	Installation of EMS System	
Space Heat - Electric	Duct Repair and Sealing	Health Care Other	Discretionary	2,459.1	0.01	0.99	0.00	0.00	0.0	0.0	0.0	18	\$722.40	\$505.68	\$0.17	\$0.00	\$0.00	7.62	0.96	1.49	1.49	0.95	0.95	Reduction In Duct Losses to 5 %	
Space Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Health Care Other	Discretionary	4,241.9	0.01	1.71	0.00	0.00	0.0	0.0	0.0	14	\$5,879.47	\$4,115.63	\$0.17	\$0.00	\$0.00	1.26	0.96	0.46	0.46	0.00	0.28	Exhaust Air to Ventilation Air Heat Recovery	
Space Heat - Electric	Indirect Information Feedback	Health Care Other	Discretionary	147.1	0.00	0.06	0.00	0.00	0.0	0.0	0.0	2	\$489.59	\$342.72	\$0.17	\$0.00	\$0.00	0.07	0.96	0.14	0.00	0.00	0.00	Indirect Information Feedback	
Space Heat - Electric	Indirect Information Feedback	Health Care Other	Lost Opportunity	147.1	0.00	0.06	0.00	0.00	0.0	0.0	0.0	2	\$489.59	\$342.72	\$0.11	\$0.00	\$0.00	0.07	0.96	0.01	0.00	0.00	0.00	Indirect Information Feedback	
Space Heat - Electric	Infiltration Reduction	Health Care Other	Discretionary	2,827.9	0.01	1.14	0.00	0.00	0.0	0.0	0.0	10	\$165.87	\$116.11	\$0.17	\$0.00	\$0.00	21.46	0.96	0.15	0.15	0.09	0.09	Install Caulking And Weatherstripping (ACH 0.65)	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Health Care Other	Discretionary	1,440.1	0.00	0.58	0.00	0.00	0.0	0.0	0.0	30	\$507.94	\$355.56	\$0.17	\$0.00	\$0.00	10.64	0.96	0.62	0.62	0.40	0.40	R-35 c.i.	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	1,440.1	0.00	0.58	0.00	0.00	0.0	0.0	0.0	30	\$507.94	\$355.56	\$0.11	\$0.00	\$0.00	10.64	0.96	0.02	0.02	0.01	0.01	R-35 c.i.	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Health Care Other	Discretionary	4,934.0	0.01	1.98	0.00	0.00	0.0	0.0	0.0	30	\$2,317.70	\$1,622.39	\$0.17	\$0.00	\$0.00	7.99	0.96	1.36	1.36	0.87	0.87	R-30 c.i. (CBES 2015 Code)	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Health Care Other	Discretionary	1,018.1	0.00	0.41	0.00	0.00	0.0	0.0	0.0	20	\$40.82	\$28.58	\$0.17	\$0.00	\$0.00	62.02	0.96	1.18	1.18	0.76	0.76	R-12	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	1,018.1	0.00	0.41	0.00	0.00	0.0	0.0	0.0	20	\$40.82	\$28.58	\$0.11	\$0.00	\$0.00	62.02	0.96	0.08	0.08	0.04	0.04	R-12	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Code	Health Care Other	Discretionary	1,018.1	0.00	0.41	0.00	0.00	0.0	0.0	0.0	20	\$164.42	\$115.09	\$0.17	\$0.00	\$0.00	15.40	0.96	0.95	0.95	0.61	0.61	R-8 (CBES 2015 Code)	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Health Care Other	Discretionary	2,122.3	0.00	0.85	0.00	0.00	0.0	0.0	0.0	30	\$903.00	\$632.10	\$0.17	\$0.00	\$0.00	8.82	0.96	0.30	0.30	0.20	0.20	R-38	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	2,122.3	0.00	0.85	0.00	0.00	0.0	0.0	0.0	30	\$903.00	\$632.10	\$0.11	\$0.00	\$0.00	8.82	0.96	0.03	0.03	0.02	0.02	R-38	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Health Care Other	Discretionary	3,696.3	0.01	1.49	0.00	0.00	0.0	0.0	0.0	30	\$2,588.60	\$1,812.02	\$0.17	\$0.00	\$0.00	5.36	0.96	0.49	0.49	0.32	0.32	R-30 (CBES 2015 Code)	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Health Care Other																							



Appendix B.4		BED Non-residential Measure Assumptions																									
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description			
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Lost Opportunity	49.1	0.00	0.02	0.00	0.00	0.0	0.0	3.6	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.5 GPM			
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Discretionary	21.1	0.00	0.01	0.00	0.00	0.0	0.0	1.4	9	\$20.00	\$14.00	\$0.17	\$0.00	\$0.00	1.79	1.00	0.09	0.13	0.07	0.07	2.2 GPM (Federal Code)			
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Health Care Other	Discretionary	9.1	0.00	0.00	0.00	0.00	0.0	0.0	1.7	5	\$1.72	\$1.20	\$0.17	\$0.00	\$0.00	8.41	1.00	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)			
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Health Care Other	Lost Opportunity	9.1	0.00	0.00	0.00	0.00	0.0	0.0	1.7	5	\$1.72	\$1.20	\$0.11	\$0.00	\$0.00	8.41	1.00	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)			
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Discretionary	15.0	0.00	0.01	0.00	0.00	0.0	0.0	2.9	5	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.14	0.00	0.00	0.00	0.75 GPM			
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Lost Opportunity	15.0	0.00	0.01	0.00	0.00	0.0	0.0	2.9	5	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.01	0.00	0.00	0.00	0.75 GPM			
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Discretionary	24.1	0.00	0.01	0.00	0.00	0.0	0.0	4.6	5	\$1.72	\$1.20	\$0.17	\$0.00	\$0.00	22.34	1.00	0.00	0.00	0.00	0.00	0.75 GPM			
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Lost Opportunity	24.1	0.00	0.01	0.00	0.00	0.0	0.0	4.6	5	\$1.72	\$1.20	\$0.11	\$0.00	\$0.00	22.34	1.00	0.00	0.00	0.00	0.00	0.75 GPM			
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Health Care Other	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2.59	\$1.81	\$0.17	\$0.96	\$0.00	0.03	1.00	4.99	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers			
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Health Care Other	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2.59	\$1.81	\$0.11	\$0.96	\$0.00	0.03	1.00	0.27	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers			
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Health Care Other	Discretionary	77.2	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$350.72	\$245.50	\$0.17	\$0.00	\$0.00	0.55	1.00	0.81	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control			
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Health Care Other	Lost Opportunity	77.2	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$350.72	\$245.50	\$0.11	\$0.00	\$0.00	0.55	1.00	0.04	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control			
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Health Care Other	Discretionary	277.0	0.00	0.11	0.00	0.00	0.0	0.0	0.0	10	\$61.88	\$43.32	\$0.17	\$0.00	\$0.00	5.63	1.00	0.08	0.12	0.07	0.07	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use			
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Health Care Other	Lost Opportunity	277.0	0.00	0.11	0.00	0.00	0.0	0.0	0.0	10	\$61.88	\$43.32	\$0.11	\$0.00	\$0.00	5.63	1.00	0.00	0.01	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use			
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Health Care Other	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.63	\$0.44	\$0.17	\$0.00	\$0.00	0.28	1.00	8.04	0.00	0.00	0.00	CO2 Heat Pump Water Heater			
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Health Care Other	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.63	\$0.44	\$0.11	\$0.00	\$0.00	0.28	1.00	0.46	0.00	0.00	0.00	CO2 Heat Pump Water Heater			
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.13	\$0.09	\$0.17	\$0.00	\$0.00	0.43	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2			
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.13	\$0.09	\$0.11	\$0.00	\$0.00	0.43	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2			
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Health Care Other	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.50	\$0.35	\$0.17	\$0.00	\$0.00	0.31	1.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8			
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Health Care Other	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.50	\$0.35	\$0.11	\$0.00	\$0.00	0.31	1.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8			
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Health Care Other	Discretionary	387.8	0.00	0.16	0.00	0.00	0.0	0.0	0.0	4	\$0.02	\$0.01	\$0.17	\$0.00	\$0.00	11503.76	1.00	4.05	6.19	3.46	3.46	Set Water Heater to 120F			
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Health Care Other	Lost Opportunity	387.8	0.00	0.16	0.00	0.00	0.0	0.0	0.0	4	\$0.02	\$0.01	\$0.11	\$0.00	\$0.00	11503.76	1.00	0.20	0.32	0.18	0.18	Set Water Heater to 120F			
Water Heat GT 55 Gal	Water Heater Tank Wrap	Health Care Other	Discretionary	780.3	0.00	0.31	0.00	0.00	0.0	0.0	0.0	7	\$69.25	\$48.48	\$0.17	\$0.00	\$0.00	9.91	1.00	5.92	9.05	5.07	5.07	Add R-10 Tank Wrap			
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Health Care Other	Discretionary	19.5	0.00	0.01	0.00	0.00	0.0	0.0	1.8	13	\$21.76	\$15.23	\$0.17	\$0.00	\$0.00	2.42	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle			
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Health Care Other	Lost Opportunity	19.5	0.00	0.01	0.00	0.00	0.0	0.0	1.8	13	\$21.76	\$15.23	\$0.11	\$0.00	\$0.00	2.42	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle			
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Health Care Other	Discretionary	43.2	0.00	0.02	0.00	0.00	0.0	0.0	2.3	13	\$40.24	\$28.17	\$0.17	\$0.00	\$0.00	2.44	1.00	0.33	0.83	0.46	0.46	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle			
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Health Care Other	Lost Opportunity	43.2	0.00	0.02	0.00	0.00	0.0	0.0	2.3	13	\$40.24	\$28.17	\$0.11	\$0.00	\$0.00	2.44	1.00	0.01	0.05	0.03	0.03	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle			
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Health Care Other	Discretionary	11.5	0.00	0.00	0.00	0.00	0.0	0.0	0.5	14	\$1.77	\$1.24	\$0.17	\$0.00	\$0.00	14.75	1.00	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)			
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Health Care Other	Lost Opportunity	11.5	0.00	0.00	0.00	0.00	0.0	0.0	0.5	14	\$1.77	\$1.24	\$0.11	\$0.00	\$0.00	14.75	1.00	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)			
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Health Care Other	Discretionary	18.1	0.00	0.01	0.00	0.00	0.0	0.0	1.4	14	\$0.72	\$0.51	\$0.17	\$0.00	\$0.00	67.69	1.00	0.03	0.07	0.04	0.04	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)			
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Health Care Other	Lost Opportunity	18.1	0.00	0.01	0.00	0.00	0.0	0.0	1.4	14	\$0.72	\$0.51	\$0.11	\$0.00	\$0.00	67.69	1.00	0.00	0.00	0.00	0.00	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)			
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Health Care Other	Discretionary	78.0	0.00	0.03	0.00	0.00	0.0	0.0	0.0	13	\$17.85	\$12.50	\$0.17	\$0.00	\$0.00	7.11	1.00	0.71	1.75	0.98	0.98	1.0" of Insulation, assuming R-4 (Code)			
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Health Care Other	Discretionary	419.0	0.00	0.17	0.00	0.00	0.0	0.0	0.0	25	\$1,767.50	\$1,237.25	\$0.17	\$0.00	\$0.00	0.74	1.00	0.19	0.00	0.00	0.00	Install Heat Recovery Water Heater			
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Health Care Other	Discretionary	23.4	0.00	0.01	0.00	0.00	0.0	0.0	0.0	20	\$2.76	\$1.93	\$0.17	\$0.00	\$0.00	21.12	1.00	0.11	0.27	0.15	0.15	R-3			
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Discretionary	119.3	0.00	0.05	0.00	0.00	0.0	0.0	8.8	9	\$20.00	\$14.00	\$0.17	\$0.00	\$0.00	10.58	1.00	1.85	4.58	2.56	2.56	0.5 GPM			
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Lost Opportunity	119.3	0.00	0.05	0.00	0.00	0.0	0.0	8.8	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.08	0.00	0.00	0.00	0.5 GPM			
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Discretionary	84.2	0.00	0.03	0.00	0.00	0.0	0.0	6.2	9	\$20.00	\$14.00	\$0.17	\$0.00	\$0.00	7.47	1.00	0.00	0.00	0.00	0.00	1.0 GPM			
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Lost Opportunity	84.2	0.00	0.03	0.00	0.00	0.0	0.0	6.2	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.0 GPM			
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Discretionary	49.1	0.00	0.02	0.00	0.00	0.0	0.0	3.6	9	\$20.00	\$14.00	\$0.17	\$0.00	\$0.00	4.36	1.00	0.00	0.00	0.00	0.00	1.5 GPM			
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Lost Opportunity	49.1	0.00	0.02	0.00	0.00	0.0	0.0	3.6	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.5 GPM			
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Discretionary	21.1	0.00	0.01	0.00	0.00	0.0	0.0	1.4	9	\$20.00	\$14.00	\$0.17	\$0.00	\$0.00	1.79	1.00	0.12	0.30	0.17	0.17	2.2 GPM (Federal Code)			
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Health Care Other	Discretionary	9.1	0.00	0.00	0.00	0.00	0.0	0.0	1.7	5	\$1.72	\$1.20	\$0.17	\$0.00	\$0.00	8.41	1.00	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)			
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Health Care Other	Lost Opportunity	9.1	0.00	0.00	0.00	0.00	0.0	0.0	1.7	5	\$1.72	\$1.20	\$0.11	\$0.00	\$0.00	8.41	1.00	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)			
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Discretionary	15.0	0.00	0.01	0.00	0.00	0.0	0.0	2.9	5	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.20	0.00	0.00	0.00	0.75 GPM			
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Lost Opportunity	15.0	0.00	0.01	0.00	0.00	0.0	0.0	2.9	5	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.01	0.00	0.00	0.00	0.75 GPM			
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Discretionary	24.1	0.00	0.01	0.00	0.00	0.0	0.0	4.6	5	\$1.72	\$1.20	\$0.17	\$0.00	\$0.00	22.34	1.00	0.00	0.00	0.00	0.00	0.75 GPM			
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Lost Opportunity	24.1	0.00	0.01	0.00	0.00	0.0	0.0	4.6	5	\$1.72	\$1.20	\$0.11	\$0.00	\$0.00	22.34	1.00	0.00	0.01	0.00	0.00	0.75 GPM			
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Health Care Other	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$7.45	\$5.22	\$0.17	\$1.95	\$0.00	0.03	1.00	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers			
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Health Care Other	Lost Opportunity	0.4	0.00																						



Appendix B.4		BED Non-residential Measure Assumptions																									
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR	20 YR	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description			
																				Technical Potential (MWh)	Economic Potential (MWh)						
Cooking	Fryers	Hospital	Discretionary	250.6	0.03	0.03	0.00	0.00	0.0	0.0	0.0	12	\$42.69	\$29.88	\$0.17	\$0.00	\$0.00	11.17	0.98	0.00	0.00	0.00	0.00	ENERGY STAR Fryer			
Cooking	Fryers	Hospital	Lost Opportunity	250.6	0.03	0.03	0.00	0.00	0.0	0.0	0.0	12	\$42.69	\$29.88	\$0.11	\$0.00	\$0.00	11.17	0.98	0.00	0.00	0.00	0.00	ENERGY STAR Fryer			
Cooking	Griddle	Hospital	Discretionary	161.1	0.02	0.02	0.00	0.00	0.0	0.0	0.0	12	\$72.56	\$50.79	\$0.17	\$0.00	\$0.00	4.22	0.98	0.00	0.00	0.00	0.00	ENERGY STAR Griddle			
Cooking	Griddle	Hospital	Lost Opportunity	161.1	0.02	0.02	0.00	0.00	0.0	0.0	0.0	12	\$72.56	\$50.79	\$0.11	\$0.00	\$0.00	4.22	0.98	0.00	0.00	0.00	0.00	ENERGY STAR Griddle			
Cooking	Hot Food Holding Cabinet	Hospital	Discretionary	146.0	0.02	0.02	0.00	0.00	0.0	0.0	0.0	12	\$76.10	\$53.27	\$0.17	\$0.00	\$0.00	3.65	0.98	0.00	0.00	0.00	0.00	ENERGY STAR Hot Food Holding Cabinet			
Cooking	Hot Food Holding Cabinet	Hospital	Lost Opportunity	146.0	0.02	0.02	0.00	0.00	0.0	0.0	0.0	12	\$76.10	\$53.27	\$0.11	\$0.00	\$0.00	3.65	0.98	0.00	0.00	0.00	0.00	ENERGY STAR Hot Food Holding Cabinet			
Cooking	Microwave - High Efficiency	Hospital	Discretionary	0.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$0.42	\$0.29	\$0.17	\$0.00	\$0.00	3.38	0.98	0.00	0.00	0.00	0.00	High Efficiency Microwave			
Cooking	Microwave - High Efficiency	Hospital	Lost Opportunity	0.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$0.42	\$0.29	\$0.11	\$0.00	\$0.00	3.38	0.98	0.00	0.00	0.00	0.00	High Efficiency Microwave			
Cooking	Steam Cooker	Hospital	Discretionary	420.4	0.05	0.05	0.00	0.00	0.0	0.0	2,224.3	12	\$143.43	\$100.40	\$0.17	\$0.00	\$0.00	177.09	0.98	0.00	0.00	0.00	0.00	ENERGY STAR Steam Cooker			
Cooking	Steam Cooker	Hospital	Lost Opportunity	420.4	0.05	0.05	0.00	0.00	0.0	0.0	2,224.3	12	\$143.43	\$100.40	\$0.11	\$0.00	\$0.00	177.09	0.98	0.00	0.00	0.00	0.00	ENERGY STAR Steam Cooker			
Cooling Chillers	Active Chilled Beam Cooling with DOAS	Hospital	Lost Opportunity	76,968.8	26.32	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$206,567.04	\$0.00	\$0.11	\$154,925.28	\$0.00	0.16	0.97	0.00	0.00	0.00	0.00	Active Chilled Beam Cooling with DOAS			
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Hospital	Discretionary	40,023.8	13.69	0.00	282.89	40965.38	0.0	0.0	0.0	15	\$51,641.76	\$36,149.23	\$0.17	\$0.00	\$0.00	13.41	0.97	0.00	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)			
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Hospital	Discretionary	71,196.1	24.35	0.00	0.00	0.00	0.0	0.0	0.0	15	\$239,617.77	\$167,732.44	\$0.17	\$0.00	\$0.00	1.04	0.97	0.00	0.00	0.00	0.00	Additional Control Features			
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Hospital	Lost Opportunity	71,196.1	24.35	0.00	0.00	0.00	0.0	0.0	0.0	15	\$239,617.77	\$167,732.44	\$0.11	\$0.00	\$0.00	1.04	0.97	0.00	0.00	0.00	0.00	Additional Control Features			
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Hospital	Discretionary	44,884.9	15.35	0.00	0.00	0.00	0.0	0.0	0.0	10	\$162,453.50	\$113,717.45	\$0.17	\$0.00	\$0.00	0.63	0.97	0.00	0.00	0.00	0.00	VSD for Secondary Chilled Water Loop			
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Hospital	Lost Opportunity	44,884.9	15.35	0.00	0.00	0.00	0.0	0.0	0.0	10	\$146,208.15	\$102,345.71	\$0.11	\$0.00	\$0.00	0.70	0.97	0.00	0.00	0.00	0.00	VSD for Secondary Chilled Water Loop			
Cooling Chillers	Chilled Water Reset	Hospital	Discretionary	19,242.2	6.58	0.00	0.00	0.00	0.0	0.0	0.0	10	\$140,742.39	\$98,519.67	\$0.17	\$0.00	\$0.00	0.31	0.97	0.00	0.00	0.00	0.00	Chilled Water Temperature Reset			
Cooling Chillers	Chilled Water Reset	Hospital	Lost Opportunity	19,242.2	6.58	0.00	0.00	0.00	0.0	0.0	0.0	10	\$140,742.39	\$98,519.67	\$0.11	\$0.00	\$0.00	0.31	0.97	0.00	0.00	0.00	0.00	Chilled Water Temperature Reset			
Cooling Chillers	Chilled Water Side Economizer	Hospital	Discretionary	108,015.0	36.94	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1,076,037.21	\$753,226.05	\$0.17	\$0.00	\$0.00	0.35	0.97	0.00	0.00	0.00	0.00	Install Economizer			
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Hospital	Discretionary	3,683.9	1.26	0.00	0.00	0.00	0.0	0.0	0.0	15	\$6,622.47	\$4,635.73	\$0.17	\$0.00	\$0.00	1.95	0.97	0.00	0.00	0.00	0.00	2.0" of Insulation, assuming R-8			
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Hospital	Lost Opportunity	3,683.9	1.26	0.00	0.00	0.00	0.0	0.0	0.0	15	\$6,622.47	\$4,635.73	\$0.11	\$0.00	\$0.00	1.95	0.97	0.00	0.00	0.00	0.00	2.0" of Insulation, assuming R-8			
Cooling Chillers	Chiller - Pipe Insulation - Code	Hospital	Discretionary	6,151.0	2.10	0.00	0.00	0.00	0.0	0.0	0.0	15	\$14,201.48	\$9,941.04	\$0.17	\$0.00	\$0.00	1.52	0.97	0.00	0.00	0.00	0.00	1.0" of Insulation, assuming R-4 (Code)			
Cooling Chillers	Chillers 150-300 tons (screw) - Advanced Efficiency (Water Cooled)	Hospital	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.23	\$0.16	\$0.17	\$0.00	\$0.00	7.52	0.97	0.00	0.00	0.00	0.00	Advanced Efficiency - 0.52 kW/ton (full load); 0.43 kW/ton (IPLV)			
Cooling Chillers	Chillers 150-300 tons (screw) - Advanced Efficiency (Water Cooled)	Hospital	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.21	\$0.15	\$0.11	\$0.00	\$0.00	8.36	0.97	0.00	0.00	0.00	0.00	Advanced Efficiency - 0.52 kW/ton (full load); 0.43 kW/ton (IPLV)			
Cooling Chillers	Chillers 150-300 tons (screw) - High Efficiency (Water Cooled)	Hospital	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.05	\$0.03	\$0.17	\$0.00	\$0.00	7.52	0.97	0.00	0.00	0.00	0.00	High Efficiency - 0.63 kW/ton (full load); 0.52 kW/ton (IPLV)			
Cooling Chillers	Chillers 150-300 tons (screw) - High Efficiency (Water Cooled)	Hospital	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.04	\$0.03	\$0.11	\$0.00	\$0.00	8.36	0.97	0.00	0.00	0.00	0.00	High Efficiency - 0.63 kW/ton (full load); 0.52 kW/ton (IPLV)			
Cooling Chillers	Chillers 150-300 tons (screw) - Premium Efficiency (Water Cooled)	Hospital	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.13	\$0.09	\$0.17	\$0.00	\$0.00	7.52	0.97	0.00	0.00	0.00	0.00	Premium Efficiency - 0.58 kW/ton (full load); 0.47 kW/ton (IPLV)			
Cooling Chillers	Chillers 150-300 tons (screw) - Premium Efficiency (Water Cooled)	Hospital	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.12	\$0.08	\$0.11	\$0.00	\$0.00	8.36	0.97	0.00	0.00	0.00	0.00	Premium Efficiency - 0.58 kW/ton (full load); 0.47 kW/ton (IPLV)			
Cooling Chillers	Commissioning	Hospital	Lost Opportunity	50,029.7	17.11	0.00	417.90	52361.60	0.0	0.0	0.0	5	\$239,617.77	\$167,732.44	\$0.11	\$0.00	\$0.00	1.36	0.97	0.00	0.00	0.00	0.00	Commissioning			
Cooling Chillers	Convert Constant Volume Air System to VAV	Hospital	Discretionary	101,094.7	34.57	0.00	844.45	122286.35	0.0	0.0	0.0	15	\$502,134.97	\$351,494.48	\$0.17	\$0.00	\$0.00	3.99	0.97	0.00	0.00	0.00	0.00	Variable Volume Air System			
Cooling Chillers	Direct Digital Control System-Installation	Hospital	Discretionary	57,726.6	19.74	0.00	482.19	60417.23	0.0	0.0	0.0	5	\$64,552.20	\$45,186.54	\$0.17	\$0.00	\$0.00	5.81	0.97	0.00	0.00	0.00	0.00	Installation of EMS System			
Cooling Chillers	Direct Digital Control System-Installation	Hospital	Lost Opportunity	57,726.6	19.74	0.00	48																				



Appendix B.4		BED Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Cooling Dx Evap	Infiltration Reduction	Hospital	Discretionary	16,025.9	5.48	0.00	1.02	257.89	0.0	0.0	0.0	10	\$3,137.02	\$2,195.92	\$0.17	\$0.00	\$0.00	12.37	0.97	0.00	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Hospital	Discretionary	28,427.4	9.72	0.00	0.54	178.09	0.0	0.0	0.0	30	\$9,606.49	\$6,724.54	\$0.17	\$0.00	\$0.00	22.14	0.97	0.00	0.00	0.00	0.00	R-35 c.i.
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Hospital	Lost Opportunity	28,427.4	9.72	0.00	0.61	197.88	0.0	0.0	0.0	30	\$9,606.49	\$6,724.54	\$0.11	\$0.00	\$0.00	22.19	0.97	0.00	0.00	0.00	0.00	R-35 c.i.
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Code	Hospital	Discretionary	97,396.1	33.31	0.00	1.87	610.17	0.0	0.0	0.0	30	\$43,834.06	\$30,683.84	\$0.17	\$0.00	\$0.00	16.62	0.97	0.00	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Hospital	Discretionary	19,231.1	6.58	0.00	0.00	0.00	0.0	0.0	0.0	20	\$2,801.57	\$1,961.10	\$0.17	\$0.00	\$0.00	32.80	0.97	0.00	0.00	0.00	0.00	R-12
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Hospital	Lost Opportunity	19,231.1	6.58	0.00	0.00	0.00	0.0	0.0	0.0	20	\$2,801.57	\$1,961.10	\$0.11	\$0.00	\$0.00	32.80	0.97	0.00	0.00	0.00	0.00	R-12
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	Hospital	Discretionary	19,231.1	6.58	0.00	0.00	0.00	0.0	0.0	0.0	20	\$11,283.72	\$7,898.61	\$0.17	\$0.00	\$0.00	8.14	0.97	0.00	0.00	0.00	0.00	R-8 (CBES 2015 Code)
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Hospital	Discretionary	41,893.0	14.33	0.00	0.80	262.45	0.0	0.0	0.0	30	\$17,078.20	\$11,954.74	\$0.17	\$0.00	\$0.00	18.35	0.97	0.00	0.00	0.00	0.00	R-38
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Hospital	Lost Opportunity	41,893.0	14.33	0.00	0.89	291.61	0.0	0.0	0.0	30	\$17,078.20	\$11,954.74	\$0.11	\$0.00	\$0.00	18.39	0.97	0.00	0.00	0.00	0.00	R-38
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	Hospital	Discretionary	72,963.7	24.95	0.00	1.40	457.10	0.0	0.0	0.0	30	\$48,957.52	\$34,270.26	\$0.17	\$0.00	\$0.00	11.15	0.97	0.00	0.00	0.00	0.00	R-30 (CBES 2015 Code)
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Hospital	Discretionary	34,284.2	11.73	0.00	0.66	214.78	0.0	0.0	0.0	30	\$9,951.58	\$6,966.11	\$0.17	\$0.00	\$0.00	25.78	0.97	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Hospital	Lost Opportunity	34,284.2	11.73	0.00	0.73	238.65	0.0	0.0	0.0	30	\$9,951.58	\$6,966.11	\$0.11	\$0.00	\$0.00	25.83	0.97	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Code	Hospital	Discretionary	37,646.5	12.88	0.00	0.72	235.85	0.0	0.0	0.0	30	\$68,288.33	\$47,801.83	\$0.17	\$0.00	\$0.00	4.12	0.97	0.00	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Hospital	Discretionary	42,986.5	14.70	0.00	0.00	0.00	0.0	0.0	0.0	15	\$729,560.37	\$510,692.26	\$0.17	\$0.00	\$0.00	0.21	0.97	0.00	0.00	0.00	0.00	Liquid Desiccant Air Conditioner (LDAC)
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Hospital	Lost Opportunity	42,986.5	14.70	0.00	0.00	0.00	0.0	0.0	0.0	15	\$583,648.29	\$408,553.81	\$0.11	\$0.00	\$0.00	0.26	0.97	0.00	0.00	0.00	0.00	Liquid Desiccant Air Conditioner (LDAC)
Cooling Dx Evap	Natural Ventilation	Hospital	Lost Opportunity	53,419.6	18.27	0.00	0.00	0.00	0.0	0.0	0.0	15	\$206,567.04	\$144,596.93	\$0.11	\$0.00	\$0.00	0.91	0.97	0.00	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling
Cooling Dx Evap	Programmable Thermostat	Hospital	Discretionary	21,367.8	7.31	0.00	0.41	104.63	0.0	0.0	0.0	11	\$187.07	\$130.95	\$0.17	\$0.00	\$0.00	292.55	0.97	0.00	0.00	0.00	0.00	Programmable Thermostat
Cooling Dx Evap	Re-Commissioning	Hospital	Discretionary	69,445.5	23.75	0.00	1.33	310.70	0.0	0.0	0.0	5	\$61,970.11	\$43,379.08	\$0.17	\$0.00	\$0.00	1.25	0.97	0.00	0.00	0.00	0.00	Re-Commissioning
Cooling Dx Evap	Retrocommissioning	Hospital	Discretionary	79,239.1	27.10	0.00	1.52	354.52	0.0	0.0	0.0	5	\$103,283.52	\$72,298.47	\$0.17	\$0.00	\$0.00	0.85	0.97	0.00	0.00	0.00	0.00	Retrocommissioning
Cooling Dx Evap	Strategic Energy Management (SEM)	Hospital	Discretionary	21,902.0	7.49	0.00	0.42	97.99	0.0	0.0	0.0	5	\$2,951.62	\$2,066.14	\$0.17	\$0.00	\$0.00	8.25	0.97	0.00	0.00	0.00	0.00	Identify Operations and Maintenance Improvements through Strategic Energy Management
Cooling Dx Evap	Strategic Energy Management (SEM)	Hospital	Lost Opportunity	21,902.0	7.49	0.00	0.47	108.88	0.0	0.0	0.0	5	\$2,951.62	\$2,066.14	\$0.11	\$0.00	\$0.00	8.27	0.97	0.00	0.00	0.00	0.00	Identify Operations and Maintenance Improvements through Strategic Energy Management
Cooling Dx Evap	Tune-up - DX Maintenance	Hospital	Discretionary	76,790.7	26.26	0.00	0.00	0.00	0.0	0.0	0.0	5	\$247,880.45	\$173,516.32	\$0.17	\$0.00	\$0.00	0.34	0.97	0.00	0.00	0.00	0.00	DX Tune-up / Diagnostics
Cooling Dx Evap	Wi-Fi Thermostat	Hospital	Discretionary	21,367.8	7.31	0.00	0.41	104.63	0.0	0.0	0.0	11	\$1,490.16	\$1,043.11	\$0.17	\$0.00	\$0.00	36.73	0.97	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Hospital	Discretionary	2,947.7	1.01	0.00	0.06	16.28	0.0	0.0	0.0	20	\$18,550.74	\$12,985.52	\$0.17	\$0.00	\$0.00	0.77	0.97	0.00	0.00	0.00	0.00	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Hospital	Lost Opportunity	2,947.7	1.01	0.00	0.06	18.09	0.0	0.0	0.0	20	\$18,550.74	\$12,985.52	\$0.11	\$0.00	\$0.00	0.78	0.97	0.00	0.00	0.00	0.00	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Code	Hospital	Discretionary	6,912.6	2.36	0.00	0.13	38.17	0.0	0.0	0.0	20	\$122,502.18	\$85,751.52	\$0.17	\$0.00	\$0.00	0.27	0.97	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtuh - Premium Efficiency	Hospital	Discretionary	267,098.1	91.35	0.00	0.00	0.00	0.0	0.0	0.0	15	\$845,244.23	\$591,670.96	\$0.17	\$0.00	\$0.00	1.11	0.97	0.00	0.00	0.00	0.00	Premium Efficiency - 19.0 IEER
Dryer	Dryer - ENERGY STAR (Residential Sized)	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.24	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Dryer - CEF 3.93 (Electric Dryer)
Dryer	Dryer - ENERGY STAR (Residential Sized)	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.24	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Dryer - CEF 3.93 (Electric Dryer)
Dryer	Dryer - Heat Pump Dryer (Residential Sized)	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.07	1.00	0.00	0.00	0.00	0.00	Premium Efficiency - Heat Pump Dryer
Dryer	Dryer - Heat Pump Dryer (Residential Sized)	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.07	1.00	0.00	0.00	0.00	0.00	Premium Efficiency - Heat Pump Dryer
Fax	Fax - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Fax
Fax	Fax - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Fax
Flat Screen Monitors	Monitor - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.05	\$0.04	\$0.17	\$0.00	\$0.00	0.50	1.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.05	\$0.04	\$0.11	\$0.00	\$0.00	0.50	1.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor
Freezers	Freezer (Residential) - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	13.03	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Freezer
Freezers	Freezer (Residential) - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	13.03	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Freezer
Freezers	Residential Freezer Recycling and Replacement	Hospital	Discretionary	421.4	0.05	0.05	0.00	0.00	0.0	0.0	0.0	8	\$168.84	\$118.19	\$0.17	\$0.00	\$0.00	3.13	1.00	0.00	0.00	0.00	0.00	Recycling Existing Freezer and Replacing with a Federal Standard Unit
Heat Pump	Active Chilled Beam Cooling with DOAS	Hospital	Lost Opportunity	39,426.2	13.06	10.14	0.00	0.00	0.0	0.0	0.0	15	-\$206,567.04	\$0.00	\$0.11	\$154,925.28	\$0.00	0.08	0.97	0.00	0.00	0.00	0.00	Active Chilled Beam Cooling with DOAS
Heat Pump	Air Source Heat Pump > 240 kBtuh - Federal Standard 2023	Hospital	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.06	\$0.04	\$0.17	\$0.00	\$0.00	5.91	0.97	0.00	0.00	0.00	0.00	Federal Standard 2023 - 12.5 IEER, 3.2 COP
Heat Pump	Air Source Heat Pump > 240 kBtuh - Federal Standard 2023	Hospital	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.05	\$0.03	\$0.11	\$0.00	\$0.00	7.39	0.97	0.00	0.00	0.00	0.00	Federal Standard 2023 - 12.5 IEER, 3.2 COP
Heat Pump	Air Source Heat Pump > 240 kBtuh - Premium Efficiency	Hospital	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.23	\$0.16	\$0.17	\$0.00	\$0.00	4.49	0.97	0.00	0.00	0.00	0.00	Premium Efficiency - 18.0 IEER, 3.5 COP
Heat Pump	Air Source Heat Pump > 240 kBtuh - Premium Efficiency	Hospital	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.18	\$0.13	\$0.11	\$0.00	\$0.00	5.62	0.97	0.00	0.00	0.00	0.00	Premium Efficiency - 18.0 IEER, 3.5 COP
Heat Pump	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Hospital	Discretionary	17,820.6	5.90	4.58	0.00	0.00	0.0	0.0	0.0	15	\$51,641.76	\$36,149.23	\$0.17	\$0.00	\$0.00	1.21	0.97	0.00	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)
Heat Pump	Commissioning	Hospital	Lost Opportunity	25,627.0	8.49	6.59	0.00	0.00	0.0	0.0	0.0	5	\$239,617.77	\$167,732.44	\$0.11	\$0.00	\$0.00	0.12	0.97	0.00	0.00	0.00	0.00	Commissioning
Heat Pump	Convert Constant Volume Air System to VAV	Hospital	Discretionary	51,784.4	17.16	13.32	0.00	0.00	0.0	0.0	0.0	15	\$502,134.97	\$351,494.48	\$0.17	\$0.00	\$0.00	0.36	0.97	0.00	0.00	0.00	0.00	Variable Volume Air System
Heat Pump	Direct Digital Control System-Installation	Hospital	Discretionary	29,569.6	9.80	7.61	0.00	0.00	0.0	0.0	0.0	5	\$64,552.20	\$45,186.54	\$0.17	\$0.00	\$0.00	0.50	0.97	0.00	0.00	0.00	0.00	Installation of EMS System
Heat Pump	Direct Digital Control System-Installation	Hospital	Lost Opportunity	29,569.6	9.80	7.61	0.00	0.00	0.0															



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Heat Pump	Tune-up - Heat Pump Maintenance	Hospital	Discretionary	28,337.6	9.39	7.29	0.00	0.00	0.0	0.0	0.0	5	\$7,436.41	\$5,205.49	\$0.17	\$0.00	\$0.00	4.18	0.97	0.00	0.00	0.00	0.00	Heat Pump Maintenance (Tune-up)	
Heat Pump	Water Source Heat Pump (>= 135 kBtu/hr and < 375 kBtu/hr) Cooling	Hospital	Discretionary	7,941.9	2.63	2.04	0.00	0.00	0.0	0.0	0.0	15	\$1,983.34	\$1,388.34	\$0.17	\$0.00	\$0.00	14.02	0.97	0.00	0.00	0.00	0.00	14 EER, 4.6 COP	
Heat Pump	Water Source Heat Pump (>= 135 kBtu/hr and < 375 kBtu/hr) Cooling	Hospital	Lost Opportunity	6,353.6	2.11	1.63	0.00	0.00	0.0	0.0	0.0	15	\$1,586.67	\$1,110.67	\$0.11	\$0.00	\$0.00	14.02	0.97	0.00	0.00	0.00	0.00	14 EER, 4.6 COP	
Heat Pump	Wi-Fi Thermostat	Hospital	Discretionary	7,885.2	2.61	2.03	0.00	0.00	0.0	0.0	0.0	11	\$1,490.16	\$1,043.11	\$0.17	\$0.00	\$0.00	13.30	0.97	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)	
Heat Pump	Windows - CBES 2015 - Above Code	Hospital	Discretionary	1,087.8	0.36	0.28	0.00	0.00	0.0	0.0	0.0	20	\$18,550.74	\$12,985.52	\$0.17	\$0.00	\$0.00	0.28	0.97	0.00	0.00	0.00	0.00	U-0.29	
Heat Pump	Windows - CBES 2015 - Above Code	Hospital	Lost Opportunity	1,087.8	0.36	0.28	0.00	0.00	0.0	0.0	0.0	20	\$18,550.74	\$12,985.52	\$0.11	\$0.00	\$0.00	0.28	0.97	0.00	0.00	0.00	0.00	U-0.29	
Heat Pump	Windows - CBES 2015 - Code	Hospital	Discretionary	2,550.9	0.85	0.66	0.00	0.00	0.0	0.0	0.0	20	\$122,502.18	\$85,751.52	\$0.17	\$0.00	\$0.00	0.10	0.97	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	Hospital	Discretionary	56,768.9	0.63	11.94	0.00	0.00	0.0	0.0	0.0	8	\$3,847.83	\$2,693.48	\$0.17	\$0.00	\$0.00	14.53	0.98	0.00	0.00	0.00	0.00	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time	
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	Hospital	Discretionary	52,984.3	0.59	11.14	0.00	0.00	0.0	0.0	0.0	8	\$219.51	\$153.65	\$0.17	\$0.00	\$0.00	237.79	0.98	0.00	0.00	0.00	0.00	Photocell	
Lighting Exterior	LED Exterior Flood Lights	Hospital	Discretionary	18,383.0	0.20	3.87	0.00	0.00	0.0	0.0	0.0	20	\$12,125.48	\$8,487.83	\$0.17	\$0.00	\$0.00	3.73	0.98	0.00	0.00	0.00	0.00	LED Exterior Flood Lights	
Lighting Exterior	LED Exterior Flood Lights	Hospital	Lost Opportunity	18,383.0	0.20	3.87	0.00	0.00	0.0	0.0	0.0	20	\$12,125.48	\$8,487.83	\$0.11	\$0.00	\$0.00	3.73	0.98	0.00	0.00	0.00	0.00	LED Exterior Flood Lights	
Lighting Exterior	LED Exterior Pole Mount Fixture	Hospital	Discretionary	10,475.6	0.12	2.20	0.00	0.00	0.0	0.0	0.0	15	\$20,541.29	\$14,378.90	\$0.17	\$0.00	\$0.00	0.94	0.98	0.00	0.00	0.00	0.00	LED Exterior Pole Mount Fixture	
Lighting Exterior	LED Exterior Pole Mount Fixture	Hospital	Lost Opportunity	10,475.6	0.12	2.20	0.00	0.00	0.0	0.0	0.0	15	\$20,541.29	\$14,378.90	\$0.11	\$0.00	\$0.00	0.94	0.98	0.00	0.00	0.00	0.00	LED Exterior Pole Mount Fixture	
Lighting Exterior	LED Exterior Wall Pack	Hospital	Discretionary	34,730.3	0.38	7.30	0.00	0.00	0.0	0.0	0.0	20	\$72,070.79	\$50,449.55	\$0.17	\$0.00	\$0.00	1.19	0.98	0.00	0.00	0.00	0.00	LED Exterior Wall Pack	
Lighting Exterior	LED Exterior Wall Pack	Hospital	Lost Opportunity	34,730.3	0.38	7.30	0.00	0.00	0.0	0.0	0.0	20	\$72,070.79	\$50,449.55	\$0.11	\$0.00	\$0.00	1.19	0.98	0.00	0.00	0.00	0.00	LED Exterior Wall Pack	
Lighting Exterior	LED Pathway Lights	Hospital	Discretionary	8,651.0	0.10	1.82	0.00	0.00	0.0	0.0	0.0	11	\$2,046.89	\$1,432.83	\$0.17	\$0.00	\$0.00	5.73	0.98	0.00	0.00	0.00	0.00	LED Pathway Lights	
Lighting Exterior	LED Pathway Lights	Hospital	Lost Opportunity	8,651.0	0.10	1.82	0.00	0.00	0.0	0.0	0.0	11	\$2,046.89	\$1,432.83	\$0.11	\$0.00	\$0.00	5.73	0.98	0.00	0.00	0.00	0.00	LED Pathway Lights	
Lighting Exterior	Occupancy Sensor Control	Hospital	Discretionary	45,415.1	0.50	9.55	0.00	0.00	0.0	0.0	0.0	10	\$139,315.86	\$97,521.10	\$0.17	\$0.00	\$0.00	0.40	0.98	0.00	0.00	0.00	0.00	Occupancy Sensor Control	
Lighting Exterior	Parking - Covered Lighting	Hospital	Discretionary	1,934.9	0.02	0.41	0.00	0.00	0.0	0.0	0.0	19	\$1,410.85	\$987.60	\$0.17	\$0.00	\$0.00	3.21	0.98	0.00	0.00	0.00	0.00	Covered Parking Lighting (LED)	
Lighting Exterior	Parking - Covered Lighting	Hospital	Lost Opportunity	1,934.9	0.02	0.41	0.00	0.00	0.0	0.0	0.0	19	\$1,410.85	\$987.60	\$0.11	\$0.00	\$0.00	3.21	0.98	0.00	0.00	0.00	0.00	Covered Parking Lighting (LED)	
Lighting Exterior	Parking - Surface Lighting	Hospital	Discretionary	1,045.4	0.01	0.22	0.00	0.00	0.0	0.0	0.0	10	\$537.07	\$375.95	\$0.17	\$0.00	\$0.00	2.40	0.98	0.00	0.00	0.00	0.00	Surface Parking Lighting (LED)	
Lighting Exterior	Parking - Surface Lighting	Hospital	Lost Opportunity	1,045.4	0.01	0.22	0.00	0.00	0.0	0.0	0.0	10	\$537.07	\$375.95	\$0.11	\$0.00	\$0.00	2.40	0.98	0.00	0.00	0.00	0.00	Surface Parking Lighting (LED)	
Lighting Exterior	Time Clock	Hospital	Discretionary	18,923.0	0.21	3.98	0.00	0.00	0.0	0.0	0.0	8	\$373.75	\$261.62	\$0.17	\$0.00	\$0.00	49.88	0.98	0.00	0.00	0.00	0.00	Time Clock	
Lighting Interior Fluorescent	Bi-Level Control, Stairwell Lighting	Hospital	Discretionary	169.8	0.03	0.02	0.00	0.00	0.0	0.0	0.0	8	\$1,740.10	\$1,218.07	\$0.17	\$0.00	\$0.00	0.14	0.98	0.00	0.00	0.00	0.00	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time	
Lighting Interior Fluorescent	Dimming-Continuous, Fluorescent Fixtures	Hospital	Discretionary	167,114.2	32.42	22.39	0.00	0.00	0.0	0.0	0.0	10	\$1,991.26	\$1,393.88	\$0.17	\$0.00	\$0.00	156.25	0.98	0.00	0.00	0.00	0.00	Continuous Dimming, Fluorescent Fixtures (Day-Lighting)	
Lighting Interior Fluorescent	Dimming-Stepped, Fluorescent Fixtures	Hospital	Discretionary	167,114.2	32.42	22.39	0.00	0.00	0.0	0.0	0.0	10	\$1,991.26	\$1,393.88	\$0.17	\$0.00	\$0.00	156.25	0.98	0.00	0.00	0.00	0.00	3-stepped Dimming of Fluorescent Fixtures (Day-Lighting)	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent - 2018 Federal Standard	Hospital	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.07	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	Standard Fluorescent 2018 Federal Standard Approved T-8	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 - Above Standard	Hospital	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.07	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 Interior Lighting	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 High Performance - Above Standard	Hospital	Lost Opportunity	0.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.06	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 High Performance Interior Lighting	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 Reduced Wattage - Above Standard	Hospital	Lost Opportunity	0.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.01	\$0.00	\$0.17	\$0.00	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 Reduced Wattage Interior Lighting	
Lighting Interior Fluorescent	Lighting Interior - TLED - Above Standard	Hospital	Lost Opportunity	2.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.27	\$0.19	\$0.17	-\$0.02	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	Above Standard TLED	
Lighting Interior Fluorescent	Occupancy Sensor Control	Hospital	Discretionary	143,240.8	27.79	19.19	0.00	0.00	0.0	0.0	0.0	10	\$439,406.54	\$307,584.58	\$0.17	\$0.00	\$0.00	0.61	0.98	0.00	0.00	0.00	0.00	Occupancy Sensor Control	
Lighting Interior Fluorescent	Time Clock	Hospital	Discretionary	59,683.7	11.58	8.00	0.00	0.00	0.0	0.0	0.0	8	\$373.75	\$261.62	\$0.17	\$0.00	\$0.00	235.80	0.98	0.00	0.00	0.00	0.00	Time Clock	
Lighting Interior Fluorescent - Early Replacement	Early Replacement Lighting Interior - TLED - Above Standard	Hospital	Discretionary	84,568.5	16.41	11.33	0.00	0.00	0.0	0.0	0.0	15	\$19,427.27	\$13,599.09	\$0.17	-\$301.47	\$0.00	15.20	0.98	0.00	0.00	0.00	0.00	Above Standard TLED	
Lighting Interior HID	Lighting Interior - Efficient Metal Halide - Above Standard	Hospital	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.11	\$0.08	\$0.17	-\$0.01	\$0.00	25.61	0.98	0.00	0.00	0.00	0.00	Efficient Metal Halide	
Lighting Interior HID	Lighting Interior - Federal Standard 2017 Metal Halide - Above Standard	Hospital	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.13	\$0.09	\$0.17	\$0.00	\$0.00	2.29	0.98	0.00	0.00	0.00	0.00	Federal Standard 2017 Metal Halide	
Lighting Interior HID	Lighting Interior - High Bay Fluorescent High Output - Above Standard	Hospital	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.35	\$0.24	\$0.17	\$0.03	\$0.00	1.34	0.98	0.00	0.00	0.00	0.00	High Bay Fluorescent High Output (HO)	
Lighting Interior HID	Lighting Interior - High Bay Induction - Above Standard	Hospital	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.34	\$0.24	\$0.17	-\$0.02	\$0.00	6.33	0.98	0.00	0.00	0.00	0.00	High Bay Induction	
Lighting Interior HID	Lighting Interior - High Bay LED - Above Standard	Hospital	Lost Opportunity	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.40	\$0.28	\$0.17	-\$0.01	\$0.00	5.66	0.98	0.00	0.00	0.00	0.00	High Bay LED	
Lighting Interior HID	Occupancy Sensor Control	Hospital	Discretionary	39,399.5	7.64	5.28	0.00	0.00	0.0	0.0	0.0	10	\$120,862.20	\$84,603.54	\$0.17	\$0.00	\$0.00	0.61	0.98	0.00	0.00	0.00	0.00	Occupancy Sensor Control	
Lighting Interior HID	Time Clock	Hospital	Discretionary	16,416.5	3.18	2.20	0.00	0.00	0.0	0.0	0.0	8	\$373.75	\$261.62	\$0.17	\$0.00	\$0.00	64.86	0.98	0.00	0.00	0.00	0.00	Time Clock	
Lighting Interior Other	Exit Sign - LED	Hospital	Discretionary	3,619.1	0.70	0.48	0.00	0.00	0.0	0.0	0.0	16	\$5,088.00	\$3,561.60	\$0.17	\$0.00	\$0.00	2.16	0.98	0.00	0.00	0.00	0.00	LED Exit Sign	
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Hospital	Discretionary	4,505.7	0.87	0.60	0.00	0.00	0.0	0.0	0.0	16	-\$774.63	\$0.00	\$0.17	\$0.00	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	Photoluminescent or Tritium	
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Hospital	Lost Opportunity	4,505.7	0.87	0.60	0.00	0.00	0.0	0.0	0.0	16	-\$774.63	\$0.00	\$0.11	\$0.00	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	Photoluminescent or Tritium	
Lighting Interior Other	New Construction Lighting Package - Advanced Efficiency	Hospital	New Construction	1.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.60	\$0.42	\$0.11	-\$0.06	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	Advanced Efficiency Lighting Package - 25% LPD Reduction	
Lighting Interior Other	New Construction Lighting Package - High Efficiency	Hospital	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.12	\$0.08	\$0.11	-\$0.01	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	High Efficiency Lighting Package - 15% LPD Reduction	
Lighting Interior Other	New Construction Lighting Package - Premium Efficiency	Hospital	Lost Opportunity	0.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.33	\$0.23	\$0.11	-\$0.03	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	Premium Efficiency Lighting Package - 20% LPD Reduction	
Lighting Interior Other	Occupancy Sensor Control	Hospital	Discretionary	2,171.4	0.42	0.29	0.00	0.00	0.0	0.0	0.0	10	\$6,661.10	\$4,662.77	\$0.17	\$0.00	\$0.00	0.61	0.98	0.00	0.00	0.00	0.00	Occupancy Sensor Control	
Lighting Interior Other	Time Clock	Hospital	Discretionary	904.8	0.18	0.12	0.00	0.00	0.0	0.0	0.0	8	\$373.75	\$261.62	\$0.17	\$0.00	\$0.00	3.57	0.98	0.00	0.00	0.00	0.00	Time Clock	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	Hospital	Lost Opportunity	4.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3	\$0.09	\$0.07	\$0.17	-\$0.10	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	CFL	



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Refrigeration	Demand Control Defrost - Hot Gas	Hospital	Discretionary	3,166.2	0.42	0.37	0.00	0.00	0.0	0.0	0.0	10	\$5,067.59	\$3,547.32	\$0.17	\$0.00	\$0.00	1.02	0.98	0.00	0.00	0.00	0.00	Refrigerant Defrost	
Refrigeration	Display Case Electronically Commutated Motor - Low Temp	Hospital	Discretionary	1,287.6	0.17	0.15	0.00	0.00	0.0	0.0	0.0	15	\$921.38	\$644.97	\$0.17	\$0.00	\$0.00	3.47	0.98	0.00	0.00	0.00	0.00	ECM Evaporator Fans - Low Temp	
Refrigeration	Display Case Electronically Commutated Motor - Medium Temp	Hospital	Discretionary	318.6	0.04	0.04	0.00	0.00	0.0	0.0	0.0	15	\$227.96	\$159.57	\$0.17	\$0.00	\$0.00	3.47	0.98	0.00	0.00	0.00	0.00	ECM Evaporator Fans - Medium Temp	
Refrigeration	Display Case LEDs (Closed Cases)	Hospital	Discretionary	1,001.7	0.13	0.12	0.00	0.00	0.0	0.0	0.0	8	\$596.80	\$417.76	\$0.17	\$0.00	\$0.00	2.18	0.98	0.00	0.00	0.00	0.00	Display Case LEDs (Closed Cases)	
Refrigeration	Display Case LEDs (Closed Cases)	Hospital	Lost Opportunity	1,001.7	0.13	0.12	0.00	0.00	0.0	0.0	0.0	8	\$265.36	\$185.75	\$0.11	\$0.00	\$0.00	4.90	0.98	0.00	0.00	0.00	0.00	Display Case LEDs (Closed Cases)	
Refrigeration	Display Case LEDs (Open Cases)	Hospital	Discretionary	441.1	0.06	0.05	0.00	0.00	0.0	0.0	0.0	7	\$308.79	\$216.15	\$0.17	-\$10.99	\$0.00	2.07	0.98	0.00	0.00	0.00	0.00	Display Case LEDs (Open Cases)	
Refrigeration	Display Case LEDs (Open Cases)	Hospital	Lost Opportunity	441.1	0.06	0.05	0.00	0.00	0.0	0.0	0.0	7	\$162.95	\$114.07	\$0.11	-\$9.42	\$0.00	4.78	0.98	0.00	0.00	0.00	0.00	Display Case LEDs (Open Cases)	
Refrigeration	Display Case Motion Sensors	Hospital	Discretionary	387.5	0.05	0.05	0.00	0.00	0.0	0.0	0.0	8	\$90.41	\$63.29	\$0.17	\$0.00	\$0.00	5.57	0.98	0.00	0.00	0.00	0.00	Display Case Motion Sensors	
Refrigeration	Evaporator Fan Controller - Low Temp	Hospital	Discretionary	230.4	0.03	0.03	0.00	0.00	0.0	0.0	0.0	16	\$179.20	\$125.44	\$0.17	\$0.00	\$0.00	3.42	0.98	0.00	0.00	0.00	0.00	ECM Evaporator Fan Controller - Low Temp	
Refrigeration	Evaporator Fan Controller - Low Temp	Hospital	Lost Opportunity	230.4	0.03	0.03	0.00	0.00	0.0	0.0	0.0	16	\$179.20	\$125.44	\$0.11	\$0.00	\$0.00	3.42	0.98	0.00	0.00	0.00	0.00	ECM Evaporator Fan Controller - Low Temp	
Refrigeration	Evaporator Fan Controller - Medium Temp	Hospital	Discretionary	359.4	0.05	0.04	0.00	0.00	0.0	0.0	0.0	16	\$334.62	\$234.24	\$0.17	\$0.00	\$0.00	2.85	0.98	0.00	0.00	0.00	0.00	ECM Evaporator Fan Controller - Medium Temp	
Refrigeration	Evaporator Fan Controller - Medium Temp	Hospital	Lost Opportunity	359.4	0.05	0.04	0.00	0.00	0.0	0.0	0.0	16	\$334.62	\$234.24	\$0.11	\$0.00	\$0.00	2.85	0.98	0.00	0.00	0.00	0.00	ECM Evaporator Fan Controller - Medium Temp	
Refrigeration	Floating Condenser Head Pressure Controls	Hospital	Discretionary	25,891.1	3.41	3.05	0.00	0.00	0.0	0.0	0.0	15	\$8,324.17	\$5,826.92	\$0.17	\$0.00	\$0.00	7.73	0.98	0.00	0.00	0.00	0.00	Floating Condenser Head Pressure Controls	
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Hospital	Discretionary	1,508.2	0.20	0.18	0.00	0.00	0.0	0.0	0.0	9	\$204.82	\$143.37	\$0.17	\$0.00	\$0.00	10.81	0.98	0.00	0.00	0.00	0.00	Glass Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Hospital	Lost Opportunity	1,508.2	0.20	0.18	0.00	0.00	0.0	0.0	0.0	9	\$204.82	\$143.37	\$0.11	\$0.00	\$0.00	10.81	0.98	0.00	0.00	0.00	0.00	Glass Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Ice Maker - High Efficiency	Hospital	Discretionary	7,332.2	0.97	0.86	0.00	0.00	0.0	0.0	0.0	8	\$467.82	\$327.47	\$0.17	\$0.00	\$0.00	20.36	0.98	0.00	0.00	0.00	0.00	High Efficiency Ice Maker	
Refrigeration	Ice Maker - High Efficiency	Hospital	Lost Opportunity	7,332.2	0.97	0.86	0.00	0.00	0.0	0.0	0.0	8	\$467.82	\$327.47	\$0.11	\$0.00	\$0.00	20.36	0.98	0.00	0.00	0.00	0.00	High Efficiency Ice Maker	
Refrigeration	Night Covers for Display Cases	Hospital	Discretionary	575.0	0.08	0.07	0.00	0.00	0.0	0.0	0.0	5	\$102.58	\$71.81	\$0.17	\$10.40	\$0.00	3.04	0.98	0.00	0.00	0.00	0.00	Night Covers for Display Cases	
Refrigeration	Night Covers for Display Cases	Hospital	Lost Opportunity	575.0	0.08	0.07	0.00	0.00	0.0	0.0	0.0	5	\$102.58	\$71.81	\$0.11	\$10.40	\$0.00	3.04	0.98	0.00	0.00	0.00	0.00	Night Covers for Display Cases	
Refrigeration	No Heat Case Doors	Hospital	Discretionary	1,725.6	0.23	0.20	0.00	0.00	0.0	0.0	0.0	15	\$1,236.95	\$865.87	\$0.17	\$0.00	\$0.00	3.47	0.98	0.00	0.00	0.00	0.00	No Heat Case Doors	
Refrigeration	No Heat Case Doors	Hospital	Lost Opportunity	1,725.6	0.23	0.20	0.00	0.00	0.0	0.0	0.0	15	\$1,236.95	\$865.87	\$0.11	\$0.00	\$0.00	3.47	0.98	0.00	0.00	0.00	0.00	No Heat Case Doors	
Refrigeration	Refrigeration Commissioning or Re-commissioning	Hospital	Discretionary	34,043.7	4.49	4.01	0.00	0.00	0.0	0.0	0.0	7	\$8,774.55	\$6,142.18	\$0.17	\$0.00	\$0.00	4.38	0.98	0.00	0.00	0.00	0.00	Commissioning / Re-commissioning	
Refrigeration	Refrigeration Commissioning or Re-commissioning	Hospital	Lost Opportunity	34,043.7	4.49	4.01	0.00	0.00	0.0	0.0	0.0	7	\$8,774.55	\$6,142.18	\$0.11	\$0.00	\$0.00	4.38	0.98	0.00	0.00	0.00	0.00	Commissioning / Re-commissioning	
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Hospital	Discretionary	1,119.6	0.15	0.13	0.00	0.00	0.0	0.0	0.0	9	\$204.82	\$143.37	\$0.17	\$0.00	\$0.00	8.02	0.98	0.00	0.00	0.00	0.00	Solid Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Hospital	Lost Opportunity	1,119.6	0.15	0.13	0.00	0.00	0.0	0.0	0.0	9	\$204.82	\$143.37	\$0.11	\$0.00	\$0.00	8.02	0.98	0.00	0.00	0.00	0.00	Solid Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Strip Curtains for Walk-Ins	Hospital	Discretionary	2,940.8	0.39	0.35	0.00	0.00	0.0	0.0	0.0	4	\$2,115.93	\$1,481.15	\$0.17	\$0.00	\$0.00	0.87	0.98	0.00	0.00	0.00	0.00	Strip Curtains for Walk-Ins	
Refrigeration	Walk-In Electronically Commutated Motor	Hospital	Discretionary	955.4	0.13	0.11	0.00	0.00	0.0	0.0	0.0	15	\$220.13	\$154.09	\$0.17	\$0.00	\$0.00	10.79	0.98	0.00	0.00	0.00	0.00	ECM Condensor Fans - Low Temp	
Refrigeration	Walk-In Electronically Commutated Motor	Hospital	Discretionary	1,033.0	0.14	0.12	0.00	0.00	0.0	0.0	0.0	15	\$269.05	\$188.33	\$0.17	\$0.00	\$0.00	9.54	0.98	0.00	0.00	0.00	0.00	ECM Condensor Fans - Medium Temp	
Refrigeration	Walk-In Electronically Commutated Motor	Hospital	Discretionary	955.4	0.13	0.11	0.00	0.00	0.0	0.0	0.0	15	\$220.13	\$154.09	\$0.17	\$0.00	\$0.00	10.79	0.98	0.00	0.00	0.00	0.00	ECM Evaporator Fans - Low Temp	
Refrigeration	Walk-In Electronically Commutated Motor	Hospital	Discretionary	1,033.0	0.14	0.12	0.00	0.00	0.0	0.0	0.0	15	\$269.05	\$188.33	\$0.17	\$0.00	\$0.00	9.54	0.98	0.00	0.00	0.00	0.00	ECM Evaporator Fans - Medium Temp	
Refrigeration	Walk-in Economizer	Hospital	Discretionary	7,867.0	1.04	0.93	0.00	0.00	0.0	0.0	0.0	15	\$3,823.47	\$2,676.43	\$0.17	\$0.00	\$0.00	5.11	0.98	0.00	0.00	0.00	0.00	Add Economizer to Walk-in Cooler	
Refrigeration	Walk-in Economizer	Hospital	Lost Opportunity	7,867.0	1.04	0.93	0.00	0.00	0.0	0.0	0.0	15	\$3,823.47	\$2,676.43	\$0.11	\$0.00	\$0.00	5.11	0.98	0.00	0.00	0.00	0.00	Add Economizer to Walk-in Cooler	
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.00	\$0.17	\$0.00	\$0.00	1.23	1.00	0.00	0.00	0.00	0.00	CEE Tier 2 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.00	\$0.11	\$0.00	\$0.00	1.23	1.00	0.00	0.00	0.00	0.00	CEE Tier 2 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	1.15	1.00	0.00	0.00	0.00	0.00	CEE Tier 3 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	1.15	1.00	0.00	0.00	0.00	0.00	CEE Tier 3 Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	1.26	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	1.26	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	1.27	1.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	1.27	1.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Refrigerator	
Refrigerators	Residential Refrigerator Recycling and Replacement	Hospital	Discretionary	2,948.1	0.34	0.34	0.00	0.00	0.0	0.0	0.0	8	\$1,534.91	\$1,074.43	\$0.17	\$0.00	\$0.00	2.41	1.00	0.00	0.00	0.00	0.00	Recycling Existing Refrigerator and Replacing with a Federal Standard Unit	
Room Cool	Ductless Air Conditioner (DAC)	Hospital	Discretionary	1,396.7	0.63	0.00	0.00	0.00	0.0	0.0	0.0	15	\$33,756.15	\$23,629.30	\$0.17	\$0.00	\$0.00	0.17	0.97	0.00	0.00	0.00	0.00	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Air Conditioner (DAC)	Hospital	Lost Opportunity	1,396.7	0.63	0.00	0.00	0.00	0.0	0.0	0.0	15	\$33,756.15	\$23,629.30	\$0.11	\$0.00	\$0.00	0.17	0.97	0.00	0.00	0.00	0.00	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Heat Pump (DHP)	Hospital	Discretionary	3,805.3	1.72	0.00	0.00	0.00	0.0	0.0	0.0	15	\$57,514.57	\$40,260.20	\$0.17	\$0.00	\$0.00	0.27	0.97	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP)	Hospital	Lost Opportunity	3,805.3	1.72	0.00	0.00	0.00	0.0	0.0	0.0	15	\$57,514.57	\$40,260.20	\$0.11	\$0.00	\$0.00	0.27	0.97	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Hospital	Discretionary	4,006.2	1.81	0.00	0.00	0.00	0.0	0.0	0.0	15	\$58,889.50	\$41,222.65	\$0.17	\$0.00	\$0.00	0.28	0.97	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Hospital	Lost Opportunity	4,006.2	1.81	0.00	0.00	0.00	0.0	0.0	0.0	15	\$58,889.50	\$41,222.65	\$0.11	\$0.00	\$0.00	0.28	0.97	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0	
Room Cool	Exhaust Hood Makeup Air	Hospital	Discretionary	291.1	0.13	0.00	0.00	0.00	0.0	0.0	0.0	12	\$261.54	\$183.08	\$0.17	\$0.00	\$0.00	3.54	0.97	0.00	0.00	0.00	0.00	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Room Cool	Green Roof	Hospital	Discretionary	34.4	0.02	0.00	0.00	0.00	0.0	0.0	0.0	40	\$853,910.23	\$597,737.16	\$0.17	\$8,539.10	\$0.00	0.00	0.97	0.00	0.00	0.00	0.00	Vegetation on Roof	
Room Cool	Green Roof	Hospital	Lost Opportunity	25.5	0.01	0.00	0.00	0.00	0.0	0.0	0.0	40	\$853,910.23	\$597,737.16	\$0.11	\$8,539.10	\$0.00	0.00	0.97	0.00	0.00	0.00	0.00	Vegetation on Roof	
Room Cool	Infiltration Reduction	Hospital																							



Appendix B.4		BED Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Hospital	Discretionary	204,107.3	0.43	82.10	0.00	0.00	0.0	0.0	0.0	30	\$48,957.52	\$34,270.26	\$0.17	\$0.00	\$0.00	15.65	0.96	0.00	0.00	0.00	0.00	R-30 (CBES 2015 Code)
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Hospital	Discretionary	95,906.0	0.20	38.58	0.00	0.00	0.0	0.0	0.0	30	\$9,951.58	\$6,966.11	\$0.17	\$0.00	\$0.00	36.17	0.96	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Hospital	Lost Opportunity	95,906.0	0.20	38.58	0.00	0.00	0.0	0.0	0.0	30	\$9,951.58	\$6,966.11	\$0.11	\$0.00	\$0.00	36.17	0.96	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Code	Hospital	Discretionary	105,311.8	0.22	42.36	0.00	0.00	0.0	0.0	0.0	30	\$68,288.33	\$47,801.83	\$0.17	\$0.00	\$0.00	5.79	0.96	0.00	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Electric	Windows - CBES 2015 - Above Code	Hospital	Discretionary	8,246.0	0.02	3.32	0.00	0.00	0.0	0.0	0.0	20	\$18,550.74	\$12,985.52	\$0.17	\$0.00	\$0.00	1.11	0.96	0.00	0.00	0.00	0.00	U-0.29
Room Heat - Electric	Windows - CBES 2015 - Above Code	Hospital	Lost Opportunity	8,246.0	0.02	3.32	0.00	0.00	0.0	0.0	0.0	20	\$18,550.74	\$12,985.52	\$0.11	\$0.00	\$0.00	1.11	0.96	0.00	0.00	0.00	0.00	U-0.29
Room Heat - Electric	Windows - CBES 2015 - Code	Hospital	Discretionary	19,337.3	0.04	7.78	0.00	0.00	0.0	0.0	0.0	20	\$122,502.18	\$85,751.52	\$0.17	\$0.00	\$0.00	0.39	0.96	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Servers	Internal Power Supply / Server	Hospital	Discretionary	491.0	0.07	0.04	0.00	0.00	0.0	0.0	0.0	4	\$143.57	\$100.50	\$0.17	\$0.00	\$0.00	2.22	1.00	0.00	0.00	0.00	0.00	80 Plus power supply for Desktop Derived Server
Servers	Internal Power Supply / Server	Hospital	Lost Opportunity	491.0	0.07	0.04	0.00	0.00	0.0	0.0	0.0	4	\$143.57	\$100.50	\$0.11	\$0.00	\$0.00	2.22	1.00	0.00	0.00	0.00	0.00	80 Plus power supply for Desktop Derived Server
Servers	Server - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.11	\$0.07	\$0.17	\$0.00	\$0.00	0.32	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Server
Servers	Server - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.11	\$0.07	\$0.11	\$0.00	\$0.00	0.32	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Server
Space Heat - Electric	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Hospital	Discretionary	570,776.2	1.21	229.60	0.00	0.00	0.0	0.0	0.0	15	\$51,641.76	\$36,149.23	\$0.17	\$0.00	\$0.00	20.68	0.96	0.00	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Electric	Commissioning	Hospital	Lost Opportunity	843,192.1	1.79	339.18	0.00	0.00	0.0	0.0	0.0	5	\$239,617.77	\$167,732.44	\$0.11	\$0.00	\$0.00	2.19	0.96	0.00	0.00	0.00	0.00	Commissioning
Space Heat - Electric	Convert Constant Volume Air System to VAV	Hospital	Discretionary	1,703,832.3	3.61	685.38	0.00	0.00	0.0	0.0	0.0	15	\$502,134.97	\$351,494.48	\$0.17	\$0.00	\$0.00	6.35	0.96	0.00	0.00	0.00	0.00	Variable Volume Air System
Space Heat - Electric	Direct Digital Control System-Installation	Hospital	Discretionary	972,914.0	2.06	391.36	0.00	0.00	0.0	0.0	0.0	5	\$64,552.20	\$45,186.54	\$0.17	\$0.00	\$0.00	9.37	0.96	0.00	0.00	0.00	0.00	Installation of EMS System
Space Heat - Electric	Direct Digital Control System-Installation	Hospital	Lost Opportunity	972,914.0	2.06	391.36	0.00	0.00	0.0	0.0	0.0	5	\$64,552.20	\$45,186.54	\$0.11	\$0.00	\$0.00	9.37	0.96	0.00	0.00	0.00	0.00	Installation of EMS System
Space Heat - Electric	Duct Repair and Sealing	Hospital	Discretionary	564,008.1	1.19	226.88	0.00	0.00	0.0	0.0	0.0	18	\$49,576.09	\$34,703.26	\$0.17	\$0.00	\$0.00	25.48	0.96	0.00	0.00	0.00	0.00	Reduction In Duct Losses to 5 %
Space Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Hospital	Discretionary	972,914.0	2.06	391.36	0.00	0.00	0.0	0.0	0.0	14	\$403,489.61	\$282,442.73	\$0.17	\$0.00	\$0.00	4.22	0.96	0.00	0.00	0.00	0.00	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Electric	Indirect Information Feedback	Hospital	Discretionary	33,748.8	0.07	13.58	0.00	0.00	0.0	0.0	0.0	2	\$112,292.84	\$78,604.99	\$0.17	\$0.00	\$0.00	0.07	0.96	0.00	0.00	0.00	0.00	Indirect Information Feedback
Space Heat - Electric	Indirect Information Feedback	Hospital	Lost Opportunity	33,748.8	0.07	13.58	0.00	0.00	0.0	0.0	0.0	2	\$112,292.84	\$78,604.99	\$0.11	\$0.00	\$0.00	0.07	0.96	0.00	0.00	0.00	0.00	Indirect Information Feedback
Space Heat - Electric	Infiltration Reduction	Hospital	Discretionary	648,609.3	1.37	260.91	0.00	0.00	0.0	0.0	0.0	10	\$3,137.02	\$2,195.92	\$0.17	\$0.00	\$0.00	260.27	0.96	0.00	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Hospital	Discretionary	345,159.3	0.73	138.84	0.00	0.00	0.0	0.0	0.0	30	\$9,606.49	\$6,724.54	\$0.17	\$0.00	\$0.00	134.86	0.96	0.00	0.00	0.00	0.00	R-35 c.i.
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Hospital	Lost Opportunity	345,159.3	0.73	138.84	0.00	0.00	0.0	0.0	0.0	30	\$9,606.49	\$6,724.54	\$0.11	\$0.00	\$0.00	134.86	0.96	0.00	0.00	0.00	0.00	R-35 c.i.
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Hospital	Discretionary	1,182,561.7	2.50	475.70	0.00	0.00	0.0	0.0	0.0	30	\$43,834.06	\$30,683.84	\$0.17	\$0.00	\$0.00	101.26	0.96	0.00	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Hospital	Discretionary	233,499.4	0.49	93.93	0.00	0.00	0.0	0.0	0.0	20	\$2,801.57	\$1,961.10	\$0.17	\$0.00	\$0.00	207.29	0.96	0.00	0.00	0.00	0.00	R-12
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Hospital	Lost Opportunity	233,499.4	0.49	93.93	0.00	0.00	0.0	0.0	0.0	20	\$2,801.57	\$1,961.10	\$0.11	\$0.00	\$0.00	207.29	0.96	0.00	0.00	0.00	0.00	R-12
Space Heat - Electric	Insulation - Duct - CBES 2015 - Code	Hospital	Discretionary	233,499.4	0.49	93.93	0.00	0.00	0.0	0.0	0.0	20	\$11,283.72	\$7,898.61	\$0.17	\$0.00	\$0.00	51.47	0.96	0.00	0.00	0.00	0.00	R-8 (CBES 2015 Code)
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Hospital	Discretionary	508,655.8	1.08	204.61	0.00	0.00	0.0	0.0	0.0	30	\$17,078.20	\$11,954.74	\$0.17	\$0.00	\$0.00	111.79	0.96	0.00	0.00	0.00	0.00	R-38
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Hospital	Lost Opportunity	508,655.8	1.08	204.61	0.00	0.00	0.0	0.0	0.0	30	\$17,078.20	\$11,954.74	\$0.11	\$0.00	\$0.00	111.79	0.96	0.00	0.00	0.00	0.00	R-38
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Hospital	Discretionary	885,908.8	1.88	356.36	0.00	0.00	0.0	0.0	0.0	30	\$48,957.52	\$34,270.26	\$0.17	\$0.00	\$0.00	67.92	0.96	0.00	0.00	0.00	0.00	R-30 (CBES 2015 Code)
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Hospital	Discretionary	416,271.0	0.88	167.45	0.00	0.00	0.0	0.0	0.0	30	\$9,951.58	\$6,966.11	\$0.17	\$0.00	\$0.00	157.01	0.96	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Hospital	Lost Opportunity	416,271.0	0.88	167.45	0.00	0.00	0.0	0.0	0.0	30	\$9,951.58	\$6,966.11	\$0.11	\$0.00	\$0.00	157.01	0.96	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Space Heat - Electric	Insulation - Wall - CBES 2015 - Code	Hospital	Discretionary	457,096.1	0.97	183.87	0.00	0.00	0.0	0.0	0.0	30	\$68,288.33	\$47,801.83	\$0.17	\$0.00	\$0.00	25.12	0.96	0.00	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Electric	Programmable Thermostat	Hospital	Discretionary	259,443.7	0.55	104.36	0.00	0.00	0.0	0.0	0.0	11	\$187.07	\$130.95	\$0.17	\$0.00	\$0.00	1916.71	0.96	0.00	0.00	0.00	0.00	Programmable Thermostat
Space Heat - Electric	Re-Commissioning	Hospital	Discretionary	843,192.1	1.79	339.18	0.00	0.00	0.0	0.0	0.0	5	\$61,970.11	\$43,379.08	\$0.17	\$0.00	\$0.00	8.46	0.96	0.00	0.00	0.00	0.00	Re-Commissioning
Space Heat - Electric	Retrocommissioning	Hospital	Discretionary	962,103.9	2.04	387.01	0.00	0.00	0.0	0.0	0.0	5	\$103,283.52	\$72,298.47	\$0.17	\$0.00	\$0.00	5.79	0.96	0.00	0.00	0.00	0.00	Retrocommissioning
Space Heat - Electric	Strategic Energy Management (SEM)	Hospital	Discretionary	265,929.8	0.56	106.97	0.00	0.00	0.0	0.0	0.0	5	\$35,837.97	\$25,086.58	\$0.17	\$0.00	\$0.00	4.61	0.96	0.00	0.00	0.00	0.00	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Electric	Strategic Energy Management (SEM)	Hospital	Lost Opportunity	265,929.8	0.56	106.97	0.00	0.00	0.0	0.0	0.0	5	\$35,837.97	\$25,086.58	\$0.11	\$0.00	\$0.00	4.61	0.96	0.00	0.00	0.00	0.00	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Electric	Wi-Fi Thermostat	Hospital	Discretionary	259,443.7	0.55	104.36	0.00	0.00	0.0	0.0	0.0	11	\$1,490.16	\$1,043.11	\$0.17	\$0.00	\$0.00	240.61	0.96	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)
Space Heat - Electric	Windows - CBES 2015 - Above Code	Hospital	Discretionary	35,790.8	0.08	14.40	0.00	0.00	0.0	0.0	0.0	20	\$18,550.74	\$12,985.52	\$0.17	\$0.00	\$0.00	4.80	0.96	0.00	0.00	0.00	0.00	U-0.29
Space Heat - Electric	Windows - CBES 2015 - Above Code	Hospital	Lost Opportunity	35,790.8	0.08	14.40	0.00	0.00	0.0	0.0	0.0	20	\$18,550.74	\$12,985.52	\$0.11	\$0.00	\$0.00	4.80	0.96	0.00	0.00	0.00	0.00	U-0.29
Space Heat - Electric	Windows - CBES 2015 - Code	Hospital	Discretionary	83,931.6	0.18	33.76	0.00	0.00	0.0	0.0	0.0	20	\$122,502.18	\$85,751.52	\$0.17	\$0.00	\$0.00	1.70	0.96	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Vending Machines	Vending Machines - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Vending Machines - 3.84 kWh/day
Vending Machines	Vending Machines - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Vending Machines - 3.84 kWh/day
Vending Machines	Vending Machines - Federal Standard 2020	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Machines - Federal Standard 2020	Hospital	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Miser	Hospital	Discretionary	1,481.6	0.17	0.17	0.00	0.00	0.0	0.0	0.0	5	\$228.96	\$160.27	\$0.17	\$0.00	\$0.00	4.97	1.00	0.00	0.00	0.00	0.00	Vending Machine Occupancy Sensor
Vending Machines	Vending Miser	Hospital	Lost Opportunity	1,480.4	0.17	0.17	0.00	0.00	0.0	0.0	0.0	5	\$228.96	\$160.27	\$0.11	\$0.00	\$0.00	4.97	1.00	0.00	0.00	0.00	0.00	Vending Machine Occupancy Sensor
Ventilation And Circulation	Automated Exhaust VFD Control - Parking Garage CO sensor	Hospital	Discretionary	38,755.2	4.43	4.78	0.00	0.00	0.0	0.0	0.0	5	\$5,640.66	\$3,948.46	\$0.17	\$0.00	\$0.00							



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	Hospital	Discretionary	45,299.0	0.10	18.22	0.00	0.00	0.0	0.0	0.0	25	\$125,139.00	\$87,597.30	\$0.17	\$0.00	\$0.00	1.13	1.00	0.00	0.00	0.00	0.00	Install Heat Recovery Water Heater	
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	Hospital	Discretionary	547.2	0.00	0.22	0.00	0.00	0.0	0.0	0.0	20	\$64.44	\$45.11	\$0.17	\$0.00	\$0.00	21.12	1.00	0.00	0.00	0.00	0.00	R-3	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Hospital	Discretionary	10,030.5	0.02	4.03	0.00	0.00	0.0	0.0	741.5	9	\$413.13	\$289.19	\$0.17	\$0.00	\$0.00	43.07	1.00	0.00	0.00	0.00	0.00	0.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Hospital	Lost Opportunity	10,030.5	0.02	4.03	0.00	0.00	0.0	0.0	741.5	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Hospital	Discretionary	7,080.3	0.01	2.85	0.00	0.00	0.0	0.0	523.4	9	\$413.13	\$289.19	\$0.17	\$0.00	\$0.00	30.40	1.00	0.00	0.00	0.00	0.00	1.0 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Hospital	Lost Opportunity	7,080.3	0.01	2.85	0.00	0.00	0.0	0.0	523.4	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.0 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Hospital	Discretionary	4,130.2	0.01	1.66	0.00	0.00	0.0	0.0	305.3	9	\$413.13	\$289.19	\$0.17	\$0.00	\$0.00	17.73	1.00	0.00	0.00	0.00	0.00	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Hospital	Lost Opportunity	4,130.2	0.01	1.66	0.00	0.00	0.0	0.0	305.3	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Hospital	Discretionary	1,770.1	0.00	0.71	0.00	0.00	0.0	0.0	115.1	9	\$413.13	\$289.19	\$0.17	\$0.00	\$0.00	7.27	1.00	0.00	0.00	0.00	0.00	2.2 GPM (Federal Code)	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Hospital	Discretionary	67.6	0.00	0.03	0.00	0.00	0.0	0.0	12.9	5	\$12.82	\$8.98	\$0.17	\$0.00	\$0.00	8.41	1.00	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Hospital	Lost Opportunity	67.6	0.00	0.03	0.00	0.00	0.0	0.0	12.9	5	\$12.82	\$8.98	\$0.11	\$0.00	\$0.00	8.41	1.00	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Hospital	Discretionary	111.9	0.00	0.05	0.00	0.00	0.0	0.0	21.4	5	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Hospital	Lost Opportunity	111.9	0.00	0.05	0.00	0.00	0.0	0.0	21.4	5	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Hospital	Discretionary	179.5	0.00	0.07	0.00	0.00	0.0	0.0	34.4	5	\$12.82	\$8.98	\$0.17	\$0.00	\$0.00	22.34	1.00	0.00	0.00	0.00	0.00	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Hospital	Lost Opportunity	179.5	0.00	0.07	0.00	0.00	0.0	0.0	34.4	5	\$12.82	\$8.98	\$0.11	\$0.00	\$0.00	22.34	1.00	0.00	0.00	0.00	0.00	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Hospital	Discretionary	3,833.4	0.01	1.54	0.00	0.00	0.0	0.0	451.0	9	\$309.85	\$216.90	\$0.17	\$0.00	\$0.00	26.63	1.00	0.00	0.00	0.00	0.00	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Hospital	Lost Opportunity	3,833.4	0.01	1.54	0.00	0.00	0.0	0.0	451.0	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Hospital	Discretionary	2,875.1	0.01	1.16	0.00	0.00	0.0	0.0	338.2	9	\$309.85	\$216.90	\$0.17	\$0.00	\$0.00	19.97	1.00	0.00	0.00	0.00	0.00	1.75 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Hospital	Lost Opportunity	2,875.1	0.01	1.16	0.00	0.00	0.0	0.0	338.2	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.75 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Hospital	Discretionary	1,916.7	0.00	0.77	0.00	0.00	0.0	0.0	225.5	9	\$309.85	\$216.90	\$0.17	\$0.00	\$0.00	13.31	1.00	0.00	0.00	0.00	0.00	2.0 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Hospital	Lost Opportunity	1,916.7	0.00	0.77	0.00	0.00	0.0	0.0	225.5	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	2.0 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Hospital	Discretionary	1,916.7	0.00	0.77	0.00	0.00	0.0	0.0	225.5	9	\$309.85	\$216.90	\$0.17	\$0.00	\$0.00	13.31	1.00	0.00	0.00	0.00	0.00	2.5 GPM (Federal Code)	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Hospital	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2.67	\$1.87	\$0.17	\$0.99	\$0.00	0.04	1.00	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Hospital	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2.67	\$1.87	\$0.11	\$0.99	\$0.00	0.04	1.00	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Hospital	Discretionary	6,490.3	0.01	2.61	0.00	0.00	0.0	0.0	0.0	20	\$7,244.72	\$5,071.30	\$0.17	\$0.00	\$0.00	2.23	1.00	0.00	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Hospital	Lost Opportunity	6,490.3	0.01	2.61	0.00	0.00	0.0	0.0	0.0	20	\$7,244.72	\$5,071.30	\$0.11	\$0.00	\$0.00	2.23	1.00	0.00	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Hospital	Discretionary	28,136.0	0.06	11.32	0.00	0.00	0.0	0.0	0.0	10	\$15,812.67	\$11,068.87	\$0.17	\$0.00	\$0.00	2.24	1.00	0.00	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Hospital	Lost Opportunity	28,136.0	0.06	11.32	0.00	0.00	0.0	0.0	0.0	10	\$15,812.67	\$11,068.87	\$0.11	\$0.00	\$0.00	2.24	1.00	0.00	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Hospital	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.65	\$0.46	\$0.17	\$0.00	\$0.00	0.41	1.00	0.00	0.00	0.00	0.00	CO2 Heat Pump Water Heater	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Hospital	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.65	\$0.46	\$0.11	\$0.00	\$0.00	0.41	1.00	0.00	0.00	0.00	0.00	CO2 Heat Pump Water Heater	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Hospital	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.13	\$0.09	\$0.17	\$0.00	\$0.00	0.62	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Hospital	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.13	\$0.09	\$0.11	\$0.00	\$0.00	0.62	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Hospital	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.52	\$0.36	\$0.17	\$0.00	\$0.00	0.44	1.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Hospital	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.52	\$0.36	\$0.11	\$0.00	\$0.00	0.44	1.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Hospital	Discretionary	39,390.4	0.08	15.85	0.00	0.00	0.0	0.0	0.0	4	\$1.18	\$0.83	\$0.17	\$0.00	\$0.00	16503.92	1.00	0.00	0.00	0.00	0.00	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Hospital	Lost Opportunity	39,390.4	0.08	15.85	0.00	0.00	0.0	0.0	0.0	4	\$1.18	\$0.83	\$0.11	\$0.00	\$0.00	16503.92	1.00	0.00	0.00	0.00	0.00	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Tank Wrap	Hospital	Discretionary	79,253.7	0.17	31.88	0.00	0.00	0.0	0.0	0.0	7	\$4,902.90	\$3,432.03	\$0.17	\$0.00	\$0.00	14.21	1.00	0.00	0.00	0.00	0.00	Add R-10 Tank Wrap	
Water Heat LE 55 Gal	Clothes Washer - Ozonating	Hospital	Discretionary	2,601.1	0.01	1.05	0.00	0.00	0.0	0.0	1.0	10	\$14,482.10	\$10,137.47	\$0.17	\$0.00	\$0.00	0.23	1.00	0.00	0.00	0.00	0.00	Ozonating Clothes Washer	
Water Heat LE 55 Gal	Clothes Washer - Ozonating	Hospital	Lost Opportunity	2,601.1	0.01	1.05	0.00	0.00	0.0	0.0	1.0	10	\$14,482.10	\$10,137.47	\$0.11	\$0.00	\$0.00	0.23	1.00	0.00	0.00	0.00	0.00	Ozonating Clothes Washer	
Water Heat LE 55 Gal	Clothes Washer Commercial	Hospital	Discretionary	328.2	0.00	0.13	0.00	0.00	0.0	0.0	1.0	14	\$295.05	\$206.54	\$0.17	\$0.00	\$0.00	1.99	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Commercial Clothes Washer - MEF = 2.43, WF = 4.0	
Water Heat LE 55 Gal	Clothes Washer Commercial	Hospital	Lost Opportunity	328.2	0.00	0.13	0.00	0.00	0.0	0.0	1.0	14	\$295.05	\$206.54	\$0.11	\$0.00	\$0.00	1.99	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Commercial Clothes Washer - MEF = 2.43, WF = 4.0	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Hospital	Discretionary	70.8	0.00	0.03	0.00	0.00	0.0	0.0	6.4	13	\$78.96	\$55.27	\$0.17	\$0.00	\$0.00	2.42	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Hospital	Lost Opportunity	70.8	0.00	0.03	0.00	0.00	0.0	0.0	6.4	13	\$78.96	\$55.27	\$0.11	\$0.00	\$0.00	2.42	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Hospital	Discretionary	156.9	0.00	0.06	0.00	0.00	0.0	0.0	8.5	13	\$146.00	\$102.20	\$0.17	\$0.00	\$0.00	2.44	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Hospital	Lost Opportunity	156.9	0.00	0.06	0.00	0.00	0.0	0.0	8.5	13	\$146.00	\$102.20	\$0.11	\$0.00	\$0.00	2.44	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Hospital	Discretionary	85.7	0.00	0.03	0.00	0.00	0.0	0.0	3.5	14	\$13.18	\$9.23	\$0.17	\$0.00	\$0.00	14.75	1.00	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Hospital	Lost Opportunity	85.7	0.00	0.03	0.00	0.00	0.0	0.0	3.5	14	\$13.18	\$9.23	\$0.11	\$0.00	\$0.00	14.75	1.00	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Hospital	Discretionary	135.0	0.00	0.05	0.00	0.00	0.0	0.0	10.2	14	\$5.38	\$3.77	\$0.17	\$0.00	\$0.00	67.69	1.00	0.00	0.00	0.00	0.00	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Hospital	Lost Opportunity	135.0	0.00	0.05	0.00	0.00	0.0	0.0	10.2	14	\$5.38	\$3.77	\$0.11	\$0.00	\$0.00	67.69	1.00	0.00	0.00	0.00	0.00	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code</																								



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Hospital	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$7.69	\$5.38	\$0.11	\$2.01	\$0.00	0.04	1.00	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Hospital	Discretionary	6,490.3	0.01	2.61	0.00	0.00	0.0	0.0	0.0	20	\$7,244.72	\$5,071.30	\$0.17	\$0.00	\$0.00	2.23	1.00	0.00	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Hospital	Lost Opportunity	6,490.3	0.01	2.61	0.00	0.00	0.0	0.0	0.0	20	\$7,244.72	\$5,071.30	\$0.11	\$0.00	\$0.00	2.23	1.00	0.00	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Hospital	Discretionary	26,437.2	0.06	10.63	0.00	0.00	0.0	0.0	0.0	10	\$15,812.67	\$11,068.87	\$0.17	\$0.00	\$0.00	2.10	1.00	0.00	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Hospital	Lost Opportunity	26,437.2	0.06	10.63	0.00	0.00	0.0	0.0	0.0	10	\$15,812.67	\$11,068.87	\$0.11	\$0.00	\$0.00	2.10	1.00	0.00	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Hospital	Lost Opportunity	0.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$3.64	\$2.55	\$0.17	\$0.03	\$0.00	0.28	1.00	0.00	0.00	0.00	0.00	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Hospital	Lost Opportunity	0.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$3.64	\$2.55	\$0.11	\$0.03	\$0.00	0.28	1.00	0.00	0.00	0.00	0.00	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Hospital	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$2.34	\$1.64	\$0.17	\$0.03	\$0.00	0.32	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Hospital	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$2.34	\$1.64	\$0.11	\$0.03	\$0.00	0.32	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Hospital	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$2.60	\$1.82	\$0.17	\$0.03	\$0.00	0.32	1.00	0.00	0.00	0.00	0.00	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Hospital	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$2.60	\$1.82	\$0.11	\$0.03	\$0.00	0.32	1.00	0.00	0.00	0.00	0.00	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Hospital	Lost Opportunity	0.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$3.38	\$2.37	\$0.17	\$0.03	\$0.00	0.29	1.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Hospital	Lost Opportunity	0.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$3.38	\$2.37	\$0.11	\$0.03	\$0.00	0.29	1.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Hospital	Discretionary	37,012.1	0.08	14.89	0.00	0.00	0.0	0.0	0.0	4	\$1.18	\$0.83	\$0.17	\$0.00	\$0.00	15507.46	1.00	0.00	0.00	0.00	0.00	Set Water Heater to 120F	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Hospital	Lost Opportunity	37,012.1	0.08	14.89	0.00	0.00	0.0	0.0	0.0	4	\$1.18	\$0.83	\$0.11	\$0.00	\$0.00	15507.46	1.00	0.00	0.00	0.00	0.00	Set Water Heater to 120F	
Water Heat LE 55 Gal	Water Heater Tank Wrap	Hospital	Discretionary	74,468.5	0.16	29.96	0.00	0.00	0.0	0.0	0.0	7	\$4,902.90	\$3,432.03	\$0.17	\$0.00	\$0.00	13.35	1.00	0.00	0.00	0.00	0.00	Add R-10 Tank Wrap	
Compressed Air	Compressed Air Controller - Pressure/Flow Controller	Large Office	Discretionary	481.0	0.05	0.05	0.00	0.00	0.0	0.0	0.0	15	\$409.27	\$286.49	\$0.17	\$0.00	\$0.00	2.81	0.99	1.08	1.08	0.71	0.71	Compressed Air Pressure/Flow Controller	
Compressed Air	Compressed Air Controller - Pressure/Flow Controller	Large Office	Lost Opportunity	481.0	0.05	0.05	0.00	0.00	0.0	0.0	0.0	15	\$409.27	\$286.49	\$0.11	\$0.00	\$0.00	2.81	0.99	0.06	0.06	0.04	0.04	Compressed Air Pressure/Flow Controller	
Compressed Air	Compressed Air Heat Recovery	Large Office	Discretionary	4,569.0	0.52	0.52	0.00	0.00	0.0	0.0	0.0	15	\$27,766.69	\$19,436.68	\$0.17	\$0.00	\$0.00	0.39	0.99	14.22	0.00	0.00	0.00	Compressed Air Heat Recovery	
Compressed Air	Compressed Air Heat Recovery	Large Office	Lost Opportunity	4,569.0	0.52	0.52	0.00	0.00	0.0	0.0	0.0	15	\$27,766.69	\$19,436.68	\$0.11	\$0.00	\$0.00	0.39	0.99	0.79	0.00	0.00	0.00	Compressed Air Heat Recovery	
Compressed Air	Compressed Air System Leakage Reduction	Large Office	Discretionary	2,086.1	0.24	0.24	0.00	0.00	0.0	0.0	0.0	2	\$707.00	\$494.90	\$0.17	\$0.00	\$0.00	0.86	0.99	4.69	0.00	0.00	0.00	Compressed Air System Leak Survey and Repair	
Compressed Air	Compressed Air System Leakage Reduction	Large Office	Lost Opportunity	2,086.1	0.24	0.24	0.00	0.00	0.0	0.0	0.0	2	\$707.00	\$494.90	\$0.11	\$0.00	\$0.00	0.86	0.99	0.26	0.00	0.00	0.00	Compressed Air System Leak Survey and Repair	
Compressed Air	Cycling Dryers	Large Office	Discretionary	8,286.8	0.95	0.95	0.00	0.00	0.0	0.0	0.0	10	\$1,248.43	\$873.90	\$0.17	\$0.00	\$0.00	10.48	0.99	27.30	27.30	17.90	17.90	Cycling Dryer	
Compressed Air	Cycling Dryers	Large Office	Lost Opportunity	8,286.8	0.95	0.95	0.00	0.00	0.0	0.0	0.0	10	\$1,248.43	\$873.90	\$0.11	\$0.00	\$0.00	10.48	0.99	1.51	1.51	0.99	0.99	Cycling Dryer	
Compressed Air	Engineered Nozzles	Large Office	Discretionary	738.5	0.08	0.08	0.00	0.00	0.0	0.0	0.0	10	\$18.96	\$13.27	\$0.17	\$0.00	\$0.00	61.48	0.99	0.35	0.35	0.23	0.23	Compressed Air Engineered Nozzle	
Compressed Air	Engineered Nozzles	Large Office	Lost Opportunity	738.5	0.08	0.08	0.00	0.00	0.0	0.0	0.0	10	\$18.96	\$13.27	\$0.11	\$0.00	\$0.00	61.48	0.99	0.02	0.02	0.01	0.01	Compressed Air Engineered Nozzle	
Compressed Air	Mist Eliminators	Large Office	Discretionary	6,916.5	0.79	0.79	0.00	0.00	0.0	0.0	0.0	15	\$9,199.38	\$6,439.57	\$0.17	\$0.00	\$0.00	1.80	0.99	3.29	3.29	2.16	2.16	Mist Eliminator Filter	
Compressed Air	Mist Eliminators	Large Office	Lost Opportunity	6,916.5	0.79	0.79	0.00	0.00	0.0	0.0	0.0	15	\$9,199.38	\$6,439.57	\$0.11	\$0.00	\$0.00	1.80	0.99	0.18	0.18	0.12	0.12	Mist Eliminator Filter	
Compressed Air	No Air Loss Drain	Large Office	Discretionary	4,266.7	0.49	0.49	0.00	0.00	0.0	0.0	0.0	5	\$541.62	\$379.13	\$0.17	\$0.00	\$0.00	6.05	0.99	1.48	1.48	0.97	0.97	No Air Loss Drain	
Compressed Air	No Air Loss Drain	Large Office	Lost Opportunity	4,266.7	0.49	0.49	0.00	0.00	0.0	0.0	0.0	5	\$541.62	\$379.13	\$0.11	\$0.00	\$0.00	6.05	0.99	0.00	0.00	0.00	0.00	No Air Loss Drain	
Compressed Air	VFD Air Compressor Upgrade	Large Office	Discretionary	8,909.7	1.02	1.02	0.00	0.00	0.0	0.0	0.0	10	\$7,355.17	\$5,148.62	\$0.17	\$0.00	\$0.00	1.91	0.99	3.08	3.08	2.02	2.02	VFD Compressor Upgrade	
Compressed Air	VFD Air Compressor Upgrade	Large Office	Lost Opportunity	8,909.7	1.02	1.02	0.00	0.00	0.0	0.0	0.0	10	\$7,355.17	\$5,148.62	\$0.11	\$0.00	\$0.00	1.91	0.99	0.17	0.17	0.11	0.11	VFD Compressor Upgrade	
Computers	Computer - ENERGY STAR	Large Office	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	894.94	0.00	0.00	0.00	0.00	ENERGY STAR Computer
Computers	Computer - ENERGY STAR	Large Office	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	41.72	0.00	0.00	0.00	0.00	ENERGY STAR Computer
Computers	Network PC Power Management	Large Office	Discretionary	4,162.4	0.60	0.38	0.00	0.00	0.0	0.0	0.0	5	\$509.00	\$356.30	\$0.17	\$116.76	\$0.00	3.27	1.00	318.75	559.74	370.57	370.57	Network PC Power Management	
Computers	Network PC Power Management	Large Office	Lost Opportunity	4,162.4	0.60	0.38	0.00	0.00	0.0	0.0	0.0	5	\$509.00	\$356.30	\$0.11	\$116.76	\$0.00	3.27	1.00	19.77	34.76	23.01	23.01	Network PC Power Management	
Cooling Chillers	Active Chilled Beam Cooling with DOAS	Large Office	Lost Opportunity	919.3	0.31	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$22,711.00	\$0.00	\$0.11	\$17,033.25	\$0.00	0.02	1.00	1.43	0.00	0.00	0.00	0.00	Active Chilled Beam Cooling with DOAS
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Large Office	Discretionary	478.0	0.16	0.00	8.11	25.72	0.0	0.0	0.0	15	\$5,677.75	\$3,974.43	\$0.17	\$0.00	\$0.00	0.40	1.00	12.71	0.00	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Large Office	Discretionary	850.3	0.29	0.00	0.00	0.00	0.0	0.0	0.0	15	\$26,344.76	\$18,441.33	\$0.17	\$0.00	\$0.00	0.11	1.00	8.44	0.00	0.00	0.00	0.00	Additional Control Features
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Large Office	Lost Opportunity	850.3	0.29	0.00	0.00	0.00	0.0	0.0	0.0	15	\$26,344.76	\$18,441.33	\$0.11	\$0.00	\$0.00	0.11	1.00	0.34	0.00	0.00	0.00	0.00	Additional Control Features
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Large Office	Discretionary	514.9	0.18	0.00	0.00	0.00	0.0	0.0	0.0	10	\$17,860.94	\$12,502.66	\$0.17	\$0.00	\$0.00	0.07	1.00	3.26	0.00	0.00	0.00	0.00	VSD for Secondary Chilled Water Loop
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Large Office	Lost Opportunity	514.9	0.18	0.00	0.00	0.00	0.0	0.0	0.0	10	\$16,074.85	\$11,252.39	\$0.11	\$0.00	\$0.00	0.07	1.00	0.30	0.00	0.00	0.00	0.00	VSD for Secondary Chilled Water Loop
Cooling Chillers	Chilled Water Reset	Large Office	Discretionary	229.8	0.08	0.00	0.00	0.00	0.0	0.0	0.0	10	\$15,473.91	\$10,831.74	\$0.17	\$0.00	\$0.00	0.03	1.00	3.60	0.00	0.00	0.00	0.00	Chilled Water Temperature Reset
Cooling Chillers	Chilled Water Reset	Large Office	Lost Opportunity	229.8	0.08	0.00	0.00	0.00	0.0	0.0	0.0	10	\$15,473.91	\$10,831.74	\$0.11	\$0.00	\$0.00	0.03	1.00	0.00	0.00	0.00	0.00	0.00	Chilled Water Temperature Reset
Cooling Chillers	Chilled Water Side Economizer	Large Office	Discretionary	1,287.8	0.44	0.00	0.00	0.00	0.0	0.0	0.0	15	\$118,304.84	\$82,813.39	\$0.17	\$0.00	\$0.00	0.04	1.00	14.62	0.00	0.00	0.00	0.00	Install Economizer
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Large Office	Discretionary	405.0	0.14	0.00	0.00	0.00	0.0	0.0	0.0	15	\$728.11	\$509.67	\$0.17	\$0.00	\$0.00	1.95	1.00	15.44	17.74	11.84	11.84	2.0" of Insulation, assuming R-8	
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Large Office	Lost Opportunity	405.0	0.14	0.00	0.00	0.00	0.0	0.0	0.0	15	\$728.11	\$509.67	\$0.11	\$0.00	\$0.00	1.95	1.00	1.00	1.19	0.78	0.78	2.0" of Insulation, assuming R-8	
Cooling Chillers	Chiller - Pipe Insulation - Code	Large Office	Discretionary	676.3	0.23	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1,561.38	\$1,092.97	\$0.17	\$0.00	\$0.00	1.52	1.00	29.10	33.44	22.32	22.32	1.0" of Insulation, assuming R-4 (Code)	
Cooling Chillers	Chillers > 300 tons (centrifugal) - High Efficiency (Water Cooled)	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.04	\$0.03	\$0.17	\$0.00	\$0.00	0.41	1.00	0.00	0.00	0.00	0.00	0.00	High Efficiency - 0.55 kW/ton (full load); 0.51 kW/ton (IPLV)
Cooling Chillers	Chillers > 300 tons (centrifugal) - High Efficiency (Water Cooled)	Large Office	Lost Opportunity	0.0	0.00	0.00	0.																		



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Cooling Chillers	Tune-up - Chiller Maintenance	Large Office	Discretionary	660.7	0.23	0.00	0.00	0.00	0.0	0.0	0.0	5	\$3,633.76	\$2,543.63	\$0.17	\$0.00	\$0.00	0.20	1.00	5.33	0.00	0.00	0.00	Chiller Tune-up	
Cooling Chillers	Wi-Fi Thermostat	Large Office	Discretionary	183.9	0.06	0.00	3.69	11.07	0.0	0.0	0.0	11	\$480.31	\$336.21	\$0.17	\$0.00	\$0.00	1.37	1.00	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)	
Cooling Chillers	Windows - CBES 2015 - Above Code	Large Office	Discretionary	35.1	0.01	0.00	0.70	2.38	0.0	0.0	0.0	20	\$7,930.74	\$5,551.52	\$0.17	\$0.00	\$0.00	0.03	1.00	0.19	0.00	0.00	0.00	U-0.29	
Cooling Chillers	Windows - CBES 2015 - Above Code	Large Office	Lost Opportunity	35.1	0.01	0.00	0.70	2.38	0.0	0.0	0.0	20	\$7,930.74	\$5,551.52	\$0.11	\$0.00	\$0.00	0.03	1.00	0.06	0.00	0.00	0.00	U-0.29	
Cooling Chillers	Windows - CBES 2015 - Code	Large Office	Discretionary	82.3	0.03	0.00	1.65	5.59	0.0	0.0	0.0	20	\$52,371.65	\$36,660.15	\$0.17	\$0.00	\$0.00	0.01	1.00	0.43	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Cooling Dx Evap	Active Chilled Beam Cooling with DOAS	Large Office	Lost Opportunity	1,633.6	0.56	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$22,711.00	\$0.00	\$0.11	\$17,033.25	\$0.00	0.03	1.00	1.02	0.00	0.00	0.00	Active Chilled Beam Cooling with DOAS	
Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units	Large Office	Discretionary	1,229.7	0.42	0.00	0.00	0.00	0.0	0.0	0.0	10	\$11,355.50	\$7,948.85	\$0.17	-\$8,175.96	\$0.00	999.00	1.00	40.90	55.28	36.90	36.90	Rooftop unit with automated fault detection and diagnostics capability	
Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units	Large Office	Lost Opportunity	1,229.7	0.42	0.00	0.00	0.00	0.0	0.0	0.0	10	\$9,084.40	\$6,359.08	\$0.11	-\$6,540.77	\$0.00	999.00	1.00	2.39	3.26	2.18	2.18	Rooftop unit with automated fault detection and diagnostics capability	
Cooling Dx Evap	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Large Office	Discretionary	849.4	0.29	0.00	9.87	24.71	0.0	0.0	0.0	15	\$5,677.75	\$3,974.43	\$0.17	\$0.00	\$0.00	0.64	1.00	18.51	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)	
Cooling Dx Evap	Commissioning	Large Office	Lost Opportunity	1,061.8	0.36	0.00	16.21	35.09	0.0	0.0	0.0	5	\$26,344.76	\$18,441.33	\$0.11	\$0.00	\$0.00	0.06	1.00	0.96	0.00	0.00	0.00	Commissioning	
Cooling Dx Evap	Convert Constant Volume Air System to VAV	Large Office	Discretionary	2,145.6	0.73	0.00	29.48	73.76	0.0	0.0	0.0	15	\$82,810.79	\$57,967.56	\$0.17	\$0.00	\$0.00	0.11	1.00	3.98	0.00	0.00	0.00	Variable Volume Air System	
Cooling Dx Evap	DX Package 240 to 760 kBtuh - Federal Standard 2023	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.14	\$0.10	\$0.17	\$0.00	\$0.00	0.87	1.00	0.00	0.00	0.00	0.00	Federal Standard 2023 - 13.2 IEER	
Cooling Dx Evap	DX Package 240 to 760 kBtuh - Federal Standard 2023	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.12	\$0.08	\$0.11	\$0.00	\$0.00	1.09	1.00	0.00	0.55	0.37	0.37	Federal Standard 2023 - 13.2 IEER	
Cooling Dx Evap	DX Package 240 to 760 kBtuh - Premium Efficiency	Large Office	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.58	\$0.40	\$0.17	\$0.00	\$0.00	0.64	1.00	97.37	0.00	0.00	0.00	Premium Efficiency - 18.0 IEER	
Cooling Dx Evap	DX Package 240 to 760 kBtuh - Premium Efficiency	Large Office	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.46	\$0.32	\$0.11	\$0.00	\$0.00	0.80	1.00	2.63	0.00	0.00	0.00	Premium Efficiency - 18.0 IEER	
Cooling Dx Evap	DX Package-Air Side Economizer	Large Office	Discretionary	2,288.4	0.78	0.00	0.00	0.00	0.0	0.0	0.0	10	\$13,458.37	\$9,420.86	\$0.17	\$0.00	\$0.00	0.39	1.00	5.88	0.00	0.00	0.00	Air-Side Economizer	
Cooling Dx Evap	Direct Digital Control System-Installation	Large Office	Discretionary	1,225.2	0.42	0.00	16.83	36.44	0.0	0.0	0.0	5	\$7,097.19	\$4,968.03	\$0.17	\$0.00	\$0.00	0.24	1.00	16.65	0.00	0.00	0.00	Installation of EMS System	
Cooling Dx Evap	Direct Digital Control System-Installation	Large Office	Lost Opportunity	1,225.2	0.42	0.00	18.70	40.49	0.0	0.0	0.0	5	\$7,097.19	\$4,968.03	\$0.11	\$0.00	\$0.00	0.24	1.00	0.00	0.00	0.00	0.00	Installation of EMS System	
Cooling Dx Evap	Duct Repair and Sealing	Large Office	Discretionary	710.2	0.24	0.00	7.10	0.00	0.0	0.0	0.0	18	\$5,450.64	\$3,815.45	\$0.17	\$0.00	\$0.00	0.60	1.00	8.97	0.00	0.00	0.00	Reduction In Duct Losses to 5 %	
Cooling Dx Evap	Green Roof	Large Office	Discretionary	43.5	0.01	0.00	0.00	0.00	0.0	0.0	0.0	40	\$291,274.61	\$203,892.23	\$0.17	\$2,912.75	\$0.00	0.00	1.00	0.51	0.00	0.00	0.00	Vegetation on Roof	
Cooling Dx Evap	Green Roof	Large Office	Lost Opportunity	35.8	0.01	0.00	0.00	0.00	0.0	0.0	0.0	40	\$291,274.61	\$203,892.23	\$0.11	\$2,912.75	\$0.00	0.00	1.00	0.02	0.00	0.00	0.00	Vegetation on Roof	
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Large Office	Discretionary	4,851.6	1.66	0.00	0.00	0.00	0.0	0.0	0.0	15	\$86,301.80	\$60,411.26	\$0.17	-\$1,975.86	\$0.00	0.27	1.00	55.75	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Large Office	Lost Opportunity	4,851.6	1.66	0.00	0.00	0.00	0.0	0.0	0.0	15	\$86,301.80	\$60,411.26	\$0.11	-\$1,975.86	\$0.00	0.27	1.00	9.78	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Cooling Dx Evap	Indirect Information Feedback	Large Office	Discretionary	42.5	0.01	0.00	0.58	1.20	0.0	0.0	0.0	2	\$141.41	\$98.99	\$0.17	\$0.00	\$0.00	0.16	1.00	0.60	0.00	0.00	0.00	Indirect Information Feedback	
Cooling Dx Evap	Indirect Information Feedback	Large Office	Lost Opportunity	42.5	0.01	0.00	0.65	1.34	0.0	0.0	0.0	2	\$141.41	\$98.99	\$0.11	\$0.00	\$0.00	0.16	1.00	0.03	0.00	0.00	0.00	Indirect Information Feedback	
Cooling Dx Evap	Infiltration Reduction	Large Office	Discretionary	245.0	0.08	0.00	11.22	26.22	0.0	0.0	0.0	10	\$1,341.13	\$938.79	\$0.17	\$0.00	\$0.00	0.77	1.00	0.26	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Large Office	Discretionary	479.9	0.16	0.00	6.59	19.99	0.0	0.0	0.0	30	\$3,276.84	\$2,293.79	\$0.17	\$0.00	\$0.00	1.32	1.00	4.79	6.48	4.32	4.32	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Large Office	Lost Opportunity	479.9	0.16	0.00	7.33	22.21	0.0	0.0	0.0	30	\$3,276.84	\$2,293.79	\$0.11	\$0.00	\$0.00	1.35	1.00	0.13	0.18	0.11	0.11	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Code	Large Office	Discretionary	1,644.3	0.56	0.00	22.59	68.49	0.0	0.0	0.0	30	\$14,952.10	\$10,466.47	\$0.17	\$0.00	\$0.00	0.99	1.00	10.31	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Large Office	Discretionary	294.0	0.10	0.00	2.94	0.00	0.0	0.0	0.0	20	\$308.02	\$215.61	\$0.17	\$0.00	\$0.00	4.94	1.00	7.50	10.14	6.77	6.77	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Large Office	Lost Opportunity	294.0	0.10	0.00	3.27	0.00	0.0	0.0	0.0	20	\$308.02	\$215.61	\$0.11	\$0.00	\$0.00	4.98	1.00	0.53	0.72	0.42	0.42	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	Large Office	Discretionary	294.0	0.10	0.00	2.94	0.00	0.0	0.0	0.0	20	\$1,240.59	\$868.41	\$0.17	\$0.00	\$0.00	1.23	1.00	6.05	8.17	5.46	5.46	R-8 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Office	Discretionary	707.3	0.24	0.00	9.72	29.46	0.0	0.0	0.0	30	\$5,825.49	\$4,077.84	\$0.17	\$0.00	\$0.00	1.10	1.00	2.31	3.12	2.09	2.09	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Office	Lost Opportunity	707.3	0.24	0.00	10.80	32.73	0.0	0.0	0.0	30	\$5,825.49	\$4,077.84	\$0.11	\$0.00	\$0.00	1.12	1.00	0.27	0.37	0.21	0.21	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	Large Office	Discretionary	1,231.8	0.42	0.00	16.92	51.31	0.0	0.0	0.0	30	\$16,699.74	\$11,689.82	\$0.17	\$0.00	\$0.00	0.67	1.00	3.86	0.00	0.00	0.00	R-30 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Large Office	Discretionary	319.4	0.11	0.00	4.39	13.31	0.0	0.0	0.0	30	\$1,873.36	\$1,311.35	\$0.17	\$0.00	\$0.00	1.54	1.00	1.77	2.39	1.60	1.60	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Large Office	Lost Opportunity	319.4	0.11	0.00	4.88	14.78	0.0	0.0	0.0	30	\$1,873.36	\$1,311.35	\$0.11	\$0.00	\$0.00	1.57	1.00	0.30	0.41	0.23	0.23	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Code	Large Office	Discretionary	350.8	0.12	0.00	4.82	14.61	0.0	0.0	0.0	30	\$12,855.13	\$8,998.59	\$0.17	\$0.00	\$0.00	0.25	1.00	0.89	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Large Office	Discretionary	657.3	0.22	0.00	0.00	0.00	0.0	0.0	0.0	15	\$80,211.47	\$56,148.03	\$0.17	\$0.00	\$0.00	0.03	1.00	0.51	0.00	0.00	0.00	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Large Office	Lost Opportunity	657.3	0.22	0.00	0.00	0.00	0.0	0.0	0.0	15	\$64,169.17	\$44,918.42	\$0.11	\$0.00	\$0.00	0.04	1.00	0.03	0.00	0.00	0.00	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Natural Ventilation	Large Office	Natural Ventilation	816.8	0.28	0.00	0.00	0.00	0.0	0.0	0.0	15	\$22,711.00	\$15,897.70	\$0.11	\$0.00	\$0.00	0.13	1.00	0.03	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling	
Cooling Dx Evap	Programmable Thermostat	Large Office	Discretionary	326.7	0.11	0.00	4.49	10.64	0.0	0.0	0.0	11	\$60.30	\$42.21	\$0.17	\$0.00	\$0.00	17.06	1.00	8.23	11.12	8.95	7.42	Programmable Thermostat	
Cooling Dx Evap	Re-Commissioning	Large Office	Discretionary	1,061.8	0.36	0.00	14.59	31.58	0.0	0.0	0.0	5	\$6,813.30	\$4,769.31	\$0.17	\$0.00	\$0.00	0.21	1.00	22.32	0.00	0.00	0.00	Re-Commissioning	
Cooling Dx Evap	Retrocommissioning	Large Office	Discretionary	1,211.6	0.41	0.00	16.65	36.04	0.0	0.0	0.0	5	\$11,355.50	\$7,948.85	\$0.17	\$0.00	\$0.00	0.15	1.00	13.70	0.00	0.00	0.00	Retrocommissioning	
Cooling Dx Evap	Strategic Energy Management (SEM)	Large Office	Discretionary	334.9	0.11	0.00	4.60	9.96	0.0	0.0	0.0	5	\$45.13	\$31.59	\$0.17	\$0.00	\$0.00	10.19	1.00	1.27	1.72	1.15	1.15	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Strategic Energy Management (SEM)	Large Office	Lost Opportunity	334.9	0.11	0.00	5.11	11.07	0.0	0.0	0.0	5	\$45.13	\$31.59	\$0.11	\$0.00	\$0.00	10.43	1.00	0.50	0.68	0.46	0.46	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Tune-up - DX Maintenance	Large Office	Discretionary	1,174.1	0.40	0.00	0.00	0.00	0.0	0.0	0.0	5	\$27,253.20	\$19,077.24	\$0.17	\$0.00	\$0.00	0.05	1.00	10.05	0.00	0.00	0.00	DX Tune-up / Diagnostics	
Cooling Dx Evap	Wi-Fi Thermostat	Large Office	Discretionary	326.7	0.11	0.00	4.49	10.64	0.0	0.0	0.0	11	\$480.31	\$336.21	\$0.17	\$0.00	\$0.00	2.14	1.00	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Large Office	Discretionary	62.4	0.02	0.00	0.86	2.29	0.0	0.0	0.0	20	\$7,930.74	\$5,551.52	\$0.17	\$0.00	\$0.00	0.05	1.00						



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Heat Pump	Infiltration Reduction	Large Office	Discretionary	194.2	0.06	0.05	0.00	0.00	0.0	0.0	0.0	10	\$1,341.13	\$938.79	\$0.17	\$0.00	\$0.00	0.33	1.00	0.00	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)	
Heat Pump	Insulation - Ceiling - CBES 2015 - Above Code	Large Office	Discretionary	114.1	0.04	0.03	0.00	0.00	0.0	0.0	0.0	30	\$3,276.84	\$2,293.79	\$0.17	\$0.00	\$0.00	0.25	1.00	0.02	0.00	0.00	0.00	0.00	R-35 c.i.
Heat Pump	Insulation - Ceiling - CBES 2015 - Above Code	Large Office	Lost Opportunity	114.1	0.04	0.03	0.00	0.00	0.0	0.0	0.0	30	\$3,276.84	\$2,293.79	\$0.11	\$0.00	\$0.00	0.25	1.00	0.00	0.00	0.00	0.00	0.00	R-35 c.i.
Heat Pump	Insulation - Ceiling - CBES 2015 - Code	Large Office	Discretionary	391.0	0.13	0.10	0.00	0.00	0.0	0.0	0.0	30	\$14,952.10	\$10,466.47	\$0.17	\$0.00	\$0.00	0.19	1.00	0.05	0.00	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)
Heat Pump	Insulation - Duct - CBES 2015 - Above Code	Large Office	Discretionary	69.9	0.02	0.02	0.00	0.00	0.0	0.0	0.0	20	\$308.02	\$215.61	\$0.17	\$0.00	\$0.00	1.07	1.00	0.03	0.04	0.03	0.03	0.03	R-12
Heat Pump	Insulation - Duct - CBES 2015 - Above Code	Large Office	Lost Opportunity	69.9	0.02	0.02	0.00	0.00	0.0	0.0	0.0	20	\$308.02	\$215.61	\$0.11	\$0.00	\$0.00	1.07	1.00	0.00	0.00	0.00	0.00	0.00	R-12
Heat Pump	Insulation - Duct - CBES 2015 - Code	Large Office	Discretionary	69.9	0.02	0.02	0.00	0.00	0.0	0.0	0.0	20	\$1,240.59	\$868.41	\$0.17	\$0.00	\$0.00	0.27	1.00	0.03	0.00	0.00	0.00	0.00	R-8 (CBES 2015 Code)
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Office	Discretionary	168.2	0.06	0.04	0.00	0.00	0.0	0.0	0.0	30	\$5,825.49	\$4,077.84	\$0.17	\$0.00	\$0.00	0.21	1.00	0.01	0.00	0.00	0.00	0.00	R-38
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Office	Lost Opportunity	168.2	0.06	0.04	0.00	0.00	0.0	0.0	0.0	30	\$5,825.49	\$4,077.84	\$0.11	\$0.00	\$0.00	0.21	1.00	0.00	0.00	0.00	0.00	0.00	R-38
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Code	Large Office	Discretionary	293.0	0.10	0.08	0.00	0.00	0.0	0.0	0.0	30	\$16,699.74	\$11,689.82	\$0.17	\$0.00	\$0.00	0.13	1.00	0.02	0.00	0.00	0.00	0.00	R-30 (CBES 2015 Code)
Heat Pump	Insulation - Wall - CBES 2015 - Above Code	Large Office	Discretionary	76.0	0.03	0.02	0.00	0.00	0.0	0.0	0.0	30	\$1,873.36	\$1,311.35	\$0.17	\$0.00	\$0.00	0.29	1.00	0.01	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Heat Pump	Insulation - Wall - CBES 2015 - Above Code	Large Office	Lost Opportunity	76.0	0.03	0.02	0.00	0.00	0.0	0.0	0.0	30	\$1,873.36	\$1,311.35	\$0.11	\$0.00	\$0.00	0.29	1.00	0.00	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Heat Pump	Insulation - Wall - CBES 2015 - Code	Large Office	Discretionary	83.4	0.03	0.02	0.00	0.00	0.0	0.0	0.0	30	\$12,855.13	\$8,998.59	\$0.17	\$0.00	\$0.00	0.05	1.00	0.00	0.00	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)
Heat Pump	Natural Ventilation	Large Office	Lost Opportunity	194.2	0.06	0.05	0.00	0.00	0.0	0.0	0.0	15	\$22,711.00	\$15,897.70	\$0.11	\$0.00	\$0.00	0.03	1.00	0.00	0.00	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling
Heat Pump	Programmable Thermostat	Large Office	Discretionary	77.7	0.03	0.02	0.00	0.00	0.0	0.0	0.0	11	\$60.30	\$42.21	\$0.17	\$0.00	\$0.00	3.24	1.00	0.04	0.05	0.04	0.04	0.03	Programmable Thermostat
Heat Pump	Re-Commissioning	Large Office	Discretionary	252.5	0.08	0.06	0.00	0.00	0.0	0.0	0.0	5	\$6,813.30	\$4,769.31	\$0.17	\$0.00	\$0.00	0.04	1.00	0.11	0.00	0.00	0.00	0.00	Re-Commissioning
Heat Pump	Retrocommissioning	Large Office	Discretionary	288.1	0.10	0.07	0.00	0.00	0.0	0.0	0.0	5	\$11,355.50	\$7,948.85	\$0.17	\$0.00	\$0.00	0.03	1.00	0.07	0.00	0.00	0.00	0.00	Retrocommissioning
Heat Pump	Strategic Energy Management (SEM)	Large Office	Discretionary	79.6	0.03	0.02	0.00	0.00	0.0	0.0	0.0	5	\$10.73	\$7.51	\$0.17	\$0.00	\$0.00	8.15	1.00	0.01	0.01	0.01	0.01	0.01	Identify Operations and Maintenance Improvements through Strategic Energy Management
Heat Pump	Strategic Energy Management (SEM)	Large Office	Lost Opportunity	79.6	0.03	0.02	0.00	0.00	0.0	0.0	0.0	5	\$10.73	\$7.51	\$0.11	\$0.00	\$0.00	8.15	1.00	0.00	0.00	0.00	0.00	0.00	Identify Operations and Maintenance Improvements through Strategic Energy Management
Heat Pump	Tune-up - Heat Pump Maintenance	Large Office	Discretionary	279.2	0.09	0.07	0.00	0.00	0.0	0.0	0.0	5	\$272.53	\$190.77	\$0.17	\$0.00	\$0.00	1.13	1.00	0.12	0.14	0.09	0.09	0.09	Heat Pump Maintenance (Tune-up)
Heat Pump	Water Source Heat Pump (>= 135 kBtu/hr and < 375 kBtu/hr) Cooling	Large Office	Discretionary	291.1	0.10	0.07	0.00	0.00	0.0	0.0	0.0	15	\$72.69	\$50.88	\$0.17	\$0.00	\$0.00	14.02	1.00	0.01	0.01	0.01	0.01	0.01	14 EER, 4.6 COP
Heat Pump	Water Source Heat Pump (>= 135 kBtu/hr and < 375 kBtu/hr) Cooling	Large Office	Lost Opportunity	232.8	0.08	0.06	0.00	0.00	0.0	0.0	0.0	15	\$58.15	\$40.70	\$0.11	\$0.00	\$0.00	14.02	1.00	0.00	0.00	0.00	0.00	0.00	14 EER, 4.6 COP
Heat Pump	Wi-Fi Thermostat	Large Office	Discretionary	77.7	0.03	0.02	0.00	0.00	0.0	0.0	0.0	11	\$480.31	\$336.21	\$0.17	\$0.00	\$0.00	0.41	1.00	0.00	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)
Heat Pump	Windows - CBES 2015 - Above Code	Large Office	Discretionary	14.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$7,930.74	\$5,551.52	\$0.17	\$0.00	\$0.00	0.01	1.00	0.00	0.00	0.00	0.00	0.00	U-0.29
Heat Pump	Windows - CBES 2015 - Above Code	Large Office	Lost Opportunity	14.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$7,930.74	\$5,551.52	\$0.11	\$0.00	\$0.00	0.01	1.00	0.00	0.00	0.00	0.00	0.00	U-0.29
Heat Pump	Windows - CBES 2015 - Code	Large Office	Discretionary	34.8	0.01	0.01	0.00	0.00	0.0	0.0	0.0	20	\$52,371.65	\$36,660.15	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	Large Office	Discretionary	6,706.0	0.07	1.41	0.00	0.00	0.0	0.0	0.0	8	\$423.05	\$296.13	\$0.17	\$0.00	\$0.00	15.62	0.99	1058.70	1058.70	790.68	790.68	790.68	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	Large Office	Discretionary	6,259.0	0.07	1.32	0.00	0.00	0.0	0.0	0.0	8	\$128.20	\$89.74	\$0.17	\$0.00	\$0.00	48.09	0.99	728.09	728.09	543.77	543.77	543.77	Photocell
Lighting Exterior	LED Exterior Flood Lights	Large Office	Discretionary	2,171.6	0.02	0.46	0.00	0.00	0.0	0.0	0.0	20	\$1,432.37	\$1,002.66	\$0.17	\$0.00	\$0.00	3.73	0.99	411.39	411.39	307.25	307.25	307.25	LED Exterior Flood Lights
Lighting Exterior	LED Exterior Flood Lights	Large Office	Lost Opportunity	2,171.6	0.02	0.46	0.00	0.00	0.0	0.0	0.0	20	\$1,432.37	\$1,002.66	\$0.11	\$0.00	\$0.00	3.73	0.99	22.72	22.72	14.65	14.65	14.65	LED Exterior Flood Lights
Lighting Exterior	LED Exterior Pole Mount Fixture	Large Office	Discretionary	1,237.5	0.01	0.26	0.00	0.00	0.0	0.0	0.0	15	\$2,426.51	\$1,698.56	\$0.17	\$0.00	\$0.00	0.94	0.99	234.43	0.00	0.00	0.00	0.00	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Pole Mount Fixture	Large Office	Lost Opportunity	1,237.5	0.01	0.26	0.00	0.00	0.0	0.0	0.0	15	\$2,426.51	\$1,698.56	\$0.11	\$0.00	\$0.00	0.94	0.99	12.95	0.00	0.00	0.00	0.00	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Wall Pack	Large Office	Discretionary	4,102.6	0.05	0.86	0.00	0.00	0.0	0.0	0.0	20	\$8,513.62	\$5,959.54	\$0.17	\$0.00	\$0.00	1.19	0.99	734.05	734.05	548.22	548.22	548.22	LED Exterior Wall Pack
Lighting Exterior	LED Exterior Wall Pack	Large Office	Lost Opportunity	4,102.6	0.05	0.86	0.00	0.00	0.0	0.0	0.0	20	\$8,513.62	\$5,959.54	\$0.11	\$0.00	\$0.00	1.19	0.99	40.53	40.53	26.14	26.14	26.14	LED Exterior Wall Pack
Lighting Exterior	LED Pathway Lights	Large Office	Discretionary	1,021.9	0.01	0.21	0.00	0.00	0.0	0.0	0.0	11	\$241.80	\$169.26	\$0.17	\$0.00	\$0.00	5.73	0.99	193.60	193.60	144.59	144.59	144.59	LED Pathway Lights
Lighting Exterior	LED Pathway Lights	Large Office	Lost Opportunity	1,021.9	0.01	0.21	0.00	0.00	0.0	0.0	0.0	11	\$241.80	\$169.26	\$0.11	\$0.00	\$0.00	5.73	0.99	10.69	10.69	7.98	7.98	7.98	LED Pathway Lights
Lighting Exterior	Occupancy Sensor Control	Large Office	Discretionary	5,364.8	0.06	1.13	0.00	0.00	0.0	0.0	0.0	10	\$14,958.10	\$10,470.67	\$0.17	\$0.00	\$0.00	0.44	0.99	445.77	0.00	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Exterior	Parking - Covered Lighting	Large Office	Discretionary	212.7	0.00	0.04	0.00	0.00	0.0	0.0	0.0	19	\$155.12	\$108.58	\$0.17	\$0.00	\$0.00	3.21	0.99	10.96	10.96	8.18	8.18	8.18	Covered Parking Lighting (LED)
Lighting Exterior	Parking - Covered Lighting	Large Office	Lost Opportunity	212.7	0.00	0.04	0.00	0.00	0.0	0.0	0.0	19	\$155.12	\$108.58	\$0.11	\$0.00	\$0.00	3.21	0.99	0.61	0.61	0.41	0.41	0.41	Covered Parking Lighting (LED)
Lighting Exterior	Parking - Surface Lighting	Large Office	Discretionary	114.9	0.00	0.02	0.00	0.00	0.0	0.0	0.0	10	\$59.05	\$41.33	\$0.17	\$0.00	\$0.00	2.40	0.99	2.55	2.55	1.90	1.90	1.90	Surface Parking Lighting (LED)
Lighting Exterior	Parking - Surface Lighting	Large Office	Lost Opportunity	114.9	0.00	0.02	0.00	0.00	0.0	0.0	0.0	10	\$59.05	\$41.33	\$0.11	\$0.00	\$0.00	2.40	0.99	0.14	0.14	0.11	0.11	0.11	Surface Parking Lighting (LED)
Lighting Exterior	Time Clock	Large Office	Discretionary	2,235.3	0.02	0.47	0.00	0.00	0.0	0.0	0.0	8	\$120.47	\$84.33	\$0.17	\$0.00	\$0.00	18.28	0.99	18.57	18.57	13.87	13.87	13.87	Time Clock
Lighting Interior Fluorescent	Bi-Level Control, Stairwell Lighting	Large Office	Discretionary	169.8	0.03	0.02	0.00	0.00	0.0	0.0	0.0	8	\$280.43	\$196.30	\$0.17	\$0.00	\$0.00	0.89	0.99	13.40	0.00	0.00	0.00	0.00	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time
Lighting Interior Fluorescent	Dimming-Continuous, Fluorescent Fixtures	Large Office	Discretionary	12,925.8	2.51	1.73	0.00	0.00	0.0	0.0	0.0	10	\$374.85	\$262.40	\$0.17	\$0.00	\$0.00	64.20	0.99	0.00	0.00	0.00	0.00	0.00	Continuous Dimming, Fluorescent Fixtures (Day-Lighting)
Lighting Interior Fluorescent	Dimming-Stepped, Fluorescent Fixtures	Large Office	Discretionary	12,925.8	2.51	1.73	0.00	0.00	0.0	0.0	0.0	10	\$374.85	\$262.40	\$0.17	\$0.00	\$0.00	64.20	0.99	343.69	343.69	256.68	256.68	256.68	3-stepped Dimming of Fluorescent Fixtures (Day-Lighting)
Lighting Interior Fluorescent	Lighting Interior - Fluorescent - 2018 Federal Standard	Large Office	Lost Opportunity	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.07	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	0.00	Standard Fluorescent 2018 Federal Standard Approved T-8
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 - Above Standard	Large Office	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.07	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 High Performance - Above Standard	Large Office	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.06	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	0.99						



Appendix B.4		BED Non-residential Measure Assumptions																								
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description		
Other Plug Load	Dehumidifier - ENERGY STAR	Large Office	Discretionary	179.9	0.03	0.02	0.00	0.00	0.0	0.0	0.0	12	\$70.17	\$49.12	\$0.17	\$0.00	\$0.00	5.23	1.00	6.58	6.58	4.35	4.35	ENERGY STAR Dehumidifier		
Other Plug Load	Dehumidifier - ENERGY STAR	Large Office	Lost Opportunity	179.9	0.03	0.02	0.00	0.00	0.0	0.0	0.0	12	\$70.17	\$49.12	\$0.11	\$0.00	\$0.00	5.23	1.00	0.36	0.36	0.24	0.24	ENERGY STAR Dehumidifier		
Other Plug Load	ENERGY STAR - Scanners	Large Office	Discretionary	18.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	2.70	0.00	0.00	0.00	ENERGY STAR Scanners		
Other Plug Load	ENERGY STAR - Scanners	Large Office	Lost Opportunity	18.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.15	0.00	0.00	0.00	ENERGY STAR Scanners		
Other Plug Load	ENERGY STAR - Water Cooler	Large Office	Discretionary	68.0	0.01	0.01	0.00	0.00	0.0	0.0	0.0	10	\$0.58	\$0.41	\$0.17	\$0.00	\$0.00	196.63	1.00	14.32	14.32	9.48	9.48	ENERGY STAR Water Cooler (Hot/Cold Water)		
Other Plug Load	ENERGY STAR - Water Cooler	Large Office	Lost Opportunity	68.0	0.01	0.01	0.00	0.00	0.0	0.0	0.0	10	\$0.58	\$0.41	\$0.11	\$0.00	\$0.00	196.63	1.00	0.79	0.79	0.52	0.52	ENERGY STAR Water Cooler (Hot/Cold Water)		
Other Plug Load	Internal Power Supply / Com - E Star	Large Office	Discretionary	464.0	0.07	0.04	0.00	0.00	0.0	0.0	0.0	4	\$946.93	\$662.85	\$0.17	\$0.00	\$0.00	0.32	1.00	23.05	0.00	0.00	0.00	ENERGY STAR power supply for ENERGY STAR desktop		
Other Plug Load	Internal Power Supply / Com - E Star	Large Office	Lost Opportunity	464.0	0.07	0.04	0.00	0.00	0.0	0.0	0.0	4	\$946.93	\$662.85	\$0.11	\$0.00	\$0.00	0.32	1.00	1.27	0.00	0.00	0.00	ENERGY STAR power supply for ENERGY STAR desktop		
Other Plug Load	Smart Strip Plug Outlet	Large Office	Discretionary	956.2	0.14	0.09	0.00	0.00	0.0	0.0	0.0	4	\$718.90	\$503.23	\$0.17	\$0.00	\$0.00	0.86	1.00	42.38	0.00	0.00	0.00	Advanced Power Strip - Load Sensing		
Other Plug Load	Smart Strip Plug Outlet	Large Office	Lost Opportunity	956.2	0.14	0.09	0.00	0.00	0.0	0.0	0.0	4	\$718.90	\$503.23	\$0.11	\$0.00	\$0.00	0.86	1.00	2.34	0.00	0.00	0.00	Advanced Power Strip - Load Sensing		
Other Plug Load	Smart Strip Plug Outlet	Large Office	Discretionary	581.4	0.08	0.05	0.00	0.00	0.0	0.0	0.0	4	\$1,741.03	\$1,218.72	\$0.17	\$0.00	\$0.00	0.22	1.00	0.00	0.00	0.00	0.00	Advanced Power Strip with Occupancy Sensor		
Other Plug Load	Smart Strip Plug Outlet	Large Office	Lost Opportunity	581.4	0.08	0.05	0.00	0.00	0.0	0.0	0.0	4	\$1,741.03	\$1,218.72	\$0.11	\$0.00	\$0.00	0.22	1.00	0.00	0.00	0.00	0.00	Advanced Power Strip with Occupancy Sensor		
Photo Copiers	Copiers - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.99	30.91	0.00	0.00	0.00	0.00	ENERGY STAR Copiers	
Photo Copiers	Copiers - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.99	1.61	0.00	0.00	0.00	0.00	ENERGY STAR Copiers	
Printers	Printers - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	141.81	0.00	0.00	0.00	0.00	ENERGY STAR Printers	
Printers	Printers - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	7.38	0.00	0.00	0.00	0.00	ENERGY STAR Printers	
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	1.81	1.00	0.00	0.00	0.00	0.00	CEE Tier 2 Refrigerator		
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	1.81	1.00	0.00	0.00	0.00	0.00	CEE Tier 2 Refrigerator		
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	1.69	1.00	13.95	13.95	7.81	7.81	CEE Tier 3 Refrigerator		
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	1.69	1.00	1.07	1.07	0.60	0.60	CEE Tier 3 Refrigerator		
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	1.85	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Refrigerator		
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	1.85	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Refrigerator		
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	1.86	1.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Refrigerator		
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	1.86	1.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Refrigerator		
Refrigerators	Residential Refrigerator Recycling and Replacement	Large Office	Discretionary	138.5	0.02	0.02	0.00	0.00	0.0	0.0	0.0	8	\$72.13	\$50.49	\$0.17	\$0.00	\$0.00	2.41	1.00	23.41	23.41	13.11	13.11	Recycling Existing Refrigerator and Replacing with a Federal Standard Unit		
Room Cool	Ductless Air Conditioner (DAC)	Large Office	Discretionary	153.6	0.07	0.00	0.00	0.00	0.0	0.0	0.0	15	\$3,711.32	\$2,597.92	\$0.17	\$0.00	\$0.00	0.17	1.00	0.26	0.00	0.00	0.00	Ductless Air Conditioner - SEER/EER 18/12.5		
Room Cool	Ductless Air Conditioner (DAC)	Large Office	Lost Opportunity	153.6	0.07	\$3,711.32	\$2,597.92	\$0.11	\$0.00	\$0.00	0.0	15	\$3,711.32	\$2,597.92	\$0.11	\$0.00	\$0.00	0.17	1.00	0.03	0.00	0.00	0.00	Ductless Air Conditioner - SEER/EER 18/12.5		
Room Cool	Ductless Heat Pump (DHP)	Large Office	Discretionary	418.4	0.19	0.00	0.00	0.00	0.0	0.0	0.0	15	\$6,323.44	\$4,426.41	\$0.17	\$0.00	\$0.00	0.27	1.00	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0		
Room Cool	Ductless Heat Pump (DHP)	Large Office	Lost Opportunity	418.4	0.19	0.00	0.00	0.00	0.0	0.0	0.0	15	\$6,323.44	\$4,426.41	\$0.11	\$0.00	\$0.00	0.27	1.00	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0		
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Large Office	Discretionary	440.5	0.20	0.00	0.00	0.00	0.0	0.0	0.0	15	\$6,474.60	\$4,532.22	\$0.17	\$0.00	\$0.00	0.28	1.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0		
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Large Office	Lost Opportunity	440.5	0.20	0.00	0.00	0.00	0.0	0.0	0.0	15	\$6,474.60	\$4,532.22	\$0.11	\$0.00	\$0.00	0.28	1.00	0.01	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0		
Room Cool	Green Roof	Large Office	Discretionary	3.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$291,274.61	\$203,892.23	\$0.17	\$2,912.75	\$0.00	0.00	0.00	1.00	0.01	0.00	0.00	0.00	Vegetation on Roof	
Room Cool	Green Roof	Large Office	Lost Opportunity	2.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$291,274.61	\$203,892.23	\$0.11	\$2,912.75	\$0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	Vegetation on Roof	
Room Cool	Infiltration Reduction	Large Office	Discretionary	21.3	0.01	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1,341.13	\$938.79	\$0.17	\$0.00	\$0.00	0.04	1.00	0.00	0.00	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)	
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Large Office	Discretionary	41.8	0.02	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,276.84	\$2,293.79	\$0.17	\$0.00	\$0.00	0.11	1.00	0.05	0.00	0.00	0.00	0.00	R-35 c.i.	
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Large Office	Lost Opportunity	37.6	0.02	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,276.84	\$2,293.79	\$0.11	\$0.00	\$0.00	0.10	1.00	0.00	0.00	0.00	0.00	0.00	R-35 c.i.	
Room Cool	Insulation - Ceiling - CBES 2015 - Code	Large Office	Discretionary	143.2	0.06	0.00	0.00	0.00	0.0	0.0	0.0	30	\$14,952.10	\$10,466.47	\$0.17	\$0.00	\$0.00	0.08	1.00	0.11	0.00	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)	
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Office	Discretionary	61.6	0.03	0.00	0.00	0.00	0.0	0.0	0.0	30	\$5,825.49	\$4,077.84	\$0.17	\$0.00	\$0.00	0.09	1.00	0.03	0.00	0.00	0.00	0.00	R-38	
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Office	Lost Opportunity	55.4	0.03	0.00	0.00	0.00	0.0	0.0	0.0	30	\$5,825.49	\$4,077.84	\$0.11	\$0.00	\$0.00	0.08	1.00	0.00	0.00	0.00	0.00	0.00	R-38	
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Code	Large Office	Discretionary	107.3	0.05	0.00	0.00	0.00	0.0	0.0	0.0	30	\$16,699.74	\$11,689.82	\$0.17	\$0.00	\$0.00	0.05	1.00	0.04	0.00	0.00	0.00	0.00	R-30 (CBES 2015 Code)	
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Large Office	Discretionary	27.8	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,873.36	\$1,311.35	\$0.17	\$0.00	\$0.00	0.13	1.00	0.02	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Large Office	Lost Opportunity	25.0	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,873.36	\$1,311.35	\$0.11	\$0.00	\$0.00	0.11	1.00	0.00	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Room Cool	Insulation - Wall - CBES 2015 - Code	Large Office	Discretionary	30.5	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$12,855.13	\$8,998.59	\$0.17	\$0.00	\$0.00	0.02	1.00	0.01	0.00	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)	
Room Cool	Natural Ventilation	Large Office	Lost Opportunity	64.0	0.03	0.00	0.00	0.00	0.0	0.0	0.0	15	\$22,711.00	\$15,897.70	\$0.11	\$0.00	\$0.00	0.01	1.00	0.00	0.00	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling	
Room AC - ENERGY STAR	Room AC - ENERGY STAR	Large Office	Room AC - ENERGY STAR	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.03	\$0.02	\$0.17	\$0.00	\$0.00	0.25	1.00	0.39	0.00	0.00	0.00	0.00	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)	
Room Cool	Room AC - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.03	\$0.02	\$0.11	\$0.00	\$0.00	0.25	1.00	0.02	0.00	0.00	0.00	0.00	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)	
Room Cool	Windows - CBES 2015 - Above Code	Large Office	Discretionary	5.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$7,930.74	\$5,551.52	\$0.17	\$0.00	\$0.00	0.00	1.00	0.01	0.00	0.00	0.00	0.00	U-0.29	
Room Cool	Windows - CBES 2015 - Above Code	Large Office	Lost Opportunity	4.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$7,930.74	\$5,551.52	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	U-0.29	</



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec	Per Unit Summer	Per Unit Winter	Per unit	Per Unit Oil	Per Unit Propane	Per Unit Wood	Per Unit Water	EE	Measure Cost	Incentive	Non-Incentive	O&M	O&M	Measure	NTG	20 YR	20 YR	Measure Description			
				Savings	NCP kW	NCP kW	NG Saving	Savings	Savings	Savings	Savings	EUL		Amount	Cost (\$/kWh)	Benefits	Costs	Level VT Societal	Ratio	Technical Potential (MWh)	Economic Potential (MWh)				
Servers	IT Systems - Server Virtualization/Consolidation	Large Office	Discretionary	377.5	0.05	0.03	0.00	0.00	0.0	0.0	0.0	5	\$31.17	\$21.82	\$0.17	\$0.00	\$0.00	9.94	0.99	53.67	68.28	44.75	44.75	Server Virtualization/Consolidation	
Servers	IT Systems - Server Virtualization/Consolidation	Large Office	Lost Opportunity	372.4	0.05	0.03	0.00	0.00	0.0	0.0	0.0	5	\$30.75	\$21.52	\$0.11	\$0.00	\$0.00	9.94	0.99	2.90	3.78	2.48	2.48	Server Virtualization/Consolidation	
Servers	IT Systems - Uninterruptible Power Supply Upgrade	Large Office	Discretionary	55.5	0.01	0.01	0.00	0.00	0.0	0.0	0.0	15	\$22.07	\$15.45	\$0.17	\$0.00	\$0.00	6.47	0.99	7.90	10.05	6.58	6.58	Upgrade Uninterruptible Power Supply (UPS)	
Servers	IT Systems - Uninterruptible Power Supply Upgrade	Large Office	Lost Opportunity	54.8	0.01	0.00	0.00	0.00	0.0	0.0	0.0	15	\$21.77	\$15.24	\$0.11	\$0.00	\$0.00	6.47	0.99	0.43	0.56	0.36	0.36	Upgrade Uninterruptible Power Supply (UPS)	
Servers	Internal Power Supply / Server	Large Office	Discretionary	30.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$8.88	\$6.22	\$0.17	\$0.00	\$0.00	2.22	0.99	2.51	3.19	2.09	2.09	80 Plus power supply for Desktop Derived Server	
Servers	Internal Power Supply / Server	Large Office	Lost Opportunity	30.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$8.88	\$6.22	\$0.11	\$0.00	\$0.00	2.22	0.99	0.14	0.18	0.12	0.12	80 Plus power supply for Desktop Derived Server	
Servers	Server - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.06	\$0.04	\$0.17	\$0.00	\$0.00	0.33	0.99	43.84	0.00	0.00	0.00	ENERGY STAR Server	
Servers	Server - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.06	\$0.04	\$0.11	\$0.00	\$0.00	0.33	0.99	2.20	0.00	0.00	0.00	ENERGY STAR Server	
Space Heat - Electric	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Large Office	Discretionary	27,618.0	0.06	11.11	0.00	0.00	0.0	0.0	0.0	15	\$5,677.75	\$3,974.43	\$0.17	\$0.00	\$0.00	9.10	0.97	8.53	8.53	5.50	5.50	Demand Controlled Ventilation (CO2 sensors)	
Space Heat - Electric	Commissioning	Large Office	Lost Opportunity	40,799.3	0.09	16.41	0.00	0.00	0.0	0.0	0.0	5	\$26,344.76	\$18,441.33	\$0.11	\$0.00	\$0.00	0.96	0.97	1.16	0.00	0.00	0.00	Commissioning	
Space Heat - Electric	Convert Constant Volume Air System to VAV	Large Office	Discretionary	82,442.9	0.17	33.16	0.00	0.00	0.0	0.0	0.0	15	\$82,810.79	\$57,967.56	\$0.17	\$0.00	\$0.00	1.86	0.97	2.96	2.96	1.91	1.91	Variable Volume Air System	
Space Heat - Electric	Direct Digital Control System-Installation	Large Office	Discretionary	47,076.1	0.10	18.94	0.00	0.00	0.0	0.0	0.0	5	\$7,097.19	\$4,968.03	\$0.17	\$0.00	\$0.00	4.12	0.97	12.47	12.47	8.04	8.04	Installation of EMS System	
Space Heat - Electric	Direct Digital Control System-Installation	Large Office	Lost Opportunity	47,076.1	0.10	18.94	0.00	0.00	0.0	0.0	0.0	5	\$7,097.19	\$4,968.03	\$0.11	\$0.00	\$0.00	4.12	0.97	0.00	0.00	0.00	0.00	Installation of EMS System	
Space Heat - Electric	Duct Repair and Sealing	Large Office	Discretionary	27,290.5	0.06	10.98	0.00	0.00	0.0	0.0	0.0	18	\$5,450.64	\$3,815.45	\$0.17	\$0.00	\$0.00	11.21	0.97	5.47	5.47	3.53	3.53	Reduction In Duct Losses to 5 %	
Space Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Large Office	Discretionary	47,076.1	0.10	18.94	0.00	0.00	0.0	0.0	0.0	14	\$66,542.46	\$46,579.72	\$0.17	\$0.00	\$0.00	1.24	0.97	1.31	1.31	0.00	0.78	Exhaust Air to Ventilation Air Heat Recovery	
Space Heat - Electric	Indirect Information Feedback	Large Office	Discretionary	1,633.0	0.00	0.66	0.00	0.00	0.0	0.0	0.0	2	\$5,433.48	\$3,803.44	\$0.17	\$0.00	\$0.00	0.07	0.97	0.39	0.00	0.00	0.00	Indirect Information Feedback	
Space Heat - Electric	Indirect Information Feedback	Large Office	Lost Opportunity	1,633.0	0.00	0.66	0.00	0.00	0.0	0.0	0.0	2	\$5,433.48	\$3,803.44	\$0.11	\$0.00	\$0.00	0.07	0.97	0.03	0.00	0.00	0.00	Indirect Information Feedback	
Space Heat - Electric	Infiltration Reduction	Large Office	Discretionary	31,384.1	0.07	12.62	0.00	0.00	0.0	0.0	0.0	10	\$1,341.13	\$938.79	\$0.17	\$0.00	\$0.00	29.46	0.97	0.54	0.54	0.35	0.35	Install Caulking And Weatherstripping (ACH 0.65)	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Large Office	Discretionary	18,441.2	0.04	7.42	0.00	0.00	0.0	0.0	0.0	30	\$3,276.84	\$2,293.79	\$0.17	\$0.00	\$0.00	21.12	0.97	2.64	2.64	1.71	1.71	R-35 c.i.	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Large Office	Lost Opportunity	18,441.2	0.04	7.42	0.00	0.00	0.0	0.0	0.0	30	\$3,276.84	\$2,293.79	\$0.11	\$0.00	\$0.00	21.12	0.97	0.07	0.07	0.04	0.04	R-35 c.i.	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Large Office	Discretionary	63,182.1	0.13	25.42	0.00	0.00	0.0	0.0	0.0	30	\$14,952.10	\$10,466.47	\$0.17	\$0.00	\$0.00	15.86	0.97	5.80	5.80	3.74	3.74	R-30 c.i. (CBES 2015 Code)	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Large Office	Discretionary	11,298.3	0.02	4.54	0.00	0.00	0.0	0.0	0.0	20	\$308.02	\$215.61	\$0.17	\$0.00	\$0.00	91.23	0.97	4.23	4.23	2.73	2.73	R-12	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Large Office	Lost Opportunity	11,298.3	0.02	4.54	0.00	0.00	0.0	0.0	0.0	20	\$308.02	\$215.61	\$0.11	\$0.00	\$0.00	91.23	0.97	0.29	0.29	0.16	0.16	R-12	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Code	Large Office	Discretionary	11,298.3	0.02	4.54	0.00	0.00	0.0	0.0	0.0	20	\$1,240.59	\$868.41	\$0.17	\$0.00	\$0.00	22.65	0.97	3.46	3.46	2.23	2.23	R-8 (CBES 2015 Code)	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Office	Discretionary	27,176.6	0.06	10.93	0.00	0.00	0.0	0.0	0.0	30	\$5,825.49	\$4,077.84	\$0.17	\$0.00	\$0.00	17.51	0.97	1.30	1.30	0.84	0.84	R-38	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Office	Lost Opportunity	27,176.6	0.06	10.93	0.00	0.00	0.0	0.0	0.0	30	\$5,825.49	\$4,077.84	\$0.11	\$0.00	\$0.00	17.51	0.97	0.15	0.15	0.08	0.08	R-38	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Large Office	Discretionary	47,332.5	0.10	19.04	0.00	0.00	0.0	0.0	0.0	30	\$16,699.74	\$11,689.82	\$0.17	\$0.00	\$0.00	10.64	0.97	2.10	2.10	1.35	1.35	R-30 (CBES 2015 Code)	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Large Office	Discretionary	12,274.0	0.03	4.94	0.00	0.00	0.0	0.0	0.0	30	\$1,873.36	\$1,311.35	\$0.17	\$0.00	\$0.00	24.59	0.97	0.99	0.99	0.64	0.64	R-13 + 15.6 c.i.	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Large Office	Lost Opportunity	12,274.0	0.03	4.94	0.00	0.00	0.0	0.0	0.0	30	\$1,873.36	\$1,311.35	\$0.11	\$0.00	\$0.00	24.59	0.97	0.16	0.16	0.09	0.09	R-13 + 15.6 c.i.	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Code	Large Office	Discretionary	13,477.8	0.03	5.42	0.00	0.00	0.0	0.0	0.0	30	\$12,855.13	\$8,998.59	\$0.17	\$0.00	\$0.00	3.94	0.97	0.60	0.60	0.39	0.39	R-13 + 7.5 c.i. (CBES 2015 Code)	
Space Heat - Electric	Programmable Thermostat	Large Office	Discretionary	12,553.6	0.03	5.05	0.00	0.00	0.0	0.0	0.0	11	\$60.30	\$42.21	\$0.17	\$0.00	\$0.00	287.74	0.97	4.62	4.62	3.60	2.98	Programmable Thermostat	
Space Heat - Electric	Re-Commissioning	Large Office	Discretionary	40,799.3	0.09	16.41	0.00	0.00	0.0	0.0	0.0	5	\$6,813.30	\$4,769.31	\$0.17	\$0.00	\$0.00	3.72	0.97	16.57	16.57	10.69	10.69	Re-Commissioning	
Space Heat - Electric	Retrocommissioning	Large Office	Discretionary	46,553.1	0.10	18.73	0.00	0.00	0.0	0.0	0.0	5	\$11,355.50	\$7,948.85	\$0.17	\$0.00	\$0.00	2.55	0.97	10.21	10.21	0.00	6.58	Retrocommissioning	
Space Heat - Electric	Strategic Energy Management (SEM)	Large Office	Discretionary	12,867.5	0.03	5.18	0.00	0.00	0.0	0.0	0.0	5	\$1,734.08	\$1,213.86	\$0.17	\$0.00	\$0.00	4.61	0.97	0.58	0.58	0.37	0.37	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Space Heat - Electric	Strategic Energy Management (SEM)	Large Office	Lost Opportunity	12,867.5	0.03	5.18	0.00	0.00	0.0	0.0	0.0	5	\$1,734.08	\$1,213.86	\$0.11	\$0.00	\$0.00	4.61	0.97	0.25	0.25	0.16	0.16	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Space Heat - Electric	Wi-Fi Thermostat	Large Office	Discretionary	12,553.6	0.03	5.05	0.00	0.00	0.0	0.0	0.0	11	\$480.31	\$336.21	\$0.17	\$0.00	\$0.00	36.12	0.97	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)	
Space Heat - Electric	Windows - CBES 2015 - Above Code	Large Office	Discretionary	2,396.6	0.01	0.96	0.00	0.00	0.0	0.0	0.0	20	\$7,930.74	\$5,551.52	\$0.17	\$0.00	\$0.00	0.75	0.97	0.20	0.00	0.00	0.00	U-0.29	
Space Heat - Electric	Windows - CBES 2015 - Above Code	Large Office	Lost Opportunity	2,396.6	0.01	0.96	0.00	0.00	0.0	0.0	0.0	20	\$7,930.74	\$5,551.52	\$0.11	\$0.00	\$0.00	0.75	0.97	0.05	0.00	0.00	0.00	U-0.29	
Space Heat - Electric	Windows - CBES 2015 - Code	Large Office	Discretionary	5,620.3	0.01	2.26	0.00	0.00	0.0	0.0	0.0	20	\$52,371.65	\$36,660.15	\$0.17	\$0.00	\$0.00	0.27	0.97	0.46	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Vending Machines	Vending Machines - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.99	0.00	0.00	0.00	0.00	ENERGY STAR Vending Machines - 3.84 kWh/day	
Vending Machines	Vending Machines - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.99	0.00	0.00	0.00	0.00	ENERGY STAR Vending Machines - 3.84 kWh/day	
Vending Machines	Vending Machines - Federal Standard 2020	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.99	1.57	0.00	0.00	0.00	0.00	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Machines - Federal Standard 2020	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.99	0.03	0.00	0.00	0.00	0.00	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Miser	Large Office	Discretionary	239.5	0.03	0.03	0.00	0.00	0.0	0.0	0.0	5	\$36.50	\$25.55	\$0.17	\$0.00	\$0.00	5.04	0.99	31.63	31.73	20.80	20.80	Vending Machine Occupancy Sensor	
Vending Machines	Vending Miser	Large Office	Lost Opportunity	239.3	0.03	0.03	0.00	0.00	0.0	0.0	0.0	5	\$36.50	\$25.55	\$0.11	\$0.00	\$0.00	5.04	0.99	2.02	2.03	1.33	1.33	Vending Machine Occupancy Sensor	
Ventilation And Circulation	Automated Exhaust VFD Control - Parking Garage CO sensor	Large Office	Discretionary	4,925.2	0.56	0.61	0.00	0.00	0.0	0.0	0.0	5	\$716.85	\$501.79	\$0.17	\$0.00	\$0.00	5.31	0.98	148.70	148.70	106.93	106.93	CO Sensors	
Ventilation And Circulation	Boiler Draft Fan - VFD	Large Office	Discretionary	6,056.3	0.69	0.75	0.00	0.00	0.0	0.0	0.0	15	\$3,258.61	\$2,281.03	\$0.17	\$0.00	\$0.00	4.47	0.98	348.90	348.90	250.91	250.91	VFD Boiler Draft Fan	
Ventilation And Circulation	Boiler Draft Fan - VFD	Large Office	Lost Opportunity	6,056.3	0.69	0.75	0.00	0.00	0.0	0.0	0.0	15	\$3,258.61	\$2,281.03	\$0.11	\$0.00	\$0.00	4.47	0.98	13.34	13.34	9.43	9.43	VFD Boiler Draft Fan	
Ventilation And Circulation	Convert Constant Volume Air System to VAV	Large Office	Discretionary	20,565.4	2.35	2.54	0.00	0.00	0.0	0.0	0.0	15	\$82,810.79	\$57,967.56	\$0.17	\$0.00	\$0.00	0.60	0.98	348.45	0.00	0.00	0.00	0.00	Variable Volume Air System
Ventilation And Circulation	Cooling Tower Fan - Variable Speed Control	Large Office	Discretionary	1,6																					



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.96	\$0.67	\$0.17	\$0.36	\$0.00	0.02	0.94	1.30	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.96	\$0.67	\$0.11	\$0.36	\$0.00	0.02	0.94	0.05	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Large Office	Discretionary	616.3	0.00	0.25	0.00	0.00	0.0	0.0	0.0	20	\$1,593.04	\$1,115.13	\$0.17	\$0.00	\$0.00	0.96	0.94	1.30	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Large Office	Lost Opportunity	616.3	0.00	0.25	0.00	0.00	0.0	0.0	0.0	20	\$1,593.04	\$1,115.13	\$0.11	\$0.00	\$0.00	0.96	0.94	0.06	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Large Office	Discretionary	453.7	0.00	0.18	0.00	0.00	0.0	0.0	0.0	10	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.94	0.05	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Large Office	Lost Opportunity	453.7	0.00	0.18	0.00	0.00	0.0	0.0	0.0	10	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.94	0.00	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.23	\$0.16	\$0.17	\$0.00	\$0.00	0.17	0.94	2.19	0.00	0.00	0.00	CO2 Heat Pump Water Heater	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.23	\$0.16	\$0.11	\$0.00	\$0.00	0.17	0.94	0.09	0.00	0.00	0.00	CO2 Heat Pump Water Heater	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.05	\$0.03	\$0.17	\$0.00	\$0.00	0.25	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.05	\$0.03	\$0.11	\$0.00	\$0.00	0.25	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.19	\$0.13	\$0.17	\$0.00	\$0.00	0.18	0.94	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 Gal - EF 2.8	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Large Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.19	\$0.13	\$0.11	\$0.00	\$0.00	0.18	0.94	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 Gal - EF 2.8	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Large Office	Discretionary	635.1	0.00	0.26	0.00	0.00	0.0	0.0	0.0	4	\$0.05	\$0.03	\$0.17	\$0.00	\$0.00	6728.73	0.94	1.34	2.04	1.08	1.08	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Large Office	Lost Opportunity	635.1	0.00	0.26	0.00	0.00	0.0	0.0	0.0	4	\$0.05	\$0.03	\$0.11	\$0.00	\$0.00	6728.73	0.94	0.06	0.11	0.06	0.06	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Tank Wrap	Large Office	Discretionary	1,277.9	0.00	0.51	0.00	0.00	0.0	0.0	0.0	7	\$193.90	\$135.73	\$0.17	\$0.00	\$0.00	5.79	0.94	1.36	2.08	1.10	1.10	Add R-10 Tank Wrap	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Large Office	Discretionary	22.8	0.00	0.01	0.00	0.00	0.0	0.0	2.1	13	\$25.45	\$17.82	\$0.17	\$0.00	\$0.00	2.42	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Large Office	Lost Opportunity	22.8	0.00	0.01	0.00	0.00	0.0	0.0	2.1	13	\$25.45	\$17.82	\$0.11	\$0.00	\$0.00	2.42	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Large Office	Discretionary	50.6	0.00	0.02	0.00	0.00	0.0	0.0	2.7	13	\$47.06	\$32.94	\$0.17	\$0.00	\$0.00	2.44	0.94	2.03	5.01	2.65	2.65	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Large Office	Lost Opportunity	50.6	0.00	0.02	0.00	0.00	0.0	0.0	2.7	13	\$47.06	\$32.94	\$0.11	\$0.00	\$0.00	2.44	0.94	0.09	0.28	0.15	0.15	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Large Office	Discretionary	218.4	0.00	0.09	0.00	0.00	0.0	0.0	0.0	13	\$49.98	\$34.99	\$0.17	\$0.00	\$0.00	7.11	0.94	7.19	17.78	9.39	9.39	1.0" of Insulation, assuming R-4 (Code)	
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Large Office	Discretionary	686.3	0.00	0.28	0.00	0.00	0.0	0.0	0.0	25	\$4,949.00	\$3,464.30	\$0.17	\$0.00	\$0.00	0.43	0.94	0.51	0.00	0.00	0.00	Install Heat Recovery Water Heater	
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Large Office	Discretionary	15.1	0.00	0.01	0.00	0.00	0.0	0.0	0.0	20	\$1.78	\$1.25	\$0.17	\$0.00	\$0.00	21.12	0.94	0.27	0.66	0.35	0.35	R-3	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Office	Discretionary	952.4	0.00	0.38	0.00	0.00	0.0	0.0	70.4	9	\$90.84	\$63.59	\$0.17	\$0.00	\$0.00	18.60	0.94	60.44	149.44	78.96	78.96	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Office	Lost Opportunity	952.4	0.00	0.38	0.00	0.00	0.0	0.0	70.4	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.94	2.62	0.00	0.00	0.00	0.00	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Office	Discretionary	672.3	0.00	0.27	0.00	0.00	0.0	0.0	49.7	9	\$90.84	\$63.59	\$0.17	\$0.00	\$0.00	13.13	0.94	0.00	0.00	0.00	0.00	1.0 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Office	Lost Opportunity	672.3	0.00	0.27	0.00	0.00	0.0	0.0	49.7	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.94	0.00	0.00	0.00	0.00	1.0 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Office	Discretionary	392.2	0.00	0.16	0.00	0.00	0.0	0.0	29.0	9	\$90.84	\$63.59	\$0.17	\$0.00	\$0.00	7.66	0.94	0.00	0.00	0.00	0.00	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Office	Lost Opportunity	392.2	0.00	0.16	0.00	0.00	0.0	0.0	29.0	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.94	0.00	0.00	0.00	0.00	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Office	Discretionary	168.1	0.00	0.07	0.00	0.00	0.0	0.0	10.9	9	\$90.84	\$63.59	\$0.17	\$0.00	\$0.00	3.14	0.94	4.00	9.89	5.23	5.23	2.2 GPM (Federal Code)	
Water Heat LE 55 Gal	Low-Flow Showerheads	Large Office	Discretionary	364.0	0.00	0.15	0.00	0.00	0.0	0.0	42.8	9	\$22.71	\$15.90	\$0.17	\$0.00	\$0.00	34.49	0.94	21.94	54.26	28.67	28.67	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Large Office	Lost Opportunity	364.0	0.00	0.15	0.00	0.00	0.0	0.0	42.8	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.94	0.95	0.00	0.00	0.00	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Large Office	Discretionary	273.0	0.00	0.11	0.00	0.00	0.0	0.0	32.1	9	\$22.71	\$15.90	\$0.17	\$0.00	\$0.00	25.87	0.94	0.00	0.00	0.00	0.00	1.75 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Large Office	Lost Opportunity	273.0	0.00	0.11	0.00	0.00	0.0	0.0	32.1	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.94	0.00	0.00	0.00	0.00	1.75 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Large Office	Discretionary	182.0	0.00	0.07	0.00	0.00	0.0	0.0	21.4	9	\$22.71	\$15.90	\$0.17	\$0.00	\$0.00	17.25	0.94	0.00	0.00	0.00	0.00	2.0 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Large Office	Lost Opportunity	182.0	0.00	0.07	0.00	0.00	0.0	0.0	21.4	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.94	0.00	0.00	0.00	0.00	2.0 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Large Office	Discretionary	182.0	0.00	0.07	0.00	0.00	0.0	0.0	21.4	9	\$22.71	\$15.90	\$0.17	\$0.00	\$0.00	17.25	0.94	4.11	10.17	5.38	5.38	2.5 GPM (Federal Code)	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Large Office	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2.77	\$1.94	\$0.17	\$0.72	\$0.00	0.02	0.94	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Large Office	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2.77	\$1.94	\$0.11	\$0.72	\$0.00	0.02	0.94	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Large Office	Discretionary	616.3	0.00	0.25	0.00	0.00	0.0	0.0	0.0	20	\$1,593.04	\$1,115.13	\$0.17	\$0.00	\$0.00	0.96	0.94	37.15	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Large Office	Lost Opportunity	616.3	0.00	0.25	0.00	0.00	0.0	0.0	0.0	20	\$1,593.04	\$1,115.13	\$0.11	\$0.00	\$0.00	0.96	0.94	1.61	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Large Office	Discretionary	426.3	0.00	0.17	0.00	0.00	0.0	0.0	0.0	10	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.94	1.35	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Large Office	Lost Opportunity	426.3	0.00	0.17	0.00	0.00	0.0	0.0	0.0	10	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.94	0.06	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Large Office	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.31	\$0.92	\$0.17	\$0.01	\$0.00	0.11	0.94	232.85	0.00	0.00	0.00	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Large Office	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.31	\$0.92	\$0.11	\$0.01	\$0.00	0.11	0.94	10.88	0.00	0.00	0.00	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Large Office	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.84	\$0.59	\$0.17	\$0.01	\$0.00	0.13	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Large Office	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.84	\$0.59	\$0.11	\$0.01	\$0.00	0.13	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Large Office	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.94	\$0.66	\$0.17	\$0.01	\$0.00	0.13	0.94	0.00	0.00	0.00	0.00	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Large Office	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.94	\$0.66	\$0.11	\$0.01	\$0.00	0.13	0.94	0.00	0.00	0.00	0.00	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Large Office	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.22	\$0.85	\$0.17	\$0.01	\$0.00	0.12	0.94	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 Gal - EF 2.8	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Large Office	Lost Opportunity	0.1	0.00	0.00	0.00																		



Appendix B.4		BED Non-residential Measure Assumptions																									
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description			
Cooking	Combination Oven	Large Retail	Discretionary	788.9	0.09	0.09	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Combination Oven			
Cooking	Combination Oven	Large Retail	Lost Opportunity	788.9	0.09	0.09	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Combination Oven			
Cooking	Convection Oven	Large Retail	Discretionary	178.2	0.02	0.02	0.00	0.00	0.0	0.0	0.0	12	\$48.07	\$33.65	\$0.17	\$0.00	\$0.00	7.05	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Convection Oven			
Cooking	Convection Oven	Large Retail	Lost Opportunity	178.2	0.02	0.02	0.00	0.00	0.0	0.0	0.0	12	\$48.07	\$33.65	\$0.11	\$0.00	\$0.00	7.05	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Convection Oven			
Cooking	Fryers	Large Retail	Discretionary	368.1	0.04	0.04	0.00	0.00	0.0	0.0	0.0	12	\$62.69	\$43.88	\$0.17	\$0.00	\$0.00	11.17	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Fryer			
Cooking	Fryers	Large Retail	Lost Opportunity	368.1	0.04	0.04	0.00	0.00	0.0	0.0	0.0	12	\$62.69	\$43.88	\$0.11	\$0.00	\$0.00	11.17	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Fryer			
Cooking	Griddle	Large Retail	Discretionary	236.5	0.03	0.03	0.00	0.00	0.0	0.0	0.0	12	\$106.55	\$74.58	\$0.17	\$0.00	\$0.00	4.22	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Griddle			
Cooking	Griddle	Large Retail	Lost Opportunity	236.5	0.03	0.03	0.00	0.00	0.0	0.0	0.0	12	\$106.55	\$74.58	\$0.11	\$0.00	\$0.00	4.22	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Griddle			
Cooking	Hot Food Holding Cabinet	Large Retail	Discretionary	214.3	0.02	0.02	0.00	0.00	0.0	0.0	0.0	12	\$111.75	\$78.22	\$0.17	\$0.00	\$0.00	3.65	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Hot Food Holding Cabinet			
Cooking	Hot Food Holding Cabinet	Large Retail	Lost Opportunity	214.3	0.02	0.02	0.00	0.00	0.0	0.0	0.0	12	\$111.75	\$78.22	\$0.11	\$0.00	\$0.00	3.65	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Hot Food Holding Cabinet			
Cooking	Microwave - High Efficiency	Large Retail	Discretionary	1.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$0.61	\$0.43	\$0.17	\$0.00	\$0.00	3.38	1.00	0.00	0.00	0.00	0.00	High Efficiency Microwave			
Cooking	Microwave - High Efficiency	Large Retail	Lost Opportunity	1.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$0.61	\$0.43	\$0.11	\$0.00	\$0.00	3.38	1.00	0.00	0.00	0.00	0.00	High Efficiency Microwave			
Cooking	Steam Cooker	Large Retail	Discretionary	617.4	0.07	0.07	0.00	0.00	0.0	0.0	2,224.3	12	\$210.61	\$147.43	\$0.17	\$0.00	\$0.00	122.38	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Steam Cooker			
Cooking	Steam Cooker	Large Retail	Lost Opportunity	617.4	0.07	0.07	0.00	0.00	0.0	0.0	2,224.3	12	\$210.61	\$147.43	\$0.11	\$0.00	\$0.00	122.38	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Steam Cooker			
Cooling Chillers	Active Chilled Beam Cooling with DOAS	Large Retail	Lost Opportunity	520.8	0.18	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$9,186.00	\$0.00	\$0.11	\$6,889.50	\$0.00	0.03	0.99	0.38	0.00	0.00	0.00	Active Chilled Beam Cooling with DOAS			
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Large Retail	Discretionary	270.8	0.09	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2,296.50	\$1,607.55	\$0.17	\$0.00	\$0.00	0.41	0.99	2.36	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)			
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Large Retail	Discretionary	481.7	0.16	0.00	0.00	0.00	0.0	0.0	0.0	15	\$10,655.76	\$7,459.03	\$0.17	\$0.00	\$0.00	0.16	0.99	5.28	0.00	0.00	0.00	Additional Control Features			
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Large Retail	Lost Opportunity	481.7	0.16	0.00	0.00	0.00	0.0	0.0	0.0	15	\$10,655.76	\$7,459.03	\$0.11	\$0.00	\$0.00	0.16	0.99	0.16	0.00	0.00	0.00	Additional Control Features			
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Large Retail	Discretionary	293.2	0.10	0.00	0.00	0.00	0.0	0.0	0.0	10	\$10,836.42	\$7,585.49	\$0.17	\$0.00	\$0.00	0.06	0.99	1.59	0.00	0.00	0.00	VSD for Secondary Chilled Water Loop			
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Large Retail	Lost Opportunity	293.2	0.10	0.00	0.00	0.00	0.0	0.0	0.0	10	\$9,752.78	\$6,826.94	\$0.11	\$0.00	\$0.00	0.07	0.99	0.14	0.00	0.00	0.00	VSD for Secondary Chilled Water Loop			
Cooling Chillers	Chilled Water Reset	Large Retail	Discretionary	130.2	0.04	0.00	0.00	0.00	0.0	0.0	0.0	10	\$6,258.79	\$4,381.15	\$0.17	\$0.00	\$0.00	0.05	0.99	2.07	0.00	0.00	0.00	Chilled Water Temperature Reset			
Cooling Chillers	Chilled Water Reset	Large Retail	Lost Opportunity	130.2	0.04	0.00	0.00	0.00	0.0	0.0	0.0	10	\$6,258.79	\$4,381.15	\$0.11	\$0.00	\$0.00	0.05	0.99	0.00	0.00	0.00	0.00	Chilled Water Temperature Reset			
Cooling Chillers	Chilled Water Side Economizer	Large Retail	Discretionary	729.0	0.25	0.00	0.00	0.00	0.0	0.0	0.0	15	\$71,776.78	\$50,243.74	\$0.17	\$0.00	\$0.00	0.04	0.99	7.05	0.00	0.00	0.00	0.00	Install Economizer		
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Large Retail	Discretionary	163.8	0.06	0.00	0.00	0.00	0.0	0.0	0.0	15	\$294.50	\$206.15	\$0.17	\$0.00	\$0.00	1.95	0.99	5.04	5.64	3.75	3.75	2.0" of Insulation, assuming R-8			
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Large Retail	Lost Opportunity	163.8	0.06	0.00	0.00	0.00	0.0	0.0	0.0	15	\$294.50	\$206.15	\$0.11	\$0.00	\$0.00	1.95	0.99	0.34	0.39	0.25	0.25	2.0" of Insulation, assuming R-8			
Cooling Chillers	Chiller - Pipe Insulation - Code	Large Retail	Discretionary	273.5	0.09	0.00	0.00	0.00	0.0	0.0	0.0	15	\$631.54	\$442.08	\$0.17	\$0.00	\$0.00	1.52	0.99	9.68	10.82	7.19	7.19	1.0" of Insulation, assuming R-4 (Code)			
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.40	\$0.28	\$0.17	\$0.00	\$0.00	0.49	0.99	8.22	0.00	0.00	0.00	0.00	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)		
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.36	\$0.25	\$0.11	\$0.00	\$0.00	0.55	0.99	0.61	0.00	0.00	0.00	0.00	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)		
Cooling Chillers	Commissioning	Large Retail	Lost Opportunity	338.5	0.12	0.00	0.00	0.00	0.0	0.0	0.0	5	\$10,655.76	\$7,459.03	\$0.11	\$0.00	\$0.00	0.03	0.99	0.58	0.00	0.00	0.00	0.00	Commissioning		
Cooling Chillers	Convert Constant Volume Air System to VAV	Large Retail	Discretionary	684.0	0.23	0.00	0.00	0.00	0.0	0.0	0.0	15	\$33,494.78	\$23,446.35	\$0.17	\$0.00	\$0.00	0.07	0.99	1.69	0.00	0.00	0.00	0.00	Variable Volume Air System		
Cooling Chillers	Direct Digital Control System-Installation	Large Retail	Discretionary	390.6	0.13	0.00	0.00	0.00	0.0	0.0	0.0	5	\$2,870.63	\$2,009.44	\$0.17	\$0.00	\$0.00	0.15	0.99	7.08	0.00	0.00	0.00	0.00	Installation of EMS System		
Cooling Chillers	Direct Digital Control System-Installation	Large Retail	Lost Opportunity	390.6	0.13	0.00	0.00	0.00	0.0	0.0	0.0	5	\$2,870.63	\$2,009.44	\$0.11	\$0.00	\$0.00	0.15	0.99	0.05	0.00	0.00	0.00	0.00	Installation of EMS System		
Cooling Chillers	Exhaust Hood Makeup Air	Large Retail	Discretionary	117.2	0.04	0.00	0.00	0.00	0.0	0.0	0.0	12	\$384.06	\$268.84	\$0.17	\$0.00	\$0.00	0.84	0.99	0.12	0.00	0.00	0.00	0.00	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air		
Cooling Chillers	Green Roof	Large Retail	Discretionary	13.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$104,827.66	\$73,379.36	\$0.17	\$1,048.28	\$0.00	0.00	0.99	0.19	0.00	0.00	0.00	0.00	Vegetation on Roof		
Cooling Chillers	Green Roof	Large Retail	Lost Opportunity	11.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$104,827.66	\$73,379.36	\$0.11	\$1,048.28	\$0.00	0.00	0.99	0.01	0.00	0.00	0.00	0.00	Vegetation on Roof		
Cooling Chillers	Indirect Information Feedback	Large Retail	Discretionary	13.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2	\$45.08	\$31.56	\$0.17	\$0.00	\$0.00	0.12	0.99	0.26	0.00	0.00	0.00	0.00	0.00	Indirect Information Feedback	
Cooling Chillers	Indirect Information Feedback	Large Retail	Lost Opportunity	13.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2	\$45.08	\$31.56	\$0.11	\$0.00	\$0.00	0.12	0.99	0.02	0.00	0.00	0.00	0.00	0.00	Indirect Information Feedback	
Cooling Chillers	Infiltration Reduction	Large Retail	Discretionary	78.1	0.03	0.00	0.00	0.00	0.0	0.0	0.0	10	\$416.02	\$291.21	\$0.17	\$0.00	\$0.00	0.43	0.99	0.09	0.00	0.00	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)	
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Discretionary	137.2	0.05	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,179.31	\$825.52	\$0.17	\$0.00	\$0.00	0.85	0.99	1.39	0.00	0.00	0.00	0.00	0.00	R-35 c.i.	
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Lost Opportunity	137.2	0.05	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,179.31	\$825.52	\$0.11	\$0.00	\$0.00	0.85	0.99	0.04	0.00	0.00	0.00	0.00	0.00	R-35 c.i.	
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Code	Large Retail	Discretionary	470.1	0.16	0.00	0.00	0.00	0.0	0.0	0.0	30	\$5,381.15	\$3,766.81	\$0.17	\$0.00	\$0.00	0.64	0.99	3.05	0.00	0.00	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)	
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Discretionary	202.2	0.07	0.00	0.00	0.00	0.0	0.0	0.0	30	\$2,096.55	\$1,467.59	\$0.17	\$0.00	\$0.00	0.71	0.99	0.68	0.00	0.00	0.00	0.00	0.00	R-38	
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Lost Opportunity	202.2	0.07	0.00	0.00	0.00	0.0	0.0	0.0	30	\$2,096.55	\$1,467.59	\$0.11	\$0.00	\$0.00	0.71	0.99	0.08	0.00	0.00	0.00	0.00	0.00	R-38	
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Code	Large Retail	Discretionary	352.1	0.12	0.00	0.00	0.00	0.0	0.0	0.0	30	\$6,010.12	\$4,207.08	\$0.17	\$0.00	\$0.00	0.43	0.99	1.15	0.00	0.00	0.00	0.00	0.00	R-30 (CBES 2015 Code)	
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Discretionary	171.1	0.06	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,263.07	\$884.15	\$0.17	\$0.00	\$0.00	0.99	0.99	0.97	0.00	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Lost Opportunity	171.1	0.06	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,263.07	\$884.15	\$0.11	\$0.00	\$0.00	0.99	0.99	0.16	0.00	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Cooling Chillers	Insulation - Wall - CBES 2015 - Code	Large Retail	Discretionary	187.8	0.06	0.00	0.00	0.00	0.0	0.0	0.0	30	\$8,667.22	\$6,067.06	\$0.17	\$0.00	\$0.00	0.16	0.99	0.68	0.00	0.00	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)	
Cooling Chillers	Natural Ventilation	Large Retail	Lost Opportunity	260.4	0.09	0.00	0.00	0.00	0.0	0.0	0.0	15	\$9,186.00	\$6,430.20	\$0.11	\$0.00	\$0.00	0.10	0.99	0.02	0.00	0.00	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling	
Cooling Chillers	Programmable Thermostat	Large Retail	Discretionary	104.2	0.																						



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Cooling Dx Evap	Infiltration Reduction	Large Retail	Discretionary	66.1	0.02	0.00	0.00	442.19	0.0	0.0	0.0	10	\$416.02	\$291.21	\$0.17	\$0.00	\$0.00	10.43	0.99	0.10	0.13	0.09	0.09	Install Caulking And Weatherstripping (ACH 0.65)	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Discretionary	116.1	0.04	0.00	0.00	302.35	0.0	0.0	0.0	30	\$1,179.31	\$825.52	\$0.17	\$0.00	\$0.00	6.31	0.99	1.41	1.87	1.24	1.24	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Lost Opportunity	116.1	0.04	0.00	0.00	335.95	0.0	0.0	0.0	30	\$1,179.31	\$825.52	\$0.11	\$0.00	\$0.00	6.93	0.99	0.04	0.05	0.03	0.03	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Code	Large Retail	Discretionary	397.7	0.14	0.00	0.00	1035.90	0.0	0.0	0.0	30	\$5,381.15	\$3,766.81	\$0.17	\$0.00	\$0.00	4.74	0.99	3.10	4.11	2.73	2.73	R-30 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Large Retail	Discretionary	79.3	0.03	0.00	0.00	182.10	0.0	0.0	0.0	20	\$124.59	\$87.21	\$0.17	\$0.00	\$0.00	27.20	0.99	2.53	3.35	2.23	2.23	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Large Retail	Lost Opportunity	79.3	0.03	0.00	0.00	202.33	0.0	0.0	0.0	20	\$124.59	\$87.21	\$0.11	\$0.00	\$0.00	29.89	0.99	0.17	0.24	0.14	0.14	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	Large Retail	Discretionary	79.3	0.03	0.00	0.00	182.10	0.0	0.0	0.0	20	\$501.79	\$351.25	\$0.17	\$0.00	\$0.00	6.75	0.99	2.05	2.72	1.81	1.81	R-8 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Discretionary	171.0	0.06	0.00	0.00	445.57	0.0	0.0	0.0	30	\$2,096.55	\$1,467.59	\$0.17	\$0.00	\$0.00	5.23	0.99	0.69	0.92	0.61	0.61	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Lost Opportunity	171.0	0.06	0.00	0.00	495.08	0.0	0.0	0.0	30	\$2,096.55	\$1,467.59	\$0.11	\$0.00	\$0.00	5.74	0.99	0.08	0.11	0.06	0.06	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	Large Retail	Discretionary	297.9	0.10	0.00	0.00	776.04	0.0	0.0	0.0	30	\$6,010.12	\$4,207.08	\$0.17	\$0.00	\$0.00	3.18	0.99	1.12	1.49	0.99	0.99	R-30 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Discretionary	144.7	0.05	0.00	0.00	377.00	0.0	0.0	0.0	30	\$1,263.07	\$884.15	\$0.17	\$0.00	\$0.00	7.34	0.99	1.00	1.33	0.88	0.88	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Lost Opportunity	144.7	0.05	0.00	0.00	418.89	0.0	0.0	0.0	30	\$1,263.07	\$884.15	\$0.11	\$0.00	\$0.00	8.06	0.99	0.17	0.23	0.13	0.13	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Code	Large Retail	Discretionary	158.9	0.05	0.00	0.00	413.97	0.0	0.0	0.0	30	\$8,667.22	\$6,067.06	\$0.17	\$0.00	\$0.00	1.17	0.99	0.62	0.83	0.55	0.55	R-13 + 7.5 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Large Retail	Discretionary	177.3	0.06	0.00	0.00	0.00	0.0	0.0	0.0	15	\$48,665.13	\$34,065.59	\$0.17	\$0.00	\$0.00	0.01	0.99	0.21	0.00	0.00	0.00	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Large Retail	Lost Opportunity	177.3	0.06	0.00	0.00	0.00	0.0	0.0	0.0	15	\$38,932.11	\$27,252.47	\$0.11	\$0.00	\$0.00	0.02	0.99	0.02	0.00	0.00	0.00	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Natural Ventilation	Large Retail	Lost Opportunity	220.3	0.08	0.00	0.00	0.00	0.0	0.0	0.0	15	\$9,186.00	\$6,430.20	\$0.11	\$0.00	\$0.00	0.08	0.99	0.02	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling	
Cooling Dx Evap	Programmable Thermostat	Large Retail	Discretionary	88.1	0.03	0.00	0.00	179.40	0.0	0.0	0.0	11	\$67.76	\$47.43	\$0.17	\$0.00	\$0.00	30.48	0.99	2.76	3.66	2.93	2.43	Programmable Thermostat	
Cooling Dx Evap	Re-Commissioning	Large Retail	Discretionary	286.4	0.10	0.00	0.00	532.74	0.0	0.0	0.0	5	\$2,755.80	\$1,929.06	\$0.17	\$0.00	\$0.00	1.10	0.99	10.16	13.48	8.96	8.96	Re-Commissioning	
Cooling Dx Evap	Retrocommissioning	Large Retail	Discretionary	326.7	0.11	0.00	0.00	607.86	0.0	0.0	0.0	5	\$4,593.00	\$3,215.10	\$0.17	\$0.00	\$0.00	0.75	0.99	6.26	0.00	0.00	0.00	Retrocommissioning	
Cooling Dx Evap	Strategic Energy Management (SEM)	Large Retail	Discretionary	90.3	0.03	0.00	0.00	168.02	0.0	0.0	0.0	5	\$12.17	\$8.52	\$0.17	\$0.00	\$0.00	78.33	0.99	0.44	0.58	0.39	0.39	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Strategic Energy Management (SEM)	Large Retail	Lost Opportunity	90.3	0.03	0.00	0.00	186.69	0.0	0.0	0.0	5	\$12.17	\$8.52	\$0.11	\$0.00	\$0.00	86.13	0.99	0.17	0.23	0.15	0.15	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Tune-up - DX Maintenance	Large Retail	Discretionary	316.7	0.11	0.00	0.00	0.00	0.0	0.0	0.0	5	\$16,534.80	\$11,574.36	\$0.17	\$0.00	\$0.00	0.02	0.99	4.21	0.00	0.00	0.00	DX Tune-up / Diagnostics	
Cooling Dx Evap	Wi-Fi Thermostat	Large Retail	Discretionary	88.1	0.03	0.00	0.00	179.40	0.0	0.0	0.0	11	\$539.80	\$377.86	\$0.17	\$0.00	\$0.00	3.83	0.99	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Large Retail	Discretionary	13.0	0.00	0.00	0.00	29.86	0.0	0.0	0.0	20	\$2,460.13	\$1,722.09	\$0.17	\$0.00	\$0.00	0.23	0.99	0.09	0.00	0.00	0.00	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Large Retail	Lost Opportunity	13.0	0.00	0.00	0.00	33.17	0.0	0.0	0.0	20	\$2,460.13	\$1,722.09	\$0.11	\$0.00	\$0.00	0.25	0.99	0.02	0.00	0.00	0.00	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Code	Large Retail	Discretionary	30.5	0.01	0.00	0.00	70.01	0.0	0.0	0.0	20	\$16,245.80	\$11,372.06	\$0.17	\$0.00	\$0.00	0.08	0.99	0.20	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtuh - Premium Efficiency	Large Retail	Discretionary	1,174.7	0.40	0.00	0.00	0.00	0.0	0.0	0.0	15	\$56,381.79	\$39,467.25	\$0.17	\$0.00	\$0.00	0.07	0.99	12.52	0.00	0.00	0.00	Premium Efficiency - 19.0 IEER	
Fax	Fax - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	1.53	0.00	0.00	0.00	ENERGY STAR Fax	
Fax	Fax - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.08	0.00	0.00	0.00	ENERGY STAR Fax	
Flat Screen Monitors	Monitor - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	0.50	1.00	10.61	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	0.50	1.00	0.56	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor	
Freezers	Freezer (Residential) - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	13.03	1.00	0.46	0.46	0.25	0.25	ENERGY STAR Freezer	
Freezers	Freezer (Residential) - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	13.03	1.00	0.04	0.04	0.02	0.02	ENERGY STAR Freezer	
Freezers	Residential Freezer Recycling and Replacement	Large Retail	Discretionary	23.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$9.40	\$6.58	\$0.17	\$0.00	\$0.00	3.13	1.00	2.91	2.91	1.63	1.63	Recycling Existing Freezer and Replacing with a Federal Standard Unit	
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	Large Retail	Discretionary	1,217.1	0.01	0.26	0.00	0.00	0.0	0.0	0.0	8	\$171.11	\$119.78	\$0.17	\$0.00	\$0.00	7.01	0.99	153.37	153.37	114.33	114.33	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time	
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	Large Retail	Discretionary	1,135.9	0.01	0.24	0.00	0.00	0.0	0.0	0.0	8	\$76.91	\$53.84	\$0.17	\$0.00	\$0.00	14.55	0.99	105.48	105.48	78.63	78.63	Photocell	
Lighting Exterior	LED Exterior Flood Lights	Large Retail	Discretionary	394.1	0.00	0.08	0.00	0.00	0.0	0.0	0.0	20	\$259.96	\$181.97	\$0.17	\$0.00	\$0.00	3.73	0.99	59.60	59.60	44.43	44.43	LED Exterior Flood Lights	
Lighting Exterior	LED Exterior Flood Lights	Large Retail	Lost Opportunity	394.1	0.00	0.08	0.00	0.00	0.0	0.0	0.0	20	\$259.96	\$181.97	\$0.11	\$0.00	\$0.00	3.73	0.99	3.29	3.29	2.12	2.12	LED Exterior Flood Lights	
Lighting Exterior	LED Exterior Pole Mount Fixture	Large Retail	Discretionary	224.6	0.00	0.05	0.00	0.00	0.0	0.0	0.0	15	\$440.39	\$308.27	\$0.17	\$0.00	\$0.00	0.94	0.99	33.96	0.00	0.00	0.00	LED Exterior Pole Mount Fixture	
Lighting Exterior	LED Exterior Pole Mount Fixture	Large Retail	Lost Opportunity	224.6	0.00	0.05	0.00	0.00	0.0	0.0	0.0	15	\$440.39	\$308.27	\$0.11	\$0.00	\$0.00	0.94	0.99	1.88	0.00	0.00	0.00	LED Exterior Pole Mount Fixture	
Lighting Exterior	LED Exterior Wall Pack	Large Retail	Discretionary	744.6	0.01	0.16	0.00	0.00	0.0	0.0	0.0	20	\$1,545.13	\$1,081.59	\$0.17	\$0.00	\$0.00	1.19	0.99	106.34	106.34	79.27	79.27	LED Exterior Wall Pack	
Lighting Exterior	LED Exterior Wall Pack	Large Retail	Lost Opportunity	744.6	0.01	0.16	0.00	0.00	0.0	0.0	0.0	20	\$1,545.13	\$1,081.59	\$0.11	\$0.00	\$0.00	1.19	0.99	5.87	5.87	3.78	3.78	LED Exterior Wall Pack	
Lighting Exterior	LED Pathway Lights	Large Retail	Discretionary	185.5	0.00	0.04	0.00	0.00	0.0	0.0	0.0	11	\$43.88	\$30.72	\$0.17	\$0.00	\$0.00	5.73	0.99	28.05	28.05	20.91	20.91	LED Pathway Lights	
Lighting Exterior	LED Pathway Lights	Large Retail	Lost Opportunity	185.5	0.00	0.04	0.00	0.00	0.0	0.0	0.0	11	\$43.88	\$30.72	\$0.11	\$0.00	\$0.00	5.73	0.99	1.55	1.55	1.15	1.15	LED Pathway Lights	
Lighting Exterior	Occupancy Sensor Control	Large Retail	Discretionary	973.7	0.01	0.20	0.00	0.00	0.0	0.0	0.0	10	\$3,058.36	\$2,140.85	\$0.17	\$0.00	\$0.00	0.39	0.99	38.75	0.00	0.00	0.00	Occupancy Sensor Control	
Lighting Exterior	Parking - Covered Lighting	Large Retail	Discretionary	86.0	0.00	0.02	0.00	0.00	0.0	0.0	0.0	19	\$62.74	\$43.92	\$0.17	\$0.00	\$0.00	3.21	0.99	3.54	3.54	2.64	2.64	Covered Parking Lighting (LED)	
Lighting Exterior	Parking - Covered Lighting	Large Retail	Lost Opportunity	86.0	0.00	0.02	0.00	0.00	0.0	0.0	0.0	19	\$62.74	\$43.92	\$0.11	\$0.00	\$0.00	3.21	0.99	0.20	0.20	0.13	0.13	Covered Parking Lighting (LED)	
Lighting Exterior	Parking - Surface Lighting	Large Retail	Discretionary	46.5	0.00	0.01	0.00	0.00	0.0	0.0	0.0	10	\$23.88	\$16.72	\$0.17	\$0.00	\$0.00	2.40	0.99	0.82	0.82	0.61	0.61	Surface Parking Lighting (LED)	
Lighting Exterior																									



Appendix B.4		BED Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	Large Retail	Lost Opportunity	1.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3	\$0.02	\$0.01	\$0.17	-\$0.02	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	CFL
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base Incandescent - Backstop EISA 2020 Standard	Large Retail	Lost Opportunity	0.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3	\$0.01	\$0.01	\$0.17	-\$0.03	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	Backstop EISA 2020 Standard Incandescent
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base LED - Above Standard	Large Retail	Lost Opportunity	1.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.11	\$0.08	\$0.17	-\$0.04	\$0.00	999.00	0.99	66.79	66.97	49.92	49.92	LED
Lighting Interior Screw Base - Standard	Occupancy Sensor Control	Large Retail	Discretionary	2,961.0	0.57	0.40	0.00	0.00	0.0	0.0	0.0	10	\$9,300.66	\$6,510.46	\$0.17	\$0.00	\$0.00	0.59	0.99	43.46	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Interior Screw Base - Standard	Time Clock	Large Retail	Discretionary	1,233.7	0.24	0.17	0.00	0.00	0.0	0.0	0.0	8	\$135.39	\$94.77	\$0.17	\$0.00	\$0.00	13.46	0.99	3.02	3.02	2.25	2.25	Time Clock
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base CFL - Above Standard	Large Retail	Discretionary	580.8	0.11	0.08	0.00	0.00	0.0	0.0	0.0	3	\$11.83	\$8.28	\$0.17	-\$9.77	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	CFL
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base LED - Above Standard	Large Retail	Discretionary	603.8	0.12	0.08	0.00	0.00	0.0	0.0	0.0	12	\$36.62	\$25.64	\$0.17	-\$13.87	\$0.00	999.00	0.99	7.97	7.97	5.94	5.94	LED
Other Plug Load	Dehumidifier - ENERGY STAR	Large Retail	Discretionary	202.2	0.03	0.02	0.00	0.00	0.0	0.0	0.0	12	\$78.87	\$55.21	\$0.17	\$0.00	\$0.00	5.23	1.00	5.90	5.90	3.91	3.91	ENERGY STAR Dehumidifier
Other Plug Load	Dehumidifier - ENERGY STAR	Large Retail	Lost Opportunity	202.2	0.03	0.02	0.00	0.00	0.0	0.0	0.0	12	\$78.87	\$55.21	\$0.11	\$0.00	\$0.00	5.23	1.00	0.33	0.33	0.22	0.22	ENERGY STAR Dehumidifier
Other Plug Load	ENERGY STAR - Scanners	Large Retail	Discretionary	5.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.63	0.00	0.00	0.00	ENERGY STAR Scanners
Other Plug Load	ENERGY STAR - Scanners	Large Retail	Lost Opportunity	5.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.03	0.00	0.00	0.00	ENERGY STAR Scanners
Other Plug Load	ENERGY STAR - Water Cooler	Large Retail	Discretionary	76.5	0.01	0.01	0.00	0.00	0.0	0.0	0.0	10	\$0.66	\$0.46	\$0.17	\$0.00	\$0.00	196.63	1.00	12.85	12.85	8.51	8.51	ENERGY STAR Water Cooler (Hot/Cold Water)
Other Plug Load	ENERGY STAR - Water Cooler	Large Retail	Lost Opportunity	76.5	0.01	0.01	0.00	0.00	0.0	0.0	0.0	10	\$0.66	\$0.46	\$0.11	\$0.00	\$0.00	196.63	1.00	0.71	0.71	0.47	0.47	ENERGY STAR Water Cooler (Hot/Cold Water)
Other Plug Load	Internal Power Supply / Com - E Star	Large Retail	Discretionary	73.3	0.01	0.01	0.00	0.00	0.0	0.0	0.0	4	\$149.69	\$104.78	\$0.17	\$0.00	\$0.00	0.32	1.00	2.90	0.00	0.00	0.00	ENERGY STAR power supply for ENERGY STAR desktop
Other Plug Load	Internal Power Supply / Com - E Star	Large Retail	Lost Opportunity	73.3	0.01	0.01	0.00	0.00	0.0	0.0	0.0	4	\$149.69	\$104.78	\$0.11	\$0.00	\$0.00	0.32	1.00	0.16	0.00	0.00	0.00	ENERGY STAR power supply for ENERGY STAR desktop
Other Plug Load	Smart Strip Plug Outlet	Large Retail	Discretionary	386.8	0.06	0.04	0.00	0.00	0.0	0.0	0.0	4	\$290.78	\$203.54	\$0.17	\$0.00	\$0.00	0.86	1.00	13.68	0.00	0.00	0.00	Advanced Power Strip - Load Sensing
Other Plug Load	Smart Strip Plug Outlet	Large Retail	Lost Opportunity	386.8	0.06	0.04	0.00	0.00	0.0	0.0	0.0	4	\$290.78	\$203.54	\$0.11	\$0.00	\$0.00	0.86	1.00	0.76	0.00	0.00	0.00	Advanced Power Strip - Load Sensing
Other Plug Load	Smart Strip Plug Outlet	Large Retail	Discretionary	235.2	0.03	0.02	0.00	0.00	0.0	0.0	0.0	4	\$704.20	\$492.94	\$0.17	\$0.00	\$0.00	0.22	1.00	0.00	0.00	0.00	0.00	Advanced Power Strip with Occupancy Sensor
Other Plug Load	Smart Strip Plug Outlet	Large Retail	Lost Opportunity	235.2	0.03	0.02	0.00	0.00	0.0	0.0	0.0	4	\$704.20	\$492.94	\$0.11	\$0.00	\$0.00	0.22	1.00	0.00	0.00	0.00	0.00	Advanced Power Strip with Occupancy Sensor
Photo Copiers	Copiers - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.99	7.08	0.00	0.00	0.00	ENERGY STAR Copiers
Photo Copiers	Copiers - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.99	0.37	0.00	0.00	0.00	ENERGY STAR Copiers
Printers	Printers - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	40.40	0.00	0.00	0.00	ENERGY STAR Printers
Printers	Printers - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	2.10	0.00	0.00	0.00	ENERGY STAR Printers
Refrigeration	Case Replacement Low Temp	Large Retail	Discretionary	925.3	0.12	0.11	0.00	0.00	0.0	0.0	0.0	15	\$51.92	\$36.34	\$0.17	\$0.00	\$0.00	44.30	0.96	155.47	155.47	152.93	135.65	Case Replacement Low Temp
Refrigeration	Case Replacement Med Temp	Large Retail	Discretionary	78.9	0.01	0.01	0.00	0.00	0.0	0.0	0.0	15	\$100.21	\$70.15	\$0.17	\$0.00	\$0.00	1.96	0.96	13.26	13.26	11.57	11.57	Case Replacement Med Temp
Refrigeration	Evaporator Fan Controller - Low Temp	Large Retail	Discretionary	36.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	16	\$28.58	\$20.01	\$0.17	\$0.00	\$0.00	3.42	0.96	5.85	5.85	5.10	5.10	ECM Evaporator Fan Controller - Low Temp
Refrigeration	Evaporator Fan Controller - Low Temp	Large Retail	Lost Opportunity	36.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	16	\$28.58	\$20.01	\$0.11	\$0.00	\$0.00	3.42	0.96	0.26	0.26	0.22	0.22	ECM Evaporator Fan Controller - Low Temp
Refrigeration	Evaporator Fan Controller - Medium Temp	Large Retail	Discretionary	57.3	0.01	0.01	0.00	0.00	0.0	0.0	0.0	16	\$53.37	\$37.36	\$0.17	\$0.00	\$0.00	2.85	0.96	9.12	9.12	7.96	7.96	ECM Evaporator Fan Controller - Medium Temp
Refrigeration	Evaporator Fan Controller - Medium Temp	Large Retail	Lost Opportunity	57.3	0.01	0.01	0.00	0.00	0.0	0.0	0.0	16	\$53.37	\$37.36	\$0.11	\$0.00	\$0.00	2.85	0.96	0.41	0.41	0.35	0.35	ECM Evaporator Fan Controller - Medium Temp
Refrigeration	Floating Condenser Head Pressure Controls	Large Retail	Discretionary	1,410.5	0.19	0.17	0.00	0.00	0.0	0.0	0.0	15	\$453.47	\$317.43	\$0.17	\$0.00	\$0.00	7.73	0.96	12.47	12.47	10.88	10.88	Floating Condenser Head Pressure Controls
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Large Retail	Discretionary	123.3	0.02	0.01	0.00	0.00	0.0	0.0	0.0	9	\$16.75	\$11.73	\$0.17	\$0.00	\$0.00	10.81	0.96	20.72	20.72	20.38	18.08	Glass Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Large Retail	Lost Opportunity	123.3	0.02	0.01	0.00	0.00	0.0	0.0	0.0	9	\$16.75	\$11.73	\$0.11	\$0.00	\$0.00	10.81	0.96	1.14	1.14	1.13	1.00	Glass Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Refrigeration Commissioning or Re-commissioning	Large Retail	Discretionary	1,854.6	0.24	0.22	0.00	0.00	0.0	0.0	0.0	7	\$478.01	\$334.61	\$0.17	\$0.00	\$0.00	4.38	0.96	29.46	29.46	25.71	25.71	Commissioning / Re-commissioning
Refrigeration	Refrigeration Commissioning or Re-commissioning	Large Retail	Lost Opportunity	1,854.6	0.24	0.22	0.00	0.00	0.0	0.0	0.0	7	\$478.01	\$334.61	\$0.11	\$0.00	\$0.00	4.38	0.96	0.87	0.87	0.76	0.76	Commissioning / Re-commissioning
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Large Retail	Discretionary	91.6	0.01	0.01	0.00	0.00	0.0	0.0	0.0	9	\$16.75	\$11.73	\$0.17	\$0.00	\$0.00	8.02	0.96	15.38	15.38	13.42	13.42	Solid Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Large Retail	Lost Opportunity	91.6	0.01	0.01	0.00	0.00	0.0	0.0	0.0	9	\$16.75	\$11.73	\$0.11	\$0.00	\$0.00	8.02	0.96	0.85	0.85	0.74	0.74	Solid Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Strip Curtains for Walk-Ins	Large Retail	Discretionary	469.1	0.06	0.06	0.00	0.00	0.0	0.0	0.0	4	\$337.49	\$236.24	\$0.17	\$0.00	\$0.00	0.87	0.96	12.44	0.00	0.00	0.00	Strip Curtains for Walk-Ins
Refrigeration	Walk-In Electronically Commutated Motor	Large Retail	Discretionary	152.4	0.02	0.02	0.00	0.00	0.0	0.0	0.0	15	\$35.11	\$24.58	\$0.17	\$0.00	\$0.00	10.79	0.96	25.60	25.60	22.34	22.34	ECM Condensor Fans - Low Temp
Refrigeration	Walk-In Electronically Commutated Motor	Large Retail	Discretionary	164.8	0.02	0.02	0.00	0.00	0.0	0.0	0.0	15	\$42.91	\$30.04	\$0.17	\$0.00	\$0.00	9.54	0.96	27.68	27.68	24.15	24.15	ECM Condensor Fans - Medium Temp
Refrigeration	Walk-In Electronically Commutated Motor	Large Retail	Discretionary	152.4	0.02	0.02	0.00	0.00	0.0	0.0	0.0	15	\$35.11	\$24.58	\$0.17	\$0.00	\$0.00	10.79	0.96	25.60	25.60	22.34	22.34	ECM Evaporator Fans - Low Temp
Refrigeration	Walk-In Electronically Commutated Motor	Large Retail	Discretionary	164.8	0.02	0.02	0.00	0.00	0.0	0.0	0.0	15	\$42.91	\$30.04	\$0.17	\$0.00	\$0.00	9.54	0.96	27.68	27.68	24.15	24.15	ECM Evaporator Fans - Medium Temp
Refrigeration	Walk-In Economizer	Large Retail	Discretionary	1,254.8	0.17	0.15	0.00	0.00	0.0	0.0	0.0	15	\$609.84	\$426.89	\$0.17	\$0.00	\$0.00	5.11	0.96	166.45	166.45	145.22	145.22	Add Economizer to Walk-in Cooler
Refrigeration	Walk-In Economizer	Large Retail	Lost Opportunity	1,254.8	0.17	0.15	0.00	0.00	0.0	0.0	0.0	15	\$609.84	\$426.89	\$0.11	\$0.00	\$0.00	5.11	0.96	9.19	9.19	7.89	7.89	Add Economizer to Walk-in Cooler
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	1.23	1.00	0.00	0.00	0.00	0.00	CEE Tier 2 Refrigerator
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	1.23	1.00	0.00	0.00	0.00	0.00	CEE Tier 2 Refrigerator
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	1.15	1.00	7.82	7.82	4.38	4.38	CEE Tier 3 Refrigerator
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	1.15	1.00	0.69	0.69	0.39	0.39	CEE Tier 3 Refrigerator
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.00	\$0.17	\$0.00	\$0.00	1.26	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Refrigerator
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.00	\$0.11	\$0.00	\$0.00	1.26	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Refrigerator
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.00	\$0.17	\$0.00	\$0.00	1.27	1.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Refrigerator
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.00	\$0.11	\$0.00	\$0.00	1.27	1.00	0.00	0.00	0.00	0.00</	



Appendix B.4		BED Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Room Cool	Windows - CBES 2015 - Code	Large Retail	Discretionary	4.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$16,245.80	\$11,372.06	\$0.17	\$0.00	\$0.00	0.00	0.99	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Room Cool - Early Replacement	Early Replacement Room AC - ENERGY STAR	Large Retail	Discretionary	58.7	0.03	0.00	0.00	0.00	0.0	0.0	0.0	9	\$1,010.46	\$707.32	\$0.17	\$0.00	\$0.00	0.14	0.99	0.03	0.00	0.00	0.00	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Heat - Electric	Ductless Heat Pump (DHP)	Large Retail	Discretionary	3,008.4	0.01	1.21	0.00	0.00	0.0	0.0	0.0	15	\$2,557.66	\$1,790.36	\$0.17	\$0.00	\$0.00	2.20	1.00	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Heat - Electric	Ductless Heat Pump (DHP)	Large Retail	Lost Opportunity	3,008.4	0.01	1.21	0.00	0.00	0.0	0.0	0.0	15	\$2,557.66	\$1,790.36	\$0.11	\$0.00	\$0.00	2.20	1.00	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Large Retail	Discretionary	3,167.2	0.01	1.27	0.00	0.00	0.0	0.0	0.0	15	\$2,618.81	\$1,833.16	\$0.17	\$0.00	\$0.00	2.26	1.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Large Retail	Lost Opportunity	3,167.2	0.01	1.27	0.00	0.00	0.0	0.0	0.0	15	\$2,618.81	\$1,833.16	\$0.11	\$0.00	\$0.00	2.26	1.00	0.01	0.01	0.01	0.01	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0
Room Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Large Retail	Discretionary	9,431.8	0.02	3.79	0.00	0.00	0.0	0.0	0.0	14	\$26,914.67	\$18,840.27	\$0.17	\$0.00	\$0.00	0.61	1.00	1.28	0.00	0.00	0.00	Exhaust Air to Ventilation Air Heat Recovery
Room Heat - Electric	Infiltration Reduction	Large Retail	Discretionary	6,287.8	0.01	2.53	0.00	0.00	0.0	0.0	0.0	10	\$416.02	\$291.21	\$0.17	\$0.00	\$0.00	19.03	1.00	0.34	0.34	0.23	0.23	Install Caulking And Weatherstripping (ACH 0.65)
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Discretionary	3,313.1	0.01	1.33	0.00	0.00	0.0	0.0	0.0	30	\$1,179.31	\$825.52	\$0.17	\$0.00	\$0.00	10.54	1.00	1.52	1.52	1.02	1.02	R-35 c.i.
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Lost Opportunity	3,313.1	0.01	1.33	0.00	0.00	0.0	0.0	0.0	30	\$1,179.31	\$825.52	\$0.11	\$0.00	\$0.00	10.54	1.00	0.04	0.04	0.02	0.02	R-35 c.i.
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Large Retail	Discretionary	11,351.2	0.02	4.57	0.00	0.00	0.0	0.0	0.0	30	\$5,381.15	\$3,766.81	\$0.17	\$0.00	\$0.00	7.92	1.00	3.35	3.35	2.24	2.24	R-30 c.i. (CBES 2015 Code)
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Discretionary	4,882.5	0.01	1.96	0.00	0.00	0.0	0.0	0.0	30	\$2,096.55	\$1,467.59	\$0.17	\$0.00	\$0.00	8.74	1.00	0.75	0.75	0.50	0.50	R-38
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Lost Opportunity	4,882.5	0.01	1.96	0.00	0.00	0.0	0.0	0.0	30	\$2,096.55	\$1,467.59	\$0.11	\$0.00	\$0.00	8.74	1.00	0.08	0.08	0.05	0.05	R-38
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Large Retail	Discretionary	8,503.6	0.02	3.42	0.00	0.00	0.0	0.0	0.0	30	\$6,010.12	\$4,207.08	\$0.17	\$0.00	\$0.00	5.31	1.00	1.26	1.26	0.84	0.84	R-30 (CBES 2015 Code)
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Discretionary	4,131.1	0.01	1.66	0.00	0.00	0.0	0.0	0.0	30	\$1,263.07	\$884.15	\$0.17	\$0.00	\$0.00	12.28	1.00	1.06	1.06	0.71	0.71	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Lost Opportunity	4,131.1	0.01	1.66	0.00	0.00	0.0	0.0	0.0	30	\$1,263.07	\$884.15	\$0.11	\$0.00	\$0.00	12.28	1.00	0.17	0.17	0.10	0.10	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Code	Large Retail	Discretionary	4,536.2	0.01	1.82	0.00	0.00	0.0	0.0	0.0	30	\$8,667.22	\$6,067.06	\$0.17	\$0.00	\$0.00	1.96	1.00	0.78	0.78	0.52	0.52	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Electric	Windows - CBES 2015 - Above Code	Large Retail	Discretionary	371.1	0.00	0.15	0.00	0.00	0.0	0.0	0.0	20	\$2,460.13	\$1,722.09	\$0.17	\$0.00	\$0.00	0.38	1.00	0.15	0.00	0.00	0.00	U-0.29
Room Heat - Electric	Windows - CBES 2015 - Above Code	Large Retail	Lost Opportunity	371.1	0.00	0.15	0.00	0.00	0.0	0.0	0.0	20	\$2,460.13	\$1,722.09	\$0.11	\$0.00	\$0.00	0.38	1.00	0.03	0.00	0.00	0.00	U-0.29
Room Heat - Electric	Windows - CBES 2015 - Code	Large Retail	Discretionary	870.3	0.00	0.35	0.00	0.00	0.0	0.0	0.0	20	\$16,245.80	\$11,372.06	\$0.17	\$0.00	\$0.00	0.13	1.00	0.35	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Servers	Internal Power Supply / Server	Large Retail	Discretionary	4.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$1.22	\$0.85	\$0.17	\$0.00	\$0.00	2.22	0.99	0.44	0.56	0.37	0.37	80 Plus power supply for Desktop Derived Server
Servers	Internal Power Supply / Server	Large Retail	Lost Opportunity	4.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$1.22	\$0.85	\$0.11	\$0.00	\$0.00	2.22	0.99	0.02	0.03	0.02	0.02	80 Plus power supply for Desktop Derived Server
Servers	Server - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.02	\$0.01	\$0.17	\$0.00	\$0.00	0.32	0.99	6.94	0.00	0.00	0.00	ENERGY STAR Server
Servers	Server - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.02	\$0.01	\$0.11	\$0.00	\$0.00	0.32	0.99	0.38	0.00	0.00	0.00	ENERGY STAR Server
Space Heat - Electric	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Large Retail	Discretionary	10,134.0	0.02	4.08	0.00	0.00	0.0	0.0	0.0	15	\$2,296.50	\$1,607.55	\$0.17	\$0.00	\$0.00	8.25	1.00	4.77	4.77	3.19	3.19	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Electric	Commissioning	Large Retail	Lost Opportunity	14,970.6	0.03	6.02	0.00	0.00	0.0	0.0	0.0	5	\$10,655.76	\$7,459.03	\$0.11	\$0.00	\$0.00	0.87	1.00	1.63	0.00	0.00	0.00	Commissioning
Space Heat - Electric	Convert Constant Volume Air System to VAV	Large Retail	Discretionary	30,251.0	0.06	12.17	0.00	0.00	0.0	0.0	0.0	15	\$33,494.78	\$23,446.35	\$0.17	\$0.00	\$0.00	1.69	1.00	4.43	4.43	2.96	2.96	Variable Volume Air System
Space Heat - Electric	Direct Digital Control System-Installation	Large Retail	Discretionary	17,273.8	0.04	6.95	0.00	0.00	0.0	0.0	0.0	5	\$2,870.63	\$2,009.44	\$0.17	\$0.00	\$0.00	3.74	1.00	18.78	18.78	12.55	12.55	Installation of EMS System
Space Heat - Electric	Direct Digital Control System-Installation	Large Retail	Lost Opportunity	17,273.8	0.04	6.95	0.00	0.00	0.0	0.0	0.0	5	\$2,870.63	\$2,009.44	\$0.11	\$0.00	\$0.00	3.74	1.00	0.13	0.13	0.08	0.08	Installation of EMS System
Space Heat - Electric	Duct Repair and Sealing	Large Retail	Discretionary	10,013.8	0.02	4.03	0.00	0.00	0.0	0.0	0.0	18	\$2,204.64	\$1,543.25	\$0.17	\$0.00	\$0.00	10.17	1.00	7.95	7.95	5.31	5.31	Reduction In Duct Losses to 5 %
Space Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Large Retail	Discretionary	17,273.8	0.04	6.95	0.00	0.00	0.0	0.0	0.0	14	\$26,914.67	\$18,840.27	\$0.17	\$0.00	\$0.00	1.12	1.00	1.96	1.96	0.00	1.21	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Electric	Indirect Information Feedback	Large Retail	Discretionary	599.2	0.00	0.24	0.00	0.00	0.0	0.0	0.0	2	\$1,993.72	\$1,395.61	\$0.17	\$0.00	\$0.00	0.07	1.00	0.58	0.00	0.00	0.00	Indirect Information Feedback
Space Heat - Electric	Indirect Information Feedback	Large Retail	Lost Opportunity	599.2	0.00	0.24	0.00	0.00	0.0	0.0	0.0	2	\$1,993.72	\$1,395.61	\$0.11	\$0.00	\$0.00	0.07	1.00	0.04	0.00	0.00	0.00	Indirect Information Feedback
Space Heat - Electric	Infiltration Reduction	Large Retail	Discretionary	11,515.9	0.02	4.63	0.00	0.00	0.0	0.0	0.0	10	\$416.02	\$291.21	\$0.17	\$0.00	\$0.00	34.84	1.00	0.79	0.79	0.53	0.53	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Discretionary	6,067.8	0.01	2.44	0.00	0.00	0.0	0.0	0.0	30	\$1,179.31	\$825.52	\$0.17	\$0.00	\$0.00	19.31	1.00	3.42	3.42	2.29	2.29	R-35 c.i.
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Lost Opportunity	6,067.8	0.01	2.44	0.00	0.00	0.0	0.0	0.0	30	\$1,179.31	\$825.52	\$0.11	\$0.00	\$0.00	19.31	1.00	0.09	0.09	0.05	0.05	R-35 c.i.
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Large Retail	Discretionary	20,789.0	0.04	8.36	0.00	0.00	0.0	0.0	0.0	30	\$5,381.15	\$3,766.81	\$0.17	\$0.00	\$0.00	14.50	1.00	7.53	7.53	5.03	5.03	R-30 c.i. (CBES 2015 Code)
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Large Retail	Discretionary	4,145.7	0.01	1.67	0.00	0.00	0.0	0.0	0.0	20	\$124.59	\$87.21	\$0.17	\$0.00	\$0.00	82.76	1.00	6.16	6.16	4.12	4.12	R-12
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Large Retail	Lost Opportunity	4,145.7	0.01	1.67	0.00	0.00	0.0	0.0	0.0	20	\$124.59	\$87.21	\$0.11	\$0.00	\$0.00	82.76	1.00	0.42	0.42	0.24	0.24	R-12
Space Heat - Electric	Insulation - Duct - CBES 2015 - Code	Large Retail	Discretionary	4,145.7	0.01	1.67	0.00	0.00	0.0	0.0	0.0	20	\$501.79	\$351.25	\$0.17	\$0.00	\$0.00	20.55	1.00	4.99	4.99	3.33	3.33	R-8 (CBES 2015 Code)
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Discretionary	8,942.0	0.02	3.60	0.00	0.00	0.0	0.0	0.0	30	\$2,096.55	\$1,467.59	\$0.17	\$0.00	\$0.00	16.01	1.00	1.69	1.69	1.13	1.13	R-38
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Lost Opportunity	8,942.0	0.02	3.60	0.00	0.00	0.0	0.0	0.0	30	\$2,096.55	\$1,467.59	\$0.11	\$0.00	\$0.00	16.01	1.00	0.19	0.19	0.11	0.11	R-38
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Large Retail	Discretionary	15,574.0	0.03	6.26	0.00	0.00	0.0	0.0	0.0	30	\$6,010.12	\$4,207.08	\$0.17	\$0.00	\$0.00	9.73	1.00	2.73	2.73	1.83	1.83	R-30 (CBES 2015 Code)
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Discretionary	7,565.8	0.02	3.04	0.00	0.00	0.0	0.0	0.0	30	\$1,263.07	\$884.15	\$0.17	\$0.00	\$0.00	22.48	1.00	2.43	2.43	1.62	1.62	R-13 + 15.6 c.i.
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Lost Opportunity	7,565.8	0.02	3.04	0.00	0.00	0.0	0.0	0.0	30	\$1,263.07	\$884.15	\$0.11	\$0.00	\$0.00	22.48	1.00	0.40	0.40	0.23	0.23	R-13 + 15.6 c.i.
Space Heat - Electric	Insulation - Wall - CBES 2015 - Code	Large Retail	Discretionary	8,307.8	0.02	3.34	0.00	0.00	0.0	0.0	0.0	30	\$8,667.22	\$6,067.06	\$0.17	\$0.00	\$0.00	3.60	1.00	1.52	1.52	1.02	1.02	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Electric	Programmable Thermostat	Large Retail	Discretionary	4,606.3	0.01	1.85	0.00	0.00	0.0	0.0	0.0	11	\$67.76	\$47.43	\$0.17	\$0.00	\$0.00	93.94	1.00	6.73	6.73	5.42	4.50	Programmable Thermostat
Space Heat - Electric	Re-Commissioning	Large Retail	Discretionary	14,970.6	0.03	6.02	0.00	0.00	0.0	0.0	0.0	5	\$2,755.80	\$1,929.06	\$0.17	\$0.00	\$0.00	3.38	1.00	24.80	24.80	16.58	16.58	Re-Commissioning
Space Heat - Electric	Retrocommissioning	Large Retail	Discretionary	17,081.8	0.04	6.87	0.00	0.00	0.															



Appendix B.4		BED Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Large Retail	Discretionary	27.4	0.00	0.01	0.00	0.00	0.0	0.0	3.1	13	\$52.89	\$37.02	\$0.17	\$0.00	\$0.00	1.53	1.00	0.03	0.05	0.03	0.03	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Large Retail	Lost Opportunity	27.4	0.00	0.01	0.00	0.00	0.0	0.0	3.1	13	\$52.89	\$37.02	\$0.11	\$0.00	\$0.00	1.53	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Large Retail	Discretionary	60.6	0.00	0.02	0.00	0.00	0.0	0.0	5.2	14	\$19.36	\$13.55	\$0.17	\$0.00	\$0.00	8.85	1.00	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Large Retail	Lost Opportunity	60.6	0.00	0.02	0.00	0.00	0.0	0.0	5.2	14	\$19.36	\$13.55	\$0.11	\$0.00	\$0.00	8.85	1.00	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Large Retail	Discretionary	95.4	0.00	0.04	0.00	0.00	0.0	0.0	15.0	14	\$7.91	\$5.53	\$0.17	\$0.00	\$0.00	44.94	1.00	0.04	0.07	0.04	0.04	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Large Retail	Lost Opportunity	95.4	0.00	0.04	0.00	0.00	0.0	0.0	15.0	14	\$7.91	\$5.53	\$0.11	\$0.00	\$0.00	44.94	1.00	0.00	0.00	0.00	0.00	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	Large Retail	Discretionary	22.5	0.00	0.01	0.00	0.00	0.0	0.0	0.0	13	\$10.71	\$7.50	\$0.17	\$0.00	\$0.00	3.42	1.00	0.02	0.03	0.01	0.01	1.0" of Insulation, assuming R-4 (Code)
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	Large Retail	Discretionary	346.3	0.00	0.14	0.00	0.00	0.0	0.0	0.0	25	\$883.75	\$618.63	\$0.17	\$0.00	\$0.00	1.22	1.00	0.01	0.01	0.01	0.01	Install Heat Recovery Water Heater
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	Large Retail	Discretionary	11.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$1.41	\$0.98	\$0.17	\$0.00	\$0.00	21.12	1.00	0.00	0.01	0.00	0.00	R-3
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Large Retail	Discretionary	587.2	0.00	0.24	0.00	0.00	0.0	0.0	43.4	9	\$36.74	\$25.72	\$0.17	\$0.00	\$0.00	28.35	1.00	1.37	2.09	1.17	1.17	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Large Retail	Lost Opportunity	587.2	0.00	0.24	0.00	0.00	0.0	0.0	43.4	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.07	0.00	0.00	0.00	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Large Retail	Discretionary	414.5	0.00	0.17	0.00	0.00	0.0	0.0	30.6	9	\$36.74	\$25.72	\$0.17	\$0.00	\$0.00	20.01	1.00	0.00	0.00	0.00	0.00	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Large Retail	Lost Opportunity	414.5	0.00	0.17	0.00	0.00	0.0	0.0	30.6	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Large Retail	Discretionary	241.8	0.00	0.10	0.00	0.00	0.0	0.0	17.9	9	\$36.74	\$25.72	\$0.17	\$0.00	\$0.00	11.67	1.00	0.00	0.00	0.00	0.00	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Large Retail	Lost Opportunity	241.8	0.00	0.10	0.00	0.00	0.0	0.0	17.9	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Large Retail	Discretionary	103.6	0.00	0.04	0.00	0.00	0.0	0.0	6.7	9	\$36.74	\$25.72	\$0.17	\$0.00	\$0.00	4.79	1.00	0.09	0.14	0.08	0.08	2.2 GPM (Federal Code)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Large Retail	Discretionary	99.3	0.00	0.04	0.00	0.00	0.0	0.0	19.0	5	\$18.83	\$13.18	\$0.17	\$0.00	\$0.00	8.41	1.00	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Large Retail	Lost Opportunity	99.3	0.00	0.04	0.00	0.00	0.0	0.0	19.0	5	\$18.83	\$13.18	\$0.11	\$0.00	\$0.00	8.41	1.00	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Large Retail	Discretionary	164.4	0.00	0.07	0.00	0.00	0.0	0.0	31.5	5	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.33	0.00	0.00	0.00	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Large Retail	Lost Opportunity	164.4	0.00	0.07	0.00	0.00	0.0	0.0	31.5	5	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.02	0.00	0.00	0.00	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Large Retail	Discretionary	263.6	0.00	0.11	0.00	0.00	0.0	0.0	50.5	5	\$18.83	\$13.18	\$0.17	\$0.00	\$0.00	22.34	1.00	0.00	0.00	0.00	0.00	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Large Retail	Lost Opportunity	263.6	0.00	0.11	0.00	0.00	0.0	0.0	50.5	5	\$18.83	\$13.18	\$0.11	\$0.00	\$0.00	22.34	1.00	0.00	0.01	0.00	0.00	0.75 GPM
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Large Retail	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.68	\$0.48	\$0.17	\$0.25	\$0.00	0.03	1.00	0.63	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Large Retail	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.68	\$0.48	\$0.11	\$0.25	\$0.00	0.03	1.00	0.02	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Large Retail	Discretionary	380.0	0.00	0.15	0.00	0.00	0.0	0.0	0.0	20	\$644.34	\$451.04	\$0.17	\$0.00	\$0.00	1.47	1.00	0.84	1.29	0.72	0.72	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Large Retail	Lost Opportunity	380.0	0.00	0.15	0.00	0.00	0.0	0.0	0.0	20	\$644.34	\$451.04	\$0.11	\$0.00	\$0.00	1.47	1.00	0.04	0.07	0.03	0.03	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Large Retail	Discretionary	215.1	0.00	0.09	0.00	0.00	0.0	0.0	0.0	10	\$861.42	\$603.00	\$0.17	\$0.00	\$0.00	0.31	1.00	0.03	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Large Retail	Lost Opportunity	215.1	0.00	0.09	0.00	0.00	0.0	0.0	0.0	10	\$861.42	\$603.00	\$0.11	\$0.00	\$0.00	0.31	1.00	0.00	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.17	\$0.12	\$0.17	\$0.00	\$0.00	0.28	1.00	1.06	0.00	0.00	0.00	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.17	\$0.12	\$0.11	\$0.00	\$0.00	0.28	1.00	0.04	0.00	0.00	0.00	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.03	\$0.02	\$0.17	\$0.00	\$0.00	0.42	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.03	\$0.02	\$0.11	\$0.00	\$0.00	0.42	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.13	\$0.09	\$0.17	\$0.00	\$0.00	0.30	1.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Large Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.13	\$0.09	\$0.11	\$0.00	\$0.00	0.30	1.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Large Retail	Discretionary	301.1	0.00	0.12	0.00	0.00	0.0	0.0	0.0	4	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	14888.32	1.00	0.67	1.02	0.57	0.57	Set Water Heater to 120F
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Large Retail	Lost Opportunity	301.1	0.00	0.12	0.00	0.00	0.0	0.0	0.0	4	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	14888.32	1.00	0.03	0.05	0.03	0.03	Set Water Heater to 120F
Water Heat GT 55 Gal	Water Heater Tank Wrap	Large Retail	Discretionary	605.9	0.00	0.24	0.00	0.00	0.0	0.0	0.0	7	\$41.55	\$29.09	\$0.17	\$0.00	\$0.00	12.82	1.00	0.56	0.86	0.48	0.48	Add R-10 Tank Wrap
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Large Retail	Discretionary	25.7	0.00	0.01	0.00	0.00	0.0	0.0	2.3	13	\$28.60	\$20.02	\$0.17	\$0.00	\$0.00	2.42	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Large Retail	Lost Opportunity	25.7	0.00	0.01	0.00	0.00	0.0	0.0	2.3	13	\$28.60	\$20.02	\$0.11	\$0.00	\$0.00	2.42	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Large Retail	Discretionary	56.8	0.00	0.02	0.00	0.00	0.0	0.0	3.1	13	\$52.89	\$37.02	\$0.17	\$0.00	\$0.00	2.44	1.00	1.15	2.85	1.60	1.60	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Large Retail	Lost Opportunity	56.8	0.00	0.02	0.00	0.00	0.0	0.0	3.1	13	\$52.89	\$37.02	\$0.11	\$0.00	\$0.00	2.44	1.00	0.05	0.16	0.09	0.09	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Large Retail	Discretionary	125.9	0.00	0.05	0.00	0.00	0.0	0.0	5.2	14	\$19.36	\$13.55	\$0.17	\$0.00	\$0.00	14.75	1.00	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Large Retail	Lost Opportunity	125.9	0.00	0.05	0.00	0.00	0.0	0.0	5.2	14	\$19.36	\$13.55	\$0.11	\$0.00	\$0.00	14.75	1.00	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Large Retail	Discretionary	198.3	0.00	0.08	0.00	0.00	0.0	0.0	15.0	14	\$7.91	\$5.53	\$0.17	\$0.00	\$0.00	67.69	1.00	1.61	3.99	2.23	2.23	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Large Retail	Lost Opportunity	198.3	0.00	0.08	0.00	0.00	0.0	0.0	15.0	14	\$7.91	\$5.53	\$0.11	\$0.00	\$0.00	67.69	1.00	0.07	0.22	0.12	0.12	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Large Retail	Discretionary	46.8	0.00	0.02	0.00	0.00	0.0	0.0	0.0	13	\$10.71	\$7.50	\$0.17	\$0.00	\$0.00	7.11	1.00	0.59	1.47	0.82	0.82	1.0" of Insulation, assuming R-4 (Code)
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Large Retail	Discretionary	325.4	0.00	0.13	0.00	0.00	0.0	0.0	0.0	25	\$883.75	\$618.63	\$0.17	\$0.00	\$0.00	1.15	1.00	0.07	0.18	0.10	0.10	Install Heat Recovery Water Heater
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Large Retail	Discretionary	11.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$1.41	\$0.98	\$0.17	\$0.00	\$0.00	21.12	1.00	0.07	0.19	0.10	0.10	R-3
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Retail	Discretionary	587.2	0.00	0.24	0.00	0.00	0.0	0.0	43.4	9	\$36.74	\$25.72	\$0.17	\$0.00	\$0.00	28.35	1.00	23.87	59.02	33.06	33.06	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Retail	Lost Opportunity	587.2	0.00	0.24	0.00	0.00	0.0	0.0	43.4	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.							



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec	Per Unit Summer	Per Unit Winter	Per unit	Per Unit Oil	Per Unit Propane	Per Unit Wood	Per Unit Water	EE EUL	Measure Cost	Incentive	Non-Incentive	O&M	O&M	Measure	NTG Ratio	20 YR	20 YR	20 YR MAP	20 YR RAP	Measure Description	
				Savings	NCP kW	NCP kW	NG Saving	Savings	Savings	Savings	Amount			Cost (\$/kWh)	Benefits	Costs	Level VT Societal	Technical Potential (MWh)		Economic Potential (MWh)					
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Large Retail	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.37	\$0.26	\$0.17	\$0.01	\$0.00	0.35	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Large Retail	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.37	\$0.26	\$0.11	\$0.01	\$0.00	0.35	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Large Retail	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.41	\$0.29	\$0.17	\$0.01	\$0.00	0.34	1.00	0.00	0.00	0.00	0.00	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Large Retail	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.41	\$0.29	\$0.11	\$0.01	\$0.00	0.34	1.00	0.00	0.00	0.00	0.00	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Large Retail	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.54	\$0.38	\$0.17	\$0.01	\$0.00	0.31	1.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Large Retail	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.54	\$0.38	\$0.11	\$0.01	\$0.00	0.31	1.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Large Retail	Discretionary	283.0	0.00	0.11	0.00	0.00	0.0	0.0	0.0	4	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	13989.41	1.00	10.93	27.02	15.13	15.13	Set Water Heater to 120F	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Large Retail	Lost Opportunity	283.0	0.00	0.11	0.00	0.00	0.0	0.0	0.0	4	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	13989.41	1.00	0.47	1.49	0.84	0.84	Set Water Heater to 120F	
Water Heat LE 55 Gal	Water Heater Tank Wrap	Large Retail	Discretionary	569.3	0.00	0.23	0.00	0.00	0.0	0.0	0.0	7	\$41.55	\$29.09	\$0.17	\$0.00	\$0.00	12.05	1.00	8.50	21.01	11.77	11.77	Add R-10 Tank Wrap	
Computers	Computer - ENERGY STAR	Lodging	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	179.95	0.00	0.00	0.00	ENERGY STAR Computer	
Computers	Computer - ENERGY STAR	Lodging	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	8.46	0.00	0.00	0.00	ENERGY STAR Computer	
Computers	Network PC Power Management	Lodging	Discretionary	2,028.0	0.29	0.18	0.00	0.00	0.0	0.0	0.0	5	\$247.99	\$173.59	\$0.17	\$56.89	\$0.00	3.27	1.00	63.31	109.69	72.62	72.62	Network PC Power Management	
Computers	Network PC Power Management	Lodging	Lost Opportunity	2,028.0	0.29	0.18	0.00	0.00	0.0	0.0	0.0	5	\$247.99	\$173.59	\$0.11	\$56.89	\$0.00	3.27	1.00	3.91	6.79	4.50	4.50	Network PC Power Management	
Cooking	Combination Oven	Lodging	Discretionary	397.8	0.05	0.05	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	5.70	0.00	0.00	0.00	ENERGY STAR Combination Oven	
Cooking	Combination Oven	Lodging	Lost Opportunity	397.8	0.05	0.05	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.31	0.00	0.00	0.00	ENERGY STAR Combination Oven	
Cooking	Convection Oven	Lodging	Discretionary	89.9	0.01	0.01	0.00	0.00	0.0	0.0	0.0	12	\$24.24	\$16.97	\$0.17	\$0.00	\$0.00	7.05	1.00	1.58	1.58	1.04	1.04	ENERGY STAR Convection Oven	
Cooking	Convection Oven	Lodging	Lost Opportunity	89.9	0.01	0.01	0.00	0.00	0.0	0.0	0.0	12	\$24.24	\$16.97	\$0.11	\$0.00	\$0.00	7.05	1.00	0.09	0.09	0.06	0.06	ENERGY STAR Convection Oven	
Cooking	Fryers	Lodging	Discretionary	185.6	0.02	0.02	0.00	0.00	0.0	0.0	0.0	12	\$31.61	\$22.13	\$0.17	\$0.00	\$0.00	11.17	1.00	3.80	3.80	2.52	2.52	ENERGY STAR Fryer	
Cooking	Fryers	Lodging	Lost Opportunity	185.6	0.02	0.02	0.00	0.00	0.0	0.0	0.0	12	\$31.61	\$22.13	\$0.11	\$0.00	\$0.00	11.17	1.00	0.21	0.21	0.14	0.14	ENERGY STAR Fryer	
Cooking	Griddle	Lodging	Discretionary	119.3	0.01	0.01	0.00	0.00	0.0	0.0	0.0	12	\$53.72	\$37.61	\$0.17	\$0.00	\$0.00	4.22	1.00	1.92	1.92	1.27	1.27	ENERGY STAR Griddle	
Cooking	Griddle	Lodging	Lost Opportunity	119.3	0.01	0.01	0.00	0.00	0.0	0.0	0.0	12	\$53.72	\$37.61	\$0.11	\$0.00	\$0.00	4.22	1.00	0.11	0.11	0.07	0.07	ENERGY STAR Griddle	
Cooking	Hot Food Holding Cabinet	Lodging	Discretionary	108.1	0.01	0.01	0.00	0.00	0.0	0.0	0.0	12	\$56.35	\$39.44	\$0.17	\$0.00	\$0.00	3.65	1.00	2.69	2.69	1.78	1.78	ENERGY STAR Hot Food Holding Cabinet	
Cooking	Hot Food Holding Cabinet	Lodging	Lost Opportunity	108.1	0.01	0.01	0.00	0.00	0.0	0.0	0.0	12	\$56.35	\$39.44	\$0.11	\$0.00	\$0.00	3.65	1.00	0.15	0.15	0.10	0.10	ENERGY STAR Hot Food Holding Cabinet	
Cooking	Microwave - High Efficiency	Lodging	Discretionary	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$0.31	\$0.22	\$0.17	\$0.00	\$0.00	3.38	1.00	0.02	0.02	0.01	0.01	High Efficiency Microwave	
Cooking	Microwave - High Efficiency	Lodging	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$0.31	\$0.22	\$0.11	\$0.00	\$0.00	3.38	1.00	0.00	0.00	0.00	0.00	High Efficiency Microwave	
Cooking	Steam Cooker	Lodging	Discretionary	311.3	0.04	0.04	0.00	0.00	0.0	0.0	2,224.3	12	\$106.20	\$74.34	\$0.17	\$0.00	\$0.00	237.22	1.00	6.83	6.83	4.52	4.52	ENERGY STAR Steam Cooker	
Cooking	Steam Cooker	Lodging	Lost Opportunity	311.3	0.04	0.04	0.00	0.00	0.0	0.0	2,224.3	12	\$106.20	\$74.34	\$0.11	\$0.00	\$0.00	237.22	1.00	0.38	0.38	0.25	0.25	ENERGY STAR Steam Cooker	
Cooling Chillers	Active Chilled Beam Cooling with DOAS	Lodging	Lost Opportunity	1,518.3	0.52	0.00	0.00	0.00	0.0	0.0	0.0	15	\$32,183.20	\$0.00	\$0.11	\$24,137.40	\$0.00	0.02	1.00	0.04	0.00	0.00	0.00	Active Chilled Beam Cooling with DOAS	
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Lodging	Discretionary	789.5	0.27	0.00	0.02	0.00	0.0	0.0	0.0	15	\$8,045.80	\$5,632.06	\$0.17	\$0.00	\$0.00	0.34	1.00	0.51	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)	
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Lodging	Discretionary	1,404.5	0.48	0.00	0.00	0.00	0.0	0.0	0.0	15	\$37,332.52	\$26,132.76	\$0.17	\$0.00	\$0.00	0.13	1.00	0.55	0.00	0.00	0.00	Additional Control Features	
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Lodging	Lost Opportunity	1,404.5	0.48	0.00	0.00	0.00	0.0	0.0	0.0	15	\$37,332.52	\$26,132.76	\$0.11	\$0.00	\$0.00	0.13	1.00	0.02	0.00	0.00	0.00	Additional Control Features	
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Lodging	Discretionary	931.5	0.32	0.00	0.00	0.00	0.0	0.0	0.0	10	\$25,310.30	\$17,717.21	\$0.17	\$0.00	\$0.00	0.08	1.00	0.20	0.00	0.00	0.00	VSD for Secondary Chilled Water Loop	
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Lodging	Lost Opportunity	931.5	0.32	0.00</																			



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Cooling Dx Evap	DX Package 135 to 240 kBtuh - Premium Efficiency	Lodging	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1.29	\$0.90	\$0.11	\$0.00	\$0.00	0.15	1.00	0.82	0.00	0.00	0.00	Premium Efficiency - 18.5 IEER	
Cooling Dx Evap	DX Package-Air Side Economizer	Lodging	Discretionary	1,910.3	0.65	0.00	0.00	0.00	0.0	0.0	0.0	10	\$19,071.53	\$13,350.07	\$0.17	\$0.00	\$0.00	0.23	1.00	2.20	0.00	0.00	0.00	Air-Side Economizer	
Cooling Dx Evap	Direct Digital Control System-Installation	Lodging	Discretionary	1,024.1	0.35	0.00	0.00	0.00	0.0	0.0	0.0	5	\$10,057.25	\$7,040.08	\$0.17	\$0.00	\$0.00	0.11	1.00	6.12	0.00	0.00	0.00	Installation of EMS System	
Cooling Dx Evap	Direct Digital Control System-Installation	Lodging	Lost Opportunity	1,024.1	0.35	0.00	0.00	0.00	0.0	0.0	0.0	5	\$10,057.25	\$7,040.08	\$0.11	\$0.00	\$0.00	0.11	1.00	0.02	0.00	0.00	0.00	Installation of EMS System	
Cooling Dx Evap	Duct Repair and Sealing	Lodging	Discretionary	593.7	0.20	0.00	0.00	0.00	0.0	0.0	0.0	18	\$7,723.97	\$5,406.78	\$0.17	\$0.00	\$0.00	0.33	1.00	3.54	0.00	0.00	0.00	Reduction In Duct Losses to 5 %	
Cooling Dx Evap	Exhaust Hood Makeup Air	Lodging	Discretionary	307.2	0.11	0.00	0.00	0.00	0.0	0.0	0.0	12	\$193.65	\$135.56	\$0.17	\$0.00	\$0.00	4.37	1.00	0.53	0.69	0.46	0.46	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Cooling Dx Evap	Green Roof	Lodging	Discretionary	36.3	0.01	0.00	0.00	0.00	0.0	0.0	0.0	40	\$166,589.65	\$116,612.75	\$0.17	\$1,665.90	\$0.00	0.00	1.00	0.19	0.00	0.00	0.00	Vegetation on Roof	
Cooling Dx Evap	Green Roof	Lodging	Lost Opportunity	29.9	0.01	0.00	0.00	0.00	0.0	0.0	0.0	40	\$166,589.65	\$116,612.75	\$0.11	\$1,665.90	\$0.00	0.00	1.00	0.01	0.00	0.00	0.00	Vegetation on Roof	
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Lodging	Discretionary	4,055.2	1.39	0.00	0.00	0.00	0.0	0.0	0.0	15	\$122,296.17	\$85,607.32	\$0.17	\$2,799.94	\$0.00	0.16	1.00	20.62	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Lodging	Lost Opportunity	4,055.2	1.39	0.00	0.00	0.00	0.0	0.0	0.0	15	\$122,296.17	\$85,607.32	\$0.11	\$2,799.94	\$0.00	0.16	1.00	3.61	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Cooling Dx Evap	Indirect Information Feedback	Lodging	Discretionary	35.5	0.01	0.00	0.00	0.00	0.0	0.0	0.0	2	\$118.20	\$82.74	\$0.17	\$0.00	\$0.00	0.12	1.00	0.28	0.00	0.00	0.00	Indirect Information Feedback	
Cooling Dx Evap	Indirect Information Feedback	Lodging	Lost Opportunity	35.5	0.01	0.00	0.00	0.00	0.0	0.0	0.0	2	\$118.20	\$82.74	\$0.11	\$0.00	\$0.00	0.12	1.00	0.01	0.00	0.00	0.00	Indirect Information Feedback	
Cooling Dx Evap	Infiltration Reduction	Lodging	Discretionary	204.8	0.07	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1,260.08	\$882.05	\$0.17	\$0.00	\$0.00	0.37	1.00	0.10	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Discretionary	299.5	0.10	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,874.13	\$1,311.89	\$0.17	\$0.00	\$0.00	1.17	1.00	1.30	1.68	1.12	1.12	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Lost Opportunity	299.5	0.10	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,874.13	\$1,311.89	\$0.11	\$0.00	\$0.00	1.17	1.00	0.04	0.05	0.03	0.03	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Code	Lodging	Discretionary	1,026.0	0.35	0.00	0.00	0.00	0.0	0.0	0.0	30	\$8,551.60	\$5,986.12	\$0.17	\$0.00	\$0.00	0.88	1.00	2.86	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Lodging	Discretionary	245.8	0.08	0.00	0.00	0.00	0.0	0.0	0.0	20	\$436.48	\$305.54	\$0.17	\$0.00	\$0.00	2.69	1.00	2.76	3.58	2.39	2.39	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Lodging	Lost Opportunity	245.8	0.08	0.00	0.00	0.00	0.0	0.0	0.0	20	\$436.48	\$305.54	\$0.11	\$0.00	\$0.00	2.69	1.00	0.19	0.26	0.15	0.15	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	Lodging	Discretionary	245.8	0.08	0.00	0.00	0.00	0.0	0.0	0.0	20	\$1,758.01	\$1,230.61	\$0.17	\$0.00	\$0.00	0.67	1.00	2.13	0.00	0.00	0.00	R-8 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Discretionary	441.3	0.15	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,331.79	\$2,332.26	\$0.17	\$0.00	\$0.00	0.97	1.00	0.64	0.00	0.00	0.00	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Lost Opportunity	441.3	0.15	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,331.79	\$2,332.26	\$0.11	\$0.00	\$0.00	0.97	1.00	0.07	0.00	0.00	0.00	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	Lodging	Discretionary	768.6	0.26	0.00	0.00	0.00	0.0	0.0	0.0	30	\$9,551.14	\$6,685.80	\$0.17	\$0.00	\$0.00	0.59	1.00	1.06	0.00	0.00	0.00	R-30 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Lodging	Discretionary	653.0	0.22	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,510.29	\$2,457.20	\$0.17	\$0.00	\$0.00	1.37	1.00	1.59	2.06	1.38	1.38	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Lodging	Lost Opportunity	653.0	0.22	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,510.29	\$2,457.20	\$0.11	\$0.00	\$0.00	1.37	1.00	0.27	0.35	0.20	0.20	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Code	Lodging	Discretionary	717.0	0.25	0.00	0.00	0.00	0.0	0.0	0.0	30	\$24,087.78	\$16,861.45	\$0.17	\$0.00	\$0.00	0.22	1.00	1.04	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Lodging	Discretionary	549.4	0.19	0.00	0.00	0.00	0.0	0.0	0.0	15	\$113,665.71	\$79,566.00	\$0.17	\$0.00	\$0.00	0.02	1.00	0.19	0.00	0.00	0.00	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Lodging	Lost Opportunity	549.4	0.19	0.00	0.00	0.00	0.0	0.0	0.0	15	\$90,932.57	\$63,652.80	\$0.11	\$0.00	\$0.00	0.02	1.00	0.01	0.00	0.00	0.00	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Natural Ventilation	Lodging	Lost Opportunity	682.7	0.23	0.00	0.00	0.00	0.0	0.0	0.0	15	\$32,183.20	\$22,528.24	\$0.11	\$0.00	\$0.00	0.07	1.00	0.01	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling	
Cooling Dx Evap	Programmable Thermostat	Lodging	Discretionary	273.1	0.09	0.00	0.00	0.00	0.0	0.0	0.0	11	\$74.70	\$52.29	\$0.17	\$0.00	\$0.00	9.18	1.00	3.04	3.94	3.18	2.64	Programmable Thermostat	
Cooling Dx Evap	Re-Commissioning	Lodging	Discretionary	887.5	0.30	0.00	0.00	0.00	0.0	0.0	0.0	5	\$9,654.96	\$6,758.47	\$0.17	\$0.00	\$0.00	0.10	1.00	8.21	0.00	0.00	0.00	Re-Commissioning	
Cooling Dx Evap	Retrocommissioning	Lodging	Discretionary	1,012.7	0.35	0.00	0.00	0.00	0.0	0.0	0.0	5	\$16,091.60	\$11,264.12	\$0.17	\$0.00	\$0.00	0.07	1.00	4.92	0.00	0.00	0.00	Retrocommissioning	
Cooling Dx Evap	Strategic Energy Management (SEM)	Lodging	Discretionary	279.9	0.10	0.00	0.00	0.00	0.0	0.0	0.0	5	\$37.72	\$26.41	\$0.17	\$0.00	\$0.00	8.08	1.00	0.47	0.61	0.41	0.41	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Strategic Energy Management (SEM)	Lodging	Lost Opportunity	279.9	0.10	0.00	0.00	0.00	0.0	0.0	0.0	5	\$37.72	\$26.41	\$0.11	\$0.00	\$0.00	8.08	1.00	0.19	0.24	0.16	0.16	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Tune-up - DX Maintenance	Lodging	Discretionary	981.4	0.34	0.00	0.00	0.00	0.0	0.0	0.0	5	\$38,619.84	\$27,033.89	\$0.17	\$0.00	\$0.00	0.03	1.00	3.71	0.00	0.00	0.00	DX Tune-up / Diagnostics	
Cooling Dx Evap	Wi-Fi Thermostat	Lodging	Discretionary	273.1	0.09	0.00	0.00	0.00	0.0	0.0	0.0	11	\$595.02	\$416.52	\$0.17	\$0.00	\$0.00	1.15	1.00	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Lodging	Discretionary	63.9	0.02	0.00	0.00	0.00	0.0	0.0	0.0	20	\$7,451.45	\$5,216.01	\$0.17	\$0.00	\$0.00	0.04	1.00	0.12	0.00	0.00	0.00	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Lodging	Lost Opportunity	63.9	0.02	0.00	0.00	0.00	0.0	0.0	0.0	20	\$7,451.45	\$5,216.01	\$0.11	\$0.00	\$0.00	0.04	1.00	0.02	0.00	0.00	0.00	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Code	Lodging	Discretionary	149.9	0.05	0.00	0.00	0.00	0.0	0.0	0.0	20	\$49,206.58	\$34,444.61	\$0.17	\$0.00	\$0.00	0.01	1.00	0.26	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtuh - Premium Efficiency	Lodging	Discretionary	3,424.8	1.17	0.00	0.00	0.00	0.0	0.0	0.0	15	\$131,689.29	\$92,182.50	\$0.17	\$0.00	\$0.00	0.09	1.00	14.35	0.00	0.00	0.00	Premium Efficiency - 19.0 IEER	
Dryer	Dryer - ENERGY STAR (Residential Sized)	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	1.54	0.99	1.31	1.75	1.15	1.15	ENERGY STAR Dryer - CEF 3.93 (Electric Dryer)	
Dryer	Dryer - ENERGY STAR (Residential Sized)	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	1.54	0.99	0.08	0.10	0.07	0.07	ENERGY STAR Dryer - CEF 3.93 (Electric Dryer)	
Dryer	Dryer - Heat Pump Dryer (Residential Sized)	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	0.46	0.99	1.30	0.00	0.00	0.00	Premium Efficiency - Heat Pump Dryer	
Dryer	Dryer - Heat Pump Dryer (Residential Sized)	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	0.46	0.99	0.08	0.00	0.00	0.00	Premium Efficiency - Heat Pump Dryer	
Fax	Fax - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	1.16	0.00	0.00	0.00	ENERGY STAR Fax	
Fax	Fax - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.06	0.00	0.00	0.00	ENERGY STAR Fax	
Flat Screen Monitors	Monitor - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.01	\$0.00	\$0.17	\$0.00	\$0.00	0.50	1.00	8.72	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.01	\$0.00	\$0.11	\$0.00	\$0.00	0.50	1.00	0.46	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor	
Freezers	Freezer (Residential) - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.									



Appendix B.4		BED Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Lost Opportunity	543.4	0.18	0.14	0.00	0.00	0.0	0.0	0.0	30	\$3,331.79	\$2,332.26	\$0.11	\$0.00	\$0.00	1.17	1.00	0.04	0.05	0.03	0.03	R-38
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Code	Lodging	Discretionary	946.3	0.31	0.24	0.00	0.00	0.0	0.0	0.0	30	\$9,551.14	\$6,685.80	\$0.17	\$0.00	\$0.00	0.71	1.00	0.58	0.00	0.00	0.00	R-30 (CBES 2015 Code)
Heat Pump	Insulation - Wall - CBES 2015 - Above Code	Lodging	Discretionary	804.0	0.27	0.21	0.00	0.00	0.0	0.0	0.0	30	\$3,510.29	\$2,457.20	\$0.17	\$0.00	\$0.00	1.64	1.00	0.87	0.97	0.65	0.65	R-13 + 15.6 c.i.
Heat Pump	Insulation - Wall - CBES 2015 - Above Code	Lodging	Lost Opportunity	804.0	0.27	0.21	0.00	0.00	0.0	0.0	0.0	30	\$3,510.29	\$2,457.20	\$0.11	\$0.00	\$0.00	1.64	1.00	0.15	0.17	0.10	0.10	R-13 + 15.6 c.i.
Heat Pump	Insulation - Wall - CBES 2015 - Code	Lodging	Discretionary	882.8	0.29	0.23	0.00	0.00	0.0	0.0	0.0	30	\$24,087.78	\$16,861.45	\$0.17	\$0.00	\$0.00	0.26	1.00	0.54	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)
Heat Pump	Natural Ventilation	Lodging	Lost Opportunity	840.5	0.28	0.22	0.00	0.00	0.0	0.0	0.0	15	\$32,183.20	\$22,528.24	\$0.11	\$0.00	\$0.00	0.09	1.00	0.01	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling
Heat Pump	Programmable Thermostat	Lodging	Discretionary	336.2	0.11	0.09	0.00	0.00	0.0	0.0	0.0	11	\$74.70	\$52.29	\$0.17	\$0.00	\$0.00	11.31	1.00	1.66	1.85	1.49	1.24	Programmable Thermostat
Heat Pump	Re-Commissioning	Lodging	Discretionary	1,092.7	0.36	0.28	0.00	0.00	0.0	0.0	0.0	5	\$9,654.96	\$6,758.47	\$0.17	\$0.00	\$0.00	0.12	1.00	4.33	0.00	0.00	0.00	Re-Commissioning
Heat Pump	Retrocommissioning	Lodging	Discretionary	1,246.8	0.41	0.32	0.00	0.00	0.0	0.0	0.0	5	\$16,091.60	\$11,264.12	\$0.17	\$0.00	\$0.00	0.09	1.00	2.58	0.00	0.00	0.00	Retrocommissioning
Heat Pump	Strategic Energy Management (SEM)	Lodging	Discretionary	344.6	0.11	0.09	0.00	0.00	0.0	0.0	0.0	5	\$46.44	\$32.51	\$0.17	\$0.00	\$0.00	8.15	1.00	0.26	0.29	0.19	0.19	Identify Operations and Maintenance Improvements through Strategic Energy Management
Heat Pump	Strategic Energy Management (SEM)	Lodging	Lost Opportunity	344.6	0.11	0.09	0.00	0.00	0.0	0.0	0.0	5	\$46.44	\$32.51	\$0.11	\$0.00	\$0.00	8.15	1.00	0.10	0.12	0.08	0.08	Identify Operations and Maintenance Improvements through Strategic Energy Management
Heat Pump	Tune-up - Heat Pump Maintenance	Lodging	Discretionary	1,208.3	0.40	0.31	0.00	0.00	0.0	0.0	0.0	5	\$4,634.38	\$3,244.07	\$0.17	\$0.00	\$0.00	0.29	1.00	3.85	0.00	0.00	0.00	Heat Pump Maintenance (Tune-up)
Heat Pump	Water Source Heat Pump (>= 135 kBtu/hr and < 375 kBtu/hr) Cooling	Lodging	Discretionary	4,949.4	1.64	1.27	0.00	0.00	0.0	0.0	0.0	15	\$1,236.02	\$865.21	\$0.17	\$0.00	\$0.00	14.02	1.00	2.03	2.27	1.52	1.52	14 EER, 4.6 COP
Heat Pump	Water Source Heat Pump (>= 135 kBtu/hr and < 375 kBtu/hr) Cooling	Lodging	Lost Opportunity	3,959.5	1.31	1.02	0.00	0.00	0.0	0.0	0.0	15	\$988.81	\$692.17	\$0.11	\$0.00	\$0.00	14.02	1.00	0.10	0.11	0.07	0.07	14 EER, 4.6 COP
Heat Pump	Wi-Fi Thermostat	Lodging	Discretionary	336.2	0.11	0.09	0.00	0.00	0.0	0.0	0.0	11	\$595.02	\$416.52	\$0.17	\$0.00	\$0.00	1.42	1.00	0.95	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)
Heat Pump	Windows - CBES 2015 - Above Code	Lodging	Discretionary	78.7	0.03	0.02	0.00	0.00	0.0	0.0	0.0	20	\$7,451.45	\$5,216.01	\$0.17	\$0.00	\$0.00	0.05	1.00	0.06	0.00	0.00	0.00	U-0.29
Heat Pump	Windows - CBES 2015 - Above Code	Lodging	Lost Opportunity	78.7	0.03	0.02	0.00	0.00	0.0	0.0	0.0	20	\$7,451.45	\$5,216.01	\$0.11	\$0.00	\$0.00	0.05	1.00	0.01	0.00	0.00	0.00	U-0.29
Heat Pump	Windows - CBES 2015 - Code	Lodging	Discretionary	184.6	0.06	0.05	0.00	0.00	0.0	0.0	0.0	20	\$49,206.58	\$34,444.61	\$0.17	\$0.00	\$0.00	0.02	1.00	0.15	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	Lodging	Discretionary	5,430.5	0.06	1.14	0.00	0.00	0.0	0.0	0.0	8	\$599.49	\$419.64	\$0.17	\$0.00	\$0.00	8.92	1.00	310.86	310.86	233.66	233.66	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	Lodging	Discretionary	5,068.5	0.06	1.07	0.00	0.00	0.0	0.0	0.0	8	\$96.95	\$67.87	\$0.17	\$0.00	\$0.00	51.50	1.00	238.93	238.93	179.60	179.60	Photocell
Lighting Exterior	LED Exterior Flood Lights	Lodging	Discretionary	1,758.5	0.02	0.37	0.00	0.00	0.0	0.0	0.0	20	\$1,159.92	\$811.94	\$0.17	\$0.00	\$0.00	3.73	1.00	135.01	135.01	101.48	101.48	LED Exterior Flood Lights
Lighting Exterior	LED Exterior Flood Lights	Lodging	Lost Opportunity	1,758.5	0.02	0.37	0.00	0.00	0.0	0.0	0.0	20	\$1,159.92	\$811.94	\$0.11	\$0.00	\$0.00	3.73	1.00	7.45	7.45	4.84	4.84	LED Exterior Flood Lights
Lighting Exterior	LED Exterior Pole Mount Fixture	Lodging	Discretionary	1,002.1	0.01	0.21	0.00	0.00	0.0	0.0	0.0	15	\$1,964.98	\$1,375.48	\$0.17	\$0.00	\$0.00	0.94	1.00	76.93	0.00	0.00	0.00	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Pole Mount Fixture	Lodging	Lost Opportunity	1,002.1	0.01	0.21	0.00	0.00	0.0	0.0	0.0	15	\$1,964.98	\$1,375.48	\$0.11	\$0.00	\$0.00	0.94	1.00	4.25	0.00	0.00	0.00	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Wall Pack	Lodging	Discretionary	3,322.3	0.04	0.70	0.00	0.00	0.0	0.0	0.0	20	\$6,894.28	\$4,826.00	\$0.17	\$0.00	\$0.00	1.19	1.00	240.89	240.89	181.07	181.07	LED Exterior Wall Pack
Lighting Exterior	LED Exterior Wall Pack	Lodging	Lost Opportunity	3,322.3	0.04	0.70	0.00	0.00	0.0	0.0	0.0	20	\$6,894.28	\$4,826.00	\$0.11	\$0.00	\$0.00	1.19	1.00	13.30	13.30	8.63	8.63	LED Exterior Wall Pack
Lighting Exterior	LED Pathway Lights	Lodging	Discretionary	827.6	0.01	0.17	0.00	0.00	0.0	0.0	0.0	11	\$195.81	\$137.06	\$0.17	\$0.00	\$0.00	5.73	1.00	63.53	63.53	47.76	47.76	LED Pathway Lights
Lighting Exterior	LED Pathway Lights	Lodging	Lost Opportunity	827.6	0.01	0.17	0.00	0.00	0.0	0.0	0.0	11	\$195.81	\$137.06	\$0.11	\$0.00	\$0.00	5.73	1.00	3.51	3.51	2.64	2.64	LED Pathway Lights
Lighting Exterior	Occupancy Sensor Control	Lodging	Discretionary	4,344.4	0.05	0.91	0.00	0.00	0.0	0.0	0.0	10	\$15,990.99	\$11,193.69	\$0.17	\$0.00	\$0.00	0.33	1.00	175.54	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Exterior	Parking - Covered Lighting	Lodging	Discretionary	301.5	0.00	0.06	0.00	0.00	0.0	0.0	0.0	19	\$219.81	\$153.87	\$0.17	\$0.00	\$0.00	3.21	1.00	6.29	6.29	4.73	4.73	Covered Parking Lighting (LED)
Lighting Exterior	Parking - Covered Lighting	Lodging	Lost Opportunity	301.5	0.00	0.06	0.00	0.00	0.0	0.0	0.0	19	\$219.81	\$153.87	\$0.11	\$0.00	\$0.00	3.21	1.00	0.35	0.35	0.24	0.24	Covered Parking Lighting (LED)
Lighting Exterior	Parking - Surface Lighting	Lodging	Discretionary	162.9	0.00	0.03	0.00	0.00	0.0	0.0	0.0	10	\$83.68	\$58.57	\$0.17	\$0.00	\$0.00	2.40	1.00	1.46	1.46	1.10	1.10	Surface Parking Lighting (LED)
Lighting Exterior	Parking - Surface Lighting	Lodging	Lost Opportunity	162.9	0.00	0.03	0.00	0.00	0.0	0.0	0.0	10	\$83.68	\$58.57	\$0.11	\$0.00	\$0.00	2.40	1.00	0.08	0.08	0.06	0.06	Surface Parking Lighting (LED)
Lighting Exterior	Time Clock	Lodging	Discretionary	1,810.2	0.02	0.38	0.00	0.00	0.0	0.0	0.0	8	\$298.48	\$208.93	\$0.17	\$0.00	\$0.00	5.97	1.00	6.10	6.10	4.58	4.58	Time Clock
Lighting Interior Fluorescent	Bi-Level Control, Stairwell Lighting	Lodging	Discretionary	169.8	0.03	0.02	0.00	0.00	0.0	0.0	0.0	8	\$694.83	\$486.38	\$0.17	\$0.00	\$0.00	0.36	1.00	4.96	0.00	0.00	0.00	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time
Lighting Interior Fluorescent	Dimming-Continuous, Fluorescent Fixtures	Lodging	Discretionary	16,791.1	3.26	2.25	0.00	0.00	0.0	0.0	0.0	10	\$702.39	\$491.67	\$0.17	\$0.00	\$0.00	44.51	1.00	0.00	0.00	0.00	0.00	Continuous Dimming, Fluorescent Fixtures (Day-Lighting)
Lighting Interior Fluorescent	Dimming-Stepped, Fluorescent Fixtures	Lodging	Discretionary	16,791.1	3.26	2.25	0.00	0.00	0.0	0.0	0.0	10	\$702.39	\$491.67	\$0.17	\$0.00	\$0.00	44.51	1.00	34.64	34.64	26.04	26.04	3-stepped Dimming of Fluorescent Fixtures (Day-Lighting)
Lighting Interior Fluorescent	Lighting Interior - Fluorescent - 2018 Federal Standard	Lodging	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.03	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	1.00	0.00	0.00	0.00	0.00	Standard Fluorescent 2018 Federal Standard Approved T-8
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 - Above Standard	Lodging	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.03	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	1.00	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 High Performance - Above Standard	Lodging	Lost Opportunity	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.03	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	1.00	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 High Performance Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 Reduced Wattage - Above Standard	Lodging	Lost Opportunity	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	999.00	1.00	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 Reduced Wattage Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - TLED - Above Standard	Lodging	Lost Opportunity	1.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.15	\$0.10	\$0.17	-\$0.01	\$0.00	58.62	1.00	2028.78	2217.55	1624.37	1624.37	Above Standard TLED
Lighting Interior Fluorescent	Occupancy Sensor Control	Lodging	Discretionary	14,392.3	2.79	1.93	0.00	0.00	0.0	0.0	0.0	10	\$52,975.64	\$37,082.95	\$0.17	\$0.00	\$0.00	0.51	1.00	296.92	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Interior Fluorescent	Time Clock	Lodging	Discretionary	5,996.8	1.16	0.80	0.00	0.00	0.0	0.0	0.0	8	\$298.48	\$208.93	\$0.17	\$0.00	\$0.00	29.67	1.00	10.31	10.31	7.75	7.75	Time Clock
Lighting Interior Fluorescent - Early Replacement	Early Replacement Lighting Interior - TLED - Above Standard	Lodging	Discretionary	503.1	0.10	0.07	0.00	0.00	0.0	0.0	0.0	15	\$97.87	\$68.51	\$0.17	\$0.90	\$0.00	13.18	1.00	4.42	4.42	3.32	3.32	Above Standard TLED
Lighting Interior HID	Lighting Interior - Efficient Metal Halide - Above Standard	Lodging	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.07	\$0.05	\$0.17	\$0.00	\$0.00	30.23	1.00	0.00	0.00	0.00	0.00	Efficient Metal Halide
Lighting Interior HID	Lighting Interior - Federal Standard 2017 Metal Halide - Above Standard	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.08	\$0.06	\$0.17	\$0.00	\$0.00	2.49	1.00	0.00	0.00	0.00	0.00	Federal Standard 2017 Metal Halide
Lighting Interior HID	Lighting Interior - High Bay Fluorescent High Output - Above Standard	Lodging	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.21	\$0.15	\$0.17	\$0.03	\$0.00	1.40	1.00	248.56	274.19	200.78	200.78	High Bay Fluorescent High Output (HO)
Lighting Interior HID	Lighting Interior - High Bay Induction - Above Standard	Lodging	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.21	\$0.15	\$0.17	-\$0.02	\$0.00	999.00	1.00	0.00	0.00	0.00	0.00	High Bay Induction
Lighting Interior HID	Lighting Interior - High Bay LED - Above Standard	Lodging	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.24	\$0.17	\$0.17	\$0.00	\$0.00	4.07	1.00	363.04	400.47	293.26	293.26	High Bay LED</



Appendix B.4		BED Non-residential Measure Assumptions																							
				Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Other Plug Load	Internal Power Supply / Com - E Star	Lodging	Lost Opportunity	406.9	0.06	0.04	0.00	0.00	0.0	0.0	0.0	0.0	4	\$830.45	\$581.31	\$0.11	\$0.00	\$0.00	0.32	1.00	0.45	0.00	0.00	ENERGY STAR power supply for ENERGY STAR desktop	
Other Plug Load	Smart Strip Plug Outlet	Lodging	Discretionary	406.5	0.06	0.04	0.00	0.00	0.0	0.0	0.0	4	\$305.62	\$213.94	\$0.17	\$0.00	\$0.00	0.86	1.00	7.30	0.00	0.00	0.00	Advanced Power Strip - Load Sensing	
Other Plug Load	Smart Strip Plug Outlet	Lodging	Lost Opportunity	406.5	0.06	0.04	0.00	0.00	0.0	0.0	0.0	4	\$305.62	\$213.94	\$0.11	\$0.00	\$0.00	0.86	1.00	0.40	0.00	0.00	0.00	Advanced Power Strip - Load Sensing	
Other Plug Load	Smart Strip Plug Outlet	Lodging	Discretionary	247.2	0.04	0.02	0.00	0.00	0.0	0.0	0.0	4	\$740.15	\$518.10	\$0.17	\$0.00	\$0.00	0.22	1.00	0.00	0.00	0.00	0.00	Advanced Power Strip with Occupancy Sensor	
Other Plug Load	Smart Strip Plug Outlet	Lodging	Lost Opportunity	247.2	0.04	0.02	0.00	0.00	0.0	0.0	0.0	4	\$740.15	\$518.10	\$0.11	\$0.00	\$0.00	0.22	1.00	0.00	0.00	0.00	0.00	Advanced Power Strip with Occupancy Sensor	
Package Terminal AC	Exhaust Hood Makeup Air	Lodging	Discretionary	110.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$193.65	\$135.56	\$0.17	\$0.00	\$0.00	1.57	1.00	0.10	0.10	0.07	0.07	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Package Terminal AC	Green Roof	Lodging	Discretionary	13.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$166,589.65	\$116,612.75	\$0.17	\$1,665.90	\$0.00	0.00	1.00	0.09	0.00	0.00	0.00	Vegetation on Roof	
Package Terminal AC	Green Roof	Lodging	Lost Opportunity	10.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$166,589.65	\$116,612.75	\$0.11	\$1,665.90	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	Vegetation on Roof
Package Terminal AC	Hotel Key Card Room Energy Control System	Lodging	Discretionary	127.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$17,562.37	\$12,293.66	\$0.17	\$0.00	\$0.00	0.03	1.00	1.00	0.00	0.00	0.00	0.00	Key card system to control room HVAC and lighting during non-occupied periods
Package Terminal AC	Hotel Key Card Room Energy Control System	Lodging	Lost Opportunity	127.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$17,562.37	\$12,293.66	\$0.11	\$0.00	\$0.00	0.03	1.00	0.05	0.00	0.00	0.00	0.00	Key card system to control room HVAC and lighting during non-occupied periods
Package Terminal AC	Infiltration Reduction	Lodging	Discretionary	73.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1,260.08	\$882.05	\$0.17	\$0.00	\$0.00	0.13	1.00	0.02	0.00	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)
Package Terminal AC	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Discretionary	107.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,874.13	\$1,311.89	\$0.17	\$0.00	\$0.00	0.41	1.00	0.30	0.00	0.00	0.00	0.00	R-35 c.i.
Package Terminal AC	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Lost Opportunity	107.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,874.13	\$1,311.89	\$0.11	\$0.00	\$0.00	0.41	1.00	0.01	0.00	0.00	0.00	0.00	R-35 c.i.
Package Terminal AC	Insulation - Ceiling - CBES 2015 - Code	Lodging	Discretionary	369.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$8,551.60	\$5,986.12	\$0.17	\$0.00	\$0.00	0.31	1.00	0.66	0.00	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)
Package Terminal AC	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Discretionary	158.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,331.79	\$2,332.26	\$0.17	\$0.00	\$0.00	0.34	1.00	0.15	0.00	0.00	0.00	0.00	R-38
Package Terminal AC	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Lost Opportunity	158.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,331.79	\$2,332.26	\$0.11	\$0.00	\$0.00	0.34	1.00	0.02	0.00	0.00	0.00	0.00	R-38
Package Terminal AC	Insulation - Floor (non-slab) - CBES 2015 - Code	Lodging	Discretionary	276.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$9,551.14	\$6,685.80	\$0.17	\$0.00	\$0.00	0.21	1.00	0.25	0.00	0.00	0.00	0.00	R-30 (CBES 2015 Code)
Package Terminal AC	Insulation - Wall - CBES 2015 - Above Code	Lodging	Discretionary	235.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,510.29	\$2,457.20	\$0.17	\$0.00	\$0.00	0.48	1.00	0.36	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Package Terminal AC	Insulation - Wall - CBES 2015 - Above Code	Lodging	Lost Opportunity	235.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,510.29	\$2,457.20	\$0.11	\$0.00	\$0.00	0.48	1.00	0.06	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Package Terminal AC	Insulation - Wall - CBES 2015 - Code	Lodging	Discretionary	258.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$24,087.78	\$16,861.45	\$0.17	\$0.00	\$0.00	0.08	1.00	0.27	0.00	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)
Package Terminal AC	Natural Ventilation	Lodging	Lost Opportunity	245.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$32,183.20	\$22,528.24	\$0.11	\$0.00	\$0.00	0.03	1.00	0.01	0.00	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling
Package Terminal AC	PTAC (10,000 Btuh) - High Efficiency	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.01	\$0.00	\$0.17	\$0.00	\$0.00	6.07	1.00	3.88	4.46	2.90	2.90	High Efficiency - 12.8 EER	
Package Terminal AC	PTAC (10,000 Btuh) - High Efficiency	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.01	\$0.00	\$0.11	\$0.00	\$0.00	6.07	1.00	0.21	0.24	0.16	0.16	High Efficiency - 12.8 EER	
Package Terminal AC	Windows - CBES 2015 - Above Code	Lodging	Discretionary	23.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$7,451.45	\$5,216.01	\$0.17	\$0.00	\$0.00	0.01	1.00	0.05	0.00	0.00	0.00	0.00	U-0.29
Package Terminal AC	Windows - CBES 2015 - Above Code	Lodging	Lost Opportunity	23.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$7,451.45	\$5,216.01	\$0.11	\$0.00	\$0.00	0.01	1.00	0.01	0.00	0.00	0.00	0.00	U-0.29
Package Terminal AC	Windows - CBES 2015 - Code	Lodging	Discretionary	54.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$49,206.58	\$34,444.61	\$0.17	\$0.00	\$0.00	0.01	1.00	0.13	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Package Terminal HP	Exhaust Air to Ventilation Air Heat Recovery	Lodging	Discretionary	668.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$62,863.79	\$44,004.66	\$0.17	\$0.00	\$0.00	0.03	1.00	0.00	0.00	0.00	0.00	0.00	Exhaust Air to Ventilation Air Heat Recovery
Package Terminal HP	Exhaust Hood Makeup Air	Lodging	Discretionary	200.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$193.65	\$135.56	\$0.17	\$0.00	\$0.00	2.84	1.00	0.00	0.00	0.00	0.00	0.00	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air
Package Terminal HP	Green Roof	Lodging	Discretionary	23.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$166,589.65	\$116,612.75	\$0.17	\$1,665.90	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	Vegetation on Roof
Package Terminal HP	Green Roof	Lodging	Lost Opportunity	19.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$166,589.65	\$116,612.75	\$0.11	\$1,665.90	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	Vegetation on Roof
Package Terminal HP	Hotel Key Card Room Energy Control System	Lodging	Discretionary	231.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$17,562.37	\$12,293.66	\$0.17	\$0.00	\$0.00	0.05	1.00	0.00	0.00	0.00	0.00	0.00	Key card system to control room HVAC and lighting during non-occupied periods
Package Terminal																									



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Refrigeration	Night Covers for Display Cases	Lodging	Discretionary	41.2	0.01	0.00	0.00	0.00	0.0	0.0	0.0	5	\$7.35	\$5.15	\$0.17	\$0.75	\$0.00	3.04	0.95	3.52	3.52	3.03	3.03	Night Covers for Display Cases	
Refrigeration	Night Covers for Display Cases	Lodging	Lost Opportunity	41.2	0.01	0.00	0.00	0.00	0.0	0.0	0.0	5	\$7.35	\$5.15	\$0.11	\$0.75	\$0.00	3.04	0.95	0.19	0.19	0.17	0.17	Night Covers for Display Cases	
Refrigeration	No Heat Case Doors	Lodging	Discretionary	531.6	0.07	0.06	0.00	0.00	0.0	0.0	0.0	15	\$381.06	\$266.74	\$0.17	\$0.00	\$0.00	3.47	0.95	23.87	23.87	20.57	20.57	No Heat Case Doors	
Refrigeration	No Heat Case Doors	Lodging	Lost Opportunity	531.6	0.07	0.06	0.00	0.00	0.0	0.0	0.0	15	\$381.06	\$266.74	\$0.11	\$0.00	\$0.00	3.47	0.95	2.50	2.50	2.12	2.12	No Heat Case Doors	
Refrigeration	Refrigeration Commissioning or Re-commissioning	Lodging	Discretionary	1,638.0	0.22	0.19	0.00	0.00	0.0	0.0	0.0	7	\$422.18	\$295.53	\$0.17	\$0.00	\$0.00	4.38	0.95	12.44	12.44	10.72	10.72	Commissioning / Re-commissioning	
Refrigeration	Refrigeration Commissioning or Re-commissioning	Lodging	Lost Opportunity	1,638.0	0.22	0.19	0.00	0.00	0.0	0.0	0.0	7	\$422.18	\$295.53	\$0.11	\$0.00	\$0.00	4.38	0.95	0.37	0.37	0.32	0.32	Commissioning / Re-commissioning	
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Lodging	Discretionary	141.0	0.02	0.02	0.00	0.00	0.0	0.0	0.0	9	\$25.79	\$18.05	\$0.17	\$0.00	\$0.00	8.02	0.95	12.02	12.02	10.36	10.36	Solid Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Lodging	Lost Opportunity	141.0	0.02	0.02	0.00	0.00	0.0	0.0	0.0	9	\$25.79	\$18.05	\$0.11	\$0.00	\$0.00	8.02	0.95	0.66	0.66	0.57	0.57	Solid Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Strip Curtains for Walk-Ins	Lodging	Discretionary	449.0	0.06	0.05	0.00	0.00	0.0	0.0	0.0	4	\$323.07	\$226.15	\$0.17	\$0.00	\$0.00	0.87	0.95	6.05	0.00	0.00	0.00	Strip Curtains for Walk-Ins	
Refrigeration	Walk-in Electronically Commutated Motor	Lodging	Discretionary	145.9	0.02	0.02	0.00	0.00	0.0	0.0	0.0	15	\$33.61	\$23.53	\$0.17	\$0.00	\$0.00	10.79	0.95	12.44	12.44	10.72	10.72	ECM Condensor Fans - Low Temp	
Refrigeration	Walk-in Electronically Commutated Motor	Lodging	Discretionary	157.7	0.02	0.02	0.00	0.00	0.0	0.0	0.0	15	\$41.08	\$28.76	\$0.17	\$0.00	\$0.00	9.54	0.95	13.45	13.45	11.59	11.59	ECM Condensor Fans - Medium Temp	
Refrigeration	Walk-in Electronically Commutated Motor	Lodging	Discretionary	145.9	0.02	0.02	0.00	0.00	0.0	0.0	0.0	15	\$33.61	\$23.53	\$0.17	\$0.00	\$0.00	10.79	0.95	12.44	12.44	10.72	10.72	ECM Evaporator Fans - Low Temp	
Refrigeration	Walk-in Electronically Commutated Motor	Lodging	Discretionary	157.7	0.02	0.02	0.00	0.00	0.0	0.0	0.0	15	\$41.08	\$28.76	\$0.17	\$0.00	\$0.00	9.54	0.95	13.45	13.45	11.59	11.59	ECM Evaporator Fans - Medium Temp	
Refrigeration	Walk-in Economizer	Lodging	Discretionary	1,201.2	0.16	0.14	0.00	0.00	0.0	0.0	0.0	15	\$583.78	\$408.65	\$0.17	\$0.00	\$0.00	5.11	0.95	80.89	80.89	69.70	69.70	Add Economizer to Walk-in Cooler	
Refrigeration	Walk-in Economizer	Lodging	Lost Opportunity	1,201.2	0.16	0.14	0.00	0.00	0.0	0.0	0.0	15	\$583.78	\$408.65	\$0.11	\$0.00	\$0.00	5.11	0.95	4.47	4.47	3.78	3.78	Add Economizer to Walk-in Cooler	
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	1.23	1.00	0.00	0.00	0.00	0.00	CEE Tier 2 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	1.23	1.00	0.00	0.00	0.00	0.00	CEE Tier 2 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	1.15	1.00	12.13	12.13	6.79	6.79	CEE Tier 3 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	1.15	1.00	1.07	1.07	0.60	0.60	CEE Tier 3 Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	1.26	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	1.26	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.00	\$0.17	\$0.00	\$0.00	1.27	1.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.00	\$0.11	\$0.00	\$0.00	1.27	1.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Refrigerator	
Refrigerators	Residential Refrigerator Recycling and Replacement	Lodging	Discretionary	501.3	0.06	0.06	0.00	0.00	0.0	0.0	0.0	8	\$261.00	\$182.70	\$0.17	\$0.00	\$0.00	2.41	1.00	34.32	34.32	19.23	19.23	Recycling Existing Refrigerator and Replacing with a Federal Standard Unit	
Room Cool	Ductless Air Conditioner (DAC)	Lodging	Discretionary	217.6	0.10	0.00	0.00	0.00	0.0	0.0	0.0	15	\$5,259.22	\$3,681.45	\$0.17	\$0.00	\$0.00	0.17	1.00	0.19	0.00	0.00	0.00	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Air Conditioner (DAC)	Lodging	Lost Opportunity	217.6	0.10	0.00	0.00	0.00	0.0	0.0	0.0	15	\$5,259.22	\$3,681.45	\$0.11	\$0.00	\$0.00	0.17	1.00	0.02	0.00	0.00	0.00	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Heat Pump (DHP)	Lodging	Discretionary	592.9	0.27	0.00	0.00	0.00	0.0	0.0	0.0	15	\$8,960.79	\$6,272.55	\$0.17	\$0.00	\$0.00	0.27	1.00	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP)	Lodging	Lost Opportunity	592.9	0.27	0.00	0.00	0.00	0.0	0.0	0.0	15	\$8,960.79	\$6,272.55	\$0.11	\$0.00	\$0.00	0.27	1.00	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Lodging	Discretionary	624.2	0.28	0.00	0.00	0.00	0.0	0.0	0.0	15	\$9,175.00	\$6,422.50	\$0.17	\$0.00	\$0.00	0.28	1.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Lodging	Lost Opportunity	624.2	0.28	0.00	0.00	0.00	0.0	0.0	0.0	15	\$9,175.00	\$6,422.50	\$0.11	\$0.00	\$0.00	0.28	1.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0	
Room Cool	Exhaust Hood Makeup Air	Lodging	Discretionary	45.4	0.02	0.00	0.00	0.00	0.0	0.0	0.0	12	\$193.65	\$135.56	\$0.17	\$0.00	\$0.00	0.75	1.00	0.01	0.00	0.00	0.00	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Room Cool	Green Roof	Lodging	Discretionary	5.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$166,589.65	\$116,612.75	\$0.17	\$1,665.90	\$0.00	0.00	1.00	0.01	0.00	0.00	0.00	Vegetation on Roof	
Room Cool	Green Roof	Lodging	Lost Opportunity	4.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$166,589.65	\$116,612.75	\$0.11	\$1,665.90	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Vegetation on Roof	
Room Cool	Infiltration Reduction	Lodging	Discretionary	30.2	0.01	0.00	0.40	0.00	0.0	0.0	0.0	10	\$1,260.08	\$882.05	\$0.17	\$0.00	\$0.00	0.07	1.00	0.00	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)	
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Discretionary	44.2	0.02	0.00	0.18	0.00	0.0	0.0	0.0	30	\$1,874.13	\$1,311.89	\$0.17	\$0.00	\$0.00	0.20	1.00	0.03	0.00	0.00	0.00	R-35 c.i.	
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Lost Opportunity	39.8	0.02	0.00	0.20	0.00	0.0	0.0	0.0	30	\$1,874.13	\$1,311.89	\$0.11	\$0.00	\$0.00	0.19	1.00	0.00	0.00	0.00	0.00	R-35 c.i.	
Room Cool	Insulation - Ceiling - CBES 2015 - Code	Lodging	Discretionary	151.5	0.07	0.00	0.60	0.00	0.0	0.0	0.0	30	\$8,551.60	\$5,986.12	\$0.17	\$0.00	\$0.00	0.15	1.00	0.06	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)	
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Discretionary	65.2	0.03	0.00	0.26	0.00	0.0	0.0	0.0	30	\$3,331.79	\$2,332.26	\$0.17	\$0.00	\$0.00	0.17	1.00	0.02	0.00	0.00	0.00	R-38	
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Lost Opportunity	58.6	0.03	0.00	0.29	0.00	0.0	0.0	0.0	30	\$3,331.79	\$2,332.26	\$0.11	\$0.00	\$0.00	0.15	1.00	0.00	0.00	0.00	0.00	R-38	
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Code	Lodging	Discretionary	113.5	0.05	0.00	0.45	0.00	0.0	0.0	0.0	30	\$9,551.14	\$6,685.80	\$0.17	\$0.00	\$0.00	0.10	1.00	0.02	0.00	0.00	0.00	R-30 (CBES 2015 Code)	
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Lodging	Discretionary	96.4	0.04	0.00	0.38	0.00	0.0	0.0	0.0	30	\$3,510.29	\$2,457.20	\$0.17	\$0.00	\$0.00	0.24	1.00	0.04	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Lodging	Lost Opportunity	86.7	0.04	0.00	0.43	0.00	0.0	0.0	0.0	30	\$3,510.29	\$2,457.20	\$0.11	\$0.00	\$0.00	0.22	1.00	0.01	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Room Cool	Insulation - Wall - CBES 2015 - Code	Lodging	Discretionary	105.9	0.05	0.00	0.42	0.00	0.0	0.0	0.0	30	\$24,087.78	\$16,861.45	\$0.17	\$0.00	\$0.00	0.04	1.00	0.03	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)	
Room Cool	Natural Ventilation	Lodging	Lost Opportunity	90.7	0.04	0.00	0.00	0.00	0.0	0.0	0.0	15	\$32,183.20	\$22,528.24	\$0.11	\$0.00	\$0.00	0.01	1.00	0.00	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling	
Room Cool	Room AC - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.03	\$0.02	\$0.17	\$0.00	\$0.00	0.25	1.00	0.29	0.00	0.00	0.00	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)	
Room Cool	Room AC - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.03	\$0.02	\$0.11	\$0.00	\$0.00	0.25	1.00	0.02	0.00	0.00	0.00	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)	
Room Cool	Windows - CBES 2015 - Above Code	Lodging	Discretionary	9.4	0.00	0.00	0.04	0.00	0.0	0.0	0.0	20	\$7,451.45	\$5,216.01	\$0.17	\$0.00	\$0.00	0.01	1.00	0.01	0.00	0.00	0.00	U-0.29	
Room Cool	Windows - CBES 2015 - Above Code	Lodging	Lost Opportunity	8.5	0.00	0.00	0.04	0.00	0.0	0.0	0.0	20	\$7,451.45	\$5,216.01	\$0.11	\$0.00	\$0.00	0.01	1.00	0.00	0.00	0.00	0.00	U-0.29	
Room Cool	Windows - CBES 2015 - Code	Lodging	Discretionary	22.1	0.01	0.00	0.09	0.00	0.0	0.0	0.0	20	\$49,206.58	\$34,444.61	\$0.17	\$0.00	\$0.00	0.00	1.00	0.01	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Room Cool - Early Replacement	Early Replacement Room AC - ENERGY STAR	Lodging	Discretionary	205.6	0.09	0.00	0																		



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Space Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Lodging	Discretionary	26,168.8	0.06	10.53	0.00	0.00	0.0	0.0	0.0	14	\$62,863.79	\$44,004.66	\$0.17	\$0.00	\$0.00	0.73	0.89	2.48	0.00	0.00	0.00	Exhaust Air to Ventilation Air Heat Recovery	
Space Heat - Electric	Indirect Information Feedback	Lodging	Discretionary	907.8	0.00	0.37	0.00	0.00	0.0	0.0	0.0	2	\$3,020.38	\$2,114.27	\$0.17	\$0.00	\$0.00	0.07	0.89	0.74	0.00	0.00	0.00	Indirect Information Feedback	
Space Heat - Electric	Indirect Information Feedback	Lodging	Lost Opportunity	907.8	0.00	0.37	0.00	0.00	0.0	0.0	0.0	2	\$3,020.38	\$2,114.27	\$0.11	\$0.00	\$0.00	0.07	0.89	0.06	0.00	0.00	0.00	Indirect Information Feedback	
Space Heat - Electric	Infiltration Reduction	Lodging	Discretionary	17,445.9	0.04	7.02	0.00	0.00	0.0	0.0	0.0	10	\$1,260.08	\$882.05	\$0.17	\$0.00	\$0.00	17.43	0.89	1.00	1.00	0.59	0.59	Install Caulking And Weatherstripping (ACH 0.65)	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Discretionary	7,652.6	0.02	3.08	0.00	0.00	0.0	0.0	0.0	30	\$1,874.13	\$1,311.89	\$0.17	\$0.00	\$0.00	15.33	0.89	3.75	3.75	2.23	2.23	R-35 c.i.	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Lost Opportunity	7,652.6	0.02	3.08	0.00	0.00	0.0	0.0	0.0	30	\$1,874.13	\$1,311.89	\$0.11	\$0.00	\$0.00	15.33	0.89	0.10	0.10	0.05	0.05	R-35 c.i.	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Lodging	Discretionary	26,218.9	0.06	10.55	0.00	0.00	0.0	0.0	0.0	30	\$8,551.60	\$5,986.12	\$0.17	\$0.00	\$0.00	11.51	0.89	8.28	8.28	4.93	4.93	R-30 c.i. (CBES 2015 Code)	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Lodging	Discretionary	6,280.5	0.01	2.53	0.00	0.00	0.0	0.0	0.0	20	\$436.48	\$305.54	\$0.17	\$0.00	\$0.00	35.79	0.89	8.02	8.02	4.77	4.77	R-12	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Lodging	Lost Opportunity	6,280.5	0.01	2.53	0.00	0.00	0.0	0.0	0.0	20	\$436.48	\$305.54	\$0.11	\$0.00	\$0.00	35.79	0.89	0.54	0.54	0.28	0.28	R-12	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Code	Lodging	Discretionary	6,280.5	0.01	2.53	0.00	0.00	0.0	0.0	0.0	20	\$1,758.01	\$1,230.61	\$0.17	\$0.00	\$0.00	8.89	0.89	6.17	6.17	3.67	3.67	R-8 (CBES 2015 Code)	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Discretionary	11,277.5	0.02	4.54	0.00	0.00	0.0	0.0	0.0	30	\$3,331.79	\$2,332.26	\$0.17	\$0.00	\$0.00	12.70	0.89	1.85	1.85	1.10	1.10	R-38	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Lost Opportunity	11,277.5	0.02	4.54	0.00	0.00	0.0	0.0	0.0	30	\$3,331.79	\$2,332.26	\$0.11	\$0.00	\$0.00	12.70	0.89	0.20	0.20	0.10	0.10	R-38	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Lodging	Discretionary	19,641.7	0.04	7.90	0.00	0.00	0.0	0.0	0.0	30	\$9,551.14	\$6,685.80	\$0.17	\$0.00	\$0.00	7.72	0.89	3.06	3.06	1.82	1.82	R-30 (CBES 2015 Code)	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Lodging	Discretionary	16,687.1	0.04	6.71	0.00	0.00	0.0	0.0	0.0	30	\$3,510.29	\$2,457.20	\$0.17	\$0.00	\$0.00	17.84	0.89	4.62	4.62	2.75	2.75	R-13 + 15.6 c.i.	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Lodging	Lost Opportunity	16,687.1	0.04	6.71	0.00	0.00	0.0	0.0	0.0	30	\$3,510.29	\$2,457.20	\$0.11	\$0.00	\$0.00	17.84	0.89	0.75	0.75	0.39	0.39	R-13 + 15.6 c.i.	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Code	Lodging	Discretionary	18,323.7	0.04	7.37	0.00	0.00	0.0	0.0	0.0	30	\$24,087.78	\$16,861.45	\$0.17	\$0.00	\$0.00	2.86	0.89	3.09	3.09	1.84	1.84	R-13 + 7.5 c.i. (CBES 2015 Code)	
Space Heat - Electric	Programmable Thermostat	Lodging	Discretionary	6,978.4	0.01	2.81	0.00	0.00	0.0	0.0	0.0	11	\$74.70	\$52.29	\$0.17	\$0.00	\$0.00	129.11	0.89	8.76	8.76	6.28	5.21	Programmable Thermostat	
Space Heat - Electric	Re-Commissioning	Lodging	Discretionary	22,679.7	0.05	9.12	0.00	0.00	0.0	0.0	0.0	5	\$9,654.96	\$6,758.47	\$0.17	\$0.00	\$0.00	1.46	0.89	31.45	31.45	18.71	18.71	Re-Commissioning	
Space Heat - Electric	Retrocommissioning	Lodging	Discretionary	25,878.1	0.05	10.41	0.00	0.00	0.0	0.0	0.0	5	\$16,091.60	\$11,264.12	\$0.17	\$0.00	\$0.00	1.00	0.89	18.83	18.83	0.00	11.20	Retrocommissioning	
Space Heat - Electric	Strategic Energy Management (SEM)	Lodging	Discretionary	7,152.8	0.02	2.88	0.00	0.00	0.0	0.0	0.0	5	\$963.95	\$674.76		\$0.17	\$0.00	\$0.00	4.61	0.89	1.19	1.19	0.71	0.71	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Electric	Strategic Energy Management (SEM)	Lodging	Lost Opportunity	7,152.8	0.02	2.88	0.00	0.00	0.0	0.0	0.0	5	\$963.95	\$674.76	\$0.11	\$0.00	\$0.00	4.61	0.89	0.45	0.45	0.27	0.27	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Space Heat - Electric	Wi-Fi Thermostat	Lodging	Discretionary	6,978.4	0.01	2.81	0.00	0.00	0.0	0.0	0.0	11	\$595.02	\$416.52	\$0.17	\$0.00	\$0.00	16.21	0.89	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)	
Space Heat - Electric	Windows - CBES 2015 - Above Code	Lodging	Discretionary	1,633.8	0.00	0.66	0.00	0.00	0.0	0.0	0.0	20	\$7,451.45	\$5,216.01	\$0.17	\$0.00	\$0.00	0.55	0.89	0.46	0.00	0.00	0.00	U-0.29	
Space Heat - Electric	Windows - CBES 2015 - Above Code	Lodging	Lost Opportunity	1,633.8	0.00	0.66	0.00	0.00	0.0	0.0	0.0	20	\$7,451.45	\$5,216.01	\$0.11	\$0.00	\$0.00	0.55	0.89	0.13	0.00	0.00	0.00	U-0.29	
Space Heat - Electric	Windows - CBES 2015 - Code	Lodging	Discretionary	3,814.4	0.01	1.54	0.00	0.00	0.0	0.0	0.0	20	\$49,206.58	\$34,444.61	\$0.17	\$0.00	\$0.00	0.19	0.89	1.06	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Vending Machines	Vending Machines - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.99	0.00	0.00	0.00	0.00	ENERGY STAR Vending Machines - 3.84 kWh/day	
Vending Machines	Vending Machines - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.99	0.00	0.00	0.00	0.00	ENERGY STAR Vending Machines - 3.84 kWh/day	
Vending Machines	Vending Machines - Federal Standard 2020	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.99	3.07	0.00	0.00	0.00	Federal Standard 2020 Vending Machines - 3.83 kWh/day	
Vending Machines	Vending Machines - Federal Standard 2020	Lodging	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.99	0.07	0.00	0.00	0.00	Federal Standard 2020 Vending Machines - 3.83 kWh/day	
Vending Machines	Vending Miser	Lodging	Discretionary	1,043.4	0.12	0.12	0.00	0.00	0.0	0.0	0.0	5	\$162.08	\$113.45	\$0.17	\$0.00	\$0.00	4.95	0.99	55.84	56.01	36.71	36.71	Vending Machine Occupancy Sensor	
Vending Machines	Vending Miser	Lodging	Lost Opportunity	1,042.5	0.12	0.12	0.00	0.00	0.0	0.0	0.0	5	\$162.08	\$113.45	\$0.11	\$0.00	\$0.00	4.94	0.99	3.57	3.58	2.34	2.34	Vending Machine Occupancy Sensor	
Ventilation And Circulation	Automated Exhaust VFD Control - Parking Garage CO sensor	Lodging	Discretionary	1,585.1	0.18	0.20	0.00	0.00	0.0	0.0	0.0	5	\$230.70	\$161.49	\$0.17	\$0.00	\$0.00	5.31	0.94	22.35	22.35	15.35	15.35	CO Sensors	
Ventilation And Circulation	Boiler Draft Fan - VFD	Lodging	Discretionary	5,721.5	0.65	0.71	0.00	0.00	0.0	0.0	0.0	15	\$3,078.47	\$2,154.93	\$0.17	\$0.00	\$0.00	4.47	0.94	133.57	133.57	91.74	91.74	VFD Boiler Draft Fan	
Ventilation And Circulation	Boiler Draft Fan - VFD	Lodging	Lost Opportunity	5,721.5	0.65	0.71	0.00	0.00	0.0	0.0	0.0	15	\$3,078.47	\$2,154.93	\$0.11	\$0.00	\$0.00	4.47	0.94	5.11	5.11	3.45	3.45	VFD Boiler Draft Fan	
Ventilation And Circulation	Convert Constant Volume Air System to VAV	Lodging	Discretionary	9,927.6	1.13	1.22	0.00	0.00	0.0	0.0	0.0	15	\$78,232.77	\$54,762.94	\$0.17	\$0.00	\$0.00	0.31	0.94	77.12	0.00	0.00	0.00	Variable Volume Air System	
Ventilation And Circulation	Cooking Hood Controls	Lodging	Discretionary	233.0	0.03	0.03	0.00	0.00	0.0	0.0	0.0	18	\$780.86	\$546.60	\$0.17	\$0.00	\$0.00	0.87	0.94	8.47	0.00	0.00	0.00	Demand-Ventilation Control	
Ventilation And Circulation	Cooking Hood Controls	Lodging	Lost Opportunity	233.0	0.03	0.03	0.00	0.00	0.0	0.0	0.0	18	\$780.86	\$546.60	\$0.11	\$0.00	\$0.00	0.87	0.94	0.47	0.00	0.00	0.00	Demand-Ventilation Control	
Ventilation And Circulation	Cooling Tower Fan - Variable Speed Control	Lodging	Discretionary	28.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$557.20	\$390.04	\$0.17	\$0.00	\$0.00	0.12	0.94	1.45	0.00	0.00	0.00	HVAC Fan System Installation with VSD	
Ventilation And Circulation	Fan System - HVAC - Variable Speed Control	Lodging	Discretionary	8,608.4	0.98	1.06	0.00	0.00	0.0	0.0	0.0	15	\$1,371.29	\$959.90	\$0.17	\$0.00	\$0.00	15.10	0.94	170.05	170.05	116.79	116.79	HVAC Fan System Optimization with VSD (Restoration)	
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	Lodging	Discretionary	469.4	0.05	0.06	0.00	0.00	0.0	0.0	0.0	16	\$6.87	\$4.81	\$0.17	\$0.00	\$0.00	175.81	0.94	36.04	36.04	24.75	24.75	CEE PE+ Motor for HVAC Applications	
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	Lodging	Lost Opportunity	469.4	0.05	0.06	0.00	0.00	0.0	0.0	0.0	16	\$6.87	\$4.81	\$0.11	\$0.00	\$0.00	175.81	0.94	1.99	1.99	1.33	1.33	CEE PE+ Motor for HVAC Applications	
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	Lodging	Discretionary	9,188.6	1.05	1.13	0.00	0.00	0.0	0.0	0.0	15	\$78,232.77	\$54,762.94	\$0.17	\$0.00	\$0.00	0.28	0.94	49.58	0.00	0.00	0.00	VAV Box High Efficiency (ECM)	
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	Lodging	Lost Opportunity	9,188.6	1.05	1.13	0.00	0.00	0.0	0.0	0.0	15	\$78,232.77	\$54,762.94	\$0.11	\$0.00	\$0.00	0.28	0.94	0.00	0.00	0.00	0.00	VAV Box High Efficiency (ECM)	
Ventilation And Circulation	Motor Rewind	Lodging	Discretionary	126.4	0.01	0.02	0.00	0.00	0.0	0.0	0.0	9	\$9.67	\$6.72	\$0.17	\$0.00	\$0.00	18.63	0.94	0.33	0.33	0.23	0.23	>15, <500 HP	
Ventilation And Circulation	Pump System - Chiller - Variable Speed Control	Lodging	Discretionary	196.2	0.02	0.02	0.00	0.00	0.0	0.0	0.0	15	\$36.57	\$25.60	\$0.17	\$0.00	\$0.00	12.91	0.94	4.93	4.93	3.39	3.39	Chiller Pump System Optimization with VSD (Restoration)	
Ventilation And Circulation	Variable Speed ECM Pump - Domestic Hot Water Recirculation	Lodging	Discretionary	530.1	0.06	0.07	0.00	0.00	0.0	0.0	0.0	15	\$104.22	\$72.95	\$0.17	\$0.00	\$0.00	12.24	0.94	16.92	16.92	11.62	11.62	Domestic Hot Water Recirculation ECM Pump	
Ventilation And Circulation	Variable Speed ECM Pump - HVAC Space Heating Recirculation	Lodging	Discretionary	8,773.4	1.00	1.08	0.00	0.00	0.0	0.0	0.0	15	\$1,042.18	\$729.53	\$0.17	\$0.00	\$0.00	20.26	0.94	204.82	204.82	140.67	140.67	HVAC Space Heating Recirculation ECM Pump	
Water Heat GT 55 Gal	Clothes Washer - Ozonating	Lodging	Discretionary	1,476.3	0.00	0.59	0.00	0.00	0.0	0.0	0.0	0.8	\$8,219.80	\$5,753.86	\$0.17	\$0.00	\$0.00	0.23	1.00	0.11	0.00	0.00	0.00	Ozonating Clothes Washer	
Water Heat GT 55 Gal	Clothes Washer - Ozonating	Lodging	Lost Opportunity	1,476.3	0.00	0.59	0.00	0.00	0.0	0.0	0.0	0.8	\$8,219.80	\$5,753.86	\$0.11	\$0.00	\$0.00	0.23	1.00	0.01	0.00	0.00	0.00	Ozonating Clothes Washer	
Water Heat GT 55 Gal	Clothes Washer Commercial																								



Appendix B.4		BED Non-residential Measure Assumptions																								
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description		
Water Heat GT 55 Gal	Low-Flow Showerheads	Lodging	Discretionary	60.7	0.00	0.02	0.00	0.00	0.0	0.0	7.1	9	\$965.50	\$675.85	\$0.17	\$0.00	\$0.00	0.14	1.00	0.00	0.00	0.00	0.00	2.0 GPM		
Water Heat GT 55 Gal	Low-Flow Showerheads	Lodging	Lost Opportunity	60.7	0.00	0.02	0.00	0.00	0.0	0.0	7.1	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	2.0 GPM		
Water Heat GT 55 Gal	Low-Flow Showerheads	Lodging	Discretionary	60.7	0.00	0.02	0.00	0.00	0.0	0.0	7.1	9	\$965.50	\$675.85	\$0.17	\$0.00	\$0.00	0.14	1.00	0.09	0.00	0.00	0.00	2.5 GPM (Federal Code)		
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Lodging	Lost Opportunity	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2.45	\$1.71	\$0.17	\$0.91	\$0.00	0.07	1.00	52.55	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers		
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Lodging	Lost Opportunity	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2.45	\$1.71	\$0.11	\$0.91	\$0.00	0.07	1.00	2.93	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers		
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Lodging	Discretionary	205.4	0.00	0.08	0.00	0.00	0.0	0.0	0.0	20	\$11,287.29	\$7,901.11	\$0.17	\$0.00	\$0.00	0.05	1.00	0.81	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control		
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Lodging	Lost Opportunity	205.4	0.00	0.08	0.00	0.00	0.0	0.0	0.0	20	\$11,287.29	\$7,901.11	\$0.11	\$0.00	\$0.00	0.05	1.00	0.04	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control		
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Lodging	Discretionary	7,361.6	0.02	2.96	0.00	0.00	0.0	0.0	0.0	10	\$760.82	\$532.57	\$0.17	\$0.00	\$0.00	12.18	1.00	3.07	4.25	2.38	2.38	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use		
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Lodging	Lost Opportunity	7,361.6	0.02	2.96	0.00	0.00	0.0	0.0	0.0	10	\$760.82	\$532.57	\$0.11	\$0.00	\$0.00	12.18	1.00	0.15	0.22	0.12	0.12	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use		
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Lodging	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.60	\$0.42	\$0.17	\$0.00	\$0.00	0.75	1.00	84.23	0.00	0.00	0.00	CO2 Heat Pump Water Heater		
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Lodging	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.60	\$0.42	\$0.11	\$0.00	\$0.00	0.75	1.00	5.04	0.00	0.00	0.00	CO2 Heat Pump Water Heater		
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Lodging	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.12	\$0.08	\$0.17	\$0.00	\$0.00	1.14	1.00	0.00	34.97	19.59	19.59	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2		
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Lodging	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.12	\$0.08	\$0.11	\$0.00	\$0.00	1.14	1.00	0.00	2.17	1.22	1.22	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2		
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Lodging	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.48	\$0.33	\$0.17	\$0.00	\$0.00	0.81	1.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8		
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Lodging	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.48	\$0.33	\$0.11	\$0.00	\$0.00	0.81	1.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8		
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Lodging	Discretionary	10,306.2	0.02	4.15	0.00	0.00	0.0	0.0	0.0	4	\$0.17	\$0.12	\$0.17	\$0.00	\$0.00	30269.62	1.00	40.78	56.55	31.67	31.67	Set Water Heater to 120F		
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Lodging	Lost Opportunity	10,306.2	0.02	4.15	0.00	0.00	0.0	0.0	0.0	4	\$0.17	\$0.12	\$0.11	\$0.00	\$0.00	30269.62	1.00	1.98	2.89	1.62	1.62	Set Water Heater to 120F		
Water Heat GT 55 Gal	Water Heater Tank Wrap	Lodging	Discretionary	20,736.1	0.04	8.34	0.00	0.00	0.0	0.0	0.0	7	\$699.43	\$489.60	\$0.17	\$0.00	\$0.00	26.07	1.00	63.62	88.22	49.41	49.41	Add R-10 Tank Wrap		
Water Heat LE 55 Gal	Clothes Washer - Ozonating	Lodging	Discretionary	1,476.3	0.00	0.59	0.00	0.00	0.0	0.0	0.8	10	\$8,219.80	\$5,753.86	\$0.17	\$0.00	\$0.00	0.23	1.00	0.05	0.00	0.00	0.00	Ozonating Clothes Washer		
Water Heat LE 55 Gal	Clothes Washer - Ozonating	Lodging	Lost Opportunity	1,476.3	0.00	0.59	0.00	0.00	0.0	0.0	0.8	10	\$8,219.80	\$5,753.86	\$0.11	\$0.00	\$0.00	0.23	1.00	0.00	0.00	0.00	0.00	Ozonating Clothes Washer		
Water Heat LE 55 Gal	Clothes Washer Commercial	Lodging	Discretionary	186.3	0.00	0.07	0.00	0.00	0.0	0.0	0.8	14	\$167.47	\$117.23	\$0.17	\$0.00	\$0.00	2.00	1.00	0.01	0.05	0.03	0.03	ENERGY STAR Commercial Clothes Washer - MEF = 2.43, WF = 4.0		
Water Heat LE 55 Gal	Clothes Washer Commercial	Lodging	Lost Opportunity	186.3	0.00	0.07	0.00	0.00	0.0	0.0	0.8	14	\$167.47	\$117.23	\$0.11	\$0.00	\$0.00	2.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Commercial Clothes Washer - MEF = 2.43, WF = 4.0		
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Lodging	Discretionary	56.6	0.00	0.02	0.00	0.00	0.0	0.0	5.1	13	\$63.06	\$44.14	\$0.17	\$0.00	\$0.00	2.42	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle		
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Lodging	Lost Opportunity	56.6	0.00	0.02	0.00	0.00	0.0	0.0	5.1	13	\$63.06	\$44.14	\$0.11	\$0.00	\$0.00	2.42	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle		
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Lodging	Discretionary	125.3	0.00	0.05	0.00	0.00	0.0	0.0	6.8	13	\$116.60	\$81.62	\$0.17	\$0.00	\$0.00	2.44	1.00	0.02	0.04	0.02	0.02	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle		
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Lodging	Lost Opportunity	125.3	0.00	0.05	0.00	0.00	0.0	0.0	6.8	13	\$116.60	\$81.62	\$0.11	\$0.00	\$0.00	2.44	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle		
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Lodging	Discretionary	63.5	0.00	0.03	0.00	0.00	0.0	0.0	2.6	14	\$9.76	\$6.83	\$0.17	\$0.00	\$0.00	14.75	1.00	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)		
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Lodging	Lost Opportunity	63.5	0.00	0.03	0.00	0.00	0.0	0.0	2.6	14	\$9.76	\$6.83	\$0.11	\$0.00	\$0.00	14.75	1.00	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)		
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Lodging	Discretionary	100.0	0.00	0.04	0.00	0.00	0.0	0.0	7.6	14	\$3.99	\$2.79	\$0.17	\$0.00	\$0.00	67.69	1.00	0.13	0.31	0.18	0.18	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)		
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Lodging	Lost Opportunity	100.0	0.00	0.04	0.00	0.00	0.0	0.0	7.6	14	\$3.99	\$2.79	\$0.11	\$0.00	\$0.00	67.69	1.00	0.01	0.02	0.01	0.01	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)		
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Lodging	Discretionary	787.7	0.00	0.32	0.00	0.00	0.0	0.0	0.0	13	\$180.29	\$126.20	\$0.17	\$0.00	\$0.00	7.11	1.00	1.02	2.52	1.41	1.41	1.0" of Insulation, assuming R-4 (Code)		
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Lodging	Discretionary	11,136.5	0.02	4.48	0.00	0.00	0.0	0.0	0.0	25	\$17,851.75	\$12,496.23	\$0.17	\$0.00	\$0.00	1.94	1.00	0.75	1.85	1.04	1.04	Install Heat Recovery Water Heater		
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Lodging	Discretionary	324.1	0.00	0.13	0.00	0.00	0.0	0.0	0.0	20	\$38.17	\$26.72	\$0.17	\$0.00	\$0.00	21.12	1.00	0.16	0.40	0.22	0.22	R-3		
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Lodging	Discretionary	317.5	0.00	0.13	0.00	0.00	0.0	0.0	23.5	9	\$643.66	\$450.56	\$0.17	\$0.00	\$0.00	0.88	1.00	0.67	0.00	0.00	0.00	0.5 GPM		
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Lodging	Lost Opportunity	317.5	0.00	0.13	0.00	0.00	0.0	0.0	23.5	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.03	0.00	0.00	0.00	0.5 GPM		
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Lodging	Discretionary	224.1	0.00	0.09	0.00	0.00	0.0	0.0	16.6	9	\$643.66	\$450.56	\$0.17	\$0.00	\$0.00	0.62	1.00	0.00	0.00	0.00	0.00	1.0 GPM		
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Lodging	Lost Opportunity	224.1	0.00	0.09	0.00	0.00	0.0	0.0	16.6	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.0 GPM		
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Lodging	Discretionary	130.7	0.00	0.05	0.00	0.00	0.0	0.0	9.7	9	\$643.66	\$450.56	\$0.17	\$0.00	\$0.00	0.36	1.00	0.00	0.00	0.00	0.00	1.5 GPM		
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Lodging	Lost Opportunity	130.7	0.00	0.05	0.00	0.00	0.0	0.0	9.7	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.5 GPM		
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Lodging	Discretionary	56.0	0.00	0.02	0.00	0.00	0.0	0.0	3.6	9	\$643.66	\$450.56	\$0.17	\$0.00	\$0.00	0.15	1.00	0.04	0.00	0.00	0.00	2.2 GPM (Federal Code)		
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Lodging	Discretionary	50.0	0.00	0.02	0.00	0.00	0.0	0.0	9.6	5	\$9.50	\$6.65	\$0.17	\$0.00	\$0.00	8.41	1.00	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)		
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Lodging	Lost Opportunity	50.0	0.00	0.02	0.00	0.00	0.0	0.0	9.6	5	\$9.50	\$6.65	\$0.11	\$0.00	\$0.00	8.41	1.00	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)		
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Lodging	Discretionary	82.9	0.00	0.03	0.00	0.00	0.0	0.0	15.9	5	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.15	0.00	0.00	0.00	0.75 GPM		
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Lodging	Lost Opportunity	82.9	0.00	0.03	0.00	0.00	0.0	0.0	15.9	5	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.01	0.00	0.00	0.00	0.75 GPM		
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Lodging	Discretionary	132.9	0.00	0.05	0.00	0.00	0.0	0.0	25.4	5	\$9.50	\$6.65	\$0.17	\$0.00	\$0.00	22.34	1.00	0.50	0.00	0.00	0.00	0.75 GPM		
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Lodging	Lost Opportunity	132.9	0.00	0.05	0.00	0.00	0.0	0.0	25.4	5	\$9.50	\$6.65	\$0.11	\$0.00	\$0.00	22.34	1.00	0.00	0.01	0.00	0.00	0.75 GPM		
Water Heat LE 55 Gal	Low-Flow Showerheads	Lodging	Discretionary	121.3	0.00	0.05	0.00	0.00	0.0	0.0	14.3	9	\$965.50	\$675.85	\$0.17	\$0.00	\$0.00	0.27	1.00	0.24	0.00	0.00	0.00	1.5 GPM		
Water Heat LE 55 Gal	Low-Flow Showerheads	Lodging	Lost Opportunity	121.3	0.00	0.05	0.00	0.00	0.0	0.0	14.3	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.01	0.00	0.00	0.00	1.5 GPM		
Water Heat LE 55 Gal	Low-Flow Showerheads	Lodging	Discretionary	91.0	0.00	0.04	0.00	0.00	0.0	0.0	10.7	9	\$965.50	\$675.85	\$0.17	\$0.00	\$0.00	0.20	1.00	0.00	0.00	0.00	0.00	1.75 GPM		
Water Heat LE 55 Gal	Low-Flow Showerheads	Lodging	Lost Opportunity	91.0																						



Appendix B.4		BED Non-residential Measure Assumptions																								
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NC Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR	20 YR	20 YR MAP	20 YR RAP	Measure Description		
																				Technical Potential (MWh)	Economic Potential (MWh)				(MWh)	(MWh)
Compressed Air	Compressed Air Heat Recovery	Miscellaneous	Discretionary	308.3	0.04	0.04	0.00	0.00	0.0	0.0	0.0	15	\$1,873.51	\$1,311.46	\$0.17	\$0.00	\$0.00	0.39	1.00	14.94	0.00	0.00	0.00	Compressed Air Heat Recovery		
Compressed Air	Compressed Air Heat Recovery	Miscellaneous	Lost Opportunity	308.3	0.04	0.04	0.00	0.00	0.0	0.0	0.0	15	\$1,873.51	\$1,311.46	\$0.11	\$0.00	\$0.00	0.39	1.00	0.82	0.00	0.00	0.00	Compressed Air Heat Recovery		
Compressed Air	Compressed Air System Leakage Reduction	Miscellaneous	Discretionary	140.8	0.02	0.02	0.00	0.00	0.0	0.0	0.0	2	\$47.70	\$33.39	\$0.17	\$0.00	\$0.00	0.86	1.00	4.93	0.00	0.00	0.00	Compressed Air System Leak Survey and Repair		
Compressed Air	Compressed Air System Leakage Reduction	Miscellaneous	Lost Opportunity	140.8	0.02	0.02	0.00	0.00	0.0	0.0	0.0	2	\$47.70	\$33.39	\$0.11	\$0.00	\$0.00	0.86	1.00	0.27	0.00	0.00	0.00	Compressed Air System Leak Survey and Repair		
Compressed Air	Cycling Dryers	Miscellaneous	Discretionary	559.1	0.06	0.06	0.00	0.00	0.0	0.0	0.0	10	\$84.24	\$58.96	\$0.17	\$0.00	\$0.00	10.48	1.00	28.68	28.68	18.89	18.89	Cycling Dryer		
Compressed Air	Cycling Dryers	Miscellaneous	Lost Opportunity	559.1	0.06	0.06	0.00	0.00	0.0	0.0	0.0	10	\$84.24	\$58.96	\$0.11	\$0.00	\$0.00	10.48	1.00	1.58	1.58	1.04	1.04	Cycling Dryer		
Compressed Air	Engineered Nozzles	Miscellaneous	Discretionary	49.8	0.01	0.01	0.00	0.00	0.0	0.0	0.0	10	\$1.28	\$0.90	\$0.17	\$0.00	\$0.00	61.48	1.00	0.37	0.37	0.24	0.24	Compressed Air Engineered Nozzle		
Compressed Air	Engineered Nozzles	Miscellaneous	Lost Opportunity	49.8	0.01	0.01	0.00	0.00	0.0	0.0	0.0	10	\$1.28	\$0.90	\$0.11	\$0.00	\$0.00	61.48	1.00	0.02	0.02	0.01	0.01	Compressed Air Engineered Nozzle		
Compressed Air	Mist Eliminators	Miscellaneous	Discretionary	466.7	0.05	0.05	0.00	0.00	0.0	0.0	0.0	15	\$620.71	\$434.50	\$0.17	\$0.00	\$0.00	1.80	1.00	3.45	3.45	2.28	2.28	Mist Eliminator Filter		
Compressed Air	Mist Eliminators	Miscellaneous	Lost Opportunity	466.7	0.05	0.05	0.00	0.00	0.0	0.0	0.0	15	\$620.71	\$434.50	\$0.11	\$0.00	\$0.00	1.80	1.00	0.19	0.19	0.12	0.12	Mist Eliminator Filter		
Compressed Air	No Air Loss Drain	Miscellaneous	Discretionary	287.9	0.03	0.03	0.00	0.00	0.0	0.0	0.0	5	\$36.54	\$25.58	\$0.17	\$0.00	\$0.00	6.05	1.00	1.55	1.55	1.02	1.02	No Air Loss Drain		
Compressed Air	No Air Loss Drain	Miscellaneous	Lost Opportunity	287.9	0.03	0.03	0.00	0.00	0.0	0.0	0.0	5	\$36.54	\$25.58	\$0.11	\$0.00	\$0.00	6.05	1.00	0.00	0.00	0.00	0.00	No Air Loss Drain		
Compressed Air	VFD Air Compressor Upgrade	Miscellaneous	Discretionary	601.2	0.07	0.07	0.00	0.00	0.0	0.0	0.0	10	\$496.28	\$347.39	\$0.17	\$0.00	\$0.00	1.91	1.00	3.24	3.24	2.13	2.13	VFD Compressor Upgrade		
Compressed Air	VFD Air Compressor Upgrade	Miscellaneous	Lost Opportunity	601.2	0.07	0.07	0.00	0.00	0.0	0.0	0.0	10	\$496.28	\$347.39	\$0.11	\$0.00	\$0.00	1.91	1.00	0.18	0.18	0.12	0.12	VFD Compressor Upgrade		
Computers	Computer - ENERGY STAR	Miscellaneous	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.70	345.59	0.00	0.00	0.00	ENERGY STAR Computer		
Computers	Computer - ENERGY STAR	Miscellaneous	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.70	17.12	0.00	0.00	0.00	ENERGY STAR Computer		
Computers	Network PC Power Management	Miscellaneous	Discretionary	120.8	0.02	0.01	0.00	0.00	0.0	0.0	0.0	5	\$14.78	\$10.34	\$0.17	\$3.39	\$0.00	3.27	0.70	62.63	109.98	50.97	50.97	Network PC Power Management		
Computers	Network PC Power Management	Miscellaneous	Lost Opportunity	120.8	0.02	0.01	0.00	0.00	0.0	0.0	0.0	5	\$14.78	\$10.34	\$0.11	\$3.39	\$0.00	3.27	0.70	3.88	6.83	3.17	3.17	Network PC Power Management		
Cooking	Combination Oven	Miscellaneous	Discretionary	11.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.95	1.34	0.00	0.00	0.00	ENERGY STAR Combination Oven		
Cooking	Combination Oven	Miscellaneous	Lost Opportunity	11.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.95	0.07	0.00	0.00	0.00	ENERGY STAR Combination Oven		
Cooking	Convection Oven	Miscellaneous	Discretionary	2.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.69	\$0.48	\$0.17	\$0.00	\$0.00	7.05	0.95	0.56	0.56	0.35	0.35	ENERGY STAR Convection Oven		
Cooking	Convection Oven	Miscellaneous	Lost Opportunity	2.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.69	\$0.48	\$0.11	\$0.00	\$0.00	7.05	0.95	0.03	0.03	0.02	0.02	ENERGY STAR Convection Oven		
Cooking	Fryers	Miscellaneous	Discretionary	5.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.90	\$0.63	\$0.17	\$0.00	\$0.00	11.17	0.95	0.89	0.89	0.56	0.56	ENERGY STAR Fryer		
Cooking	Fryers	Miscellaneous	Lost Opportunity	5.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.90	\$0.63	\$0.11	\$0.00	\$0.00	11.17	0.95	0.05	0.05	0.03	0.03	ENERGY STAR Fryer		
Cooking	Griddle	Miscellaneous	Discretionary	3.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$1.53	\$1.07	\$0.17	\$0.00	\$0.00	4.22	0.95	0.45	0.45	0.28	0.28	ENERGY STAR Griddle		
Cooking	Griddle	Miscellaneous	Lost Opportunity	3.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$1.53	\$1.07	\$0.11	\$0.00	\$0.00	4.22	0.95	0.02	0.02	0.02	0.02	ENERGY STAR Griddle		
Cooking	Hot Food Holding Cabinet	Miscellaneous	Discretionary	3.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$1.61	\$1.13	\$0.17	\$0.00	\$0.00	3.65	0.95	0.63	0.63	0.40	0.40	ENERGY STAR Hot Food Holding Cabinet		
Cooking	Hot Food Holding Cabinet	Miscellaneous	Lost Opportunity	3.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$1.61	\$1.13	\$0.11	\$0.00	\$0.00	3.65	0.95	0.03	0.03	0.02	0.02	ENERGY STAR Hot Food Holding Cabinet		
Cooking	Microwave - High Efficiency	Miscellaneous	Discretionary	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	3.38	0.95	0.00	0.00	0.00	0.00	High Efficiency Microwave		
Cooking	Microwave - High Efficiency	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	3.38	0.95	0.00	0.00	0.00	0.00	High Efficiency Microwave		
Cooking	Steam Cooker	Miscellaneous	Discretionary	8.9	0.00	0.00	0.00	0.00	0.0	0.0	2,224.3	12	\$3.03	\$2.12	\$0.17	\$0.00	\$0.00	8118.52	0.95	1.61	1.61	1.01	1.01	ENERGY STAR Steam Cooker		
Cooking	Steam Cooker	Miscellaneous	Lost Opportunity	8.9	0.00	0.00	0.00	0.00	0.0	0.0	2,224.3	12	\$3.03	\$2.12	\$0.11	\$0.00	\$0.00	8118.52	0.95	0.09	0.09	0.06	0.06	ENERGY STAR Steam Cooker		
Cooling Chillers	Active Chilled Beam Cooling with DOAS	Miscellaneous	Lost Opportunity	82.1	0.03	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$2,746.00	\$0.00	\$0.11	\$2,059.50	\$0.00	0.01	0.98	0.35	0.00	0.00	0.00	Active Chilled Beam Cooling with DOAS		
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Miscellaneous	Discretionary	42.7	0.01	0.00	0.02	0.00	0.0	0.0	0.0	15	\$686.50	\$480.55	\$0.17	\$0.00	\$0.00	0.22	0.98	4.73	0					



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Cooling Dx Evap	Commissioning	Miscellaneous	Lost Opportunity	47.7	0.02	0.00	1.71	7.73	1.7	0.0	0.0	5	\$3,185.36	\$2,229.75	\$0.11	\$0.00	\$0.00	0.04	0.98	0.68	0.00	0.00	0.00	Commissioning	
Cooling Dx Evap	Convert Constant Volume Air System to VAV	Miscellaneous	Discretionary	96.5	0.03	0.00	3.12	16.26	3.4	0.0	0.0	15	\$10,012.70	\$7,008.89	\$0.17	\$0.00	\$0.00	0.07	0.98	1.80	0.00	0.00	0.00	Variable Volume Air System	
Cooling Dx Evap	DX Package 135 to 240 kBtuh - Federal Standard 2023	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.53	\$0.37	\$0.17	\$0.00	\$0.00	0.09	0.98	0.00	0.00	0.00	0.00	Federal Standard 2023 - 14.2 IEER	
Cooling Dx Evap	DX Package 135 to 240 kBtuh - Federal Standard 2023	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.42	\$0.30	\$0.11	\$0.00	\$0.00	0.11	0.98	0.00	0.00	0.00	0.00	Federal Standard 2023 - 14.2 IEER	
Cooling Dx Evap	DX Package 135 to 240 kBtuh - Premium Efficiency	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1.79	\$1.25	\$0.17	\$0.00	\$0.00	0.07	0.98	32.07	0.00	0.00	0.00	Premium Efficiency - 18.5 IEER	
Cooling Dx Evap	DX Package 135 to 240 kBtuh - Premium Efficiency	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1.43	\$1.00	\$0.11	\$0.00	\$0.00	0.08	0.98	1.44	0.00	0.00	0.00	Premium Efficiency - 18.5 IEER	
Cooling Dx Evap	DX Package-Air Side Economizer	Miscellaneous	Discretionary	102.9	0.04	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1,805.03	\$1,263.52	\$0.17	\$0.00	\$0.00	0.13	0.98	1.77	0.00	0.00	0.00	Air-Side Economizer	
Cooling Dx Evap	Direct Digital Control System-Installation	Miscellaneous	Discretionary	55.1	0.02	0.00	1.78	8.03	1.7	0.0	0.0	5	\$858.13	\$600.69	\$0.17	\$0.00	\$0.00	0.15	0.98	8.25	0.00	0.00	0.00	Installation of EMS System	
Cooling Dx Evap	Direct Digital Control System-Installation	Miscellaneous	Lost Opportunity	55.1	0.02	0.00	1.98	8.92	1.9	0.0	0.0	5	\$858.13	\$600.69	\$0.11	\$0.00	\$0.00	0.16	0.98	0.06	0.00	0.00	0.00	Installation of EMS System	
Cooling Dx Evap	Duct Repair and Sealing	Miscellaneous	Discretionary	31.9	0.01	0.00	0.99	5.60	1.2	0.0	0.0	18	\$659.04	\$461.33	\$0.17	\$0.00	\$0.00	0.42	0.98	3.60	0.00	0.00	0.00	Reduction In Duct Losses to 5 %	
Cooling Dx Evap	Exhaust Hood Makeup Air	Miscellaneous	Discretionary	16.5	0.01	0.00	0.00	0.00	0.0	0.0	0.0	12	\$5.53	\$3.87	\$0.17	\$0.00	\$0.00	8.24	0.98	0.05	0.07	0.04	0.04	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Cooling Dx Evap	Green Roof	Miscellaneous	Discretionary	2.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$41,190.00	\$28,833.00	\$0.17	\$411.90	\$0.00	0.00	0.98	0.23	0.00	0.00	0.00	Vegetation on Roof	
Cooling Dx Evap	Green Roof	Miscellaneous	Lost Opportunity	1.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$41,190.00	\$28,833.00	\$0.11	\$411.90	\$0.00	0.00	0.98	0.01	0.00	0.00	0.00	Vegetation on Roof	
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Miscellaneous	Discretionary	218.2	0.07	0.00	0.00	0.00	0.0	0.0	0.0	15	\$10,434.80	\$7,304.36	\$0.17	-\$238.90	\$0.00	0.10	0.98	4.02	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Miscellaneous	Lost Opportunity	218.2	0.07	0.00	0.00	0.00	0.0	0.0	0.0	15	\$10,434.80	\$7,304.36	\$0.11	-\$238.90	\$0.00	0.10	0.98	0.70	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Cooling Dx Evap	Indirect Information Feedback	Miscellaneous	Discretionary	1.9	0.00	0.00	0.06	0.27	0.1	0.0	0.0	2	\$6.36	\$4.45	\$0.17	\$0.00	\$0.00	0.27	0.98	0.37	0.00	0.00	0.00	Indirect Information Feedback	
Cooling Dx Evap	Indirect Information Feedback	Miscellaneous	Lost Opportunity	1.9	0.00	0.00	0.07	0.29	0.1	0.0	0.0	2	\$6.36	\$4.45	\$0.11	\$0.00	\$0.00	0.28	0.98	0.02	0.00	0.00	0.00	Indirect Information Feedback	
Cooling Dx Evap	Infiltration Reduction	Miscellaneous	Discretionary	11.0	0.00	0.00	1.19	5.78	1.2	0.0	0.0	10	\$83.64	\$58.55	\$0.17	\$0.00	\$0.00	1.38	0.98	0.11	0.14	0.09	0.09	Install Caulking And Weatherstripping (ACH 0.65)	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Discretionary	18.7	0.01	0.00	0.60	3.82	0.8	0.0	0.0	30	\$463.39	\$324.37	\$0.17	\$0.00	\$0.00	0.59	0.98	1.49	0.00	0.00	0.00	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	18.7	0.01	0.00	0.67	4.24	0.9	0.0	0.0	30	\$463.39	\$324.37	\$0.11	\$0.00	\$0.00	0.62	0.98	0.04	0.00	0.00	0.00	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Code	Miscellaneous	Discretionary	64.1	0.02	0.00	2.07	13.08	2.6	0.0	0.0	30	\$2,114.42	\$1,480.09	\$0.17	\$0.00	\$0.00	0.44	0.98	3.29	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Miscellaneous	Discretionary	13.2	0.00	0.00	0.41	2.38	0.5	0.0	0.0	20	\$37.24	\$26.07	\$0.17	\$0.00	\$0.00	3.41	0.98	2.85	3.70	2.43	2.43	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	13.2	0.00	0.00	0.46	2.64	0.5	0.0	0.0	20	\$37.24	\$26.07	\$0.11	\$0.00	\$0.00	3.60	0.98	0.20	0.26	0.14	0.14	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	Miscellaneous	Discretionary	13.2	0.00	0.00	0.41	2.38	0.5	0.0	0.0	20	\$150.00	\$105.00	\$0.17	\$0.00	\$0.00	0.85	0.98	2.30	0.00	0.00	0.00	R-8 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Miscellaneous	Discretionary	27.6	0.01	0.00	0.89	5.63	1.1	0.0	0.0	30	\$823.80	\$576.66	\$0.17	\$0.00	\$0.00	0.49	0.98	0.74	0.00	0.00	0.00	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	27.6	0.01	0.00	0.99	6.25	1.3	0.0	0.0	30	\$823.80	\$576.66	\$0.11	\$0.00	\$0.00	0.51	0.98	0.08	0.00	0.00	0.00	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	Miscellaneous	Discretionary	48.0	0.02	0.00	1.55	9.80	2.0	0.0	0.0	30	\$2,361.56	\$1,653.09	\$0.17	\$0.00	\$0.00	0.30	0.98	1.14	0.00	0.00	0.00	R-30 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Miscellaneous	Discretionary	28.3	0.01	0.00	0.91	5.78	1.2	0.0	0.0	30	\$602.34	\$421.64	\$0.17	\$0.00	\$0.00	0.68	0.98	1.27	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	28.3	0.01	0.00	1.02	6.42	1.3	0.0	0.0	30	\$602.34	\$421.64	\$0.11	\$0.00	\$0.00	0.72	0.98	0.22	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Code	Miscellaneous	Discretionary	31.1	0.01	0.00	1.00	6.34	1.3	0.0	0.0	30	\$4,133.29	\$2,893.31	\$0.17	\$0.00	\$0.00	0.11	0.98	0.67	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Miscellaneous	Discretionary	29.6	0.01	0.00	0.00	0.00	0.0	0.0	0.0	15	\$10,757.91	\$7,530.53	\$0.17	\$0.00	\$0.00	0.01	0.98	0.23	0.00	0.00	0.00	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Miscellaneous	Lost Opportunity	29.6	0.01	0.00	0.00	0.00	0.0	0.0	0.0	15	\$8,606.32	\$6,024.43	\$0.11	\$0.00	\$0.00	0.01	0.98	0.02	0.00	0.00	0.00	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Natural Ventilation	Miscellaneous	Lost Opportunity	36.7	0.01	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2,746.00	\$1,922.20	\$0.11	\$0.00	\$0.00	0.05	0.98	0.02	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling	
Cooling Dx Evap	Programmable Thermostat	Miscellaneous	Discretionary	14.7	0.01	0.00	0.47	2.34	0.5	0.0	0.0	11	\$25.78	\$18.04	\$0.17	\$0.00	\$0.00	2.97	0.98	2.97	3.85	3.05	2.53	Programmable Thermostat	
Cooling Dx Evap	Re-Commissioning	Miscellaneous	Discretionary	47.7	0.02	0.00	1.54	6.96	1.5	0.0	0.0	5	\$823.80	\$576.66	\$0.17	\$0.00	\$0.00	0.13	0.98	11.06	0.00	0.00	0.00	Re-Commissioning	
Cooling Dx Evap	Retrocommissioning	Miscellaneous	Discretionary	54.5	0.02	0.00	1.76	7.94	1.7	0.0	0.0	5	\$1,373.00	\$961.10	\$0.17	\$0.00	\$0.00	0.09	0.98	6.20	0.00	0.00	0.00	Retrocommissioning	
Cooling Dx Evap	Strategic Energy Management (SEM)	Miscellaneous	Discretionary	15.1	0.01	0.00	0.49	2.20	0.5	0.0	0.0	5	\$2.03	\$1.42	\$0.17	\$0.00	\$0.00	17.10	0.98	0.48	0.63	0.41	0.41	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Strategic Energy Management (SEM)	Miscellaneous	Lost Opportunity	15.1	0.01	0.00	0.54	2.44	0.5	0.0	0.0	5	\$2.03	\$1.42	\$0.11	\$0.00	\$0.00	18.11	0.98	0.19	0.24	0.16	0.16	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Tune-up - DX Maintenance	Miscellaneous	Discretionary	52.8	0.02	0.00	0.00	0.00	0.0	0.0	0.0	5	\$3,655.18	\$2,558.63	\$0.17	\$0.00	\$0.00	0.02	0.98	4.55	0.00	0.00	0.00	DX Tune-up / Diagnostics	
Cooling Dx Evap	Wi-Fi Thermostat	Miscellaneous	Discretionary	14.7	0.01	0.00	0.47	2.34	0.5	0.0	0.0	11	\$205.33	\$143.73	\$0.17	\$0.00	\$0.00	0.37	0.98	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Miscellaneous	Discretionary	1.1	0.00	0.00	0.03	0.19	0.0	0.0	0.0	20	\$494.61	\$346.23	\$0.17	\$0.00	\$0.00	0.02	0.98	0.05	0.00	0.00	0.00	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	1.1	0.00	0.00	0.04	0.21	0.0	0.0	0.0	20	\$494.61	\$346.23	\$0.11	\$0.00	\$0.00	0.02	0.98	0.01	0.00	0.00	0.00	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Code	Miscellaneous	Discretionary	2.5	0.00	0.00	0.08	0.45	0.1	0.0	0.0	20	\$3,266.21	\$2,286.35	\$0.17	\$0.00	\$0.00	0.01	0.98	0.10	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtuh - Premium Efficiency	Miscellaneous	Discretionary	185.2	0.06	0.00	0.00	0.00	0.0	0.0	0.0	15	\$12,463.75	\$8,724.62	\$0.17	\$0.00	\$0.00	0.05	0.98	13.97	0.00	0.00	0.00	Premium Efficiency - 19.0 IEER	
Fax	Fax - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.70	5.27	0.00	0.00	0.00	ENERGY STAR Fax	
Fax	Fax - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.70	0.27	0.00	0.00	0.00	ENERGY STAR Fax	
Flat Screen Monitors	Monitor - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.70	0.00	0.00	0.00	0.00	ENERGY STAR Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.70	0.00	0.00	0.00	0.00	ENERGY STAR Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.02	\$0.01	\$0.17	\$0.00	\$0.00	0.50	0.70	29.15	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.02	\$0.01	\$0.11	\$0.00	\$0.00	0.50	0.70	1.54	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor	
Freezers	Freezer (Residential) - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0																	



Appendix B.4		BED Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Lighting Interior Fluorescent	Time Clock	Miscellaneous	Discretionary	438.5	0.09	0.06	0.00	0.00	0.0	0.0	0.0	8	\$103.00	\$72.10	\$0.17	\$0.00	\$0.00	6.29	0.98	11.67	11.67	8.66	8.66	Time Clock
Lighting Interior Fluorescent - Early Replacement	Early Replacement Lighting Interior - TLED - Above Standard	Miscellaneous	Discretionary	908.8	0.18	0.12	0.00	0.00	0.0	0.0	0.0	15	\$234.56	\$164.19	\$0.17	-\$3.92	\$0.00	13.77	0.98	133.64	133.64	99.11	99.11	Above Standard TLED
Lighting Interior HID	Lighting Interior - Efficient Metal Halide - Above Standard	Miscellaneous	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.25	\$0.17	\$0.17	-\$0.04	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	Efficient Metal Halide
Lighting Interior HID	Lighting Interior - Federal Standard 2017 Metal Halide - Above Standard	Miscellaneous	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.29	\$0.20	\$0.17	-\$0.04	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	Federal Standard 2017 Metal Halide
Lighting Interior HID	Lighting Interior - High Bay Fluorescent High Output - Above Standard	Miscellaneous	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.77	\$0.54	\$0.17	\$0.08	\$0.00	1.22	0.98	0.00	0.00	0.00	0.00	High Bay Fluorescent High Output (HO)
Lighting Interior HID	Lighting Interior - High Bay Induction - Above Standard	Miscellaneous	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.75	\$0.53	\$0.17	-\$0.09	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	High Bay Induction
Lighting Interior HID	Lighting Interior - High Bay LED - Above Standard	Miscellaneous	Lost Opportunity	1.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.89	\$0.62	\$0.17	-\$0.03	\$0.00	5.61	0.98	1370.83	1522.29	1100.17	1100.17	High Bay LED
Lighting Interior HID	Occupancy Sensor Control	Miscellaneous	Discretionary	839.3	0.16	0.11	0.00	0.00	0.0	0.0	0.0	10	\$2,339.99	\$1,637.99	\$0.17	\$0.00	\$0.00	0.67	0.98	503.80	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Interior HID	Time Clock	Miscellaneous	Discretionary	349.7	0.07	0.05	0.00	0.00	0.0	0.0	0.0	8	\$103.00	\$72.10	\$0.17	\$0.00	\$0.00	5.01	0.98	17.49	17.49	12.97	12.97	Time Clock
Lighting Interior Other	Exit Sign - LED	Miscellaneous	Discretionary	48.1	0.01	0.01	0.00	0.00	0.0	0.0	0.0	16	\$67.64	\$47.35	\$0.17	\$0.00	\$0.00	2.16	0.98	44.55	44.55	33.04	33.04	LED Exit Sign
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Miscellaneous	Discretionary	59.9	0.01	0.01	0.00	0.00	0.0	0.0	0.0	16	-\$10.30	\$0.00	\$0.17	\$0.00	\$0.00	999.00	0.98	81.06	81.06	60.12	60.12	Photoluminescent or Tritium
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Miscellaneous	Lost Opportunity	59.9	0.01	0.01	0.00	0.00	0.0	0.0	0.0	16	-\$10.30	\$0.00	\$0.11	\$0.00	\$0.00	999.00	0.98	3.36	3.36	2.42	2.42	Photoluminescent or Tritium
Lighting Interior Other	New Construction Lighting Package - Advanced Efficiency	Miscellaneous	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.55	\$0.38	\$0.11	-\$0.04	\$0.00	17.56	0.98	168.65	168.65	122.98	122.98	Advanced Efficiency Lighting Package - 25% LPD Reduction
Lighting Interior Other	New Construction Lighting Package - High Efficiency	Miscellaneous	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.19	\$0.13	\$0.11	-\$0.02	\$0.00	756.48	0.98	0.00	0.00	0.00	0.00	High Efficiency Lighting Package - 15% LPD Reduction
Lighting Interior Other	New Construction Lighting Package - Premium Efficiency	Miscellaneous	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.44	\$0.31	\$0.11	-\$0.03	\$0.00	17.56	0.98	0.00	0.00	0.00	0.00	Premium Efficiency Lighting Package - 20% LPD Reduction
Lighting Interior Other	Occupancy Sensor Control	Miscellaneous	Discretionary	28.9	0.01	0.00	0.00	0.00	0.0	0.0	0.0	10	\$80.48	\$56.34	\$0.17	\$0.00	\$0.00	0.67	0.98	19.48	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Interior Other	Time Clock	Miscellaneous	Discretionary	12.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$103.00	\$72.10	\$0.17	\$0.00	\$0.00	0.17	0.98	0.68	0.00	0.00	0.00	Time Clock
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	Miscellaneous	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3	\$0.01	\$0.01	\$0.17	-\$0.01	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	CFL
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base Incandescent - Backstop EISA 2020 Standard	Miscellaneous	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3	\$0.00	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	Backstop EISA 2020 Standard Incandescent
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base LED - Above Standard	Miscellaneous	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.04	\$0.03	\$0.17	-\$0.01	\$0.00	999.00	0.98	53.07	53.35	39.57	39.57	LED
Lighting Interior Screw Base - Standard	Occupancy Sensor Control	Miscellaneous	Discretionary	284.4	0.06	0.04	0.00	0.00	0.0	0.0	0.0	10	\$793.03	\$555.12	\$0.17	\$0.00	\$0.00	0.67	0.98	65.99	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Interior Screw Base - Standard	Time Clock	Miscellaneous	Discretionary	118.5	0.02	0.02	0.00	0.00	0.0	0.0	0.0	8	\$103.00	\$72.10	\$0.17	\$0.00	\$0.00	1.70	0.98	2.29	2.29	1.70	1.70	Time Clock
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base CFL - Above Standard	Miscellaneous	Discretionary	561.6	0.11	0.08	0.00	0.00	0.0	0.0	0.0	3	\$13.00	\$9.10	\$0.17	-\$11.43	\$0.00	999.00	0.98	0.00	0.00	0.00	0.00	CFL
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base LED - Above Standard	Miscellaneous	Discretionary	587.0	0.11	0.08	0.00	0.00	0.0	0.0	0.0	12	\$41.13	\$28.79	\$0.17	-\$13.49	\$0.00	999.00	0.98	58.91	58.91	43.69	43.69	LED
Other Plug Load	Dehumidifier - ENERGY STAR	Miscellaneous	Discretionary	153.8	0.02	0.01	0.00	0.00	0.0	0.0	0.0	12	\$60.00	\$42.00	\$0.17	\$0.00	\$0.00	5.23	0.70	38.06	38.06	17.64	17.64	ENERGY STAR Dehumidifier
Other Plug Load	Dehumidifier - ENERGY STAR	Miscellaneous	Lost Opportunity	153.8	0.02	0.01	0.00	0.00	0.0	0.0	0.0	12	\$60.00	\$42.00	\$0.11	\$0.00	\$0.00	5.23	0.70	2.10	2.10	0.97	0.97	ENERGY STAR Dehumidifier
Other Plug Load	ENERGY STAR - Scanners	Miscellaneous	Discretionary	2.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.70	2.16	0.00	0.00	0.00	ENERGY STAR Scanners
Other Plug Load	ENERGY STAR - Scanners	Miscellaneous	Lost Opportunity	2.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.70	0.12	0.00	0.00	0.00	ENERGY STAR Scanners
Other Plug Load	ENERGY STAR - Water Cooler	Miscellaneous	Discretionary	58.2	0.01	0.01	0.00	0.00	0.0	0.0	0.0	10	\$0.50	\$0.35	\$0.17	\$0.00	\$0.00	196.63	0.70	82.89	82.89	38.41	38.41	ENERGY STAR Water Cooler (Hot/Cold Water)
Other Plug Load	ENERGY STAR - Water Cooler	Miscellaneous	Lost Opportunity	58.2	0.01	0.01	0.00	0.00	0.0	0.0	0.0	10	\$0.50	\$0.35	\$0.11	\$0.00	\$0.00	196.63	0.70	4.58	4.58	2.12	2.12	ENERGY STAR Water Cooler (Hot/Cold Water)
Other Plug Load	Internal Power Supply / Com - E Star	Miscellaneous	Discretionary	24.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$49.49	\$34.64	\$0.17	\$0.00	\$0.00	0.32	0.70	8.09	0.00	0.00	0.00	ENERGY STAR power supply for ENERGY STAR desktop
Other Plug Load	Internal Power Supply / Com - E Star	Miscellaneous	Lost Opportunity	24.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$49.49	\$34.64	\$0.11	\$0.00	\$0.00	0.32	0.70	0.45	0.00	0.00	0.00	ENERGY STAR power supply for ENERGY STAR desktop
Other Plug Load	Smart Strip Plug Outlet	Miscellaneous	Discretionary	115.6	0.02	0.01	0.00	0.00	0.0	0.0	0.0	4	\$86.92	\$60.85	\$0.17	\$0.00	\$0.00	0.86	0.70	34.68	0.00	0.00	0.00	Advanced Power Strip - Load Sensing
Other Plug Load	Smart Strip Plug Outlet	Miscellaneous	Lost Opportunity	115.6	0.02	0.01	0.00	0.00	0.0	0.0	0.0	4	\$86.92	\$60.85	\$0.11	\$0.00	\$0.00	0.86	0.70	1.91	0.00	0.00	0.00	Advanced Power Strip - Load Sensing
Other Plug Load	Smart Strip Plug Outlet	Miscellaneous	Discretionary	70.3	0.01	0.01	0.00	0.00	0.0	0.0	0.0	4	\$210.51	\$147.36	\$0.17	\$0.00	\$0.00	0.22	0.70	0.00	0.00	0.00	0.00	Advanced Power Strip with Occupancy Sensor
Other Plug Load	Smart Strip Plug Outlet	Miscellaneous	Lost Opportunity	70.3	0.01	0.01	0.00	0.00	0.0	0.0	0.0	4	\$210.51	\$147.36	\$0.11	\$0.00	\$0.00	0.22	0.70	0.00	0.00	0.00	0.00	Advanced Power Strip with Occupancy Sensor
Package Terminal AC	Exhaust Hood Makeup Air	Miscellaneous	Discretionary	1.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$5.53	\$3.87	\$0.17	\$0.00	\$0.00	0.93	0.98	0.00	0.00	0.00	0.00	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air
Package Terminal AC	Green Roof	Miscellaneous	Discretionary	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$41,190.00	\$28,833.00	\$0.17	\$411.90	\$0.00	0.00	0.98	0.01	0.00	0.00	0.00	Vegetation on Roof
Package Terminal AC	Green Roof	Miscellaneous	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$41,190.00	\$28,833.00	\$0.11	\$411.90	\$0.00	0.00	0.98	0.00	0.00	0.00	0.00	Vegetation on Roof
Package Terminal AC	Infiltration Reduction	Miscellaneous	Discretionary	1.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$83.64	\$58.55	\$0.17	\$0.00	\$0.00	0.03	0.98	0.00	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)
Package Terminal AC	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Discretionary	2.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$463.39	\$324.37	\$0.17	\$0.00	\$0.00	0.03	0.98	0.04	0.00	0.00	0.00	R-35 c.i.
Package Terminal AC	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	2.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$463.39	\$324.37	\$0.11	\$0.00	\$0.00	0.03	0.98	0.00	0.00	0.00	0.00	R-35 c.i.
Package Terminal AC	Insulation - Ceiling - CBES 2015 - Code	Miscellaneous	Discretionary	7.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$2,114.42	\$1,480.09	\$0.17	\$0.00	\$0.00	0.02	0.98	0.08	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)
Package Terminal AC	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Miscellaneous	Discretionary	3.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$823.80	\$576.66	\$0.17	\$0.00	\$0.00	0.03	0.98	0.02	0.00	0.00	0.00	R-38
Package Terminal AC	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	3.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$823.80	\$576.66	\$0.11	\$0.00	\$0.00	0.03	0.98	0.00	0.00	0.00	0.00	R-38
Package Terminal AC	Insulation - Floor (non-slab) - CBES 2015 - Code	Miscellaneous	Discretionary	5.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$2,361.56	\$1,653.09	\$0.17	\$0.00	\$0.00	0.02	0.98	0.03	0.00	0.00	0.00	R-30 (CBES 2015 Code)
Package Terminal AC	Insulation - Wall - CBES 2015 - Above Code	Miscellaneous	Discretionary	3.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$602.34	\$421.64	\$0.17	\$0.00	\$0.00	0.04	0.98	0.03	0.00	0.00	0.00	R-13 + 15.6 c.i.
Package Terminal AC	Insulation - Wall - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	3.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$602.34	\$421.64	\$0.11	\$0.00	\$0.00	0.04	0.98	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Package Terminal AC	Insulation - Wall - CBES 2015 - Code	Miscellaneous	Discretionary	3.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$4,133.29	\$2,893.31	\$0.17	\$0.00	\$0.00	0.01	0.98	0.02	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)
Package Terminal AC	Natural Ventilation	Miscellaneous	Lost Opportunity	4.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2,746.00	\$1,922.20	\$0.11	\$0.00	\$0.00	0.01	0.98	0.00	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling
Package Terminal AC	PTAC (10,000 Btuh) - High Efficiency	Miscellaneous	PTAC (10,000 Btuh) - High Efficiency	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	3.62	0.98	0.43	0.48	0.30	0.30	High Efficiency - 12.8 EER
Package Terminal																								



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Refrigeration	Evaporator Fan Controller - Low Temp	Miscellaneous	Discretionary	4.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	16	\$3.51	\$2.46	\$0.17	\$0.00	\$0.00	3.42	0.97	6.10	6.10	5.36	5.36	ECM Evaporator Fan Controller - Low Temp	
Refrigeration	Evaporator Fan Controller - Low Temp	Miscellaneous	Lost Opportunity	4.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	16	\$3.51	\$2.46	\$0.11	\$0.00	\$0.00	3.42	0.97	0.28	0.28	0.24	0.24	ECM Evaporator Fan Controller - Low Temp	
Refrigeration	Evaporator Fan Controller - Medium Temp	Miscellaneous	Discretionary	7.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	16	\$6.56	\$4.59	\$0.17	\$0.00	\$0.00	2.85	0.97	9.51	9.51	8.37	8.37	ECM Evaporator Fan Controller - Medium Temp	
Refrigeration	Evaporator Fan Controller - Medium Temp	Miscellaneous	Lost Opportunity	7.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	16	\$6.56	\$4.59	\$0.11	\$0.00	\$0.00	2.85	0.97	0.43	0.43	0.37	0.37	ECM Evaporator Fan Controller - Medium Temp	
Refrigeration	Floating Condenser Head Pressure Controls	Miscellaneous	Discretionary	82.0	0.01	0.01	0.00	0.00	0.0	0.0	0.0	15	\$26.36	\$18.45	\$0.17	\$0.00	\$0.00	7.73	0.97	6.15	6.15	6.10	5.41	Floating Condenser Head Pressure Controls	
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Miscellaneous	Discretionary	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.10	\$0.07	\$0.17	\$0.00	\$0.00	10.81	0.97	1.00	1.00	0.99	0.88	Glass Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Miscellaneous	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.10	\$0.07	\$0.11	\$0.00	\$0.00	10.81	0.97	0.06	0.06	0.05	0.05	Glass Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Ice Maker - High Efficiency	Miscellaneous	Discretionary	16.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$1.06	\$0.75	\$0.17	\$0.00	\$0.00	20.36	0.97	25.03	25.03	22.01	22.01	High Efficiency Ice Maker	
Refrigeration	Ice Maker - High Efficiency	Miscellaneous	Lost Opportunity	16.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$1.06	\$0.75	\$0.11	\$0.00	\$0.00	20.36	0.97	1.38	1.38	1.22	1.22	High Efficiency Ice Maker	
Refrigeration	Night Covers for Display Cases	Miscellaneous	Discretionary	16.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$2.88	\$2.01	\$0.17	\$0.29	\$0.00	3.04	0.97	22.98	22.98	20.21	20.21	Night Covers for Display Cases	
Refrigeration	Night Covers for Display Cases	Miscellaneous	Lost Opportunity	16.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$2.88	\$2.01	\$0.11	\$0.29	\$0.00	3.04	0.97	1.27	1.27	1.12	1.12	Night Covers for Display Cases	
Refrigeration	No Heat Case Doors	Miscellaneous	Discretionary	36.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$26.47	\$18.53	\$0.17	\$0.00	\$0.00	3.47	0.97	27.69	27.69	24.35	24.35	No Heat Case Doors	
Refrigeration	No Heat Case Doors	Miscellaneous	Lost Opportunity	36.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$26.47	\$18.53	\$0.11	\$0.00	\$0.00	3.47	0.97	2.91	2.91	2.51	2.51	No Heat Case Doors	
Refrigeration	Refrigeration Commissioning or Re-commissioning	Miscellaneous	Discretionary	107.8	0.01	0.01	0.00	0.00	0.0	0.0	0.0	7	\$27.79	\$19.45	\$0.17	\$0.00	\$0.00	4.38	0.97	13.24	13.24	11.64	11.64	Commissioning / Re-commissioning	
Refrigeration	Refrigeration Commissioning or Re-commissioning	Miscellaneous	Lost Opportunity	107.8	0.01	0.01	0.00	0.00	0.0	0.0	0.0	7	\$27.79	\$19.45	\$0.11	\$0.00	\$0.00	4.38	0.97	0.40	0.40	0.35	0.35	Commissioning / Re-commissioning	
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Miscellaneous	Discretionary	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.10	\$0.07	\$0.17	\$0.00	\$0.00	8.02	0.97	0.74	0.74	0.65	0.65	Solid Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Miscellaneous	Lost Opportunity	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.10	\$0.07	\$0.11	\$0.00	\$0.00	8.02	0.97	0.04	0.04	0.04	0.04	Solid Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Strip Curtains for Walk-Ins	Miscellaneous	Discretionary	57.7	0.01	0.01	0.00	0.00	0.0	0.0	0.0	4	\$41.50	\$29.05	\$0.17	\$0.00	\$0.00	0.87	0.97	12.97	0.00	0.00	0.00	0.00	
Refrigeration	Walk-In Electronically Commutated Motor	Miscellaneous	Discretionary	18.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$4.32	\$3.02	\$0.17	\$0.00	\$0.00	10.79	0.97	26.69	26.69	23.48	23.48	ECM Condensor Fans - Low Temp	
Refrigeration	Walk-In Electronically Commutated Motor	Miscellaneous	Discretionary	20.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$5.28	\$3.69	\$0.17	\$0.00	\$0.00	9.54	0.97	28.86	28.86	25.38	25.38	ECM Condensor Fans - Medium Temp	
Refrigeration	Walk-In Electronically Commutated Motor	Miscellaneous	Discretionary	18.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$4.32	\$3.02	\$0.17	\$0.00	\$0.00	10.79	0.97	26.69	26.69	23.48	23.48	ECM Evaporator Fans - Low Temp	
Refrigeration	Walk-In Electronically Commutated Motor	Miscellaneous	Discretionary	20.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$5.28	\$3.69	\$0.17	\$0.00	\$0.00	9.54	0.97	28.86	28.86	25.38	25.38	ECM Evaporator Fans - Medium Temp	
Refrigeration	Walk-in Economizer	Miscellaneous	Discretionary	154.3	0.02	0.02	0.00	0.00	0.0	0.0	0.0	15	\$74.99	\$52.49	\$0.17	\$0.00	\$0.00	5.11	0.97	173.53	173.53	152.62	152.62	Add Economizer to Walk-in Cooler	
Refrigeration	Walk-in Economizer	Miscellaneous	Lost Opportunity	154.3	0.02	0.02	0.00	0.00	0.0	0.0	0.0	15	\$74.99	\$52.49	\$0.11	\$0.00	\$0.00	5.11	0.97	9.58	9.58	8.29	8.29	Add Economizer to Walk-in Cooler	
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	1.23	0.70	0.00	0.00	0.00	0.00	CEE Tier 2 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	1.23	0.70	0.00	0.00	0.00	0.00	CEE Tier 2 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.02	\$0.01	\$0.17	\$0.00	\$0.00	1.15	0.70	26.30	26.30	10.31	10.31	CEE Tier 3 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.02	\$0.01	\$0.11	\$0.00	\$0.00	1.15	0.70	2.32	2.32	0.91	0.91	CEE Tier 3 Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	1.26	0.70	0.00	0.00	0.00	0.00	ENERGY STAR Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	1.26	0.70	0.00	0.00	0.00	0.00	ENERGY STAR Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	1.27	0.70	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	1.27	0.70	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Refrigerator	
Refrigerators	Residential Refrigerator Recycling and Replacement	Miscellaneous	Discretionary	65.1	0.01	0.01	0.00	0.00	0.0	0.0	0.0	8	\$33.90	\$23.73	\$0.17	\$0.00	\$0.00	2.41	0.70	74.45	74.45	29.19	29.19	Recycling Existing Refrigerator and Replacing with a Federal Standard Unit	
Room Cool	Ductless Air Conditioner (DAC)	Miscellaneous	Discretionary	18.6	0.01	0.00	0.00	0.00	0.0	0.0	0.0	15	\$448.74	\$314.12	\$0.17	\$0.00	\$0.00	0.17	0.98	0.23	0.00	0.00	0.00	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Air Conditioner (DAC)	Miscellaneous	Lost Opportunity	18.6	0.01	0.00	0.00	0.00	0.0	0.0	0.0	15	\$448.74	\$314.12	\$0.11	\$0.00	\$0.00	0.17	0.98	0.02	0.00	0.00	0.00	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Heat Pump (DHP)	Miscellaneous	Discretionary	50.6	0.02	0.00	0.00	0.00	0.0	0.0	0.0	15	\$764.57	\$535.20	\$0.17	\$0.00	\$0.00	0.27	0.98	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP)	Miscellaneous	Lost Opportunity	50.6	0.02	0.00	0.00	0.00	0.0	0.0	0.0	15	\$764.57	\$535.20	\$0.11	\$0.00	\$0.00	0.27	0.98	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Miscellaneous	Discretionary	53.3	0.02	0.00	0.00	0.00	0.0	0.0	0.0	15	\$782.85	\$547.99	\$0.17	\$0.00	\$0.00	0.28	0.98	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Miscellaneous	Lost Opportunity	53.3	0.02	0.00	0.00	0.00	0.0	0.0	0.0	15	\$782.85	\$547.99	\$0.11	\$0.00	\$0.00	0.28	0.98	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0	
Room Cool	Exhaust Hood Makeup Air	Miscellaneous	Discretionary	3.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$5.53	\$3.87	\$0.17	\$0.00	\$0.00	2.23	0.98	0.00	0.00	0.00	0.00	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Room Cool	Green Roof	Miscellaneous	Discretionary	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$41,190.00	\$28,833.00	\$0.17	\$411.90	\$0.00	0.00	0.98	0.01	0.00	0.00	0.00	Vegetation on Roof	
Room Cool	Green Roof	Miscellaneous	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$41,190.00	\$28,833.00	\$0.11	\$411.90	\$0.00	0.00	0.98	0.00	0.00	0.00	0.00	Vegetation on Roof	
Room Cool	Infiltration Reduction	Miscellaneous	Discretionary	2.6	0.00	0.00	0.00	0.55	0.0	0.0	0.0	10	\$83.64	\$58.55	\$0.17	\$0.00	\$0.00	0.14	0.98	0.00	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)	
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Discretionary	4.4	0.00	0.00	0.00	0.36	0.0	0.0	0.0	30	\$463.39	\$324.37	\$0.17	\$0.00	\$0.00	0.10	0.98	0.04	0.00	0.00	0.00	R-35 c.i.	
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	3.9	0.00	0.00	0.00	0.40	0.0	0.0	0.0	30	\$463.39	\$324.37	\$0.11	\$0.00	\$0.00	0.09	0.98	0.00	0.00	0.00	0.00	R-35 c.i.	
Room Cool	Insulation - Ceiling - CBES 2015 - Code	Miscellaneous	Discretionary	15.0	0.01	0.00	0.00	1.25	0.0	0.0	0.0	30	\$2,114.42	\$1,480.09	\$0.17	\$0.00	\$0.00	0.07	0.98	0.09	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)	
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Miscellaneous	Discretionary	6.5	0.00	0.00	0.00	0.54	0.0	0.0	0.0	30	\$823.80	\$576.66	\$0.17	\$0.00	\$0.00	0.08	0.98	0.02	0.00	0.00	0.00	R-38	
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	5.8	0.00	0.00	0.00	0.60	0.0	0.0	0.0	30	\$823.80	\$576.66	\$0.11	\$0.00	\$0.00	0.08	0.98	0.00	0.00	0.00	0.00	R-38	
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Code	Miscellaneous	Discretionary	11.2	0.01	0.00	0.00	0.94	0.0	0.0	0.0	30	\$2,361.56	\$1,653.09	\$0.17	\$0.00	\$0.00	0.05	0.98	0.03	0.00	0.00	0.00	R-30 (CBES 2015 Code)	
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Miscellaneous	Discretionary	6.6	0.00	0.00	0.00	0.55	0.0	0.0	0.0	30	\$602.34	\$421.64	\$0.17	\$0.00	\$0.00	0.11	0.98	0.03	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	6.0	0.00	0.00	0.00	0.61	0.0	0.0	0.0	30													



Appendix B.4		BED Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Servers	IT Systems - Decommissioning of Unused Servers	Miscellaneous	Lost Opportunity	7.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$0.22	\$0.15	\$0.11	\$0.00	\$0.00	26.51	1.00	0.38	0.49	0.32	0.32	Decommissioning of Unused Servers
Servers	IT Systems - Energy Efficient Data Storage Management	Miscellaneous	Discretionary	6.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$0.43	\$0.30	\$0.17	\$0.00	\$0.00	11.36	1.00	5.79	7.37	4.85	4.85	Energy Efficient Data Storage Management
Servers	IT Systems - Energy Efficient Data Storage Management	Miscellaneous	Lost Opportunity	5.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$0.43	\$0.30	\$0.11	\$0.00	\$0.00	11.36	1.00	0.31	0.41	0.27	0.27	Energy Efficient Data Storage Management
Servers	IT Systems - Hot or Cold Aisle Configuration	Miscellaneous	Discretionary	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.02	\$0.02	\$0.17	\$0.00	\$0.00	10.23	1.00	0.14	0.18	0.12	0.12	Hot or Cold Aisle Configuration
Servers	IT Systems - Hot or Cold Aisle Configuration	Miscellaneous	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.02	\$0.02	\$0.11	\$0.00	\$0.00	10.23	1.00	0.01	0.01	0.01	0.01	Hot or Cold Aisle Configuration
Servers	IT Systems - Hot or Cold Aisle Configuration with Containment	Miscellaneous	Discretionary	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.06	\$0.04	\$0.17	\$0.00	\$0.00	8.19	1.00	0.28	0.35	0.23	0.23	Hot or Cold Aisle Configuration with Containment (Strip Curtains or Rigid Enclosures)
Servers	IT Systems - Hot or Cold Aisle Configuration with Containment	Miscellaneous	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.06	\$0.04	\$0.11	\$0.00	\$0.00	8.19	1.00	0.01	0.02	0.01	0.01	Hot or Cold Aisle Configuration with Containment (Strip Curtains or Rigid Enclosures)
Servers	IT Systems - Install Misters, Foggers, or Ultrasonic Humidifiers	Miscellaneous	Discretionary	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.10	\$0.07	\$0.17	\$0.00	\$0.00	4.68	1.00	0.28	0.35	0.23	0.23	Install Misters, Foggers, or Ultrasonic Humidifiers
Servers	IT Systems - Install Misters, Foggers, or Ultrasonic Humidifiers	Miscellaneous	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.10	\$0.07	\$0.11	\$0.00	\$0.00	4.68	1.00	0.01	0.02	0.01	0.01	Install Misters, Foggers, or Ultrasonic Humidifiers
Servers	IT Systems - Server Virtualization/Consolidation	Miscellaneous	Discretionary	32.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$2.68	\$1.88	\$0.17	\$0.00	\$0.00	9.94	1.00	31.27	39.79	26.21	26.21	Server Virtualization/Consolidation
Servers	IT Systems - Server Virtualization/Consolidation	Miscellaneous	Lost Opportunity	32.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$2.65	\$1.85	\$0.11	\$0.00	\$0.00	9.94	1.00	1.69	2.20	1.45	1.45	Server Virtualization/Consolidation
Servers	IT Systems - Uninterruptible Power Supply Upgrade	Miscellaneous	Discretionary	4.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1.90	\$1.33	\$0.17	\$0.00	\$0.00	6.47	1.00	4.60	5.85	3.86	3.86	Upgrade Uninterruptible Power Supply (UPS)
Servers	IT Systems - Uninterruptible Power Supply Upgrade	Miscellaneous	Lost Opportunity	4.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1.87	\$1.31	\$0.11	\$0.00	\$0.00	6.47	1.00	0.25	0.32	0.21	0.21	Upgrade Uninterruptible Power Supply (UPS)
Servers	Internal Power Supply / Server	Miscellaneous	Discretionary	2.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.78	\$0.54	\$0.17	\$0.00	\$0.00	2.22	1.00	1.49	1.89	1.25	1.25	80 Plus power supply for Desktop Derived Server
Servers	Internal Power Supply / Server	Miscellaneous	Lost Opportunity	2.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.78	\$0.54	\$0.11	\$0.00	\$0.00	2.22	1.00	0.08	0.11	0.07	0.07	80 Plus power supply for Desktop Derived Server
Servers	Server - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.04	\$0.03	\$0.17	\$0.00	\$0.00	0.32	1.00	25.54	0.00	0.00	0.00	ENERGY STAR Server
Servers	Server - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.04	\$0.03	\$0.11	\$0.00	\$0.00	0.32	1.00	1.28	0.00	0.00	0.00	ENERGY STAR Server
Space Heat - Electric	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Miscellaneous	Discretionary	2,426.9	0.01	0.98	0.00	0.00	0.0	0.0	0.0	15	\$686.50	\$480.55	\$0.17	\$0.00	\$0.00	6.61	0.98	17.20	17.20	11.26	11.26	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Electric	Commissioning	Miscellaneous	Lost Opportunity	3,585.2	0.01	1.44	0.00	0.00	0.0	0.0	0.0	5	\$3,185.36	\$2,229.75	\$0.11	\$0.00	\$0.00	0.70	0.98	2.89	0.00	0.00	0.00	Commissioning
Space Heat - Electric	Convert Constant Volume Air System to VAV	Miscellaneous	Discretionary	7,244.6	0.02	2.91	0.00	0.00	0.0	0.0	0.0	15	\$10,012.70	\$7,008.89	\$0.17	\$0.00	\$0.00	1.35	0.98	7.71	7.71	5.05	5.05	Variable Volume Air System
Space Heat - Electric	Direct Digital Control System-Installation	Miscellaneous	Discretionary	4,136.8	0.01	1.66	0.00	0.00	0.0	0.0	0.0	5	\$858.13	\$600.69	\$0.17	\$0.00	\$0.00	3.00	0.98	32.75	32.75	21.43	21.43	Installation of EMS System
Space Heat - Electric	Direct Digital Control System-Installation	Miscellaneous	Lost Opportunity	4,136.8	0.01	1.66	0.00	0.00	0.0	0.0	0.0	5	\$858.13	\$600.69	\$0.11	\$0.00	\$0.00	3.00	0.98	0.22	0.22	0.14	0.14	Installation of EMS System
Space Heat - Electric	Duct Repair and Sealing	Miscellaneous	Discretionary	2,398.1	0.01	0.96	0.00	0.00	0.0	0.0	0.0	18	\$659.04	\$461.33	\$0.17	\$0.00	\$0.00	8.15	0.98	14.16	14.16	9.27	9.27	Reduction In Duct Losses to 5 %
Space Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Miscellaneous	Discretionary	4,136.8	0.01	1.66	0.00	0.00	0.0	0.0	0.0	14	\$8,045.69	\$5,631.98	\$0.17	\$0.00	\$0.00	0.90	0.98	3.40	0.00	0.00	0.00	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Electric	Indirect Information Feedback	Miscellaneous	Discretionary	143.5	0.00	0.06	0.00	0.00	0.0	0.0	0.0	2	\$477.46	\$334.22	\$0.17	\$0.00	\$0.00	0.07	0.98	1.02	0.00	0.00	0.00	Indirect Information Feedback
Space Heat - Electric	Indirect Information Feedback	Miscellaneous	Lost Opportunity	143.5	0.00	0.06	0.00	0.00	0.0	0.0	0.0	2	\$477.46	\$334.22	\$0.11	\$0.00	\$0.00	0.07	0.98	0.08	0.00	0.00	0.00	Indirect Information Feedback
Space Heat - Electric	Infiltration Reduction	Miscellaneous	Discretionary	2,757.8	0.01	1.11	0.00	0.00	0.0	0.0	0.0	10	\$83.64	\$58.55	\$0.17	\$0.00	\$0.00	41.51	0.98	1.40	1.40	0.92	0.92	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Discretionary	1,404.3	0.00	0.56	0.00	0.00	0.0	0.0	0.0	30	\$463.39	\$324.37	\$0.17	\$0.00	\$0.00	11.38	0.98	5.88	5.88	3.85	3.85	R-35 c.i.
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	1,404.3	0.00	0.56	0.00	0.00	0.0	0.0	0.0	30	\$463.39	\$324.37	\$0.11	\$0.00	\$0.00	11.38	0.98	0.16	0.16	0.09	0.09	R-35 c.i.
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Miscellaneous	Discretionary	4,811.5	0.01	1.94	0.00	0.00	0.0	0.0	0.0	30	\$2,114.42	\$1,480.09	\$0.17	\$0.00	\$0.00	8.54	0.98	12.95	12.95	8.48	8.48	R-30 c.i. (CBES 2015 Code)
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Miscellaneous	Discretionary	992.8	0.00	0.40	0.00	0.00	0.0	0.0	0.0	20	\$37.24	\$26.07	\$0.17	\$0.00	\$0.00	66.30	0.98	11.26	11.26	7.37	7.37	R-12
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	992.8	0.00	0.40	0.00	0.00	0.0	0.0	0.0	20	\$37.24	\$26.07	\$0.11	\$0.00	\$0.00	66.30	0.98	0.75	0.75	0.42	0.42	R-12
Space Heat - Electric	Insulation - Duct - CBES 2015 - Code	Miscellaneous	Discretionary	992.8	0.00	0.40	0.00	0.00	0.0	0.0	0.0	20	\$150.00	\$105.00	\$0.17	\$0.00	\$0.00	16.46	0.98	9.07	9.07	5.93	5.93	R-8 (CBES 2015 Code)
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Miscellaneous	Discretionary	2,069.6	0.00	0.83	0.00	0.00	0.0	0.0	0.0	30	\$823.80	\$576.66	\$0.17	\$0.00	\$0.00	9.43	0.98	2.90	2.90	1.90	1.90	R-38
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	2,069.6	0.00	0.83	0.00	0.00	0.0	0.0	0.0	30	\$823.80	\$576.66	\$0.11	\$0.00	\$0.00	9.43	0.98	0.32	0.32	0.18	0.18	R-38
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Miscellaneous	Discretionary	3,604.5	0.01	1.45	0.00	0.00	0.0	0.0	0.0	30	\$2,361.56	\$1,653.09	\$0.17	\$0.00	\$0.00	5.73	0.98	4.51	4.51	2.95	2.95	R-30 (CBES 2015 Code)
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Miscellaneous	Discretionary	2,125.2	0.00	0.85	0.00	0.00	0.0	0.0	0.0	30	\$602.34	\$421.64	\$0.17	\$0.00	\$0.00	13.24	0.98	4.99	4.99	3.26	3.26	R-13 + 15.6 c.i.
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	2,125.2	0.00	0.85	0.00	0.00	0.0	0.0	0.0	30	\$602.34	\$421.64	\$0.11	\$0.00	\$0.00	13.24	0.98	0.83	0.83	0.47	0.47	R-13 + 15.6 c.i.
Space Heat - Electric	Insulation - Wall - CBES 2015 - Code	Miscellaneous	Discretionary	2,333.6	0.00	0.94	0.00	0.00	0.0	0.0	0.0	30	\$4,133.29	\$2,893.31	\$0.17	\$0.00	\$0.00	2.12	0.98	2.73	2.73	1.79	1.79	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Electric	Programmable Thermostat	Miscellaneous	Discretionary	1,103.1	0.00	0.44	0.00	0.00	0.0	0.0	0.0	11	\$25.78	\$18.04	\$0.17	\$0.00	\$0.00	59.14	0.98	11.72	11.72	9.25	7.67	Programmable Thermostat
Space Heat - Electric	Re-Commissioning	Miscellaneous	Discretionary	3,585.2	0.01	1.44	0.00	0.00	0.0	0.0	0.0	5	\$823.80	\$576.66	\$0.17	\$0.00	\$0.00	2.70	0.98	43.90	43.90	28.73	28.73	Re-Commissioning
Space Heat - Electric	Retrocommissioning	Miscellaneous	Discretionary	4,090.8	0.01	1.65	0.00	0.00	0.0	0.0	0.0	5	\$1,373.00	\$961.10	\$0.17	\$0.00	\$0.00	1.85	0.98	26.57	26.57	0.00	17.39	Retrocommissioning
Space Heat - Electric	Strategic Energy Management (SEM)	Miscellaneous	Discretionary	1,130.7	0.00	0.45	0.00	0.00	0.0	0.0	0.0	5	\$152.38	\$106.67	\$0.17	\$0.00	\$0.00	4.61	0.98	1.51	1.51	0.99	0.99	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Electric	Strategic Energy Management (SEM)	Miscellaneous	Lost Opportunity	1,130.7	0.00	0.45	0.00	0.00	0.0	0.0	0.0	5	\$152.38	\$106.67	\$0.11	\$0.00	\$0.00	4.61	0.98	0.62	0.62	0.40	0.40	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Electric	Wi-Fi Thermostat	Miscellaneous	Discretionary	1,103.1	0.00	0.44	0.00	0.00	0.0	0.0	0.0	11	\$205.33	\$143.73	\$0.17	\$0.00	\$0.00	7.42	0.98	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)
Space Heat - Electric	Windows - CBES 2015 - Above Code	Miscellaneous	Discretionary	80.5	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$494.61	\$346.23	\$0.17	\$0.00	\$0.00	0.40	0.98	0.20	0.00	0.00	0.00	U-0.29
Space Heat - Electric	Windows - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	80.5	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$494.61	\$346.23	\$0.11	\$0.00	\$0.00	0.40	0.98	0.05	0.00	0.00	0.00	U-0.29
Space Heat - Electric	Windows - CBES 2015 - Code	Miscellaneous	Discretionary	188.8	0.00	0.08	0.00	0.00	0.0	0.0	0.0	20	\$3,266.21	\$2,286.35	\$0.17	\$0.00	\$0.00	0.14	0.98	0.45	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Vending Machines	Vending Machines - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Vending Machines - 3.84 kWh/day
Vending Machines	Vending Machines - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Vending Machines - 3.84 kWh/day
Vending Machines	Vending Machines - Federal Standard 2020	Miscellaneous	Lost Opportunity	0.0	0.00	0.00	0.00	0.00																



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer	Per Unit Winter	Per unit NG Saving	Per Unit Oil	Per Unit Propane	Per Unit Wood	Per Unit Water	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure	NTG Ratio	20 YR	20 YR	20 YR MAP	20 YR RAP	Measure Description	
					NCP kW	NCP kW		Savings	Level VT Societal	Technical Potential (MWh)	Economic Potential (MWh)														
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Miscellaneous	Discretionary	1.4	0.00	0.00	0.00	0.00	0.0	0.0	0.2	14	\$0.11	\$0.08	\$0.17	\$0.00	\$0.00	44.94	1.00	0.00	0.00	0.00	0.00	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Miscellaneous	Lost Opportunity	1.4	0.00	0.00	0.00	0.00	0.0	0.0	0.2	14	\$0.11	\$0.08	\$0.11	\$0.00	\$0.00	44.94	1.00	0.00	0.00	0.00	0.00	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	Miscellaneous	Discretionary	22.5	0.00	0.01	0.00	0.00	0.0	0.0	0.0	13	\$10.71	\$7.50	\$0.17	\$0.00	\$0.00	3.42	1.00	0.50	0.76	0.42	0.42	1.0" of Insulation, assuming R-4 (Code)	
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	Miscellaneous	Discretionary	182.0	0.00	0.07	0.00	0.00	0.0	0.0	0.0	25	\$707.00	\$494.90	\$0.17	\$0.00	\$0.00	0.80	1.00	0.20	0.00	0.00	0.00	Install Heat Recovery Water Heater	
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	Miscellaneous	Discretionary	10.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$1.18	\$0.83	\$0.17	\$0.00	\$0.00	21.12	1.00	0.12	0.18	0.10	0.10	R-3	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Discretionary	76.6	0.00	0.03	0.00	0.00	0.0	0.0	5.7	9	\$20.00	\$14.00	\$0.17	\$0.00	\$0.00	6.79	1.00	3.06	4.68	2.62	2.62	0.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Lost Opportunity	76.6	0.00	0.03	0.00	0.00	0.0	0.0	5.7	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.15	0.00	0.00	0.00	0.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Discretionary	54.1	0.00	0.02	0.00	0.00	0.0	0.0	4.0	9	\$20.00	\$14.00	\$0.17	\$0.00	\$0.00	4.79	1.00	0.00	0.00	0.00	0.00	1.0 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Lost Opportunity	54.1	0.00	0.02	0.00	0.00	0.0	0.0	4.0	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.0 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Discretionary	31.5	0.00	0.01	0.00	0.00	0.0	0.0	2.3	9	\$20.00	\$14.00	\$0.17	\$0.00	\$0.00	2.80	1.00	0.00	0.00	0.00	0.00	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Lost Opportunity	31.5	0.00	0.01	0.00	0.00	0.0	0.0	2.3	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Discretionary	13.5	0.00	0.01	0.00	0.00	0.0	0.0	0.9	9	\$20.00	\$14.00	\$0.17	\$0.00	\$0.00	1.15	1.00	0.20	0.31	0.17	0.17	2.2 GPM (Federal Code)	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Miscellaneous	Discretionary	1.4	0.00	0.00	0.00	0.00	0.0	0.0	0.3	5	\$0.27	\$0.19	\$0.17	\$0.00	\$0.00	8.41	1.00	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Miscellaneous	Lost Opportunity	1.4	0.00	0.00	0.00	0.00	0.0	0.0	0.3	5	\$0.27	\$0.19	\$0.11	\$0.00	\$0.00	8.41	1.00	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Miscellaneous	Discretionary	2.4	0.00	0.00	0.00	0.00	0.0	0.0	0.5	5	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.08	0.00	0.00	0.00	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Miscellaneous	Lost Opportunity	2.4	0.00	0.00	0.00	0.00	0.0	0.0	0.5	5	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Miscellaneous	Discretionary	3.8	0.00	0.00	0.00	0.00	0.0	0.0	0.7	5	\$0.27	\$0.19	\$0.17	\$0.00	\$0.00	22.34	1.00	0.00	0.00	0.00	0.00	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Miscellaneous	Lost Opportunity	3.8	0.00	0.00	0.00	0.00	0.0	0.0	0.7	5	\$0.27	\$0.19	\$0.11	\$0.00	\$0.00	22.34	1.00	0.00	0.00	0.00	0.00	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Miscellaneous	Discretionary	29.3	0.00	0.01	0.00	0.00	0.0	0.0	3.4	9	\$2.75	\$1.92	\$0.17	\$0.00	\$0.00	22.94	1.00	1.11	1.70	0.95	0.95	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Miscellaneous	Lost Opportunity	29.3	0.00	0.01	0.00	0.00	0.0	0.0	3.4	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.05	0.00	0.00	0.00	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Miscellaneous	Discretionary	22.0	0.00	0.01	0.00	0.00	0.0	0.0	2.6	9	\$2.75	\$1.92	\$0.17	\$0.00	\$0.00	17.20	1.00	0.00	0.00	0.00	0.00	1.75 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Miscellaneous	Lost Opportunity	22.0	0.00	0.01	0.00	0.00	0.0	0.0	2.6	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.75 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Miscellaneous	Discretionary	14.6	0.00	0.01	0.00	0.00	0.0	0.0	1.7	9	\$2.75	\$1.92	\$0.17	\$0.00	\$0.00	11.47	1.00	0.00	0.00	0.00	0.00	2.0 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Miscellaneous	Lost Opportunity	14.6	0.00	0.01	0.00	0.00	0.0	0.0	1.7	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	2.0 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Miscellaneous	Discretionary	14.6	0.00	0.01	0.00	0.00	0.0	0.0	1.7	9	\$2.75	\$1.92	\$0.17	\$0.00	\$0.00	11.47	1.00	0.21	0.32	0.18	0.18	2.5 GPM (Federal Code)	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Miscellaneous	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2.27	\$1.59	\$0.17	\$0.84	\$0.00	0.01	1.00	7.04	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Miscellaneous	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2.27	\$1.59	\$0.11	\$0.84	\$0.00	0.01	1.00	0.37	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Miscellaneous	Discretionary	49.6	0.00	0.02	0.00	0.00	0.0	0.0	0.0	20	\$350.72	\$245.50	\$0.17	\$0.00	\$0.00	0.35	1.00	1.88	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Miscellaneous	Lost Opportunity	49.6	0.00	0.02	0.00	0.00	0.0	0.0	0.0	20	\$350.72	\$245.50	\$0.11	\$0.00	\$0.00	0.35	1.00	0.09	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Miscellaneous	Discretionary	113.0	0.00	0.05	0.00	0.00	0.0	0.0	0.0	10	\$50.08	\$35.05	\$0.17	\$0.00	\$0.00	2.84	1.00	0.11	0.17	0.10	0.10	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Miscellaneous	Lost Opportunity	113.0	0.00	0.05	0.00	0.00	0.0	0.0	0.0	10	\$50.08	\$35.05	\$0.11	\$0.00	\$0.00	2.84	1.00	0.01	0.01	0.01	0.01	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Miscellaneous	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.55	\$0.39	\$0.17	\$0.00	\$0.00	0.14	1.00	11.44	0.00	0.00	0.00	CO2 Heat Pump Water Heater	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Miscellaneous	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.55	\$0.39	\$0.11										



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Miscellaneous	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$3.27	\$2.29	\$0.11	\$0.85	\$0.00	0.03	1.00	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Miscellaneous	Discretionary	49.6	0.00	0.02	0.00	0.00	0.0	0.0	0.0	20	\$350.72	\$245.50	\$0.17	\$0.00	\$0.00	0.35	1.00	14.11	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Miscellaneous	Lost Opportunity	49.6	0.00	0.02	0.00	0.00	0.0	0.0	0.0	20	\$350.72	\$245.50	\$0.11	\$0.00	\$0.00	0.35	1.00	0.61	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Miscellaneous	Discretionary	106.2	0.00	0.04	0.00	0.00	0.0	0.0	0.0	10	\$50.08	\$35.05	\$0.17	\$0.00	\$0.00	2.67	1.00	0.80	1.97	1.10	1.10	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Miscellaneous	Lost Opportunity	106.2	0.00	0.04	0.00	0.00	0.0	0.0	0.0	10	\$50.08	\$35.05	\$0.11	\$0.00	\$0.00	2.67	1.00	0.03	0.11	0.06	0.06	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Miscellaneous	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.55	\$1.08	\$0.17	\$0.01	\$0.00	0.20	1.00	333.35	0.00	0.00	0.00	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Miscellaneous	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.55	\$1.08	\$0.11	\$0.01	\$0.00	0.20	1.00	20.80	0.00	0.00	0.00	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Miscellaneous	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.00	\$0.70	\$0.17	\$0.01	\$0.00	0.23	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Miscellaneous	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.00	\$0.70	\$0.11	\$0.01	\$0.00	0.23	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Miscellaneous	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.11	\$0.77	\$0.17	\$0.01	\$0.00	0.22	1.00	0.00	0.00	0.00	0.00	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Miscellaneous	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.11	\$0.77	\$0.11	\$0.01	\$0.00	0.22	1.00	0.00	0.00	0.00	0.00	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Miscellaneous	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.44	\$1.01	\$0.17	\$0.01	\$0.00	0.21	1.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Miscellaneous	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.44	\$1.01	\$0.11	\$0.01	\$0.00	0.21	1.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Miscellaneous	Discretionary	148.7	0.00	0.06	0.00	0.00	0.0	0.0	0.0	4	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	7351.81	1.00	42.33	104.67	58.62	58.62	Set Water Heater to 120F	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Miscellaneous	Lost Opportunity	148.7	0.00	0.06	0.00	0.00	0.0	0.0	0.0	4	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	7351.81	1.00	1.83	5.78	3.24	3.24	Set Water Heater to 120F	
Water Heat LE 55 Gal	Water Heater Tank Wrap	Miscellaneous	Discretionary	299.2	0.00	0.12	0.00	0.00	0.0	0.0	0.0	7	\$41.55	\$29.09	\$0.17	\$0.00	\$0.00	6.33	1.00	55.09	136.20	76.29	76.29	Add R-10 Tank Wrap	
Computers	Computer - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	6.06	0.00	0.00	0.00	ENERGY STAR Computer	
Computers	Computer - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.30	0.00	0.00	0.00	ENERGY STAR Computer	
Computers	Network PC Power Management	Restaurant	Discretionary	54.0	0.01	0.00	0.00	0.00	0.0	0.0	0.0	5	\$6.60	\$4.62	\$0.17	\$1.51	\$0.00	3.27	1.00	1.05	1.85	1.22	1.22	Network PC Power Management	
Computers	Network PC Power Management	Restaurant	Lost Opportunity	54.0	0.01	0.00	0.00	0.00	0.0	0.0	0.0	5	\$6.60	\$4.62	\$0.11	\$1.51	\$0.00	3.27	1.00	0.07	0.11	0.08	0.08	Network PC Power Management	
Cooking	Combination Oven	Restaurant	Discretionary	6,367.9	0.73	0.73	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	34.87	0.00	0.00	0.00	0.00	ENERGY STAR Combination Oven
Cooking	Combination Oven	Restaurant	Lost Opportunity	6,367.9	0.73	0.73	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	1.93	0.00	0.00	0.00	0.00	ENERGY STAR Combination Oven
Cooking	Convection Oven	Restaurant	Discretionary	1,438.5	0.16	0.16	0.00	0.00	0.0	0.0	0.0	12	\$388.00	\$271.60	\$0.17	\$0.00	\$0.00	7.05	1.00	9.65	9.65	6.39	6.39	ENERGY STAR Convection Oven	
Cooking	Convection Oven	Restaurant	Lost Opportunity	1,438.5	0.16	0.16	0.00	0.00	0.0	0.0	0.0	12	\$388.00	\$271.60	\$0.11	\$0.00	\$0.00	7.05	1.00	0.53	0.53	0.35	0.35	ENERGY STAR Convection Oven	
Cooking	Fryers	Restaurant	Discretionary	2,970.8	0.34	0.34	0.00	0.00	0.0	0.0	0.0	12	\$506.00	\$354.20	\$0.17	\$0.00	\$0.00	11.17	1.00	23.24	23.24	15.39	15.39	ENERGY STAR Fryer	
Cooking	Fryers	Restaurant	Lost Opportunity	2,970.8	0.34	0.34	0.00	0.00	0.0	0.0	0.0	12	\$506.00	\$354.20	\$0.11	\$0.00	\$0.00	11.17	1.00	1.28	1.28	0.85	0.85	ENERGY STAR Fryer	
Cooking	Griddle	Restaurant	Discretionary	1,909.1	0.22	0.22	0.00	0.00	0.0	0.0	0.0	12	\$860.00	\$602.00	\$0.17	\$0.00	\$0.00	4.22	1.00	9.60	9.60	6.36	6.36	ENERGY STAR Griddle	
Cooking	Griddle	Restaurant	Lost Opportunity	1,909.1	0.22	0.22	0.00	0.00	0.0	0.0	0.0	12	\$860.00	\$602.00	\$0.11	\$0.00	\$0.00	4.22	1.00	0.53	0.53	0.35	0.35	ENERGY STAR Griddle	
Cooking	Hot Food Holding Cabinet	Restaurant	Discretionary	1,730.1	0.20	0.20	0.00	0.00	0.0	0.0	0.0	12	\$902.00	\$631.40	\$0.17	\$0.00	\$0.00	3.65	1.00	16.44	16.44	10.88	10.88	ENERGY STAR Hot Food Holding Cabinet	
Cooking	Hot Food Holding Cabinet	Restaurant	Lost Opportunity	1,730.1	0.20	0.20	0.00	0.00	0.0	0.0	0.0	12	\$902.00	\$631.40	\$0.11	\$0.00	\$0.00	3.65	1.00	0.91	0.91	0.60	0.60	ENERGY STAR Hot Food Holding Cabinet	
Cooking	Microwave - High Efficiency	Restaurant	Discretionary	9.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$4.96	\$3.47	\$0.17	\$0.00	\$0.00	3.38	1.00	0.10	0.10	0.06	0.06	High Efficiency Microwave	
Cooking	Microwave - High Efficiency	Restaurant	Lost Opportunity	9.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$4.96	\$3.47	\$0.11	\$0.00	\$0.00	3.38	1.00	0.00	0.00	0.00	0.00	High Efficiency Microwave	
Cooking	Steam Cooker	Restaurant	Discretionary	4,983.4	0.57	0.57	0.00	0.00	0.0	0.0	2,224.3	12	\$1,700.00	\$1,190.00	\$0.17	\$0.00	\$0.00	20.05	1.00	41.77	41.77	27.66	27.66	ENERGY STAR Steam Cooker	
Cooking	Steam Cooker	Restaurant	Lost Opportunity	4,983.4	0.57	0.57	0.00	0.00	0.0	0.0	2,224.3	12	\$1,700.00	\$1,190.00	\$0.11	\$0.00	\$0.00	20.05	1.00	2.31	2.31	1.53	1.53	ENERGY STAR Steam Cooker	
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Restaurant	Discretionary	295.0	0.10	0.00	0.00	0.00	0.0	0.0	0.0	15	\$651.00	\$455.70	\$0.17	\$0.00	\$0.00	1.59	1.00	0.00	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)	
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Restaurant	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.53	\$0.37	\$0.17	\$0.00	\$0.00	1.42	1.00	0.00	0.00	0.00	0.00	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)	
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Restaurant	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.48	\$0.33	\$0.11	\$0.00	\$0.00	1.58	1.00	0.00	0.00	0.00	0.00	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)	
Cooling Chillers	Convert Constant Volume Air System to VAV	Restaurant	Discretionary	745.1	0.25	0.00	0.00	0.00	0.0	0.0	0.0	15	\$14,242.39	\$9,969.67	\$0.17	\$0.00	\$0.00	0.18	1.00	0.00	0.00	0.00	0.00	Variable Volume Air System	
Cooling Chillers	Direct Digital Control System-Installation	Restaurant	Discretionary	425.4	0.15	0.00	0.00	0.00	0.0	0.0	0.0	5	\$813.75	\$569.63	\$0.17	\$0.00	\$0.00	0.57	1.00	0.00	0.00	0.00	0.00	Installation of EMS System	
Cooling Chillers	Direct Digital Control System-Installation	Restaurant	Lost Opportunity	425.4	0.15	0.00	0.00	0.00	0.0	0.0	0.0	5	\$813.75	\$569.63	\$0.11	\$0.00	\$0.00	0.57	1.00	0.00	0.00	0.00	0.00	Installation of EMS System	
Cooling Chillers	Exhaust Hood Makeup Air	Restaurant	Discretionary	127.6	0.04	0.00	0.00	0.00	0.0	0.0	0.0	12	\$3,100.00	\$2,170.00	\$0.17	\$0.00	\$0.00	0.11	1.00	0.00	0.00	0.00	0.00	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Cooling Chillers	Green Roof	Restaurant	Discretionary	15.1	0.01	0.00	0.00	0.00	0.0	0.0	0.0	40	\$36,499.66	\$25,549.76	\$0.17	\$365.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	Vegetation on Roof
Cooling Chillers	Green Roof	Restaurant	Lost Opportunity	12.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$36,499.66	\$25,549.76	\$0.11	\$365.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	Vegetation on Roof
Cooling Chillers	Indirect Information Feedback	Restaurant	Discretionary	14.8	0.01	0.00	0.00	0.00	0.0	0.0	0.0	2	\$49.10	\$34.37	\$0.17	\$0.00	\$0.00	0.12	1.00	0.00	0.00	0.00	0.00	0.00	Indirect Information Feedback
Cooling Chillers	Indirect Information Feedback	Restaurant	Lost Opportunity	14.8	0.01	0.00	0.00	0.00	0.0	0.0	0.0	2	\$49.10	\$34.37	\$0.11	\$0.00	\$0.00	0.12	1.00	0.00	0.00	0.00	0.00	0.00	Indirect Information Feedback
Cooling Chillers	Infiltration Reduction	Restaurant	Discretionary	85.1	0.03	0.00	0.00	0.00	0.0	0.0	0.0	10	\$211.12	\$147.78	\$0.17	\$0.00	\$0.00	0.91	1.00	0.00	0.00	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Restaurant	Discretionary	135.6	0.05	0.00	0.00	0.00	0.0	0.0	0.0	30	\$410.62	\$287.43	\$0.17	\$0.00	\$0.00	2.43	1.00	0.00	0.00	0.00	0.00	0.00	R-35 c.i.
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Restaurant	Lost Opportunity	135.6	0.05	0.00	0.00	0.00	0.0	0.0	0.0	30	\$410.62	\$287.43	\$0.11	\$0.00	\$0.00	2.43	1.00	0.00	0.00	0.00	0.00	0.00	R-35 c.i.
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Code	Restaurant	Discretionary	464.6	0.16	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,873.65	\$1,311.55	\$0.17	\$0.00	\$0.00	1.82	1.00	0.00	0.00	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Restaurant	Discretionary	199.9	0.07	0.00	0.00	0.00	0.0	0.0	0.0	30	\$729.99	\$511.00	\$0.17	\$0.00	\$0.00	2.01	1.00	0.00	0.00	0.00	0.00	0.00	R-38
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Restaurant</																							



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Cooling Dx Evap	Green Roof	Restaurant	Discretionary	13.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$36,499.66	\$25,549.76	\$0.17	\$365.00	\$0.00	0.00	1.00	0.03	0.00	0.00	0.00	Vegetation on Roof	
Cooling Dx Evap	Green Roof	Restaurant	Lost Opportunity	11.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$36,499.66	\$25,549.76	\$0.11	\$365.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Vegetation on Roof	
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Restaurant	Discretionary	1,520.0	0.52	0.00	0.00	0.00	0.0	0.0	0.0	15	\$9,895.20	\$6,926.64	\$0.17	-\$226.55	\$0.00	0.74	1.00	0.40	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Restaurant	Lost Opportunity	1,520.0	0.52	0.00	0.00	0.00	0.0	0.0	0.0	15	\$9,895.20	\$6,926.64	\$0.11	-\$226.55	\$0.00	0.74	1.00	0.07	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Cooling Dx Evap	Indirect Information Feedback	Restaurant	Discretionary	13.3	0.00	0.00	0.01	0.00	0.0	0.0	0.0	2	\$44.30	\$31.01	\$0.17	\$0.00	\$0.00	0.12	1.00	0.03	0.00	0.00	0.00	Indirect Information Feedback	
Cooling Dx Evap	Indirect Information Feedback	Restaurant	Lost Opportunity	13.3	0.00	0.00	0.01	0.00	0.0	0.0	0.0	2	\$44.30	\$31.01	\$0.11	\$0.00	\$0.00	0.12	1.00	0.00	0.00	0.00	0.00	Indirect Information Feedback	
Cooling Dx Evap	Infiltration Reduction	Restaurant	Discretionary	76.8	0.03	0.00	0.23	0.00	0.0	0.0	0.0	10	\$211.12	\$147.78	\$0.17	\$0.00	\$0.00	0.85	1.00	0.01	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Restaurant	Discretionary	122.4	0.04	0.00	0.11	0.00	0.0	0.0	0.0	30	\$410.62	\$287.43	\$0.17	\$0.00	\$0.00	2.20	1.00	0.13	0.17	0.11	0.11	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	Restaurant	Lost Opportunity	122.4	0.04	0.00	0.12	0.00	0.0	0.0	0.0	30	\$410.62	\$287.43	\$0.11	\$0.00	\$0.00	2.21	1.00	0.00	0.00	0.00	0.00	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Code	Restaurant	Discretionary	419.2	0.14	0.00	0.38	0.00	0.0	0.0	0.0	30	\$1,873.65	\$1,311.55	\$0.17	\$0.00	\$0.00	1.65	1.00	0.30	0.38	0.25	0.25	R-30 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Restaurant	Discretionary	92.1	0.03	0.00	0.08	0.00	0.0	0.0	0.0	20	\$35.32	\$24.72	\$0.17	\$0.00	\$0.00	12.56	1.00	0.27	0.35	0.23	0.23	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	Restaurant	Lost Opportunity	92.1	0.03	0.00	0.09	0.00	0.0	0.0	0.0	20	\$35.32	\$24.72	\$0.11	\$0.00	\$0.00	12.57	1.00	0.02	0.02	0.01	0.01	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	Restaurant	Discretionary	92.1	0.03	0.00	0.08	0.00	0.0	0.0	0.0	20	\$142.24	\$99.57	\$0.17	\$0.00	\$0.00	3.12	1.00	0.22	0.28	0.19	0.19	R-8 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Restaurant	Discretionary	180.3	0.06	0.00	0.16	0.00	0.0	0.0	0.0	30	\$729.99	\$511.00	\$0.17	\$0.00	\$0.00	1.83	1.00	0.07	0.08	0.06	0.06	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Restaurant	Lost Opportunity	180.3	0.06	0.00	0.18	0.00	0.0	0.0	0.0	30	\$729.99	\$511.00	\$0.11	\$0.00	\$0.00	1.83	1.00	0.01	0.01	0.01	0.01	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	Restaurant	Discretionary	314.1	0.11	0.00	0.28	0.00	0.0	0.0	0.0	30	\$2,092.65	\$1,464.85	\$0.17	\$0.00	\$0.00	1.11	1.00	0.10	0.13	0.09	0.09	R-30 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Restaurant	Discretionary	210.5	0.07	0.00	0.19	0.00	0.0	0.0	0.0	30	\$606.78	\$424.75	\$0.17	\$0.00	\$0.00	2.57	1.00	0.13	0.17	0.11	0.11	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	Restaurant	Lost Opportunity	210.5	0.07	0.00	0.21	0.00	0.0	0.0	0.0	30	\$606.78	\$424.75	\$0.11	\$0.00	\$0.00	2.57	1.00	0.02	0.03	0.02	0.02	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Code	Restaurant	Discretionary	231.1	0.08	0.00	0.21	0.00	0.0	0.0	0.0	30	\$4,163.78	\$2,914.65	\$0.17	\$0.00	\$0.00	0.41	1.00	0.08	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Restaurant	Discretionary	205.9	0.07	0.00	0.00	0.00	0.0	0.0	0.0	15	\$18,393.79	\$12,875.65	\$0.17	\$0.00	\$0.00	0.04	1.00	0.03	0.00	0.00	0.00	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	Restaurant	Lost Opportunity	205.9	0.07	0.00	0.00	0.00	0.0	0.0	0.0	15	\$14,715.03	\$10,300.52	\$0.11	\$0.00	\$0.00	0.05	1.00	0.00	0.00	0.00	0.00	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Natural Ventilation	Restaurant	Lost Opportunity	255.9	0.09	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2,604.00	\$1,822.80	\$0.11	\$0.00	\$0.00	0.35	1.00	0.00	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling	
Cooling Dx Evap	Programmable Thermostat	Restaurant	Discretionary	102.4	0.04	0.00	0.09	0.00	0.0	0.0	0.0	11	\$27.58	\$19.31	\$0.17	\$0.00	\$0.00	9.39	1.00	0.29	0.36	0.29	0.24	Programmable Thermostat	
Cooling Dx Evap	Strategic Energy Management (SEM)	Restaurant	Discretionary	104.9	0.04	0.00	0.09	0.00	0.0	0.0	0.0	5	\$14.14	\$9.90	\$0.17	\$0.00	\$0.00	8.15	1.00	0.04	0.06	0.04	0.04	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Strategic Energy Management (SEM)	Restaurant	Lost Opportunity	104.9	0.04	0.00	0.10	0.00	0.0	0.0	0.0	5	\$14.14	\$9.90	\$0.11	\$0.00	\$0.00	8.15	1.00	0.02	0.02	0.01	0.01	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Tune-up - DX Maintenance	Restaurant	Discretionary	367.9	0.13	0.00	0.00	0.00	0.0	0.0	0.0	5	\$6,249.60	\$4,374.72	\$0.17	\$0.00	\$0.00	0.06	1.00	0.54	0.00	0.00	0.00	DX Tune-up / Diagnostics	
Cooling Dx Evap	Wi-Fi Thermostat	Restaurant	Discretionary	102.4	0.04	0.00	0.09	0.00	0.0	0.0	0.0	11	\$219.74	\$153.82	\$0.17	\$0.00	\$0.00	1.18	1.00	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Restaurant	Discretionary	20.0	0.01	0.00	0.02	0.00	0.0	0.0	0.0	20	\$1,248.44	\$873.91	\$0.17	\$0.00	\$0.00	0.08	1.00	0.01	0.00	0.00	0.00	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Restaurant	Lost Opportunity	20.0	0.01	0.00	0.02	0.00	0.0	0.0	0.0	20	\$1,248.44	\$873.91	\$0.11	\$0.00	\$0.00	0.08	1.00	0.00	0.00	0.00	0.00	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Code	Restaurant	Discretionary	46.8	0.02	0.00	0.04	0.00	0.0	0.0	0.0	20	\$8,244.23	\$5,770.96	\$0.17	\$0.00	\$0.00	0.03	1.00	0.03	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtuh - Premium Efficiency	Restaurant	Discretionary	1,279.5	0.44	0.00	0.00	0.00	0.0	0.0	0.0	15	\$21,310.43	\$14,917.30	\$0.17	\$0.00	\$0.00	0.21	1.00	1.41	0.00	0.00	0.00	Premium Efficiency - 19.0 IEER	
Fax	Fax - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.04	0.00	0.00	0.00	ENERGY STAR Fax	
Fax	Fax - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Fax	
Flat Screen Monitors	Monitor - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	0.50	1.00	0.52	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	0.50	1.00	0.03	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor	
Freezers	Freezer (Residential) - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	13.03	1.00	0.11	0.11	0.06	0.06	ENERGY STAR Freezer	
Freezers	Freezer (Residential) - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	13.03	1.00	0.01	0.01	0.01	0.01	ENERGY STAR Freezer	
Freezers	Residential Freezer Recycling and Replacement	Restaurant	Discretionary	17.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$7.10	\$4.97	\$0.17	\$0.00	\$0.00	3.13	1.00	0.70	0.70	0.39	0.39	Recycling Existing Freezer and Replacing with a Federal Standard Unit	
Heat Pump	Air Source Heat Pump 65 to 135 kBtuh - Federal Standard 2023	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.35	\$0.25	\$0.17	\$0.00	\$0.00	0.41	1.00	0.00	0.00	0.00	0.00	Federal Standard 2023 - 14.1 IEER, 3.4 COP	
Heat Pump	Air Source Heat Pump 65 to 135 kBtuh - Federal Standard 2023	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.28	\$0.20	\$0.11	\$0.00	\$0.00	0.51	1.00	0.00	0.00	0.00	0.00	Federal Standard 2023 - 14.1 IEER, 3.4 COP	
Heat Pump	Air Source Heat Pump 65 to 135 kBtuh - Premium Efficiency	Restaurant	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1.25	\$0.88	\$0.17	\$0.00	\$0.00	0.32	1.00	0.59	0.00	0.00	0.00	Premium Efficiency - 19.0 IEER, 3.7 COP	
Heat Pump	Air Source Heat Pump 65 to 135 kBtuh - Premium Efficiency	Restaurant	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1.00	\$0.70	\$0.11	\$0.00	\$0.00	0.40	1.00	0.04	0.00	0.00	0.00	Premium Efficiency - 19.0 IEER, 3.7 COP	
Heat Pump	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Restaurant	Discretionary	111.4	0.04	0.03	0.00	0.00	0.0	0.0	0.0	15	\$651.00	\$455.70	\$0.17	\$0.00	\$0.00	0.60	1.00	0.07	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)	
Heat Pump	Cold Climate Heat Pump - Enhanced Efficiency	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.80	\$0.56	\$0.17	\$0.00	\$0.00	0.05	1.00	0.00	0.00	0.00	0.00	High-Performance Cold Climate Commercial Heat Pump	
Heat Pump	Cold Climate Heat Pump - Enhanced Efficiency	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.64	\$0.45	\$0.11	\$0.00	\$0.00	0.07	1.00	0.00	0.00	0.00	0.00	High-Performance Cold Climate Commercial Heat Pump	
Heat Pump	Convert Constant Volume Air System to VAV	Restaurant	Discretionary	323.8	0.11	0.08	0.00	0.00	0.0	0.0	0.0	15	\$14,242.39	\$9,969.67	\$0.17	\$0.00	\$0.00	0.08	1.00	0.07	0.00	0.00	0.00	Variable Volume Air System	
Heat Pump	Direct Digital Control System-Installation	Restaurant	Discretionary	184.9	0.06	0.05	0.00	0.00	0.0	0.0	0.0	5	\$813.75	\$569.63	\$0.17	\$0.00	\$0.00	0.25	1.00	0.24	0.00	0.00	0.00	Installation of EMS System	
Heat Pump	Direct Digital Control System-Installation	Restaurant	Lost Opportunity	184.9	0.06	0.05	0.00	0.00	0.0	0.0	0.0	5	\$813.75	\$569.63	\$0.11	\$0.00	\$0.00	0.25	1.00	0.00	0.00	0.00	0.00	Installation of EMS System	
Heat Pump	Duct Repair and Sealing	Restaurant	Discretionary	107.2	0.04	0.03	0.00	0.00	0.0	0															



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Heat Pump	Water Source Heat Pump (>= 135 kBTU/hr and < 375 kBTU/hr) Cooling	Restaurant	Lost Opportunity	480.6	0.16	0.12	0.00	0.00	0.0	0.0	0.0	15	\$120.01	\$84.01	\$0.11	\$0.00	\$0.00	14.02	1.00	0.00	0.01	0.00	0.00	14 EER, 4.6 COP	
Heat Pump	Wi-Fi Thermostat	Restaurant	Discretionary	49.3	0.02	0.01	0.00	0.00	0.0	0.0	0.0	11	\$219.74	\$153.82	\$0.17	\$0.00	\$0.00	0.56	1.00	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)	
Heat Pump	Windows - CBES 2015 - Above Code	Restaurant	Discretionary	9.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$1,248.44	\$873.91	\$0.17	\$0.00	\$0.00	0.04	1.00	0.00	0.00	0.00	0.00	U-0.29	
Heat Pump	Windows - CBES 2015 - Above Code	Restaurant	Lost Opportunity	9.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$1,248.44	\$873.91	\$0.11	\$0.00	\$0.00	0.04	1.00	0.00	0.00	0.00	0.00	U-0.29	
Heat Pump	Windows - CBES 2015 - Code	Restaurant	Discretionary	22.6	0.01	0.01	0.00	0.00	0.0	0.0	0.0	20	\$8,244.23	\$5,770.96	\$0.17	\$0.00	\$0.00	0.01	1.00	0.01	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	Restaurant	Discretionary	196.5	0.00	0.04	0.00	0.00	0.0	0.0	0.0	8	\$48.51	\$33.95	\$0.17	\$0.00	\$0.00	3.99	1.00	0.83	0.83	0.63	0.63	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time	
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	Restaurant	Discretionary	183.4	0.00	0.04	0.00	0.00	0.0	0.0	0.0	8	\$45.38	\$31.77	\$0.17	\$0.00	\$0.00	3.98	1.00	5.44	5.44	4.10	4.10	Photocell	
Lighting Exterior	LED Exterior Flood Lights	Restaurant	Discretionary	63.6	0.00	0.01	0.00	0.00	0.0	0.0	0.0	20	\$41.96	\$29.37	\$0.17	\$0.00	\$0.00	3.73	1.00	3.07	3.07	2.32	2.32	LED Exterior Flood Lights	
Lighting Exterior	LED Exterior Flood Lights	Restaurant	Lost Opportunity	63.6	0.00	0.01	0.00	0.00	0.0	0.0	0.0	20	\$41.96	\$29.37	\$0.11	\$0.00	\$0.00	3.73	1.00	0.17	0.17	0.11	0.11	LED Exterior Flood Lights	
Lighting Exterior	LED Exterior Pole Mount Fixture	Restaurant	Discretionary	36.3	0.00	0.01	0.00	0.00	0.0	0.0	0.0	15	\$71.09	\$49.76	\$0.17	\$0.00	\$0.00	0.94	1.00	1.75	0.00	0.00	0.00	LED Exterior Pole Mount Fixture	
Lighting Exterior	LED Exterior Pole Mount Fixture	Restaurant	Lost Opportunity	36.3	0.00	0.01	0.00	0.00	0.0	0.0	0.0	15	\$71.09	\$49.76	\$0.11	\$0.00	\$0.00	0.94	1.00	0.10	0.00	0.00	0.00	LED Exterior Pole Mount Fixture	
Lighting Exterior	LED Exterior Wall Pack	Restaurant	Discretionary	120.2	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$249.41	\$174.59	\$0.17	\$0.00	\$0.00	1.19	1.00	5.48	5.48	4.13	4.13	LED Exterior Wall Pack	
Lighting Exterior	LED Exterior Wall Pack	Restaurant	Lost Opportunity	120.2	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$249.41	\$174.59	\$0.11	\$0.00	\$0.00	1.19	1.00	0.30	0.30	0.20	0.20	LED Exterior Wall Pack	
Lighting Exterior	LED Pathway Lights	Restaurant	Discretionary	29.9	0.00	0.01	0.00	0.00	0.0	0.0	0.0	11	\$7.08	\$4.96	\$0.17	\$0.00	\$0.00	5.73	1.00	1.45	1.45	1.09	1.09	LED Pathway Lights	
Lighting Exterior	LED Pathway Lights	Restaurant	Lost Opportunity	29.9	0.00	0.01	0.00	0.00	0.0	0.0	0.0	11	\$7.08	\$4.96	\$0.11	\$0.00	\$0.00	5.73	1.00	0.08	0.08	0.06	0.06	LED Pathway Lights	
Lighting Exterior	Occupancy Sensor Control	Restaurant	Discretionary	157.2	0.00	0.03	0.00	0.00	0.0	0.0	0.0	10	\$491.99	\$344.39	\$0.17	\$0.00	\$0.00	0.39	1.00	2.00	0.00	0.00	0.00	Occupancy Sensor Control	
Lighting Exterior	Parking - Covered Lighting	Restaurant	Discretionary	24.4	0.00	0.01	0.00	0.00	0.0	0.0	0.0	19	\$17.79	\$12.45	\$0.17	\$0.00	\$0.00	3.21	1.00	0.32	0.32	0.24	0.24	Covered Parking Lighting (LED)	
Lighting Exterior	Parking - Covered Lighting	Restaurant	Lost Opportunity	24.4	0.00	0.01	0.00	0.00	0.0	0.0	0.0	19	\$17.79	\$12.45	\$0.11	\$0.00	\$0.00	3.21	1.00	0.02	0.02	0.01	0.01	Covered Parking Lighting (LED)	
Lighting Exterior	Parking - Surface Lighting	Restaurant	Discretionary	13.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$6.77	\$4.74	\$0.17	\$0.00	\$0.00	2.40	1.00	0.07	0.07	0.06	0.06	Surface Parking Lighting (LED)	
Lighting Exterior	Parking - Surface Lighting	Restaurant	Lost Opportunity	13.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$6.77	\$4.74	\$0.11	\$0.00	\$0.00	2.40	1.00	0.00	0.00	0.00	0.00	Surface Parking Lighting (LED)	
Lighting Exterior	Time Clock	Restaurant	Discretionary	65.5	0.00	0.01	0.00	0.00	0.0	0.0	0.0	8	\$110.23	\$77.16	\$0.17	\$0.00	\$0.00	0.59	1.00	0.14	0.00	0.00	0.00	Time Clock	
Lighting Interior Fluorescent	Bi-Level Control, Stairwell Lighting	Restaurant	Discretionary	169.8	0.03	0.02	0.00	0.00	0.0	0.0	0.0	8	\$256.59	\$179.62	\$0.17	\$0.00	\$0.00	0.98	1.00	0.36	0.00	0.00	0.00	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time	
Lighting Interior Fluorescent	Dimming-Continuous, Fluorescent Fixtures	Restaurant	Discretionary	868.4	0.17	0.12	0.00	0.00	0.0	0.0	0.0	10	\$121.41	\$84.99	\$0.17	\$0.00	\$0.00	13.32	1.00	0.00	0.00	0.00	0.00	Continuous Dimming, Fluorescent Fixtures (Day-Lighting)	
Lighting Interior Fluorescent	Dimming-Stepped, Fluorescent Fixtures	Restaurant	Discretionary	868.4	0.17	0.12	0.00	0.00	0.0	0.0	0.0	10	\$121.41	\$84.99	\$0.17	\$0.00	\$0.00	13.32	1.00	1.18	1.18	0.89	0.89	3-stepped Dimming of Fluorescent Fixtures (Day-Lighting)	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent - 2018 Federal Standard	Restaurant	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.03	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	1.00	0.00	0.00	0.00	0.00	Standard Fluorescent 2018 Federal Standard Approved T-8	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 - Above Standard	Restaurant	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.03	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	1.00	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 Interior Lighting	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 High Performance - Above Standard	Restaurant	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.02	\$0.00	\$0.17	\$0.00	\$0.00	999.00	1.00	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 High Performance Interior Lighting	
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 Reduced Wattage - Above Standard	Restaurant	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.01	\$0.00	\$0.17	\$0.00	\$0.00	999.00	1.00	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 Reduced Wattage Interior Lighting	
Lighting Interior Fluorescent	Lighting Interior - TLED - Above Standard	Restaurant	Lost Opportunity	0.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.11	\$0.07	\$0.17	-\$0.01	\$0.00	999.00	1.00	73.60	77.11	56.65	56.65	Above Standard TLED	
Lighting Interior Fluorescent	Occupancy Sensor Control	Restaurant	Discretionary	744.4	0.14	0.10	0.00	0.00	0.0	0.0	0.0	10	\$2,330.10	\$1,631.07	\$0.17	\$0.00	\$0.00	0.59	1.00	4.80	0.00	0.00	0.00	Occupancy Sensor Control	
Lighting Interior Fluorescent	Time Clock	Restaurant	Discretionary	310.1	0.06	0.04	0.00	0.00	0.0	0.0	0.0	8	\$110.23	\$77.16	\$0.17	\$0.00	\$0.00	4.15	1.00	0.33	0.33	0.25	0.25	Time Clock	
Lighting Interior Fluorescent - Early Replacement	Early Replacement Lighting Interior - TLED - Above Standard	Restaurant	Discretionary	570.9	0.11	0.08	0.00	0.00	0.0	0.0	0.0	15	\$126.54	\$88.58	\$0.17	-\$2.08	\$0.00	15.97	1.00	2.51	2.51	1.89	1.89	Above Standard TLED	
Lighting Interior HID	Lighting Interior - Efficient Metal Halide - Above Standard	Restaurant	Lost Opportunity	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.19	\$0.13	\$0.17	-\$0.01	\$0.00	26.14	1.00	0.00	0.00	0.00	0.00	Efficient Metal Halide	
Lighting Interior HID	Lighting Interior - Federal Standard 2017 Metal Halide - Above Standard	Restaurant	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.22	\$0.15	\$0.17	-\$0.01	\$0.00	2.34	1.00	0.00	0.00	0.00	0.00	Federal Standard 2017 Metal Halide	
Lighting Interior HID	Lighting Interior - High Bay Fluorescent High Output - Above Standard	Restaurant	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.58	\$0.41	\$0.17	\$0.06	\$0.00	1.37	1.00	0.00	0.00	0.00	0.00	High Bay Fluorescent High Output (HO)	
Lighting Interior HID	Lighting Interior - High Bay Induction - Above Standard	Restaurant	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.57	\$0.40	\$0.17	-\$0.03	\$0.00	5.95	1.00	0.00	0.00	0.00	0.00	High Bay Induction	
Lighting Interior HID	Lighting Interior - High Bay LED - Above Standard	Restaurant	Lost Opportunity	0.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.67	\$0.47	\$0.17	-\$0.02	\$0.00	5.77	1.00	43.63	45.93	33.76	33.76	High Bay LED	
Lighting Interior HID	Occupancy Sensor Control	Restaurant	Discretionary	657.9	0.13	0.09	0.00	0.00	0.0	0.0	0.0	10	\$2,059.58	\$1,441.70	\$0.17	\$0.00	\$0.00	0.59	1.00	7.64	0.00	0.00	0.00	Occupancy Sensor Control	
Lighting Interior HID	Time Clock	Restaurant	Discretionary	274.1	0.05	0.04	0.00	0.00	0.0	0.0	0.0	8	\$110.23	\$77.16	\$0.17	\$0.00	\$0.00	3.67	1.00	0.53	0.53	0.40	0.40	Time Clock	
Lighting Interior Other	Exit Sign - LED	Restaurant	Discretionary	45.6	0.01	0.01	0.00	0.00	0.0	0.0	0.0	16	\$64.14	\$44.90	\$0.17	\$0.00	\$0.00	2.16	1.00	1.59	1.59	1.20	1.20	LED Exit Sign	
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Restaurant	Discretionary	56.8	0.01	0.01	0.00	0.00	0.0	0.0	0.0	16	-\$9.77	\$0.00	\$0.17	\$0.00	\$0.00	999.00	1.00	2.89	2.89	2.18	2.18	Photoluminescent or Tritium	
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Restaurant	Lost Opportunity	56.8	0.01	0.01	0.00	0.00	0.0	0.0	0.0	16	-\$9.77	\$0.00	\$0.11	\$0.00	\$0.00	999.00	1.00	0.12	0.12	0.09	0.09	Photoluminescent or Tritium	
Lighting Interior Other	New Construction Lighting Package - Advanced Efficiency	Restaurant	Lost Opportunity	1.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.87	\$0.61	\$0.11	-\$0.07	\$0.00	37.36	1.00	7.85	7.85	5.82	5.82	Advanced Efficiency Lighting Package - 25% LPD Reduction	
Lighting Interior Other	New Construction Lighting Package - High Efficiency	Restaurant	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.52	\$0.37	\$0.11	-\$0.04	\$0.00	37.36	1.00	0.00	0.00	0.00	0.00	High Efficiency Lighting Package - 15% LPD Reduction	
Lighting Interior Other	New Construction Lighting Package - Premium Efficiency	Restaurant	Lost Opportunity	0.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.70	\$0.49	\$0.11	-\$0.05	\$0.00	37.36	1.00	0.00	0.00	0.00	0.00	Premium Efficiency Lighting Package - 20% LPD Reduction	
Lighting Interior Other	Occupancy Sensor Control	Restaurant	Discretionary	27.4	0.01	0.00	0.00	0.00	0.0	0.0	0.0	10	\$85.69	\$59.98	\$0.17	\$0.00	\$0.00	0.59	1.00	0.35	0.00	0.00	0.00	Occupancy Sensor Control	
Lighting Interior Other	Time Clock	Restaurant	Discretionary	11.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$110.23	\$77.16	\$0.17	\$0.00	\$0.00	0.15	1.00	0.02	0.00	0.00	0.00	Time Clock	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	Restaurant	Lost Opportunity	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3	\$0.01	\$0.01	\$0.17	-\$0.01	\$0.00	999.00	1.00	0.00	0.00	0.00	0.00	CFL	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base Incandescent - Backstop EISA 2020 Standard	Restaurant	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3	\$0.01	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	1.00	0.00	0.00	0.00	0.00	Backstop EISA 2020 Standard Incandescent	
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base LED - Above Standard	Restaurant	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.06	\$0.04	\$0.17	-\$0.02	\$0.00	999.00	1.00	3.69	3.70	2.79	2.79	LED	
Lighting Interior Screw Base - Standard	Occupancy Sensor Control	Restaurant	Discretionary	602.7	0.12	0.08	0.00	0.00	0.0	0.0	0.0	10	\$1,886.74	\$1,320.71	\$0.17	\$0.00	\$0.00	0.59	1.00	1.86	0.00	0.00	0.00	Occupancy Sensor Control	
Lighting Interior Screw Base - Standard	Time Clock	Restaurant	Discretionary	251.1	0.05	0.																			



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR	20 YR	20 YR MAP	20 YR RAP	Measure Description	
																				Technical Potential (MWh)	Economic Potential (MWh)				
Refrigeration	Display Case Electronically Commutated Motor - Medium Temp	Restaurant	Discretionary	19.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$13.87	\$9.71	\$0.17	\$0.00	\$0.00	3.47	0.95	0.70	0.70	0.60	0.60	ECM Evaporator Fans - Medium Temp	
Refrigeration	Display Case LEDs (Closed Cases)	Restaurant	Discretionary	207.9	0.03	0.02	0.00	0.00	0.0	0.0	0.0	8	\$123.89	\$86.73	\$0.17	\$0.00	\$0.00	2.18	0.95	11.16	11.16	9.61	9.61	Display Case LEDs (Closed Cases)	
Refrigeration	Display Case LEDs (Closed Cases)	Restaurant	Lost Opportunity	207.9	0.03	0.02	0.00	0.00	0.0	0.0	0.0	8	\$55.09	\$38.56	\$0.11	\$0.00	\$0.00	4.90	0.95	0.62	0.62	0.53	0.53	Display Case LEDs (Closed Cases)	
Refrigeration	Display Case LEDs (Open Cases)	Restaurant	Discretionary	26.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$18.79	\$13.15	\$0.17	-\$0.67	\$0.00	2.07	0.95	1.44	1.44	1.24	1.24	Display Case LEDs (Open Cases)	
Refrigeration	Display Case LEDs (Open Cases)	Restaurant	Lost Opportunity	26.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$9.91	\$6.94	\$0.11	-\$0.57	\$0.00	4.78	0.95	0.08	0.08	0.07	0.07	Display Case LEDs (Open Cases)	
Refrigeration	Display Case Motion Sensors	Restaurant	Discretionary	80.4	0.01	0.01	0.00	0.00	0.0	0.0	0.0	8	\$18.77	\$13.14	\$0.17	\$0.00	\$0.00	5.57	0.95	4.09	4.09	3.52	3.52	Display Case Motion Sensors	
Refrigeration	Evaporator Fan Controller - Low Temp	Restaurant	Discretionary	78.8	0.01	0.01	0.00	0.00	0.0	0.0	0.0	16	\$61.27	\$42.89	\$0.17	\$0.00	\$0.00	3.42	0.95	4.00	4.00	3.45	3.45	ECM Evaporator Fan Controller - Low Temp	
Refrigeration	Evaporator Fan Controller - Low Temp	Restaurant	Lost Opportunity	78.8	0.01	0.01	0.00	0.00	0.0	0.0	0.0	16	\$61.27	\$42.89	\$0.11	\$0.00	\$0.00	3.42	0.95	0.18	0.18	0.15	0.15	ECM Evaporator Fan Controller - Low Temp	
Refrigeration	Evaporator Fan Controller - Medium Temp	Restaurant	Discretionary	122.9	0.02	0.01	0.00	0.00	0.0	0.0	0.0	16	\$114.42	\$80.09	\$0.17	\$0.00	\$0.00	2.85	0.95	6.25	6.25	5.38	5.38	ECM Evaporator Fan Controller - Medium Temp	
Refrigeration	Evaporator Fan Controller - Medium Temp	Restaurant	Lost Opportunity	122.9	0.02	0.01	0.00	0.00	0.0	0.0	0.0	16	\$114.42	\$80.09	\$0.11	\$0.00	\$0.00	2.85	0.95	0.28	0.28	0.24	0.24	ECM Evaporator Fan Controller - Medium Temp	
Refrigeration	Floating Condenser Head Pressure Controls	Restaurant	Discretionary	2,690.1	0.35	0.32	0.00	0.00	0.0	0.0	0.0	15	\$864.88	\$605.42	\$0.17	\$0.00	\$0.00	7.73	0.95	7.60	7.60	7.38	6.55	Floating Condenser Head Pressure Controls	
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Restaurant	Discretionary	751.5	0.10	0.09	0.00	0.00	0.0	0.0	0.0	9	\$102.06	\$71.44	\$0.17	\$0.00	\$0.00	10.81	0.95	40.32	40.32	39.16	34.74	Glass Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	Restaurant	Lost Opportunity	751.5	0.10	0.09	0.00	0.00	0.0	0.0	0.0	9	\$102.06	\$71.44	\$0.11	\$0.00	\$0.00	10.81	0.95	2.23	2.23	2.16	1.92	Glass Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Ice Maker - High Efficiency	Restaurant	Discretionary	344.7	0.05	0.04	0.00	0.00	0.0	0.0	0.0	8	\$21.99	\$15.40	\$0.17	\$0.00	\$0.00	20.36	0.95	19.47	19.47	16.77	16.77	High Efficiency Ice Maker	
Refrigeration	Ice Maker - High Efficiency	Restaurant	Lost Opportunity	344.7	0.05	0.04	0.00	0.00	0.0	0.0	0.0	8	\$21.99	\$15.40	\$0.11	\$0.00	\$0.00	20.36	0.95	1.07	1.07	0.93	0.93	High Efficiency Ice Maker	
Refrigeration	Night Covers for Display Cases	Restaurant	Discretionary	35.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$6.24	\$4.37	\$0.17	\$0.63	\$0.00	3.04	0.95	1.88	1.88	1.62	1.62	Night Covers for Display Cases	
Refrigeration	Night Covers for Display Cases	Restaurant	Lost Opportunity	35.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$6.24	\$4.37	\$0.11	\$0.63	\$0.00	3.04	0.95	0.10	0.10	0.09	0.09	Night Covers for Display Cases	
Refrigeration	No Heat Case Doors	Restaurant	Discretionary	358.2	0.05	0.04	0.00	0.00	0.0	0.0	0.0	15	\$256.78	\$179.75	\$0.17	\$0.00	\$0.00	3.47	0.95	10.11	10.11	8.72	8.72	No Heat Case Doors	
Refrigeration	No Heat Case Doors	Restaurant	Lost Opportunity	358.2	0.05	0.04	0.00	0.00	0.0	0.0	0.0	15	\$256.78	\$179.75	\$0.11	\$0.00	\$0.00	3.47	0.95	1.06	1.06	0.90	0.90	No Heat Case Doors	
Refrigeration	Refrigeration Commissioning or Re-commissioning	Restaurant	Discretionary	3,537.1	0.47	0.42	0.00	0.00	0.0	0.0	0.0	7	\$911.68	\$638.17	\$0.17	\$0.00	\$0.00	4.38	0.95	17.12	17.12	14.76	14.76	Commissioning / Re-commissioning	
Refrigeration	Refrigeration Commissioning or Re-commissioning	Restaurant	Lost Opportunity	3,537.1	0.47	0.42	0.00	0.00	0.0	0.0	0.0	7	\$911.68	\$638.17	\$0.11	\$0.00	\$0.00	4.38	0.95	0.51	0.51	0.44	0.44	Commissioning / Re-commissioning	
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Restaurant	Discretionary	557.9	0.07	0.07	0.00	0.00	0.0	0.0	0.0	9	\$102.06	\$71.44	\$0.17	\$0.00	\$0.00	8.02	0.95	29.93	29.93	25.79	25.79	Solid Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	Restaurant	Lost Opportunity	557.9	0.07	0.07	0.00	0.00	0.0	0.0	0.0	9	\$102.06	\$71.44	\$0.11	\$0.00	\$0.00	8.02	0.95	1.65	1.65	1.42	1.42	Solid Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Strip Curtains for Walk-Ins	Restaurant	Discretionary	1,005.5	0.13	0.12	0.00	0.00	0.0	0.0	0.0	4	\$723.49	\$506.44	\$0.17	\$0.00	\$0.00	0.87	0.95	42.59	0.00	0.00	0.00	0.00	Strip Curtains for Walk-Ins
Refrigeration	Walk-In Electronically Commutated Motor	Restaurant	Discretionary	326.7	0.04	0.04	0.00	0.00	0.0	0.0	0.0	15	\$75.27	\$52.69	\$0.17	\$0.00	\$0.00	10.79	0.95	17.53	17.53	15.10	15.10	ECM Condensor Fans - Low Temp	
Refrigeration	Walk-In Electronically Commutated Motor	Restaurant	Discretionary	353.2	0.05	0.04	0.00	0.00	0.0	0.0	0.0	15	\$91.99	\$64.40	\$0.17	\$0.00	\$0.00	9.54	0.95	18.95	18.95	16.33	16.33	ECM Condensor Fans - Medium Temp	
Refrigeration	Walk-In Electronically Commutated Motor	Restaurant	Discretionary	326.7	0.04	0.04	0.00	0.00	0.0	0.0	0.0	15	\$75.27	\$52.69	\$0.17	\$0.00	\$0.00	10.79	0.95	17.53	17.53	15.10	15.10	ECM Evaporator Fans - Low Temp	
Refrigeration	Walk-In Electronically Commutated Motor	Restaurant	Discretionary	353.2	0.05	0.04	0.00	0.00	0.0	0.0	0.0	15	\$91.99	\$64.40	\$0.17	\$0.00	\$0.00	9.54	0.95	18.95	18.95	16.33	16.33	ECM Evaporator Fans - Medium Temp	
Refrigeration	Walk-in Economizer	Restaurant	Discretionary	2,689.9	0.35	0.32	0.00	0.00	0.0	0.0	0.0	15	\$1,307.34	\$915.14	\$0.17	\$0.00	\$0.00	5.11	0.95	113.93	113.93	98.17	98.17	Add Economizer to Walk-in Cooler	
Refrigeration	Walk-in Economizer	Restaurant	Lost Opportunity	2,689.9	0.35	0.32	0.00	0.00	0.0	0.0	0.0	15	\$1,307.34	\$915.14	\$0.11	\$0.00	\$0.00	5.11	0.95	6.29	6.29	5.33	5.33	Add Economizer to Walk-in Cooler	
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.02	\$0.02	\$0.17	\$0.00	\$0.00	1.23	1.00	0.00	0.00	0.00	0.00	CEE Tier 2 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.02	\$0.02	\$0.11	\$0.00	\$0.00	1.23	1.00	0.00	0.00	0.00	0.00	CEE Tier 2 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0															



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Restaurant	Lost Opportunity	1,099.7	0.00	0.44	0.00	0.00	0.0	0.0	0.0	30	\$606.78	\$424.75	\$0.11	\$0.00	\$0.00	6.80	1.00	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Code	Restaurant	Discretionary	1,207.6	0.00	0.49	0.00	0.00	0.0	0.0	0.0	30	\$4,163.78	\$2,914.65	\$0.17	\$0.00	\$0.00	1.09	1.00	0.00	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)	
Room Heat - Electric	Windows - CBES 2015 - Above Code	Restaurant	Discretionary	104.4	0.00	0.04	0.00	0.00	0.0	0.0	0.0	20	\$1,248.44	\$873.91	\$0.17	\$0.00	\$0.00	0.21	1.00	0.00	0.00	0.00	0.00	U-0.29	
Room Heat - Electric	Windows - CBES 2015 - Above Code	Restaurant	Lost Opportunity	104.4	0.00	0.04	0.00	0.00	0.0	0.0	0.0	20	\$1,248.44	\$873.91	\$0.11	\$0.00	\$0.00	0.21	1.00	0.00	0.00	0.00	0.00	U-0.29	
Room Heat - Electric	Windows - CBES 2015 - Code	Restaurant	Discretionary	244.7	0.00	0.10	0.00	0.00	0.0	0.0	0.0	20	\$8,244.23	\$5,770.96	\$0.17	\$0.00	\$0.00	0.07	1.00	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Servers	Internal Power Supply / Server	Restaurant	Discretionary	1.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.34	\$0.24	\$0.17	\$0.00	\$0.00	2.22	1.00	0.04	0.05	0.03	0.03	80 Plus power supply for Desktop Derived Server	
Servers	Internal Power Supply / Server	Restaurant	Lost Opportunity	1.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.34	\$0.24	\$0.11	\$0.00	\$0.00	2.22	1.00	0.00	0.00	0.00	0.00	80 Plus power supply for Desktop Derived Server	
Servers	Server - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.02	\$0.01	\$0.17	\$0.00	\$0.00	0.32	1.00	0.63	0.00	0.00	0.00	ENERGY STAR Server	
Servers	Server - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.02	\$0.01	\$0.11	\$0.00	\$0.00	0.32	1.00	0.03	0.00	0.00	0.00	ENERGY STAR Server	
Space Heat - Electric	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Restaurant	Discretionary	1,626.8	0.00	0.65	0.00	0.00	0.0	0.0	0.0	15	\$651.00	\$455.70	\$0.17	\$0.00	\$0.00	4.67	1.00	0.17	0.17	0.12	0.12	Demand Controlled Ventilation (CO2 sensors)	
Space Heat - Electric	Convert Constant Volume Air System to VAV	Restaurant	Discretionary	4,856.2	0.01	1.95	0.00	0.00	0.0	0.0	0.0	15	\$14,242.39	\$9,969.67	\$0.17	\$0.00	\$0.00	0.64	1.00	0.20	0.00	0.00	0.00	Variable Volume Air System	
Space Heat - Electric	Direct Digital Control System-Installation	Restaurant	Discretionary	2,772.9	0.01	1.12	0.00	0.00	0.0	0.0	0.0	5	\$813.75	\$569.63	\$0.17	\$0.00	\$0.00	2.12	1.00	0.68	0.68	0.45	0.45	Installation of EMS System	
Space Heat - Electric	Direct Digital Control System-Installation	Restaurant	Lost Opportunity	2,772.9	0.01	1.12	0.00	0.00	0.0	0.0	0.0	5	\$813.75	\$569.63	\$0.11	\$0.00	\$0.00	2.12	1.00	0.00	0.00	0.00	0.00	Installation of EMS System	
Space Heat - Electric	Duct Repair and Sealing	Restaurant	Discretionary	1,607.5	0.00	0.65	0.00	0.00	0.0	0.0	0.0	18	\$624.96	\$437.47	\$0.17	\$0.00	\$0.00	5.76	1.00	0.29	0.29	0.19	0.19	Reduction In Duct Losses to 5 %	
Space Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Restaurant	Discretionary	2,772.9	0.01	1.12	0.00	0.00	0.0	0.0	0.0	14	\$11,444.45	\$8,011.11	\$0.17	\$0.00	\$0.00	0.42	1.00	0.09	0.00	0.00	0.00	Exhaust Air to Ventilation Air Heat Recovery	
Space Heat - Electric	Indirect Information Feedback	Restaurant	Discretionary	96.2	0.00	0.04	0.00	0.00	0.0	0.0	0.0	2	\$320.05	\$224.04	\$0.17	\$0.00	\$0.00	0.07	1.00	0.03	0.00	0.00	0.00	Indirect Information Feedback	
Space Heat - Electric	Indirect Information Feedback	Restaurant	Lost Opportunity	96.2	0.00	0.04	0.00	0.00	0.0	0.0	0.0	2	\$320.05	\$224.04	\$0.11	\$0.00	\$0.00	0.07	1.00	0.00	0.00	0.00	0.00	Indirect Information Feedback	
Space Heat - Electric	Infiltration Reduction	Restaurant	Discretionary	1,848.6	0.00	0.74	0.00	0.00	0.0	0.0	0.0	10	\$211.12	\$147.78	\$0.17	\$0.00	\$0.00	11.02	1.00	0.03	0.03	0.02	0.02	Install Caulking And Weatherstripping (ACH 0.65)	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Restaurant	Discretionary	883.9	0.00	0.36	0.00	0.00	0.0	0.0	0.0	30	\$410.62	\$287.43	\$0.17	\$0.00	\$0.00	8.08	1.00	0.11	0.11	0.07	0.07	R-35 c.i.	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Restaurant	Lost Opportunity	883.9	0.00	0.36	0.00	0.00	0.0	0.0	0.0	30	\$410.62	\$287.43	\$0.11	\$0.00	\$0.00	8.08	1.00	0.00	0.00	0.00	0.00	R-35 c.i.	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Restaurant	Discretionary	3,028.4	0.01	1.22	0.00	0.00	0.0	0.0	0.0	30	\$1,873.65	\$1,311.55	\$0.17	\$0.00	\$0.00	6.07	1.00	0.25	0.25	0.16	0.16	R-30 c.i. (CBES 2015 Code)	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Restaurant	Discretionary	665.5	0.00	0.27	0.00	0.00	0.0	0.0	0.0	20	\$35.32	\$24.72	\$0.17	\$0.00	\$0.00	46.87	1.00	0.23	0.23	0.15	0.15	R-12	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Restaurant	Lost Opportunity	665.5	0.00	0.27	0.00	0.00	0.0	0.0	0.0	20	\$35.32	\$24.72	\$0.11	\$0.00	\$0.00	46.87	1.00	0.02	0.02	0.01	0.01	R-12	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Code	Restaurant	Discretionary	665.5	0.00	0.27	0.00	0.00	0.0	0.0	0.0	20	\$142.24	\$99.57	\$0.17	\$0.00	\$0.00	11.64	1.00	0.18	0.18	0.12	0.12	R-8 (CBES 2015 Code)	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Restaurant	Discretionary	1,302.6	0.00	0.52	0.00	0.00	0.0	0.0	0.0	30	\$729.99	\$511.00	\$0.17	\$0.00	\$0.00	6.70	1.00	0.05	0.05	0.04	0.04	R-38	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Restaurant	Lost Opportunity	1,302.6	0.00	0.52	0.00	0.00	0.0	0.0	0.0	30	\$729.99	\$511.00	\$0.11	\$0.00	\$0.00	6.70	1.00	0.01	0.01	0.00	0.00	R-38	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Restaurant	Discretionary	2,268.7	0.00	0.91	0.00	0.00	0.0	0.0	0.0	30	\$2,092.65	\$1,464.85	\$0.17	\$0.00	\$0.00	4.07	1.00	0.09	0.09	0.06	0.06	R-30 (CBES 2015 Code)	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Restaurant	Discretionary	1,520.7	0.00	0.61	0.00	0.00	0.0	0.0	0.0	30	\$606.78	\$424.75	\$0.17	\$0.00	\$0.00	9.41	1.00	0.11	0.11	0.07	0.07	R-13 + 15.6 c.i.	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Restaurant	Lost Opportunity	1,520.7	0.00	0.61	0.00	0.00	0.0	0.0	0.0	30	\$606.78	\$424.75	\$0.11	\$0.00	\$0.00	9.41	1.00	0.02	0.02	0.01	0.01	R-13 + 15.6 c.i.	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Code	Restaurant	Discretionary	1,669.8	0.00	0.67	0.00	0.00	0.0	0.0	0.0	30	\$4,163.78	\$2,914.65	\$0.17	\$0.00	\$0.00	1.51	1.00	0.07	0.07	0.05	0.05	R-13 + 7.5 c.i. (CBES 2015 Code)	
Space Heat - Electric	Programmable Thermostat	Restaurant	Discretionary	739.5	0.00	0.30	0.00	0.00	0.0	0.0	0.0	11	\$27.58	\$19.31	\$0.17	\$0.00	\$0.00	37.05	1.00	0.24	0.24	0.19	0.16	Programmable Thermostat	
Space Heat - Electric	Strategic Energy Management (SEM)	Restaurant	Discretionary	757.9	0.00	0.30	0.00	0.00	0.0	0.0	0.0	5	\$102.14	\$71.50	\$0.17	\$0.00	\$0.00	4.61	1.00	0.03	0.03	0.02	0.02	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Space Heat - Electric	Strategic Energy Management (SEM)	Restaurant	Lost Opportunity	757.9	0.00	0.30	0.00	0.00	0.0	0.0	0.0	5	\$102.14	\$71.50	\$0.11	\$0.00	\$0.00	4.61	1.00	0.01	0.01	0.01	0.01	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Space Heat - Electric	Wi-Fi Thermostat	Restaurant	Discretionary	739.5	0.00	0.30	0.00	0.00	0.0	0.0	0.0	11	\$219.74	\$153.82	\$0.17	\$0.00	\$0.00	4.65	1.00	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)	
Space Heat - Electric	Windows - CBES 2015 - Above Code	Restaurant	Discretionary	144.3	0.00	0.06	0.00	0.00	0.0	0.0	0.0	20	\$1,248.44	\$873.91	\$0.17	\$0.00	\$0.00	0.29	1.00	0.01	0.00	0.00	0.00	U-0.29	
Space Heat - Electric	Windows - CBES 2015 - Above Code	Restaurant	Lost Opportunity	144.3	0.00	0.06	0.00	0.00	0.0	0.0	0.0	20	\$1,248.44	\$873.91	\$0.11	\$0.00	\$0.00	0.29	1.00	0.00	0.00	0.00	0.00	U-0.29	
Space Heat - Electric	Windows - CBES 2015 - Code	Restaurant	Discretionary	338.4	0.00	0.14	0.00	0.00	0.0	0.0	0.0	20	\$8,244.23	\$5,770.96	\$0.17	\$0.00	\$0.00	0.10	1.00	0.03	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Vending Machines	Vending Machines - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Vending Machines - 3.84 kWh/day	
Vending Machines	Vending Machines - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Vending Machines - 3.84 kWh/day	
Vending Machines	Vending Machines - Federal Standard 2020	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.11	0.00	0.00	0.00	Federal Standard 2020 Vending Machines - 3.83 kWh/day	
Vending Machines	Vending Machines - Federal Standard 2020	Restaurant	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Federal Standard 2020 Vending Machines - 3.83 kWh/day	
Vending Machines	Vending Miser	Restaurant	Discretionary	58.9	0.01	0.01	0.00	0.00	0.0	0.0	0.0	5	\$9.08	\$6.36	\$0.17	\$0.00	\$0.00	4.98	1.00	1.98	1.99	1.32	1.32	Vending Machine Occupancy Sensor	
Vending Machines	Vending Miser	Restaurant	Lost Opportunity	58.8	0.01	0.01	0.00	0.00	0.0	0.0	0.0	5	\$9.08	\$6.36	\$0.11	\$0.00	\$0.00	4.98	1.00	0.13	0.13	0.08	0.08	Vending Machine Occupancy Sensor	
Ventilation And Circulation	Automated Exhaust VFD Control - Parking Garage CO sensor	Restaurant	Discretionary	920.4	0.11	0.11	0.00	0.00	0.0	0.0	0.0	5	\$133.97	\$93.78	\$0.17	\$0.00	\$0.00	5.31	1.00	1.84	1.84	1.35	1.35	CO Sensors	
Ventilation And Circulation	Boiler Draft Fan - VFD	Restaurant	Discretionary	1,041.6	0.12	0.13	0.00	0.00	0.0	0.0	0.0	15	\$560.44	\$392.31	\$0.17	\$0.00	\$0.00	4.47	1.00	15.29	15.29	11.17	11.17	VFD Boiler Draft Fan	
Ventilation And Circulation	Boiler Draft Fan - VFD	Restaurant	Lost Opportunity	1,041.6	0.12	0.13	0.00	0.00	0.0	0.0	0.0	15	\$560.44	\$392.31	\$0.11	\$0.00	\$0.00	4.47	1.00	0.58	0.58	0.42	0.42	VFD Boiler Draft Fan	
Ventilation And Circulation	Convert Constant Volume Air System to VAV	Restaurant	Discretionary	2,562.2	0.29	0.32	0.00	0.00	0.0	0.0	0.0	15	\$14,242.39	\$9,969.67	\$0.17	\$0.00	\$0.00	0.43	1.00	10.20	0.00	0.00	0.00	Variable Volume Air System	
Ventilation And Circulation	Cooking Hood Controls	Restaurant	Discretionary	3,730.0	0.43	0.46	0.00	0.00	0.0	0.0	0.0	18	\$12,500.00	\$8,750.00	\$0.17	\$0.00	\$0.00	0.87	1.00	47.39	0.00	0.00	0.00	Demand-Ventilation Control	
Ventilation And Circulation	Cooking Hood Controls	Restaurant	Lost Opportunity	3,730.0	0.43	0.46	0.00	0.00	0.0	0.0	0.0	18	\$12,500.00	\$8,750.00	\$0.11	\$0.00	\$0.00	0.87	1.00	2.62	0.00	0.00	0.00	Demand-Ventilation Control	
Ventilation And Circulation	Fan System - HVAC - Variable Speed Control	Restaurant	Discretionary	4,998.9	0.57	0.62	0.00	0.00	0.0	0.0	0.0	15	\$796.32	\$557.42	\$0.17	\$0.00	\$0.00	15.10	1.00	62.11	62.11	45.38	45.38	HVAC Fan System Optimization with VSD (Restoration)	
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	Restaurant																							



Appendix B.4		BED Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Restaurant	Discretionary	2,128.1	0.00	0.86	0.00	0.00	0.0	0.0	407.3	5	\$152.00	\$106.40	\$0.17	\$0.00	\$0.00	22.34	1.00	0.00	0.00	0.00	0.00	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Restaurant	Lost Opportunity	2,128.1	0.00	0.86	0.00	0.00	0.0	0.0	407.3	5	\$152.00	\$106.40	\$0.11	\$0.00	\$0.00	22.34	1.00	0.02	0.03	0.02	0.02	0.75 GPM
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Restaurant	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2.40	\$1.68	\$0.17	\$0.89	\$0.00	0.05	1.00	0.64	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Restaurant	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2.40	\$1.68	\$0.11	\$0.89	\$0.00	0.05	1.00	0.02	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Restaurant	Discretionary	71.7	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$456.64	\$319.65	\$0.17	\$0.00	\$0.00	0.39	1.00	0.08	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Restaurant	Lost Opportunity	71.7	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$456.64	\$319.65	\$0.11	\$0.00	\$0.00	0.39	1.00	0.00	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Restaurant	Discretionary	382.4	0.00	0.15	0.00	0.00	0.0	0.0	0.0	10	\$1,642.94	\$1,150.06	\$0.17	\$0.00	\$0.00	0.29	1.00	0.26	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Restaurant	Lost Opportunity	382.4	0.00	0.15	0.00	0.00	0.0	0.0	0.0	10	\$1,642.94	\$1,150.06	\$0.11	\$0.00	\$0.00	0.29	1.00	0.01	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Restaurant	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.58	\$0.41	\$0.17	\$0.00	\$0.00	0.49	1.00	1.08	0.00	0.00	0.00	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Restaurant	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.58	\$0.41	\$0.11	\$0.00	\$0.00	0.49	1.00	0.04	0.00	0.00	0.00	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Restaurant	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.12	\$0.08	\$0.17	\$0.00	\$0.00	0.75	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Restaurant	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.12	\$0.08	\$0.11	\$0.00	\$0.00	0.75	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Restaurant	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.47	\$0.33	\$0.17	\$0.00	\$0.00	0.53	1.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Restaurant	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.47	\$0.33	\$0.11	\$0.00	\$0.00	0.53	1.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Restaurant	Discretionary	535.4	0.00	0.22	0.00	0.00	0.0	0.0	0.0	4	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	22688.61	1.00	0.63	0.97	0.54	0.54	Set Water Heater to 120F
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Restaurant	Lost Opportunity	535.4	0.00	0.22	0.00	0.00	0.0	0.0	0.0	4	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	22688.61	1.00	0.03	0.05	0.03	0.03	Set Water Heater to 120F
Water Heat GT 55 Gal	Water Heater Tank Wrap	Restaurant	Discretionary	1,077.2	0.00	0.43	0.00	0.00	0.0	0.0	0.0	7	\$48.48	\$33.93	\$0.17	\$0.00	\$0.00	19.54	1.00	0.21	0.33	0.18	0.18	Add R-10 Tank Wrap
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Restaurant	Discretionary	20.9	0.00	0.01	0.00	0.00	0.0	0.0	1.9	13	\$23.29	\$16.30	\$0.17	\$0.00	\$0.00	2.42	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Restaurant	Lost Opportunity	20.9	0.00	0.01	0.00	0.00	0.0	0.0	1.9	13	\$23.29	\$16.30	\$0.11	\$0.00	\$0.00	2.42	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Restaurant	Discretionary	46.3	0.00	0.02	0.00	0.00	0.0	0.0	2.5	13	\$43.06	\$30.14	\$0.17	\$0.00	\$0.00	2.44	1.00	0.02	0.04	0.02	0.02	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Restaurant	Lost Opportunity	46.3	0.00	0.02	0.00	0.00	0.0	0.0	2.5	13	\$43.06	\$30.14	\$0.11	\$0.00	\$0.00	2.44	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Restaurant	Discretionary	1,016.3	0.00	0.41	0.00	0.00	0.0	0.0	42.0	14	\$156.26	\$109.38	\$0.17	\$0.00	\$0.00	14.75	1.00	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Restaurant	Lost Opportunity	1,016.3	0.00	0.41	0.00	0.00	0.0	0.0	42.0	14	\$156.26	\$109.38	\$0.11	\$0.00	\$0.00	14.75	1.00	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Restaurant	Discretionary	1,600.4	0.00	0.64	0.00	0.00	0.0	0.0	121.2	14	\$63.82	\$44.67	\$0.17	\$0.00	\$0.00	67.69	1.00	3.47	8.57	4.80	4.80	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Restaurant	Lost Opportunity	1,600.4	0.00	0.64	0.00	0.00	0.0	0.0	121.2	14	\$63.82	\$44.67	\$0.11	\$0.00	\$0.00	67.69	1.00	0.15	0.47	0.26	0.26	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Restaurant	Discretionary	110.9	0.00	0.04	0.00	0.00	0.0	0.0	8.2	9	\$26.04	\$18.23	\$0.17	\$0.00	\$0.00	7.55	1.00	0.32	0.79	0.44	0.44	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Restaurant	Lost Opportunity	110.9	0.00	0.04	0.00	0.00	0.0	0.0	8.2	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.01	0.00	0.00	0.00	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Restaurant	Discretionary	78.3	0.00	0.03	0.00	0.00	0.0	0.0	5.8	9	\$26.04	\$18.23	\$0.17	\$0.00	\$0.00	5.33	1.00	0.00	0.00	0.00	0.00	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Restaurant	Lost Opportunity	78.3	0.00	0.03	0.00	0.00	0.0	0.0	5.8	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Restaurant	Discretionary	45.7	0.00	0.02	0.00	0.00	0.0	0.0	3.4	9	\$26.04	\$18.23	\$0.17	\$0.00	\$0.00	3.11	1.00	0.00	0.00	0.00	0.00	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Restaurant	Lost Opportunity	45.7	0.00	0.02	0.00	0.00	0.0	0.0	3.4	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Restaurant	Discretionary	19.6	0.00	0.01	0.00	0.00	0.0	0.0	1.3	9	\$26.04	\$18.23	\$0.17	\$0.00	\$0.00	1.28	1.00	0.02	0.05	0.03	0.03	2.2 GPM (Federal Code)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Restaurant	Discretionary	801.1	0.00	0.32	0.00	0.00	0.0	0.0	153.3	5	\$152.00	\$106.40	\$0.17	\$0.00	\$0.00	8.41	1.00	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Restaurant	Lost Opportunity	801.1	0.00	0.32	0.00	0.00	0.0	0.0	153.3	5	\$152.00	\$106.40	\$0.11	\$0.00	\$0.00	8.41	1.00	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Restaurant	Discretionary	1,326.9	0.00	0.53	0.00	0.00	0.0	0.0	253.9	5	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	3.31	0.00	0.00	0.00	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Restaurant	Lost Opportunity	1,326.9	0.00	0.53	0.00	0.00	0.0	0.0	253.9	5	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.14	0.00	0.00	0.00	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Restaurant	Discretionary	2,128.1	0.00	0.86	0.00	0.00	0.0	0.0	407.3	5	\$152.00	\$106.40	\$0.17	\$0.00	\$0.00	22.34	1.00	0.00	0.00	0.00	0.00	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Restaurant	Lost Opportunity	2,128.1	0.00	0.86	0.00	0.00	0.0	0.0	407.3	5	\$152.00	\$106.40	\$0.11	\$0.00	\$0.00	22.34	1.00	0.04	0.11	0.06	0.06	0.75 GPM
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Restaurant	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$6.03	\$4.22	\$0.17	\$1.58	\$0.00	0.05	1.00	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Restaurant	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$6.03	\$4.22	\$0.11	\$1.58	\$0.00	0.05	1.00	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Restaurant	Discretionary	71.7	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$456.64	\$319.65	\$0.17	\$0.00	\$0.00	0.39	1.00	0.20	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Restaurant	Lost Opportunity	71.7	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$456.64	\$319.65	\$0.11	\$0.00	\$0.00	0.39	1.00	0.01	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Restaurant	Discretionary	359.3	0.00	0.14	0.00	0.00	0.0	0.0	0.0	10	\$1,642.94	\$1,150.06	\$0.17	\$0.00	\$0.00	0.28	1.00	0.57	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Restaurant	Lost Opportunity	359.3	0.00	0.14	0.00	0.00	0.0	0.0	0.0	10	\$1,642.94	\$1,150.06	\$0.11	\$0.00	\$0.00	0.28	1.00	0.02	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Restaurant	Lost Opportunity	0.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$2.86	\$2.00	\$0.17	\$0.03	\$0.00	0.38	1.00	8.57	0.00	0.00	0.00	CO2 Heat Pump Water Heater
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Restaurant	Lost Opportunity	0.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$2.86	\$2.00	\$0.11	\$0.03	\$0.00	0.38	1.00	0.21	0.00	0.00	0.00	CO2 Heat Pump Water Heater
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Restaurant	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.84	\$1.29	\$0.17	\$0.03	\$0.00	0.44	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Restaurant	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.84	\$1.29	\$0.11	\$0.03	\$0.00	0.44	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Restaurant	Lost Opportunity	0.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$2.04	\$1.43	\$0.17	\$0.03	\$0.00	0.43	1.00	0.00	0.00	0.00	0.00	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2
Water Heat LE																								



Appendix B.4	BED Non-residential Measure Assumptions																							
				Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	
End-Use	Measure Name	Building Type	Replacement Type																					Measure Description
Computers	Network PC Power Management	School K-12	Discretionary	6,996.8	1.01	0.63	0.00	0.00	0.0	0.0	0.0	5	\$855.60	\$598.92	\$0.17	\$196.26	\$0.00	3.27	1.00	76.26	133.83	88.60	88.60	Network PC Power Management
Computers	Network PC Power Management	School K-12	Lost Opportunity	6,996.8	1.01	0.63	0.00	0.00	0.0	0.0	0.0	5	\$855.60	\$598.92	\$0.11	\$196.26	\$0.00	3.27	1.00	4.73	8.31	5.50	5.50	Network PC Power Management
Cooking	Combination Oven	School K-12	Discretionary	101.3	0.01	0.01	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.94	0.06	0.00	0.00	0.00	ENERGY STAR Combination Oven
Cooking	Combination Oven	School K-12	Lost Opportunity	101.3	0.01	0.01	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Combination Oven
Cooking	Convection Oven	School K-12	Discretionary	22.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$6.17	\$4.32	\$0.17	\$0.00	\$0.00	7.05	0.94	0.02	0.02	0.01	0.01	ENERGY STAR Convection Oven
Cooking	Convection Oven	School K-12	Lost Opportunity	22.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$6.17	\$4.32	\$0.11	\$0.00	\$0.00	7.05	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Convection Oven
Cooking	Fryers	School K-12	Discretionary	47.3	0.01	0.01	0.00	0.00	0.0	0.0	0.0	12	\$8.05	\$5.64	\$0.17	\$0.00	\$0.00	11.17	0.94	0.04	0.04	0.02	0.02	ENERGY STAR Fryer
Cooking	Fryers	School K-12	Lost Opportunity	47.3	0.01	0.01	0.00	0.00	0.0	0.0	0.0	12	\$8.05	\$5.64	\$0.11	\$0.00	\$0.00	11.17	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Fryer
Cooking	Griddle	School K-12	Discretionary	30.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$13.69	\$9.58	\$0.17	\$0.00	\$0.00	4.22	0.94	0.01	0.01	0.01	0.01	ENERGY STAR Griddle
Cooking	Griddle	School K-12	Lost Opportunity	30.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$13.69	\$9.58	\$0.11	\$0.00	\$0.00	4.22	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Griddle
Cooking	Hot Food Holding Cabinet	School K-12	Discretionary	27.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$14.35	\$10.05	\$0.17	\$0.00	\$0.00	3.65	0.94	0.03	0.03	0.02	0.02	ENERGY STAR Hot Food Holding Cabinet
Cooking	Hot Food Holding Cabinet	School K-12	Lost Opportunity	27.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$14.35	\$10.05	\$0.11	\$0.00	\$0.00	3.65	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Hot Food Holding Cabinet
Cooking	Microwave - High Efficiency	School K-12	Discretionary	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$0.08	\$0.06	\$0.17	\$0.00	\$0.00	3.38	0.94	0.00	0.00	0.00	0.00	High Efficiency Microwave
Cooking	Microwave - High Efficiency	School K-12	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$0.08	\$0.06	\$0.11	\$0.00	\$0.00	3.38	0.94	0.00	0.00	0.00	0.00	High Efficiency Microwave
Cooking	Steam Cooker	School K-12	Discretionary	79.3	0.01	0.01	0.00	0.00	0.0	0.0	2,224.3	12	\$27.05	\$18.94	\$0.17	\$0.00	\$0.00	914.90	0.94	0.07	0.07	0.04	0.04	ENERGY STAR Steam Cooker
Cooking	Steam Cooker	School K-12	Lost Opportunity	79.3	0.01	0.01	0.00	0.00	0.0	0.0	2,224.3	12	\$27.05	\$18.94	\$0.11	\$0.00	\$0.00	914.90	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Steam Cooker
Cooling Chillers	Active Chilled Beam Cooling with DOAS	School K-12	Lost Opportunity	1,741.6	0.60	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$33,951.00	\$0.00	\$0.11	\$25,463.25	\$0.00	0.02	0.99	0.11	0.00	0.00	0.00	Active Chilled Beam Cooling with DOAS
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	School K-12	Discretionary	905.6	0.31	0.00	1.34	11.41	0.00	0.00	0.0	15	\$8,487.75	\$5,941.43	\$0.17	\$0.00	\$0.00	0.40	0.99	0.85	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	School K-12	Discretionary	1,611.0	0.55	0.00	0.00	0.00	0.0	0.0	0.0	15	\$39,383.16	\$27,568.21	\$0.17	\$0.00	\$0.00	0.14	0.99	1.90	0.00	0.00	0.00	Additional Control Features
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	School K-12	Lost Opportunity	1,611.0	0.55	0.00	0.00	0.00	0.0	0.0	0.0	15	\$39,383.16	\$27,568.21	\$0.11	\$0.00	\$0.00	0.14	0.99	0.06	0.00	0.00	0.00	Additional Control Features
Cooling Chillers	Chilled Water Piping Loop with VSD Control	School K-12	Discretionary	1,378.5	0.47	0.00	0.00	0.00	0.0	0.0	0.0	10	\$35,600.77	\$24,920.54	\$0.17	\$0.00	\$0.00	0.09	0.99	0.91	0.00	0.00	0.00	VSD for Secondary Chilled Water Loop
Cooling Chillers	Chilled Water Piping Loop with VSD Control	School K-12	Lost Opportunity	1,378.5	0.47	0.00	0.00	0.00	0.0	0.0	0.0	10	\$32,040.69	\$22,428.48	\$0.11	\$0.00	\$0.00	0.10	0.99	0.07	0.00	0.00	0.00	VSD for Secondary Chilled Water Loop
Cooling Chillers	Chilled Water Reset	School K-12	Discretionary	435.4	0.15	0.00	0.00	0.00	0.0	0.0	0.0	10	\$23,132.17	\$16,192.52	\$0.17	\$0.00	\$0.00	0.04	0.99	0.73	0.00	0.00	0.00	Chilled Water Temperature Reset
Cooling Chillers	Chilled Water Reset	School K-12	Lost Opportunity	435.4	0.15	0.00	0.00	0.00	0.0	0.0	0.0	10	\$23,132.17	\$16,192.52	\$0.11	\$0.00	\$0.00	0.04	0.99	0.00	0.00	0.00	0.00	Chilled Water Temperature Reset
Cooling Chillers	Chilled Water Side Economizer	School K-12	Discretionary	2,437.6	0.83	0.00	0.00	0.00	0.0	0.0	0.0	15	\$235,807.47	\$165,065.23	\$0.17	\$0.00	\$0.00	0.04	0.99	2.50	0.00	0.00	0.00	Install Economizer
Cooling Chillers	Chiller - Pipe Insulation - Above Code	School K-12	Discretionary	605.5	0.21	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1,088.46	\$761.92	\$0.17	\$0.00	\$0.00	1.95	0.99	2.02	2.43	1.61	1.61	2.0" of Insulation, assuming R-8
Cooling Chillers	Chiller - Pipe Insulation - Above Code	School K-12	Lost Opportunity	605.5	0.21	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1,088.46	\$761.92	\$0.11	\$0.00	\$0.00	1.95	0.99	0.13	0.16	0.11	0.11	2.0" of Insulation, assuming R-8
Cooling Chillers	Chiller - Pipe Insulation - Code	School K-12	Discretionary	1,011.0	0.35	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2,334.13	\$1,633.89	\$0.17	\$0.00	\$0.00	1.52	0.99	3.87	4.65	3.08	3.08	1.0" of Insulation, assuming R-4 (Code)
Cooling Chillers	Chillers 150-300 tons (screw) - Advanced Efficiency (Water Cooled)	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.31	\$0.22	\$0.17	\$0.00	\$0.00	0.78	0.99	5.34	0.00	0.00	0.00	Advanced Efficiency - 0.52 kW/ton (full load); 0.43 kW/ton (IPLV)
Cooling Chillers	Chillers 150-300 tons (screw) - Advanced Efficiency (Water Cooled)	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.28	\$0.19	\$0.11	\$0.00	\$0.00	0.86	0.99	0.38	0.00	0.00	0.00	Advanced Efficiency - 0.52 kW/ton (full load); 0.43 kW/ton (IPLV)
Cooling Chillers	Chillers 150-300 tons (screw) - High Efficiency (Water Cooled)	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.07	\$0.05	\$0.17	\$0.00	\$0.00	0.78	0.99	0.00	0.00	0.00	0.00	High Efficiency - 0.63 kW/ton (full load); 0.52 kW/ton (IPLV)
Cooling Chillers	Chillers 150-300 tons (screw) - High Efficiency (Water Cooled)	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.06	\$0.04	\$0.11	\$0.00	\$0.00	0.86	0.99	0.00	0.00	0.00	0.00	High Efficiency - 0.63 kW/ton (full load); 0.52 kW/ton (IPLV)
Cooling Chillers	Chillers 150-300 tons (screw) - Premium Efficiency (Water Cooled)	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.18	\$0.12	\$0.17	\$0.00	\$0.00	0.78	0.99	0.00	0.00	0.00	0.00	Premium Efficiency - 0.58 kW/ton (full load); 0.47 kW/ton (IPLV)
Cooling Chillers	Chillers 150-300 tons (screw) - Premium Efficiency (Water Cooled)	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.16	\$0.11	\$0.11	\$0.00	\$0.00	0.86	0.99	0.00	0.00	0.00	0.00	Premium Efficiency - 0.58 kW/ton (full load); 0.47 kW/ton (IPLV)
Cooling Chillers	Commissioning	School K-12	Lost Opportunity	1,132.0	0.39	0.00	1.98	14.58	0.0	0.0	0.0	5	\$39,383.16	\$27,568.21	\$0.11	\$0.00	\$0.00	0.03	0.99	0.21	0.00	0.00	0.00	Commissioning
Cooling Chillers	Convert Constant Volume Air System to VAV	School K-12	Discretionary	2,287.5	0.78	0.00	4.01	34.06	0.0	0.0	0.0	15	\$123,795.05	\$86,656.53	\$0.17	\$0.00	\$0.00	0.07	0.99	0.58	0.00	0.00	0.00	Variable Volume Air System
Cooling Chillers	Direct Digital Control System-Installation	School K-12	Discretionary	1,306.2	0.45	0.00	2.29	16.83	0.0	0.0	0.0	5	\$10,609.69	\$7,426.78	\$0.17	\$0.00	\$0.00	0.14	0.99	2.55	0.00	0.00	0.00	Installation of EMS System
Cooling Chillers	Direct Digital Control System-Installation	School K-12	Lost Opportunity	1,306.2	0.45	0.00	2.29	16.83	0.0	0.0	0.0	5	\$10,609.69	\$7,426.78	\$0.11	\$0.00	\$0.00	0.14	0.99	0.02	0.00	0.00	0.00	Installation of EMS System
Cooling Chillers	Exhaust Hood Makeup Air	School K-12	Discretionary	391.9	0.13	0.00	0.00	0.00	0.0	0.0	0.0	12	\$49.33	\$34.53	\$0.17	\$0.00	\$0.00	21.89	0.99	0.43	0.52	0.34	0.34	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air
Cooling Chillers	Green Roof	School K-12	Discretionary	46.3	0.02	0.00	0.00	0.00	0.0	0.0	0.0	40	\$309,079.49	\$216,355.64	\$0.17	\$3,090.79	\$0.00	0.00	0.99	0.07	0.00	0.00	0.00	Vegetation on Roof
Cooling Chillers	Green Roof	School K-12	Lost Opportunity	38.2	0.01	0.00	0.00	0.00	0.0	0.0	0.0	40	\$309,079.49	\$216,355.64	\$0.11	\$3,090.79	\$0.00	0.00	0.99	0.00	0.00	0.00	0.00	Vegetation on Roof
Cooling Chillers	Indirect Information Feedback	School K-12	Discretionary	45.3	0.02	0.00	0.08	0.56	0.0	0.0	0.0	2	\$150.76	\$105.53	\$0.17	\$0.00	\$0.00	0.13	0.99	0.09	0.00	0.00	0.00	Indirect Information Feedback
Cooling Chillers	Indirect Information Feedback	School K-12	Lost Opportunity	45.3	0.02	0.00	0.08	0.56	0.0	0.0	0.0	2	\$150.76	\$105.53	\$0.11	\$0.00	\$0.00	0.13	0.99	0.01	0.00	0.00	0.00	Indirect Information Feedback
Cooling Chillers	Infiltration Reduction	School K-12	Discretionary	261.2	0.09	0.00	1.53	12.11	0.0	0.0	0.0	10	\$1,155.00	\$808.50	\$0.17	\$0.00	\$0.00	0.64	0.99	0.03	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	School K-12	Discretionary	490.4	0.17	0.00	0.86	8.85	0.0	0.0	0.0	30	\$3,477.14	\$2,434.00	\$0.17	\$0.00	\$0.00	1.11	0.99	0.53	0.64	0.42	0.42	R-35 c.i.
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	School K-12	Lost Opportunity	490.4	0.17	0.00	0.86	8.85	0.0	0.0	0.0	30	\$3,477.14	\$2,434.00	\$0.11	\$0.00	\$0.00	1.11	0.99	0.01	0.02	0.01	0.01	R-35 c.i.
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Code	School K-12	Discretionary	1,680.2	0.57	0.00	2.95	30.31	0.0	0.0	0.0	30	\$15,866.08	\$11,106.26	\$0.17	\$0.00	\$0.00	0.83	0.99	1.17	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	School K-12	Discretionary	722.7	0.25	0.00	1.27	13.04	0.0	0.0	0.0	30	\$6,181.59	\$4,327.11	\$0.17	\$0.00	\$0.00	0.92	0.99	0.26	0.00	0.00	0.00	R-38
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	School K-12	Lost Opportunity	722.7	0.25	0.00	1.27	13.04	0.0	0.0	0.0	30	\$6,181.59	\$4,327.11	\$0.11	\$0.00	\$0.00	0.92	0.99	0.03	0.00	0.00	0.00	R-38
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Code	School K-12	Discretionary	1,258.7	0.43	0.00	2.21	22.71	0.0	0.0	0.0	30	\$17,720.56	\$12,404.39	\$0.17	\$0.00	\$0.00	0.56	0.99	0.44	0.00	0.00	0.00	R-30 (CBES 2015 Code)
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	School K-12	Dis																					



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Cooling Dx Evap	Green Roof	School K-12	Discretionary	64.1	0.02	0.00	0.00	0.00	0.0	0.0	0.0	40	\$309,079.49	\$216,355.64	\$0.17	\$3,090.79	\$0.00	0.00	0.99	0.15	0.00	0.00	0.00	Vegetation on Roof	
Cooling Dx Evap	Green Roof	School K-12	Lost Opportunity	52.8	0.02	0.00	0.00	0.00	0.0	0.0	0.0	40	\$309,079.49	\$216,355.64	\$0.11	\$3,090.79	\$0.00	0.00	0.99	0.01	0.00	0.00	0.00	Vegetation on Roof	
Cooling Dx Evap	HVAC Variable Refrigerant Flow	School K-12	Discretionary	7,155.8	2.45	0.00	0.00	0.00	0.0	0.0	0.0	15	\$129,013.80	\$90,309.66	\$0.17	-\$2,953.74	\$0.00	0.27	0.99	17.80	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Cooling Dx Evap	HVAC Variable Refrigerant Flow	School K-12	Lost Opportunity	7,155.8	2.45	0.00	0.00	0.00	0.0	0.0	0.0	15	\$129,013.80	\$90,309.66	\$0.11	-\$2,953.74	\$0.00	0.27	0.99	3.12	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Cooling Dx Evap	Indirect Information Feedback	School K-12	Discretionary	62.7	0.02	0.00	0.67	64.22	1.1	0.0	0.0	2	\$208.57	\$146.00	\$0.17	\$0.00	\$0.00	0.80	0.99	0.26	0.00	0.00	0.00	Indirect Information Feedback	
Cooling Dx Evap	Indirect Information Feedback	School K-12	Lost Opportunity	62.7	0.02	0.00	0.75	71.36	1.2	0.0	0.0	2	\$208.57	\$146.00	\$0.11	\$0.00	\$0.00	0.88	0.99	0.02	0.00	0.00	0.00	Indirect Information Feedback	
Cooling Dx Evap	Infiltration Reduction	School K-12	Discretionary	361.4	0.12	0.00	12.93	1399.26	22.8	0.0	0.0	10	\$1,155.00	\$808.50	\$0.17	\$0.00	\$0.00	12.60	0.99	0.09	0.12	0.08	0.08	Install Caulking And Weatherstripping (ACH 0.65)	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	School K-12	Discretionary	678.5	0.23	0.00	7.28	1022.61	15.9	0.0	0.0	30	\$3,477.14	\$2,434.00	\$0.17	\$0.00	\$0.00	8.06	0.99	1.44	1.87	1.24	1.24	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	School K-12	Lost Opportunity	678.5	0.23	0.00	8.09	1136.23	17.6	0.0	0.0	30	\$3,477.14	\$2,434.00	\$0.11	\$0.00	\$0.00	8.79	0.99	0.04	0.05	0.03	0.03	R-35 c.i.	
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Code	School K-12	Discretionary	2,324.5	0.79	0.00	24.95	3503.59	54.4	0.0	0.0	30	\$15,866.08	\$11,106.26	\$0.17	\$0.00	\$0.00	6.05	0.99	3.17	4.11	2.72	2.72	R-30 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	School K-12	Discretionary	433.7	0.15	0.00	0.60	276.81	9.2	0.0	0.0	20	\$460.46	\$322.32	\$0.17	\$0.00	\$0.00	14.82	0.99	2.37	3.07	2.03	2.03	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	School K-12	Lost Opportunity	433.7	0.15	0.00	0.67	307.56	10.2	0.0	0.0	20	\$460.46	\$322.32	\$0.11	\$0.00	\$0.00	15.97	0.99	0.17	0.22	0.12	0.12	R-12	
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	School K-12	Discretionary	433.7	0.15	0.00	0.60	276.81	9.2	0.0	0.0	20	\$1,854.57	\$1,298.20	\$0.17	\$0.00	\$0.00	3.68	0.99	1.80	2.34	1.55	1.55	R-8 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	School K-12	Discretionary	999.8	0.34	0.00	10.73	1507.00	23.4	0.0	0.0	30	\$6,181.59	\$4,327.11	\$0.17	\$0.00	\$0.00	6.68	0.99	0.71	0.92	0.61	0.61	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	School K-12	Lost Opportunity	999.8	0.34	0.00	11.92	1674.44	26.0	0.0	0.0	30	\$6,181.59	\$4,327.11	\$0.11	\$0.00	\$0.00	7.29	0.99	0.08	0.11	0.06	0.06	R-38	
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	School K-12	Discretionary	1,741.4	0.60	0.00	18.69	2624.69	40.7	0.0	0.0	30	\$17,720.56	\$12,404.39	\$0.17	\$0.00	\$0.00	4.06	0.99	1.19	1.54	1.02	1.02	R-30 (CBES 2015 Code)	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	School K-12	Discretionary	617.6	0.21	0.00	6.63	930.83	14.4	0.0	0.0	30	\$2,718.66	\$1,903.06	\$0.17	\$0.00	\$0.00	9.38	0.99	0.73	0.95	0.63	0.63	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	School K-12	Lost Opportunity	617.6	0.21	0.00	7.36	1034.25	16.0	0.0	0.0	30	\$2,718.66	\$1,903.06	\$0.11	\$0.00	\$0.00	10.24	0.99	0.12	0.16	0.09	0.09	R-13 + 15.6 c.i.	
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Code	School K-12	Discretionary	678.1	0.23	0.00	7.28	1022.12	15.9	0.0	0.0	30	\$18,655.59	\$13,058.91	\$0.17	\$0.00	\$0.00	1.50	0.99	0.50	0.65	0.43	0.43	R-13 + 7.5 c.i. (CBES 2015 Code)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	School K-12	Discretionary	969.4	0.33	0.00	0.00	0.00	0.0	0.0	0.0	15	\$159,879.03	\$111,915.32	\$0.17	\$0.00	\$0.00	0.02	0.99	0.15	0.00	0.00	0.00	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Liquid Desiccant Air Conditioner (LDAC)	School K-12	Lost Opportunity	969.4	0.33	0.00	0.00	0.00	0.0	0.0	0.0	15	\$127,903.22	\$89,532.26	\$0.11	\$0.00	\$0.00	0.03	0.99	0.01	0.00	0.00	0.00	Liquid Desiccant Air Conditioner (LDAC)	
Cooling Dx Evap	Natural Ventilation	School K-12	Lost Opportunity	1,204.7	0.41	0.00	0.00	0.00	0.0	0.0	0.0	15	\$33,951.00	\$23,765.70	\$0.11	\$0.00	\$0.00	0.12	0.99	0.01	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling	
Cooling Dx Evap	Programmable Thermostat	School K-12	Discretionary	481.9	0.16	0.00	5.17	567.68	9.2	0.0	0.0	11	\$42.47	\$29.73	\$0.17	\$0.00	\$0.00	170.81	0.99	2.63	3.40	2.72	2.25	Programmable Thermostat	
Cooling Dx Evap	Re-Commissioning	School K-12	Discretionary	1,566.1	0.54	0.00	16.81	1685.77	27.9	0.0	0.0	5	\$10,185.30	\$7,129.71	\$0.17	\$0.00	\$0.00	1.04	0.99	9.59	12.43	8.23	8.23	Re-Commissioning	
Cooling Dx Evap	Retrocommissioning	School K-12	Discretionary	1,787.0	0.61	0.00	19.18	1923.50	31.9	0.0	0.0	5	\$16,975.50	\$11,882.85	\$0.17	\$0.00	\$0.00	0.71	0.99	5.88	0.00	0.00	0.00	Retrocommissioning	
Cooling Dx Evap	Strategic Energy Management (SEM)	School K-12	Discretionary	493.9	0.17	0.00	5.30	531.67	8.8	0.0	0.0	5	\$66.56	\$46.59	\$0.17	\$0.00	\$0.00	50.17	0.99	0.41	0.53	0.35	0.35	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Strategic Energy Management (SEM)	School K-12	Lost Opportunity	493.9	0.17	0.00	5.89	590.74	9.8	0.0	0.0	5	\$66.56	\$46.59	\$0.11	\$0.00	\$0.00	54.85	0.99	0.16	0.21	0.14	0.14	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Tune-up - DX Maintenance	School K-12	Discretionary	1,731.8	0.59	0.00	0.00	0.00	0.0	0.0	0.0	5	\$54,321.60	\$38,025.12	\$0.17	\$0.00	\$0.00	0.03	0.99	2.93	0.00	0.00	0.00	0.00	DX Tune-up / Diagnostics
Cooling Dx Evap	Wi-Fi Thermostat	School K-12	Discretionary	481.9	0.16	0.00	5.17	567.68	9.2	0.0	0.0	11	\$338.33	\$236.83	\$0.17	\$0.00	\$0.00	21.44	0.99	0.00	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)
Cooling Dx Evap	Windows - CBES 2015 - Above Code	School K-12	Discretionary	71.6	0.02	0.00	0.77	95.08	1.5	0.0	0.0	20	\$6,830.09	\$4,781.06	\$0.17	\$0.00	\$0.00	0.29	0.99	0.09	0.00	0.00	0.00	0.00	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Above Code	School K-12	Lost Opportunity	71.6	0.02	0.00	0.85	105.64	1.7	0.0	0.0	20	\$6,830.09	\$4,781.06	\$0.11	\$0.00	\$0.00	0.31	0.99	0.03	0.00	0.00	0.00	0.00	U-0.29
Cooling Dx Evap	Windows - CBES 2015 - Code	School K-12	Discretionary	167.8	0.06	0.00	1.80	222.97	3.5	0.0	0.0	20	\$45,103.35	\$31,572.34	\$0.17	\$0.00	\$0.00	0.10	0.99	0.14	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtuh - Premium Efficiency	School K-12	Discretionary	6,043.7	2.07	0.00	0.00	0.00	0.0	0.0	0.0	15	\$185,230.49	\$129,661.35	\$0.17	\$0.00	\$0.00	0.11	0.99	12.40	0.00	0.00	0.00	0.00	Premium Efficiency - 19.0 IEER
Fax	Fax - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.81	0.00	0.00	0.00	0.00	ENERGY STAR Fax
Fax	Fax - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.04	0.00	0.00	0.00	0.00	ENERGY STAR Fax
Flat Screen Monitors	Monitor - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.04	\$0.03	\$0.17	\$0.00	\$0.00	0.50	1.00	18.51	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.04	\$0.03	\$0.11	\$0.00	\$0.00	0.50	1.00	0.98	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor
Freezers	Freezer (Residential) - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	13.03	1.00	0.15	0.15	0.08	0.08	0.08	ENERGY STAR Freezer
Freezers	Freezer (Residential) - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	13.03	1.00	0.01	0.01	0.01	0.01	0.01	ENERGY STAR Freezer
Freezers	Residential Freezer Recycling and Replacement	School K-12	Discretionary	43.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$17.27	\$12.09	\$0.17	\$0.00	\$0.00	3.13	1.00	0.95	0.95	0.53	0.53	0.53	Recycling Existing Freezer and Replacing with a Federal Standard Unit
Heat Pump	Active Chilled Beam Cooling with DOAS	School K-12	Lost Opportunity	2,736.6	0.91	0.70	0.00	0.00	0.0	0.0	0.0	15	-\$33,951.00	\$0.00	\$0.11	\$25,463.25	\$0.00	0.04	0.99	0.04	0.00	0.00	0.00	0.00	Active Chilled Beam Cooling with DOAS
Heat Pump	Air Source Heat Pump 135 to 240 kBtuh - Federal Standard 2023	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.18	\$0.13	\$0.17	\$0.00	\$0.00	0.30	0.99	0.00	0.00	0.00	0.00	0.00	Federal Standard 2023 - 13.5 IEER, 3.3 COP
Heat Pump	Air Source Heat Pump 135 to 240 kBtuh - Federal Standard 2023	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.15	\$0.10	\$0.11	\$0.00	\$0.00	0.37	0.99	0.00	0.00	0.00	0.00	0.00	Federal Standard 2023 - 13.5 IEER, 3.3 COP
Heat Pump	Air Source Heat Pump 135 to 240 kBtuh - Premium Efficiency	School K-12	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.66	\$0.46	\$0.17	\$0.00	\$0.00	0.28	0.99	1.23	0.00	0.00	0.00	0.00	Premium Efficiency - 18.5 IEER, 3.6 COP
Heat Pump	Air Source Heat Pump 135 to 240 kBtuh - Premium Efficiency	School K-12	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.53	\$0.37	\$0.11	\$0.00	\$0.00	0.35	0.99	0.06	0.00	0.00	0.00	0.00	Premium Efficiency - 18.5 IEER, 3.6 COP
Heat Pump	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	School K-12	Discretionary	1,236.9	0.41	0.32	0.00	0.00	0.0	0.0	0.0	15	\$8,487.75	\$5,941.43											



Appendix B.4		BED Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Heat Pump	Strategic Energy Management (SEM)	School K-12	Lost Opportunity	561.0	0.19	0.14	0.00	0.00	0.0	0.0	0.0	5	\$75.60	\$52.92	\$0.11	\$0.00	\$0.00	8.15	0.99	0.04	0.04	0.03	0.03	Identify Operations and Maintenance Improvements through Strategic Energy Management
Heat Pump	Tune-up - Heat Pump Maintenance	School K-12	Discretionary	1,966.9	0.65	0.51	0.00	0.00	0.0	0.0	0.0	5	\$3,802.51	\$2,661.76	\$0.17	\$0.00	\$0.00	0.57	0.99	1.44	0.00	0.00	0.00	Heat Pump Maintenance (Tune-up)
Heat Pump	Water Source Heat Pump (>= 135 kBtu/hr and < 375 kBtu/hr) Cooling	School K-12	Discretionary	4,061.0	1.35	1.04	0.00	0.00	0.0	0.0	0.0	15	\$1,014.15	\$709.91	\$0.17	\$0.00	\$0.00	14.02	0.99	0.35	0.38	0.25	0.25	14 EER, 4.6 COP
Heat Pump	Water Source Heat Pump (>= 135 kBtu/hr and < 375 kBtu/hr) Cooling	School K-12	Lost Opportunity	3,248.8	1.08	0.84	0.00	0.00	0.0	0.0	0.0	15	\$811.32	\$567.93	\$0.11	\$0.00	\$0.00	14.02	0.99	0.02	0.02	0.01	0.01	14 EER, 4.6 COP
Heat Pump	Wi-Fi Thermostat	School K-12	Discretionary	547.3	0.18	0.14	0.00	0.00	0.0	0.0	0.0	11	\$338.33	\$236.83	\$0.17	\$0.00	\$0.00	4.07	0.99	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)
Heat Pump	Windows - CBES 2015 - Above Code	School K-12	Discretionary	81.3	0.03	0.02	0.00	0.00	0.0	0.0	0.0	20	\$6,830.09	\$4,781.06	\$0.17	\$0.00	\$0.00	0.06	0.99	0.01	0.00	0.00	0.00	U-0.29
Heat Pump	Windows - CBES 2015 - Above Code	School K-12	Lost Opportunity	81.3	0.03	0.02	0.00	0.00	0.0	0.0	0.0	20	\$6,830.09	\$4,781.06	\$0.11	\$0.00	\$0.00	0.06	0.99	0.00	0.00	0.00	0.00	U-0.29
Heat Pump	Windows - CBES 2015 - Code	School K-12	Discretionary	190.6	0.06	0.05	0.00	0.00	0.0	0.0	0.0	20	\$45,103.35	\$31,572.34	\$0.17	\$0.00	\$0.00	0.02	0.99	0.03	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	School K-12	Discretionary	698.3	0.01	0.15	0.00	0.00	0.0	0.0	0.0	8	\$632.42	\$442.70	\$0.17	\$0.00	\$0.00	1.09	0.99	8.26	8.26	6.16	6.16	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	School K-12	Discretionary	651.7	0.01	0.14	0.00	0.00	0.0	0.0	0.0	8	\$132.06	\$92.44	\$0.17	\$0.00	\$0.00	4.86	0.99	10.79	10.79	8.05	8.05	Photocell
Lighting Exterior	LED Exterior Flood Lights	School K-12	Discretionary	226.1	0.00	0.05	0.00	0.00	0.0	0.0	0.0	20	\$149.14	\$104.40	\$0.17	\$0.00	\$0.00	3.73	0.99	6.10	6.10	4.55	4.55	LED Exterior Flood Lights
Lighting Exterior	LED Exterior Flood Lights	School K-12	Lost Opportunity	226.1	0.00	0.05	0.00	0.00	0.0	0.0	0.0	20	\$149.14	\$104.40	\$0.11	\$0.00	\$0.00	3.73	0.99	0.34	0.34	0.22	0.22	LED Exterior Flood Lights
Lighting Exterior	LED Exterior Pole Mount Fixture	School K-12	Discretionary	128.8	0.00	0.03	0.00	0.00	0.0	0.0	0.0	15	\$252.66	\$176.86	\$0.17	\$0.00	\$0.00	0.94	0.99	3.47	0.00	0.00	0.00	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Pole Mount Fixture	School K-12	Lost Opportunity	128.8	0.00	0.03	0.00	0.00	0.0	0.0	0.0	15	\$252.66	\$176.86	\$0.11	\$0.00	\$0.00	0.94	0.99	0.19	0.00	0.00	0.00	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Wall Pack	School K-12	Discretionary	427.2	0.00	0.09	0.00	0.00	0.0	0.0	0.0	20	\$886.46	\$620.52	\$0.17	\$0.00	\$0.00	1.19	0.99	10.88	10.88	8.12	8.12	LED Exterior Wall Pack
Lighting Exterior	LED Exterior Wall Pack	School K-12	Lost Opportunity	427.2	0.00	0.09	0.00	0.00	0.0	0.0	0.0	20	\$886.46	\$620.52	\$0.11	\$0.00	\$0.00	1.19	0.99	0.60	0.60	0.39	0.39	LED Exterior Wall Pack
Lighting Exterior	LED Pathway Lights	School K-12	Discretionary	106.4	0.00	0.02	0.00	0.00	0.0	0.0	0.0	11	\$25.18	\$17.62	\$0.17	\$0.00	\$0.00	5.73	0.99	2.87	2.87	2.14	2.14	LED Pathway Lights
Lighting Exterior	LED Pathway Lights	School K-12	Lost Opportunity	106.4	0.00	0.02	0.00	0.00	0.0	0.0	0.0	11	\$25.18	\$17.62	\$0.11	\$0.00	\$0.00	5.73	0.99	0.16	0.16	0.12	0.12	LED Pathway Lights
Lighting Exterior	Occupancy Sensor Control	School K-12	Discretionary	558.6	0.01	0.12	0.00	0.00	0.0	0.0	0.0	10	\$1,050.29	\$735.21	\$0.17	\$0.00	\$0.00	0.66	0.99	6.60	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Exterior	Parking - Covered Lighting	School K-12	Discretionary	318.0	0.00	0.07	0.00	0.00	0.0	0.0	0.0	19	\$231.89	\$162.32	\$0.17	\$0.00	\$0.00	3.21	0.99	2.33	2.33	1.74	1.74	Covered Parking Lighting (LED)
Lighting Exterior	Parking - Covered Lighting	School K-12	Lost Opportunity	318.0	0.00	0.07	0.00	0.00	0.0	0.0	0.0	19	\$231.89	\$162.32	\$0.11	\$0.00	\$0.00	3.21	0.99	0.13	0.13	0.09	0.09	Covered Parking Lighting (LED)
Lighting Exterior	Parking - Surface Lighting	School K-12	Discretionary	171.8	0.00	0.04	0.00	0.00	0.0	0.0	0.0	10	\$88.27	\$61.79	\$0.17	\$0.00	\$0.00	2.40	0.99	0.54	0.54	0.40	0.40	Surface Parking Lighting (LED)
Lighting Exterior	Parking - Surface Lighting	School K-12	Lost Opportunity	171.8	0.00	0.04	0.00	0.00	0.0	0.0	0.0	10	\$88.27	\$61.79	\$0.11	\$0.00	\$0.00	2.40	0.99	0.03	0.03	0.02	0.02	Surface Parking Lighting (LED)
Lighting Exterior	Time Clock	School K-12	Discretionary	232.8	0.00	0.05	0.00	0.00	0.0	0.0	0.0	8	\$169.71	\$118.80	\$0.17	\$0.00	\$0.00	1.35	0.99	0.28	0.28	0.21	0.21	Time Clock
Lighting Interior Fluorescent	Bi-Level Control, Stairwell Lighting	School K-12	Discretionary	169.8	0.03	0.02	0.00	0.00	0.0	0.0	0.0	8	\$395.07	\$276.55	\$0.17	\$0.00	\$0.00	0.63	0.99	1.04	0.00	0.00	0.00	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time
Lighting Interior Fluorescent	Dimming-Continuous, Fluorescent Fixtures	School K-12	Discretionary	7,903.9	1.53	1.06	0.00	0.00	0.0	0.0	0.0	10	\$543.99	\$380.79	\$0.17	\$0.00	\$0.00	27.05	0.99	0.00	0.00	0.00	0.00	Continuous Dimming, Fluorescent Fixtures (Day-Lighting)
Lighting Interior Fluorescent	Dimming-Stepped, Fluorescent Fixtures	School K-12	Discretionary	7,903.9	1.53	1.06	0.00	0.00	0.0	0.0	0.0	10	\$543.99	\$380.79	\$0.17	\$0.00	\$0.00	27.05	0.99	31.03	31.03	23.16	23.16	3-stepped Dimming of Fluorescent Fixtures (Day-Lighting)
Lighting Interior Fluorescent	Lighting Interior - Fluorescent - 2018 Federal Standard	School K-12	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.03	\$0.00	\$0.17	\$0.00	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	Standard Fluorescent 2018 Federal Standard Approved T-8
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 - Above Standard	School K-12	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.03	\$0.00	\$0.17	\$0.00	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 High Performance - Above Standard	School K-12	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.03	\$0.00	\$0.17	\$0.00	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 High Performance Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 Reduced Wattage - Above Standard	School K-12	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.01	\$0.00	\$0.17	\$0.00	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 Reduced Wattage Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - TLED - Above Standard	School K-12	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.13	\$0.09	\$0.17	\$0.00	\$0.00	18.31	0.99	330.85	357.77	260.14	260.14	Above Standard TLED
Lighting Interior Fluorescent	Occupancy Sensor Control	School K-12	Discretionary	6,774.8	1.31	0.91	0.00	0.00	0.0	0.0	0.0	10	\$12,738.05	\$8,916.64	\$0.17	\$0.00	\$0.00	0.99	0.99	41.55	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Interior Fluorescent	Time Clock	School K-12	Discretionary	2,822.8	0.55	0.38	0.00	0.00	0.0	0.0	0.0	8	\$169.71	\$118.80	\$0.17	\$0.00	\$0.00	24.56	0.99	1.73	1.73	1.29	1.29	Time Clock
Lighting Interior HID	Lighting Interior - Efficient Metal Halide - Above Standard	School K-12	Lost Opportunity	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.31	\$0.22	\$0.17	\$0.00	\$0.00	4.61	0.99	0.00	0.00	0.00	0.00	Efficient Metal Halide
Lighting Interior HID	Lighting Interior - Federal Standard 2017 Metal Halide - Above Standard	School K-12	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.37	\$0.26	\$0.17	\$0.01	\$0.00	0.73	0.99	0.00	0.00	0.00	0.00	Federal Standard 2017 Metal Halide
Lighting Interior HID	Lighting Interior - High Bay Fluorescent High Output - Above Standard	School K-12	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.96	\$0.67	\$0.17	\$0.05	\$0.00	1.12	0.99	69.96	73.11	54.56	54.56	High Bay Fluorescent High Output (HO)
Lighting Interior HID	Lighting Interior - High Bay Induction - Above Standard	School K-12	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.94	\$0.66	\$0.17	-\$0.06	\$0.00	4.21	0.99	0.00	0.00	0.00	0.00	High Bay Induction
Lighting Interior HID	Lighting Interior - High Bay LED - Above Standard	School K-12	Lost Opportunity	0.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1.11	\$0.78	\$0.17	\$0.01	\$0.00	2.01	0.99	304.84	332.08	241.55	241.55	High Bay LED
Lighting Interior HID	Occupancy Sensor Control	School K-12	Discretionary	9,621.0	1.87	1.29	0.00	0.00	0.0	0.0	0.0	10	\$18,089.60	\$12,662.72	\$0.17	\$0.00	\$0.00	0.99	0.99	93.33	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Interior HID	Time Clock	School K-12	Discretionary	4,008.7	0.78	0.54	0.00	0.00	0.0	0.0	0.0	8	\$169.71	\$118.80	\$0.17	\$0.00	\$0.00	34.88	0.99	3.89	3.89	2.90	2.90	Time Clock
Lighting Interior Other	Exit Sign - LED	School K-12	Discretionary	594.8	0.12	0.08	0.00	0.00	0.0	0.0	0.0	16	\$836.26	\$585.38	\$0.17	\$0.00	\$0.00	2.16	0.99	11.58	11.58	8.64	8.64	LED Exit Sign
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	School K-12	Discretionary	740.6	0.14	0.10	0.00	0.00	0.0	0.0	0.0	16	-\$127.32	\$0.00	\$0.17	\$0.00	\$0.00	999.00	0.99	21.07	21.07	15.73	15.73	Photoluminescent or Tritium
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	School K-12	Lost Opportunity	740.6	0.14	0.10	0.00	0.00	0.0	0.0	0.0	16	-\$127.32	\$0.00	\$0.11	\$0.00	\$0.00	999.00	0.99	0.87	0.87	0.63	0.63	Photoluminescent or Tritium
Lighting Interior Other	New Construction Lighting Package - Advanced Efficiency	School K-12	Lost Opportunity	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.58	\$0.41	\$0.11	\$0.00	\$0.00	2.54	0.99	31.28	31.28	22.96	22.96	Advanced Efficiency Lighting Package - 25% LPD Reduction
Lighting Interior Other	New Construction Lighting Package - High Efficiency	School K-12	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.10	\$0.07	\$0.11	\$0.00	\$0.00	7.64	0.99	0.00	0.00	0.00	0.00	High Efficiency Lighting Package - 15% LPD Reduction
Lighting Interior Other	New Construction Lighting Package - Premium Efficiency	School K-12	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.47	\$0.33	\$0.11	\$0.00	\$0.00	2.54	0.99	0.00	0.00	0.00	0.00	Premium Efficiency Lighting Package - 20% LPD Reduction
Lighting Interior Other	Occupancy Sensor Control	School K-12	Discretionary	356.9	0.07	0.05	0.00	0.00	0.0	0.0	0.0	10	\$671.04	\$469.73	\$0.17	\$0.00	\$0.00	0.99	0.99	4.22	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Interior Other	Time Clock	School K-12	Discretionary	148.7	0.03	0.02	0.00	0.00	0.0	0.0	0.0	8	\$169.71	\$118.80	\$0.17	\$0.00	\$0.00	1.29	0.99	0.18	0.18	0.13	0.13	Time Clock
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	School K-12	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3	\$0.01	\$0.01	\$0.17	-\$0.01	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	CFL



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Refrigeration	Add Doors to Refrigerated Open Display Cases	School K-12	Discretionary	12.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$19.89	\$13.92	\$0.17	\$0.00	\$0.00	1.27	0.95	0.01	0.01	0.01	0.01	Add Doors to Refrigerated Open Display Cases	
Refrigeration	Add Doors to Refrigerated Open Display Cases	School K-12	Lost Opportunity	12.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$19.89	\$13.92	\$0.11	\$0.00	\$0.00	1.27	0.95	0.00	0.00	0.00	0.00	Add Doors to Refrigerated Open Display Cases	
Refrigeration	Anti-Sweat (Humidistat) Controls	School K-12	Discretionary	1,111.1	0.15	0.13	0.00	0.00	0.0	0.0	0.0	8	\$157.07	\$109.95	\$0.17	\$0.00	\$0.00	9.19	0.95	5.25	5.25	4.53	4.53	Anti-Sweat (Humidistat) Controls	
Refrigeration	Case Replacement Low Temp	School K-12	Discretionary	642.0	0.08	0.08	0.00	0.00	0.0	0.0	0.0	15	\$36.02	\$25.22	\$0.17	\$0.00	\$0.00	44.30	0.95	19.23	19.23	18.68	16.57	Case Replacement Low Temp	
Refrigeration	Case Replacement Med Temp	School K-12	Discretionary	54.8	0.01	0.01	0.00	0.00	0.0	0.0	0.0	15	\$69.53	\$48.67	\$0.17	\$0.00	\$0.00	1.96	0.95	1.64	1.64	1.41	1.41	Case Replacement Med Temp	
Refrigeration	Demand Control Defrost - Hot Gas	School K-12	Discretionary	424.6	0.06	0.05	0.00	0.00	0.0	0.0	0.0	10	\$679.55	\$475.68	\$0.17	\$0.00	\$0.00	1.02	0.95	0.67	0.67	0.58	0.58	Refrigerant Defrost	
Refrigeration	Display Case Electronically Commutated Motor - Low Temp	School K-12	Discretionary	172.7	0.02	0.02	0.00	0.00	0.0	0.0	0.0	15	\$123.55	\$86.49	\$0.17	\$0.00	\$0.00	3.47	0.95	3.47	3.47	2.99	2.99	ECM Evaporator Fans - Low Temp	
Refrigeration	Display Case Electronically Commutated Motor - Medium Temp	School K-12	Discretionary	8.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$5.98	\$4.19	\$0.17	\$0.00	\$0.00	3.47	0.95	0.17	0.17	0.14	0.14	ECM Evaporator Fans - Medium Temp	
Refrigeration	Display Case LEDs (Closed Cases)	School K-12	Discretionary	134.3	0.02	0.02	0.00	0.00	0.0	0.0	0.0	8	\$80.03	\$56.02	\$0.17	\$0.00	\$0.00	2.18	0.95	4.02	4.02	3.47	3.47	Display Case LEDs (Closed Cases)	
Refrigeration	Display Case LEDs (Closed Cases)	School K-12	Lost Opportunity	134.3	0.02	0.02	0.00	0.00	0.0	0.0	0.0	8	\$35.58	\$24.91	\$0.11	\$0.00	\$0.00	4.90	0.95	0.22	0.22	0.19	0.19	Display Case LEDs (Closed Cases)	
Refrigeration	Display Case LEDs (Open Cases)	School K-12	Discretionary	11.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$8.10	\$5.67	\$0.17	-\$0.29	\$0.00	2.07	0.95	0.35	0.35	0.30	0.30	Display Case LEDs (Open Cases)	
Refrigeration	Display Case LEDs (Open Cases)	School K-12	Lost Opportunity	11.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$4.28	\$2.99	\$0.11	-\$0.25	\$0.00	4.78	0.95	0.02	0.02	0.02	0.02	Display Case LEDs (Open Cases)	
Refrigeration	Display Case Motion Sensors	School K-12	Discretionary	52.0	0.01	0.01	0.00	0.00	0.0	0.0	0.0	8	\$12.12	\$8.49	\$0.17	\$0.00	\$0.00	5.57	0.95	1.47	1.47	1.27	1.27	Display Case Motion Sensors	
Refrigeration	Evaporator Fan Controller - Low Temp	School K-12	Discretionary	40.2	0.01	0.00	0.00	0.00	0.0	0.0	0.0	16	\$31.25	\$21.88	\$0.17	\$0.00	\$0.00	3.42	0.95	1.14	1.14	0.98	0.98	ECM Evaporator Fan Controller - Low Temp	
Refrigeration	Evaporator Fan Controller - Low Temp	School K-12	Lost Opportunity	40.2	0.01	0.00	0.00	0.00	0.0	0.0	0.0	16	\$31.25	\$21.88	\$0.11	\$0.00	\$0.00	3.42	0.95	0.05	0.05	0.04	0.04	ECM Evaporator Fan Controller - Low Temp	
Refrigeration	Evaporator Fan Controller - Medium Temp	School K-12	Discretionary	62.7	0.01	0.01	0.00	0.00	0.0	0.0	0.0	16	\$58.36	\$40.85	\$0.17	\$0.00	\$0.00	2.85	0.95	1.78	1.78	1.53	1.53	ECM Evaporator Fan Controller - Medium Temp	
Refrigeration	Evaporator Fan Controller - Medium Temp	School K-12	Lost Opportunity	62.7	0.01	0.01	0.00	0.00	0.0	0.0	0.0	16	\$58.36	\$40.85	\$0.11	\$0.00	\$0.00	2.85	0.95	0.08	0.08	0.07	0.07	ECM Evaporator Fan Controller - Medium Temp	
Refrigeration	Floating Condenser Head Pressure Controls	School K-12	Discretionary	978.7	0.13	0.12	0.00	0.00	0.0	0.0	0.0	15	\$314.65	\$220.25	\$0.17	\$0.00	\$0.00	7.73	0.95	3.09	3.09	3.00	2.66	Floating Condenser Head Pressure Controls	
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	School K-12	Discretionary	29.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$3.95	\$2.77	\$0.17	\$0.00	\$0.00	10.81	0.95	0.87	0.87	0.85	0.75	Glass Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	School K-12	Lost Opportunity	29.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$3.95	\$2.77	\$0.11	\$0.00	\$0.00	10.81	0.95	0.05	0.05	0.05	0.04	Glass Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Ice Maker - High Efficiency	School K-12	Discretionary	105.7	0.01	0.01	0.00	0.00	0.0	0.0	0.0	8	\$6.75	\$4.72	\$0.17	\$0.00	\$0.00	20.36	0.95	3.33	3.33	2.87	2.87	High Efficiency Ice Maker	
Refrigeration	Ice Maker - High Efficiency	School K-12	Lost Opportunity	105.7	0.01	0.01	0.00	0.00	0.0	0.0	0.0	8	\$6.75	\$4.72	\$0.11	\$0.00	\$0.00	20.36	0.95	0.18	0.18	0.16	0.16	High Efficiency Ice Maker	
Refrigeration	Night Covers for Display Cases	School K-12	Discretionary	15.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$2.69	\$1.88	\$0.17	\$0.27	\$0.00	3.04	0.95	0.45	0.45	0.39	0.39	Night Covers for Display Cases	
Refrigeration	Night Covers for Display Cases	School K-12	Lost Opportunity	15.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$2.69	\$1.88	\$0.11	\$0.27	\$0.00	3.04	0.95	0.02	0.02	0.02	0.02	Night Covers for Display Cases	
Refrigeration	No Heat Case Doors	School K-12	Discretionary	231.4	0.03	0.03	0.00	0.00	0.0	0.0	0.0	15	\$165.87	\$116.11	\$0.17	\$0.00	\$0.00	3.47	0.95	3.65	3.65	3.14	3.14	No Heat Case Doors	
Refrigeration	No Heat Case Doors	School K-12	Lost Opportunity	231.4	0.03	0.03	0.00	0.00	0.0	0.0	0.0	15	\$165.87	\$116.11	\$0.11	\$0.00	\$0.00	3.47	0.95	0.38	0.38	0.32	0.32	No Heat Case Doors	
Refrigeration	Refrigeration Commissioning or Re-commissioning	School K-12	Discretionary	1,286.8	0.17	0.15	0.00	0.00	0.0	0.0	0.0	7	\$331.67	\$232.17	\$0.17	\$0.00	\$0.00	4.38	0.95	3.45	3.45	2.97	2.97	Commissioning / Re-commissioning	
Refrigeration	Refrigeration Commissioning or Re-commissioning	School K-12	Lost Opportunity	1,286.8	0.17	0.15	0.00	0.00	0.0	0.0	0.0	7	\$331.67	\$232.17	\$0.11	\$0.00	\$0.00	4.38	0.95	0.10	0.10	0.09	0.09	Commissioning / Re-commissioning	
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	School K-12	Discretionary	21.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$3.95	\$2.77	\$0.17	\$0.00	\$0.00	8.02	0.95	0.65	0.65	0.56	0.56	Solid Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Solid Door ENERGY STAR Refrigerators/Freezers	School K-12	Lost Opportunity	21.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$3.95	\$2.77	\$0.11	\$0.00	\$0.00	8.02	0.95	0.04	0.04	0.03	0.03	Solid Door ENERGY STAR Refrigerators/Freezers	
Refrigeration	Strip Curtains for Walk-Ins	School K-12	Discretionary	512.9	0.07	0.06	0.00	0.00	0.0	0.0	0.0	4	\$369.01	\$258.31	\$0.17	\$0.00	\$0.00	0.87	0.95	15.36	0.00	0.00	0.00	0.00	Strip Curtains for Walk-Ins
Refrigeration	Walk-In Electronically Commutated Motor	School K-12	Discretionary	166.6	0.02	0.02	0.00	0.00	0.0	0.0	0.0	15	\$38.39	\$26.87	\$0.17	\$0.00	\$0.00	10.79	0.95	4.99	4.99	4.30	4.30	ECM Condensor Fans - Low Temp	
Refrigeration	Walk-In Electronically Commutated Motor	School K-12	Discretionary	180.2	0.02	0.02	0.00	0.00	0.0	0.0	0.0	15	\$46.92	\$32.85	\$0.17	\$0.00	\$0.00	9.54	0.95	5.40	5.40	4.65	4.65	ECM Condensor Fans - Medium Temp	
Refrigeration	Walk-In Electronically Commutated Motor	School K-12	Discretionary	166.6	0.02	0.02	0.00	0.00	0.0	0.0	0.0	15	\$38.39	\$26.87	\$0.17	\$0.00	\$0.00	10.79	0.95	4.99	4.99	4.30	4.30	ECM Evaporator Fans - Low Temp	
Refrigeration	Walk-In Electronically Commutated Motor	School K-12	Discretionary	180.2	0.02	0.02	0.00	0.00	0.0	0.0	0.0	15	\$46.92	\$32.85	\$0.17	\$0.00	\$0.00	9.54	0.95	5.40	5.40	4.65	4.65	ECM Evaporator Fans - Medium Temp	
Refrigeration	Walk-in Economizer	School K-12	Discretionary	1,372.0	0.18	0.16	0.00	0.00	0.0	0.0	0.0	15	\$666.81	\$466.77	\$0.17	\$0.00	\$0.00	5.11	0.95	32.44	32.44	27.96	27.96	Add Economizer to Walk-in Cooler	
Refrigeration	Walk-in Economizer	School K-12	Lost Opportunity	1,372.0	0.18	0.16	0.00	0.00	0.0	0.0	0.0	15	\$666.81	\$466.77	\$0.11	\$0.00	\$0.00	5.11	0.95	1.79	1.79	1.52	1.52	Add Economizer to Walk-in Cooler	
Refrigerators	Refrigerator (Residential) - CEE Tier 2	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	1.23	1.00	0.00	0.00	0.00	0.00	CEE Tier 2 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 2	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	1.23	1.00	0.00	0.00	0.00	0.00	CEE Tier 2 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 3	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.00	\$0.17	\$0.00	\$0.00	1.15	1.00	2.56	2.56	1.43	1.43	CEE Tier 3 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 3	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.00	\$0.11	\$0.00	\$0.00	1.15	1.00	0.23	0.23	0.13	0.13	CEE Tier 3 Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	1.26	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	1.26	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	1.27	1.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	1.27	1.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Refrigerator	
Refrigerators	Residential Refrigerator Recycling and Replacement	School K-12	Discretionary	301.6	0.03	0.03	0.00	0.00	0.0	0.0	0.0	8	\$157.02	\$109.92	\$0.17	\$0.00	\$0.00	2.41	1.00	7.25	7.25	4.06	4.06	Recycling Existing Refrigerator and Replacing with a Federal Standard Unit	
Room Cool	Ductless Air Conditioner (DAC)	School K-12	Discretionary	229.6	0.10	0.00	0.00	0.00	0.0	0.0	0.0	15	\$5,548.10	\$3,883.67	\$0.17	\$0.00	\$0.00	0.17	0.99	0.00	0.00	0.00	0.00	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Air Conditioner (DAC)	School K-12	Lost Opportunity	229.6	0.10	0.00	0.00	0.00	0.0	0.0	0.0	15	\$5,548.10	\$3,883.67	\$0.11	\$0.00	\$0.00	0.17	0.99	0.00	0.00	0.00	0.00	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Heat Pump (DHP)	School K-12	Discretionary	625.4	0.28	0.00	0.00	0.00	0.0	0.0	0.0	15	\$9,453.00	\$6,617.10	\$0.17	\$0.00	\$0.00	0.27	0.99	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP)	School K-12	Lost Opportunity	625.4	0.28	0.00	0.00	0.00	0.0	0.0	0.0	15	\$9,453.00	\$6,617.10	\$0.11	\$0.00	\$0.00	0.27	0.99	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient																								



Appendix B.4		BED Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	School K-12	Discretionary	12,230.1	0.03	4.92	0.00	0.00	0.0	0.0	0.0	30	\$3,477.14	\$2,434.00	\$0.17	\$0.00	\$0.00	13.20	0.95	1.59	1.59	1.00	1.00	R-35 c.i.
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	School K-12	Lost Opportunity	12,230.1	0.03	4.92	0.00	0.00	0.0	0.0	0.0	30	\$3,477.14	\$2,434.00	\$0.11	\$0.00	\$0.00	13.20	0.95	0.04	0.04	0.02	0.02	R-35 c.i.
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	School K-12	Discretionary	41,902.1	0.09	16.86	0.00	0.00	0.0	0.0	0.0	30	\$15,866.08	\$11,106.26	\$0.17	\$0.00	\$0.00	9.91	0.95	3.49	3.49	2.21	2.21	R-30 c.i. (CBES 2015 Code)
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	School K-12	Discretionary	18,023.4	0.04	7.25	0.00	0.00	0.0	0.0	0.0	30	\$6,181.59	\$4,327.11	\$0.17	\$0.00	\$0.00	10.94	0.95	0.78	0.78	0.49	0.49	R-38
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	School K-12	Lost Opportunity	18,023.4	0.04	7.25	0.00	0.00	0.0	0.0	0.0	30	\$6,181.59	\$4,327.11	\$0.11	\$0.00	\$0.00	10.94	0.95	0.08	0.08	0.05	0.05	R-38
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	School K-12	Discretionary	31,390.7	0.07	12.63	0.00	0.00	0.0	0.0	0.0	30	\$17,720.56	\$12,404.39	\$0.17	\$0.00	\$0.00	6.65	0.95	1.31	1.31	0.83	0.83	R-30 (CBES 2015 Code)
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	School K-12	Discretionary	11,132.5	0.02	4.48	0.00	0.00	0.0	0.0	0.0	30	\$2,718.66	\$1,903.06	\$0.17	\$0.00	\$0.00	15.37	0.95	0.80	0.80	0.51	0.51	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	School K-12	Lost Opportunity	11,132.5	0.02	4.48	0.00	0.00	0.0	0.0	0.0	30	\$2,718.66	\$1,903.06	\$0.11	\$0.00	\$0.00	15.37	0.95	0.13	0.13	0.07	0.07	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Code	School K-12	Discretionary	12,224.3	0.03	4.92	0.00	0.00	0.0	0.0	0.0	30	\$18,655.59	\$13,058.91	\$0.17	\$0.00	\$0.00	2.46	0.95	0.59	0.59	0.38	0.38	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Electric	Windows - CBES 2015 - Above Code	School K-12	Discretionary	1,290.0	0.00	0.52	0.00	0.00	0.0	0.0	0.0	20	\$6,830.09	\$4,781.06	\$0.17	\$0.00	\$0.00	0.47	0.95	0.15	0.00	0.00	0.00	U-0.29
Room Heat - Electric	Windows - CBES 2015 - Above Code	School K-12	Lost Opportunity	1,290.0	0.00	0.52	0.00	0.00	0.0	0.0	0.0	20	\$6,830.09	\$4,781.06	\$0.11	\$0.00	\$0.00	0.47	0.95	0.03	0.00	0.00	0.00	U-0.29
Room Heat - Electric	Windows - CBES 2015 - Code	School K-12	Discretionary	3,025.1	0.01	1.22	0.00	0.00	0.0	0.0	0.0	20	\$45,103.35	\$31,572.34	\$0.17	\$0.00	\$0.00	0.17	0.95	0.34	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Servers	Internal Power Supply / Server	School K-12	Discretionary	29.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$8.47	\$5.93	\$0.17	\$0.00	\$0.00	2.22	0.89	0.55	0.70	0.41	0.41	80 Plus power supply for Desktop Derived Server
Servers	Internal Power Supply / Server	School K-12	Lost Opportunity	29.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$8.47	\$5.93	\$0.11	\$0.00	\$0.00	2.22	0.89	0.03	0.04	0.02	0.02	80 Plus power supply for Desktop Derived Server
Servers	Server - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.04	\$0.03	\$0.17	\$0.00	\$0.00	0.32	0.89	8.63	0.00	0.00	0.00	ENERGY STAR Server
Servers	Server - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.04	\$0.03	\$0.11	\$0.00	\$0.00	0.32	0.89	0.47	0.00	0.00	0.00	ENERGY STAR Server
Space Heat - Electric	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	School K-12	Discretionary	53,121.5	0.11	21.37	0.00	0.00	0.0	0.0	0.0	15	\$8,487.75	\$5,941.43	\$0.17	\$0.00	\$0.00	11.71	0.95	0.00	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Electric	Commissioning	School K-12	Lost Opportunity	78,474.9	0.17	31.57	0.00	0.00	0.0	0.0	0.0	5	\$39,383.16	\$27,568.21	\$0.11	\$0.00	\$0.00	1.24	0.95	0.00	0.00	0.00	0.00	Commissioning
Space Heat - Electric	Convert Constant Volume Air System to VAV	School K-12	Discretionary	158,573.7	0.34	63.79	0.00	0.00	0.0	0.0	0.0	15	\$123,795.05	\$86,656.53	\$0.17	\$0.00	\$0.00	2.40	0.95	0.00	0.00	0.00	0.00	Variable Volume Air System
Space Heat - Electric	Direct Digital Control System-Installation	School K-12	Discretionary	90,548.0	0.19	36.42	0.00	0.00	0.0	0.0	0.0	5	\$10,609.69	\$7,426.78	\$0.17	\$0.00	\$0.00	5.30	0.95	0.00	0.00	0.00	0.00	Installation of EMS System
Space Heat - Electric	Direct Digital Control System-Installation	School K-12	Lost Opportunity	90,548.0	0.19	36.42	0.00	0.00	0.0	0.0	0.0	5	\$10,609.69	\$7,426.78	\$0.11	\$0.00	\$0.00	5.30	0.95	0.00	0.00	0.00	0.00	Installation of EMS System
Space Heat - Electric	Duct Repair and Sealing	School K-12	Discretionary	52,491.6	0.11	21.12	0.00	0.00	0.0	0.0	0.0	18	\$8,148.24	\$5,703.77	\$0.17	\$0.00	\$0.00	14.43	0.95	0.00	0.00	0.00	0.00	Reduction In Duct Losses to 5 %
Space Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	School K-12	Discretionary	90,548.0	0.19	36.42	0.00	0.00	0.0	0.0	0.0	14	\$99,475.28	\$69,632.69	\$0.17	\$0.00	\$0.00	1.59	0.95	0.00	0.00	0.00	0.00	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Electric	Indirect Information Feedback	School K-12	Discretionary	3,141.0	0.01	1.26	0.00	0.00	0.0	0.0	0.0	2	\$10,450.97	\$7,315.68	\$0.17	\$0.00	\$0.00	0.07	0.95	0.00	0.00	0.00	0.00	Indirect Information Feedback
Space Heat - Electric	Indirect Information Feedback	School K-12	Lost Opportunity	3,141.0	0.01	1.26	0.00	0.00	0.0	0.0	0.0	2	\$10,450.97	\$7,315.68	\$0.11	\$0.00	\$0.00	0.07	0.95	0.00	0.00	0.00	0.00	Indirect Information Feedback
Space Heat - Electric	Infiltration Reduction	School K-12	Discretionary	60,365.3	0.13	24.28	0.00	0.00	0.0	0.0	0.0	10	\$1,155.00	\$808.50	\$0.17	\$0.00	\$0.00	65.79	0.95	0.00	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	School K-12	Discretionary	33,996.3	0.07	13.68	0.00	0.00	0.0	0.0	0.0	30	\$3,477.14	\$2,434.00	\$0.17	\$0.00	\$0.00	36.70	0.95	0.00	0.00	0.00	0.00	R-35 c.i.
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	School K-12	Lost Opportunity	33,996.3	0.07	13.68	0.00	0.00	0.0	0.0	0.0	30	\$3,477.14	\$2,434.00	\$0.11	\$0.00	\$0.00	36.70	0.95	0.00	0.00	0.00	0.00	R-35 c.i.
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	School K-12	Discretionary	116,475.9	0.25	46.85	0.00	0.00	0.0	0.0	0.0	30	\$15,866.08	\$11,106.26	\$0.17	\$0.00	\$0.00	27.55	0.95	0.00	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	School K-12	Discretionary	21,731.5	0.05	8.74	0.00	0.00	0.0	0.0	0.0	20	\$460.46	\$322.32	\$0.17	\$0.00	\$0.00	117.38	0.95	0.00	0.00	0.00	0.00	R-12
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	School K-12	Lost Opportunity	21,731.5	0.05	8.74	0.00	0.00	0.0	0.0	0.0	20	\$460.46	\$322.32	\$0.11	\$0.00	\$0.00	117.38	0.95	0.00	0.00	0.00	0.00	R-12
Space Heat - Electric	Insulation - Duct - CBES 2015 - Code	School K-12	Discretionary	21,731.5	0.05	8.74	0.00	0.00	0.0	0.0	0.0	20	\$1,854.57	\$1,298.20	\$0.17	\$0.00	\$0.00	29.14	0.95	0.00	0.00	0.00	0.00	R-8 (CBES 2015 Code)
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	School K-12	Discretionary	50,099.9	0.11	20.15	0.00	0.00	0.0	0.0	0.0	30	\$6,181.59	\$4,327.11	\$0.17	\$0.00	\$0.00	30.42	0.95	0.00	0.00	0.00	0.00	R-38
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	School K-12	Lost Opportunity	50,099.9	0.11	20.15	0.00	0.00	0.0	0.0	0.0	30	\$6,181.59	\$4,327.11	\$0.11	\$0.00	\$0.00	30.42	0.95	0.00	0.00	0.00	0.00	R-38
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	School K-12	Discretionary	87,257.2	0.18	35.10	0.00	0.00	0.0	0.0	0.0	30	\$17,720.56	\$12,404.39	\$0.17	\$0.00	\$0.00	18.48	0.95	0.00	0.00	0.00	0.00	R-30 (CBES 2015 Code)
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	School K-12	Discretionary	30,945.2	0.07	12.45	0.00	0.00	0.0	0.0	0.0	30	\$2,718.66	\$1,903.06	\$0.17	\$0.00	\$0.00	42.72	0.95	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	School K-12	Lost Opportunity	30,945.2	0.07	12.45	0.00	0.00	0.0	0.0	0.0	30	\$2,718.66	\$1,903.06	\$0.11	\$0.00	\$0.00	42.72	0.95	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Space Heat - Electric	Insulation - Wall - CBES 2015 - Code	School K-12	Discretionary	33,980.1	0.07	13.67	0.00	0.00	0.0	0.0	0.0	30	\$18,655.59	\$13,058.91	\$0.17	\$0.00	\$0.00	6.84	0.95	0.00	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Electric	Programmable Thermostat	School K-12	Discretionary	24,146.1	0.05	9.71	0.00	0.00	0.0	0.0	0.0	11	\$42.47	\$29.73	\$0.17	\$0.00	\$0.00	785.70	0.95	0.00	0.00	0.00	0.00	Programmable Thermostat
Space Heat - Electric	Re-Commissioning	School K-12	Discretionary	78,474.9	0.17	31.57	0.00	0.00	0.0	0.0	0.0	5	\$10,185.30	\$7,129.71	\$0.17	\$0.00	\$0.00	4.79	0.95	0.00	0.00	0.00	0.00	Re-Commissioning
Space Heat - Electric	Retrocommissioning	School K-12	Discretionary	89,541.9	0.19	36.02	0.00	0.00	0.0	0.0	0.0	5	\$16,975.50	\$11,882.85	\$0.17	\$0.00	\$0.00	3.28	0.95	0.00	0.00	0.00	0.00	Retrocommissioning
Space Heat - Electric	Strategic Energy Management (SEM)	School K-12	Discretionary	24,749.8	0.05	9.96	0.00	0.00	0.0	0.0	0.0	5	\$3,335.40	\$2,334.78	\$0.17	\$0.00	\$0.00	4.61	0.95	0.00	0.00	0.00	0.00	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Electric	Strategic Energy Management (SEM)	School K-12	Lost Opportunity	24,749.8	0.05	9.96	0.00	0.00	0.0	0.0	0.0	5	\$3,335.40	\$2,334.78	\$0.11	\$0.00	\$0.00	4.61	0.95	0.00	0.00	0.00	0.00	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Electric	Wi-Fi Thermostat	School K-12	Discretionary	24,146.1	0.05	9.71	0.00	0.00	0.0	0.0	0.0	11	\$338.33	\$236.83	\$0.17	\$0.00	\$0.00	98.63	0.95	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)
Space Heat - Electric	Windows - CBES 2015 - Above Code	School K-12	Discretionary	3,585.8	0.01	1.44	0.00	0.00	0.0	0.0	0.0	20	\$6,830.09	\$4,781.06	\$0.17	\$0.00	\$0.00	1.31	0.95	0.00	0.00	0.00	0.00	U-0.29
Space Heat - Electric	Windows - CBES 2015 - Above Code	School K-12	Lost Opportunity	3,585.8	0.01	1.44	0.00	0.00	0.0	0.0	0.0	20	\$6,830.09	\$4,781.06	\$0.11	\$0.00	\$0.00	1.31	0.95	0.00	0.00	0.00	0.00	U-0.29
Space Heat - Electric	Windows - CBES 2015 - Code	School K-12	Discretionary	8,409.0	0.02	3.38	0.00	0.00	0.0	0.0	0.0	20	\$45,103.35	\$31,572.34	\$0.17	\$0.00	\$0.00	0.46	0.95	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Vending Machines	Vending Machines - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.89	0.00	0.00	0.00	0.00	ENERGY STAR Vending Machines - 3.84 kWh/day
Vending Machines																								



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	School K-12	Discretionary	22.5	0.00	0.01	0.00	0.00	0.0	0.0	0.0	13	\$10.71	\$7.50	\$0.17	\$0.00	\$0.00	3.42	0.89	0.01	0.01	0.01	0.01	1.0" of Insulation, assuming R-4 (Code)	
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	School K-12	Discretionary	5,494.6	0.01	2.21	0.00	0.00	0.0	0.0	0.0	25	\$883.75	\$618.63	\$0.17	\$0.00	\$0.00	19.36	0.89	0.16	0.17	0.09	0.09	Install Heat Recovery Water Heater	
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	School K-12	Discretionary	110.3	0.00	0.04	0.00	0.00	0.0	0.0	0.0	20	\$12.99	\$9.09	\$0.17	\$0.00	\$0.00	21.12	0.89	0.02	0.02	0.01	0.01	R-3	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	School K-12	Discretionary	669.1	0.00	0.27	0.00	0.00	0.0	0.0	49.5	9	\$135.80	\$95.06	\$0.17	\$0.00	\$0.00	8.74	0.89	0.60	0.63	0.32	0.32	0.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	School K-12	Lost Opportunity	669.1	0.00	0.27	0.00	0.00	0.0	0.0	49.5	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.89	0.03	0.00	0.00	0.00	0.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	School K-12	Discretionary	472.3	0.00	0.19	0.00	0.00	0.0	0.0	34.9	9	\$135.80	\$95.06	\$0.17	\$0.00	\$0.00	6.17	0.89	0.00	0.00	0.00	0.00	1.0 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	School K-12	Lost Opportunity	472.3	0.00	0.19	0.00	0.00	0.0	0.0	34.9	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.89	0.00	0.00	0.00	0.00	1.0 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	School K-12	Discretionary	275.5	0.00	0.11	0.00	0.00	0.0	0.0	20.4	9	\$135.80	\$95.06	\$0.17	\$0.00	\$0.00	3.60	0.89	0.00	0.00	0.00	0.00	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	School K-12	Lost Opportunity	275.5	0.00	0.11	0.00	0.00	0.0	0.0	20.4	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.89	0.00	0.00	0.00	0.00	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	School K-12	Discretionary	118.1	0.00	0.05	0.00	0.00	0.0	0.0	7.7	9	\$135.80	\$95.06	\$0.17	\$0.00	\$0.00	1.48	0.89	0.04	0.04	0.02	0.02	2.2 GPM (Federal Code)	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	School K-12	Discretionary	12.7	0.00	0.01	0.00	0.00	0.0	0.0	2.4	5	\$2.42	\$1.69	\$0.17	\$0.00	\$0.00	8.41	0.89	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	School K-12	Lost Opportunity	12.7	0.00	0.01	0.00	0.00	0.0	0.0	2.4	5	\$2.42	\$1.69	\$0.11	\$0.00	\$0.00	8.41	0.89	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	School K-12	Discretionary	21.1	0.00	0.01	0.00	0.00	0.0	0.0	4.0	5	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.89	0.02	0.00	0.00	0.00	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	School K-12	Lost Opportunity	21.1	0.00	0.01	0.00	0.00	0.0	0.0	4.0	5	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.89	0.00	0.00	0.00	0.00	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	School K-12	Discretionary	33.9	0.00	0.01	0.00	0.00	0.0	0.0	6.5	5	\$2.42	\$1.69	\$0.17	\$0.00	\$0.00	22.34	0.89	0.00	0.00	0.00	0.00	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	School K-12	Lost Opportunity	33.9	0.00	0.01	0.00	0.00	0.0	0.0	6.5	5	\$2.42	\$1.69	\$0.11	\$0.00	\$0.00	22.34	0.89	0.00	0.00	0.00	0.00	0.75 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	School K-12	Discretionary	255.7	0.00	0.10	0.00	0.00	0.0	0.0	30.1	9	\$101.85	\$71.30	\$0.17	\$0.00	\$0.00	5.40	0.89	0.22	0.23	0.11	0.11	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	School K-12	Lost Opportunity	255.7	0.00	0.10	0.00	0.00	0.0	0.0	30.1	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.89	0.01	0.00	0.00	0.00	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	School K-12	Discretionary	191.8	0.00	0.08	0.00	0.00	0.0	0.0	22.6	9	\$101.85	\$71.30	\$0.17	\$0.00	\$0.00	4.05	0.89	0.00	0.00	0.00	0.00	1.75 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	School K-12	Lost Opportunity	191.8	0.00	0.08	0.00	0.00	0.0	0.0	22.6	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.89	0.00	0.00	0.00	0.00	1.75 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	School K-12	Discretionary	127.9	0.00	0.05	0.00	0.00	0.0	0.0	15.0	9	\$101.85	\$71.30	\$0.17	\$0.00	\$0.00	2.70	0.89	0.00	0.00	0.00	0.00	2.0 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	School K-12	Lost Opportunity	127.9	0.00	0.05	0.00	0.00	0.0	0.0	15.0	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.89	0.00	0.00	0.00	0.00	2.0 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	School K-12	Discretionary	127.9	0.00	0.05	0.00	0.00	0.0	0.0	15.0	9	\$101.85	\$71.30	\$0.17	\$0.00	\$0.00	2.70	0.89	0.04	0.04	0.02	0.02	2.5 GPM (Federal Code)	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	School K-12	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.18	\$0.13	\$0.17	\$0.07	\$0.00	0.43	0.89	5.04	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	School K-12	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.18	\$0.13	\$0.11	\$0.07	\$0.00	0.43	0.89	0.28	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	School K-12	Discretionary	432.9	0.00	0.17	0.00	0.00	0.0	0.0	0.0	20	\$2,381.46	\$1,667.02	\$0.17	\$0.00	\$0.00	0.45	0.89	0.37	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	School K-12	Lost Opportunity	432.9	0.00	0.17	0.00	0.00	0.0	0.0	0.0	20	\$2,381.46	\$1,667.02	\$0.11	\$0.00	\$0.00	0.45	0.89	0.02	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	School K-12	Discretionary	3,412.8	0.01	1.37	0.00	0.00	0.0	0.0	0.0	10	\$597.71	\$418.40	\$0.17	\$0.00	\$0.00	7.19	0.89	0.76	0.81	0.40	0.40	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	School K-12	Lost Opportunity	3,412.8	0.01	1.37	0.00	0.00	0.0	0.0	0.0	10	\$597.71	\$418.40	\$0.11	\$0.00	\$0.00	7.19	0.89	0.04	0.04	0.02	0.02	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	School K-12	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.04	\$0.03	\$0.17	\$0.00	\$0.00	4.38	0.89	8.09	11.51	5.74	5.74	CO2 Heat Pump Water Heater	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	School K-12	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.04	\$0.03	\$0.11	\$0.00	\$0.00	4.38	0.89	0.47	0.70	0.35	0.35	CO2 Heat Pump Water Heater	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	6.66	0.89	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	6.66	0.89	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	School K-12	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.04	\$0.03	\$0.17	\$0.00	\$0.00	4.72	0.89	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	School K-12	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.04	\$0.03	\$0.11	\$0.00	\$0.00	4.72	0.89	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	School K-12	Discretionary	4,777.9	0.01	1.92	0.00	0.00	0.0	0.0	0.0	4	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	236220.77	0.89	4.04	4.30	2.14	2.14	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	School K-12	Lost Opportunity	4,777.9	0.01	1.92	0.00	0.00	0.0	0.0	0.0	4	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	236220.77	0.89	0.20	0.21	0.10	0.10	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Tank Wrap	School K-12	Discretionary	9,613.2	0.02	3.87	0.00	0.00	0.0	0.0	0.0	7	\$41.55	\$29.09	\$0.17	\$0.00	\$0.00	203.42	0.89	6.31	6.71	3.35	3.35	Add R-10 Tank Wrap	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	School K-12	Discretionary	32.2	0.00	0.01	0.00	0.00	0.0	0.0	2.9	13	\$35.86	\$25.10	\$0.17	\$0.00	\$0.00	2.42	0.89	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	School K-12	Lost Opportunity	32.2	0.00	0.01	0.00	0.00	0.0	0.0	2.9	13	\$35.86	\$25.10	\$0.11	\$0.00	\$0.00	2.42	0.89	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	School K-12	Discretionary	71.3	0.00	0.03	0.00	0.00	0.0	0.0	3.9	13	\$66.30	\$46.41	\$0.17	\$0.00	\$0.00	2.44	0.89	0.01	0.01	0.00	0.00	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	School K-12	Lost Opportunity	71.3	0.00	0.03	0.00	0.00	0.0	0.0	3.9	13	\$66.30	\$46.41	\$0.11	\$0.00	\$0.00	2.44	0.89	0.00	0.00	0.00	0.00	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	School K-12	Discretionary	16.2	0.00	0.01	0.00	0.00	0.0	0.0	0.7	14	\$2.49	\$1.74	\$0.17	\$0.00	\$0.00	14.75	0.89	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	School K-12	Lost Opportunity	16.2	0.00	0.01	0.00	0.00	0.0	0.0	0.7	14	\$2.49	\$1.74	\$0.11	\$0.00	\$0.00	14.75	0.89	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	School K-12	Discretionary	25.5	0.00	0.01	0.00	0.00	0.0	0.0	1.9	14	\$1.02	\$0.71	\$0.17	\$0.00	\$0.00	67.69	0.89	0.01	0.01	0.01	0.01	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	School K-12	Lost Opportunity	25.5	0.00	0.01	0.00	0.00	0.0	0.0	1.9	14	\$1.02	\$0.71	\$0.11	\$0.00	\$0.00	67.69	0.89	0.00	0.00	0.00	0.00	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	School K-12	Discretionary	46.8	0.00	0.02	0.00	0.00	0.0	0.0	0.0	13	\$10.71	\$7.50	\$0.17	\$0.00	\$0.00	7.11	0.89	0.02	0.02	0.01	0.01	1.0" of Insulation, assuming R-4 (Code)	
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	School K-12	Discretionary	5,162.9	0.01	2.08	0.00	0.00	0.0	0.0	0.0	25	\$883.75	\$618.63	\$0.17	\$0.00	\$0.00	18.19	0.89	0.14	0.14	0.07	0.07	Install Heat Recovery Water Heater	
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	School K-12	Discretionary	110.3	0.00	0.04	0.00	0.00	0.0	0.0	0.0	20	\$12.99	\$9.09	\$0.17	\$0.00	\$0.00	21.12	0.89	0.02	0.02	0.01			



Appendix B.4		BED Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	School K-12	Discretionary	3,206.7	0.01	1.29	0.00	0.00	0.0	0.0	0.0	10	\$597.71	\$418.40	\$0.17	\$0.00	\$0.00	6.75	0.89	0.67	0.67	0.33	0.33	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	School K-12	Lost Opportunity	3,206.7	0.01	1.29	0.00	0.00	0.0	0.0	0.0	10	\$597.71	\$418.40	\$0.11	\$0.00	\$0.00	6.75	0.89	0.03	0.03	0.01	0.01	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	School K-12	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.16	\$0.11	\$0.17	\$0.00	\$0.00	4.79	0.89	30.94	31.32	15.61	15.61	CO2 Heat Pump Water Heater
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	School K-12	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.16	\$0.11	\$0.11	\$0.00	\$0.00	4.79	0.89	2.00	2.10	1.05	1.05	CO2 Heat Pump Water Heater
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	School K-12	Lost Opportunity	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.10	\$0.07	\$0.17	\$0.00	\$0.00	5.50	0.89	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	School K-12	Lost Opportunity	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.10	\$0.07	\$0.11	\$0.00	\$0.00	5.50	0.89	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	School K-12	Lost Opportunity	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.11	\$0.08	\$0.17	\$0.00	\$0.00	5.42	0.89	0.00	0.00	0.00	0.00	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	School K-12	Lost Opportunity	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.11	\$0.08	\$0.11	\$0.00	\$0.00	5.42	0.89	0.00	0.00	0.00	0.00	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	School K-12	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.15	\$0.10	\$0.17	\$0.00	\$0.00	4.96	0.89	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	School K-12	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.15	\$0.10	\$0.11	\$0.00	\$0.00	4.96	0.89	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8
Water Heat LE 55 Gal	Water Heater Setback Thermostat	School K-12	Discretionary	4,489.4	0.01	1.81	0.00	0.00	0.0	0.0	0.0	4	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	221958.36	0.89	3.56	3.56	1.78	1.78	Set Water Heater to 120F
Water Heat LE 55 Gal	Water Heater Setback Thermostat	School K-12	Lost Opportunity	4,489.4	0.01	1.81	0.00	0.00	0.0	0.0	0.0	4	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	221958.36	0.89	0.15	0.15	0.08	0.08	Set Water Heater to 120F
Water Heat LE 55 Gal	Water Heater Tank Wrap	School K-12	Discretionary	9,032.8	0.02	3.63	0.00	0.00	0.0	0.0	0.0	7	\$41.55	\$29.09	\$0.17	\$0.00	\$0.00	191.14	0.89	5.56	5.56	2.77	2.77	Add R-10 Tank Wrap
Computers	Computer - ENERGY STAR	Small Office	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	764.16	0.00	0.00	0.00	ENERGY STAR Computer
Computers	Computer - ENERGY STAR	Small Office	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	37.78	0.00	0.00	0.00	ENERGY STAR Computer
Computers	Network PC Power Management	Small Office	Discretionary	179.7	0.03	0.02	0.00	0.00	0.0	0.0	0.0	5	\$21.97	\$15.38	\$0.17	\$5.04	\$0.00	3.27	1.00	147.02	257.94	170.77	170.77	Network PC Power Management
Computers	Network PC Power Management	Small Office	Lost Opportunity	179.7	0.03	0.02	0.00	0.00	0.0	0.0	0.0	5	\$21.97	\$15.38	\$0.11	\$5.04	\$0.00	3.27	1.00	9.12	16.01	10.60	10.60	Network PC Power Management
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Small Office	Discretionary	47.3	0.02	0.00	0.00	4.87	0.0	0.0	0.0	15	\$416.75	\$291.73	\$0.17	\$0.00	\$0.00	0.55	1.00	7.11	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.27	\$0.19	\$0.17	\$0.00	\$0.00	0.71	1.00	31.79	0.00	0.00	0.00	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.24	\$0.17	\$0.11	\$0.00	\$0.00	0.79	1.00	2.15	0.00	0.00	0.00	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)
Cooling Chillers	Convert Constant Volume Air System to VAV	Small Office	Discretionary	119.4	0.04	0.00	0.00	14.55	0.0	0.0	0.0	15	\$6,078.36	\$4,254.85	\$0.17	\$0.00	\$0.00	0.10	1.00	6.84	0.00	0.00	0.00	Variable Volume Air System
Cooling Chillers	Direct Digital Control System-Installation	Small Office	Discretionary	68.2	0.02	0.00	0.00	7.19	0.0	0.0	0.0	5	\$520.94	\$364.66	\$0.17	\$0.00	\$0.00	0.21	1.00	23.42	0.00	0.00	0.00	Installation of EMS System
Cooling Chillers	Direct Digital Control System-Installation	Small Office	Lost Opportunity	68.2	0.02	0.00	0.00	7.19	0.0	0.0	0.0	5	\$520.94	\$364.66	\$0.11	\$0.00	\$0.00	0.21	1.00	0.14	0.00	0.00	0.00	Installation of EMS System
Cooling Chillers	Green Roof	Small Office	Discretionary	2.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$25,005.00	\$17,503.50	\$0.17	\$250.05	\$0.00	0.00	1.00	0.96	0.00	0.00	0.00	Vegetation on Roof
Cooling Chillers	Green Roof	Small Office	Lost Opportunity	2.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$25,005.00	\$17,503.50	\$0.11	\$250.05	\$0.00	0.00	1.00	0.05	0.00	0.00	0.00	Vegetation on Roof
Cooling Chillers	Indirect Information Feedback	Small Office	Discretionary	2.4	0.00	0.00	0.00	0.24	0.0	0.0	0.0	2	\$7.87	\$5.51	\$0.17	\$0.00	\$0.00	0.19	1.00	0.97	0.00	0.00	0.00	Indirect Information Feedback
Cooling Chillers	Indirect Information Feedback	Small Office	Lost Opportunity	2.4	0.00	0.00	0.00	0.24	0.0	0.0	0.0	2	\$7.87	\$5.51	\$0.11	\$0.00	\$0.00	0.19	1.00	0.06	0.00	0.00	0.00	Indirect Information Feedback
Cooling Chillers	Infiltration Reduction	Small Office	Discretionary	13.6	0.00	0.00	0.00	5.17	0.0	0.0	0.0	10	\$115.13	\$80.59	\$0.17	\$0.00	\$0.00	0.69	1.00	2.70	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Discretionary	21.1	0.01	0.00	0.00	3.12	0.0	0.0	0.0	30	\$281.31	\$196.91	\$0.17	\$0.00	\$0.00	0.79	1.00	3.64	0.00	0.00	0.00	R-35 c.i.
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Lost Opportunity	21.1	0.01	0.00	0.00	3.12	0.0	0.0	0.0	30	\$281.31	\$196.91	\$0.11	\$0.00	\$0.00	0.79	1.00	0.09	0.00	0.00	0.00	R-35 c.i.
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Code	Small Office	Discretionary	72.3	0.02	0.00	0.00	10.68	0.0	0.0	0.0	30	\$1,283.59	\$898.51	\$0.17	\$0.00	\$0.00	0.60	1.00	7.97	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Discretionary	31.1	0.01	0.00	0.00	4.59	0.0	0.0	0.0	30	\$500.10	\$350.07	\$0.17	\$0.00	\$0.00	0.66	1.00	1.78	0.00	0.00	0.00	R-38
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Lost Opportunity	31.1	0.01	0.00	0.00	4.59	0.0	0.0	0.0	30	\$500.10	\$350.07	\$0.11	\$0.00	\$0.00	0.66	1.00	0.18	0.00	0.00	0.00	R-38
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Code	Small Office	Discretionary	54.2	0.02	0.00	0.00	8.00	0.0	0.0	0.0	30	\$1,433.62	\$1,003.53	\$0.17	\$0.00	\$0.00	0.40	1.00	2.93	0.00	0.00	0.00	R-30 (CBES 2015 Code)
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Small Office	Discretionary	41.0	0.01	0.00	0.00	6.06	0.0	0.0	0.0	30	\$469.31	\$328.52	\$0.17	\$0.00	\$0.00	0.92	1.00	3.98	0.00	0.00	0.00	R-13 + 15.6 c.i.
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Small Office	Lost Opportunity	41.0	0.01	0.00	0.00	6.06	0.0	0.0	0.0	30	\$469.31	\$328.52	\$0.11	\$0.00	\$0.00	0.92	1.00	0.61	0.00	0.00	0.00	R-13 + 15.6 c.i.
Cooling Chillers	Insulation - Wall - CBES 2015 - Code	Small Office	Discretionary	45.0	0.02	0.00	0.00	6.65	0.0	0.0	0.0	30	\$3,220.43	\$2,254.30	\$0.17	\$0.00	\$0.00	0.15	1.00	2.60	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)
Cooling Chillers	Natural Ventilation	Small Office	Lost Opportunity	45.4	0.02	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1,667.00	\$1,166.90	\$0.11	\$0.00	\$0.00	0.10	1.00	0.06	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling
Cooling Chillers	Programmable Thermostat	Small Office	Discretionary	18.2	0.01	0.00	0.00	2.10	0.0	0.0	0.0	11	\$25.78	\$18.04	\$0.17	\$0.00	\$0.00	2.61	1.00	7.81	8.74	7.03	5.83	Programmable Thermostat
Cooling Chillers	Strategic Energy Management (SEM)	Small Office	Discretionary	18.6	0.01	0.00	0.00	1.97	0.0	0.0	0.0	5	\$2.51	\$1.76	\$0.17	\$0.00	\$0.00	12.06	1.00	1.24	1.39	0.93	0.93	Identify Operations and Maintenance Improvements through Strategic Energy Management
Cooling Chillers	Strategic Energy Management (SEM)	Small Office	Lost Opportunity	18.6	0.01	0.00	0.00	1.97	0.0	0.0	0.0	5	\$2.51	\$1.76	\$0.11	\$0.00	\$0.00	12.06	1.00	0.43	0.50	0.33	0.33	Identify Operations and Maintenance Improvements through Strategic Energy Management
Cooling Chillers	Wi-Fi Thermostat	Small Office	Discretionary	18.2	0.01	0.00	0.00	2.10	0.0	0.0	0.0	11	\$205.33	\$143.73	\$0.17	\$0.00	\$0.00	0.33	1.00	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)
Cooling Chillers	Windows - CBES 2015 - Above Code	Small Office	Discretionary	2.7	0.00	0.00	0.00	0.36	0.0	0.0	0.0	20	\$680.83	\$476.58	\$0.17	\$0.00	\$0.00	0.03	1.00	0.36	0.00	0.00	0.00	U-0.29
Cooling Chillers	Windows - CBES 2015 - Above Code	Small Office	Lost Opportunity	2.7	0.00	0.00	0.00	0.36	0.0	0.0	0.0	20	\$680.83	\$476.58	\$0.11	\$0.00	\$0.00	0.03	1.00	0.08	0.00	0.00	0.00	U-0.29
Cooling Chillers	Windows - CBES 2015 - Code	Small Office	Discretionary	6.4	0.00	0.00	0.00	0.84	0.0	0.0	0.0	20	\$4,495.94	\$3,147.16	\$0.17	\$0.00	\$0.00	0.01	1.00	0.84	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units	Small Office	Discretionary	61.6	0.02	0.00	0.00	0.00	0.0	0.0	0.0	10	\$833.50	\$583.45	\$0.17	-\$600.12	\$0.00	999.00	1.00	13.04	16.67	11.13	11.13	Rooftop unit with automated fault detection and diagnostics capability
Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units	Small Office	Lost Opportunity	61.6	0.02	0.00	0.00	0.00	0.0	0.0	0.0	10	\$666.80	\$466.76	\$0.11	-\$480.10	\$0.00	999.00	1.00	0.76	0.98	0.66	0.66	Rooftop unit with automated fault detection and diagnostics capability
Cooling Dx Evap	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Small Office	Discretionary	42.6	0.01	0.00	0.81	21.75	0.0	0.0	0.0	15	\$416.75	\$291.73	\$0.17	\$0.00	\$0.00	1.11	1.00	3.81	4.87	3.25	3.25	Demand Controlled Ventilation (CO2 sensors)
Cooling Dx Evap	Convert Constant Volume Air System to VAV	Small Office	Discretionary	107.5	0.04	0.00	2.41	64.93	0.0	0.0	0.0	15	\$6,078.36	\$4,254.85	\$0.17	\$0.00	\$0.00	0.22	1.00	3.47	0.00	0.00	0.00	Variable Volume Air System
Cooling Dx Evap	DX Package 65 to 135 kBtuh - Federal Standard 2023	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	1												



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Cooling Dx Evap	Programmable Thermostat	Small Office	Discretionary	16.4	0.01	0.00	0.37	9.36	0.0	0.0	0.0	11	\$25.78	\$18.04	\$0.17	\$0.00	\$0.00	5.64	1.00	4.27	5.46	4.39	3.64	Programmable Thermostat	
Cooling Dx Evap	Strategic Energy Management (SEM)	Small Office	Discretionary	16.8	0.01	0.00	0.38	8.77	0.0	0.0	0.0	5	\$2.26	\$1.58	\$0.17	\$0.00	\$0.00	29.43	1.00	0.69	0.89	0.59	0.59	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Strategic Energy Management (SEM)	Small Office	Lost Opportunity	16.8	0.01	0.00	0.42	9.74	0.0	0.0	0.0	5	\$2.26	\$1.58	\$0.11	\$0.00	\$0.00	31.80	1.00	0.27	0.34	0.23	0.23	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Tune-up - DX Maintenance	Small Office	Discretionary	58.8	0.02	0.00	0.00	0.00	0.0	0.0	0.0	5	\$2,000.40	\$1,400.28	\$0.17	\$0.00	\$0.00	0.03	1.00	7.54	0.00	0.00	0.00	DX Tune-up / Diagnostics	
Cooling Dx Evap	Wi-Fi Thermostat	Small Office	Discretionary	16.4	0.01	0.00	0.37	9.36	0.0	0.0	0.0	11	\$205.33	\$143.73	\$0.17	\$0.00	\$0.00	0.71	1.00	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Small Office	Discretionary	2.5	0.00	0.00	0.06	1.59	0.0	0.0	0.0	20	\$680.83	\$476.58	\$0.17	\$0.00	\$0.00	0.06	1.00	0.16	0.00	0.00	0.00	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Small Office	Lost Opportunity	2.5	0.00	0.00	0.06	1.77	0.0	0.0	0.0	20	\$680.83	\$476.58	\$0.11	\$0.00	\$0.00	0.06	1.00	0.03	0.00	0.00	0.00	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Code	Small Office	Discretionary	5.8	0.00	0.00	0.13	3.74	0.0	0.0	0.0	20	\$4,495.94	\$3,147.16	\$0.17	\$0.00	\$0.00	0.02	1.00	0.34	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBTuh - Premium Efficiency	Small Office	Discretionary	205.0	0.07	0.00	0.00	0.00	0.0	0.0	0.0	15	\$6,821.14	\$4,774.80	\$0.17	\$0.00	\$0.00	0.11	1.00	20.28	0.00	0.00	0.00	Premium Efficiency - 19.0 IEER	
Fax	Fax - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	16.91	0.00	0.00	0.00	ENERGY STAR Fax	
Fax	Fax - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.88	0.00	0.00	0.00	ENERGY STAR Fax	
Flat Screen Monitors	Monitor - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.04	\$0.02	\$0.17	\$0.00	\$0.00	0.56	1.00	70.01	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.04	\$0.02	\$0.11	\$0.00	\$0.00	0.56	1.00	3.70	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor	
Freezers	Freezer (Residential) - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	9.41	1.00	0.91	0.91	0.51	0.51	ENERGY STAR Freezer	
Freezers	Freezer (Residential) - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	9.41	1.00	0.09	0.09	0.05	0.05	ENERGY STAR Freezer	
Freezers	Residential Freezer Recycling and Replacement	Small Office	Discretionary	5.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$2.20	\$1.54	\$0.17	\$0.00	\$0.00	3.13	1.00	9.10	9.10	5.10	5.10	Recycling Existing Freezer and Replacing with a Federal Standard Unit	
Heat Pump	Air Source Heat Pump 65 to 135 kBTuh - Federal Standard 2023	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.02	\$0.01	\$0.17	\$0.00	\$0.00	0.68	1.00	0.00	0.00	0.00	0.00	Federal Standard 2023 - 14.1 IEER, 3.4 COP	
Heat Pump	Air Source Heat Pump 65 to 135 kBTuh - Federal Standard 2023	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.02	\$0.01	\$0.11	\$0.00	\$0.00	0.85	1.00	0.00	0.00	0.00	0.00	Federal Standard 2023 - 14.1 IEER, 3.4 COP	
Heat Pump	Air Source Heat Pump 65 to 135 kBTuh - Premium Efficiency	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.07	\$0.05	\$0.17	\$0.00	\$0.00	0.55	1.00	0.11	0.00	0.00	0.00	Premium Efficiency - 19.0 IEER, 3.7 COP	
Heat Pump	Air Source Heat Pump 65 to 135 kBTuh - Premium Efficiency	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.06	\$0.04	\$0.11	\$0.00	\$0.00	0.69	1.00	0.01	0.00	0.00	0.00	Premium Efficiency - 19.0 IEER, 3.7 COP	
Heat Pump	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Small Office	Discretionary	8.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$416.75	\$291.73	\$0.17	\$0.00	\$0.00	0.07	1.00	0.01	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)	
Heat Pump	Cold Climate Heat Pump - Enhanced Efficiency	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.04	\$0.03	\$0.17	\$0.00	\$0.00	0.16	1.00	0.00	0.00	0.00	0.00	High-Performance Cold Climate Commercial Heat Pump	
Heat Pump	Cold Climate Heat Pump - Enhanced Efficiency	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.04	\$0.02	\$0.11	\$0.00	\$0.00	0.20	1.00	0.00	0.00	0.00	0.00	High-Performance Cold Climate Commercial Heat Pump	
Heat Pump	Convert Constant Volume Air System to VAV	Small Office	Discretionary	25.3	0.01	0.01	0.00	0.00	0.0	0.0	0.0	15	\$6,078.36	\$4,254.85	\$0.17	\$0.00	\$0.00	0.01	1.00	0.01	0.00	0.00	0.00	Variable Volume Air System	
Heat Pump	Direct Digital Control System-Installation	Small Office	Discretionary	14.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$520.94	\$364.66	\$0.17	\$0.00	\$0.00	0.03	1.00	0.05	0.00	0.00	0.00	Installation of EMS System	
Heat Pump	Direct Digital Control System-Installation	Small Office	Lost Opportunity	14.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$520.94	\$364.66	\$0.11	\$0.00	\$0.00	0.03	1.00	0.00	0.00	0.00	0.00	Installation of EMS System	
Heat Pump	Duct Repair and Sealing	Small Office	Discretionary	8.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	18	\$400.08	\$280.06	\$0.17	\$0.00	\$0.00	0.09	1.00	0.02	0.00	0.00	0.00	Reduction In Duct Losses to 5 %	
Heat Pump	Exhaust Air to Ventilation Air Heat Recovery	Small Office	Discretionary	14.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$4,884.25	\$3,418.98	\$0.17	\$0.00	\$0.00	0.01	1.00	0.01	0.00	0.00	0.00	Exhaust Air to Ventilation Air Heat Recovery	
Heat Pump	Ground Source Heat Pump (< 135 kBTU/hr) Cooling	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.18	\$0.13	\$0.17	\$0.00	\$0.00	0.38	1.00	0.01	0.00	0.00	0.00	17.0 EER, 4.0 COP	
Heat Pump	Ground Source Heat Pump (< 135 kBTU/hr) Cooling	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.15	\$0.10	\$0.11	\$0.00	\$0.00	0.47	1.00	0.00	0.00	0.00	0.00	17.0 EER, 4.0 COP	
Heat Pump	HVAC Variable Refrigerant Flow	Small Office	Discretionary	57.2	0.02	0.01	0.00	0.00	0.0	0.0	0.0	15	\$6,334.60	\$4,434.22	\$0.17	-\$145.03	\$0.00	0.04	1.00	0.08	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Heat Pump	HVAC Variable Refrigerant Flow	Small Office	Lost Opportunity	57.2	0.02	0.01	0.00	0.00	0.0	0.0	0.0	15	\$6,334.60	\$4,434.22	\$0.11	-\$145.03	\$0.00	0.04	1.00	0.02	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Heat Pump	Indirect Information Feedback	Small Office	Discretionary	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2	\$1.67	\$1.17	\$0.17	\$0.00	\$0.00	0.12	1.00	0.00	0.00	0.00	0.00	Indirect Information Feedback	
Heat Pump	Indirect Information Feedback	Small Office	Lost Opportunity	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2	\$1.67	\$1.17	\$0.11	\$0.00	\$0.00	0.12	1.00	0.00	0.00	0.00	0.00	Indirect Information Feedback	
Heat Pump	Infiltration Reduction	Small Office	Discretionary	9.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$115.13	\$80.59	\$0.17	\$0.00	\$0.00	0.19	1.00	0.02	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)	
Heat Pump	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Discretionary	4.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$281.31	\$196.91	\$0.17	\$0.00	\$0.00	0.11	1.00	0.01	0.00	0.00	0.00	R-35 c.i.	
Heat Pump	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Lost Opportunity	4.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$281.31	\$196.91	\$0.11	\$0.00	\$0.00	0.11	1.00	0.00	0.00	0.00	0.00	R-35 c.i.	
Heat Pump	Insulation - Ceiling - CBES 2015 - Code	Small Office	Discretionary	15.3	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,283.59	\$898.51	\$0.17	\$0.00	\$0.00	0.09	1.00	0.02	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)	
Heat Pump	Insulation - Duct - CBES 2015 - Above Code	Small Office	Discretionary	3.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$22.61	\$15.83	\$0.17	\$0.00	\$0.00	0.72	1.00	0.02	0.00	0.00	0.00	R-12	
Heat Pump	Insulation - Duct - CBES 2015 - Above Code	Small Office	Lost Opportunity	3.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$22.61	\$15.83	\$0.11	\$0.00	\$0.00	0.72	1.00	0.00	0.00	0.00	0.00	R-12	
Heat Pump	Insulation - Duct - CBES 2015 - Code	Small Office	Discretionary	3.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$91.06	\$63.74	\$0.17	\$0.00	\$0.00	0.18	1.00	0.02	0.00	0.00	0.00	R-8 (CBES 2015 Code)	
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Discretionary	6.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$500.10	\$350.07	\$0.17	\$0.00	\$0.00	0.09	1.00	0.00	0.00	0.00	0.00	R-38	
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Lost Opportunity	6.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$500.10	\$350.07	\$0.11	\$0.00	\$0.00	0.09	1.00	0.00	0.00	0.00	0.00	R-38	
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Code	Small Office	Discretionary	11.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,433.62	\$1,003.53	\$0.17	\$0.00	\$0.00	0.06	1.00	0.01	0.00	0.00	0.00	R-30 (CBES 2015 Code)	
Heat Pump	Insulation - Wall - CBES 2015 - Above Code	Small Office	Discretionary	8.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$469.31	\$328.52	\$0.17	\$0.00	\$0.00	0.13	1.00	0.01	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Heat Pump	Insulation - Wall - CBES 2015 - Above Code	Small Office	Lost Opportunity	8.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$469.31	\$328.52	\$0.11	\$0.00	\$0.00	0.13	1.00	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Heat Pump	Insulation - Wall - CBES 2015 - Code	Small Office	Discretionary	9.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,220.43	\$2,254.30	\$0.17	\$0.00	\$0.00	0.02	1.00	0.01	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)	
Heat Pump	Natural Ventilation	Small Office	Lost Opportunity	9.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1,667.00	\$1,166.90	\$0.11	\$0.00	\$0.00	0.02	1.00	0.00	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling	
Heat Pump	Programmable Thermostat	Small Office	Discretionary	3.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$25.78</												



Appendix B.4		BED Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Lighting Interior Fluorescent	Dimming-Stepped, Fluorescent Fixtures	Small Office	Discretionary	948.8	0.18	0.13	0.00	0.00	0.0	0.0	0.0	10	\$93.91	\$65.73	\$0.17	\$0.00	\$0.00	18.81	0.99	269.46	269.46	201.25	201.25	3-stepped Dimming of Fluorescent Fixtures (Day-Lighting)
Lighting Interior Fluorescent	Lighting Interior - Fluorescent - 2018 Federal Standard	Small Office	Lost Opportunity	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.07	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	Standard Fluorescent 2018 Federal Standard Approved T-8
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 - Above Standard	Small Office	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.07	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 High Performance - Above Standard	Small Office	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.06	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 High Performance Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 Reduced Wattage - Above Standard	Small Office	Lost Opportunity	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.03	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 Reduced Wattage Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - TLED - Above Standard	Small Office	Lost Opportunity	1.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.17	\$0.12	\$0.17	-\$0.02	\$0.00	999.00	0.99	2901.94	3179.74	2313.21	2313.21	Above Standard TLED
Lighting Interior Fluorescent	Occupancy Sensor Control	Small Office	Discretionary	813.2	0.16	0.11	0.00	0.00	0.0	0.0	0.0	10	\$2,267.40	\$1,587.18	\$0.17	\$0.00	\$0.00	0.67	0.99	433.07	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Interior Fluorescent	Time Clock	Small Office	Discretionary	338.8	0.07	0.05	0.00	0.00	0.0	0.0	0.0	8	\$103.00	\$72.10	\$0.17	\$0.00	\$0.00	4.86	0.99	15.04	15.04	11.23	11.23	Time Clock
Lighting Interior Fluorescent - Early Replacement	Early Replacement Lighting Interior - TLED - Above Standard	Small Office	Discretionary	286.9	0.06	0.04	0.00	0.00	0.0	0.0	0.0	15	\$68.27	\$47.79	\$0.17	-\$1.55	\$0.00	16.38	0.99	66.29	66.29	49.51	49.51	Above Standard TLED
Lighting Interior HID	Lighting Interior - Efficient Metal Halide - Above Standard	Small Office	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.15	\$0.11	\$0.17	-\$0.02	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	Efficient Metal Halide
Lighting Interior HID	Lighting Interior - Federal Standard 2017 Metal Halide - Above Standard	Small Office	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.18	\$0.13	\$0.17	-\$0.02	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	Federal Standard 2017 Metal Halide
Lighting Interior HID	Lighting Interior - High Bay Fluorescent High Output - Above Standard	Small Office	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.48	\$0.34	\$0.17	\$0.05	\$0.00	1.22	0.99	567.16	628.93	457.72	457.72	High Bay Fluorescent High Output (HO)
Lighting Interior HID	Lighting Interior - High Bay Induction - Above Standard	Small Office	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.47	\$0.33	\$0.17	-\$0.06	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	High Bay Induction
Lighting Interior HID	Lighting Interior - High Bay LED - Above Standard	Small Office	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.55	\$0.39	\$0.17	-\$0.02	\$0.00	5.61	0.99	828.37	918.60	668.54	668.54	High Bay LED
Lighting Interior HID	Occupancy Sensor Control	Small Office	Discretionary	334.1	0.06	0.04	0.00	0.00	0.0	0.0	0.0	10	\$931.56	\$652.09	\$0.17	\$0.00	\$0.00	0.67	0.99	304.55	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Interior HID	Time Clock	Small Office	Discretionary	139.2	0.03	0.02	0.00	0.00	0.0	0.0	0.0	8	\$103.00	\$72.10	\$0.17	\$0.00	\$0.00	2.00	0.99	10.57	10.57	7.90	7.90	Time Clock
Lighting Interior Other	Exit Sign - LED	Small Office	Discretionary	35.0	0.01	0.00	0.00	0.00	0.0	0.0	0.0	16	\$49.26	\$34.48	\$0.17	\$0.00	\$0.00	2.16	0.99	51.21	51.21	38.25	38.25	LED Exit Sign
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Small Office	Discretionary	43.6	0.01	0.01	0.00	0.00	0.0	0.0	0.0	16	-\$7.50	\$0.00	\$0.17	\$0.00	\$0.00	999.00	0.99	93.18	93.18	69.59	69.59	Photoluminescent or Tritium
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Small Office	Lost Opportunity	43.6	0.01	0.01	0.00	0.00	0.0	0.0	0.0	16	-\$7.50	\$0.00	\$0.11	\$0.00	\$0.00	999.00	0.99	3.86	3.86	2.80	2.80	Photoluminescent or Tritium
Lighting Interior Other	New Construction Lighting Package - Advanced Efficiency	Small Office	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.46	\$0.32	\$0.11	-\$0.02	\$0.00	7.49	0.99	161.37	161.37	118.51	118.51	Advanced Efficiency Lighting Package - 25% LPD Reduction
Lighting Interior Other	New Construction Lighting Package - High Efficiency	Small Office	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.07	\$0.05	\$0.11	-\$0.01	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	High Efficiency Lighting Package - 15% LPD Reduction
Lighting Interior Other	New Construction Lighting Package - Premium Efficiency	Small Office	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.37	\$0.26	\$0.11	-\$0.01	\$0.00	7.49	0.99	0.00	0.00	0.00	0.00	Premium Efficiency Lighting Package - 20% LPD Reduction
Lighting Interior Other	Occupancy Sensor Control	Small Office	Discretionary	17.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$48.86	\$34.20	\$0.17	\$0.00	\$0.00	0.67	0.99	18.66	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Interior Other	Time Clock	Small Office	Discretionary	7.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$103.00	\$72.10	\$0.17	\$0.00	\$0.00	0.10	0.99	0.65	0.00	0.00	0.00	Time Clock
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	Small Office	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3	\$0.01	\$0.01	\$0.17	-\$0.01	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	CFL
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base Incandescent - Backstop EISA 2020 Standard	Small Office	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3	\$0.00	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	Backstop EISA 2020 Standard Incandescent
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base LED - Above Standard	Small Office	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.04	\$0.03	\$0.17	-\$0.01	\$0.00	999.00	0.99	69.57	69.94	52.24	52.24	LED
Lighting Interior Screw Base - Standard	Occupancy Sensor Control	Small Office	Discretionary	219.7	0.04	0.03	0.00	0.00	0.0	0.0	0.0	10	\$612.52	\$428.76	\$0.17	\$0.00	\$0.00	0.67	0.99	69.88	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Interior Screw Base - Standard	Time Clock	Small Office	Discretionary	91.5	0.02	0.01	0.00	0.00	0.0	0.0	0.0	8	\$103.00	\$72.10	\$0.17	\$0.00	\$0.00	1.31	0.99	2.43	2.43	1.81	1.81	Time Clock
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base CFL - Above Standard	Small Office	Discretionary	169.6	0.03	0.02	0.00	0.00	0.0	0.0	0.0	3	\$3.85	\$2.70	\$0.17	-\$3.40	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	CFL
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base LED - Above Standard	Small Office	Discretionary	177.2	0.03	0.02	0.00	0.00	0.0	0.0	0.0	12	\$12.22	\$8.56	\$0.17	-\$4.01	\$0.00	999.00	0.99	36.85	36.85	27.52	27.52	LED
Other Plug Load	Dehumidifier - ENERGY STAR	Small Office	Discretionary	153.8	0.02	0.01	0.00	0.00	0.0	0.0	0.0	12	\$60.00	\$42.00	\$0.17	\$0.00	\$0.00	5.23	1.00	60.06	60.06	39.76	39.76	ENERGY STAR Dehumidifier
Other Plug Load	Dehumidifier - ENERGY STAR	Small Office	Lost Opportunity	153.8	0.02	0.01	0.00	0.00	0.0	0.0	0.0	12	\$60.00	\$42.00	\$0.11	\$0.00	\$0.00	5.23	1.00	3.32	3.32	2.20	2.20	ENERGY STAR Dehumidifier
Other Plug Load	ENERGY STAR - Scanners	Small Office	Discretionary	3.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	5.76	0.00	0.00	0.00	ENERGY STAR Scanners
Other Plug Load	ENERGY STAR - Scanners	Small Office	Lost Opportunity	3.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.32	0.00	0.00	0.00	ENERGY STAR Scanners
Other Plug Load	ENERGY STAR - Water Cooler	Small Office	Discretionary	58.2	0.01	0.01	0.00	0.00	0.0	0.0	0.0	10	\$0.50	\$0.35	\$0.17	\$0.00	\$0.00	196.63	1.00	130.82	130.82	86.61	86.61	ENERGY STAR Water Cooler (Hot/Cold Water)
Other Plug Load	ENERGY STAR - Water Cooler	Small Office	Lost Opportunity	58.2	0.01	0.01	0.00	0.00	0.0	0.0	0.0	10	\$0.50	\$0.35	\$0.11	\$0.00	\$0.00	196.63	1.00	7.22	7.22	4.78	4.78	ENERGY STAR Water Cooler (Hot/Cold Water)
Other Plug Load	Internal Power Supply / Com - E Star	Small Office	Discretionary	36.1	0.01	0.00	0.00	0.00	0.0	0.0	0.0	4	\$73.57	\$51.50	\$0.17	\$0.00	\$0.00	0.32	1.00	18.83	0.00	0.00	0.00	ENERGY STAR power supply for ENERGY STAR desktop
Other Plug Load	Internal Power Supply / Com - E Star	Small Office	Lost Opportunity	36.1	0.01	0.00	0.00	0.00	0.0	0.0	0.0	4	\$73.57	\$51.50	\$0.11	\$0.00	\$0.00	0.32	1.00	1.04	0.00	0.00	0.00	ENERGY STAR power supply for ENERGY STAR desktop
Other Plug Load	Smart Strip Plug Outlet	Small Office	Discretionary	70.2	0.01	0.01	0.00	0.00	0.0	0.0	0.0	4	\$52.77	\$36.94	\$0.17	\$0.00	\$0.00	0.86	1.00	33.22	0.00	0.00	0.00	Advanced Power Strip - Load Sensing
Other Plug Load	Smart Strip Plug Outlet	Small Office	Lost Opportunity	70.2	0.01	0.01	0.00	0.00	0.0	0.0	0.0	4	\$52.77	\$36.94	\$0.11	\$0.00	\$0.00	0.86	1.00	1.83	0.00	0.00	0.00	Advanced Power Strip - Load Sensing
Other Plug Load	Smart Strip Plug Outlet	Small Office	Discretionary	42.7	0.01	0.00	0.00	0.00	0.0	0.0	0.0	4	\$127.79	\$89.45	\$0.17	\$0.00	\$0.00	0.22	1.00	0.00	0.00	0.00	0.00	Advanced Power Strip with Occupancy Sensor
Other Plug Load	Smart Strip Plug Outlet	Small Office	Lost Opportunity	42.7	0.01	0.00	0.00	0.00	0.0	0.0	0.0	4	\$127.79	\$89.45	\$0.11	\$0.00	\$0.00	0.22	1.00	0.00	0.00	0.00	0.00	Advanced Power Strip with Occupancy Sensor
Photo Copiers	Copiers - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.99	78.16	0.00	0.00	0.00	ENERGY STAR Copiers
Photo Copiers	Copiers - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.99	4.07	0.00	0.00	0.00	ENERGY STAR Copiers
Printers	Printers - ENERGY STAR	Small Office	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	366.28	0.00	0.00	0.00	ENERGY STAR Printers
Printers	Printers - ENERGY STAR	Small Office	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	19.06	0.00	0.00	0.00	ENERGY STAR Printers
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	0.89	1.00	0.00	0.00	0.00	0.00	CEE Tier 2 Refrigerator
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	0.89	1.00	0.00	0.00	0.00	0.00	CEE Tier 2 Refrigerator
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.02	\$0.01	\$0.17	\$0.00	\$0.00	0.83	1.00	15.36	0.00	0.00	0.00	CEE Tier 3 Refrigerator
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.02	\$0.01	\$0.11	\$0.00	\$0.00	0.83	1.00	1.55	0.00	0.00	0.00	CEE Tier 3 Refrigerator
Refrigerators																								



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Room Cool	Room AC - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.03	\$0.02	\$0.11	\$0.00	\$0.00	0.25	1.00	0.02	0.00	0.00	0.00	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)	
Room Cool	Windows - CBES 2015 - Above Code	Small Office	Discretionary	0.3	0.00	0.00	0.00	0.13	0.0	0.0	0.0	20	\$680.83	\$476.58	\$0.17	\$0.00	\$0.00	0.01	1.00	0.00	0.00	0.00	0.00	U-0.29	
Room Cool	Windows - CBES 2015 - Above Code	Small Office	Lost Opportunity	0.3	0.00	0.00	0.00	0.14	0.0	0.0	0.0	20	\$680.83	\$476.58	\$0.11	\$0.00	\$0.00	0.01	1.00	0.00	0.00	0.00	0.00	U-0.29	
Room Cool	Windows - CBES 2015 - Code	Small Office	Discretionary	0.7	0.00	0.00	0.00	0.30	0.0	0.0	0.0	20	\$4,495.94	\$3,147.16	\$0.17	\$0.00	\$0.00	0.00	1.00	0.01	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Room Cool - Early Replacement	Early Replacement Room AC - ENERGY STAR	Small Office	Discretionary	10.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$183.37	\$128.36	\$0.17	\$0.00	\$0.00	0.14	1.00	0.09	0.00	0.00	0.00	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)	
Room Heat - Electric	Ductless Heat Pump (DHP)	Small Office	Discretionary	545.9	0.00	0.22	0.00	0.00	0.0	0.0	0.0	15	\$464.14	\$324.90	\$0.17	\$0.00	\$0.00	2.20	0.97	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Heat - Electric	Ductless Heat Pump (DHP)	Small Office	Lost Opportunity	545.9	0.00	0.22	0.00	0.00	0.0	0.0	0.0	15	\$464.14	\$324.90	\$0.11	\$0.00	\$0.00	2.20	0.97	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Small Office	Discretionary	574.8	0.00	0.23	0.00	0.00	0.0	0.0	0.0	15	\$475.24	\$332.67	\$0.17	\$0.00	\$0.00	2.26	0.97	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0	
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Small Office	Lost Opportunity	574.8	0.00	0.23	0.00	0.00	0.0	0.0	0.0	15	\$475.24	\$332.67	\$0.11	\$0.00	\$0.00	2.26	0.97	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0	
Room Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Small Office	Discretionary	1,949.7	0.00	0.78	0.00	0.00	0.0	0.0	0.0	14	\$4,884.25	\$3,418.98	\$0.17	\$0.00	\$0.00	0.70	0.97	0.00	0.00	0.00	0.00	Exhaust Air to Ventilation Air Heat Recovery	
Room Heat - Electric	Infiltration Reduction	Small Office	Discretionary	1,299.8	0.00	0.52	0.00	0.00	0.0	0.0	0.0	10	\$115.13	\$80.59	\$0.17	\$0.00	\$0.00	14.21	0.97	0.00	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)	
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Discretionary	603.8	0.00	0.24	0.00	0.00	0.0	0.0	0.0	30	\$281.31	\$196.91	\$0.17	\$0.00	\$0.00	8.06	0.97	0.00	0.00	0.00	0.00	R-35 c.i.	
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Lost Opportunity	603.8	0.00	0.24	0.00	0.00	0.0	0.0	0.0	30	\$281.31	\$196.91	\$0.11	\$0.00	\$0.00	8.06	0.97	0.00	0.00	0.00	0.00	R-35 c.i.	
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Small Office	Discretionary	2,068.8	0.00	0.83	0.00	0.00	0.0	0.0	0.0	30	\$1,283.59	\$898.51	\$0.17	\$0.00	\$0.00	6.05	0.97	0.00	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)	
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Discretionary	889.9	0.00	0.36	0.00	0.00	0.0	0.0	0.0	30	\$500.10	\$350.07	\$0.17	\$0.00	\$0.00	6.68	0.97	0.00	0.00	0.00	0.00	R-38	
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Lost Opportunity	889.9	0.00	0.36	0.00	0.00	0.0	0.0	0.0	30	\$500.10	\$350.07	\$0.11	\$0.00	\$0.00	6.68	0.97	0.00	0.00	0.00	0.00	R-38	
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Small Office	Discretionary	1,549.8	0.00	0.62	0.00	0.00	0.0	0.0	0.0	30	\$1,433.62	\$1,003.53	\$0.17	\$0.00	\$0.00	4.06	0.97	0.00	0.00	0.00	0.00	R-30 (CBES 2015 Code)	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Small Office	Discretionary	1,172.8	0.00	0.47	0.00	0.00	0.0	0.0	0.0	30	\$469.31	\$328.52	\$0.17	\$0.00	\$0.00	9.38	0.97	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Small Office	Lost Opportunity	1,172.8	0.00	0.47	0.00	0.00	0.0	0.0	0.0	30	\$469.31	\$328.52	\$0.11	\$0.00	\$0.00	9.38	0.97	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Code	Small Office	Discretionary	1,287.8	0.00	0.52	0.00	0.00	0.0	0.0	0.0	30	\$3,220.43	\$2,254.30	\$0.17	\$0.00	\$0.00	1.50	0.97	0.00	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)	
Room Heat - Electric	Windows - CBES 2015 - Above Code	Small Office	Discretionary	78.5	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$680.83	\$476.58	\$0.17	\$0.00	\$0.00	0.29	0.97	0.00	0.00	0.00	0.00	U-0.29	
Room Heat - Electric	Windows - CBES 2015 - Above Code	Small Office	Lost Opportunity	78.5	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$680.83	\$476.58	\$0.11	\$0.00	\$0.00	0.29	0.97	0.00	0.00	0.00	0.00	U-0.29	
Room Heat - Electric	Windows - CBES 2015 - Code	Small Office	Discretionary	184.0	0.00	0.07	0.00	0.00	0.0	0.0	0.0	20	\$4,495.94	\$3,147.16	\$0.17	\$0.00	\$0.00	0.10	0.97	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Servers	Internal Power Supply / Server	Small Office	Discretionary	7.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$2.26	\$1.58	\$0.17	\$0.00	\$0.00	2.22	0.99	11.00	13.99	9.17	9.17	80 Plus power supply for Desktop Derived Server	
Servers	Internal Power Supply / Server	Small Office	Lost Opportunity	7.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$2.26	\$1.58	\$0.11	\$0.00	\$0.00	2.22	0.99	0.60	0.78	0.51	0.51	80 Plus power supply for Desktop Derived Server	
Servers	Server - ENERGY STAR	Small Office	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.21	\$0.15	\$0.17	\$0.00	\$0.00	0.40	0.99	213.96	0.00	0.00	0.00	ENERGY STAR Server	
Servers	Server - ENERGY STAR	Small Office	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.21	\$0.15	\$0.11	\$0.00	\$0.00	0.40	0.99	11.76	0.00	0.00	0.00	ENERGY STAR Server	
Space Heat - Electric	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Small Office	Discretionary	1,563.7	0.00	0.63	0.00	0.00	0.0	0.0	0.0	15	\$416.75	\$291.73	\$0.17	\$0.00	\$0.00	7.02	0.97	1.95	1.95	1.26	1.26	Demand Controlled Ventilation (CO2 sensors)	
Space Heat - Electric	Convert Constant Volume Air System to VAV	Small Office	Discretionary	4,667.8	0.01	1.88	0.00	0.00	0.0	0.0	0.0	15	\$6,078.36	\$4,254.85	\$0.17	\$0.00	\$0.00	1.44	0.97	2.23	2.23	1.44	1.44	Variable Volume Air System	
Space Heat - Electric	Direct Digital Control System-Installation	Small Office	Discretionary	2,665.4	0.01	1.07	0.00	0.00	0.0	0.0	0.0	5	\$520.94	\$364.66	\$0.17	\$0.00	\$0.00	3.18	0.97	7.60	7.60	4.90	4.90	Installation of EMS System	
Space Heat - Electric	Direct Digital Control System-Installation	Small Office	Lost Opportunity	2,665.4	0.01	1.07	0.00	0.00	0.0	0.0	0.0	5	\$520.94	\$364.66	\$0.11	\$0.00	\$0.00	3.18	0.97	0.05	0.05	0.03	0.03	Installation of EMS System	
Space Heat - Electric	Duct Repair and Sealing	Small Office	Discretionary	1,545.1	0.00	0.62	0.00	0.00	0.0	0.0	0.0	18	\$400.08	\$280.06	\$0.17	\$0.00	\$0.00	8.65	0.97	3.30	3.30	2.13	2.13	Reduction In Duct Losses to 5 %	
Space Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Small Office	Discretionary	2,665.4	0.01	1.07	0.00	0.00	0.0	0.0	0.0	14	\$4,884.25	\$3,418.98	\$0.17	\$0.00	\$0.00	0.95	0.97	0.98	0.00	0.00	0.00	Exhaust Air to Ventilation Air Heat Recovery	
Space Heat - Electric	Indirect Information Feedback	Small Office	Discretionary	92.5	0.00	0.04	0.00	0.00	0.0	0.0	0.0	2	\$307.64	\$215.34	\$0.17	\$0.00	\$0.00	0.07	0.97	0.29	0.00	0.00	0.00	Indirect Information Feedback	
Space Heat - Electric	Indirect Information Feedback	Small Office	Lost Opportunity	92.5	0.00	0.04	0.00	0.00	0.0	0.0	0.0	2	\$307.64	\$215.34	\$0.11	\$0.00	\$0.00	0.07	0.97	0.02	0.00	0.00	0.00	Indirect Information Feedback	
Space Heat - Electric	Infiltration Reduction	Small Office	Discretionary	1,776.9	0.00	0.71	0.00	0.00	0.0	0.0	0.0	10	\$115.13	\$80.59	\$0.17	\$0.00	\$0.00	19.43	0.97	3.27	3.27	2.11	2.11	Install Caulking And Weatherstripping (ACH 0.65)	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Discretionary	825.5	0.00	0.33	0.00	0.00	0.0	0.0	0.0	30	\$281.31	\$196.91	\$0.17	\$0.00	\$0.00	11.01	0.97	1.21	1.21	0.78	0.78	R-35 c.i.	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Lost Opportunity	825.5	0.00	0.33	0.00	0.00	0.0	0.0	0.0	30	\$281.31	\$196.91	\$0.11	\$0.00	\$0.00	11.01	0.97	0.03	0.03	0.02	0.02	R-35 c.i.	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Small Office	Discretionary	2,828.2	0.01	1.14	0.00	0.00	0.0	0.0	0.0	30	\$1,283.59	\$898.51	\$0.17	\$0.00	\$0.00	8.27	0.97	2.58	2.58	1.67	1.67	R-30 c.i. (CBES 2015 Code)	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Small Office	Discretionary	639.7	0.00	0.26	0.00	0.00	0.0	0.0	0.0	20	\$22.61	\$15.83	\$0.17	\$0.00	\$0.00	70.37	0.97	2.63	2.63	1.69	1.69	R-12	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Small Office	Lost Opportunity	639.7	0.00	0.26	0.00	0.00	0.0	0.0	0.0	20	\$22.61	\$15.83	\$0.11	\$0.00	\$0.00	70.37	0.97	0.17	0.17	0.10	0.10	R-12	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Code	Small Office	Discretionary	639.7	0.00	0.26	0.00	0.00	0.0	0.0	0.0	20	\$91.06	\$63.74	\$0.17	\$0.00	\$0.00	17.47	0.97	2.06	2.06	1.33	1.33	R-8 (CBES 2015 Code)	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Discretionary	1,216.5	0.00	0.49	0.00	0.00	0.0	0.0	0.0	30	\$500.10	\$350.07	\$0.17	\$0.00	\$0.00	9.13	0.97	0.60	0.60	0.39	0.39	R-38	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Lost Opportunity	1,216.5	0.00	0.49	0.00	0.00	0.0	0.0	0.0	30	\$500.10	\$350.07	\$0.11	\$0.00	\$0.00	9.13	0.97	0.07	0.07	0.04	0.04	R-38	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Small Office	Discretionary	2,118.7	0.00	0.85	0.00	0.00	0.0	0.0	0.0	30	\$1,433.62	\$1,003.53	\$0.17	\$0.00	\$0.00	5.55	0.97	0.95	0.95	0.62	0.62	R-30 (CBES 2015 Code)	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Small Office	Discretionary	1,603.3	0.00	0.64	0.00	0.00	0.0	0.0	0.0	30	\$469.31	\$328.52	\$0.17	\$0.00	\$0.00	12.82	0.97	1.32	1.32	0.85	0.85	R-13 + 15.6 c.i.	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Small Office	Lost Opportunity	1,603.3	0.00	0.64	0.00	0.00	0.0	0.0	0.0	30	\$469.31	\$328.52	\$0.11	\$0.00	\$0.00	12.82	0.97	0.23	0.23	0.13	0.13	R-13 + 15.6 c.i.	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Code	Small Office	Discretionary	1,760.5	0.00	0.71	0.00	0.00	0.0	0.0	0.0	30	\$3,220.43	\$2,254.30	\$0.17	\$0.00	\$0.00	2.05	0.97	0.85	0.85	0.55	0.55	R-13 + 7.5 c.i. (CBES 2015 Code)	
Space Heat - Electric	Programmable Thermostat	Small Office	Discretionary	710.8	0.00	0.29	0.00	0.00	0.0	0.0	0.0	11	\$25.78	\$18.04	\$0.17	\$0.00	\$0.00	38.11	0.97	2.73	2.73	2.12	1.76	Programmable Thermostat	
Space Heat - Electric	Strategic Energy Management (SEM)	Small Office	Discretionary	728.5	0.00	0.29	0.00	0.00																	



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Office	Lost Opportunity	30.5	0.00	0.01	0.00	0.00	0.0	0.0	2.3	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.94	0.00	0.00	0.00	0.00	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Office	Discretionary	13.1	0.00	0.01	0.00	0.00	0.0	0.0	0.9	9	\$20.00	\$14.00	\$0.17	\$0.00	\$0.00	1.11	0.94	0.12	0.18	0.09	0.09	2.2 GPM (Federal Code)	
Water Heat GT 55 Gal	Low-Flow Showerheads	Small Office	Discretionary	28.3	0.00	0.01	0.00	0.00	0.0	0.0	3.3	9	\$1.67	\$1.17	\$0.17	\$0.00	\$0.00	36.60	0.94	0.64	0.97	0.51	0.51	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Small Office	Lost Opportunity	28.3	0.00	0.01	0.00	0.00	0.0	0.0	3.3	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.94	0.03	0.00	0.00	0.00	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Small Office	Discretionary	21.3	0.00	0.01	0.00	0.00	0.0	0.0	2.5	9	\$1.67	\$1.17	\$0.17	\$0.00	\$0.00	27.45	0.94	0.00	0.00	0.00	0.00	1.75 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Small Office	Lost Opportunity	21.3	0.00	0.01	0.00	0.00	0.0	0.0	2.5	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.94	0.00	0.00	0.00	0.00	1.75 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Small Office	Discretionary	14.2	0.00	0.01	0.00	0.00	0.0	0.0	1.7	9	\$1.67	\$1.17	\$0.17	\$0.00	\$0.00	18.30	0.94	0.00	0.00	0.00	0.00	2.0 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Small Office	Lost Opportunity	14.2	0.00	0.01	0.00	0.00	0.0	0.0	1.7	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.94	0.00	0.00	0.00	0.00	2.0 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Small Office	Discretionary	14.2	0.00	0.01	0.00	0.00	0.0	0.0	1.7	9	\$1.67	\$1.17	\$0.17	\$0.00	\$0.00	18.30	0.94	0.12	0.18	0.10	0.10	2.5 GPM (Federal Code)	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$3.74	\$2.62	\$0.17	\$1.38	\$0.00	0.00	0.94	0.13	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$3.74	\$2.62	\$0.11	\$1.38	\$0.00	0.00	0.94	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Small Office	Discretionary	48.0	0.00	0.02	0.00	0.00	0.0	0.0	0.0	20	\$350.72	\$245.50	\$0.17	\$0.00	\$0.00	0.34	0.94	1.08	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Small Office	Lost Opportunity	48.0	0.00	0.02	0.00	0.00	0.0	0.0	0.0	20	\$350.72	\$245.50	\$0.11	\$0.00	\$0.00	0.34	0.94	0.05	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Small Office	Discretionary	8.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.94	0.01	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Small Office	Lost Opportunity	8.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.94	0.00	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.91	\$0.64	\$0.17	\$0.00	\$0.00	0.01	0.94	0.24	0.00	0.00	0.00	CO2 Heat Pump Water Heater	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.91	\$0.64	\$0.11	\$0.00	\$0.00	0.01	0.94	0.00	0.00	0.00	0.00	CO2 Heat Pump Water Heater	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.18	\$0.13	\$0.17	\$0.00	\$0.00	0.02	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.18	\$0.13	\$0.11	\$0.00	\$0.00	0.02	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.73	\$0.51	\$0.17	\$0.00	\$0.00	0.01	0.94	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.73	\$0.51	\$0.11	\$0.00	\$0.00	0.01	0.94	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Small Office	Discretionary	11.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	563.88	0.94	0.26	0.39	0.21	0.21	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Small Office	Lost Opportunity	11.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	563.88	0.94	0.01	0.02	0.01	0.01	Set Water Heater to 120F	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Small Office	Discretionary	19.5	0.00	0.01	0.00	0.00	0.0	0.0	1.8	13	\$21.76	\$15.23	\$0.17	\$0.00	\$0.00	2.42	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Small Office	Lost Opportunity	19.5	0.00	0.01	0.00	0.00	0.0	0.0	1.8	13	\$21.76	\$15.23	\$0.11	\$0.00	\$0.00	2.42	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Small Office	Discretionary	43.2	0.00	0.02	0.00	0.00	0.0	0.0	2.3	13	\$40.24	\$28.17	\$0.17	\$0.00	\$0.00	2.44	0.94	17.54	43.36	22.91	22.91	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Small Office	Lost Opportunity	43.2	0.00	0.02	0.00	0.00	0.0	0.0	2.3	13	\$40.24	\$28.17	\$0.11	\$0.00	\$0.00	2.44	0.94	0.76	2.40	1.26	1.26	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Small Office	Discretionary	46.8	0.00	0.02	0.00	0.00	0.0	0.0	0.0	13	\$10.71	\$7.50	\$0.17	\$0.00	\$0.00	7.11	0.94	13.47	33.30	17.60	17.60	1.0" of Insulation, assuming R-4 (Code)	
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Small Office	Discretionary	0.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$0.11	\$0.08	\$0.17	\$0.00	\$0.00	21.12	0.94	0.12	0.28	0.15	0.15	R-3	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Office	Discretionary	74.2	0.00	0.03	0.00	0.00	0.0	0.0	5.5	9	\$20.00	\$14.00	\$0.17	\$0.00	\$0.00	6.58	0.94	50.28	124.32	65.69	65.69	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Office	Lost Opportunity	74.2	0.00	0.03	0.00	0.00	0.0	0.0	5.5	9	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.94	2.18	0.00	0.00	0.00	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Office	Discretionary	52.4	0.00	0.02	0.00	0.00	0.0	0.0	3.9	9	\$20.00	\$14.00	\$0.17	\$0.00	\$0.00	4.64	0.94	0.00	0.00	0.00	0.00	1.0 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Office	Discretionary	30.5	0.00	0.01	0.00	0.00	0.0	0.0	2.3	9	\$20.00	\$14.00	\$0.11	\$0.00	\$0.00	2.71	0.94	0.00	0.00	0.00	0.00	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Office	Lost Opportunity	30.5	0.00	0.01	0.00	0.00	0.0	0.0	2.3	9	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.94	0.00	0.00	0.00	0.00	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Office	Discretionary	13.1	0.00	0.01	0.00	0.00	0.0	0.0	0.9	9	\$20.00	\$14.00	\$0.11	\$0.00	\$0.00	1.11	0.94	3.33	8.23	4.35	4.35	2.2 GPM (Federal Code)	
Water Heat LE 55 Gal	Low-Flow Showerheads	Small Office	Discretionary	28.3	0.00	0.01	0.00	0.00	0.0	0.0	3.3	9	\$1.67	\$1.17	\$0.17	\$0.00	\$0.00	36.60	0.94	18.26	45.14	23.85	23.85	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Small Office	Lost Opportunity	28.3	0.00	0.01	0.00	0.00	0.0	0.0	3.3	9	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.94	0.79	0.00	0.00	0.00	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Small Office	Discretionary	21.3	0.00	0.01	0.00	0.00	0.0	0.0	2.5	9	\$1.67	\$1.17	\$0.11	\$0.00	\$0.00	27.45	0.94	0.00	0.00	0.00	0.00	1.75 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Small Office	Lost Opportunity	21.3	0.00	0.01	0.00	0.00	0.0	0.0	2.5	9	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.94	0.00	0.00	0.00	0.00	1.75 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Small Office	Discretionary	14.2	0.00	0.01	0.00	0.00	0.0	0.0	1.7	9	\$1.67	\$1.17	\$0.11	\$0.00	\$0.00	18.30	0.94	0.00	0.00	0.00	0.00	2.0 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Small Office	Lost Opportunity	14.2	0.00	0.01	0.00	0.00	0.0	0.0	1.7	9	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.94	0.00	0.00	0.00	0.00	2.0 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Small Office	Discretionary	14.2	0.00	0.01	0.00	0.00	0.0	0.0	1.7	9	\$1.67	\$1.17	\$0.11	\$0.00	\$0.00	18.30	0.94	3.42	8.46	4.47	4.47	2.5 GPM (Federal Code)	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$5.38	\$3.77	\$0.17	\$1.41	\$0.00	0.00	0.94	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$5.38	\$3.77	\$0.17	\$1.41	\$0.00	0.00	0.94	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Small Office	Discretionary	48.0	0.00	0.02	0.00	0.00	0.0	0.0	0.0	20	\$350.72	\$245.50	\$0.11	\$0.00	\$0.00	0.34	0.94	30.91	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Small Office	Lost Opportunity	48.0	0.00	0.02	0.00	0.00	0.0	0.0	0.0	20	\$350.72	\$245.50	\$0.17	\$0.00	\$0.00	0.34	0.94	1.34	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Small Office	Discretionary	7.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.94	0.26	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Small Office	Lost Opportunity	7.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.94	0.01	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$2.55	\$1.78	\$0.11	\$0.02	\$0.00	0.01	0.94	20.90	0.00	0.00	0.00	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$2.55	\$1.78	\$0.17	\$0.02	\$0.00	0.01	0.94	0.33	0.00	0.00	0.00	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.64	\$1.15	\$										



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Compressed Air	VFD Air Compressor Upgrade	Small Retail	Lost Opportunity	385.9	0.04	0.04	0.00	0.00	0.0	0.0	0.0	10	\$318.61	\$223.03	\$0.17	\$0.00	\$0.00	1.91	0.99	0.14	0.14	0.09	0.09	VFD Compressor Upgrade	
Computers	Computer - ENERGY STAR	Small Retail	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.99	231.75	0.00	0.00	0.00	ENERGY STAR Computer	
Computers	Computer - ENERGY STAR	Small Retail	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	11.53	0.00	0.00	0.00	ENERGY STAR Computer	
Computers	Network PC Power Management	Small Retail	Discretionary	51.6	0.01	0.00	0.00	0.00	0.0	0.0	0.0	5	\$6.31	\$4.42	\$0.11	\$1.45	\$0.00	3.27	1.00	36.76	64.68	42.82	42.82	Network PC Power Management	
Computers	Network PC Power Management	Small Retail	Lost Opportunity	51.6	0.01	0.00	0.00	0.00	0.0	0.0	0.0	5	\$6.31	\$4.42	\$0.17	\$1.45	\$0.00	3.27	1.00	2.28	4.02	2.66	2.66	Network PC Power Management	
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Small Retail	Discretionary	21.5	0.01	0.00	0.00	0.00	0.0	0.0	0.0	15	\$433.25	\$303.28	\$0.11	\$0.00	\$0.00	0.17	1.00	2.53	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)	
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.40	\$0.28	\$0.17	\$0.00	\$0.00	0.21	0.99	11.27	0.00	0.00	0.00	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)	
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.36	\$0.25	\$0.17	\$0.00	\$0.00	0.23	0.99	0.76	0.00	0.00	0.00	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)	
Cooling Chillers	Convert Constant Volume Air System to VAV	Small Retail	Discretionary	54.4	0.02	0.00	0.00	0.00	0.0	0.0	0.0	15	\$6,319.01	\$4,423.31	\$0.11	\$0.00	\$0.00	0.03	0.99	2.43	0.00	0.00	0.00	Variable Volume Air System	
Cooling Chillers	Direct Digital Control System-Installation	Small Retail	Discretionary	31.1	0.01	0.00	0.00	0.00	0.0	0.0	0.0	5	\$541.56	\$379.09	\$0.17	\$0.00	\$0.00	0.06	0.99	8.28	0.00	0.00	0.00	Installation of EMS System	
Cooling Chillers	Direct Digital Control System-Installation	Small Retail	Lost Opportunity	31.1	0.01	0.00	0.00	0.00	0.0	0.0	0.0	5	\$541.56	\$379.09	\$0.17	\$0.00	\$0.00	0.06	0.99	0.05	0.00	0.00	0.00	Installation of EMS System	
Cooling Chillers	Exhaust Hood Makeup Air	Small Retail	Discretionary	9.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.99	0.11	0.00	0.00	0.00	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Cooling Chillers	Green Roof	Small Retail	Discretionary	1.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$25,995.00	\$18,196.50	\$0.17	\$259.95	\$0.00	0.00	0.99	0.34	0.00	0.00	0.00	Vegetation on Roof	
Cooling Chillers	Green Roof	Small Retail	Lost Opportunity	0.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$25,995.00	\$18,196.50	\$0.17	\$259.95	\$0.00	0.00	0.99	0.02	0.00	0.00	0.00	Vegetation on Roof	
Cooling Chillers	Indirect Information Feedback	Small Retail	Discretionary	1.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2	\$3.58	\$2.51	\$0.11	\$0.00	\$0.00	0.12	0.99	0.37	0.00	0.00	0.00	Indirect Information Feedback	
Cooling Chillers	Indirect Information Feedback	Small Retail	Lost Opportunity	1.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2	\$3.58	\$2.51	\$0.17	\$0.00	\$0.00	0.12	0.99	0.02	0.00	0.00	0.00	Indirect Information Feedback	
Cooling Chillers	Infiltration Reduction	Small Retail	Discretionary	6.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$103.16	\$72.21	\$0.11	\$0.00	\$0.00	0.14	0.99	0.45	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)	
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Small Retail	Discretionary	9.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$292.44	\$204.71	\$0.17	\$0.00	\$0.00	0.24	0.99	1.30	0.00	0.00	0.00	R-35 c.i.	
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Small Retail	Lost Opportunity	9.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$292.44	\$204.71	\$0.17	\$0.00	\$0.00	0.24	0.99	0.03	0.00	0.00	0.00	R-35 c.i.	
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Code	Small Retail	Discretionary	33.3	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,334.41	\$934.09	\$0.11	\$0.00	\$0.00	0.18	0.99	2.87	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)	
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Retail	Discretionary	14.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$519.90	\$363.93	\$0.17	\$0.00	\$0.00	0.20	0.99	0.64	0.00	0.00	0.00	R-38	
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Retail	Lost Opportunity	14.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$519.90	\$363.93	\$0.17	\$0.00	\$0.00	0.20	0.99	0.07	0.00	0.00	0.00	R-38	
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Code	Small Retail	Discretionary	24.9	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,490.38	\$1,043.27	\$0.11	\$0.00	\$0.00	0.12	0.99	1.05	0.00	0.00	0.00	R-30 (CBES 2015 Code)	
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Small Retail	Discretionary	18.5	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$478.51	\$334.96	\$0.17	\$0.00	\$0.00	0.28	0.99	1.39	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Small Retail	Lost Opportunity	18.5	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$478.51	\$334.96	\$0.17	\$0.00	\$0.00	0.28	0.99	0.21	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Cooling Chillers	Insulation - Wall - CBES 2015 - Code	Small Retail	Discretionary	20.3	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,283.56	\$2,298.49	\$0.11	\$0.00	\$0.00	0.05	0.99	0.91	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)	
Cooling Chillers	Natural Ventilation	Small Retail	Lost Opportunity	20.7	0.01	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1,733.00	\$1,213.10	\$0.17	\$0.00	\$0.00	0.04	0.99	0.02	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling	
Cooling Chillers	Programmable Thermostat	Small Retail	Discretionary	8.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$25.78	\$18.04	\$0.11	\$0.00	\$0.00	0.81	0.99	2.76	0.00	0.00	0.00	Programmable Thermostat	
Cooling Chillers	Strategic Energy Management (SEM)	Small Retail	Discretionary	8.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$1.14	\$0.80	\$0.17	\$0.00	\$0.00	8.08	0.99	0.44	0.49	0.33	0.33	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Chillers	Strategic Energy Management (SEM)	Small Retail	Lost Opportunity	8.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$1.14	\$0.80	\$0.17	\$0.00	\$0.00	8.08	0.99	0.15	0.18	0.12	0.12	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Chillers	Wi-Fi Thermostat	Small Retail	Discretionary	8.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$205.33	\$143.73	\$0.11	\$0.00	\$0.00	0.10	0.99	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)	
Cooling Chillers	Windows - CBES 2015 - Above Code	Small Retail	Discretionary	1.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$610.06	\$427.04	\$0.17	\$0.00	\$0.00	0.01	0.99	0.11	0.00	0.00	0.00	U-0.29	
Cooling Chillers	Windows - CBES 2015 - Above Code	Small Retail	Lost Opportunity	1.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$610.06	\$427.04	\$0.17	\$0.00	\$0.00	0.01	0.99	0.02	0.00	0.00	0.00	U-0.29	
Cooling Chillers	Windows - CBES 2015 - Code	Small Retail	Discretionary	2.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$4,028.61	\$2,820.03	\$0.11	\$0.00	\$0.00	0.00	0.99	0.26	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units	Small Retail	Discretionary	25.6	0.01	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1,299.75	\$909.83	\$0.17	-\$935.82	\$0.00	999.00	0.99	7.56	9.52	6.33	6.33	Rooftop unit with automated fault detection and diagnostics capability	
Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units	Small Retail	Lost Opportunity	25.6	0.01	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1,039.80	\$727.86	\$0.17	-\$748.66	\$0.00	999.00	0.99	0.43	0.56	0.37	0.37	Rooftop unit with automated fault detection and diagnostics capability	
Cooling Dx Evap	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Small Retail	Discretionary	17.7	0.01	0.00	0.00	2.17	0.0	0.0	0.0	15	\$433.25	\$303.28	\$0.11	\$0.00	\$0.00	0.21	0.99	2.14	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)	
Cooling Dx Evap	Convert Constant Volume Air System to VAV	Small Retail	Discretionary	44.6	0.02	0.00	0.00	6.49	0.0	0.0	0.0	15	\$6,319.01	\$4,423.31	\$0.17	\$0.00	\$0.00	0.04	0.99	1.93	0.00	0.00	0.00	Variable Volume Air System	
Cooling Dx Evap	DX Package 65 to 135 kBtuh - Federal Standard 2023	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.55	\$0.38	\$0.17	\$0.00	\$0.00	0.07	0.99	0.00	0.00	0.00	0.00	Federal Standard 2023 - 14.8 IEER	
Cooling Dx Evap	DX Package 65 to 135 kBtuh - Federal Standard 2023	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.44	\$0.31	\$0.17	\$0.00	\$0.00	0.08	0.99	0.00	0.00	0.00	0.00	Federal Standard 2023 - 14.8 IEER	
Cooling Dx Evap	DX Package 65 to 135 kBtuh - Premium Efficiency	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1.76	\$1.23	\$0.11	\$0.00	\$0.00	0.05	0.99	24.67	0.00	0.00	0.00	Premium Efficiency - 19.0 IEER	
Cooling Dx Evap	DX Package 65 to 135 kBtuh - Premium Efficiency	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1.41	\$0.98	\$0.17	\$0.00	\$0.00	0.06	0.99	1.37	0.00	0.00	0.00	Premium Efficiency - 19.0 IEER	
Cooling Dx Evap	DX Package-Air Side Economizer	Small Retail	Discretionary	47.5	0.02	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1,540.44	\$1,078.31	\$0.11	\$0.00	\$0.00	0.07	0.99	1.72	0.00	0.00	0.00	Air-Side Economizer	
Cooling Dx Evap	Direct Digital Control System-Installation	Small Retail	Discretionary	25.5	0.01	0.00	0.00	3.21	0.0	0.0	0.0	5	\$541.56	\$379.09	\$0.17	\$0.00	\$0.00	0.08	0.99	7.03	0.00	0.00	0.00	Installation of EMS System	
Cooling Dx Evap	Direct Digital Control System-Installation	Small Retail	Lost Opportunity	25.5	0.01	0.00	0.00	3.56	0.0	0.0	0.0	5	\$541.56	\$379.09	\$0.17	\$0.00	\$0.00	0.08	0.99	0.05	0.00	0.00	0.00	Installation of EMS System	
Cooling Dx Evap	Duct Repair and Sealing	Small Retail	Discretionary	14.8	0.01	0.00	0.00	2.24	0.0	0.0	0.0	18	\$415.92	\$291.14	\$0.11	\$0.00	\$0.00	0.23	0.99	2.98	0.00	0.00	0.00	Reduction In Duct Losses to 5 %	
Cooling Dx Evap	Exhaust Hood Makeup Air	Small Retail	Discretionary	7.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.99	0.11	0.00	0.00	0.00	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Cooling Dx Evap	Green Roof	Small Retail	Discretionary	0.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$25,995.00	\$18,196.50	\$0.17	\$259.95	\$0.00	0.00	0.99	0.25	0.00	0.00	0.00	Vegetation on Roof	
Cooling Dx Evap	Green Roof	Small Retail	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$25,995.00	\$18,196.50	\$0.17	\$259.95	\$0.00	0.00	0.99	0.01	0.00	0.00	0.00	Vegetation on Roof	
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Small Retail	Discretionary	100.9	0.03	0.00	0.00	0.00	0.0	0.0	0.0	15	\$6,585.40	\$4,609.78	\$0.11	-\$150.77	\$0.00	0.07	0.99	3.30	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Cooling Dx Evap	HVAC Variable Refrigerant Flow	Small Retail	Lost																						



Appendix B.4		BED Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtuh - Premium Efficiency	Small Retail	Discretionary	93.4	0.03	0.00	0.00	0.00	0.0	0.0	0.0	15	\$10,636.80	\$7,445.76	\$0.17	\$0.00	\$0.00	0.03	0.99	11.61	0.00	0.00	0.00	Premium Efficiency - 19.0 IEER
Fax	Fax - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.99	6.58	0.00	0.00	0.00	ENERGY STAR Fax
Fax	Fax - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.34	0.00	0.00	0.00	ENERGY STAR Fax
Flat Screen Monitors	Monitor - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	0.50	1.00	20.56	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	0.50	1.00	1.09	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor
Freezers	Freezer (Residential) - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	13.03	1.00	1.53	1.53	0.86	0.86	ENERGY STAR Freezer
Freezers	Freezer (Residential) - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	13.03	1.00	0.13	0.13	0.07	0.07	ENERGY STAR Freezer
Freezers	Residential Freezer Recycling and Replacement	Small Retail	Discretionary	6.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$2.72	\$1.90	\$0.11	\$0.00	\$0.00	3.13	1.00	9.82	9.82	5.50	5.50	Recycling Existing Freezer and Replacing with a Federal Standard Unit
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	Small Retail	Discretionary	229.6	0.00	0.05	0.00	0.00	0.0	0.0	0.0	8	\$32.28	\$22.60	\$0.17	\$0.00	\$0.00	7.01	1.00	35.53	35.53	26.48	26.48	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	Small Retail	Discretionary	214.3	0.00	0.05	0.00	0.00	0.0	0.0	0.0	8	\$38.30	\$26.81	\$0.17	\$0.00	\$0.00	5.51	0.99	232.10	232.10	173.02	173.02	Photocell
Lighting Exterior	LED Exterior Flood Lights	Small Retail	Discretionary	74.4	0.00	0.02	0.00	0.00	0.0	0.0	0.0	20	\$49.04	\$34.33	\$0.17	\$0.00	\$0.00	3.73	0.99	131.15	131.15	97.76	97.76	LED Exterior Flood Lights
Lighting Exterior	LED Exterior Flood Lights	Small Retail	Lost Opportunity	74.4	0.00	0.02	0.00	0.00	0.0	0.0	0.0	20	\$49.04	\$34.33	\$0.17	\$0.00	\$0.00	3.73	0.99	7.24	7.24	4.66	4.66	LED Exterior Flood Lights
Lighting Exterior	LED Exterior Pole Mount Fixture	Small Retail	Discretionary	42.4	0.00	0.01	0.00	0.00	0.0	0.0	0.0	15	\$83.08	\$58.16	\$0.11	\$0.00	\$0.00	0.94	0.99	74.73	0.00	0.00	0.00	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Pole Mount Fixture	Small Retail	Lost Opportunity	42.4	0.00	0.01	0.00	0.00	0.0	0.0	0.0	15	\$83.08	\$58.16	\$0.17	\$0.00	\$0.00	0.94	0.99	4.13	0.00	0.00	0.00	LED Exterior Pole Mount Fixture
Lighting Exterior	LED Exterior Wall Pack	Small Retail	Discretionary	140.5	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$291.50	\$204.05	\$0.11	\$0.00	\$0.00	1.19	0.99	234.01	234.01	174.44	174.44	LED Exterior Wall Pack
Lighting Exterior	LED Exterior Wall Pack	Small Retail	Lost Opportunity	140.5	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$291.50	\$204.05	\$0.17	\$0.00	\$0.00	1.19	0.99	12.92	12.92	8.32	8.32	LED Exterior Wall Pack
Lighting Exterior	LED Pathway Lights	Small Retail	Discretionary	35.0	0.00	0.01	0.00	0.00	0.0	0.0	0.0	11	\$8.28	\$5.80	\$0.11	\$0.00	\$0.00	5.73	0.99	61.72	61.72	46.01	46.01	LED Pathway Lights
Lighting Exterior	LED Pathway Lights	Small Retail	Lost Opportunity	35.0	0.00	0.01	0.00	0.00	0.0	0.0	0.0	11	\$8.28	\$5.80	\$0.17	\$0.00	\$0.00	5.73	0.99	3.41	3.41	2.54	2.54	LED Pathway Lights
Lighting Exterior	Occupancy Sensor Control	Small Retail	Discretionary	183.7	0.00	0.04	0.00	0.00	0.0	0.0	0.0	10	\$576.98	\$403.89	\$0.11	\$0.00	\$0.00	0.39	0.99	85.26	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Exterior	Parking - Covered Lighting	Small Retail	Discretionary	16.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	19	\$11.84	\$8.29	\$0.17	\$0.00	\$0.00	3.21	0.99	7.79	7.79	5.80	5.80	Covered Parking Lighting (LED)
Lighting Exterior	Parking - Covered Lighting	Small Retail	Lost Opportunity	16.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	19	\$11.84	\$8.29	\$0.17	\$0.00	\$0.00	3.21	0.99	0.43	0.43	0.29	0.29	Covered Parking Lighting (LED)
Lighting Exterior	Parking - Surface Lighting	Small Retail	Discretionary	8.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$4.51	\$3.15	\$0.11	\$0.00	\$0.00	2.40	0.99	1.81	1.81	1.35	1.35	Surface Parking Lighting (LED)
Lighting Exterior	Parking - Surface Lighting	Small Retail	Lost Opportunity	8.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$4.51	\$3.15	\$0.17	\$0.00	\$0.00	2.40	0.99	0.10	0.10	0.07	0.07	Surface Parking Lighting (LED)
Lighting Exterior	Time Clock	Small Retail	Discretionary	76.5	0.00	0.02	0.00	0.00	0.0	0.0	0.0	8	\$103.00	\$72.10	\$0.11	\$0.00	\$0.00	0.73	0.99	5.92	0.00	0.00	0.00	Time Clock
Lighting Interior Fluorescent	Bi-Level Control, Stairwell Lighting	Small Retail	Discretionary	169.8	0.03	0.02	0.00	0.00	0.0	0.0	0.0	8	\$239.78	\$167.84	\$0.17	\$0.00	\$0.00	1.05	0.99	12.56	12.56	9.36	9.36	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time
Lighting Interior Fluorescent	Dimming-Continuous, Fluorescent Fixtures	Small Retail	Discretionary	1,787.2	0.35	0.24	0.00	0.00	0.0	0.0	0.0	10	\$95.75	\$67.02	\$0.17	\$0.00	\$0.00	34.75	0.99	0.00	0.00	0.00	0.00	Continuous Dimming, Fluorescent Fixtures (Day-Lighting)
Lighting Interior Fluorescent	Dimming-Stepped, Fluorescent Fixtures	Small Retail	Discretionary	1,787.2	0.35	0.24	0.00	0.00	0.0	0.0	0.0	10	\$95.75	\$67.02	\$0.17	\$0.00	\$0.00	34.75	0.99	449.48	449.48	335.06	335.06	3-stepped Dimming of Fluorescent Fixtures (Day-Lighting)
Lighting Interior Fluorescent	Lighting Interior - Fluorescent - 2018 Federal Standard	Small Retail	Lost Opportunity	0.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.03	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	Standard Fluorescent 2018 Federal Standard Approved T-8
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 - Above Standard	Small Retail	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.04	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 High Performance - Above Standard	Small Retail	Lost Opportunity	0.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.02	\$0.00	\$0.17	\$0.00	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 High Performance Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 Reduced Wattage - Above Standard	Small Retail	Lost Opportunity	0.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.03	\$0.02	\$0.17	\$0.01	\$0.00	24.62	0.99	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 Reduced Wattage Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - TLED - Above Standard	Small Retail	Lost Opportunity	2.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.39	\$0.28	\$0.17	-\$0.02	\$0.00	34.45	0.99	4631.51	4838.01	3513.10	3513.10	Above Standard TLED
Lighting Interior Fluorescent	Occupancy Sensor Control	Small Retail	Discretionary	1,531.9	0.30	0.21	0.00	0.00	0.0	0.0	0.0	10	\$4,811.81	\$3,368.27	\$0.17	\$0.00	\$0.00	0.59	0.99	339.94	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Interior Fluorescent	Time Clock	Small Retail	Discretionary	638.3	0.12	0.09	0.00	0.00	0.0	0.0	0.0	8	\$103.00	\$72.10	\$0.17	\$0.00	\$0.00	9.15	0.99	23.61	23.61	17.60	17.60	Time Clock
Lighting Interior Fluorescent - Early Replacement	Early Replacement Lighting Interior - TLED - Above Standard	Small Retail	Discretionary	506.1	0.10	0.07	0.00	0.00	0.0	0.0	0.0	15	\$123.35	\$86.35	\$0.17	-\$1.12	\$0.00	13.08	0.99	102.86	102.86	76.68	76.68	Above Standard TLED
Lighting Interior HID	Lighting Interior - Efficient Metal Halide - Above Standard	Small Retail	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.06	\$0.04	\$0.17	\$0.00	\$0.00	26.23	0.99	0.00	0.00	0.00	0.00	Efficient Metal Halide
Lighting Interior HID	Lighting Interior - Federal Standard 2017 Metal Halide - Above Standard	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.07	\$0.05	\$0.17	\$0.00	\$0.00	2.35	0.99	0.00	0.00	0.00	0.00	Federal Standard 2017 Metal Halide
Lighting Interior HID	Lighting Interior - High Bay Fluorescent High Output - Above Standard	Small Retail	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.18	\$0.13	\$0.17	\$0.02	\$0.00	1.37	0.99	228.76	240.10	174.43	174.43	High Bay Fluorescent High Output (HO)
Lighting Interior HID	Lighting Interior - High Bay Induction - Above Standard	Small Retail	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.18	\$0.13	\$0.17	-\$0.01	\$0.00	5.97	0.99	0.00	0.00	0.00	0.00	High Bay Induction
Lighting Interior HID	Lighting Interior - High Bay LED - Above Standard	Small Retail	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.21	\$0.15	\$0.17	-\$0.01	\$0.00	5.79	0.99	334.12	350.69	254.77	254.77	High Bay LED
Lighting Interior HID	Occupancy Sensor Control	Small Retail	Discretionary	201.9	0.04	0.03	0.00	0.00	0.0	0.0	0.0	10	\$634.27	\$443.99	\$0.17	\$0.00	\$0.00	0.59	0.99	61.33	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Interior HID	Time Clock	Small Retail	Discretionary	84.1	0.02	0.01	0.00	0.00	0.0	0.0	0.0	8	\$103.00	\$72.10	\$0.17	\$0.00	\$0.00	1.21	0.99	4.26	4.26	3.17	3.17	Time Clock
Lighting Interior Other	Exit Sign - LED	Small Retail	Discretionary	35.0	0.01	0.00	0.00	0.00	0.0	0.0	0.0	16	\$49.26	\$34.48	\$0.17	\$0.00	\$0.00	2.16	0.99	44.64	44.64	33.27	33.27	LED Exit Sign
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Small Retail	Discretionary	43.6	0.01	0.01	0.00	0.00	0.0	0.0	0.0	16	-\$7.50	\$0.00	\$0.17	\$0.00	\$0.00	999.00	0.99	81.22	81.22	60.55	60.55	Photoluminescent or Tritium
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Small Retail	Lost Opportunity	43.6	0.01	0.01	0.00	0.00	0.0	0.0	0.0	16	-\$7.50	\$0.00	\$0.17	\$0.00	\$0.00	999.00	0.99	3.36	3.36	2.43	2.43	Photoluminescent or Tritium
Lighting Interior Other	New Construction Lighting Package - Advanced Efficiency	Small Retail	Lost Opportunity	1.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.05	\$0.04	\$0.11	-\$0.01	\$0.00	999.00	0.99	254.03	254.03	186.20	186.20	Advanced Efficiency Lighting Package - 25% LPD Reduction
Lighting Interior Other	New Construction Lighting Package - High Efficiency	Small Retail	Lost Opportunity	0.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.02	\$0.02	\$0.11	-\$0.01	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	High Efficiency Lighting Package - 15% LPD Reduction
Lighting Interior Other	New Construction Lighting Package - Premium Efficiency	Small Retail	Lost Opportunity	1.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.04	\$0.02	\$0.11	-\$0.01	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	Premium Efficiency Lighting Package - 20% LPD Reduction
Lighting Interior Other	Occupancy Sensor Control	Small Retail	Discretionary	18.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$57.22	\$40.06	\$0.11	\$0.00	\$0.00	0.59	0.99	8.46	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Interior Other	Time Clock																							



Appendix B.4		BED Non-residential Measure Assumptions																							
				Per Unit Elec	Per Unit Summer	Per Unit Winter	Per unit	Per Unit Oil	Per Unit Propane	Per Unit Wood	Per Unit Water	EE	Measure Cost	Incentive	Non-Incentive	O&M	O&M	Measure	NTG	20 YR	20 YR	20 YR MAP	20 YR RAP		
End-Use	Measure Name	Building Type	Replacement Type	Savings	NCP kW	NCP kW	NG Saving	Savings	Savings	Savings	Savings	EUL		Amount	Cost (\$/kWh)	Benefits	Costs	Level VT Societal	Ratio	Technical Potential (MWh)	Economic Potential (MWh)	(MWh)	(MWh)	Measure Description	
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	1.23	1.00	0.00	0.00	0.00	0.00	CEE Tier 2 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.02	\$0.01	\$0.11	\$0.00	\$0.00	1.15	1.00	26.39	26.39	14.78	14.78	CEE Tier 3 Refrigerator	
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.02	\$0.01	\$0.17	\$0.00	\$0.00	1.15	1.00	2.32	2.32	1.30	1.30	CEE Tier 3 Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	1.26	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	1.26	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	1.27	1.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Refrigerator	
Refrigerators	Refrigerator (Residential) - ENERGY STAR 2016 Most Efficient	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	1.27	1.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Refrigerator	
Refrigerators	Residential Refrigerator Recycling and Replacement	Small Retail	Discretionary	47.5	0.01	0.01	0.00	0.00	0.0	0.0	0.0	8	\$24.72	\$17.30	\$0.11	\$0.00	\$0.00	2.41	1.00	74.69	74.69	41.83	41.83	Recycling Existing Refrigerator and Replacing with a Federal Standard Unit	
Room Cool	Ductless Air Conditioner (DAC)	Small Retail	Discretionary	11.7	0.01	0.00	0.00	0.00	0.0	0.0	0.0	15	\$283.20	\$198.24	\$0.17	\$0.00	\$0.00	0.17	1.00	0.14	0.00	0.00	0.00	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Air Conditioner (DAC)	Small Retail	Lost Opportunity	11.7	0.01	0.00	0.00	0.00	0.0	0.0	0.0	15	\$283.20	\$198.24	\$0.17	\$0.00	\$0.00	0.17	0.99	0.01	0.00	0.00	0.00	Ductless Air Conditioner - SEER/EER 18/12.5	
Room Cool	Ductless Heat Pump (DHP)	Small Retail	Discretionary	31.9	0.01	0.00	0.00	0.00	0.0	0.0	0.0	15	\$482.52	\$337.76	\$0.11	\$0.00	\$0.00	0.27	0.99	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP)	Small Retail	Lost Opportunity	31.9	0.01	0.00	0.00	0.00	0.0	0.0	0.0	15	\$482.52	\$337.76	\$0.17	\$0.00	\$0.00	0.27	0.99	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Small Retail	Discretionary	33.6	0.02	0.00	0.00	0.00	0.0	0.0	0.0	15	\$494.06	\$345.84	\$0.11	\$0.00	\$0.00	0.28	0.99	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Small Retail	Lost Opportunity	33.6	0.02	0.00	0.00	0.00	0.0	0.0	0.0	15	\$494.06	\$345.84	\$0.17	\$0.00	\$0.00	0.28	0.99	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0	
Room Cool	Exhaust Hood Makeup Air	Small Retail	Discretionary	2.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.99	0.00	0.00	0.00	0.00	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Room Cool	Green Roof	Small Retail	Discretionary	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$25,995.00	\$18,196.50	\$0.17	\$259.95	\$0.00	0.00	0.99	0.01	0.00	0.00	0.00	0.00	Vegetation on Roof
Room Cool	Green Roof	Small Retail	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$25,995.00	\$18,196.50	\$0.17	\$259.95	\$0.00	0.00	0.99	0.00	0.00	0.00	0.00	0.00	Vegetation on Roof
Room Cool	Infiltration Reduction	Small Retail	Discretionary	1.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$103.16	\$72.21	\$0.11	\$0.00	\$0.00	0.05	0.99	0.01	0.00	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Small Retail	Discretionary	2.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$292.44	\$204.71	\$0.17	\$0.00	\$0.00	0.08	0.99	0.02	0.00	0.00	0.00	0.00	R-35 c.i.
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	Small Retail	Lost Opportunity	2.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$292.44	\$204.71	\$0.17	\$0.00	\$0.00	0.07	0.99	0.00	0.00	0.00	0.00	0.00	R-35 c.i.
Room Cool	Insulation - Ceiling - CBES 2015 - Code	Small Retail	Discretionary	8.7	0.00	0.00	0.00	0.00	0.0	0.1	0.0	30	\$1,334.41	\$934.09	\$0.11	\$0.00	\$0.00	0.06	0.99	0.05	0.00	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Retail	Discretionary	3.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$519.90	\$363.93	\$0.17	\$0.00	\$0.00	0.06	0.99	0.01	0.00	0.00	0.00	0.00	R-38
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Retail	Lost Opportunity	3.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$519.90	\$363.93	\$0.17	\$0.00	\$0.00	0.06	0.99	0.00	0.00	0.00	0.00	0.00	R-38
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Code	Small Retail	Discretionary	6.5	0.00	0.00	0.00	0.00	0.0	0.1	0.0	30	\$1,490.38	\$1,043.27	\$0.11	\$0.00	\$0.00	0.04	0.99	0.02	0.00	0.00	0.00	0.00	R-30 (CBES 2015 Code)
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Small Retail	Discretionary	4.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$478.51	\$334.96	\$0.17	\$0.00	\$0.00	0.09	0.99	0.02	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Room Cool	Insulation - Wall - CBES 2015 - Above Code	Small Retail	Lost Opportunity	4.4	0.00	0.00	0.00	0.00	0.0	0.1	0.0	30	\$478.51	\$334.96	\$0.17	\$0.00	\$0.00	0.08	0.99	0.00	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Room Cool	Insulation - Wall - CBES 2015 - Code	Small Retail	Discretionary	5.3	0.00	0.00	0.00	0.00	0.0	0.1	0.0	30	\$3,283.56	\$2,298.49	\$0.11	\$0.00	\$0.00	0.01	0.99	0.02	0.00	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Cool	Natural Ventilation	Small Retail	Lost Opportunity	4.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1,733.00	\$1,213.10	\$0.17	\$0.00	\$0.00	0.01	0.99	0.00	0.00	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling
Room Cool	Room AC - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.03	\$0.02	\$0.11	\$0.00	\$0.00	0.25	0.99	0.21	0.00	0.00	0.00	0.00	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Cool	Room AC - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.03	\$0.02	\$0.17	\$0.00	\$0.00	0.25	0.99	0.01	0.00	0.00	0.00	0.00	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Cool	Windows - CBES 2015 - Above Code	Small Retail	Discretionary	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$610.06												



Appendix B.4		BED Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Space Heat - Electric	Strategic Energy Management (SEM)	Small Retail	Discretionary	241.2	0.00	0.10	0.00	0.00	0.0	0.0	0.0	5	\$32.50	\$22.75	\$0.17	\$0.00	\$0.00	4.61	1.00	0.58	0.58	0.39	0.39	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Electric	Strategic Energy Management (SEM)	Small Retail	Lost Opportunity	241.2	0.00	0.10	0.00	0.00	0.0	0.0	0.0	5	\$32.50	\$22.75	\$0.17	\$0.00	\$0.00	4.61	1.00	0.22	0.22	0.15	0.15	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Electric	Wi-Fi Thermostat	Small Retail	Discretionary	235.3	0.00	0.09	0.00	0.00	0.0	0.0	0.0	11	\$205.33	\$143.73	\$0.11	\$0.00	\$0.00	1.58	1.00	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)
Space Heat - Electric	Windows - CBES 2015 - Above Code	Small Retail	Discretionary	30.9	0.00	0.01	0.00	0.00	0.0	0.0	0.0	20	\$610.06	\$427.04	\$0.17	\$0.00	\$0.00	0.13	1.00	0.15	0.00	0.00	0.00	U-0.29
Space Heat - Electric	Windows - CBES 2015 - Above Code	Small Retail	Lost Opportunity	30.9	0.00	0.01	0.00	0.00	0.0	0.0	0.0	20	\$610.06	\$427.04	\$0.17	\$0.00	\$0.00	0.13	1.00	0.03	0.00	0.00	0.00	U-0.29
Space Heat - Electric	Windows - CBES 2015 - Code	Small Retail	Discretionary	72.5	0.00	0.03	0.00	0.00	0.0	0.0	0.0	20	\$4,028.61	\$2,820.03	\$0.11	\$0.00	\$0.00	0.04	1.00	0.34	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Vending Machines	Vending Machines - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Vending Machines - 3.84 kWh/day
Vending Machines	Vending Machines - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.99	0.00	0.00	0.00	0.00	ENERGY STAR Vending Machines - 3.84 kWh/day
Vending Machines	Vending Machines - Federal Standard 2020	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.99	2.29	0.00	0.00	0.00	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Machines - Federal Standard 2020	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.99	0.05	0.00	0.00	0.00	Federal Standard 2020 Vending Machines - 3.83 kWh/day
Vending Machines	Vending Miser	Small Retail	Discretionary	34.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$5.25	\$3.68	\$0.11	\$0.00	\$0.00	5.01	0.99	42.16	42.29	27.72	27.72	Vending Machine Occupancy Sensor
Vending Machines	Vending Miser	Small Retail	Lost Opportunity	34.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$5.25	\$3.68	\$0.17	\$0.00	\$0.00	5.01	0.99	2.69	2.70	1.77	1.77	Vending Machine Occupancy Sensor
Ventilation And Circulation	Automated Exhaust VFD Control - Parking Garage CO sensor	Small Retail	Discretionary	83.9	0.01	0.01	0.00	0.00	0.0	0.0	0.0	5	\$12.21	\$8.54	\$0.11	\$0.00	\$0.00	5.31	0.99	6.53	6.53	4.51	4.51	CO Sensors
Ventilation And Circulation	Boiler Draft Fan - VFD	Small Retail	Discretionary	462.1	0.05	0.06	0.00	0.00	0.0	0.0	0.0	15	\$248.65	\$174.06	\$0.17	\$0.00	\$0.00	4.47	0.95	247.88	247.88	171.15	171.15	VFD Boiler Draft Fan
Ventilation And Circulation	Boiler Draft Fan - VFD	Small Retail	Lost Opportunity	462.1	0.05	0.06	0.00	0.00	0.0	0.0	0.0	15	\$248.65	\$174.06	\$0.17	\$0.00	\$0.00	4.47	0.95	9.48	9.48	6.43	6.43	VFD Boiler Draft Fan
Ventilation And Circulation	Convert Constant Volume Air System to VAV	Small Retail	Discretionary	350.2	0.04	0.04	0.00	0.00	0.0	0.0	0.0	15	\$6,319.01	\$4,423.31	\$0.11	\$0.00	\$0.00	0.13	0.95	55.78	0.00	0.00	0.00	Variable Volume Air System
Ventilation And Circulation	Cooling Tower Fan - Variable Speed Control	Small Retail	Discretionary	25.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$45.01	\$31.50	\$0.17	\$0.00	\$0.00	1.34	0.95	29.09	29.09	20.09	20.09	HVAC Fan System Installation with VSD
Ventilation And Circulation	Fan System - HVAC - Variable Speed Control	Small Retail	Discretionary	455.5	0.05	0.06	0.00	0.00	0.0	0.0	0.0	15	\$72.55	\$50.79	\$0.17	\$0.00	\$0.00	15.10	0.95	206.72	206.72	142.73	142.73	HVAC Fan System Optimization with VSD (Restoration)
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	Small Retail	Discretionary	16.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	16	\$0.36	\$0.25	\$0.17	\$0.00	\$0.00	117.21	0.95	29.20	29.20	20.16	20.16	CEE PE+ Motor for HVAC Applications
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	Small Retail	Lost Opportunity	16.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	16	\$0.36	\$0.25	\$0.17	\$0.00	\$0.00	117.21	0.95	1.61	1.61	1.08	1.08	CEE PE+ Motor for HVAC Applications
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	Small Retail	Discretionary	324.1	0.04	0.04	0.00	0.00	0.0	0.0	0.0	15	\$6,319.01	\$4,423.31	\$0.11	\$0.00	\$0.00	0.12	0.95	35.86	0.00	0.00	0.00	VAV Box High Efficiency (ECM)
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	Small Retail	Lost Opportunity	324.1	0.04	0.04	0.00	0.00	0.0	0.0	0.0	15	\$6,319.01	\$4,423.31	\$0.17	\$0.00	\$0.00	0.12	0.95	0.00	0.00	0.00	0.00	VAV Box High Efficiency (ECM)
Ventilation And Circulation	Motor Rewind	Small Retail	Discretionary	6.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.51	\$0.36	\$0.11	\$0.00	\$0.00	18.63	0.95	0.41	0.41	0.28	0.28	>15, <500 HP
Ventilation And Circulation	Variable Speed ECM Pump - Domestic Hot Water Recirculation	Small Retail	Discretionary	21.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$4.26	\$2.98	\$0.17	\$0.00	\$0.00	12.24	0.95	15.88	15.88	10.96	10.96	Domestic Hot Water Recirculation ECM Pump
Ventilation And Circulation	Variable Speed ECM Pump - HVAC Space Heating Recirculation	Small Retail	Discretionary	358.3	0.04	0.04	0.00	0.00	0.0	0.0	0.0	15	\$42.57	\$29.80	\$0.17	\$0.00	\$0.00	20.26	0.95	192.20	192.20	132.70	132.70	HVAC Space Heating Recirculation ECM Pump
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Small Retail	Discretionary	9.4	0.00	0.00	0.00	0.00	0.0	0.0	1.8	13	\$21.76	\$15.23	\$0.17	\$0.00	\$0.00	1.66	0.95	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Small Retail	Lost Opportunity	9.4	0.00	0.00	0.00	0.00	0.0	0.0	1.8	13	\$21.76	\$15.23	\$0.17	\$0.00	\$0.00	1.66	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Small Retail	Discretionary	20.8	0.00	0.01	0.00	0.00	0.0	0.0	2.3	13	\$40.24	\$28.17	\$0.11	\$0.00	\$0.00	1.53	1.00	0.04	0.06	0.03	0.03	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Small Retail	Lost Opportunity	20.8	0.00	0.01	0.00	0.00	0.0	0.0	2.3	13	\$40.24	\$28.17	\$0.17	\$0.00	\$0.00	1.53	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	Small Retail	Discretionary	22.5	0.00	0.01	0.00	0.00	0.0	0.0	0.0	13	\$10.71	\$7.50	\$0.11	\$0.00	\$0.00	3.42	1.00	0.50	0.77	0.43	0.43	1.0" of Insulation, assuming R-4 (Code)
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	Small Retail	Discretionary	20.7	0.00	0.01	0.00	0.00	0.0	0.0	0.0	25	\$707.00	\$494.90	\$0.17	\$0.00	\$0.00	0.09	1.00	0.01	0.00	0.00	0.00	Install Heat Recovery Water Heater
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	Small Retail	Discretionary	1.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$0.17	\$0.12	\$0.17	\$0.00	\$0.00	21.12	1.00	0.01	0.02	0.01	0.01	R-3
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Retail	Discretionary	30.1	0.00	0.01	0.00	0.00	0.0	0.0	2.2	9	\$20.00	\$14.00	\$0.17	\$0.00	\$0.00	2.67	1.00	0.82	1.25	0.70	0.70	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Retail	Lost Opportunity	30.1	0.00	0.01	0.00	0.00	0.0	0.0	2.2	9	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.04	0.00	0.00	0.00	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Retail	Discretionary	21.2	0.00	0.01	0.00	0.00	0.0	0.0	1.6	9	\$20.00	\$14.00	\$0.11	\$0.00	\$0.00	1.88	1.00	0.00	0.00	0.00	0.00	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Retail	Lost Opportunity	21.2	0.00	0.01	0.00	0.00	0.0	0.0	1.6	9	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Retail	Discretionary	12.4	0.00	0.00	0.00	0.00	0.0	0.0	0.9	9	\$20.00	\$14.00	\$0.11	\$0.00	\$0.00	1.10	1.00	0.00	0.00	0.00	0.00	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Retail	Lost Opportunity	12.4	0.00	0.00	0.00	0.00	0.0	0.0	0.9	9	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Retail	Discretionary	5.3	0.00	0.00	0.00	0.00	0.0	0.0	0.3	9	\$20.00	\$14.00	\$0.11	\$0.00	\$0.00	0.45	1.00	0.05	0.00	0.00	0.00	2.2 GPM (Federal Code)
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$3.60	\$2.52	\$0.17	\$1.33	\$0.00	0.00	1.00	0.43	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$3.60	\$2.52	\$0.17	\$1.33	\$0.00	0.00	1.00	0.02	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Small Retail	Discretionary	19.4	0.00	0.01	0.00	0.00	0.0	0.0	0.0	20	\$350.72	\$245.50	\$0.11	\$0.00	\$0.00	0.14	1.00	0.50	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Small Retail	Lost Opportunity	19.4	0.00	0.01	0.00	0.00	0.0	0.0	0.0	20	\$350.72	\$245.50	\$0.17	\$0.00	\$0.00	0.14	1.00	0.02	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Small Retail	Discretionary	12.9	0.00	0.01	0.00	0.00	0.0	0.0	0.0	10	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.02	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Small Retail	Lost Opportunity	12.9	0.00	0.01	0.00	0.00	0.0	0.0	0.0	10	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.88	\$0.61	\$0.11	\$0.00	\$0.00	0.02	1.00	0.73	0.00	0.00	0.00	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.88	\$0.61	\$0.17	\$0.00	\$0.00	0.02	1.00	0.03	0.00	0.00	0.00	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.18	\$0.12	\$0.11	\$0.00	\$0.00	0.03	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.18	\$0.12	\$0.17	\$0.00	\$0.00	0.03	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.70	\$0.49	\$0.11	\$0.00	\$0.00	0.02	1.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Small Retail	Discretionary	12.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.29	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Small Retail	Lost Opportunity	12.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.01	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$2.45	\$1.72	\$0.11	\$0.02	\$0.00	0.02	1.00	43.31	0.00	0.00	0.00	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$2.45	\$1.72	\$0.17	\$0.02	\$0.00	0.02	1.00	2.43	0.00	0.00	0.00	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.58	\$1.10	\$0.11	\$0.02	\$0.00	0.03	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.58	\$1.10	\$0.17	\$0.02	\$0.00	0.03	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.75	\$1.23	\$0.11	\$0.02	\$0.00	0.03	1.00	0.00	0.00	0.00	0.00	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$1.75	\$1.23	\$0.17	\$0.02	\$0.00	0.03	1.00	0.00	0.00	0.00	0.00	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$2.28	\$1.59	\$0.11	\$0.02	\$0.00	0.02	1.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 Gal - EF 2.8	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Small Retail	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$2.28	\$1.59	\$0.17	\$0.02	\$0.00	0.02	1.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 Gal - EF 2.8	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Small Retail	Discretionary	16.9	0.00	0.01	0.00	0.00	0.0	0.0	0.0	4	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	837.98	1.00	7.63	18.88	10.57	10.57	Set Water Heater to 120F	
Water Heat LE 55 Gal	Water Heater Setback Thermostat	Small Retail	Lost Opportunity	16.9	0.00	0.01	0.00	0.00	0.0	0.0	0.0	4	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	837.98	1.00	0.33	1.04	0.58	0.58	Set Water Heater to 120F	
Water Heat LE 55 Gal	Water Heater Tank Wrap	Small Retail	Discretionary	34.1	0.00	0.01	0.00	0.00	0.0	0.0	0.0	7	\$41.55	\$29.09	\$0.11	\$0.00	\$0.00	0.72	1.00	3.77	0.00	0.00	0.00	Add R-10 Tank Wrap	
Compressed Air	Compressed Air Controller - Pressure/Flow Controller	University	Discretionary	44.9	0.01	0.01	0.00	0.00	0.0	0.0	0.0	15	\$38.17	\$26.72	\$0.17	\$0.00	\$0.00	2.81	1.00	0.05	0.05	0.03	0.03	Compressed Air Pressure/Flow Controller	
Compressed Air	Compressed Air Controller - Pressure/Flow Controller	University	Lost Opportunity	44.9	0.01	0.01	0.00	0.00	0.0	0.0	0.0	15	\$38.17	\$26.72	\$0.17	\$0.00	\$0.00	2.81	0.89	0.00	0.00	0.00	0.00	Compressed Air Pressure/Flow Controller	
Compressed Air	Compressed Air Heat Recovery	University	Discretionary	426.2	0.05	0.05	0.00	0.00	0.0	0.0	0.0	15	\$2,589.88	\$1,812.92	\$0.11	\$0.00	\$0.00	0.39	0.89	0.60	0.00	0.00	0.00	Compressed Air Heat Recovery	
Compressed Air	Compressed Air Heat Recovery	University	Lost Opportunity	426.2	0.05	0.05	0.00	0.00	0.0	0.0	0.0	15	\$2,589.88	\$1,812.92	\$0.17	\$0.00	\$0.00	0.39	0.89	0.03	0.00	0.00	0.00	Compressed Air Heat Recovery	
Compressed Air	Compressed Air System Leakage Reduction	University	Discretionary	194.6	0.02	0.02	0.00	0.00	0.0	0.0	0.0	2	\$65.94	\$46.16	\$0.11	\$0.00	\$0.00	0.86	0.89	0.20	0.00	0.00	0.00	Compressed Air System Leak Survey and Repair	
Compressed Air	Compressed Air System Leakage Reduction	University	Lost Opportunity	194.6	0.02	0.02	0.00	0.00	0.0	0.0	0.0	2	\$65.94	\$46.16	\$0.17	\$0.00	\$0.00	0.86	0.89	0.01	0.00	0.00	0.00	Compressed Air System Leak Survey and Repair	
Compressed Air	Cycling Dryers	University	Discretionary	772.9	0.09	0.09	0.00	0.00	0.0	0.0	0.0	10	\$116.44	\$81.51	\$0.11	\$0.00	\$0.00	10.48	0.89	1.14	1.14	0.67	0.67	Cycling Dryer	
Compressed Air	Cycling Dryers	University	Lost Opportunity	772.9	0.09	0.09	0.00	0.00	0.0	0.0	0.0	10	\$116.44	\$81.51	\$0.17	\$0.00	\$0.00	10.48	0.89	0.06	0.06	0.04	0.04	Cycling Dryer	
Compressed Air	Engineered Nozzles	University	Discretionary	68.9	0.01	0.01	0.00	0.00	0.0	0.0	0.0	10	\$1.77	\$1.24	\$0.11	\$0.00	\$0.00	61.48	0.89	0.01	0.01	0.01	0.01	Compressed Air Engineered Nozzle	
Compressed Air	Engineered Nozzles	University	Lost Opportunity	68.9	0.01	0.01	0.00	0.00	0.0	0.0	0.0	10	\$1.77	\$1.24	\$0.17	\$0.00	\$0.00	61.48	0.89	0.00	0.00	0.00	0.00	Compressed Air Engineered Nozzle	
Compressed Air	Mist Eliminators	University	Discretionary	645.1	0.07	0.07	0.00	0.00	0.0	0.0	0.0	15	\$858.05	\$600.64	\$0.11	\$0.00	\$0.00	1.80	0.89	0.14	0.14	0.08	0.08	Mist Eliminator Filter	
Compressed Air	Mist Eliminators	University	Lost Opportunity	645.1	0.07	0.07	0.00	0.00	0.0	0.0	0.0	15	\$858.05	\$600.64	\$0.17	\$0.00	\$0.00	1.80	0.89	0.01	0.01	0.00	0.00	Mist Eliminator Filter	
Compressed Air	No Air Loss Drain	University	Discretionary	398.0	0.05	0.05	0.00	0.00	0.0	0.0	0.0	5	\$50.52	\$35.36	\$0.11	\$0.00	\$0.00	6.05	0.89	0.06	0.06	0.04	0.04	No Air Loss Drain	
Compressed Air	No Air Loss Drain	University	Lost Opportunity	398.0	0.05	0.05	0.00	0.00	0.0	0.0	0.0	5	\$50.52	\$35.36	\$0.17	\$0.00	\$0.00	6.05	0.89	0.00	0.00	0.00	0.00	No Air Loss Drain	
Compressed Air	VFD Air Compressor Upgrade	University	Discretionary	831.0	0.09	0.09	0.00	0.00	0.0	0.0	0.0	10	\$686.04	\$480.23	\$0.11	\$0.00	\$0.00	1.91	0.89	0.13	0.13	0.08	0.08	VFD Compressor Upgrade	
Compressed Air	VFD Air Compressor Upgrade	University	Lost Opportunity	831.0	0.09	0.09	0.00	0.00	0.0	0.0	0.0	10	\$686.04	\$480.23	\$0.17	\$0.00	\$0.00	1.91	0.89	0.01	0.01	0.00	0.00	VFD Compressor Upgrade	
Computers	Computer - ENERGY STAR	University	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.89	449.56	0.00	0.00	0.00	ENERGY STAR Computer	
Computers	Computer - ENERGY STAR	University	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	21.07	0.00	0.00	0.00	ENERGY STAR Computer	
Computers	Network PC Power Management	University	Discretionary	14,925.2	2.16	1.35	0.00	0.00	0.0	0.0	0.0	5	\$1,825.13	\$1,277.59	\$0.11	\$418.66	\$0.00	3.27	1.00	154.66	271.73	179.90	179.90	Network PC Power Management	
Computers	Network PC Power Management	University	Lost Opportunity	14,925.2	2.16	1.35	0.00	0.00	0.0	0.0	0.0	5	\$1,825.13	\$1,277.59	\$0.17	\$418.66	\$0.00	3.27	1.00	9.59	16.88	11.17	11.17	Network PC Power Management	
Cooking	Combination Oven	University	Discretionary	5.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Combination Oven	
Cooking	Combination Oven	University	Lost Opportunity	5.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Combination Oven	
Cooking	Convection Oven	University	Discretionary	1.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.32	\$0.23	\$0.11	\$0.00	\$0.00	7.05	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Convection Oven	
Cooking	Convection Oven	University	Lost Opportunity	1.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.32	\$0.23	\$0.17	\$0.00	\$0.00	7.05	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Convection Oven	
Cooking	Fryers	University	Discretionary	2.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.42	\$0.30	\$0.11	\$0.00	\$0.00	11.17	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Fryer	
Cooking	Fryers	University	Lost Opportunity	2.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.42	\$0.30	\$0.17	\$0.00	\$0.00	11.17	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Fryer	
Cooking	Griddle	University	Discretionary	1.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.72	\$0.50	\$0.11	\$0.00	\$0.00	4.22	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Griddle	
Cooking	Griddle	University	Lost Opportunity	1.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.72	\$0.50	\$0.17	\$0.00	\$0.00	4.22	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Griddle	
Cooking	Hot Food Holding Cabinet	University	Discretionary	1.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.75	\$0.53	\$0.11	\$0.00	\$0.00	3.65	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Hot Food Holding Cabinet	
Cooking	Hot Food Holding Cabinet	University	Lost Opportunity	1.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.75	\$0.53	\$0.17	\$0.00	\$0.00	3.65	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Hot Food Holding Cabinet	
Cooking	Microwave - High Efficiency	University	Discretionary	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	3.38	0.94	0.00	0.00	0.00	0.00	High Efficiency Microwave	
Cooking	Microwave - High Efficiency	University	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	11	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	3.38	0.94	0.00	0.00	0.00	0.00	High Efficiency Microwave	
Cooking	Steam Cooker	University	Discretionary	4.2	0.00	0.00	0.00	0.00	0.0	0.0	2,224.3	12	\$1.42	\$0.99	\$0.11	\$0.00	\$0.00	17361.25	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Steam Cooker	
Cooking	Steam Cooker	University	Lost Opportunity	4.2	0.00	0.00	0.00	0.00	0.0	0.0	2,224.3	12	\$1.42	\$0.99	\$0.17	\$0.00	\$0.00	17361.25	0.94	0.00	0.00	0.00	0.00	ENERGY STAR Steam Cooker	
Cooling Chillers	Active Chilled Beam Cooling with DOAS	University	Lost Opportunity	1,160.4	0.40	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$42,213.75	\$0.00	\$0.11	\$31,660.31	\$0.00	0.01	0.94	0.08	0.00	0.00	0.00	Active Chilled Beam Cooling with DOAS	
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	University	Discretionary	603.4	0.21	0.00	9.96	0.00	0.0	0.0	0.0	15	\$10,553.44	\$7,387.41	\$0.11	\$0.00	\$0.00	0.23	0.99	0.52	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)	
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	University	Discretionary	1,073.4	0.37	0.00	0.00	0.00	0.0	0.0	0.0	15	\$48,967.95	\$34,277.56	\$0.17	\$0.00	\$0.00	0.08	0.99	1.15	0.00	0.00	0.00	Additional Control Features	
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	University	Lost Opportunity	1,073.4	0.37	0.00	0.00	0.00	0.0	0.0	0.0	15	\$48,967.95	\$34,277.56	\$0.17	\$0.00	\$0.00	0.08	0.99	0.04	0.00	0.00	0.00	Additional Control Features	
Cooling Chillers	Chilled Water Piping Loop with VSD Control	University	Discretionary	891.9	0.31	0.00	0.00	0.00	0.0	0.0	0.0	10	\$44,265.02	\$30,985.52	\$0.11	\$0.00	\$0.00	0.05	0.99	0.5					



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Code	University	Discretionary	619.0	0.21	0.00	12.08	0.00	0.0	0.0	0.0	30	\$9,938.34	\$6,956.84	\$0.11	\$0.00	\$0.00	0.53	0.99	0.20	0.00	0.00	0.00	R-30 (CBES 2015 Code)	
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	University	Discretionary	649.9	0.22	0.00	12.68	0.00	0.0	0.0	0.0	30	\$4,513.75	\$3,159.63	\$0.17	\$0.00	\$0.00	1.22	0.99	0.37	0.42	0.28	0.28	R-13 + 15.6 c.i.	
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	University	Lost Opportunity	649.9	0.22	0.00	12.68	0.00	0.0	0.0	0.0	30	\$4,513.75	\$3,159.63	\$0.17	\$0.00	\$0.00	1.22	0.99	0.06	0.08	0.04	0.04	R-13 + 15.6 c.i.	
Cooling Chillers	Insulation - Wall - CBES 2015 - Code	University	Discretionary	713.7	0.24	0.00	13.92	0.00	0.0	0.0	0.0	30	\$30,973.63	\$21,681.54	\$0.11	\$0.00	\$0.00	0.19	0.99	0.26	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)	
Cooling Chillers	Natural Ventilation	University	Lost Opportunity	580.2	0.20	0.00	0.00	0.00	0.0	0.0	0.0	15	\$42,213.75	\$29,549.62	\$0.17	\$0.00	\$0.00	0.05	0.99	0.00	0.00	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling
Cooling Chillers	Programmable Thermostat	University	Discretionary	232.1	0.08	0.00	4.53	0.00	0.0	0.0	0.0	11	\$188.32	\$131.82	\$0.11	\$0.00	\$0.00	3.62	0.99	0.77	0.88	0.70	0.58	Programmable Thermostat	
Cooling Chillers	Re-Commissioning	University	Discretionary	754.3	0.26	0.00	14.71	0.00	0.0	0.0	0.0	5	\$12,664.12	\$8,864.89	\$0.17	\$0.00	\$0.00	0.08	0.99	2.26	0.00	0.00	0.00	0.00	Re-Commissioning
Cooling Chillers	Retrocommissioning	University	Discretionary	860.7	0.29	0.00	16.79	0.00	0.0	0.0	0.0	5	\$21,106.87	\$14,774.81	\$0.17	\$0.00	\$0.00	0.05	0.99	1.23	0.00	0.00	0.00	0.00	Retrocommissioning
Cooling Chillers	Strategic Energy Management (SEM)	University	Discretionary	237.9	0.08	0.00	4.64	0.00	0.0	0.0	0.0	5	\$32.06	\$22.44	\$0.17	\$0.00	\$0.00	9.49	0.99	0.12	0.14	0.09	0.09	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Chillers	Strategic Energy Management (SEM)	University	Lost Opportunity	237.9	0.08	0.00	4.64	0.00	0.0	0.0	0.0	5	\$32.06	\$22.44	\$0.17	\$0.00	\$0.00	9.49	0.99	0.04	0.05	0.03	0.03	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Chillers	Tune-up - Chiller Maintenance	University	Discretionary	834.1	0.29	0.00	0.00	0.00	0.0	0.0	0.0	5	\$6,754.20	\$4,727.94	\$0.11	\$0.00	\$0.00	0.13	0.99	0.58	0.00	0.00	0.00	0.00	Chiller Tune-up
Cooling Chillers	Wi-Fi Thermostat	University	Discretionary	232.1	0.08	0.00	4.53	0.00	0.0	0.0	0.0	11	\$1,500.14	\$1,050.10	\$0.17	\$0.00	\$0.00	0.46	0.99	0.00	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)
Cooling Chillers	Windows - CBES 2015 - Above Code	University	Discretionary	25.4	0.01	0.00	0.50	0.00	0.0	0.0	0.0	20	\$3,830.56	\$2,681.39	\$0.17	\$0.00	\$0.00	0.04	0.99	0.01	0.00	0.00	0.00	0.00	U-0.29
Cooling Chillers	Windows - CBES 2015 - Above Code	University	Lost Opportunity	25.4	0.01	0.00	0.50	0.00	0.0	0.0	0.0	20	\$3,830.56	\$2,681.39	\$0.17	\$0.00	\$0.00	0.04	0.99	0.00	0.00	0.00	0.00	0.00	U-0.29
Cooling Chillers	Windows - CBES 2015 - Code	University	Discretionary	59.7	0.02	0.00	1.16	0.00	0.0	0.0	0.0	20	\$25,295.62	\$17,706.93	\$0.11	\$0.00	\$0.00	0.01	0.99	0.03	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Cooling Dx Evap	Active Chilled Beam Cooling with DOAS	University	Lost Opportunity	2,058.7	0.70	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$42,213.75	\$0.00	\$0.17	\$31,660.31	\$0.00	0.02	0.99	0.12	0.00	0.00	0.00	0.00	Active Chilled Beam Cooling with DOAS
Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units	University	Discretionary	1,549.7	0.53	0.00	0.00	0.00	0.0	0.0	0.0	10	\$28,142.50	\$19,699.75	\$0.11	-\$20,262.60	\$0.00	999.00	0.99	10.88	14.70	9.73	9.73	0.00	Rooftop unit with automated fault detection and diagnostics capability
Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units	University	Lost Opportunity	1,549.7	0.53	0.00	0.00	0.00	0.0	0.0	0.0	10	\$22,514.00	\$15,759.80	\$0.17	-\$16,210.08	\$0.00	999.00	0.99	0.64	0.87	0.58	0.58	0.00	Rooftop unit with automated fault detection and diagnostics capability
Cooling Dx Evap	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	University	Discretionary	1,070.5	0.37	0.00	0.00	0.00	0.0	0.0	0.0	15	\$10,553.44	\$7,387.41	\$0.11	\$0.00	\$0.00	0.36	0.99	1.81	0.00	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)
Cooling Dx Evap	Commissioning	University	Lost Opportunity	1,338.1	0.46	0.00	0.00	0.00	0.0	0.0	0.0	5	\$48,967.95	\$34,277.56	\$0.17	\$0.00	\$0.00	0.03	0.99	0.22	0.00	0.00	0.00	0.00	Commissioning
Cooling Dx Evap	Convert Constant Volume Air System to VAV	University	Discretionary	2,704.0	0.92	0.00	0.00	0.00	0.0	0.0	0.0	15	\$153,923.39	\$107,746.37	\$0.11	\$0.00	\$0.00	0.06	0.99	1.07	0.00	0.00	0.00	0.00	Variable Volume Air System
Cooling Dx Evap	DX Package 240 to 760 kBtuh - Federal Standard 2023	University	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.19	\$0.13	\$0.17	\$0.00	\$0.00	0.44	0.99	0.00	0.00	0.00	0.00	0.00	Federal Standard 2023 - 13.2 IEER
Cooling Dx Evap	DX Package 240 to 760 kBtuh - Federal Standard 2023	University	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.15	\$0.11	\$0.17	\$0.00	\$0.00	0.55	0.99	0.00	0.00	0.00	0.00	0.00	Federal Standard 2023 - 13.2 IEER
Cooling Dx Evap	DX Package 240 to 760 kBtuh - Premium Efficiency	University	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.77	\$0.54	\$0.11	\$0.00	\$0.00	0.33	0.99	25.94	0.00	0.00	0.00	0.00	Premium Efficiency - 18.0 IEER
Cooling Dx Evap	DX Package 240 to 760 kBtuh - Premium Efficiency	University	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.61	\$0.43	\$0.17	\$0.00	\$0.00	0.41	0.99	0.68	0.00	0.00	0.00	0.00	Premium Efficiency - 18.0 IEER
Cooling Dx Evap	DX Package-Air Side Economizer	University	Discretionary	2,881.4	0.99	0.00	0.00	0.00	0.0	0.0	0.0	10	\$33,354.07	\$23,347.85	\$0.11	\$0.00	\$0.00	0.20	0.99	1.57	0.00	0.00	0.00	0.00	Air-Side Economizer
Cooling Dx Evap	Direct Digital Control System-Installation	University	Discretionary	1,544.0	0.53	0.00	0.00	0.00	0.0	0.0	0.0	5	\$13,191.80	\$9,234.26	\$0.17	\$0.00	\$0.00	0.13	0.99	4.50	0.00	0.00	0.00	0.00	Installation of EMS System
Cooling Dx Evap	Direct Digital Control System-Installation	University	Lost Opportunity	1,544.0	0.53	0.00	0.00	0.00	0.0	0.0	0.0	5	\$13,191.80	\$9,234.26	\$0.17	\$0.00	\$0.00	0.13	0.99	0.02	0.00	0.00	0.00	0.00	Installation of EMS System
Cooling Dx Evap	Duct Repair and Sealing	University	Discretionary	895.1	0.31	0.00	0.00	0.00	0.0	0.0	0.0	18	\$10,131.30	\$7,091.91	\$0.11	\$0.00	\$0.00	0.38	0.99	2.52	0.00	0.00	0.00	0.00	Reduction In Duct Losses to 5 %
Cooling Dx Evap	Exhaust Hood Makeup Air	University	Discretionary	463.2	0.16	0.00	0.00	0.00	0.0	0.0	0.0	12	\$2.58	\$1.81	\$0.17	\$0.00	\$0.00	493.95	0.99	0.96	1.30	0.86	0.86	0.00	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air
Cooling Dx Evap	Green Roof	University	Discretionary	54.8	0.02	0.00	0.00	0.00	0.0	0.0	0.0	40	\$173,343.15	\$121,340.20	\$0.17	\$1,733.43	\$0.00	0.00	0.99	0.14	0.00	0.00	0.00	0.00	Vegetation on Roof
Cooling Dx Evap	Green Roof	University	Lost Opportunity	45.1	0.02	0.00	0.00	0.00	0.0	0.0	0.0	40	\$173,343.15	\$121,340.20	\$0.17	\$1,733.43	\$0.00	0.00	0.99	0.00	0.00	0.00	0.00	0.00	Vegetation on Roof
Cooling Dx Evap	HVAC Variable Refrigerant Flow	University	Discretionary	6,114.2	2.09	0.00	0.00	0.00	0.0	0.0	0.0	15	\$160,412.24	\$112,288.57	\$0.11	-\$3,672.60	\$0.00	0.18	0.99	14.82	0.00	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems
Cooling Dx Evap	HVAC Variable Refrigerant Flow	University	Lost Opportunity	6,114.2	2.09	0.00	0.00	0.00	0.0	0.0	0.0	15	\$160,412.24	\$112,288.57	\$0.17	-\$3,672.60	\$0.00	0.18	0.99	2.60	0.00	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems
Cooling Dx Evap	Indirect Information Feedback	University	Discretionary	53.6	0.02	0.00	0.00	0.00	0.0	0.0	0.0	2	\$178.21	\$124.75	\$0.11	\$0.00	\$0.00	0.12	0.99	0.16	0.00	0.00	0.00	0.00	Indirect Information Feedback
Cooling Dx Evap	Indirect Information Feedback	University	Lost Opportunity	53.6	0.02	0.00	0.00	0.00	0.0	0.0	0.0	2	\$178.21	\$124.75	\$0.17	\$0.00	\$0.00	0.12	0.99	0.01	0.00	0.00	0.00	0.00	Indirect Information Feedback
Cooling Dx Evap	Infiltration Reduction	University	Discretionary	308.8	0.11	0.00	0.00	0.00	0.0	0.0	0.0	10	\$647.77	\$453.44	\$0.11	\$0.00	\$0.00	1.08	0.99	0.07	0.10	0.06	0.06	0.00	Install Caulking And Weatherstripping (ACH 0.65)
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	University	Discretionary	427.9	0.15	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,950.11	\$1,365.08	\$0.17	\$0.00	\$0.00	1.61	0.99	0.87	1.18	0.78	0.78	0.00	R-35 c.i.
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Above Code	University	Lost Opportunity	427.9	0.15	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,950.11	\$1,365.08	\$0.17	\$0.00	\$0.00	1.61	0.99	0.02	0.03	0.02	0.02	0.00	R-35 c.i.
Cooling Dx Evap	Insulation - Ceiling - CBES 2015 - Code	University	Discretionary	1,466.0	0.50	0.00	0.00	0.00	0.0	0.0	0.0	30	\$8,898.28	\$6,228.80	\$0.11	\$0.00	\$0.00	1.21	0.99	1.93	2.61	1.73	1.73	0.00	R-30 c.i. (CBES 2015 Code)
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	University	Discretionary	370.6	0.13	0.00	0.00	0.00	0.0	0.0	0.0	20	\$572.52	\$400.77	\$0.17	\$0.00	\$0.00	3.09	0.99	1.97	2.67	1.77	1.77	0.00	R-12
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Above Code	University	Lost Opportunity	370.6	0.13	0.00	0.00	0.00	0.0	0.0	0.0	20	\$572.52	\$400.77	\$0.17	\$0.00	\$0.00	3.09	0.99	0.14	0.19	0.11	0.11	0.00	R-12
Cooling Dx Evap	Insulation - Duct - CBES 2015 - Code	University	Discretionary	370.6	0.13	0.00	0.00	0.00	0.0	0.0	0.0	20	\$2,305.93	\$1,614.15	\$0.11	\$0.00	\$0.00	0.77	0.99	1.50	0.00	0.00	0.00	0.00	R-8 (CBES 2015 Code)
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	University	Discretionary	630.6	0.22	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,466.86	\$2,426.80	\$0.17	\$0.00	\$0.00	1.34	0.99	0.43	0.58	0.39	0.39	0.00	R-38
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Above Code	University	Lost Opportunity	630.6	0.22	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,466.86	\$2,426.80	\$0.17	\$0.00	\$0.00	1.34	0.99	0.05	0.07	0.04	0.04	0.00	R-38
Cooling Dx Evap	Insulation - Floor (non-slab) - CBES 2015 - Code	University	Discretionary	1,098.2	0.38	0.00	0.00	0.00	0.0	0.0	0.0	30	\$9,938.34	\$6,956.84	\$0.11	\$0.00	\$0.00	0.81	0.99	0.73	0.00	0.00	0.00	0.00	R-30 (CBES 2015 Code)
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	University	Discretionary	1,153.0	0.39	0.00	0.00	0.00	0.0	0.0	0.0	30	\$4,513.75	\$3,159.63	\$0.17	\$0.00	\$0.00	1.88	0.99	1.33	1.80	1.19	1.19	0.00	R-13 + 15.6 c.i.
Cooling Dx Evap	Insulation - Wall - CBES 2015 - Above Code	University	Lost Opportunity	1,153.0	0.39	0.00	0.00	0.00	0.0	0.0	0.0	30	\$4,513.75	\$3,159.63	\$0.17	\$0.00	\$0.00</								



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Heat Pump	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	University	Discretionary	2,543.8	0.84	0.65	0.00	0.00	0.0	0.0	0.0	15	\$10,553.44	\$7,387.41	\$0.11	\$0.00	\$0.00	0.84	0.99	0.79	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)	
Heat Pump	Commissioning	University	Lost Opportunity	3,658.0	1.21	0.94	0.00	0.00	0.0	0.0	0.0	5	\$48,967.95	\$34,277.56	\$0.17	\$0.00	\$0.00	0.08	0.99	0.14	0.00	0.00	0.00	Commissioning	
Heat Pump	Convert Constant Volume Air System to VAV	University	Discretionary	7,391.8	2.45	1.90	0.00	0.00	0.0	0.0	0.0	15	\$153,923.39	\$107,746.37	\$0.11	\$0.00	\$0.00	0.17	0.99	0.56	0.00	0.00	0.00	Variable Volume Air System	
Heat Pump	Direct Digital Control System-Installation	University	Discretionary	4,220.8	1.40	1.09	0.00	0.00	0.0	0.0	0.0	5	\$13,191.80	\$9,234.26	\$0.17	\$0.00	\$0.00	0.35	0.99	2.34	0.00	0.00	0.00	Installation of EMS System	
Heat Pump	Direct Digital Control System-Installation	University	Lost Opportunity	4,220.8	1.40	1.09	0.00	0.00	0.0	0.0	0.0	5	\$13,191.80	\$9,234.26	\$0.17	\$0.00	\$0.00	0.35	0.99	0.01	0.00	0.00	0.00	Installation of EMS System	
Heat Pump	Duct Repair and Sealing	University	Discretionary	2,446.9	0.81	0.63	0.00	0.00	0.0	0.0	0.0	18	\$10,131.30	\$7,091.91	\$0.11	\$0.00	\$0.00	1.02	0.99	1.36	1.48	0.98	0.98	Reduction In Duct Losses to 5 %	
Heat Pump	Exhaust Air to Ventilation Air Heat Recovery	University	Discretionary	4,220.8	1.40	1.09	0.00	0.00	0.0	0.0	0.0	14	\$123,684.85	\$86,579.39	\$0.17	\$0.00	\$0.00	0.11	0.99	0.25	0.00	0.00	0.00	Exhaust Air to Ventilation Air Heat Recovery	
Heat Pump	Exhaust Hood Makeup Air	University	Discretionary	1,266.2	0.42	0.33	0.00	0.00	0.0	0.0	0.0	12	\$2.58	\$1.81	\$0.17	\$0.00	\$0.00	1350.37	0.99	0.47	0.51	0.33	0.33	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Heat Pump	Ground Source Heat Pump (< 135 kBtu/hr) Cooling	University	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$1.71	\$1.19	\$0.17	\$0.00	\$0.00	0.40	0.99	0.28	0.00	0.00	0.00	17.0 EER, 4.0 COP	
Heat Pump	Ground Source Heat Pump (< 135 kBtu/hr) Cooling	University	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$1.36	\$0.96	\$0.17	\$0.00	\$0.00	0.50	0.99	0.01	0.00	0.00	0.00	17.0 EER, 4.0 COP	
Heat Pump	HVAC Variable Refrigerant Flow	University	Discretionary	16,714.2	5.54	4.30	0.00	0.00	0.0	0.0	0.0	15	\$160,412.24	\$112,288.57	\$0.11	-\$3,672.60	\$0.00	0.50	0.99	7.20	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Heat Pump	HVAC Variable Refrigerant Flow	University	Lost Opportunity	16,714.2	5.54	4.30	0.00	0.00	0.0	0.0	0.0	15	\$160,412.24	\$112,288.57	\$0.17	-\$3,672.60	\$0.00	0.50	0.99	1.30	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Heat Pump	Indirect Information Feedback	University	Discretionary	146.4	0.05	0.04	0.00	0.00	0.0	0.0	0.0	2	\$487.16	\$341.01	\$0.11	\$0.00	\$0.00	0.12	0.99	0.08	0.00	0.00	0.00	Indirect Information Feedback	
Heat Pump	Indirect Information Feedback	University	Lost Opportunity	146.4	0.05	0.04	0.00	0.00	0.0	0.0	0.0	2	\$487.16	\$341.01	\$0.17	\$0.00	\$0.00	0.12	0.99	0.00	0.00	0.00	0.00	Indirect Information Feedback	
Heat Pump	Infiltration Reduction	University	Discretionary	2,813.9	0.93	0.72	0.00	0.00	0.0	0.0	0.0	10	\$647.77	\$453.44	\$0.11	\$0.00	\$0.00	9.88	0.99	0.14	0.15	0.10	0.10	Install Caulking And Weatherstripping (ACH 0.65)	
Heat Pump	Insulation - Ceiling - CBES 2015 - Above Code	University	Discretionary	1,169.7	0.39	0.30	0.00	0.00	0.0	0.0	0.0	30	\$1,950.11	\$1,365.08	\$0.17	\$0.00	\$0.00	4.29	0.99	0.47	0.51	0.34	0.34	R-35 c.i.	
Heat Pump	Insulation - Ceiling - CBES 2015 - Above Code	University	Lost Opportunity	1,169.7	0.39	0.30	0.00	0.00	0.0	0.0	0.0	30	\$1,950.11	\$1,365.08	\$0.17	\$0.00	\$0.00	4.29	0.99	0.01	0.01	0.01	0.01	R-35 c.i.	
Heat Pump	Insulation - Ceiling - CBES 2015 - Code	University	Discretionary	4,007.5	1.33	1.03	0.00	0.00	0.0	0.0	0.0	30	\$8,898.28	\$6,228.80	\$0.11	\$0.00	\$0.00	3.22	0.99	1.04	1.13	0.75	0.75	R-30 c.i. (CBES 2015 Code)	
Heat Pump	Insulation - Duct - CBES 2015 - Above Code	University	Discretionary	1,013.0	0.34	0.26	0.00	0.00	0.0	0.0	0.0	20	\$572.52	\$400.77	\$0.17	\$0.00	\$0.00	8.36	0.99	1.07	1.16	0.77	0.77	R-12	
Heat Pump	Insulation - Duct - CBES 2015 - Above Code	University	Lost Opportunity	1,013.0	0.34	0.26	0.00	0.00	0.0	0.0	0.0	20	\$572.52	\$400.77	\$0.17	\$0.00	\$0.00	8.36	0.99	0.08	0.09	0.05	0.05	R-12	
Heat Pump	Insulation - Duct - CBES 2015 - Code	University	Discretionary	1,013.0	0.34	0.26	0.00	0.00	0.0	0.0	0.0	20	\$2,305.93	\$1,614.15	\$0.11	\$0.00	\$0.00	2.08	0.99	0.81	0.88	0.58	0.58	R-8 (CBES 2015 Code)	
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Above Code	University	Discretionary	1,723.7	0.57	0.44	0.00	0.00	0.0	0.0	0.0	30	\$3,466.86	\$2,426.80	\$0.17	\$0.00	\$0.00	3.55	0.99	0.23	0.25	0.17	0.17	R-38	
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Above Code	University	Lost Opportunity	1,723.7	0.57	0.44	0.00	0.00	0.0	0.0	0.0	30	\$3,466.86	\$2,426.80	\$0.17	\$0.00	\$0.00	3.55	0.99	0.03	0.03	0.02	0.02	R-38	
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Code	University	Discretionary	3,002.2	0.99	0.77	0.00	0.00	0.0	0.0	0.0	30	\$9,938.34	\$6,956.84	\$0.11	\$0.00	\$0.00	2.16	0.99	0.39	0.43	0.28	0.28	R-30 (CBES 2015 Code)	
Heat Pump	Insulation - Wall - CBES 2015 - Above Code	University	Discretionary	3,151.9	1.04	0.81	0.00	0.00	0.0	0.0	0.0	30	\$4,513.75	\$3,159.63	\$0.17	\$0.00	\$0.00	4.99	0.99	0.72	0.78	0.52	0.52	R-13 + 15.6 c.i.	
Heat Pump	Insulation - Wall - CBES 2015 - Above Code	University	Lost Opportunity	3,151.9	1.04	0.81	0.00	0.00	0.0	0.0	0.0	30	\$4,513.75	\$3,159.63	\$0.17	\$0.00	\$0.00	4.99	0.99	0.13	0.14	0.08	0.08	R-13 + 15.6 c.i.	
Heat Pump	Insulation - Wall - CBES 2015 - Code	University	Discretionary	3,461.0	1.15	0.89	0.00	0.00	0.0	0.0	0.0	30	\$30,973.63	\$21,681.54	\$0.11	\$0.00	\$0.00	0.80	0.99	0.46	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)	
Heat Pump	Natural Ventilation	University	Lost Opportunity	2,813.9	0.93	0.72	0.00	0.00	0.0	0.0	0.0	15	\$42,213.75	\$29,549.62	\$0.17	\$0.00	\$0.00	0.23	0.99	0.00	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling	
Heat Pump	Programmable Thermostat	University	Discretionary	1,125.6	0.37	0.29	0.00	0.00	0.0	0.0	0.0	11	\$188.32	\$131.82	\$0.11	\$0.00	\$0.00	15.02	0.99	1.18	1.28	1.02	0.85	Programmable Thermostat	
Heat Pump	Re-Commissioning	University	Discretionary	3,658.0	1.21	0.94	0.00	0.00	0.0	0.0	0.0	5	\$12,664.12	\$8,864.89	\$0.17	\$0.00	\$0.00	0.32	0.99	3.14	0.00	0.00	0.00	Re-Commissioning	
Heat Pump	Retrocommissioning	University	Discretionary	4,173.9	1.38	1.07	0.00	0.00	0.0	0.0	0.0	5	\$21,106.87	\$14,774.81	\$0.17	\$0.00	\$0.00	0.22	0.99	1.94	0.00	0.00	0.00	Retrocommissioning	
Heat Pump	Strategic Energy Management (SEM)	University	Discretionary	1,153.7	0.38	0.30	0.00	0.00	0.0	0.0	0.0	5	\$155.48	\$108.83	\$0.17	\$0.00	\$0.00	8.15	0.99	0.18	0.19	0.13	0.13	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Heat Pump	Strategic Energy Management (SEM)	University	Lost Opportunity	1,153.7	0.38	0.30	0.00	0.00	0.0	0.0	0.0	5	\$155.48	\$108.83	\$0.17	\$0.00	\$0.00	8.15	0.99	0.07	0.08	0.05	0.05	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Heat Pump	Tune-up - Heat Pump Maintenance	University	Discretionary	4,045.0	1.34	1.04	0.00	0.00	0.0	0.0	0.0	5	\$4,727.94	\$3,309.56	\$0.11	\$0.00	\$0.00	0.94	0.99	2.84	0.00	0.00	0.00	Heat Pump Maintenance (Tune-up)	
Heat Pump	Water Source Heat Pump (>= 135 kBtu/hr and < 375 kBtu/hr) Cooling	University	Discretionary	5,049.3	1.67	1.30	0.00	0.00	0.0	0.0	0.0	15	\$1,260.97	\$882.68	\$0.17	\$0.00	\$0.00	14.02	0.99	0.42	0.45	0.30	0.30	14 EER, 4.6 COP	
Heat Pump	Water Source Heat Pump (>= 135 kBtu/hr and < 375 kBtu/hr) Cooling	University	Lost Opportunity	4,039.5	1.34	1.04	0.00	0.00	0.0	0.0	0.0	15	\$1,008.78	\$706.14	\$0.17	\$0.00	\$0.00	14.02	0.99	0.02	0.02	0.02	0.02	14 EER, 4.6 COP	
Heat Pump	Wi-Fi Thermostat	University	Discretionary	1,125.6	0.37	0.29	0.00	0.00	0.0	0.0	0.0	11	\$1,500.14	\$1,050.10	\$0.11	\$0.00	\$0.00	1.89	0.99	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)	
Heat Pump	Windows - CBES 2015 - Above Code	University	Discretionary	123.4	0.04	0.03	0.00	0.00	0.0	0.0	0.0	20	\$3,830.56	\$2,681.39	\$0.17	\$0.00	\$0.00	0.15	0.99	0.02	0.00	0.00	0.00	U-0.29	
Heat Pump	Windows - CBES 2015 - Above Code	University	Lost Opportunity	123.4	0.04	0.03	0.00	0.00	0.0	0.0	0.0	20	\$3,830.56	\$2,681.39	\$0.17	\$0.00	\$0.00	0.15	0.99	0.00	0.00	0.00	0.00	U-0.29	
Heat Pump	Windows - CBES 2015 - Code	University	Discretionary	289.3	0.10	0.07	0.00	0.00	0.0	0.0	0.0	20	\$25,295.62	\$17,706.93	\$0.11	\$0.00	\$0.00	0.05	0.99	0.05	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Lighting Exterior	Bi-Level Control, Parking Garage Lighting	University	Discretionary	868.2	0.01	0.18	0.00	0.00	0.0	0.0	0.0	8	\$786.34	\$550.44	\$0.17	\$0.00	\$0.00	1.09	0.99	9.76	9.76	7.29	7.29	Occupancy Sensor Control, 50% Lighting Power during unoccupied Time	
Lighting Exterior	Daylighting Controls, Outdoors (Photocell)	University	Discretionary	810.3	0.01	0.17	0.00	0.00	0.0	0.0	0.0	8	\$98.90	\$69.23	\$0.17	\$0.00	\$0.00	8.07	0.99	12.76	12.76	9.52	9.52	Photocell	
Lighting Exterior	LED Exterior Flood Lights	University	Discretionary	281.1	0.00	0.06	0.00	0.00	0.0	0.0	0.0	20	\$185.44	\$129.81	\$0.17	\$0.00	\$0.00	3.73	0.99	7.21	7.21	5.38	5.38	LED Exterior Flood Lights	
Lighting Exterior	LED Exterior Flood Lights	University	Lost Opportunity	281.1	0.00	0.06	0.00	0.00	0.0	0.0	0.0	20	\$185.44	\$129.81	\$0.17	\$0.00	\$0.00	3.73	0.99	0.40	0.40	0.26	0.26	LED Exterior Flood Lights	
Lighting Exterior	LED Exterior Pole Mount Fixture	University	Discretionary	160.2	0.00	0.03	0.00	0.00	0.0	0.0	0.0	15	\$314.15	\$219.90	\$0.11	\$0.00	\$0.00	0.94	0.99	4.11	0.00	0.00	0.00	LED Exterior Pole Mount Fixture	
Lighting Exterior	LED Exterior Pole Mount Fixture	University	Lost Opportunity	160.2	0.00	0.03	0.00	0.00	0.0	0.0	0.0	15	\$314.15	\$219.90	\$0.17	\$0.00	\$0.00	0.94	0.99	0.23	0.00	0.00	0.00	LED Exterior Pole Mount Fixture	
Lighting Exterior	LED Exterior Wall Pack	University	Discretionary	531.1	0.01	0.11	0.00	0.00	0.0	0.0	0.0	20	\$1,102.20	\$771.54	\$0.11	\$0.00	\$0.00	1.19	0.99	12.86	12.86	9.60	9.60	LED Exterior Wall Pack	
Lighting Exterior	LED Exterior Wall Pack	University	Lost Opportunity	531.1	0.01	0.11	0.00	0.00	0.0	0.0	0.0	20	\$1,102.20	\$771.54	\$0.17	\$0.00	\$0.00	1.19	0.99	0.71	0.71	0.46	0.46	LED Exterior Wall Pack	
Lighting Exterior	LED Pathway Lights	University	Discretionary	132.3	0.00	0.03	0.00	0.00	0.0	0.0	0.0	11	\$31.30	\$21.91	\$0.11	\$0.00	\$0.00	5.73	0.99	3.39	3.39	2.53	2.53	LED Pathway Lights	
Lighting Exterior	LED Pathway Lights	University	Lost Opportunity	132.3	0.00	0.03	0.00	0.00	0.0	0.0	0.0	11	\$31.30	\$21.91	\$0.17	\$0.00	\$0.00	5.73	0.99	0.19	0.1				



Appendix B.4		BED Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Lighting Interior Other	Time Clock	University	Discretionary	184.9	0.04	0.02	0.00	0.00	0.0	0.0	0.0	8	\$376.25	\$263.37	\$0.17	\$0.00	\$0.00	0.73	0.99	0.21	0.00	0.00	0.00	Time Clock
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	University	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3	\$0.01	\$0.01	\$0.17	-\$0.01	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	CFL
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base Incandescent - Backstop EISA 2020 Standard	University	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3	\$0.00	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	Backstop EISA 2020 Standard Incandescent
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base LED - Above Standard	University	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.04	\$0.03	\$0.17	-\$0.01	\$0.00	999.00	0.99	19.44	19.53	14.57	14.57	LED
Lighting Interior Screw Base - Standard	Occupancy Sensor Control	University	Discretionary	4,415.4	0.86	0.59	0.00	0.00	0.0	0.0	0.0	10	\$11,547.00	\$8,082.90	\$0.17	\$0.00	\$0.00	0.71	0.99	17.42	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Interior Screw Base - Standard	Time Clock	University	Discretionary	1,839.8	0.36	0.25	0.00	0.00	0.0	0.0	0.0	8	\$376.25	\$263.37	\$0.17	\$0.00	\$0.00	7.22	0.99	0.73	0.73	0.54	0.54	Time Clock
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base CFL - Above Standard	University	Discretionary	9,555.1	1.85	1.28	0.00	0.00	0.0	0.0	0.0	3	\$234.72	\$164.30	\$0.17	-\$189.22	\$0.00	999.00	0.99	0.00	0.00	0.00	0.00	CFL
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base LED - Above Standard	University	Discretionary	9,983.7	1.94	1.34	0.00	0.00	0.0	0.0	0.0	12	\$742.37	\$519.66	\$0.17	-\$227.39	\$0.00	999.00	0.99	28.41	28.41	21.20	21.20	LED
Other Plug Load	Dehumidifier - ENERGY STAR	University	Discretionary	561.8	0.08	0.05	0.00	0.00	0.0	0.0	0.0	12	\$219.17	\$153.42	\$0.17	\$0.00	\$0.00	5.23	0.99	2.78	2.78	1.84	1.84	ENERGY STAR Dehumidifier
Other Plug Load	Dehumidifier - ENERGY STAR	University	Lost Opportunity	561.8	0.08	0.05	0.00	0.00	0.0	0.0	0.0	12	\$219.17	\$153.42	\$0.17	\$0.00	\$0.00	5.23	1.00	0.15	0.15	0.10	0.10	ENERGY STAR Dehumidifier
Other Plug Load	ENERGY STAR - Scanners	University	Discretionary	20.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.42	0.00	0.00	0.00	ENERGY STAR Scanners
Other Plug Load	ENERGY STAR - Scanners	University	Lost Opportunity	20.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.02	0.00	0.00	0.00	ENERGY STAR Scanners
Other Plug Load	ENERGY STAR - Water Cooler	University	Discretionary	212.5	0.03	0.02	0.00	0.00	0.0	0.0	0.0	10	\$1.83	\$1.28	\$0.11	\$0.00	\$0.00	196.63	1.00	6.06	6.06	4.01	4.01	ENERGY STAR Water Cooler (Hot/Cold Water)
Other Plug Load	ENERGY STAR - Water Cooler	University	Lost Opportunity	212.5	0.03	0.02	0.00	0.00	0.0	0.0	0.0	10	\$1.83	\$1.28	\$0.17	\$0.00	\$0.00	196.63	1.00	0.33	0.33	0.22	0.22	ENERGY STAR Water Cooler (Hot/Cold Water)
Other Plug Load	Internal Power Supply / Com - E Star	University	Discretionary	1,663.8	0.24	0.15	0.00	0.00	0.0	0.0	0.0	4	\$3,395.44	\$2,376.81	\$0.11	\$0.00	\$0.00	0.32	1.00	11.18	0.00	0.00	0.00	ENERGY STAR power supply for ENERGY STAR desktop
Other Plug Load	Internal Power Supply / Com - E Star	University	Lost Opportunity	1,663.8	0.24	0.15	0.00	0.00	0.0	0.0	0.0	4	\$3,395.44	\$2,376.81	\$0.17	\$0.00	\$0.00	0.32	1.00	0.62	0.00	0.00	0.00	ENERGY STAR power supply for ENERGY STAR desktop
Other Plug Load	Smart Strip Plug Outlet	University	Discretionary	1,777.4	0.26	0.16	0.00	0.00	0.0	0.0	0.0	4	\$1,336.25	\$935.38	\$0.11	\$0.00	\$0.00	0.86	1.00	10.66	0.00	0.00	0.00	Advanced Power Strip - Load Sensing
Other Plug Load	Smart Strip Plug Outlet	University	Lost Opportunity	1,777.4	0.26	0.16	0.00	0.00	0.0	0.0	0.0	4	\$1,336.25	\$935.38	\$0.17	\$0.00	\$0.00	0.86	1.00	0.59	0.00	0.00	0.00	Advanced Power Strip - Load Sensing
Other Plug Load	Smart Strip Plug Outlet	University	Discretionary	1,080.7	0.16	0.10	0.00	0.00	0.0	0.0	0.0	4	\$3,236.11	\$2,265.27	\$0.11	\$0.00	\$0.00	0.22	1.00	0.00	0.00	0.00	0.00	Advanced Power Strip with Occupancy Sensor
Other Plug Load	Smart Strip Plug Outlet	University	Lost Opportunity	1,080.7	0.16	0.10	0.00	0.00	0.0	0.0	0.0	4	\$3,236.11	\$2,265.27	\$0.17	\$0.00	\$0.00	0.22	1.00	0.00	0.00	0.00	0.00	Advanced Power Strip with Occupancy Sensor
Photo Copiers	Copiers - ENERGY STAR	University	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	4.77	0.00	0.00	0.00	ENERGY STAR Copiers
Photo Copiers	Copiers - ENERGY STAR	University	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.89	0.25	0.00	0.00	0.00	ENERGY STAR Copiers
Pool Pump	Pool Pump - Two Speed	University	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	36.81	0.89	0.00	0.00	0.00	0.00	Pool Pump - Two Speed
Pool Pump	Pool Pump - Two Speed	University	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	36.81	0.89	0.00	0.00	0.00	0.00	Pool Pump - Two Speed
Pool Pump	Pool Pump - VSD	University	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	31.35	0.89	0.00	0.00	0.00	0.00	Pool Pump - VSD
Pool Pump	Pool Pump - VSD	University	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	31.35	0.89	0.00	0.00	0.00	0.00	Pool Pump - VSD
Pool Pump	Pool Pump Timer	University	Discretionary	7,420.8	0.85	0.85	0.00	0.00	0.0	0.0	0.0	10	\$150.00	\$105.00	\$0.11	\$0.00	\$0.00	78.07	0.89	0.00	0.00	0.00	0.00	Pool Pump Timer
Printers	Printers - ENERGY STAR	University	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.89	47.61	0.00	0.00	0.00	ENERGY STAR Printers
Printers	Printers - ENERGY STAR	University	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	2.48	0.00	0.00	0.00	ENERGY STAR Printers
Refrigeration	Add Doors to Refrigerated Open Display Cases	University	Discretionary	11.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$17.48	\$12.24	\$0.11	\$0.00	\$0.00	1.27	1.00	0.01	0.01	0.01	0.01	Add Doors to Refrigerated Open Display Cases
Refrigeration	Add Doors to Refrigerated Open Display Cases	University	Lost Opportunity	11.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$17.48	\$12.24	\$0.17	\$0.00	\$0.00	1.27	0.95	0.00	0.00	0.00	0.00	Add Doors to Refrigerated Open Display Cases
Refrigeration	Anti-Sweat (Humidistat) Controls	University	Discretionary	373.8	0.05	0.04	0.00	0.00	0.0	0.0	0.0	8	\$52.84	\$36.99	\$0.11	\$0.00	\$0.00	9.19	0.95	1.68	1.68	1.45	1.45	Anti-Sweat (Humidistat) Controls
Refrigeration	Case Replacement Low Temp	University	Discretionary	20.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$1.16	\$0.81	\$0.17	\$0.00	\$0.00	44.30	0.95	0.59	0.59	0.57	0.51	Case Replacement Low Temp
Refrigeration	Case Replacement Med Temp	University	Discretionary	1.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$2.24	\$1.57	\$0.17	\$0.00	\$0.00	1.96	0.95	0.05	0.05	0.04	0.04	Case Replacement Med Temp
Refrigeration	Demand Control Defrost - Hot Gas	University	Discretionary	142.8	0.02	0.02	0.00	0.00	0.0	0.0	0.0	10	\$228.60	\$160.02	\$0.17	\$0.00	\$0.00	1.02	0.95	0.21	0.21	0.18	0.18	Refrigerant Defrost
Refrigeration	Display Case Electronically Commutated Motor - Low Temp	University	Discretionary	58.1	0.01	0.01	0.00	0.00	0.0	0.0	0.0	15	\$41.56	\$29.09	\$0.17	\$0.00	\$0.00	3.47	0.95	1.11	1.11	0.96	0.96	ECM Evaporator Fans - Low Temp
Refrigeration	Display Case Electronically Commutated Motor - Medium Temp	University	Discretionary	7.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$5.26	\$3.68	\$0.17	\$0.00	\$0.00	3.47	0.95	0.14	0.14	0.12	0.12	ECM Evaporator Fans - Medium Temp
Refrigeration	Display Case LEDs (Closed Cases)	University	Discretionary	45.2	0.01	0.01	0.00	0.00	0.0	0.0	0.0	8	\$26.92	\$18.85	\$0.17	\$0.00	\$0.00	2.18	0.95	1.29	1.29	1.11	1.11	Display Case LEDs (Closed Cases)
Refrigeration	Display Case LEDs (Closed Cases)	University	Lost Opportunity	45.2	0.01	0.01	0.00	0.00	0.0	0.0	0.0	8	\$11.97	\$8.38	\$0.17	\$0.00	\$0.00	4.90	0.95	0.07	0.07	0.06	0.06	Display Case LEDs (Closed Cases)
Refrigeration	Display Case LEDs (Open Cases)	University	Discretionary	10.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$7.12	\$4.98	\$0.11	-\$0.25	\$0.00	2.07	0.95	0.29	0.29	0.25	0.25	Display Case LEDs (Open Cases)
Refrigeration	Display Case LEDs (Open Cases)	University	Lost Opportunity	10.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$3.76	\$2.63	\$0.17	-\$0.22	\$0.00	4.78	0.95	0.02	0.02	0.01	0.01	Display Case LEDs (Open Cases)
Refrigeration	Display Case Motion Sensors	University	Discretionary	17.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$4.08	\$2.85	\$0.11	\$0.00	\$0.00	5.57	0.95	0.47	0.47	0.41	0.41	Display Case Motion Sensors
Refrigeration	Evaporator Fan Controller - Low Temp	University	Discretionary	1.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	16	\$0.87	\$0.61	\$0.17	\$0.00	\$0.00	3.42	0.95	0.03	0.03	0.03	0.03	ECM Evaporator Fan Controller - Low Temp
Refrigeration	Evaporator Fan Controller - Low Temp	University	Lost Opportunity	1.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	16	\$0.87	\$0.61	\$0.17	\$0.00	\$0.00	3.42	0.95	0.00	0.00	0.00	0.00	ECM Evaporator Fan Controller - Low Temp
Refrigeration	Evaporator Fan Controller - Medium Temp	University	Discretionary	1.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	16	\$1.62	\$1.13	\$0.11	\$0.00	\$0.00	2.85	0.95	0.05	0.05	0.04	0.04	ECM Evaporator Fan Controller - Medium Temp
Refrigeration	Evaporator Fan Controller - Medium Temp	University	Lost Opportunity	1.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	16	\$1.62	\$1.13	\$0.17	\$0.00	\$0.00	2.85	0.95	0.00	0.00	0.00	0.00	ECM Evaporator Fan Controller - Medium Temp
Refrigeration	Floating Condenser Head Pressure Controls	University	Discretionary	31.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$10.12	\$7.09	\$0.11	\$0.00	\$0.00	7.73	0.95	0.09	0.09	0.09	0.08	Floating Condenser Head Pressure Controls
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	University	Discretionary	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.05	\$0.04	\$0.17	\$0.00	\$0.00	10.81	0.95	0.01	0.01	0.01	0.01	Glass Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Glass Door ENERGY STAR Refrigerators/Freezers	University	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.05	\$0.04	\$0.17	\$0.00	\$0.00	10.81	0.95	0.00	0.00	0.00	0.00	Glass Door ENERGY STAR Refrigerators/Freezers
Refrigeration	Ice Maker - High Efficiency	University	Discretionary	6.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$0.42	\$0.29	\$0.11	\$0.00	\$0.00	20.36	0.95	0.20	0.20	0.17	0.17	High Efficiency Ice Maker
Refrigeration	Ice Maker - High Efficiency	University	Lost Opportunity	6.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$0.42	\$0.29	\$0.17	\$0.00	\$0.00	20.36	0.95	0.01	0.01	0.01	0.01	High Efficiency Ice Maker
Refrigeration	Night Covers for Display Cases	University	Discretionary	13.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$2.37	\$1.66	\$0.11	\$0.24	\$0.00	3.04	0.95	0.38	0.38	0.33	0.	



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Room Cool	Ductless Heat Pump (DHP)	University	Lost Opportunity	777.7	0.35	0.00	0.00	0.00	0.0	0.0	0.0	15	\$11,753.60	\$8,227.52	\$0.17	\$0.00	\$0.00	0.27	0.99	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	University	Discretionary	818.7	0.37	0.00	0.00	0.00	0.0	0.0	0.0	15	\$12,034.58	\$8,424.20	\$0.11	\$0.00	\$0.00	0.28	0.99	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0	
Room Cool	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	University	Lost Opportunity	818.7	0.37	0.00	0.00	0.00	0.0	0.0	0.0	15	\$12,034.58	\$8,424.20	\$0.17	\$0.00	\$0.00	0.28	0.99	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0	
Room Cool	Exhaust Hood Makeup Air	University	Discretionary	59.5	0.03	0.00	0.00	0.00	0.0	0.0	0.0	12	\$2.58	\$1.81	\$0.11	\$0.00	\$0.00	73.23	0.99	0.00	0.00	0.00	0.00	Provide Makeup Air Directly at Exhaust Hood Instead of Pulling Conditioned Air	
Room Cool	Green Roof	University	Discretionary	7.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$173,343.15	\$121,340.20	\$0.17	\$1,733.43	\$0.00	0.00	0.99	0.00	0.00	0.00	0.00	0.00	Vegetation on Roof
Room Cool	Green Roof	University	Lost Opportunity	5.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$173,343.15	\$121,340.20	\$0.17	\$1,733.43	\$0.00	0.00	0.99	0.00	0.00	0.00	0.00	0.00	Vegetation on Roof
Room Cool	Infiltration Reduction	University	Discretionary	39.7	0.02	0.00	0.00	0.00	0.0	0.0	0.0	10	\$647.77	\$453.44	\$0.11	\$0.00	\$0.00	0.16	0.99	0.00	0.00	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	University	Discretionary	55.0	0.02	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,950.11	\$1,365.08	\$0.17	\$0.00	\$0.00	0.24	0.99	0.00	0.00	0.00	0.00	0.00	R-35 c.i.
Room Cool	Insulation - Ceiling - CBES 2015 - Above Code	University	Lost Opportunity	49.4	0.02	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,950.11	\$1,365.08	\$0.17	\$0.00	\$0.00	0.21	0.99	0.00	0.00	0.00	0.00	0.00	R-35 c.i.
Room Cool	Insulation - Ceiling - CBES 2015 - Code	University	Discretionary	188.3	0.09	0.00	0.00	0.00	0.0	0.0	0.0	30	\$8,898.28	\$6,228.80	\$0.11	\$0.00	\$0.00	0.18	0.99	0.00	0.00	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	University	Discretionary	81.0	0.04	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,466.86	\$2,426.80	\$0.17	\$0.00	\$0.00	0.20	0.99	0.00	0.00	0.00	0.00	0.00	R-38
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Above Code	University	Lost Opportunity	72.8	0.03	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,466.86	\$2,426.80	\$0.17	\$0.00	\$0.00	0.18	0.99	0.00	0.00	0.00	0.00	0.00	R-38
Room Cool	Insulation - Floor (non-slab) - CBES 2015 - Code	University	Discretionary	141.1	0.06	0.00	0.00	0.00	0.0	0.0	0.0	30	\$9,938.34	\$6,956.84	\$0.11	\$0.00	\$0.00	0.12	0.99	0.00	0.00	0.00	0.00	0.00	R-30 (CBES 2015 Code)
Room Cool	Insulation - Wall - CBES 2015 - Above Code	University	Discretionary	148.1	0.07	0.00	0.00	0.00	0.0	0.0	0.0	30	\$4,513.75	\$3,159.63	\$0.17	\$0.00	\$0.00	0.28	0.99	0.00	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Room Cool	Insulation - Wall - CBES 2015 - Above Code	University	Lost Opportunity	133.2	0.06	0.00	0.00	0.00	0.0	0.0	0.0	30	\$4,513.75	\$3,159.63	\$0.17	\$0.00	\$0.00	0.25	0.99	0.00	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.
Room Cool	Insulation - Wall - CBES 2015 - Code	University	Discretionary	162.6	0.07	0.00	0.00	0.00	0.0	0.0	0.0	30	\$30,973.63	\$21,681.54	\$0.11	\$0.00	\$0.00	0.04	0.99	0.00	0.00	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Cool	Natural Ventilation	University	Lost Opportunity	118.9	0.05	0.00	0.00	0.00	0.0	0.0	0.0	15	\$42,213.75	\$29,549.62	\$0.17	\$0.00	\$0.00	0.01	0.99	0.00	0.00	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling
Room AC - Early Replacement	Room AC - ENERGY STAR	University	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.03	\$0.02	\$0.11	\$0.00	\$0.00	0.25	0.99	0.00	0.00	0.00	0.00	0.00	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Cool	Room AC - ENERGY STAR	University	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.03	\$0.02	\$0.17	\$0.00	\$0.00	0.25	0.99	0.00	0.00	0.00	0.00	0.00	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Cool	Windows - CBES 2015 - Above Code	University	Discretionary	5.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$3,830.56	\$2,681.39	\$0.11	\$0.00	\$0.00	0.01	0.99	0.00	0.00	0.00	0.00	0.00	U-0.29
Room Cool	Windows - CBES 2015 - Above Code	University	Lost Opportunity	5.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$3,830.56	\$2,681.39	\$0.17	\$0.00	\$0.00	0.01	0.99	0.00	0.00	0.00	0.00	0.00	U-0.29
Room Cool	Windows - CBES 2015 - Code	University	Discretionary	13.6	0.01	0.00	0.00	0.00	0.0	0.0	0.0	20	\$25,295.62	\$17,706.93	\$0.11	\$0.00	\$0.00	0.00	0.99	0.00	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Room Cool - Early Replacement	Early Replacement Room AC - ENERGY STAR	University	Discretionary	269.7	0.12	0.00	0.00	0.00	0.0	0.0	0.0	9	\$4,643.51	\$3,250.46	\$0.17	\$0.00	\$0.00	0.14	0.99	0.00	0.00	0.00	0.00	0.00	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)
Room Heat - Electric	Ductless Heat Pump (DHP)	University	Discretionary	13,825.1	0.03	5.56	0.00	0.00	0.0	0.0	0.0	15	\$11,753.60	\$8,227.52	\$0.17	\$0.00	\$0.00	2.20	0.99	0.00	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Heat - Electric	Ductless Heat Pump (DHP)	University	Lost Opportunity	13,825.1	0.03	5.56	0.00	0.00	0.0	0.0	0.0	15	\$11,753.60	\$8,227.52	\$0.17	\$0.00	\$0.00	2.20	0.95	0.00	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	University	Discretionary	14,554.8	0.03	5.85	0.00	0.00	0.0	0.0	0.0	15	\$12,034.58	\$8,424.20	\$0.11	\$0.00	\$0.00	2.26	0.95	0.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	University	Lost Opportunity	14,554.8	0.03	5.85	0.00	0.00	0.0	0.0	0.0	15	\$12,034.58	\$8,424.20	\$0.17	\$0.00	\$0.00	2.26	0.95	0.01	0.01	0.01	0.01	0.01	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0
Room Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	University	Discretionary	85,127.6	0.18	34.24	0.00	0.00	0.0	0.0	0.0	14	\$123,684.85	\$86,579.39	\$0.11	\$0.00	\$0.00	1.20	0.95	3.07	3.07	0.00	1.81	1.81	Exhaust Air to Ventilation Air Heat Recovery
Room Heat - Electric	Infiltration Reduction	University	Discretionary	56,751.7	0.12	22.83	0.00	0.00	0.0	0.0	0.0	10	\$647.77	\$453.44	\$0.17	\$0.00	\$0.00	110.29	0.95	0.83	0.83	0.52	0.52	0.52	Install Caulking And Weatherstripping (ACH 0.65)
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	University	Discretionary	23,590.5	0.05	9.49	0.00	0.00	0.0	0.0	0.0	30	\$1,950.11	\$1,365.08	\$0.17	\$0.00	\$0.00	45.41	0.95	2.86	2.86	1.81	1.81	1.81	R-35 c.i.
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	University	Lost Opportunity	23,590.5	0.05	9.49	0.00	0.00	0.0	0.0	0.0	30	\$1,950.11	\$1,365.08	\$0.17	\$0.00	\$0.00	45.41	0.95	0.07	0.07	0.04	0.04	0.04	R-35 c.i.
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	University	Discretionary	80,824.2	0.17	32.51	0.00	0.00	0.0	0.0	0.0	30	\$8,898.28	\$6,228.80	\$0.11	\$0.00	\$0.00	34.09	0.95	6.32	6.32	4.00	4.00	4.00	R-30 c.i. (CBES 2015 Code)
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	University	Discretionary	34,765.0	0.07	13.98	0.00	0.00	0.0	0.0	0.0	30	\$3,466.86	\$2,426.80	\$0.17	\$0.00	\$0.00	37.64	0.95	1.41	1.41	0.89	0.89	0.89	R-38
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	University	Lost Opportunity	34,765.0	0.07	13.98	0.00	0.00	0.0	0.0	0.0	30	\$3,466.86	\$2,426.80	\$0.17	\$0.00	\$0.00	37.64	0.95	0.15	0.15	0.08	0.08	0.08	R-38
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	University	Discretionary	60,549.0	0.13	24.36	0.00	0.00	0.0	0.0	0.0	30	\$9,938.34	\$6,956.84	\$0.11	\$0.00	\$0.00	22.87	0.95	2.39	2.39	1.51	1.51	1.51	R-30 (CBES 2015 Code)
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	University	Discretionary	63,568.9	0.13	25.57	0.00	0.00	0.0	0.0	0.0	30	\$4,513.75	\$3,159.63	\$0.17	\$0.00	\$0.00	52.86	0.95	4.36	4.36	2.76	2.76	2.76	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	University	Lost Opportunity	63,568.9	0.13	25.57	0.00	0.00	0.0	0.0	0.0	30	\$4,513.75	\$3,159.63	\$0.17	\$0.00	\$0.00	52.86	0.95	0.70	0.70	0.38	0.38	0.38	R-13 + 15.6 c.i.
Room Heat - Electric	Insulation - Wall - CBES 2015 - Code	University	Discretionary	69,803.4	0.15	28.08	0.00	0.00	0.0	0.0	0.0	30	\$30,973.63	\$21,681.54	\$0.11	\$0.00	\$0.00	8.46	0.95	3.23	3.23	2.04	2.04	2.04	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Electric	Windows - CBES 2015 - Above Code	University	Discretionary	2,488.3	0.01	1.00	0.00	0.00	0.0	0.0	0.0	20	\$3,830.56	\$2,681.39	\$0.17	\$0.00	\$0.00	1.62	0.95	0.27	0.27	0.17	0.17	0.17	U-0.29
Room Heat - Electric	Windows - CBES 2015 - Above Code	University	Lost Opportunity	2,488.3	0.01	1.00	0.00	0.00	0.0	0.0	0.0	20	\$3,830.56	\$2,681.39	\$0.17	\$0.00	\$0.00	1.62	0.95	0.05	0.05	0.03	0.03	0.03	U-0.29
Room Heat - Electric	Windows - CBES 2015 - Code	University	Discretionary	5,835.1	0.01	2.35	0.00	0.00	0.0	0.0	0.0	20	\$25,295.62	\$17,706.93	\$0.11	\$0.00	\$0.00	0.57	0.95	0.62	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)
Servers	IT Systems - Decommissioning of Unused Servers	University	Discretionary	61.6	0.01	0.01	0.00	0.00	0.0	0.0	0.0	5	\$1.91	\$1.33	\$0.17	\$0.00	\$0.00	26.51	0.95	1.18	1.51	0.89	0.89	0.89	Decommissioning of Unused Servers
Servers	IT Systems - Decommissioning of Unused Servers	University	Lost Opportunity	60.7	0.01	0.01	0.00	0.00	0.0	0.0	0.0	5	\$1.88	\$1.32	\$0.17	\$0.00	\$0.00	26.51	0.89	0.06	0.08	0.05	0.05	0.05	Decommissioning of Unused Servers
Servers	IT Systems - Energy Efficient Data Storage Management	University	Discretionary	51.2	0.01	0.00	0.00	0.00	0.0	0.0	0.0	5	\$3.70	\$2.59	\$0.11	\$0.00	\$0.00	11.36	0.89	0.98	1.25	0.74	0.74	0.74	Energy Efficient Data Storage Management
Servers	IT Systems - Energy Efficient Data Storage Management	University	Lost Opportunity	50.5	0.01	0.00	0.00	0.00	0.0	0.0	0.0	5	\$3.65	\$2.55	\$0.17	\$0.00	\$0.00	11.36	0.89	0.05	0.07	0.04	0.04	0.04	Energy Efficient Data Storage Management
Servers	IT Systems - Hot or Cold Aisle Configuration	University	Discretionary	1.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.20	\$0.14	\$0.11	\$0.00	\$0.00	10.23	0.89	0.02	0.03	0.02	0.02	0.02	Hot or Cold Aisle Configuration
Servers	IT Systems - Hot or Cold Aisle Configuration	University	Lost Opportunity	1.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.20												



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	University	Discretionary	139,927.2	0.30	56.29	0.00	0.00	0.0	0.0	0.0	30	\$4,513.75	\$3,159.63	\$0.17	\$0.00	\$0.00	116.36	0.95	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	University	Lost Opportunity	139,927.2	0.30	56.29	0.00	0.00	0.0	0.0	0.0	30	\$4,513.75	\$3,159.63	\$0.17	\$0.00	\$0.00	116.36	0.95	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Code	University	Discretionary	153,650.3	0.33	61.81	0.00	0.00	0.0	0.0	0.0	30	\$30,973.63	\$21,681.54	\$0.11	\$0.00	\$0.00	18.62	0.95	0.00	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)	
Space Heat - Electric	Programmable Thermostat	University	Discretionary	49,968.5	0.11	20.10	0.00	0.00	0.0	0.0	0.0	11	\$188.32	\$131.82	\$0.17	\$0.00	\$0.00	366.70	0.95	0.00	0.00	0.00	0.00	Programmable Thermostat	
Space Heat - Electric	Re-Commissioning	University	Discretionary	162,397.5	0.34	65.33	0.00	0.00	0.0	0.0	0.0	5	\$12,664.12	\$8,864.89	\$0.17	\$0.00	\$0.00	7.97	0.95	0.00	0.00	0.00	0.00	Re-Commissioning	
Space Heat - Electric	Retrocommissioning	University	Discretionary	185,299.7	0.39	74.54	0.00	0.00	0.0	0.0	0.0	5	\$21,106.87	\$14,774.81	\$0.17	\$0.00	\$0.00	5.46	0.95	0.00	0.00	0.00	0.00	Retrocommissioning	
Space Heat - Electric	Strategic Energy Management (SEM)	University	Discretionary	51,217.7	0.11	20.60	0.00	0.00	0.0	0.0	0.0	5	\$6,902.34	\$4,831.64	\$0.17	\$0.00	\$0.00	4.61	0.95	0.00	0.00	0.00	0.00	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Space Heat - Electric	Strategic Energy Management (SEM)	University	Lost Opportunity	51,217.7	0.11	20.60	0.00	0.00	0.0	0.0	0.0	5	\$6,902.34	\$4,831.64	\$0.17	\$0.00	\$0.00	4.61	0.95	0.00	0.00	0.00	0.00	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Space Heat - Electric	Wi-Fi Thermostat	University	Discretionary	49,968.5	0.11	20.10	0.00	0.00	0.0	0.0	0.0	11	\$1,500.14	\$1,050.10	\$0.11	\$0.00	\$0.00	46.03	0.95	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)	
Space Heat - Electric	Windows - CBES 2015 - Above Code	University	Discretionary	5,477.1	0.01	2.20	0.00	0.00	0.0	0.0	0.0	20	\$3,830.56	\$2,681.39	\$0.17	\$0.00	\$0.00	3.56	0.95	0.00	0.00	0.00	0.00	U-0.29	
Space Heat - Electric	Windows - CBES 2015 - Above Code	University	Lost Opportunity	5,477.1	0.01	2.20	0.00	0.00	0.0	0.0	0.0	20	\$3,830.56	\$2,681.39	\$0.17	\$0.00	\$0.00	3.56	0.95	0.00	0.00	0.00	0.00	U-0.29	
Space Heat - Electric	Windows - CBES 2015 - Code	University	Discretionary	12,844.2	0.03	5.17	0.00	0.00	0.0	0.0	0.0	20	\$25,295.62	\$17,706.93	\$0.11	\$0.00	\$0.00	1.26	0.95	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Vending Machines	Vending Machines - ENERGY STAR	University	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.95	0.00	0.00	0.00	0.00	ENERGY STAR Vending Machines - 3.84 kWh/day	
Vending Machines	Vending Machines - ENERGY STAR	University	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.89	0.00	0.00	0.00	0.00	ENERGY STAR Vending Machines - 3.84 kWh/day	
Vending Machines	Vending Machines - Federal Standard 2020	University	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.89	0.04	0.00	0.00	0.00	Federal Standard 2020 Vending Machines - 3.83 kWh/day	
Vending Machines	Vending Machines - Federal Standard 2020	University	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.89	0.00	0.00	0.00	0.00	Federal Standard 2020 Vending Machines - 3.83 kWh/day	
Vending Machines	Vending Miser	University	Discretionary	44.2	0.01	0.01	0.00	0.00	0.0	0.0	0.0	5	\$6.89	\$4.82	\$0.11	\$0.00	\$0.00	4.93	0.89	0.79	0.79	0.47	0.47	Vending Machine Occupancy Sensor	
Vending Machines	Vending Miser	University	Lost Opportunity	44.1	0.01	0.01	0.00	0.00	0.0	0.0	0.0	5	\$6.89	\$4.82	\$0.17	\$0.00	\$0.00	4.92	0.89	0.05	0.05	0.03	0.03	Vending Machine Occupancy Sensor	
Ventilation And Circulation	Automated Exhaust VFD Control - Parking Garage CO sensor	University	Discretionary	1,674.8	0.19	0.21	0.00	0.00	0.0	0.0	0.0	5	\$243.76	\$170.63	\$0.11	\$0.00	\$0.00	5.31	0.89	1.84	1.84	1.28	1.28	CO Sensors	
Ventilation And Circulation	Boiler Draft Fan - VFD	University	Discretionary	11,257.0	1.29	1.39	0.00	0.00	0.0	0.0	0.0	15	\$6,056.90	\$4,239.83	\$0.17	\$0.00	\$0.00	4.47	0.95	87.78	87.78	61.18	61.18	VFD Boiler Draft Fan	
Ventilation And Circulation	Boiler Draft Fan - VFD	University	Lost Opportunity	11,257.0	1.29	1.39	0.00	0.00	0.0	0.0	0.0	15	\$6,056.90	\$4,239.83	\$0.17	\$0.00	\$0.00	4.47	0.95	3.36	3.36	2.30	2.30	VFD Boiler Draft Fan	
Ventilation And Circulation	Convert Constant Volume Air System to VAV	University	Discretionary	6,993.1	0.80	0.86	0.00	0.00	0.0	0.0	0.0	15	\$153,923.39	\$107,746.37	\$0.11	\$0.00	\$0.00	0.11	0.95	14.86	0.00	0.00	0.00	Variable Volume Air System	
Ventilation And Circulation	Cooking Hood Controls	University	Discretionary	3.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	18	\$10.42	\$7.30	\$0.17	\$0.00	\$0.00	0.87	0.95	0.07	0.00	0.00	0.00	Demand-Ventilation Control	
Ventilation And Circulation	Cooking Hood Controls	University	Lost Opportunity	3.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	18	\$10.42	\$7.30	\$0.17	\$0.00	\$0.00	0.87	0.95	0.00	0.00	0.00	0.00	Demand-Ventilation Control	
Ventilation And Circulation	Cooling Tower Fan - Variable Speed Control	University	Discretionary	394.5	0.05	0.05	0.00	0.00	0.0	0.0	0.0	15	\$1,096.30	\$767.41	\$0.11	\$0.00	\$0.00	0.87	0.95	6.65	0.00	0.00	0.00	0.00	HVAC Fan System Installation with VSD
Ventilation And Circulation	Fan System - HVAC - Variable Speed Control	University	Discretionary	9,095.8	1.04	1.12	0.00	0.00	0.0	0.0	0.0	15	\$1,448.93	\$1,014.25	\$0.17	\$0.00	\$0.00	15.10	0.95	60.01	60.01	41.83	41.83	HVAC Fan System Optimization with VSD (Restoration)	
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	University	Discretionary	330.6	0.04	0.04	0.00	0.00	0.0	0.0	0.0	16	\$7.25	\$5.08	\$0.17	\$0.00	\$0.00	117.21	0.95	8.48	8.48	5.91	5.91	CEE PE+ Motor for HVAC Applications	
Ventilation And Circulation	Motor - CEE Premium-Efficiency Plus	University	Lost Opportunity	330.6	0.04	0.04	0.00	0.00	0.0	0.0	0.0	16	\$7.25	\$5.08	\$0.17	\$0.00	\$0.00	117.21	0.95	0.47	0.47	0.32	0.32	CEE PE+ Motor for HVAC Applications	
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	University	Discretionary	6,472.6	0.74	0.80	0.00	0.00	0.0	0.0	0.0	15	\$153,923.39	\$107,746.37	\$0.11	\$0.00	\$0.00	0.10	0.95	9.56	0.00	0.00	0.00	VAV Box High Efficiency (ECM)	
Ventilation And Circulation	Motor - VAV Box High Efficiency (ECM)	University	Lost Opportunity	6,472.6	0.74	0.80	0.00	0.00	0.0	0.0	0.0	15	\$153,923.39	\$107,746.37	\$0.17	\$0.00	\$0.00	0.10	0.95	0.00	0.00	0.00	0.00	VAV Box High Efficiency (ECM)	
Ventilation And Circulation	Motor Rewind	University	Discretionary	133.5	0.02	0.02	0.00	0.00	0.0	0.0	0.0	9	\$10.21	\$7.15	\$0.11	\$0.00	\$0.00	18.63	0.95	0.12	0.12	0.08	0.08	>15, <500 HP	
Ventilation And Circulation	Optimized Variable Volume Lab Hood Design	University	Discretionary	746.2	0.09	0.09	0.00	0.00	0.0	0.0	0.0	13	\$6,101.74	\$4,271.22	\$0.17	\$0.00	\$0.00	0.25	0.95	14.27	0.00	0.00	0.00	0.00	Optimized Variable Volume Lab Hood Design
Ventilation And Circulation	Optimized Variable Volume Lab Hood Design	University	Lost Opportunity	746.2	0.09	0.09	0.00	0.00	0.0	0.0	0.0	13	\$6,101.74	\$4,271.22	\$0.17	\$0.00	\$0.00	0.25	0.95	0.79	0.00	0.00	0.00	0.00	Optimized Variable Volume Lab Hood Design
Ventilation And Circulation	Pump System - Chiller - Variable Speed Control	University	Discretionary	2,695.2	0.31	0.33	0.00	0.00	0.0	0.0	0.0	15	\$502.30	\$351.61	\$0.11	\$0.00	\$0.00	12.91	0.95	22.63	22.63	15.78	15.78	Chiller Pump System Optimization with VSD (Restoration)	
Ventilation And Circulation	Variable Speed ECM Pump - Domestic Hot Water Recirculation	University	Discretionary	412.7	0.05	0.05	0.00	0.00	0.0	0.0	0.0	15	\$81.14	\$56.80	\$0.17	\$0.00	\$0.00	12.24	0.95	4.40	4.40	3.07	3.07	Domestic Hot Water Recirculation ECM Pump	
Ventilation And Circulation	Variable Speed ECM Pump - HVAC Space Heating Recirculation	University	Discretionary	6,830.6	0.78	0.84	0.00	0.00	0.0	0.0	0.0	15	\$811.40	\$567.98	\$0.17	\$0.00	\$0.00	20.26	0.95	53.26	53.26	37.12	37.12	HVAC Space Heating Recirculation ECM Pump	
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	University	Discretionary	34.3	0.00	0.01	0.00	0.00	0.0	0.0	6.4	13	\$79.49	\$55.64	\$0.17	\$0.00	\$0.00	1.66	0.95	0.00	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	University	Lost Opportunity	34.3	0.00	0.01	0.00	0.00	0.0	0.0	6.4	13	\$79.49	\$55.64	\$0.17	\$0.00	\$0.00	1.66	0.89	0.00	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	University	Discretionary	76.0	0.00	0.03	0.00	0.00	0.0	0.0	8.6	13	\$146.98	\$102.89	\$0.11	\$0.00	\$0.00	1.53	0.89	0.01	0.01	0.00	0.00	0.00	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	University	Lost Opportunity	76.0	0.00	0.03	0.00	0.00	0.0	0.0	8.6	13	\$146.98	\$102.89	\$0.17	\$0.00	\$0.00	1.53	0.89	0.00	0.00	0.00	0.00	0.00	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	University	Discretionary	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.13	\$0.09	\$0.11	\$0.00	\$0.00	8.85	0.89	0.00	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	University	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$0.13	\$0.09	\$0.17	\$0.00	\$0.00	8.85	0.89	0.00	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	University	Discretionary	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.1	14	\$0.05	\$0.04	\$0.11	\$0.00	\$0.00	44.94	0.89	0.00	0.00	0.00	0.00	0.00	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	University	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.1	14	\$0.05	\$0.04	\$0.17	\$0.00	\$0.00	44.94	0.89	0.00	0.00	0.00	0.00	0.00	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	University	Discretionary	22.5	0.00	0.01	0.00	0.00	0.0	0.0	0.0	13	\$10.71	\$7.50	\$0.11	\$0.00	\$0.00	3.42	0.89	0.01	0.01	0.01	0.01	0.01	1.0" of Insulation, assuming R-4 (Code)
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	University	Discretionary	13,136.9	0.03	5.28	0.00	0.00	0.0	0.0	0.0	25	\$883.75	\$618.63	\$0.17	\$0.00	\$0.00	46.29	0.89	0.36	0.36	0.18	0.18	0.18	Install Heat Recovery Water Heater
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	University	Discretionary	352.2	0.00	0.14	0.00	0.00	0.0	0.0	0.0	20	\$41.48	\$29.04	\$0.17	\$0.00	\$0.00	21.12	0.89	0.07	0.07	0.03	0.03	0.03	R-3
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	University	Discretionary	1,256.5	0.00	0.51	0.00	0.00	0.0	0.0	92.9	9	\$168.86	\$118.20	\$0.17	\$0.00	\$0.00	13.20	0.89	1.07	1.07	0.53	0.53	0.53	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	University	Lost Opportunity	1,256.5	0.00	0.51	0.00	0.00	0.0	0.0	92.9	9	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.89	0.05	0.00	0.00	0.00		



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	University	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	15.93	0.89	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	University	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	15.93	0.89	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	University	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.03	\$0.02	\$0.11	\$0.00	\$0.00	11.29	0.89	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	University	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.03	\$0.02	\$0.17	\$0.00	\$0.00	11.29	0.89	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	University	Discretionary	11,423.4	0.02	4.60	0.00	0.00	0.0	0.0	0.0	4	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	564770.53	0.89	9.20	9.20	4.59	4.59	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	University	Lost Opportunity	11,423.4	0.02	4.60	0.00	0.00	0.0	0.0	0.0	4	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	564770.53	0.89	0.45	0.45	0.22	0.22	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Tank Wrap	University	Discretionary	22,983.8	0.05	9.25	0.00	0.00	0.0	0.0	0.0	7	\$41.55	\$29.09	\$0.11	\$0.00	\$0.00	486.35	0.89	13.94	13.94	6.95	6.95	Add R-10 Tank Wrap	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	University	Discretionary	71.3	0.00	0.03	0.00	0.00	0.0	0.0	0.0	6.4	13	\$79.49	\$55.64	\$0.17	\$0.00	\$0.00	2.42	0.89	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	University	Lost Opportunity	71.3	0.00	0.03	0.00	0.00	0.0	0.0	0.0	6.4	13	\$79.49	\$55.64	\$0.17	\$0.00	\$0.00	2.42	0.89	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	University	Discretionary	158.0	0.00	0.06	0.00	0.00	0.0	0.0	8.6	13	\$146.98	\$102.89	\$0.11	\$0.00	\$0.00	2.44	0.89	0.02	0.02	0.01	0.01	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	University	Lost Opportunity	158.0	0.00	0.06	0.00	0.00	0.0	0.0	8.6	13	\$146.98	\$102.89	\$0.17	\$0.00	\$0.00	2.44	0.89	0.00	0.00	0.00	0.00	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	University	Discretionary	0.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	14	\$0.13	\$0.09	\$0.11	\$0.00	\$0.00	14.75	0.89	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	University	Lost Opportunity	0.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	14	\$0.13	\$0.09	\$0.17	\$0.00	\$0.00	14.75	0.89	0.00	0.00	0.00	0.00	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	University	Discretionary	1.3	0.00	0.00	0.00	0.00	0.0	0.0	0.1	14	\$0.05	\$0.04	\$0.11	\$0.00	\$0.00	67.69	0.89	0.00	0.00	0.00	0.00	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	University	Lost Opportunity	1.3	0.00	0.00	0.00	0.00	0.0	0.0	0.1	14	\$0.05	\$0.04	\$0.17	\$0.00	\$0.00	67.69	0.89	0.00	0.00	0.00	0.00	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	University	Discretionary	46.8	0.00	0.02	0.00	0.00	0.0	0.0	0.0	13	\$10.71	\$7.50	\$0.11	\$0.00	\$0.00	7.11	0.89	0.02	0.02	0.01	0.01	1.0" of Insulation, assuming R-4 (Code)	
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	University	Discretionary	12,343.7	0.03	4.97	0.00	0.00	0.0	0.0	0.0	25	\$883.75	\$618.63	\$0.17	\$0.00	\$0.00	43.50	0.89	0.31	0.31	0.16	0.16	Install Heat Recovery Water Heater	
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	University	Discretionary	352.2	0.00	0.14	0.00	0.00	0.0	0.0	0.0	20	\$41.48	\$29.04	\$0.17	\$0.00	\$0.00	21.12	0.89	0.06	0.06	0.03	0.03	R-3	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	University	Discretionary	1,256.5	0.00	0.51	0.00	0.00	0.0	0.0	92.9	9	\$168.86	\$118.20	\$0.17	\$0.00	\$0.00	13.20	0.89	1.00	1.00	0.50	0.50	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	University	Lost Opportunity	1,256.5	0.00	0.51	0.00	0.00	0.0	0.0	92.9	9	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.89	0.04	0.00	0.00	0.00	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	University	Discretionary	887.0	0.00	0.36	0.00	0.00	0.0	0.0	65.6	9	\$168.86	\$118.20	\$0.11	\$0.00	\$0.00	9.32	0.89	0.00	0.00	0.00	0.00	1.0 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	University	Lost Opportunity	887.0	0.00	0.36	0.00	0.00	0.0	0.0	65.6	9	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.89	0.00	0.00	0.00	0.00	1.0 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	University	Discretionary	517.4	0.00	0.21	0.00	0.00	0.0	0.0	38.2	9	\$168.86	\$118.20	\$0.11	\$0.00	\$0.00	5.44	0.89	0.00	0.00	0.00	0.00	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	University	Lost Opportunity	517.4	0.00	0.21	0.00	0.00	0.0	0.0	38.2	9	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.89	0.00	0.00	0.00	0.00	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	University	Discretionary	221.7	0.00	0.09	0.00	0.00	0.0	0.0	14.4	9	\$168.86	\$118.20	\$0.11	\$0.00	\$0.00	2.23	0.89	0.07	0.07	0.03	0.03	2.2 GPM (Federal Code)	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	University	Discretionary	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.1	5	\$0.13	\$0.09	\$0.17	\$0.00	\$0.00	8.41	0.89	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	University	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.1	5	\$0.13	\$0.09	\$0.17	\$0.00	\$0.00	8.41	0.89	0.00	0.00	0.00	0.00	1.28 GPM (2020 Federal Standard)	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	University	Discretionary	1.1	0.00	0.00	0.00	0.00	0.0	0.0	0.2	5	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	0.89	0.00	0.00	0.00	0.00	0.75 GPM	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	University	Lost Opportunity	1.1	0.00	0.00	0.00	0.00	0.0	0.0	0.2	5	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.89	0.00	0.00	0.00	0.00	0.75 GPM	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	University	Discretionary	1.8	0.00	0.00	0.00	0.00	0.0	0.0	0.3	5	\$0.13	\$0.09	\$0.11	\$0.00	\$0.00	22.34	0.89	0.00	0.00	0.00	0.00	0.75 GPM	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	University	Lost Opportunity	1.8	0.00	0.00	0.00	0.00	0.0	0.0	0.3	5	\$0.13	\$0.09	\$0.17	\$0.00	\$0.00	22.34	0.89	0.00	0.00	0.00	0.00	0.75 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	University	Discretionary	480.2	0.00	0.19	0.00	0.00	0.0	0.0	56.5	9	\$126.64	\$88.65	\$0.11	\$0.00	\$0.00	8.16	0.89	0.36	0.36	0.18	0.18	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	University	Lost Opportunity	480.2	0.00	0.19	0.00	0.00	0.0	0.0	56.5	9	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.89	0.02	0.00	0.00	0.00	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	University	Discretionary	360.2	0.00	0.14	0.00	0.00	0.0	0.0	42.4	9	\$126.64	\$88.65	\$0.11	\$0.00	\$0.00	6.12	0.89	0.00	0.00	0.00	0.00	1.75 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	University	Lost Opportunity	360.2	0.00	0.14	0.00	0.00	0.0	0.0	42.4	9	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.89	0.00	0.00	0.00	0.00	1.75 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	University	Discretionary	240.1	0.00	0.10	0.00	0.00	0.0	0.0	28.2	9	\$126.64	\$88.65	\$0.11	\$0.00	\$0.00	4.08	0.89	0.00	0.00	0.00	0.00	2.0 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	University	Lost Opportunity	240.1	0.00	0.10	0.00	0.00	0.0	0.0	28.2	9	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	0.89	0.00	0.00	0.00	0.00	2.0 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	University	Discretionary	240.1	0.00	0.10	0.00	0.00	0.0	0.0	28.2	9	\$126.64	\$88.65	\$0.11	\$0.00	\$0.00	4.08	0.89	0.07	0.07	0.03	0.03	2.5 GPM (Federal Code)	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	University	Lost Opportunity	0.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.27	\$0.19	\$0.17	\$0.07	\$0.00	1.54	0.89	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	University	Lost Opportunity	0.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.27	\$0.19	\$0.17	\$0.07	\$0.00	1.54	0.89	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	University	Discretionary	813.1	0.00	0.33	0.00	0.00	0.0	0.0	0.0	20	\$2,961.04	\$2,072.73	\$0.11	\$0.00	\$0.00	0.68	0.89	0.61	0.00	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Ultrasonic Faucet Control	University	Lost Opportunity	813.1	0.00	0.33	0.00	0.00	0.0	0.0	0.0	20	\$2,961.04	\$2,072.73	\$0.17	\$0.00	\$0.00	0.68	0.89	0.03	0.00	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	University	Discretionary	7,666.9	0.02	3.08	0.00	0.00	0.0	0.0	0.0	10	\$19.23	\$13.46	\$0.11	\$0.00	\$0.00	501.87	0.89	1.52	1.52	0.76	0.76	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	University	Lost Opportunity	7,666.9	0.02	3.08	0.00	0.00	0.0	0.0	0.0	10	\$19.23	\$13.46	\$0.17	\$0.00	\$0.00	501.87	0.89	0.07	0.07	0.03	0.03	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	University	Lost Opportunity	1.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.13	\$0.09	\$0.11	\$0.00	\$0.00	11.45	0.89	71.45	72.10	35.94	35.94	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	University	Lost Opportunity	1.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.13	\$0.09	\$0.17	\$0.00	\$0.00	11.45	0.89	4.60	4.79	2.39	2.39	CO2 Heat Pump Water Heater	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	University	Lost Opportunity	0.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.08	\$0.06	\$0.11	\$0.00	\$0.00	13.16	0.89	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	University	Lost Opportunity	0.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.08	\$0.06	\$0.17	\$0.00	\$0.00	13.16	0.89	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater LE 55 Gal - EF 2.0	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	University	Lost Opportunity	1.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.09	\$0.06	\$0.11	\$0.00	\$0.00	12.95	0.89	0.00	0.00	0.00	0.00	Enhanced Efficiency Heat Pump Water Heater LE 55 Gal - EF 2.2	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - Enhanced Efficiency	University	Lost Opportunity	1.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10													



Appendix B.4		BED Non-residential Measure Assumptions																								
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description		
Cooling Chillers	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Warehouse	Discretionary	48.8	0.02	0.00	0.00	0.00	0.0	0.0	0.0	15	\$3,058.50	\$2,140.95	\$0.11	\$0.00	\$0.00	0.06	1.00	0.01	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)		
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Warehouse	Discretionary	86.9	0.03	0.00	0.00	0.00	0.0	0.0	0.0	15	\$14,191.44	\$9,934.01	\$0.17	\$0.00	\$0.00	0.02	1.00	0.04	0.00	0.00	0.00	Additional Control Features		
Cooling Chillers	Chilled Water / Condenser Water Settings-Optimization	Warehouse	Lost Opportunity	86.9	0.03	0.00	0.00	0.00	0.0	0.0	0.0	15	\$14,191.44	\$9,934.01	\$0.17	\$0.00	\$0.00	0.02	1.00	0.00	0.00	0.00	0.00	Additional Control Features		
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Warehouse	Discretionary	62.3	0.02	0.00	0.00	0.00	0.0	0.0	0.0	10	\$7,216.02	\$5,051.21	\$0.11	\$0.00	\$0.00	0.02	1.00	0.09	0.00	0.00	0.00	VSD for Secondary Chilled Water Loop		
Cooling Chillers	Chilled Water Piping Loop with VSD Control	Warehouse	Lost Opportunity	62.3	0.02	0.00	0.00	0.00	0.0	0.0	0.0	10	\$6,494.42	\$4,546.09	\$0.17	\$0.00	\$0.00	0.02	1.00	0.01	0.00	0.00	0.00	VSD for Secondary Chilled Water Loop		
Cooling Chillers	Chilled Water Reset	Warehouse	Discretionary	23.5	0.01	0.00	0.00	0.00	0.0	0.0	0.0	10	\$8,335.51	\$5,834.86	\$0.11	\$0.00	\$0.00	0.01	1.00	0.07	0.00	0.00	0.00	Chilled Water Temperature Reset		
Cooling Chillers	Chilled Water Reset	Warehouse	Lost Opportunity	23.5	0.01	0.00	0.00	0.00	0.0	0.0	0.0	10	\$8,335.51	\$5,834.86	\$0.17	\$0.00	\$0.00	0.01	1.00	0.00	0.00	0.00	0.00	Chilled Water Temperature Reset		
Cooling Chillers	Chilled Water Side Economizer	Warehouse	Discretionary	131.6	0.04	0.00	0.00	0.00	0.0	0.0	0.0	15	\$47,796.49	\$33,457.54	\$0.11	\$0.00	\$0.00	0.01	1.00	0.23	0.00	0.00	0.00	Install Economizer		
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Warehouse	Discretionary	218.2	0.07	0.00	0.00	0.00	0.0	0.0	0.0	15	\$392.22	\$274.55	\$0.17	\$0.00	\$0.00	1.95	1.00	4.03	4.51	3.01	3.01	2.0" of Insulation, assuming R-8		
Cooling Chillers	Chiller - Pipe Insulation - Above Code	Warehouse	Lost Opportunity	218.2	0.07	0.00	0.00	0.00	0.0	0.0	0.0	15	\$392.22	\$274.55	\$0.17	\$0.00	\$0.00	1.95	1.00	0.26	0.30	0.20	0.20	2.0" of Insulation, assuming R-8		
Cooling Chillers	Chiller - Pipe Insulation - Code	Warehouse	Discretionary	364.3	0.12	0.00	0.00	0.00	0.0	0.0	0.0	15	\$841.09	\$588.76	\$0.11	\$0.00	\$0.00	1.52	1.00	5.41	6.04	4.04	4.04	1.0" of Insulation, assuming R-4 (Code)		
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.20	\$0.14	\$0.17	\$0.00	\$0.00	0.13	1.00	0.70	0.00	0.00	0.00	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)		
Cooling Chillers	Chillers < 150 tons - High Efficiency (Air Cooled)	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.18	\$0.13	\$0.17	\$0.00	\$0.00	0.15	1.00	0.04	0.00	0.00	0.00	High Efficiency - 1.09 kW/ton (full load); 0.84 kW/ton (IPLV)		
Cooling Chillers	Commissioning	Warehouse	Lost Opportunity	61.0	0.02	0.00	0.00	0.00	0.0	0.0	0.0	5	\$14,191.44	\$9,934.01	\$0.11	\$0.00	\$0.00	0.00	1.00	0.04	0.00	0.00	0.00	Commissioning		
Cooling Chillers	Convert Constant Volume Air System to VAV	Warehouse	Discretionary	123.3	0.04	0.00	0.00	0.00	0.0	0.0	0.0	15	\$66,912.99	\$46,839.09	\$0.11	\$0.00	\$0.00	0.01	1.00	0.06	0.00	0.00	0.00	Variable Volume Air System		
Cooling Chillers	Direct Digital Control System-Installation	Warehouse	Discretionary	70.4	0.02	0.00	0.00	0.00	0.0	0.0	0.0	5	\$3,823.13	\$2,676.19	\$0.17	\$0.00	\$0.00	0.02	1.00	0.20	0.00	0.00	0.00	Installation of EMS System		
Cooling Chillers	Direct Digital Control System-Installation	Warehouse	Lost Opportunity	70.4	0.02	0.00	0.00	0.00	0.0	0.0	0.0	5	\$3,823.13	\$2,676.19	\$0.17	\$0.00	\$0.00	0.02	1.00	0.00	0.00	0.00	0.00	Installation of EMS System		
Cooling Chillers	Green Roof	Warehouse	Discretionary	2.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$183,510.00	\$128,457.00	\$0.11	\$1,835.10	\$0.00	0.00	1.00	0.01	0.00	0.00	0.00	Vegetation on Roof		
Cooling Chillers	Green Roof	Warehouse	Lost Opportunity	2.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	40	\$183,510.00	\$128,457.00	\$0.17	\$1,835.10	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Vegetation on Roof		
Cooling Chillers	Indirect Information Feedback	Warehouse	Discretionary	2.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2	\$8.13	\$5.69	\$0.11	\$0.00	\$0.00	0.12	1.00	0.01	0.00	0.00	0.00	Indirect Information Feedback		
Cooling Chillers	Indirect Information Feedback	Warehouse	Lost Opportunity	2.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2	\$8.13	\$5.69	\$0.17	\$0.00	\$0.00	0.12	1.00	0.00	0.00	0.00	0.00	Indirect Information Feedback		
Cooling Chillers	Infiltration Reduction	Warehouse	Discretionary	14.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$183.33	\$128.33	\$0.11	\$0.00	\$0.00	0.17	1.00	0.00	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)		
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Discretionary	28.2	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$2,064.49	\$1,445.14	\$0.17	\$0.00	\$0.00	0.10	1.00	0.05	0.00	0.00	0.00	R-35 c.i.		
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Lost Opportunity	28.2	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$2,064.49	\$1,445.14	\$0.17	\$0.00	\$0.00	0.10	1.00	0.00	0.00	0.00	0.00	R-35 c.i.		
Cooling Chillers	Insulation - Ceiling - CBES 2015 - Code	Warehouse	Discretionary	96.5	0.03	0.00	0.00	0.00	0.0	0.0	0.0	30	\$9,420.18	\$6,594.13	\$0.11	\$0.00	\$0.00	0.08	1.00	0.11	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)		
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Discretionary	41.5	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,670.20	\$2,569.14	\$0.17	\$0.00	\$0.00	0.08	1.00	0.02	0.00	0.00	0.00	R-38		
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Lost Opportunity	41.5	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,670.20	\$2,569.14	\$0.17	\$0.00	\$0.00	0.08	1.00	0.01	0.00	0.00	0.00	R-38		
Cooling Chillers	Insulation - Floor (non-slab) - CBES 2015 - Code	Warehouse	Discretionary	72.3	0.02	0.00	0.00	0.00	0.0	0.0	0.0	30	\$10,521.24	\$7,364.87	\$0.11	\$0.00	\$0.00	0.05	1.00	0.04	0.00	0.00	0.00	R-30 (CBES 2015 Code)		
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Discretionary	20.2	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,271.38	\$889.97	\$0.17	\$0.00	\$0.00	0.12	1.00	0.02	0.00	0.00	0.00	R-13 + 15.6 c.i.		
Cooling Chillers	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Lost Opportunity	20.2	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,271.38	\$889.97	\$0.17	\$0.00	\$0.00	0.12	1.00	0.01	0.00	0.00	0.00	R-13 + 15.6 c.i.		
Cooling Chillers	Insulation - Wall - CBES 2015 - Code	Warehouse	Discretionary	22.2	0.01	0.00	0.00	0.00	0.0	0.0	0.0	30	\$8,724.29	\$6,107.00	\$0.11	\$0.00	\$0.00	0.02	1.00	0.01	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)		
Cooling Chillers	Natural Ventilation	Warehouse	Lost Opportunity	47.0	0.02	0.00	0.00	0.00	0.0	0.0	0.0	15	\$12,234.00	\$8,563.80	\$0.17	\$0.00	\$0.00	0.01	1.00	0.00	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling		
Cooling Chillers	Programmable Thermostat	Warehouse	Discretionary	18.8	0.01	0.00	0.00	0.00	0.0	0.0	0.0	11	\$25.78	\$18.04	\$0.11	\$0.00	\$0.00	1.83	1.00	0.22	0.24	0.19	0.16	Programmable Thermostat		
Cooling Chillers	Re-Commissioning	Warehouse	Discretionary	61.0	0.02	0.00	0.00	0.00	0.0	0.0	0.0	5	\$3,670.20	\$2,569.14	\$0.17	\$0.00	\$0.00	0.02	1.00	0.33	0.00	0.00	0.00	Re-Commissioning		
Cooling Chillers	Retrocommissioning	Warehouse	Discretionary	69.7	0.02	0.00	0.00	0.00	0.0	0.0	0.0	5	\$6,117.00	\$4,281.90	\$0.17	\$0.00	\$0.00	0.01	1.00	0.17	0.00	0.00	0.00	Retrocommissioning		
Cooling Chillers	Strategic Energy Management (SEM)	Warehouse	Discretionary	19.3	0.01	0.00	0.00	0.00	0.0	0.0	0.0	5	\$2.59	\$1.82	\$0.17	\$0.00	\$0.00	8.08	1.00	0.05	0.06	0.04	0.04	Identify Operations and Maintenance Improvements through Strategic Energy Management		
Cooling Chillers	Strategic Energy Management (SEM)	Warehouse	Lost Opportunity	19.3	0.01	0.00	0.00	0.00	0.0	0.0	0.0	5	\$2.59	\$1.82	\$0.17	\$0.00	\$0.00	8.08	1.00	0.02	0.02	0.01	0.01	Identify Operations and Maintenance Improvements through Strategic Energy Management		
Cooling Chillers	Tune-up - Chiller Maintenance	Warehouse	Discretionary	67.5	0.02	0.00	0.00	0.00	0.0	0.0	0.0	5	\$1,957.44	\$1,370.21	\$0.11	\$0.00	\$0.00	0.04	1.00	0.08	0.00	0.00	0.00	Chiller Tune-up		
Cooling Chillers	Wi-Fi Thermostat	Warehouse	Discretionary	18.8	0.01	0.00	0.00	0.00	0.0	0.0	0.0	11	\$205.33	\$143.73	\$0.17	\$0.00	\$0.00	0.23	1.00	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)		
Cooling Chillers	Windows - CBES 2015 - Above Code	Warehouse	Discretionary	0.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$1,084.13	\$758.89	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	U-0.29		
Cooling Chillers	Windows - CBES 2015 - Above Code	Warehouse	Lost Opportunity	0.8	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$1,084.13	\$758.89	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	U-0.29		
Cooling Chillers	Windows - CBES 2015 - Code	Warehouse	Discretionary	1.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$7,159.18	\$5,011.43	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)		
Cooling Dx Evap	Active Chilled Beam Cooling with DOAS	Warehouse	Lost Opportunity	84.0	0.03	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$12,234.00	\$0.00	\$0.17	\$9,175.50	\$0.00	0.00	1.00	0.03	0.00	0.00	0.00	0.00	Active Chilled Beam Cooling with DOAS	
Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units	Warehouse	Discretionary	63.2	0.02	0.00	0.00	0.00	0.0	0.0	0.0	10	\$4,587.75	\$3,211.43	\$0.11	-\$3,303.18	\$0.00	999.00	1.00	1.38	1.79	1.20	1.20	Rooftop unit with automated fault detection and diagnostics capability		
Cooling Dx Evap	Automated Fault Detection and Diagnostics for Rooftop Units	Warehouse	Lost Opportunity	63.2	0.02	0.00	0.00	0.00	0.0	0.0	0.0	10	\$3,670.20	\$2,569.14	\$0.17	-\$2,642.54	\$0.00	999.00	1.00	0.08	0.11	0.07	0.07	Rooftop unit with automated fault detection and diagnostics capability		
Cooling Dx Evap	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Warehouse	Discretionary	43.7	0.01	0.00	4.19	9.65	0.0	0.0	0.0	15	\$3,058.50	\$2,140.95	\$0.11	\$0.00	\$0.00	0.13	1.00	0.05	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)		
Cooling Dx Evap	Commissioning	Warehouse	Lost Opportunity	54.6	0.02	0.00	6.87	13.70	0.0	0.0	0.0	5	\$14,191.44	\$9,934.01	\$0.17	\$0.00	\$0.00	0.01	1.00	0.06	0.00	0.00	0.00	Commissioning		
Cooling Dx Evap	Convert Constant Volume Air System to VAV	Warehouse	Discretionary	110.3	0.04	0.00	12.50	28.79	0.1	0.0	0.0	15	\$66,912.99	\$46,839.09	\$0.11	\$0.00	\$0.00	0.02	1.00	0.17	0.00	0.00	0.00	Variable Volume Air System		
Cooling Dx Evap	DX Package 135 to 240 kBtuh - Federal Standard 2023	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.36	\$0.25	\$0.17	\$0.00	\$0.00	0.03	1.00	0.00	0.00	0.00	0.00	Federal Standard 2023 - 14.2 IEER		
Cooling Dx Evap																										



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Cooling Dx Evap	Retrocommissioning	Warehouse	Discretionary	62.3	0.02	0.00	7.06	14.07	0.0	0.0	0.0	5	\$6,117.00	\$4,281.90	\$0.17	\$0.00	\$0.00	0.03	1.00	0.63	0.00	0.00	0.00	Retrocommissioning	
Cooling Dx Evap	Strategic Energy Management (SEM)	Warehouse	Discretionary	17.2	0.01	0.00	1.95	3.89	0.0	0.0	0.0	5	\$2.32	\$1.62	\$0.17	\$0.00	\$0.00	24.79	1.00	0.04	0.06	0.04	0.04	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Strategic Energy Management (SEM)	Warehouse	Lost Opportunity	17.2	0.01	0.00	2.17	4.32	0.0	0.0	0.0	5	\$2.32	\$1.62	\$0.17	\$0.00	\$0.00	26.65	1.00	0.02	0.02	0.01	0.01	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Cooling Dx Evap	Tune-up - DX Maintenance	Warehouse	Discretionary	60.4	0.02	0.00	0.00	0.00	0.0	0.0	0.0	5	\$11,010.60	\$7,707.42	\$0.11	\$0.00	\$0.00	0.01	1.00	0.44	0.00	0.00	0.00	DX Tune-up / Diagnostics	
Cooling Dx Evap	Wi-Fi Thermostat	Warehouse	Discretionary	16.8	0.01	0.00	1.90	4.15	0.0	0.0	0.0	11	\$205.33	\$143.73	\$0.17	\$0.00	\$0.00	0.62	1.00	0.00	0.00	0.00	0.00	Wi-Fi Thermostat (Learning Type)	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Warehouse	Discretionary	0.7	0.00	0.00	0.08	0.20	0.0	0.0	0.0	20	\$1,084.13	\$758.89	\$0.17	\$0.00	\$0.00	0.01	1.00	0.00	0.00	0.00	0.00	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Above Code	Warehouse	Lost Opportunity	0.7	0.00	0.00	0.09	0.22	0.0	0.0	0.0	20	\$1,084.13	\$758.89	\$0.17	\$0.00	\$0.00	0.01	1.00	0.00	0.00	0.00	0.00	U-0.29	
Cooling Dx Evap	Windows - CBES 2015 - Code	Warehouse	Discretionary	1.7	0.00	0.00	0.19	0.46	0.0	0.0	0.0	20	\$7,159.18	\$5,011.43	\$0.11	\$0.00	\$0.00	0.00	1.00	0.01	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Cooling Dx Evap - Early Replacement	Early Replacement DX Package 65 to 135 kBtuh - Premium Efficiency	Warehouse	Discretionary	211.8	0.07	0.00	0.00	0.00	0.0	0.0	0.0	15	\$37,544.90	\$26,281.43	\$0.17	\$0.00	\$0.00	0.02	1.00	1.31	0.00	0.00	0.00	Premium Efficiency - 19.0 IEER	
Fax	Fax - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.31	0.00	0.00	0.00	ENERGY STAR Fax	
Fax	Fax - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.02	0.00	0.00	0.00	ENERGY STAR Fax	
Flat Screen Monitors	Monitor - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.50	1.00	2.50	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor	
Flat Screen Monitors	Monitor - ENERGY STAR 2016 Most Efficient	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	7	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.50	1.00	0.13	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Monitor	
Freezers	Freezer (Residential) - ENERGY STAR	Warehouse	Freezer (Residential)	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	13.03	1.00	0.10	0.10	0.06	0.06	ENERGY STAR Freezer	
Freezers	Freezer (Residential) - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	13.03	1.00	0.01	0.01	0.00	0.00	ENERGY STAR Freezer	
Freezers	Residential Freezer Recycling and Replacement	Warehouse	Discretionary	7.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	8	\$3.00	\$2.10	\$0.11	\$0.00	\$0.00	3.13	1.00	0.65	0.65	0.36	0.36	Recycling Existing Freezer and Replacing with a Federal Standard Unit	
Heat Pump	Active Chilled Beam Cooling with DOAS	Warehouse	Lost Opportunity	1.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$12,234.00	\$0.00	\$0.17	\$9,175.50	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Active Chilled Beam Cooling with DOAS	
Heat Pump	Air Source Heat Pump 135 to 240 kBtuh - Federal Standard 2023	Warehouse	Air Source Heat Pump	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Federal Standard 2023 - 13.5 IEER, 3.3 COP	
Heat Pump	Air Source Heat Pump 135 to 240 kBtuh - Federal Standard 2023	Warehouse	Air Source Heat Pump	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Federal Standard 2023 - 13.5 IEER, 3.3 COP	
Heat Pump	Air Source Heat Pump 135 to 240 kBtuh - Premium Efficiency	Warehouse	Air Source Heat Pump	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Premium Efficiency - 18.5 IEER, 3.6 COP	
Heat Pump	Air Source Heat Pump 135 to 240 kBtuh - Premium Efficiency	Warehouse	Air Source Heat Pump	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Premium Efficiency - 18.5 IEER, 3.6 COP	
Heat Pump	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Warehouse	Discretionary	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$3,058.50	\$2,140.95	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Demand Controlled Ventilation (CO2 sensors)	
Heat Pump	Commissioning	Warehouse	Lost Opportunity	0.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$14,191.44	\$9,934.01	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Commissioning	
Heat Pump	Convert Constant Volume Air System to VAV	Warehouse	Discretionary	1.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$66,912.99	\$46,839.09	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Variable Volume Air System	
Heat Pump	Direct Digital Control System-Installation	Warehouse	Discretionary	1.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$3,823.13	\$2,676.19	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Installation of EMS System	
Heat Pump	Direct Digital Control System-Installation	Warehouse	Lost Opportunity	1.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5	\$3,823.13	\$2,676.19	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Installation of EMS System	
Heat Pump	Duct Repair and Sealing	Warehouse	Discretionary	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	18	\$2,936.16	\$2,055.31	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Reduction In Duct Losses to 5 %	
Heat Pump	Exhaust Air to Ventilation Air Heat Recovery	Warehouse	Discretionary	1.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	14	\$53,767.81	\$37,637.46	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Exhaust Air to Ventilation Air Heat Recovery	
Heat Pump	Ground Source Heat Pump (< 135 kBtuh/hr) Cooling	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	17.0 EER, 4.0 COP	
Heat Pump	Ground Source Heat Pump (< 135 kBtuh/hr) Cooling	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	25	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	17.0 EER, 4.0 COP	
Heat Pump	HVAC Variable Refrigerant Flow	Warehouse	Discretionary	4.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$46,489.20	\$32,542.44	\$0.11	-\$1,064.36	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Heat Pump	HVAC Variable Refrigerant Flow	Warehouse	HVAC Variable Refrigerant Flow	4.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$46,489.20	\$32,542.44	\$0.17	-\$1,064.36	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Upgrade HVAC Equipment to Variable Refrigerant Flow Systems	
Heat Pump	Indirect Information Feedback	Warehouse	Discretionary	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2	\$0.12	\$0.09	\$0.11	\$0.00	\$0.00	0.12	1.00	0.00	0.00	0.00	0.00	Indirect Information Feedback	
Heat Pump	Indirect Information Feedback	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2	\$0.12	\$0.09	\$0.17	\$0.00	\$0.00	0.12	1.00	0.00	0.00	0.00	0.00	Indirect Information Feedback	
Heat Pump	Infiltration Reduction	Warehouse	Discretionary	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$183.33	\$128.33	\$0.11	\$0.00	\$0.00	0.01	1.00	0.00	0.00	0.00	0.00	Install Caulking And Weatherstripping (ACH 0.65)	
Heat Pump	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Discretionary	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$2,064.49	\$1,445.14	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	R-35 c.i.	
Heat Pump	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$2,064.49	\$1,445.14	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	R-35 c.i.	
Heat Pump	Insulation - Ceiling - CBES 2015 - Code	Warehouse	Discretionary	1.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$9,420.18	\$6,594.13	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	R-30 c.i. (CBES 2015 Code)	
Heat Pump	Insulation - Duct - CBES 2015 - Above Code	Warehouse	Discretionary	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$165.92	\$116.15	\$0.17	\$0.00	\$0.00	0.01	1.00	0.00	0.00	0.00	0.00	R-12	
Heat Pump	Insulation - Duct - CBES 2015 - Above Code	Warehouse	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$165.92	\$116.15	\$0.17	\$0.00	\$0.00	0.01	1.00	0.00	0.00	0.00	0.00	R-12	
Heat Pump	Insulation - Duct - CBES 2015 - Code	Warehouse	Discretionary	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$668.28	\$467.80	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	R-8 (CBES 2015 Code)	
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Discretionary	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,670.20	\$2,569.14	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	R-38	
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$3,670.20	\$2,569.14	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	R-38	
Heat Pump	Insulation - Floor (non-slab) - CBES 2015 - Code	Warehouse	Discretionary	1.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$10,521.24	\$7,364.87	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	R-30 (CBES 2015 Code)	
Heat Pump	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Discretionary	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,271.38	\$889.97	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Heat Pump	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$1,271.38	\$889.97	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	R-13 + 15.6 c.i.	
Heat Pump	Insulation - Wall - CBES 2015 - Code	Warehouse	Discretionary	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	30	\$8,724.29	\$6,107.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)	
Heat Pump	Natural Ventilation	Warehouse	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$12,234.00	\$8,563.80	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Natural Ventilation Design Reduction in Cooling	
Heat Pump	Programmable Thermostat	Warehouse	Discretionary	0.3	0.00	0.00	0.00	0.00																	



Appendix B.4		BED Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description
Lighting Interior Fluorescent	Dimming-Stepped, Fluorescent Fixtures	Warehouse	Discretionary	9,162.8	1.78	1.23	0.00	0.00	0.0	0.0	0.0	10	\$254.40	\$178.08	\$0.17	\$0.00	\$0.00	67.06	1.00	50.66	50.66	38.20	38.20	3-stepped Dimming of Fluorescent Fixtures (Day-Lighting)
Lighting Interior Fluorescent	Lighting Interior - Fluorescent - 2018 Federal Standard	Warehouse	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.04	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	1.00	0.00	0.00	0.00	0.00	Standard Fluorescent 2018 Federal Standard Approved T-8
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 - Above Standard	Warehouse	Lost Opportunity	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.05	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	1.00	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 High Performance - Above Standard	Warehouse	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	-\$0.03	\$0.00	\$0.17	-\$0.01	\$0.00	999.00	1.00	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 High Performance Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - Fluorescent T8 Reduced Wattage - Above Standard	Warehouse	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.01	\$0.00	\$0.17	\$0.00	\$0.00	94.16	1.00	0.00	0.00	0.00	0.00	Above Standard Fluorescent T8 Reduced Wattage Interior Lighting
Lighting Interior Fluorescent	Lighting Interior - TLED - Above Standard	Warehouse	Lost Opportunity	1.9	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.26	\$0.18	\$0.17	-\$0.02	\$0.00	75.85	1.00	1484.83	1619.11	1189.44	1189.44	Above Standard TLED
Lighting Interior Fluorescent	Occupancy Sensor Control	Warehouse	Discretionary	7,853.8	1.52	1.05	0.00	0.00	0.0	0.0	0.0	10	\$24,104.48	\$16,873.13	\$0.17	\$0.00	\$0.00	0.61	1.00	205.67	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Interior Fluorescent	Time Clock	Warehouse	Discretionary	3,272.4	0.63	0.44	0.00	0.00	0.0	0.0	0.0	8	\$103.00	\$72.10	\$0.17	\$0.00	\$0.00	46.91	1.00	7.14	7.14	5.39	5.39	Time Clock
Lighting Interior Fluorescent - Early Replacement	Early Replacement Lighting Interior - TLED - Above Standard	Warehouse	Discretionary	392.5	0.08	0.05	0.00	0.00	0.0	0.0	0.0	15	\$94.18	\$65.92	\$0.17	-\$1.16	\$0.00	13.90	1.00	4.73	4.73	3.57	3.57	Above Standard TLED
Lighting Interior HID	Lighting Interior - Efficient Metal Halide - Above Standard	Warehouse	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.09	\$0.07	\$0.17	-\$0.01	\$0.00	25.63	1.00	0.00	0.00	0.00	0.00	Efficient Metal Halide
Lighting Interior HID	Lighting Interior - Federal Standard 2017 Metal Halide - Above Standard	Warehouse	Lost Opportunity	0.1	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.11	\$0.08	\$0.17	\$0.00	\$0.00	2.29	1.00	0.00	0.00	0.00	0.00	Federal Standard 2017 Metal Halide
Lighting Interior HID	Lighting Interior - High Bay Fluorescent High Output - Above Standard	Warehouse	Lost Opportunity	0.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.29	\$0.21	\$0.17	\$0.03	\$0.00	1.34	1.00	0.00	0.00	0.00	0.00	High Bay Fluorescent High Output (HO)
Lighting Interior HID	Lighting Interior - High Bay Induction - Above Standard	Warehouse	Lost Opportunity	0.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.29	\$0.20	\$0.17	-\$0.02	\$0.00	6.33	1.00	0.00	0.00	0.00	0.00	High Bay Induction
Lighting Interior HID	Lighting Interior - High Bay LED - Above Standard	Warehouse	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.34	\$0.24	\$0.17	-\$0.01	\$0.00	5.66	1.00	210.26	233.49	171.61	171.61	High Bay LED
Lighting Interior HID	Occupancy Sensor Control	Warehouse	Discretionary	1,570.5	0.30	0.21	0.00	0.00	0.0	0.0	0.0	10	\$4,820.05	\$3,374.03	\$0.17	\$0.00	\$0.00	0.61	1.00	77.27	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Interior HID	Time Clock	Warehouse	Discretionary	654.4	0.13	0.09	0.00	0.00	0.0	0.0	0.0	8	\$103.00	\$72.10	\$0.17	\$0.00	\$0.00	9.38	1.00	2.68	2.68	2.02	2.02	Time Clock
Lighting Interior Other	Exit Sign - LED	Warehouse	Discretionary	214.3	0.04	0.03	0.00	0.00	0.0	0.0	0.0	16	\$301.34	\$210.94	\$0.17	\$0.00	\$0.00	2.16	1.00	16.27	16.27	12.27	12.27	LED Exit Sign
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Warehouse	Discretionary	266.9	0.05	0.04	0.00	0.00	0.0	0.0	0.0	16	-\$45.88	\$0.00	\$0.17	\$0.00	\$0.00	999.00	1.00	29.60	29.60	22.33	22.33	Photoluminescent or Tritium
Lighting Interior Other	Exit Sign - Photoluminescent or Tritium	Warehouse	Lost Opportunity	266.9	0.05	0.04	0.00	0.00	0.0	0.0	0.0	16	-\$45.88	\$0.00	\$0.17	\$0.00	\$0.00	999.00	1.00	1.23	1.23	0.90	0.90	Photoluminescent or Tritium
Lighting Interior Other	New Construction Lighting Package - Advanced Efficiency	Warehouse	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.19	\$0.13	\$0.11	-\$0.01	\$0.00	17.91	1.00	54.52	54.52	40.43	40.43	Advanced Efficiency Lighting Package - 25% LPD Reduction
Lighting Interior Other	New Construction Lighting Package - High Efficiency	Warehouse	Lost Opportunity	0.4	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	999.00	1.00	0.00	0.00	0.00	0.00	High Efficiency Lighting Package - 15% LPD Reduction
Lighting Interior Other	New Construction Lighting Package - Premium Efficiency	Warehouse	Lost Opportunity	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.04	\$0.03	\$0.11	\$0.00	\$0.00	392.65	1.00	0.00	0.00	0.00	0.00	Premium Efficiency Lighting Package - 20% LPD Reduction
Lighting Interior Other	Occupancy Sensor Control	Warehouse	Discretionary	128.6	0.02	0.02	0.00	0.00	0.0	0.0	0.0	10	\$394.70	\$276.29	\$0.11	\$0.00	\$0.00	0.61	1.00	7.11	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Interior Other	Time Clock	Warehouse	Discretionary	53.6	0.01	0.01	0.00	0.00	0.0	0.0	0.0	8	\$103.00	\$72.10	\$0.17	\$0.00	\$0.00	0.77	1.00	0.25	0.00	0.00	0.00	Time Clock
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base CFL - Above Standard	Warehouse	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3	\$0.01	\$0.01	\$0.17	-\$0.01	\$0.00	999.00	1.00	0.00	0.00	0.00	0.00	CFL
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base Incandescent - Backstop EISA 2020 Standard	Warehouse	Lost Opportunity	0.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3	\$0.01	\$0.01	\$0.17	-\$0.01	\$0.00	999.00	1.00	0.00	0.00	0.00	0.00	Backstop EISA 2020 Standard Incandescent
Lighting Interior Screw Base - Standard	Lighting Interior - Screw Base LED - Above Standard	Warehouse	Lost Opportunity	0.7	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.06	\$0.04	\$0.17	-\$0.02	\$0.00	999.00	1.00	34.94	35.13	26.49	26.49	LED
Lighting Interior Screw Base - Standard	Occupancy Sensor Control	Warehouse	Discretionary	2,278.1	0.44	0.31	0.00	0.00	0.0	0.0	0.0	10	\$6,991.90	\$4,894.33	\$0.17	\$0.00	\$0.00	0.61	1.00	43.31	0.00	0.00	0.00	Occupancy Sensor Control
Lighting Interior Screw Base - Standard	Time Clock	Warehouse	Discretionary	949.2	0.18	0.13	0.00	0.00	0.0	0.0	0.0	8	\$103.00	\$72.10	\$0.17	\$0.00	\$0.00	13.61	1.00	1.50	1.50	1.13	1.13	Time Clock
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base CFL - Above Standard	Warehouse	Discretionary	935.1	0.18	0.13	0.00	0.00	0.0	0.0	0.0	3	\$19.66	\$13.76	\$0.17	-\$15.83	\$0.00	999.00	1.00	0.00	0.00	0.00	0.00	CFL
Lighting Interior Screw Base - Standard - Early Replacement	Early Replacement Lighting Interior - Screw Base LED - Above Standard	Warehouse	Discretionary	977.5	0.19	0.13	0.00	0.00	0.0	0.0	0.0	12	\$62.25	\$43.57	\$0.17	-\$22.58	\$0.00	999.00	1.00	8.04	8.04	6.06	6.06	LED
Other Plug Load	Dehumidifier - ENERGY STAR	Warehouse	Discretionary	153.8	0.02	0.01	0.00	0.00	0.0	0.0	0.0	12	\$60.00	\$42.00	\$0.17	\$0.00	\$0.00	5.23	1.00	3.12	3.12	2.07	2.07	ENERGY STAR Dehumidifier
Other Plug Load	Dehumidifier - ENERGY STAR	Warehouse	Lost Opportunity	153.8	0.02	0.01	0.00	0.00	0.0	0.0	0.0	12	\$60.00	\$42.00	\$0.17	\$0.00	\$0.00	5.23	1.00	0.17	0.17	0.11	0.11	ENERGY STAR Dehumidifier
Other Plug Load	ENERGY STAR - Scanners	Warehouse	Discretionary	1.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.13	0.00	0.00	0.00	ENERGY STAR Scanners
Other Plug Load	ENERGY STAR - Scanners	Warehouse	Lost Opportunity	1.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.01	0.00	0.00	0.00	ENERGY STAR Scanners
Other Plug Load	ENERGY STAR - Water Cooler	Warehouse	Discretionary	58.2	0.01	0.01	0.00	0.00	0.0	0.0	0.0	10	\$0.50	\$0.35	\$0.11	\$0.00	\$0.00	196.63	1.00	6.79	6.79	4.50	4.50	ENERGY STAR Water Cooler (Hot/Cold Water)
Other Plug Load	ENERGY STAR - Water Cooler	Warehouse	Lost Opportunity	58.2	0.01	0.01	0.00	0.00	0.0	0.0	0.0	10	\$0.50	\$0.35	\$0.17	\$0.00	\$0.00	196.63	1.00	0.38	0.38	0.25	0.25	ENERGY STAR Water Cooler (Hot/Cold Water)
Other Plug Load	Internal Power Supply / Com - E Star	Warehouse	Discretionary	26.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$53.42	\$37.40	\$0.11	\$0.00	\$0.00	0.32	1.00	0.72	0.00	0.00	0.00	ENERGY STAR power supply for ENERGY STAR desktop
Other Plug Load	Internal Power Supply / Com - E Star	Warehouse	Lost Opportunity	26.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$53.42	\$37.40	\$0.17	\$0.00	\$0.00	0.32	1.00	0.04	0.00	0.00	0.00	ENERGY STAR power supply for ENERGY STAR desktop
Other Plug Load	Smart Strip Plug Outlet	Warehouse	Discretionary	51.5	0.01	0.00	0.00	0.00	0.0	0.0	0.0	4	\$38.73	\$27.11	\$0.11	\$0.00	\$0.00	0.86	1.00	1.27	0.00	0.00	0.00	Advanced Power Strip - Load Sensing
Other Plug Load	Smart Strip Plug Outlet	Warehouse	Lost Opportunity	51.5	0.01	0.00	0.00	0.00	0.0	0.0	0.0	4	\$38.73	\$27.11	\$0.17	\$0.00	\$0.00	0.86	1.00	0.07	0.00	0.00	0.00	Advanced Power Strip - Load Sensing
Other Plug Load	Smart Strip Plug Outlet	Warehouse	Discretionary	31.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$93.79	\$65.65	\$0.11	\$0.00	\$0.00	0.22	1.00	0.00	0.00	0.00	0.00	Advanced Power Strip with Occupancy Sensor
Other Plug Load	Smart Strip Plug Outlet	Warehouse	Lost Opportunity	31.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$93.79	\$65.65	\$0.17	\$0.00	\$0.00	0.22	1.00	0.00	0.00	0.00	0.00	Advanced Power Strip with Occupancy Sensor
Photo Copiers	Copiers - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	1.43	0.00	0.00	0.00	ENERGY STAR Copiers
Photo Copiers	Copiers - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.07	0.00	0.00	0.00	ENERGY STAR Copiers
Printers	Printers - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	8.49	0.00	0.00	0.00	ENERGY STAR Printers
Printers	Printers - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.44	0.00	0.00	0.00	ENERGY STAR Printers
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	1.23	1.00	0.00	0.00	0.00	0.00	CEE Tier 2 Refrigerator
Refrigerators	Refrigerator (Residential) - CEE Tier 2	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	1.23	1.00	0.00	0.00	0.00	0.00	CEE Tier 2 Refrigerator
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	1.15	1.00	1.74	1.74	0.97	0.97	CEE Tier 3 Refrigerator
Refrigerators	Refrigerator (Residential) - CEE Tier 3	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	12	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	1.15	1.00	0.15	0.15	0.09	0.09	CEE Tier 3 Refrigerator
Refrigerators	Refrigerator (Residential) - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00																			



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Room Cool	Room AC - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.03	\$0.02	\$0.17	\$0.00	\$0.00	0.25	1.00	0.01	0.00	0.00	0.00	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)	
Room Cool	Windows - CBES 2015 - Above Code	Warehouse	Discretionary	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$1,084.13	\$758.89	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	U-0.29	
Room Cool	Windows - CBES 2015 - Above Code	Warehouse	Lost Opportunity	0.6	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$1,084.13	\$758.89	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	U-0.29	
Room Cool	Windows - CBES 2015 - Code	Warehouse	Discretionary	1.5	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$7,159.18	\$5,011.43	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Room Cool - Early Replacement	Early Replacement Room AC - ENERGY STAR	Warehouse	Discretionary	78.2	0.04	0.00	0.00	0.00	0.0	0.0	0.0	9	\$1,345.74	\$942.02	\$0.17	\$0.00	\$0.00	0.14	1.00	0.04	0.00	0.00	0.00	ENERGY STAR Room AC - CEER 12.0 (8,000-13,999 Btuh)	
Room Heat - Electric	Ductless Heat Pump (DHP)	Warehouse	Discretionary	4,006.7	0.01	1.61	0.00	0.00	0.0	0.0	0.0	15	\$3,406.32	\$2,384.42	\$0.17	\$0.00	\$0.00	2.20	1.00	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Heat - Electric	Ductless Heat Pump (DHP)	Warehouse	Lost Opportunity	4,006.7	0.01	1.61	0.00	0.00	0.0	0.0	0.0	15	\$3,406.32	\$2,384.42	\$0.17	\$0.00	\$0.00	2.20	1.00	0.00	0.00	0.00	0.00	Ductless Heat Pump - SEER/EER 18/12.5, HSPF 10.0	
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Warehouse	Discretionary	4,218.1	0.01	1.70	0.00	0.00	0.0	0.0	0.0	15	\$3,487.75	\$2,441.42	\$0.11	\$0.00	\$0.00	2.26	1.00	0.00	0.00	0.00	0.00	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0	
Room Heat - Electric	Ductless Heat Pump (DHP) - ENERGY STAR 2016 Most Efficient	Warehouse	Lost Opportunity	4,218.1	0.01	1.70	0.00	0.00	0.0	0.0	0.0	15	\$3,487.75	\$2,441.42	\$0.17	\$0.00	\$0.00	2.26	1.00	0.01	0.01	0.01	0.01	ENERGY STAR 2016 Most Efficient Ductless Heat Pump - SEER/EER 21/12.5, HSPF 11.0	
Room Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Warehouse	Discretionary	1,970.6	0.00	0.79	0.00	0.00	0.0	0.0	0.0	14	\$53,767.81	\$37,637.46	\$0.11	\$0.00	\$0.00	0.06	1.00	0.22	0.00	0.00	0.00	Exhaust Air to Ventilation Air Heat Recovery	
Room Heat - Electric	Infiltration Reduction	Warehouse	Discretionary	1,313.7	0.00	0.53	0.00	0.00	0.0	0.0	0.0	10	\$183.33	\$128.33	\$0.17	\$0.00	\$0.00	9.02	1.00	0.06	0.06	0.04	0.04	Install Caulking And Weatherstripping (ACH 0.65)	
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Discretionary	787.8	0.00	0.32	0.00	0.00	0.0	0.0	0.0	30	\$2,064.49	\$1,445.14	\$0.17	\$0.00	\$0.00	1.43	1.00	0.30	0.30	0.20	0.20	R-35 c.i.	
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Lost Opportunity	787.8	0.00	0.32	0.00	0.00	0.0	0.0	0.0	30	\$2,064.49	\$1,445.14	\$0.17	\$0.00	\$0.00	1.43	1.00	0.01	0.01	0.00	0.00	R-35 c.i.	
Room Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Warehouse	Discretionary	2,699.0	0.01	1.09	0.00	0.00	0.0	0.0	0.0	30	\$9,420.18	\$6,594.13	\$0.11	\$0.00	\$0.00	1.08	1.00	0.66	0.66	0.44	0.44	R-30 c.i. (CBES 2015 Code)	
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Discretionary	1,160.9	0.00	0.47	0.00	0.00	0.0	0.0	0.0	30	\$3,670.20	\$2,569.14	\$0.17	\$0.00	\$0.00	1.19	1.00	0.15	0.15	0.10	0.10	R-38	
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Lost Opportunity	1,160.9	0.00	0.47	0.00	0.00	0.0	0.0	0.0	30	\$3,670.20	\$2,569.14	\$0.17	\$0.00	\$0.00	1.19	1.00	0.01	0.01	0.01	0.01	R-38	
Room Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Warehouse	Discretionary	2,022.0	0.00	0.81	0.00	0.00	0.0	0.0	0.0	30	\$10,521.24	\$7,364.87	\$0.11	\$0.00	\$0.00	0.72	1.00	0.25	0.00	0.00	0.00	R-30 (CBES 2015 Code)	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Discretionary	564.8	0.00	0.23	0.00	0.00	0.0	0.0	0.0	30	\$1,271.38	\$889.97	\$0.17	\$0.00	\$0.00	1.67	1.00	0.12	0.12	0.08	0.08	R-13 + 15.6 c.i.	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Lost Opportunity	564.8	0.00	0.23	0.00	0.00	0.0	0.0	0.0	30	\$1,271.38	\$889.97	\$0.17	\$0.00	\$0.00	1.67	1.00	0.02	0.02	0.01	0.01	R-13 + 15.6 c.i.	
Room Heat - Electric	Insulation - Wall - CBES 2015 - Code	Warehouse	Discretionary	620.2	0.00	0.25	0.00	0.00	0.0	0.0	0.0	30	\$8,724.29	\$6,107.00	\$0.11	\$0.00	\$0.00	0.27	1.00	0.09	0.00	0.00	0.00	R-13 + 7.5 c.i. (CBES 2015 Code)	
Room Heat - Electric	Windows - CBES 2015 - Above Code	Warehouse	Discretionary	22.2	0.00	0.01	0.00	0.00	0.0	0.0	0.0	20	\$1,084.13	\$758.89	\$0.17	\$0.00	\$0.00	0.05	1.00	0.01	0.00	0.00	0.00	U-0.29	
Room Heat - Electric	Windows - CBES 2015 - Above Code	Warehouse	Lost Opportunity	22.2	0.00	0.01	0.00	0.00	0.0	0.0	0.0	20	\$1,084.13	\$758.89	\$0.17	\$0.00	\$0.00	0.05	1.00	0.00	0.00	0.00	0.00	U-0.29	
Room Heat - Electric	Windows - CBES 2015 - Code	Warehouse	Discretionary	52.1	0.00	0.02	0.00	0.00	0.0	0.0	0.0	20	\$7,159.18	\$5,011.43	\$0.11	\$0.00	\$0.00	0.02	1.00	0.02	0.00	0.00	0.00	U-0.36 (CBES 2015 Code)	
Servers	Internal Power Supply / Server	Warehouse	Discretionary	4.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$1.22	\$0.85	\$0.17	\$0.00	\$0.00	2.22	1.00	0.31	0.39	0.26	0.26	80 Plus power supply for Desktop Derived Server	
Servers	Internal Power Supply / Server	Warehouse	Lost Opportunity	4.2	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4	\$1.22	\$0.85	\$0.17	\$0.00	\$0.00	2.22	1.00	0.02	0.02	0.01	0.01	80 Plus power supply for Desktop Derived Server	
Servers	Server - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.02	\$0.01	\$0.11	\$0.00	\$0.00	0.32	1.00	4.83	0.00	0.00	0.00	ENERGY STAR Server	
Servers	Server - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9	\$0.02	\$0.01	\$0.17	\$0.00	\$0.00	0.32	1.00	0.27	0.00	0.00	0.00	ENERGY STAR Server	
Space Heat - Electric	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Warehouse	Discretionary	2,689.3	0.01	1.08	0.00	0.00	0.0	0.0	0.0	15	\$3,058.50	\$2,140.95	\$0.11	\$0.00	\$0.00	1.64	1.00	0.15	0.15	0.10	0.10	Demand Controlled Ventilation (CO2 sensors)	
Space Heat - Electric	Commissioning	Warehouse	Lost Opportunity	3,972.8	0.01	1.60	0.00	0.00	0.0	0.0	0.0	5	\$14,191.44	\$9,934.01	\$0.17	\$0.00	\$0.00	0.17	1.00	0.27	0.00	0.00	0.00	Commissioning	
Space Heat - Electric	Convert Constant Volume Air System to VAV	Warehouse	Discretionary	8,027.7	0.02	3.23	0.00	0.00	0.0	0.0	0.0	15	\$66,912.99	\$46,839.09	\$0.11	\$0.00	\$0.00	0.22	1.00	0.73	0.00	0.00	0.00	Variable Volume Air System	
Space Heat - Electric	Direct Digital Control System-Installation	Warehouse	Discretionary	4,584.0	0.01	1.84	0.00	0.00	0.0	0.0	0.0	5	\$3,823.13	\$2,676.19	\$0.17	\$0.00	\$0.00	0.75	1.00	3.09	0.00	0.00	0.00	Installation of EMS System	
Space Heat - Electric	Direct Digital Control System-Installation	Warehouse	Lost Opportunity	4,584.0	0.01	1.84	0.00	0.00	0.0	0.0	0.0	5	\$3,823.13	\$2,676.19	\$0.17	\$0.00	\$0.00	0.75	1.00	0.02	0.00	0.00	0.00	Installation of EMS System	
Space Heat - Electric	Duct Repair and Sealing	Warehouse	Discretionary	2,657.4	0.01	1.07	0.00	0.00	0.0	0.0	0.0	18	\$2,936.16	\$2,055.31	\$0.11	\$0.00	\$0.00	2.03	1.00	1.28	1.28	0.86	0.86	Reduction In Duct Losses to 5 %	
Space Heat - Electric	Exhaust Air to Ventilation Air Heat Recovery	Warehouse	Discretionary	4,584.0	0.01	1.84	0.00	0.00	0.0	0.0	0.0	14	\$53,767.81	\$37,637.46	\$0.17	\$0.00	\$0.00	0.15	1.00	0.32	0.00	0.00	0.00	Exhaust Air to Ventilation Air Heat Recovery	
Space Heat - Electric	Indirect Information Feedback	Warehouse	Discretionary	159.0	0.00	0.06	0.00	0.00	0.0	0.0	0.0	2	\$529.08	\$370.35	\$0.17	\$0.00	\$0.00	0.07	1.00	0.10	0.00	0.00	0.00	Indirect Information Feedback	
Space Heat - Electric	Indirect Information Feedback	Warehouse	Lost Opportunity	159.0	0.00	0.06	0.00	0.00	0.0	0.0	0.0	2	\$529.08	\$370.35	\$0.17	\$0.00	\$0.00	0.07	1.00	0.01	0.00	0.00	0.00	Indirect Information Feedback	
Space Heat - Electric	Infiltration Reduction	Warehouse	Discretionary	3,056.0	0.01	1.23	0.00	0.00	0.0	0.0	0.0	10	\$183.33	\$128.33	\$0.11	\$0.00	\$0.00	20.98	1.00	0.13	0.13	0.09	0.09	Install Caulking And Weatherstripping (ACH 0.65)	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Discretionary	1,832.5	0.00	0.74	0.00	0.00	0.0	0.0	0.0	30	\$2,064.49	\$1,445.14	\$0.17	\$0.00	\$0.00	3.33	1.00	0.63	0.63	0.42	0.42	R-35 c.i.	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Lost Opportunity	1,832.5	0.00	0.74	0.00	0.00	0.0	0.0	0.0	30	\$2,064.49	\$1,445.14	\$0.17	\$0.00	\$0.00	3.33	1.00	0.02	0.02	0.01	0.01	R-35 c.i.	
Space Heat - Electric	Insulation - Ceiling - CBES 2015 - Code	Warehouse	Discretionary	6,278.4	0.01	2.53	0.00	0.00	0.0	0.0	0.0	30	\$9,420.18	\$6,594.13	\$0.11	\$0.00	\$0.00	2.50	1.00	1.39	1.39	0.93	0.93	R-30 c.i. (CBES 2015 Code)	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Warehouse	Discretionary	1,100.2	0.00	0.44	0.00	0.00	0.0	0.0	0.0	20	\$165.92	\$116.15	\$0.17	\$0.00	\$0.00	16.49	1.00	0.99	0.99	0.67	0.67	R-12	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Above Code	Warehouse	Lost Opportunity	1,100.2	0.00	0.44	0.00	0.00	0.0	0.0	0.0	20	\$165.92	\$116.15	\$0.17	\$0.00	\$0.00	16.49	1.00	0.07	0.07	0.04	0.04	R-12	
Space Heat - Electric	Insulation - Duct - CBES 2015 - Code	Warehouse	Discretionary	1,100.2	0.00	0.44	0.00	0.00	0.0	0.0	0.0	20	\$668.28	\$467.80	\$0.11	\$0.00	\$0.00	4.09	1.00	0.82	0.82	0.55	0.55	R-8 (CBES 2015 Code)	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Discretionary	2,700.5	0.01	1.09	0.00	0.00	0.0	0.0	0.0	30	\$3,670.20	\$2,569.14	\$0.17	\$0.00	\$0.00	2.76	1.00	0.31	0.31	0.21	0.21	R-38	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Lost Opportunity	2,700.5	0.01	1.09	0.00	0.00	0.0	0.0	0.0	30	\$3,670.20	\$2,569.14	\$0.17	\$0.00	\$0.00	2.76	1.00	0.03	0.03	0.02	0.02	R-38	
Space Heat - Electric	Insulation - Floor (non-slab) - CBES 2015 - Code	Warehouse	Discretionary	4,703.4	0.01	1.89	0.00	0.00	0.0	0.0	0.0	30	\$10,521.24	\$7,364.87	\$0.11	\$0.00	\$0.00	1.68	1.00	0.50	0.50	0.34	0.34	R-30 (CBES 2015 Code)	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Discretionary	1,313.8	0.00	0.53	0.00	0.00	0.0	0.0	0.0	30	\$1,271.38	\$889.97	\$0.17	\$0.00	\$0.00	3.88	1.00	0.25	0.25	0.17	0.17	R-13 + 15.6 c.i.	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Lost Opportunity	1,313.8	0.00	0.53	0.00	0.00	0.0	0.0	0.0	30	\$1,271.38	\$889.97	\$0.17	\$0.00	\$0.00	3.88	1.00	0.04	0.04	0.02	0.02	R-13 + 15.6 c.i.	
Space Heat - Electric	Insulation - Wall - CBES 2015 - Code	Warehouse	Discretionary	1,442.7	0.00	0.58	0.00	0.00	0.0	0.0	0.0	30	\$8,724.29	\$6,107.00	\$0.11	\$0.00	\$0.00								



Appendix B.4		BED Non-residential Measure Assumptions																							
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per unit NG Saving	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/kWh)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MWh)	20 YR Economic Potential (MWh)	20 YR MAP (MWh)	20 YR RAP (MWh)	Measure Description	
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Warehouse	Discretionary	20.8	0.00	0.01	0.00	0.00	0.0	0.0	2.3	13	\$40.24	\$28.17	\$0.11	\$0.00	\$0.00	1.53	1.00	0.03	0.05	0.03	0.03	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Warehouse	Lost Opportunity	20.8	0.00	0.01	0.00	0.00	0.0	0.0	2.3	13	\$40.24	\$28.17	\$0.17	\$0.00	\$0.00	1.53	1.00	0.00	0.00	0.00	0.00	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	Warehouse	Discretionary	22.5	0.00	0.01	0.00	0.00	0.0	0.0	0.0	13	\$10.71	\$7.50	\$0.11	\$0.00	\$0.00	3.42	1.00	0.05	0.07	0.04	0.04	1.0" of Insulation, assuming R-4 (Code)	
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	Warehouse	Discretionary	89.5	0.00	0.04	0.00	0.00	0.0	0.0	0.0	25	\$707.00	\$494.90	\$0.17	\$0.00	\$0.00	0.39	1.00	0.01	0.00	0.00	0.00	Install Heat Recovery Water Heater	
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	Warehouse	Discretionary	2.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$0.27	\$0.19	\$0.17	\$0.00	\$0.00	21.12	1.00	0.00	0.00	0.00	0.00	R-3	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	92.6	0.00	0.04	0.00	0.00	0.0	0.0	6.8	9	\$20.00	\$14.00	\$0.17	\$0.00	\$0.00	8.22	1.00	0.30	0.46	0.26	0.26	0.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Warehouse	Lost Opportunity	92.6	0.00	0.04	0.00	0.00	0.0	0.0	6.8	9	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.01	0.00	0.00	0.00	0.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	65.4	0.00	0.03	0.00	0.00	0.0	0.0	4.8	9	\$20.00	\$14.00	\$0.11	\$0.00	\$0.00	5.80	1.00	0.00	0.00	0.00	0.00	1.0 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Warehouse	Lost Opportunity	65.4	0.00	0.03	0.00	0.00	0.0	0.0	4.8	9	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.0 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	38.1	0.00	0.02	0.00	0.00	0.0	0.0	2.8	9	\$20.00	\$14.00	\$0.11	\$0.00	\$0.00	3.38	1.00	0.00	0.00	0.00	0.00	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Warehouse	Lost Opportunity	38.1	0.00	0.02	0.00	0.00	0.0	0.0	2.8	9	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.5 GPM	
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	16.3	0.00	0.01	0.00	0.00	0.0	0.0	1.1	9	\$20.00	\$14.00	\$0.11	\$0.00	\$0.00	1.39	1.00	0.02	0.03	0.02	0.02	2.2 GPM (Federal Code)	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.51	\$0.36	\$0.17	\$0.19	\$0.00	0.01	1.00	0.25	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.51	\$0.36	\$0.17	\$0.19	\$0.00	0.01	1.00	0.01	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Warehouse	Discretionary	59.9	0.00	0.02	0.00	0.00	0.0	0.0	0.0	20	\$350.72	\$245.50	\$0.11	\$0.00	\$0.00	0.43	1.00	0.19	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Warehouse	Lost Opportunity	59.9	0.00	0.02	0.00	0.00	0.0	0.0	0.0	20	\$350.72	\$245.50	\$0.17	\$0.00	\$0.00	0.43	1.00	0.01	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Warehouse	Discretionary	55.6	0.00	0.02	0.00	0.00	0.0	0.0	0.0	10	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Warehouse	Lost Opportunity	55.6	0.00	0.02	0.00	0.00	0.0	0.0	0.0	10	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.12	\$0.09	\$0.11	\$0.00	\$0.00	0.07	1.00	0.42	0.00	0.00	0.00	0.00	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - CO2 Heat Pump	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.12	\$0.09	\$0.17	\$0.00	\$0.00	0.07	1.00	0.02	0.00	0.00	0.00	0.00	CO2 Heat Pump Water Heater
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.02	\$0.02	\$0.11	\$0.00	\$0.00	0.11	1.00	0.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.02	\$0.02	\$0.17	\$0.00	\$0.00	0.11	1.00	0.00	0.00	0.00	0.00	0.00	ENERGY STAR Heat Pump Water Heater GT 55 Gal - EF 2.2
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.10	\$0.07	\$0.11	\$0.00	\$0.00	0.08	1.00	0.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Heat Pump Water Heater - Advanced Efficiency	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.10	\$0.07	\$0.17	\$0.00	\$0.00	0.08	1.00	0.00	0.00	0.00	0.00	0.00	Advanced Efficiency Heat Pump Water Heater > 55 GAL - EF 2.8
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Warehouse	Discretionary	77.8	0.00	0.03	0.00	0.00	0.0	0.0	0.0	4	\$0.01	\$0.01	\$0.11	\$0.00	\$0.00	3847.81	1.00	0.24	0.37	0.21	0.21	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Setback Thermostat	Warehouse	Lost Opportunity	77.8	0.00	0.03	0.00	0.00	0.0	0.0	0.0	4	\$0.01	\$0.01	\$0.17	\$0.00	\$0.00	3847.81	1.00	0.01	0.02	0.01	0.01	Set Water Heater to 120F	
Water Heat GT 55 Gal	Water Heater Tank Wrap	Warehouse	Discretionary	156.6	0.00	0.06	0.00	0.00	0.0	0.0	0.0	7	\$41.55	\$29.09	\$0.11	\$0.00	\$0.00	3.31	1.00	0.29	0.45	0.25	0.25	Add R-10 Tank Wrap	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Warehouse	Discretionary	19.5	0.00	0.01	0.00	0.00	0.0	0.0	1.8	13	\$21.76	\$15.23	\$0.17	\$0.00	\$0.00	2.42	1.00	0.00	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Warehouse	Lost Opportunity	19.5	0.00	0.01	0.00	0.00	0.0	0.0	1.8	13	\$21.76	\$15.23	\$0.17	\$0.00	\$0.00	2.42	1.00	0.00	0.00	0.00	0.00	0.00	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Warehouse	Discretionary	43.2	0.00	0.02	0.00	0.00	0.0	0.0	2.3	13	\$40.24	\$28.17	\$0.11	\$0.00	\$0.00	2.44	1.00	0.53	1.31	0.73	0.73	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Warehouse	Lost Opportunity	43.2	0.00	0.02	0.00	0.00	0.0	0.0	2.3	13	\$40.24	\$28.17	\$0.17	\$0.00	\$0.00	2.44	1.00	0.02	0.07	0.04	0.04	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Warehouse	Discretionary	46.8	0.00	0.02	0.00	0.00	0.0	0.0	0.0	13	\$10.71	\$7.50	\$0.11	\$0.00	\$0.00	7.11	1.00	0.75	1.86	1.04	1.04	1.0" of Insulation, assuming R-4 (Code)	
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Warehouse	Discretionary	84.1	0.00	0.03	0.00	0.00	0.0	0.0	0.0	25	\$707.00	\$494.90	\$0.17	\$0.00	\$0.00	0.37	1.00	0.03	0.00	0.00	0.00	Install Heat Recovery Water Heater	
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Warehouse	Discretionary	2.3	0.00	0.00	0.00	0.00	0.0	0.0	0.0	20	\$0.27	\$0.19	\$0.17	\$0.00	\$0.00	21.12	1.00	0.02	0.04	0.02	0.02	R-3	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	92.6	0.00	0.04	0.00	0.00	0.0	0.0	6.8	9	\$20.00	\$14.00	\$0.17	\$0.00	\$0.00	8.22	1.00	2.28	5.63	3.15	3.15	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Warehouse	Lost Opportunity	92.6	0.00	0.04	0.00	0.00	0.0	0.0	6.8	9	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.10	0.00	0.00	0.00	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	65.4	0.00	0.03	0.00	0.00	0.0	0.0	4.8	9	\$20.00	\$14.00	\$0.11	\$0.00	\$0.00	5.80	1.00	0.00	0.00	0.00	0.00	0.00	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Warehouse	Lost Opportunity	65.4	0.00	0.03	0.00	0.00	0.0	0.0	4.8	9	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	38.1	0.00	0.02	0.00	0.00	0.0	0.0	2.8	9	\$20.00	\$14.00	\$0.11	\$0.00	\$0.00	3.38	1.00	0.00	0.00	0.00	0.00	0.00	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Warehouse	Lost Opportunity	38.1	0.00	0.02	0.00	0.00	0.0	0.0	2.8	9	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	16.3	0.00	0.01	0.00	0.00	0.0	0.0	1.1	9	\$20.00	\$14.00	\$0.11	\$0.00	\$0.00	1.39	1.00	0.15	0.37	0.21	0.21	2.2 GPM (Federal Code)	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.73	\$0.51	\$0.17	\$0.19	\$0.00	0.01	1.00	0.00	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15	\$0.73	\$0.51	\$0.17	\$0.19	\$0.00	0.01	1.00	0.00	0.00	0.00	0.00	0.00	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Warehouse	Discretionary	59.9	0.00	0.02	0.00	0.00	0.0	0.0	0.0	20	\$350.72	\$245.50	\$0.11	\$0.00	\$0.00	0.43	1.00	1.40	0.00	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Warehouse	Lost Opportunity	59.9	0.00	0.02	0.00	0.00	0.0	0.0	0.0	20	\$350.72	\$245.50	\$0.17	\$0.00	\$0.00	0.43	1.00	0.06	0.00	0.00	0.00	0.00	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Warehouse	Discretionary	52.2	0.00	0.02	0.00	0.00	0.0	0.0	0.0	10	\$0.00	\$0.00	\$0.11	\$0.00	\$0.00	0.00	1.00	0.03	0.00	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Warehouse	Lost Opportunity	52.2	0.00	0.02	0.00	0.00	0.0	0.0	0.0	10	\$0.00	\$0.00	\$0.17	\$0.00	\$0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.35	\$0.24	\$0.11	\$0.00	\$0.00	0.10	1.00	11.78	0.00	0.00	0.00	0.00	CO2 Heat Pump Water Heater
Water Heat LE 55 Gal	Water Heater LE 55 Gal - CO2 Heat Pump	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.35	\$0.24	\$0.17	\$0.00	\$0.00	0.10	1.00	0.65	0.00	0.00	0.00	0.00	CO2 Heat Pump Water Heater
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Heat Pump - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10	\$0.22	\$0.16	\$0.11										

Appendix B.5		VGS Residential Measure Assumptions																											
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Base NG Use (MMBtu)	% NG Savings	Per unit NG Saving (MMBtu)	Per Unit Oil Savings (MMBtu)	Per Unit Propane Savings (MMBtu)	Per Unit Wood Savings (MMBtu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBtu)	20 YR Economic Potential (MMBtu)	20 YR MAP (MMBtu)	20 YR RAP (MMBtu)	Measure Description
2029	Clothes Washer/Dryer	ENERGY STAR Gas Dryer	VGS	SF	NLI	MO	36.0	0.112	0.112			0.2	0.0	0.0	0.0	2,244	12	\$61.00	\$50.00	\$8.42	\$0.00	\$0.00	1.51	1.00	944	944	744	643	Installation of ENERGY STAR gas dryer
2089	Clothes Washer/Dryer	ENERGY STAR Gas Dryer	VGS	SF	All	NC	36.0	0.112	0.112			0.2	0.0	0.0	0.0	2,992	12	\$61.00	\$50.00	\$8.42	\$0.00	\$0.00	1.51	1.00	68	68	56	48	Installation of ENERGY STAR gas dryer
2121	Clothes Washer/Dryer	ENERGY STAR Gas Dryer	VGS	MF	NLI	MO	36.0	0.112	0.112	0.0	0.0%	0.2	0.0	0.0	0.0	2,992	12	\$61.00	\$50.00	\$8.42	\$0.00	\$0.00	1.51	1.00	22	22	17	12	Installation of ENERGY STAR gas dryer
2209	Clothes Washer/Dryer	ENERGY STAR Gas Dryer	VGS	MF	All	NC	36.0	0.112	0.112	0.0	0.0%	0.2	0.0	0.3	0.0	2,244	12	\$61.00	\$50.00	\$8.42	\$0.00	\$0.00	1.51	1.00	2	2	2	1	Installation of ENERGY STAR gas dryer
5005	Hot Water	DHW Tank Wrap (NatGas WH)	VGS	SF	NLI	Retrofit	0.0	0.000	0.000			0.4	0.0	0.3	0.0	2,992	6	\$35.00	\$17.50	\$8.42	\$0.00	\$0.00	1.18	0.90	0	0	0	0	Installation of controlled power strip (Tier 1) in home offices
5006	Hot Water	DHW Pipe Wrap (NatGas WH)	VGS	SF	NLI	Retrofit	0.0	0.000	0.000			0.1	0.0	0.3	0.0	2,992	15	\$18.00	\$9.00	\$8.42	\$0.00	\$0.00	1.62	0.90	1,651	1,780	1,224	898	Installation of controlled power strip (Tier 2) in home entertainment centers
5007	Hot Water	Tank Temperature Turn Down (NatGas WH)	VGS	SF	NLI	Retrofit	0.0	0.000	0.000			0.2	0.4	0.0	0.0	2,244	2	\$5.00	\$0.00	\$8.42	\$0.00	\$0.00	1.24	1.00	0	0	0	0	Installation of a desktop computer with ENERGY STAR Version 6.0 rating
5008	Hot Water	LF Showerhead (NatGas WH)	VGS	SF	NLI	Retrofit	0.0	0.000	0.000			0.6	1.1	0.0	0.0	2,992	9	\$15.00	\$15.00	\$8.42	\$0.00	\$0.00	16.43	0.90	22,563	24,316	15,930	16,612	Installation of a desktop computer with ENERGY STAR Version 6.0 rating with an 80 PLUS Gold PSU
5009	Hot Water	LF Faucet Aerator (NatGas WH)	VGS	SF	NLI	Retrofit	0.0	0.000	0.000			0.3	1.2	0.0	0.0	2,992	9	\$10.00	\$10.00	\$8.42	\$0.00	\$0.00	13.38	0.90	17,702	19,078	12,499	13,033	Installation of ENERGY STAR + 50% sound bar
5015	Hot Water	DHW Tank Wrap (NatGas WH)	VGS	SF	LI	DI	0.0	0.000	0.000			0.4	0.0	0.0	0.0	0	6	\$35.00	\$35.00	\$29.99	\$0.00	\$0.00	1.28	1.00	0	0	0	0	Installation of a low flow faucet aerator (1.0 gpm) in homes with electric water heating
5016	Hot Water	DHW Pipe Wrap (NatGas WH)	VGS	SF	LI	DI	0.0	0.000	0.000			0.1	0.0	0.0	0.0	2,244	15	\$18.00	\$18.00	\$29.99	\$0.00	\$0.00	1.77	1.00	163	176	137	143	Installation of a desktop computer with ENERGY STAR Version 6.0 rating with an 80 PLUS Gold PSU
5017	Hot Water	Tank Temperature Turn Down (NatGas WH)	VGS	SF	LI	DI	0.0	0.000	0.000			0.2	0.0	0.0	0.0	2,992	2	\$5.00	\$5.00	\$29.99	\$0.00	\$0.00	1.34	1.00	0	0	0	0	Installation of a desktop computer with ENERGY STAR Version 6.0 rating with an 80 PLUS Gold PSU
5018	Hot Water	LF Showerhead (NatGas WH)	VGS	SF	LI	DI	0.0	0.000	0.000			0.6	0.0	0.0	0.0	2,992	9	\$15.00	\$15.00	\$29.99	\$0.00	\$0.00	16.95	0.90	2,231	2,405	1,595	1,663	Installation of a desktop computer with ENERGY STAR Version 6.0 rating with an 80 PLUS Gold PSU
5019	Hot Water	LF Faucet Aerator (NatGas WH)	VGS	SF	LI	DI	0.0	0.000	0.000			0.3	0.0	0.3	0.0	2,244	9	\$10.00	\$10.00	\$29.99	\$0.00	\$0.00	13.72	0.90	1,751	1,887	1,252	1,305	Installation of a desktop computer with ENERGY STAR Version 6.0 rating with an 80 PLUS Gold PSU
5025	Hot Water	Gas Storage Water Heater - 0.67 EF	VGS	SF	All	MO	0.0	0.000	0.000	13.8		1.7	0.0	0.3	0.0	2,992	13	\$400.00	\$200.00	\$8.42	\$0.00	\$0.00	0.82	1.00	0	0	0	0	Installation of a low flow faucet aerator (1.0 gpm) in homes with electric water heating
5026	Hot Water	Condensing Gas Storage Water Heater - 0.80 EF	VGS	SF	All	MO	0.0	0.000	0.000	13.8		4.0	0.0	0.3	0.0	2,992	13	\$685.00	\$200.00	\$8.42	\$0.00	\$0.00	1.14	1.00	60,455	60,455	64,214	54,004	Installation of a low flow faucet aerator (1.0 gpm) in homes with electric water heating
5027	Hot Water	Tankless whole-house water heater - 0.82 EF	VGS	SF	All	MO	0.0	0.000	0.000	13.8		3.2	0.4	0.0	0.0	2,244	13	\$605.00	\$300.00	\$8.42	\$0.00	\$0.00	1.03	1.00	0	48,364	17,124	14,401	Installation of a low flow faucet aerator (1.0 gpm) in homes with electric water heating
5028	Hot Water	Tankless whole-house water heater - 0.90 EF	VGS	SF	All	MO	0.0	0.000	0.000	13.8		4.3	1.1	0.0	0.0	2,992	13	\$1,050.00	\$500.00	\$8.42	\$0.00	\$0.00	0.80	1.00	58,391	0	0	0	Installation of a low flow faucet aerator (1.0 gpm) in homes with electric water heating
5029	Hot Water	Solar Water Heater	VGS	SF	All	MO	0.0	0.000	0.000	13.8		8.0	1.2	0.0	0.0	2,992	15	\$4,500.00	\$950.00	\$8.42	\$0.00	\$0.00	0.39	1.00	12,091	0	0	0	Domestic hot water tank thermostat is lowered to reduce standby losses - gas water heater
5031	Hot Water	Thermostatic Shower Restriction Valve (NatGas WH)	VGS	SF	All	Retrofit	0.0	0.000	0.000			0.2	0.0	0.0	0.0	2,244	7	\$12.00	\$6.00	\$8.42	\$0.00	\$0.00	5.78	1.00	9,091	9,798	6,877	5,044	Installation of low flow showerhead in homes with gas water heating
5033	Hot Water	Drain Water Heat Recovery - gas water heating	VGS	SF	All	Retrofit	0.0	0.000	0.000			2.0	0.0	0.0	0.0	2,992	25	\$902.00	\$300.00	\$8.42	\$0.00	\$0.00	0.74	1.00	42,215	0	0	0	Installation of an ENERGY STAR heat pump water heater <2.35 EF in place of a baseline water heater
5037	Hot Water	Drain Water Heat Recovery - gas water heating	VGS	SF	All	NC	0.0	0.000	0.000			2.0	0.0	0.0	0.0	2,992	25	\$902.00	\$300.00	\$8.42	\$0.00	\$0.00	0.74	1.00	5,086	0	0	0	Convert water heating from electric tank to liquid propane indirect-fired storage tank
5041	Hot Water	Gas Storage Water Heater - 0.67 EF	VGS	SF	All	NC	0.0	0.000	0.000	13.8		1.7	0.0	0.3	0.0	2,244	13	\$400.00	\$200.00	\$8.42	\$0.00	\$0.00	0.82	1.00	0	0	0	0	Installation of high efficiency condensing gas storage tank water heater (EF 0.80) in homes with gas water heating
5042	Hot Water	Condensing Gas Storage Water Heater - 0.80 EF	VGS	SF	All	NC	0.0	0.000	0.000	13.8		4.0	0.0	0.3	0.0	2,992	13	\$685.00	\$200.00	\$8.42	\$0.00	\$0.00	1.14	1.00	7,283	7,283	5,308	3,251	Installation of a thermostatically initiated shower restriction valve, in conjunction with a low flow showerhead - homes with electric water heating
5043	Hot Water	Tankless whole-house water heater - 0.82 EF	VGS	SF	All	NC	0.0	0.000	0.000	13.8		3.2	0.0	0.3	0.0	2,992	13	\$605.00	\$300.00	\$8.42	\$0.00	\$0.00	1.03	1.00	0	5,827	4,246	2,979	Installation of a thermostatically initiated shower restriction valve, in conjunction with a low flow showerhead - homes with electric water heating
5044	Hot Water	Tankless whole-house water heater - 0.90 EF	VGS	SF	All	NC	0.0	0.000	0.000	13.8		4.3	0.4	0.0	0.0	2,244	13	\$1,050.00	\$500.00	\$8.42	\$0.00	\$0.00	0.80	1.00	7,034	0	0	0	Installation of a heat exchanger installed to capture and reuse energy from main drain pipe to preheat incoming cold water to water heater and shower - homes with electric water heating
5045	Hot Water	Solar Water Heater	VGS	SF	All	NC	0.0	0.000	0.000	13.8		8.0	1.1	0.0	0.0	2,992	15	\$4,500.00	\$950.00	\$8.42	\$0.00	\$0.00	0.39	1.00	1,457	0	0	0	Installation of a heat exchanger installed to capture and reuse energy from main drain pipe to preheat incoming cold water to water heater and shower - homes with gas water heating
5046	Hot Water	Thermostatic Shower Restriction Valve (NatGas WH)	VGS	SF	All	NC	0.0	0.000	0.000			0.2	1.2	0.0	0.0	2,992	7	\$12.00	\$6.00	\$8.42	\$0.00	\$0.00	5.78	1.00	1,095	1,180	815	575	Installation of an ENERGY STAR heat pump water heater >=2.35 EF in place of a baseline water heater
5047	Hot Water	LF Showerhead (NatGas WH)	VGS	SF	All	NC	0.0	0.000	0.000			0.6	0.0	0.0	0.0	0	9	\$15.00	\$15.00	\$8.42	\$0.00	\$0.00	16.43	0.90	2,987	3,219	2,000	2,006	Installation of a thermostatically initiated shower restriction valve, in conjunction with a low flow showerhead - homes with gas water heating
5048	Hot Water	LF Faucet Aerator (NatGas WH)	VGS	SF	All	NC	0.0	0.000	0.000			0.3	0.0	0.0	0.0	1,795	9	\$10.00	\$10.00	\$8.42	\$0.00	\$0.00	13.38	0.90	2,344	2,526	1,569	1,574	Installation of a heat exchanger installed to capture and reuse energy from main drain pipe to preheat incoming cold water to water heater and shower - homes with gas water heating
5054	Hot Water	DHW Tank Wrap (NatGas WH)	VGS	MF	NLI	Retrofit	0.0	0.000	0.000			0.4	0.0	0.0	0.0	2,468	6	\$35.00	\$17.50	\$8.42	\$0.00	\$0.00	1.18	0.90	0	0	0	0	Installation of high efficiency tankless water heater (EF 0.82) in homes with gas water heating
5055	Hot Water	DHW Pipe Wrap (NatGas WH)	VGS	MF	NLI	Retrofit	0.0	0.000	0.000			0.1	0.0	0.0	0.0	2,468	15	\$18.00	\$9.00	\$8.42	\$0.00	\$0.00	1.62	0.90	461	497	342	184	Installation of high efficiency tankless water heater (EF 0.90) in homes with gas water heating
5056	Hot Water	Tank Temperature Turn Down (NatGas WH)	VGS	MF	NLI	Retrofit	0.0	0.000	0.000			0.2	0.0	0.2	0.0	1,795	2	\$5.00	\$0.00	\$8.42	\$0.00	\$0.00	1.24	1.00	0	0	0	0	Installation of solar water heater (EF 1.20) in homes with gas water heating
5057	Hot Water	LF Showerhead (NatGas WH)	VGS	MF	NLI	Retrofit	0.0	0.000	0.000			0.7	0.0	0.3	0.0	2,468	9	\$15.00	\$15.00	\$8.42	\$0.00	\$0.00	19.10	0.90	3,903	4,207	2,756	2,110	Installation of a thermostatically initiated shower restriction valve, in conjunction with a low flow showerhead - homes with gas water heating
5058	Hot Water	LF Faucet Aerator (NatGas WH)	VGS	MF	NLI	Retrofit	0.0	0.000	0.000			0.3	0.0	0.3	0.0	2,468	9	\$10.00	\$10.00	\$8.42	\$0.00	\$0.00	13.38	0.90	3,022	3,256	2,133	1,633	Installation of low flow showerhead in homes with gas water heating
5059	Hot Water	DHW Water Recirculation Pipe Insulation (NatGas WH)	VGS	MF	NLI	Retrofit	0.0	0.000	0.000			0.3	0.3	0.0	0.0	1,795	20	\$6.00	\$3.00	\$8.42	\$0.00	\$0.00	12.29	1.00	1,493	1,609	1,252	646	Installation of a low flow faucet aerator (1.0 gpm) in homes with gas water heating
5060	Hot Water	Boiler Hot Water Distribution Pipe Insuation (NatGas WH)	VGS	MF	NLI	Retrofit	0.0	0.000	0.000			0.2	0.6	0.0	0.0	2,468	20	\$6.00	\$3.00	\$8.42	\$0.00	\$0.00	8.88	1.00	1,078	1,162	904	466	Installation of a low flow faucet aerator (1.0 gpm) in homes with gas water heating
5066	Hot Water	DHW Tank Wrap (NatGas WH)	VGS	MF	LI	DI	0.0	0.000	0.000			0.4	0.6	0.0	0.0	2,468	6	\$35.00	\$35.00	\$29.99	\$0.00	\$0.00	1.28	1.00	0	0	0	0	Installation of insulation to water heater tank - electric water heating
5067	Hot Water	DHW Pipe Wrap (NatGas WH)	VGS	MF	LI	DI	0.0	0.000	0.000			0.1	0.0	0.0	0.0	0	15	\$18.00	\$18.00	\$29.99	\$0.00	\$0.00	1.77	1.00	46	49	38	29	Installation of insulating pipe wrap on water heater pipes - 6ft total - homes with gas water heating
5068	Hot Water	Tank Temperature Turn Down (NatGas WH)	VGS	MF	LI	DI	0.0	0.000	0.000			0.2	0.0	0.0	0.0	1,795	2	\$5.00	\$5.00	\$29.99	\$0.00	\$0.00	1.34	1.00	0	0	0	0	Domestic hot water tank thermostat is lowered to reduce standby losses - gas water heater
5069	Hot Water	LF Showerhead (NatGas WH)	VGS	MF	LI	DI	0.0	0.000	0.000			0.7	0.0	0.0	0.0	2,468	9	\$15.00	\$15.00	\$29.99	\$0.00	\$0.00	19.70	0.90	386	416	276	211	Installation of low flow showerhead in homes with gas water heating
5070	Hot Water	LF Faucet Aerator (NatGas WH)	VGS	MF	LI	DI	0.0	0.000	0.000			0.3	0.0	0.0	0.0	2,468	9	\$10.00	\$10.00	\$29.99	\$0.00	\$0.00	13.72	0.90	299	322	214	164	Installation of a low flow faucet aerator (1.0 gpm) in homes with gas water heating
5071	Hot Water	DHW Water Recirculation Pipe Insulation (NatGas WH)	VGS	MF	LI	DI	0.0	0.000	0.000			0.3	0.0	0.2	0.0	1,795	20	\$6.00	\$6.00	\$29.99	\$0.00	\$0.00	13.45	1.00	148	159	124	95	Installation of insulation on hot water recirculation pipe that is continuously circulating - 2 inches of insulation instead of a baseline level of 0.5 inch
5072	Hot Water	Boiler Hot Water Distribution Pipe Insuation (NatGas WH)	VGS	MF	LI	DI	0.0	0.000	0.000			0.2	0.0	0.3	0.0	2,468	20	\$6.00	\$6.00	\$29.99	\$0.00	\$0.00	9.71	1.00	107	115	89	68	Bo

Appendix B.5		VGS Residential Measure Assumptions																											
			EEU	Home	Income	Replacement	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Base NG Use (MMBTu)	% NG Savings	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBTu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTu)	20 YR Economic Potential (MMBTu)	20 YR MAP (MMBTu)	20 YR RAP (MMBTu)	
Measure #	End-Use	Measure Name	Assignment	Type	Type	Type																							Measure Description
5095	Hot Water	Condensing Gas Storage Water Heater - 0.80 EF	VGS	MF	All	NC	0.0	0.000	0.000	13.8		4.0	0.0	5.6	0.0	41,963	13	\$685.00	\$200.00	\$8.42	\$0.00	\$0.00	1.14	1.00	2,175	2,175	1,585	680	Installation of high efficiency tankless water heater (EF 0.90) in homes with gas water heating
5096	Hot Water	Tankless whole-house water heater - 0.82 EF	VGS	MF	All	NC	0.0	0.000	0.000	13.8		3.2	5.6	0.0	0.0	30,518	13	\$605.00	\$300.00	\$8.42	\$0.00	\$0.00	1.03	1.00	0	1,740	1,268	623	Installation of solar water heater (EF 1.20) in homes with gas water heating
5097	Hot Water	Tankless whole-house water heater - 0.90 EF	VGS	MF	All	NC	0.0	0.000	0.000	13.8		4.3	10.0	0.0	0.0	41,963	13	\$1,050.00	\$500.00	\$8.42	\$0.00	\$0.00	0.80	1.00	2,101	0	0	0	Installation of a thermostatically initiated shower restriction valve, in conjunction with a low flow showerhead - homes with gas water heating
5098	Hot Water	Solar Water Heater	VGS	MF	All	NC	0.0	0.000	0.000	13.8		8.0	10.4	0.0	0.0	41,963	15	\$4,500.00	\$950.00	\$8.42	\$0.00	\$0.00	0.39	1.00	435	0	0	0	Installation of an ENERGY STAR heat pump water heater <2.35 EF in place of a baseline water heater
5099	Hot Water	Thermostatic Shower Restriction Valve (NatGas WH)	VGS	MF	All	NC	0.0	0.000	0.000			0.2	0.0	0.0	0.0	1,795	7	\$12.00	\$6.00	\$8.42	\$0.00	\$0.00	5.78	1.00	164	176	122	60	Installation of an ENERGY STAR heat pump water heater >=2.35 EF in place of a baseline water heater
5100	Hot Water	LF Showerhead (NatGas WH)	VGS	MF	All	NC	0.0	0.000	0.000			0.7	0.0	0.0	0.0	2,468	9	\$15.00	\$15.00	\$8.42	\$0.00	\$0.00	19.10	0.90	517	557	346	243	Installation of a heat exchanger installed to capture and reuse energy from main drain pipe to preheat incoming cold water to water heater and shower - homes with electric water heating
5101	Hot Water	LF Faucet Aerator (NatGas WH)	VGS	MF	All	NC	0.0	0.000	0.000			0.3	0.0	0.0	0.0	2,468	9	\$10.00	\$10.00	\$8.42	\$0.00	\$0.00	13.38	0.90	400	431	268	188	Installation of a heat exchanger installed to capture and reuse energy from main drain pipe to preheat incoming cold water to water heater and shower - homes with gas water heating
5102	Hot Water	DHW Water Recirculation Pipe Insulation (NatGas WH)	VGS	MF	All	NC	0.0	0.000	0.000			0.3	0.0	0.2	0.0	1,795	20	\$6.00	\$3.00	\$8.42	\$0.00	\$0.00	12.29	1.00	198	213	155	73	Installation of a thermostatically initiated shower restriction valve, in conjunction with a low flow showerhead - homes with electric water heating
5103	Hot Water	Boiler Hot Water Distribution Pipe Insuation (NatGas WH)	VGS	MF	All	NC	0.0	0.000	0.000			0.2	0.0	0.3	0.0	2,468	20	\$6.00	\$3.00	\$8.42	\$0.00	\$0.00	8.88	1.00	143	154	112	53	Installation of low flow showerhead in homes with electric water heating
9014	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	SF	NLI	Retrofit	100.1	0.000	0.060	70.8	17.7%	12.5	0.0	0.3	0.0	2,468	25	\$1,549.06	\$774.53	\$108.00	\$0.00	\$0.00	4.34	1.00	13,068	13,034	10,659	7,432	R49 ceiling insulation (R-16 or less baseline) - homes with electric heating, no cooling
9015	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	SF	NLI	Retrofit	268.6	0.000	0.165	112.8	29.8%	33.7	0.3	0.0	0.0	1,795	25	\$1,549.06	\$774.53	\$108.00	\$0.00	\$0.00	11.65	1.00	4,390	4,378	3,581	2,497	R60 ceiling insulation (R-37 baseline) - homes with electric heating, no cooling
9016	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	SF	NLI	Retrofit	25.5	0.000	0.017	70.8	4.5%	3.2	0.6	0.0	0.0	2,468	25	\$6,726.00	\$3,363.00	\$108.00	\$0.00	\$0.00	0.26	1.00	9,584	0	0	0	R30 floor insulation (R6 or less baseline) - homes with electric heating, no cooling
9017	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	SF	NLI	Retrofit	50.5	0.000	0.025	75.0	8.4%	6.3	0.6	0.0	0.0	2,468	25	\$1,554.00	\$777.00	\$108.00	\$0.00	\$0.00	2.17	1.00	10,820	10,792	8,826	6,154	R15 basement wall insulation - homes with electric heating, no cooling
9018	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	SF	NLI	Retrofit	9.9	0.000	0.006	69.5	1.8%	1.2	0.0	0.0	0.0	0	25	\$1,139.60	\$569.80	\$108.00	\$0.00	\$0.00	0.58	1.00	1,589	0	0	0	30% air leakage reduction - homes with electric heating, room AC cooling
9019	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	SF	NLI	Retrofit	18.9	0.000	0.009	70.8	3.3%	2.4	0.0	0.0	0.0	52,061	25	\$907.20	\$453.60	\$108.00	\$0.00	\$0.00	1.40	1.00	6,013	5,997	4,904	3,420	40% air leakage reduction - homes with electric heating, room AC cooling
9020	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	VGS	SF	NLI	Retrofit	35.9	0.000	0.020	74.4	6.0%	4.5	0.0	0.0	0.0	71,584	25	\$1,305.60	\$652.80	\$108.00	\$0.00	\$0.00	1.83	1.00	7,925	7,904	6,464	4,507	ENERGY STAR windows (u=0.32) - homes with electric heating, room AC cooling
9021	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	SF	NLI	Retrofit	77.3	0.015	0.060	70.8	17.7%	12.5	0.0	0.0	0.0	71,584	25	\$1,549.06	\$774.53	\$108.00	\$0.00	\$0.00	4.35	1.00	52,272	52,135	42,638	29,730	R49 ceiling insulation (R-16 or less baseline) - homes with electric heating, room AC cooling
9022	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	SF	NLI	Retrofit	260.6	0.077	0.165	112.8	29.8%	33.7	0.0	6.1	0.0	52,061	25	\$1,549.06	\$774.53	\$108.00	\$0.00	\$0.00	11.89	1.00	17,559	17,513	14,323	9,987	R60 ceiling insulation (R-37 baseline) - homes with electric heating, room AC cooling
9023	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	SF	NLI	Retrofit	117.5	0.131	0.017	70.8	4.5%	3.2	0.0	8.1	0.0	71,584	25	\$6,726.00	\$3,363.00	\$108.00	\$0.00	\$0.00	0.39	1.00	38,336	0	0	0	R30 floor insulation (R6 or less baseline) - homes with electric heating, room AC cooling
9024	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	SF	NLI	Retrofit	126.2	0.107	0.025	75.0	8.4%	6.3	0.0	9.6	0.0	71,584	25	\$1,554.00	\$777.00	\$108.00	\$0.00	\$0.00	2.64	1.00	43,281	43,167	35,303	24,616	R15 basement wall insulation - homes with electric heating, room AC cooling
9025	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	SF	NLI	Retrofit	26.8	0.019	0.006	69.5	1.8%	1.2	9.6	0.0	0.0	52,061	25	\$1,139.60	\$569.80	\$108.00	\$0.00	\$0.00	0.70	1.00	6,356	0	0	0	30% air leakage reduction - homes with gas heating, no cooling, wood stove back-up heating
9026	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	SF	NLI	Retrofit	-117.0	-0.117	0.009	70.8	3.3%	2.4	17.1	0.0	0.0	71,584	25	\$907.20	\$453.60	\$108.00	\$0.00	\$0.00	0.68	1.00	24,051	0	0	0	40% air leakage reduction - homes with gas heating, no cooling, wood stove back-up heating
9027	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	VGS	SF	NLI	Retrofit	-31.3	-0.063	0.020	74.4	6.0%	4.5	17.7	0.0	0.0	71,584	25	\$1,305.60	\$652.80	\$108.00	\$0.00	\$0.00	1.36	1.00	31,701	31,617	25,858	18,030	ENERGY STAR windows (u=0.32)- homes with gas heating, no cooling, wood stove back-up heating
9028	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	SF	NLI	Retrofit	876.9	0.000	0.060	70.8	17.7%	12.5	0.0	0.0	0.0	0	25	\$1,549.06	\$774.53	\$108.00	\$0.00	\$0.00	5.38	1.00	4,939	4,926	4,029	2,809	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, no cooling, wood stove back-up heating
9029	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	SF	NLI	Retrofit	1,934.7	0.000	0.165	112.8	29.8%	33.7	0.0	0.0	0.0	0	25	\$1,549.06	\$774.53	\$108.00	\$0.00	\$0.00							



Appendix B.5		VGS Residential Measure Assumptions																												
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Base NG Use (MMBtu)	% NG Savings	Per unit NG Saving (MMBtu)	Per Unit Oil Savings (MMBtu)	Per Unit Propane Savings (MMBtu)	Per Unit Wood Savings (MMBtu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBtu)	20 YR Economic Potential (MMBtu)	20 YR MAP (MMBtu)	20 YR RAP (MMBtu)	Measure Description	
9101	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	SF	LI	DI	516.5	0.000	0.017	70.8	4.5%	3.2	0.0	0.0	0.0	0	25	\$6,726.00	\$3,363.00	\$29.99	\$0.00	\$0.00	0.47	1.00	358	0	0	0	R30 floor insulation (R6 or less baseline) - homes with gas heating, no cooling, wood stove back-up heating	
9102	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	SF	LI	DI	660.2	0.000	0.025	75.0	8.4%	6.3	0.0	0.0	0.0	0	25	\$1,554.00	\$777.00	\$29.99	\$0.00	\$0.00	3.37	1.00	404	403	330	249	R15 basement wall insulation - homes with gas heating, no cooling, wood stove back-up heating	
9103	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	SF	LI	DI	433.9	0.000	0.006	69.5	1.8%	1.2	0.0	0.0	0.0	0	25	\$1,139.60	\$569.80	\$29.99	\$0.00	\$0.00	1.64	1.00	59	59	48	37	30% air leakage reduction - homes with gas heating, room AC cooling, wood stove back-up heating	
9104	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	SF	LI	DI	483.3	0.000	0.009	70.8	3.3%	2.4	0.0	0.0	0.0	0	25	\$907.20	\$453.60	\$29.99	\$0.00	\$0.00	2.88	1.00	225	224	183	138	40% air leakage reduction - homes with gas heating, room AC cooling, wood stove back-up heating	
9105	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	VGS	SF	LI	DI	648.0	0.000	0.020	74.4	6.0%	4.5	0.0	0.0	0.0	0	25	\$1,305.60	\$652.80	\$29.99	\$0.00	\$0.00	3.22	1.00	296	295	242	182	ENERGY STAR windows (u=0.32) - homes with gas heating, room AC cooling, wood stove back-up heating	
9106	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	SF	LI	DI	854.1	0.015	0.060	70.8	17.7%	12.5	0.0	0.0	0.0	1,429	25	\$1,549.06	\$774.53	\$29.99	\$0.00	\$0.00	6.00	1.00	1,954	1,949	1,594	1,201	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, room AC cooling, wood stove back-up heating	
9107	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	SF	LI	DI	1,926.7	0.077	0.165	112.8	29.8%	33.7	0.0	0.0	0.0	726	25	\$1,549.06	\$774.53	\$29.99	\$0.00	\$0.00	15.59	1.00	656	655	535	404	R60 ceiling insulation (R-37 baseline) - homes with gas heating, room AC cooling, wood stove back-up heating	
9108	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	SF	LI	DI	608.5	0.131	0.017	70.8	4.5%	3.2	0.0	0.0	0.0	0	25	\$6,726.00	\$3,363.00	\$29.99	\$0.00	\$0.00	0.62	1.00	1,433	0	0	0	R30 floor insulation (R6 or less baseline) - homes with gas heating, room AC cooling, wood stove back-up heating	
9109	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	SF	LI	DI	735.9	0.107	0.025	75.0	8.4%	6.3	0.0	0.0	0.0	0	25	\$1,554.00	\$777.00	\$29.99	\$0.00	\$0.00	3.92	1.00	1,618	1,614	1,320	995	R15 basement wall insulation - homes with gas heating, room AC cooling, wood stove back-up heating	
9110	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	SF	LI	DI	450.7	0.019	0.006	69.5	1.8%	1.2	0.0	0.0	0.0	0	25	\$1,139.60	\$569.80	\$29.99	\$0.00	\$0.00	1.79	1.00	238	237	194	146	30% air leakage reduction - homes with gas heating, no cooling, electric resistance back-up heating	
9111	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	SF	LI	DI	347.3	-0.117	0.025	70.8	3.3%	2.4	0.0	0.0	0.0	0	25	\$907.20	\$453.60	\$29.99	\$0.00	\$0.00	1.77	1.00	899	897	733	553	40% air leakage reduction - homes with gas heating, no cooling, electric resistance back-up heating	
9112	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	VGS	SF	LI	DI	580.7	-0.063	0.020	74.4	6.0%	4.5	0.0	0.0	0.0	0	25	\$1,305.60	\$652.80	\$29.99	\$0.00	\$0.00	2.83	1.00	1,185	1,182	967	729	ENERGY STAR windows (u=0.32) - homes with gas heating, no cooling, electric resistance back-up heating	
9113	HVAC Shell	Duct sealing	VGS	SF	LI	DI	18.2	0.000	0.060	70.8	3.2%	2.3	0.0	0.0	0.0	0	20	\$288.88	\$144.44	\$29.99	\$0.00	\$0.00	4.10	1.00	1,616	1,612	1,252	944	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, no cooling, electric resistance back-up heating	
9142	HVAC Shell	ENERGY STAR New Home (gas heat)	VGS	SF	All	NC	139.3	0.095	0.033	50.5	24.5%	12.4	0.0	0.0	0.0	0	25	\$3,627.00	\$1,813.50	\$12.55	\$0.00	\$0.00	1.89	1.05	19,682	19,631	16,857	8,985	R49 ceiling insulation (R-16 or less baseline) - homes with oil heating, no cooling, electric resistance back-up heating	
9156	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	MF	NLI	Retrofit	41.8	0.000	0.022	30.9	17.6%	5.4	0.0	0.0	0.0	0	25	\$730.00	\$365.00	\$108.00	\$0.00	\$0.00	3.97	1.05	0	0	0	0	40% air leakage reduction - homes with electric heating, no cooling	
9157	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	MF	NLI	Retrofit	122.7	0.000	0.070	50.6	31.5%	15.9	0.0	0.0	0.0	426	25	\$730.00	\$365.00	\$108.00	\$0.00	\$0.00	11.67	1.05	0	0	0	0	ENERGY STAR windows (u=0.32) - homes with electric heating, no cooling	
9158	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	MF	NLI	Retrofit	18.2	0.000	0.012	30.9	7.6%	2.4	0.0	0.0	0.0	0	25	\$3,154.00	\$1,577.00	\$108.00	\$0.00	\$0.00	0.40	1.05	0	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with electric heating, no cooling	
9159	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	MF	NLI	Retrofit	15.1	0.000	0.007	32.2	6.1%	2.0	0.0	0.0	0.0	0	25	\$1,500.00	\$750.00	\$108.00	\$0.00	\$0.00	0.70	1.05	0	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with electric heating, no cooling	
9160	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	MF	NLI	Retrofit	3.9	0.000	0.002	30.5	1.6%	0.5	0.0	0.0	0.0	0	25	\$1,100.00	\$550.00	\$108.00	\$0.00	\$0.00	0.24	1.05	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with electric heating, no cooling	
9161	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	MF	NLI	Retrofit	0.0	0.000	0.000	0.0	0.0%	0.0	0.0	0.0	0.0	0	25	\$0.00	\$0.00	\$108.00	\$0.00	\$0.00	#DIV/0!	1.05	0	0	0	0	0	30% air leakage reduction - homes with electric heating, room AC cooling
9162	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	MF	NLI	Retrofit	15.6	-0.001	0.022	30.9	17.6%	5.4	0.0	0.0	0.0	0	25	\$730.00	\$365.00	\$108.00	\$0.00	\$0.00	3.88	1.05	5,491	5,476	4,702	2,098	40% air leakage reduction - homes with electric heating, room AC cooling	
9163	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	MF	NLI	Retrofit	70.1	-0.001	0.070	50.6	31.5%	15.9	0.0	0.0	0.0	0	25	\$730.00	\$365.00	\$108.00	\$0.00	\$0.00	11.49	1.05	16,115	16,072	13,802	6,159	ENERGY STAR windows (u=0.32) - homes with electric heating, room AC cooling	
9164	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	MF	NLI	Retrofit	46.9	0.051	0.012	30.9	7.6%	2.4	0.0	0.0	0.0	426	25	\$3,154.00	\$1,577.00	\$108.00	\$0.00	\$0.00	0.50	1.05	8,511	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with electric heating, room AC cooling	
9165	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	MF	NLI	Retrofit	19.1	0.022	0.007	32.2	6.1%	2.0	0.0	0.0	0.0	1,429	25	\$1,500.00	\$750.00	\$108.00	\$0.00	\$0.00	0.78	1.05	1,988	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with electric heating, room AC cooling	
9166	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	MF	NLI	Retrofit	5.1	0.000	0.002	30.5	1.6%	0.5	0.0	0.0	0.0	726	25	\$1,100.00	\$550.00	\$108.00	\$0.00	\$0.00	0.25	1.05	510	0	0	0	R30 floor insulation (R6 or less baseline) - homes with electric heating, room AC cooling	
9167	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	MF	NLI	Retrofit	0.0	0.000	0.000	0.0	0.0%	0.0	0.0	0.0	0.0	0	25	\$0.00	\$0.00	\$108.00	\$0.00	\$0.00	#DIV/0!	1.05	0	0	0	0	0	30% air leakage reduction - homes with gas heating, no cooling, wood stove back-up heating
9168	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	MF	NLI	Retrofit	361.1	0.000	0.022	30.9	17.6%	5.4	0.0	0.0	0.0	0	25	\$730.00	\$365.00	\$108.00	\$0.00	\$0.00	4.87	1.05	501	500	429	192	40% air leakage reduction - homes with gas heating, no cooling, wood stove back-up heating	
9169	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	MF	NLI	Retrofit	851.7	0.000	0.070	50.6	31.5%	15.9	0.0	0.0	1.8	0	25	\$730.00	\$365.00	\$108.00	\$0.00	\$0.00	13.59	1.05	1,471	1,467	1,260	562	ENERGY STAR windows (u=0.32)- homes with gas heating, no cooling, wood stove back-up heating	
9170	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	MF	NLI	Retrofit	246.8	0.000	0.012	30.9	7.6%	2.4	0.0	0.0	4.8	0	25	\$3,154.00	\$1,577.00	\$108.00	\$0.00	\$0.00	0.56	1.05	777	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, no cooling, wood stove back-up heating	
9171	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	MF	NLI	Retrofit	235.8	0.000	0.007	32.2	6.1%	2.0	0.0	0.0	0.5	0	25	\$1,500.00	\$750.00	\$108.00	\$0.00	\$0.00	1.03	1.05	181	181	155	69	R60 ceiling insulation (R-37 baseline)- homes with gas heating, no cooling, wood stove back-up heating	
9172	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	MF	NLI	Retrofit	176.6	0.000	0.002	30.5	1.6%	0.5	0.0	0.0	0.9	0	25	\$1,100.00	\$550.00	\$108.00	\$0.00	\$0.00	0.63	1.05	47	0	0	0	R30 floor insulation (R6 or less baseline) - homes with gas heating, no cooling, wood stove back-up heating	
9173	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	MF	NLI	Retrofit	0.0	0.000	0.000	0.0	0.0%	0.0	0.0	0.0	0.2	0	25	\$0.00	\$0.00	\$108.00	\$0.00	\$0.00	#DIV/0!	1.05	0	0	0	0	0	30% air leakage reduction - homes with gas heating, room AC cooling, wood stove back-up heating
9174	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	MF	NLI	Retrofit	334.9	-0.001	0.022	30.9	17.6%	5.4	0.0	0.0	0.3	0	25	\$730.00	\$365.00	\$108.00	\$0.00	\$0.00	4.79	1.05	2,005	2,000	1,717	766	40% air leakage reduction - homes with gas heating, room AC cooling, wood stove back-up heating	
9175	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	MF	NLI	Retrofit	799.1	-0.001	0.070	50.6	31.5%	15.9	0.0	0.0	0.6	0	25	\$730.00	\$365.00	\$108.00	\$0.00	\$0.00	13.45	1.05	5,885	5,869	5,040	2,249	ENERGY STAR windows (u=0.32) - homes with gas heating, room AC cooling, wood stove back-up heating	
9176	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	MF	NLI	Retrofit	275.5	0.051	0.012	30.9	7.6%	2.4	0.0	0.0	1.8	0	25	\$3,154.00	\$1,577.00	\$108.00	\$0.00	\$0.00	0.67	1.05	3,108	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, room AC cooling, wood stove back-up heating	
9177	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	MF	NLI	Retrofit	239.8	0.022	0.007	32.2	6.1%	2.0	0.0	0.0	4.8	0	25	\$1,500.00	\$750.00	\$108.00	\$0.00	\$0.00	1.12	1.05	726	724	622	277	R60 ceiling insulation (R-37 baseline) - homes with gas heating, room AC cooling, wood stove back-up heating	
9178	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	MF	NLI	Retrofit	177.9	0.000	0.002	30.5	1.6%	0.5	0.0	0.0	0.5	0	25	\$1,100.00	\$550.00	\$108.00	\$0.00	\$0.00	0.64	1.05	186	0	0	0	R30 floor insulation (R6 or less baseline) - homes with gas heating, room AC cooling, wood stove back-up heating	
9179	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	MF	NLI	Retrofit	0.0	0.000	0.000	0.0	0.0%	0.0	0.0	0.0	0.9	0	25	\$0.00	\$0.00	\$108.00	\$0.00	\$0.00	#DIV/0!	1.05	0	0	0	0	0	30% air leakage reduction - homes with gas heating, no cooling, electric resistance back-up heating
9180	HVAC Shell	Duct sealing	VGS	MF	NLI	Retrofit	17.6	0.000	0.001	30.9	7.4%	2.3	0.0	0.0	0.2	0	20	\$288.88	\$144.44	\$108.00	\$0.00	\$0.00	3.55	1.05	3,930	3,920	3,198	1,477	40% air leakage reduction - homes with gas heating, no cooling, electric resistance back-up heating	
9215	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	MF	LI	DI	41.8	0.000	0.022	30.9	17.6%	5.4	0.0	0.0	0.3	0	25	\$730.00	\$365.00	\$29.99	\$0.00	\$0.00	4.43	1.05	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with oil heating, room AC cooling, electric resistance back-up heating	
9216	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	MF	LI	DI	122.7	0.000	0.070	50.6	31.5%	15.9	0.0	0.0	0.6	0	25	\$730.00	\$365.00	\$29.99	\$0.00	\$0.00	13.00	1.05	0	0	0	0	30% air leakage reduction - homes with electric heating, no cooling	
9217																														

Appendix B.5		VGS Residential Measure Assumptions																												
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Base NG Use (MMBTu)	% NG Savings	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBTu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTu)	20 YR Economic Potential (MMBTu)	20 YR MAP (MMBTu)	20 YR RAP (MMBTu)	Measure Description	
9232	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	MF	LI	DI	275.5	0.051	0.012	30.9	7.6%	2.4	0.0	0.0	0.0	0	25	\$3,154.00	\$1,577.00	\$29.99	\$0.00	\$0.00	0.74	1.00	307	0	0	0	40% air leakage reduction - homes with gas heating, room AC cooling, wood stove back-up heating	
9233	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	MF	LI	DI	239.8	0.022	0.007	32.2	6.1%	2.0	0.0	0.0	0.8	0	25	\$1,500.00	\$750.00	\$29.99	\$0.00	\$0.00	1.24	1.00	72	72	59	28	ENERGY STAR windows (u=0.32) - homes with gas heating, room AC cooling, wood stove back-up heating	
9234	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	MF	LI	DI	177.9	0.000	0.002	30.5	1.6%	0.5	0.0	0.0	2.3	0	25	\$1,100.00	\$550.00	\$29.99	\$0.00	\$0.00	0.70	1.00	18	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, room AC cooling, wood stove back-up heating	
9235	HVAC Shell	Duct sealing	VGS	MF	LI	DI	17.6	0.000	0.001	30.9	7.4%	2.3	0.0	0.0	0.3	0	20	\$288.88	\$144.44	\$29.99	\$0.00	\$0.00	3.96	1.00	389	388	301	145	R60 ceiling insulation (R-37 baseline) - homes with gas heating, room AC cooling, wood stove back-up heating	
9256	HVAC Shell	ENERGY STAR New Home (gas heat)	VGS	MF	All	NC	77.6	0.051	0.012	14.2	30.7%	4.4	0.0	0.0	0.3	0	25	\$3,627.00	\$1,813.50	\$12.55	\$0.00	\$0.00	0.71	1.05	1,272	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with oil heating, room AC cooling, wood stove back-up heating	
10010	HVAC Equipment	Gas Boiler Tier 1	VGS	SF	All	MO	0.0	0.000	0.000	68.2	15.0%	10.2	0.0	0.0	0.1	0	25	\$2,030.00	\$600.00	\$8.42	\$0.00	\$0.00	2.28	1.00	0	0	45,223	24,220	ENERGY STAR new home with electric heat	
10011	HVAC Equipment	Gas Boiler Tier 2	VGS	SF	All	MO	0.0	0.000	0.000	68.2	19.7%	13.5	0.0	0.0	0.0	0	25	\$2,417.00	\$800.00	\$8.42	\$0.00	\$0.00	2.53	1.00	131,327	131,327	59,684	31,965	ENERGY STAR dehumidifier to replace standard efficiency unit	
10012	HVAC Equipment	Gas Furnace Tier 1	VGS	SF	All	MO	0.0	0.000	0.000	84.9	7.4%	6.3	0.0	0.0	0.8	0	20	\$742.00	\$400.00	\$8.42	\$0.00	\$0.00	3.25	1.00	11,950	11,950	8,845	5,458	ENERGY STAR room air conditioner to replace standard efficiency unit	
10013	HVAC Equipment	Gas Furnace Tier 2	VGS	SF	All	MO	0.0	0.000	0.000	84.9	10.2%	8.7	0.0	0.0	2.3	0	20	\$851.50	\$500.00	\$8.42	\$0.00	\$0.00	3.92	1.00	33,098	33,098	24,497	15,830	Installing fractional horsepower circulator pumps with brushless permanent magnet pump (BLPM) motors	
10014	HVAC Equipment	Dual-Fuel DMS HP	VGS	SF	All	Retrofit	-5,225.3	0.448	-1.407	89.0	88.9%	79.2	0.0	0.0	0.3	0	15	\$6,000.00	\$600.00	\$8.42	\$0.00	\$0.00	1.11	0.88	151,134	188,917	120,887	49,949	Installing 15 SEER central air conditioner in homes with central air	
10015	HVAC Equipment	Combination Boiler / DHW Tier 1	VGS	SF	All	MO	0.0	0.000	0.000	68.2	15.1%	10.3	0.0	0.0	0.3	0	19	\$629.00	\$900.00	\$8.42	\$0.00	\$0.00	4.24	1.00	0	0	3,089	3,100	Installing 16 SEER central air conditioner in homes with central air	
10016	HVAC Equipment	Combination Boiler / DHW Tier 2	VGS	SF	All	MO	0.0	0.000	0.000	68.2	18.8%	12.8	0.0	0.0	0.1	0	19	\$1,998.00	\$1,100.00	\$8.42	\$0.00	\$0.00	2.37	1.00	39,011	39,011	5,759	3,660	Installing 17 SEER central air conditioner in homes with central air	
10017	HVAC Equipment	Indirect-Fired Storage Tank	VGS	SF	All	MO	0.0	0.000	0.000	68.2	26.7%	18.2	0.0	0.0	0.0	0	25	\$3,307.00	\$700.00	\$8.42	\$0.00	\$0.00	2.50	1.00	14,794	14,794	11,526	6,173	Installing 18 SEER central air conditioner in homes with central air	
10018	HVAC Equipment	Advanced Thermostats - Gas Heating	VGS	SF	All	Retrofit	40.2	0.000	0.000	70.8	7.1%	5.0	0.0	0.0	0.0	0	10	\$200.00	\$150.00	\$8.42	\$0.00	\$0.00	5.61	1.00	157,025	157,025	108,163	82,982	Installation of ductless heat pump instead of standard central heat pump	
10029	HVAC Equipment	Gas Boiler Tier 1	VGS	SF	All	NC	0.0	0.000	0.000	68.2	15.0%	10.2	0.0	0.0	0.0	0	25	\$2,030.00	\$600.00	\$12.55	\$0.00	\$0.00	2.28	1.00	0	0	5,926	2,697	Installation of advanced ("smart") thermostat in homes with gas primary heating	
10030	HVAC Equipment	Gas Boiler Tier 2	VGS	SF	All	NC	0.0	0.000	0.000	68.2	19.7%	13.5	0.0	0.0	0.0	0	25	\$2,417.00	\$800.00	\$12.55	\$0.00	\$0.00	2.53	1.00	20,439	20,439	7,821	3,682	ENERGY STAR dehumidifier to replace standard efficiency unit	
10031	HVAC Equipment	Gas Furnace Tier 1	VGS	SF	All	NC	0.0	0.000	0.000	84.9	7.4%	6.3	0.0	0.0	0.0	0	20	\$742.00	\$400.00	\$12.55	\$0.00	\$0.00	3.25	1.00	0	0	2,318	1,382	ENERGY STAR room air conditioner to replace standard efficiency unit	
10032	HVAC Equipment	Gas Furnace Tier 2	VGS	SF	All	NC	0.0	0.000	0.000	84.9	10.2%	8.7	0.0	0.0	0.0	0	20	\$851.50	\$500.00	\$12.55	\$0.00	\$0.00	3.92	1.00	8,831	8,831	3,210	2,007	Installing fractional horsepower circulator pumps with brushless permanent magnet pump (BLPM) motors	
10033	HVAC Equipment	Dual-Fuel DMS HP	VGS	SF	All	NC	-3,983.3	0.088	-1.059	50.5	88.8%	44.8	0.0	0.0	0.0	0	15	\$6,000.00	\$600.00	\$12.55	\$0.00	\$0.00	0.66	0.88	0	0	0	0	Installing 15 SEER central air conditioner in homes with central air	
10034	HVAC Equipment	Combination Boiler / DHW Tier 1	VGS	SF	All	NC	0.0	0.000	0.000	68.2	15.1%	10.3	0.0	0.0	0.0	0	19	\$629.00	\$900.00	\$12.55	\$0.00	\$0.00	4.24	1.00	0	0	406	400	Installing 16 SEER central air conditioner in homes with central air	
10035	HVAC Equipment	Combination Boiler / DHW Tier 2	VGS	SF	All	NC	0.0	0.000	0.000	68.2	18.8%	12.8	0.0	0.0	0.0	0	19	\$1,998.00	\$1,100.00	\$12.55	\$0.00	\$0.00	2.37	1.00	1,388	1,388	505	313	Installing 17 SEER central air conditioner in homes with central air	
10036	HVAC Equipment	Indirect-Fired Storage Tank	VGS	SF	All	NC	0.0	0.000	0.000	68.2	26.7%	18.2	0.0	0.0	0.0	0	25	\$3,307.00	\$700.00	\$12.55	\$0.00	\$0.00	2.50	1.00	1,974	1,974	755	317	Installing 18 SEER central air conditioner in homes with central air	
10037	HVAC Equipment	Advanced Thermostats - Gas Heating	VGS	SF	All	NC	42.7	0.000	0.000	50.5	5.3%	2.7	0.0	0.0	0.0	0	10	\$200.00	\$150.00	\$12.55	\$0.00	\$0.00	3.10	1.00	4,978	4,978	3,429	2,631	Installation of ductless heat pump instead of standard central heat pump	
10048	HVAC Equipment	Gas Boiler Tier 1	VGS	MF	All	MO	0.0	0.000	0.000	45.5	15.0%	6.8	0.0	0.0	0.0	0	25	\$1,353.33	\$600.00	\$8.42	\$0.00	\$0.00	2.28	1.00	0	0	9,005	4,886	Installation of advanced ("smart") thermostat in homes with gas primary heating	
10049	HVAC Equipment	Gas Boiler Tier 2	VGS	MF	All	MO	0.0	0.000	0.000	45.5	19.7%	9.0	0.0	0.0	0.0	0	25	\$1,611.33	\$800.00	\$8.42	\$0.00	\$0.00	2.53	1.00	26,152	26,152	11,885	6,448	ENERGY STAR dehumidifier to replace standard efficiency unit	
10050	HVAC Equipment	Gas Furnace Tier 1	VGS	MF	All	MO	0.0	0.000	0.000	56.6	7.4%	4.2	0.0	0.0	0.3	0	20	\$494.67	\$400.00	\$8.42	\$0.00	\$0.00	3.25	1.00	2,380	2,380	2,202	1,268	ENERGY STAR room air conditioner to replace standard efficiency unit	
10051	HVAC Equipment	Gas Furnace Tier 2	VGS	MF	All	MO	0.0	0.000	0.000	56.6	10.2%	5.8	0.0	0.0	0.0	0	20	\$567.67	\$500.00	\$8.42	\$0.00	\$0.00	3.92	1.00	6,591	6,591	6,098	3,780	Installing fractional horsepower circulator pumps with brushless permanent magnet pump (BLPM) motors	
10052	HVAC Equipment	Dual-Fuel DMS HP	VGS	MF	All	Retrofit	-2,190.1	0.284	-0.697	38.9	91.4%	35.5	0.0	0.0	0.0	0	15	\$4,500.00	\$600.00	\$8.42	\$0.00	\$0.00	0.91	0.88	20,256	0	0	0	Installing 15 SEER central air conditioner in homes with central air	
10053	HVAC Equipment	Combination Boiler / DHW Tier 1	VGS	MF	All	MO	0.0	0.000	0.000	45.5	15.1%	6.9	0.0	0.0	0.0	0	19	\$419.33	\$900.00	\$12.55	\$0.00	\$0.00	2.83	1.00	0	0	615	440	Installing 16 SEER central air conditioner in homes with central air	
10054	HVAC Equipment	Combination Boiler / DHW Tier 2	VGS	MF	All	MO	0.0	0.000	0.000	45.5	18.8%	8.5	0.0	0.0	0.0	0	19	\$1,332.67	\$1,100.00	\$8.42	\$0.00	\$0.00	2.37	1.00	7,768	7,768	1,147	684	Installing 17 SEER central air conditioner in homes with central air	
10055	HVAC Equipment	Indirect-Fired Storage Tank	VGS	MF	All	MO	0.0	0.000	0.000	45.5	26.7%	12.1	0.0	0.0	0.0	0	25	\$2,204.67	\$700.00	\$8.42	\$0.00	\$0.00	2.50	1.00	2,946	2,946	2,295	1,245	Installing 18 SEER central air conditioner in homes with central air	
10056	HVAC Equipment	Advanced Thermostats - Gas Heating	VGS	MF	All	Retrofit	16.9	0.000	0.000	30.9	7.1%	2.2	0.0	0.0	0.0	0	10	\$200.00	\$150.00	\$8.42	\$0.00	\$0.00	2.44	1.00	19,080	19,080	13,143	7,058	Installation of ductless heat pump instead of standard central heat pump	
10067	HVAC Equipment	Gas Boiler Tier 1	VGS	MF	All	NC	0.0	0.000	0.000	45.5	15.0%	6.8	0.0	0.0	0.0	0	25	\$1,353.33	\$600.00	\$12.55	\$0.00	\$0.00	2.28	1.00	0	0	1,780	653	Installation of advanced ("smart") thermostat in homes with gas primary heating	
10068	HVAC Equipment	Gas Boiler Tier 2	VGS	MF	All	NC	0.0	0.000	0.000	45.5	19.7%	9.0	0.0	0.0	0.0	0	25	\$1,611.33	\$800.00	\$12.55	\$0.00	\$0.00	2.53	1.00	4,070	6,140	2,350	908	ENERGY STAR dehumidifier to replace standard efficiency unit	
10069	HVAC Equipment	Gas Furnace Tier 1	VGS	MF	All	NC	0.0	0.000	0.000	56.6	7.4%	4.2	0.0	0.0	0.0	0	20	\$494.67	\$400.00	\$12.55	\$0.00	\$0.00	3.25	1.00	0	0	548	300	ENERGY STAR room air conditioner to replace standard efficiency unit	
10070	HVAC Equipment	Gas Furnace Tier 2	VGS	MF	All	NC	0.0	0.000	0.000	56.6	10.2%	5.8	0.0	0.0	0.0	0	20	\$567.67	\$500.00	\$12.55	\$0.00	\$0.00	3.92	1.00	1,758	2,089	759	449	Installing fractional horsepower circulator pumps with brushless permanent magnet pump (BLPM) motors	
10071	HVAC Equipment	Dual-Fuel DMS HP	VGS	MF	All	NC	-1,212.5	0.063	-0.384	14.2	89.0%	12.6	0.0	0.0	0.0	0	18	\$3,000.00	\$600.00	\$12.55	\$0.00	\$0.00	0.52	0.88	0	0	0	0	Installing 15 SEER central air conditioner in homes with central air	
10072	HVAC Equipment	Combination Boiler / DHW Tier 1	VGS	MF	All	NC	0.0	0.000	0.000	45.5	15.1%	6.9	0.0	0.0	0.0	0	19	\$419.33	\$900.00	\$12.55	\$0.00	\$0.00	2.83	1.00	0	0	85	59	Installing 16 SEER central air conditioner in homes with central air	
10073	HVAC Equipment	Combination Boiler / DHW Tier 2	VGS	MF	All	NC	0.0	0.000	0.000	45.5	18.8%	8.5	0.0	0.0	0.0	0	19	\$1,332.67	\$1,100.00	\$12.55	\$0.00	\$0.00	2.37	1.00	276	292	106	61	Installing 17 SEER central air conditioner in homes with central air	
10074	HVAC Equipment	Indirect-Fired Storage Tank	VGS	MF	All	NC	0.0	0.000	0.000	45.5	26.7%	12.1	0.0	0.0	0.0	0	25	\$2,204.67	\$700.00	\$12.55	\$0.00	\$0.00	2.50	1.00	393	415	159	52	Installing 18 SEER central air conditioner in homes with central air	
10075	HVAC Equipment	Advanced Thermostats - Gas Heating	VGS	MF	All	NC	29.0	0.000	0.000	14.2	5.3%	0.8	0.0	0.0	0.0	0	10	\$200.00	\$150.00	\$12.55	\$0.00	\$0.00	0.96	1.00	735	0	0	0	Installation of ductless heat pump instead of standard central heat pump	
15024	ER HVAC Equipment	Gas Boiler Tier 1	VGS	SF	All	ER1	0.0	0.000	0.000	75.1	22.7%	17.1	0.0	0.0	0.0	0	8	\$4,562.19	\$600.00	\$8.42	\$0.00	\$20.86	0.65	1.00	0	0	0	0	Installation of ductless heat pump to retrofit primary electric resistance heating	
15025	ER HVAC Equipment	Gas Boiler Tier 1	VGS	SF	All	ER2	0.0	0.000	0.000	68.2	15.0%	10.2	0.0	0.0	0.0	0	17	\$0.00	\$0.00	\$0.00	\$0.00	\$20.86	149.28	1.00	0	0	0	0	0	Installation of ductless heat

Appendix B.5		VGS Residential Measure Assumptions																															
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Base NG Use (MMBtu)	% NG Savings	Per unit NG Saving (MMBtu)	Per Unit Oil Savings (MMBtu)	Per Unit Propane Savings (MMBtu)	Per Unit Wood Savings (MMBtu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBtu)	20 YR Economic Potential (MMBtu)	20 YR MAP (MMBtu)	20 YR RAP (MMBtu)	Measure Description				
15049	ER HVAC Equipment	Gas Boiler Tier 1	VGS	MF	All	ER2	0.0	0.000	0.000	45.5	15.0%	6.8	0.0	0.0	0.0	0	17	\$0.00	\$0.00	\$0.00	\$0.00	\$20.86	99.52	1.00	0	0	0	0	Installation of dual-fuel ductless heat pump gas furnace				
15050	ER HVAC Equipment	Gas Boiler Tier 1	VGS	MF	All	ER3	0.0	0.000	0.000	45.5	15.0%	6.8	0.0	0.0	0.0	0	25	\$1,353.33	\$600.00	\$8.42	\$0.00	\$20.86	2.24	1.00	0	0	0	0	Installation of 90 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers				
15051	ER HVAC Equipment	Gas Boiler Tier 2	VGS	MF	All	ER1	0.0	0.000	0.000	50.0	27.1%	13.6	0.0	0.0	0.0	0	8	\$3,299.46	\$800.00	\$8.42	\$0.00	\$20.86	0.71	1.00	3,543	3,543	3,559	1,165	Installation of 90 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers				
15052	ER HVAC Equipment	Gas Boiler Tier 2	VGS	MF	All	ER2	0.0	0.000	0.000	45.5	19.7%	9.0	0.0	0.0	0.0	0	17	\$0.00	\$0.00	\$0.00	\$0.00	\$20.86	131.34	1.00	3,519	3,519	4,376	1,267	Installation of 90 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers				
15053	ER HVAC Equipment	Gas Boiler Tier 2	VGS	MF	All	ER3	0.0	0.000	0.000	45.5	19.7%	9.0	0.0	0.0	0.0	0	25	\$1,611.33	\$800.00	\$8.42	\$0.00	\$20.86	2.49	1.00	0	0	0	0	Installation of 95 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers				
15054	ER HVAC Equipment	Gas Furnace Tier 1	VGS	MF	All	ER1	0.0	0.000	0.000	62.3	15.8%	9.8	0.0	0.0	0.0	0	7	\$1,332.05	\$400.00	\$8.42	\$0.00	\$22.88	1.11	1.00	528	528	866	300	Installation of 95 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers				
15055	ER HVAC Equipment	Gas Furnace Tier 1	VGS	MF	All	ER2	0.0	0.000	0.000	56.6	7.4%	4.2	0.0	0.0	0.0	0	13	\$0.00	\$0.00	\$0.00	\$0.00	\$22.88	44.48	1.00	416	416	796	259	Installation of 95 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers				
15056	ER HVAC Equipment	Gas Furnace Tier 1	VGS	MF	All	ER3	0.0	0.000	0.000	56.6	7.4%	4.2	0.0	0.0	0.0	0	20	\$494.67	\$400.00	\$8.42	\$0.00	\$22.88	3.09	1.00	0	0	0	0	Installation of indirect water heater to high efficiency boiler				
15057	ER HVAC Equipment	Gas Furnace Tier 2	VGS	MF	All	ER1	0.0	0.000	0.000	62.3	18.4%	11.4	0.0	0.0	0.0	0	7	\$1,404.72	\$400.00	\$8.42	\$0.00	\$22.88	1.23	1.00	1,229	1,229	1,008	344	Installation of indirect water heater to high efficiency boiler				
15058	ER HVAC Equipment	Gas Furnace Tier 2	VGS	MF	All	ER2	0.0	0.000	0.000	56.6	10.2%	5.8	0.0	0.0	0.0	0	13	\$0.00	\$0.00	\$0.00	\$0.00	\$22.88	61.60	1.00	1,153	1,153	1,103	353	Installation of indirect water heater to high efficiency boiler				
15059	ER HVAC Equipment	Gas Furnace Tier 2	VGS	MF	All	ER3	0.0	0.000	0.000	56.6	10.2%	5.8	0.0	0.0	0.0	0	20	\$567.67	\$400.00	\$8.42	\$0.00	\$22.88	3.75	1.00	0	0	0	0	Installation of 98 AFUE boiler in homes with gas boilers				
15060	ER HVAC Equipment	Dual-Fuel DMS HP	VGS	MF	All	ER1	-2,190.1	0.284	-0.697	38.9	91.4%	35.5	0.0	0.0	0.0	0	5	\$2,883.25	\$600.00	\$8.42	\$0.00	\$0.00	0.60	0.88	1,363	0	0	0	Installation of 98 AFUE boiler in homes with gas boilers				
15061	ER HVAC Equipment	Dual-Fuel DMS HP	VGS	MF	All	ER2	-2,190.1	0.284	-0.697	35.3	90.5%	32.0	0.0	0.0	0.0	0	10	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	2.34	0.88	0	0	0	0	Installation of 98 AFUE boiler in homes with gas boilers				
15062	ER HVAC Equipment	Dual-Fuel DMS HP	VGS	MF	All	ER3	-2,190.1	0.284	-0.697	35.3	90.5%	32.0	0.0	0.0	0.0	0	15	\$4,500.00	\$600.00	\$8.42	\$0.00	\$0.00	0.82	0.88	0	0	0	0	Installation of 98 AFUE boiler in homes with gas boilers				
15063	ER HVAC Equipment	Combination Boiler / DHW Tier 1	VGS	MF	All	ER1	0.0	0.000	0.000	50.0	22.9%	11.4	0.0	0.0	0.0	0	6	\$1,962.11	\$900.00	\$8.42	\$0.00	\$0.00	0.77	1.00	0	0	0	0	Installation of 98 AFUE boiler in homes with gas boilers				
15064	ER HVAC Equipment	Combination Boiler / DHW Tier 1	VGS	MF	All	ER2	0.0	0.000	0.000	45.5	15.1%	6.9	0.0	0.0	0.0	0	13	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	1.00	0	0	0	0	Installation of 98 AFUE boiler in homes with gas boilers				
15065	ER HVAC Equipment	Combination Boiler / DHW Tier 1	VGS	MF	All	ER3	0.0	0.000	0.000	45.5	15.1%	6.9	0.0	0.0	0.0	0	19	\$419.33	\$900.00	\$8.42	\$0.00	\$0.00	2.83	1.00	0	0	0	0	Installation of 95 AFUE furnace in homes with gas furnaces				
15066	ER HVAC Equipment	Combination Boiler / DHW Tier 2	VGS	MF	All	ER1	0.0	0.000	0.000	50.0	26.2%	13.1	0.0	0.0	0.0	0	6	\$2,875.45	\$1,100.00	\$8.42	\$0.00	\$0.00	0.60	1.00	1,285	1,285	328	123	Installation of 95 AFUE furnace in homes with gas furnaces				
15067	ER HVAC Equipment	Combination Boiler / DHW Tier 2	VGS	MF	All	ER2	0.0	0.000	0.000	45.5	18.8%	8.5	0.0	0.0	0.0	0	13	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	1.00	1,812	1,812	555	203	Installation of 95 AFUE furnace in homes with gas furnaces				
15068	ER HVAC Equipment	Combination Boiler / DHW Tier 2	VGS	MF	All	ER3	0.0	0.000	0.000	45.5	18.8%	8.5	0.0	0.0	0.0	0	19	\$1,332.67	\$1,100.00	\$8.42	\$0.00	\$0.00	2.37	1.00	139	139	43	5	Installation of 98 AFUE furnace in homes with gas furnaces				
15069	ER HVAC Equipment	Indirect-Fired Storage Tank	VGS	MF	All	ER1	0.0	0.000	0.000	49.3	37.9%	18.7	0.0	0.0	0.0	0	8	\$3,892.79	\$700.00	\$8.42	\$0.00	\$0.00	0.84	1.00	2,438	2,438	979	302	Installation of 98 AFUE furnace in homes with gas furnaces				
15070	ER HVAC Equipment	Indirect-Fired Storage Tank	VGS	MF	All	ER2	0.0	0.000	0.000	45.5	26.7%	12.1	0.0	0.0	0.0	0	17	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	1.00	2,378	2,378	1,183	323	Installation of 98 AFUE furnace in homes with gas furnaces				
15071	ER HVAC Equipment	Indirect-Fired Storage Tank	VGS	MF	All	ER3	0.0	0.000	0.000	45.5	26.7%	12.1	0.0	0.0	0.0	0	25	\$2,204.67	\$700.00	\$8.42	\$0.00	\$0.00	2.50	1.00	0	0	0	0	Installation of dual-fuel ductless heat pump gas furnace				
15072	Hot Water	DHW Tank Wrap (NatGas WH)	VGS	INSF	All	NC	0.0	0.000	0.000			0.4	0.0	0.0	0.0	0	6	\$35.00	\$17.50	\$8.42	\$0.00	\$0.00	1.18	0.90	0	0	0	0	Installation of dual-fuel ductless heat pump gas furnace				
15073	Hot Water	DHW Pipe Wrap (NatGas WH)	VGS	INSF	All	NC	0.0	0.000	0.000			0.1	0.0	0.0	0.0	0	15	\$18.00	\$9.00	\$8.42	\$0.00	\$0.00	1.62	0.90	149	158	101	50	Installation of dual-fuel ductless heat pump gas furnace				
15074	Hot Water	LF Showerhead (NatGas WH)	VGS	INSF	All	NC	0.0	0.000	0.000			0.6	0.0	0.0	0.0	0	9	\$15.00	\$15.00	\$8.42	\$0.00	\$0.00	16.43	0.90	2,041	2,155	1,288	904	Installation of 90 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers				
15075	Hot Water	LF Faucet Aerator (NatGas WH)	VGS	INSF	All	NC	0.0	0.000	0.000			0.3	0.0	0.0	0.0	0	9	\$10.00	\$10.00	\$8.42	\$0.00	\$0.00	13.38	0.90	1,601	1,691	1,011	709	Installation of 90 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers				
15076	Hot Water	Gas Storage Water Heater - 0.67 EF	VGS	INSF	All	NC	0.0	0.000	0.000	13.8		1.7	0.0	0.0	0.0	0	13	\$400.00	\$200.00	\$8.42	\$0.00	\$0.00	0.82	1.00	0	0	0	0	Installation of 95 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers				
15077	Hot Water	Condensing Gas Storage Water Heater - 0.80 EF	VGS	INSF	All	NC	0.0	0.000	0.000	13.8		4.0	0.0	0.0	0.0	0	13	\$685.00	\$200.00	\$8.42	\$0.00	\$0.00	1.14	1.00	4,875	4,875	3,517	1,508	Installation of 95 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers				
15078	Hot Water	Tankless whole-house water heater - 0.82 EF	VGS	INSF	All	NC	0.0	0.000	0.000	13.8		3.2	0.0	0.0	0.0	0	13	\$605.00	\$300.00	\$8.42	\$0.00	\$0.00	1.03	1.00	0	3,900	2,814	1,382		Installation of 95 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers			
15079	Hot Water	Tankless whole-house water heater - 0.90 EF	VGS	INSF	All	NC	0.0	0.000	0.000	13.8		4.3	0.0	0.0	0.0	0	13	\$1,050.00	\$500.00	\$8.42	\$0.00	\$0.00	0.80	1.00	4,709	0	0	0	Installation of 95 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers				
15080	Hot Water	Thermostatic Shower Restriction Valve (NatGas WH)	VGS	INSF	All	NC	0.0	0.000	0.000			0.2	0.0	0.0	0.0	0	7	\$12.00	\$6.00	\$8.42	\$0.00	\$0.00	5.78	1.00	748	790	548	271	Installation of indirect water heater to high efficiency boiler				
15081	Hot Water	DHW Tank Wrap (NatGas WH)	VGS	INMF	All	NC	0.0	0.000	0.000			0.4	0.0	0.0	0.0	0	6	\$35.00	\$17.50	\$8.42	\$0.00	\$0.00	1.18	0.90	0	0	0	0	Installation of indirect water heater to high efficiency boiler				
15082	Hot Water	DHW Pipe Wrap (NatGas WH)	VGS	INMF	All	NC	0.0	0.000	0.000			0.1	0.0	0.0	0.0	0	15	\$18.00	\$9.00	\$8.42	\$0.00	\$0.00	1.62	0.90	42	44	28	14	Installation of indirect water heater to high efficiency boiler				
15083	Hot Water	LF Showerhead (NatGas WH)	VGS	INMF	All	NC	0.0	0.000	0.000			0.7	0.0	0.0	0.0	0	9	\$15.00	\$15.00	\$8.42	\$0.00	\$0.00	19.10	0.90	353	373	223	156	Installation of low flow showerhead in homes with gas water heating				
15084	Hot Water	LF Faucet Aerator (NatGas WH)	VGS	INMF	All	NC	0.0	0.000	0.000			0.3	0.0	0.0	0.0	0	9	\$10.00	\$10.00	\$8.42	\$0.00	\$0.00	13.38	0.90	273	289	172	121	Installation of a low flow faucet aerator (1.0 gpm) in homes with gas water heating				
15085	Hot Water	DHW Water Recirculation Pipe Insulation (NatGas WH)	VGS	INMF	All	NC	0.0	0.000	0.000			0.3	0.0	0.0	0.0	0	20	\$6.00	\$3.00	\$8.42	\$0.00	\$0.00	12.29	1.00	135	143	98	45	Installation of insulation on hot water recirculation pipe that is continuously circulating - 2 inches of insulation instead of a baseline level of 0.5 inch				
15086	Hot Water	Boiler Hot Water Distribution Pipe Insuation (NatGas WH)	VGS	INMF	All	NC	0.0	0.000	0.000			0.2	0.0	0.0	0.0	0	20	\$6.00	\$3.00	\$8.42	\$0.00	\$0.00	8.88	1.00	98	103	71	33	Boiler hot water recirculation pipe that is continuously circulating during the heating season is insulated with 2 inches of insulation, 6ft of insulation				
15087	Hot Water	Gas Storage Water Heater - 0.67 EF	VGS	INMF	All	NC	0.0	0.000	0.000	13.8		1.7	0.0	0.0	0.0	0	13	\$400.00	\$200.00	\$8.42	\$0.00	\$0.00	0.82	1.00	0	0	0	0	Installation of high efficiency gas storage tank water heater (EF 0.67) in homes with gas water heating				
15088	Hot Water	Condensing Gas Storage Water Heater - 0.80 EF	VGS	INMF	All	NC	0.0	0.000	0.000	13.8		4.0	0.0	0.0	0.0	0	13	\$685.00	\$200.00	\$8.42	\$0.00	\$0.00	1.14	1.00	1,456	1,456	1,051	450	Installation of high efficiency condensing gas storage tank water heater (EF 0.80) in homes with gas water heating				
15089	Hot Water	Tankless whole-house water heater - 0.82 EF	VGS	INMF	All	NC	0.0	0.000	0.000	13.8		3.2	0.0	0.0	0.0	0	13	\$605.00	\$300.00	\$8.42	\$0.00	\$0.00	1.03	1.00	0	1,165	840	413		Installation of high efficiency tankless water heater (EF 0.82) in homes with gas water heating			
15090	Hot Water	Tankless whole-house water heater - 0.90 EF	VGS	INMF	All	NC	0.0	0.000	0.000	13.8		4.3	0.0	0.0	0.0	0	13	\$1,050.00	\$500.00	\$8.42	\$0.00	\$0.00	0.80	1.00	1,407	0	0	0	Installation of high efficiency tankless water heater (EF 0.90) in homes with gas water heating				
15091	Hot Water	Thermostatic Shower Restriction Valve (NatGas WH)	VGS	INMF	All	NC	0.0	0.000	0.000			0.2	0.0	0.0	0.0	0	7	\$12.00	\$6.00	\$8.42	\$0.00	\$0.00	5.78	1.00	112	118	82	40	Installation of a thermostatically initiated shower restriction valve, in conjunction with a low flow showerhead - homes with gas water heating				
15092	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	INSF	All	NC	100.1	0.000	0.060	70.8	17.7%	12.5	0.0	0.0	0.0	0	25	\$1,549.06	\$774.53	\$12.55	\$0.00	\$0.00	4.34	1.00	980	978	799	335	30% air leakage reduction - homes with gas heating, no cooling, wood stove back-up heating				
15093	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)</																															



Appendix B.5		VGS Residential Measure Assumptions																												
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Base NG Use (MMBtu)	% NG Savings	Per unit NG Saving (MMBtu)	Per Unit Oil Savings (MMBtu)	Per Unit Propane Savings (MMBtu)	Per Unit Wood Savings (MMBtu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBtu)	20 YR Economic Potential (MMBtu)	20 YR MAP (MMBtu)	20 YR RAP (MMBtu)	Measure Description	
15103	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	INSF	All	NC	26.8	0.019	0.006	69.5	1.8%	1.2	0.0	0.0	0.0	0	25	\$1,139.60	\$569.80	\$12.55	\$0.00	\$0.00	0.70	1.00	158	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with gas heating, room AC cooling, wood stove back-up heating	
15104	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	INSF	All	NC	-117.0	-0.117	0.009	70.8	3.3%	2.4	0.0	0.0	0.0	0	25	\$907.20	\$453.60	\$12.55	\$0.00	\$0.00	0.68	1.00	599	0	0	0	R30 floor insulation (R6 or less baseline) - homes with gas heating, room AC cooling, wood stove back-up heating	
15105	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	VGS	INSF	All	NC	-31.3	-0.063	0.020	74.4	6.0%	4.5	0.0	0.0	0.0	1,429	25	\$1,305.60	\$652.80	\$12.55	\$0.00	\$0.00	1.36	1.00	790	788	644	269	R15 basement wall insulation - homes with gas heating, room AC cooling, wood stove back-up heating	
15106	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	INSF	All	NC	876.9	0.000	0.060	70.8	17.7%	12.5	0.0	0.0	0.0	726	25	\$1,549.06	\$774.53	\$12.55	\$0.00	\$0.00	5.38	1.00	310	309	252	106	30% air leakage reduction - homes with gas heating, no cooling, electric resistance back-up heating	
15107	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	INSF	All	NC	1,934.7	0.000	0.165	112.8	29.8%	33.7	0.0	0.0	0.0	0	25	\$1,549.06	\$774.53	\$12.55	\$0.00	\$0.00	13.77	1.00	846	843	690	289	40% air leakage reduction - homes with gas heating, no cooling, electric resistance back-up heating	
15108	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	INSF	All	NC	516.5	0.000	0.017	70.8	4.5%	3.2	0.0	0.0	0.0	0	25	\$6,726.00	\$3,363.00	\$12.55	\$0.00	\$0.00	0.43	1.00	1,134	0	0	0	ENERGY STAR windows (u=0.32) - homes with gas heating, no cooling, electric resistance back-up heating	
15109	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	INSF	All	NC	660.2	0.000	0.025	75.0	8.4%	6.3	0.0	0.0	0.0	0	25	\$1,554.00	\$777.00	\$12.55	\$0.00	\$0.00	3.05	1.00	1,281	1,277	1,045	437	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, no cooling, electric resistance back-up heating	
15110	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	INSF	All	NC	433.9	0.000	0.006	69.5	1.8%	1.2	0.0	0.0	0.0	0	25	\$1,139.60	\$569.80	\$12.55	\$0.00	\$0.00	1.49	1.00	188	188	153	64	R60 ceiling insulation (R-37 baseline) - homes with gas heating, no cooling, electric resistance back-up heating	
15111	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	INSF	All	NC	483.3	0.000	0.009	70.8	3.3%	2.4	0.0	0.0	0.0	0	25	\$907.20	\$453.60	\$12.55	\$0.00	\$0.00	2.61	1.00	712	710	580	243	R30 floor insulation (R6 or less baseline) - homes with gas heating, no cooling, electric resistance back-up heating	
15112	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	VGS	INSF	All	NC	648.0	0.000	0.020	74.4	6.0%	4.5	0.0	0.0	0.0	0	25	\$1,305.60	\$652.80	\$12.55	\$0.00	\$0.00	2.92	1.00	938	936	765	320	R15 basement wall insulation - homes with gas heating, no cooling, electric resistance back-up heating	
15113	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	INSF	All	NC	854.1	0.015	0.060	70.8	17.7%	12.5	0.0	0.0	0.0	426	25	\$1,549.06	\$774.53	\$12.55	\$0.00	\$0.00	5.41	1.00	82	82	67	28	30% air leakage reduction - homes with gas heating, room AC cooling, electric resistance back-up heating	
15114	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	INSF	All	NC	1,926.7	0.077	0.165	112.8	29.8%	33.7	0.0	0.0	1.8	0	25	\$1,549.06	\$774.53	\$12.55	\$0.00	\$0.00	14.05	1.00	225	224	183	77	40% air leakage reduction - homes with gas heating, room AC cooling, electric resistance back-up heating	
15115	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	INSF	All	NC	608.5	0.131	0.017	70.8	4.5%	3.2	0.0	0.0	4.8	0	25	\$6,726.00	\$3,363.00	\$12.55	\$0.00	\$0.00	0.56	1.00	302	0	0	0	ENERGY STAR windows (u=0.32) - homes with gas heating, room AC cooling, electric resistance back-up heating	
15116	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	INSF	All	NC	735.9	0.107	0.025	75.0	8.4%	6.3	0.0	0.0	0.5	0	25	\$1,554.00	\$777.00	\$12.55	\$0.00	\$0.00	3.53	1.00	340	340	278	116	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, room AC cooling, electric resistance back-up heating	
15117	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	INSF	All	NC	450.7	0.019	0.006	69.5	1.8%	1.2	0.0	0.0	0.9	0	25	\$1,139.60	\$569.80	\$12.55	\$0.00	\$0.00	1.62	1.00	50	50	41	17	R60 ceiling insulation (R-37 baseline) - homes with gas heating, room AC cooling, electric resistance back-up heating	
15118	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	INSF	All	NC	347.3	-0.117	0.025	70.8	3.3%	2.4	0.0	0.0	0.2	0	25	\$907.20	\$453.60	\$12.55	\$0.00	\$0.00	1.62	1.00	189	189	154	65	R30 floor insulation (R6 or less baseline) - homes with gas heating, room AC cooling, electric resistance back-up heating	
15119	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	VGS	INSF	All	NC	580.7	-0.063	0.020	74.4	6.0%	4.5	0.0	0.0	0.3	0	25	\$1,305.60	\$652.80	\$12.55	\$0.00	\$0.00	2.56	1.00	249	249	203	85	R15 basement wall insulation - homes with gas heating, room AC cooling, electric resistance back-up heating	
15120	HVAC Shell	Duct sealing	VGS	INSF	All	NC	18.2	0.000	0.060	70.8	3.2%	2.3	0.0	0.0	0.6	0	20	\$288.88	\$144.44	\$12.55	\$0.00	\$0.00	3.68	1.00	1,481	1,477	1,079	487	Duct sealing - homes with gas furnaces	
15121	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	INMF	All	NC	41.8	0.000	0.022	30.9	17.6%	5.4	0.0	0.0	1.8	0	25	\$730.00	\$365.00	\$12.55	\$0.00	\$0.00	3.97	1.05	0	0	0	0	30% air leakage reduction - homes with gas heating, no cooling, wood stove back-up heating	
15122	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	INMF	All	NC	122.7	0.000	0.070	50.6	31.5%	15.9	0.0	0.0	4.8	0	25	\$730.00	\$365.00	\$12.55	\$0.00	\$0.00	11.67	1.05	0	0	0	0	40% air leakage reduction - homes with gas heating, no cooling, wood stove back-up heating	
15123	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	INMF	All	NC	18.2	0.000	0.012	30.9	7.6%	2.4	0.0	0.0	0.5	0	25	\$3,154.00	\$1,577.00	\$12.55	\$0.00	\$0.00	0.40	1.05	0	0	0	0	ENERGY STAR windows (u=0.32) - homes with gas heating, no cooling, wood stove back-up heating	
15124	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	INMF	All	NC	15.1	0.000	0.007	32.2	6.1%	2.0	0.0	0.0	0.9	0	25	\$1,500.00	\$750.00	\$12.55	\$0.00	\$0.00	0.70	1.05	0	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, no cooling, wood stove back-up heating	
15125	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	INMF	All	NC	3.9	0.000	0.002	30.5	1.6%	0.5	0.0	0.0	0.2	0	25	\$1,100.00	\$550.00	\$12.55	\$0.00	\$0.00	0.24	1.05	0	0	0	0	R60 ceiling insulation (R-37 baseline)- homes with gas heating, no cooling, wood stove back-up heating	
15126	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	INMF	All	NC	15.6	-0.001	0.022	30.9	17.6%	5.4	0.0	0.0	0.3	0	25	\$730.00	\$365.00	\$12.55	\$0.00	\$0.00	3.88	1.05	822	819	704	294	30% air leakage reduction - homes with gas heating, room AC cooling, wood stove back-up heating	
15127	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	INMF	All	NC	70.1	-0.001	0.070	50.6	31.5%	15.9	0.0	0.0	0.6	0	25	\$730.00	\$365.00	\$12.55	\$0.00	\$0.00	11.49	1.05	2,411	2,405	2,065	864	40% air leakage reduction - homes with gas heating, room AC cooling, wood stove back-up heating	
15128	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	INMF	All	NC	46.9	0.051	0.012	30.9	7.6%	2.4	0.0	0.0	0.0	0	25	\$3,154.00	\$1,577.00	\$12.55	\$0.00	\$0.00	0.50	1.05	1,274	0	0	0	ENERGY STAR windows (u=0.32) - homes with gas heating, room AC cooling, wood stove back-up heating	
15129	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	INMF	All	NC	19.1	0.022	0.007	32.2	6.1%	2.0	0.0	0.0	0.0	0	25	\$1,500.00	\$750.00	\$12.55	\$0.00	\$0.00	0.78	1.05	297	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, room AC cooling, wood stove back-up heating	
15130	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	INMF	All	NC	5.1	0.000	0.002	30.5	1.6%	0.5	0.0	0.0	0.0	0	25	\$1,100.00	\$550.00	\$12.55	\$0.00	\$0.00	0.25	1.05	76	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with gas heating, room AC cooling, wood stove back-up heating	
15131	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	INMF	All	NC	361.1	0.000	0.022	30.9	17.6%	5.4	0.0	0.0	0.0	0	25	\$730.00	\$365.00	\$12.55	\$0.00	\$0.00	4.87	1.05	2	2	2	1	30% air leakage reduction - homes with gas heating, no cooling, electric resistance back-up heating	
15132	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	INMF	All	NC	851.7	0.000	0.070	50.6	31.5%	15.9	0.0	0.0	0.0	0	25	\$730.00	\$365.00	\$12.55	\$0.00	\$0.00	13.59	1.05	6	6	5	2	40% air leakage reduction - homes with gas heating, no cooling, electric resistance back-up heating	
15133	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	INMF	All	NC	246.8	0.000	0.012	30.9	7.6%	2.4	0.0	0.0	0.0	0	25	\$3,154.00	\$1,577.00	\$12.55	\$0.00	\$0.00	0.56	1.05	3	0	0	0	ENERGY STAR windows (u=0.32) - homes with gas heating, no cooling, electric resistance back-up heating	
15134	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	INMF	All	NC	235.8	0.000	0.007	32.2	6.1%	2.0	0.0	0.0	0.0	0	25	\$1,500.00	\$750.00	\$12.55	\$0.00	\$0.00	1.03	1.05	1	1	1	0	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, no cooling, electric resistance back-up heating	
15135	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	INMF	All	NC	176.6	0.000	0.002	30.5	1.6%	0.5	0.0	0.0	0.0	0	25	\$1,100.00	\$550.00	\$12.55	\$0.00	\$0.00	0.63	1.05	0	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with gas heating, no cooling, electric resistance back-up heating	
15136	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	INMF	All	NC	0.0	0.000	0.000	0.0	0.0%	0.0	0.0	0.0	0.0	0	25	\$0.00	\$0.00	\$12.55	\$0.00	\$0.00	#DIV/0!	1.05	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with gas heating, no cooling, electric resistance back-up heating	
15137	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	INMF	All	NC	334.9	-0.001	0.022	30.9	17.6%	5.4	0.0	0.0	0.0	0	25	\$730.00	\$365.00	\$12.55	\$0.00	\$0.00	4.79	1.05	25	25	22	9	30% air leakage reduction - homes with gas heating, room AC cooling, electric resistance back-up heating	
15138	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	INMF	All	NC	799.1	-0.001	0.070	50.6	31.5%	15.9	0.0	0.0	0.0	0	25	\$730.00	\$365.00	\$12.55	\$0.00	\$0.00	13.45	1.05	75	74	64	27	40% air leakage reduction - homes with gas heating, room AC cooling, electric resistance back-up heating	
15139	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	INMF	All	NC	275.5	0.051	0.012	30.9	7.6%	2.4	0.0	0.0	0.0	0	25	\$3,154.00	\$1,577.00	\$12.55	\$0.00	\$0.00	0.67	1.05	39	0	0	0	ENERGY STAR windows (u=0.32) - homes with gas heating, room AC cooling, electric resistance back-up heating	
15140	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	INMF	All	NC	239.8	0.022	0.007	32.2	6.1%	2.0	0.0	0.0	0.0	0	25	\$1,500.00	\$750.00	\$12.55	\$0.00	\$0.00	1.12	1.05	9	9	8	3	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, room AC cooling, electric resistance back-up heating	
15141	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	INMF	All	NC	177.9	0.000	0.002	30.5	1.6%	0.5	0.0	0.0	0.0	0	25	\$1,100.00	\$550.00	\$12.55	\$0.00	\$0.00	0.64	1.05	2	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with gas heating, room AC cooling, electric resistance back-up heating	
15142	HVAC Shell	Duct sealing	VGS	INMF	All	NC	17.6	0.000	0.001	30.9	7.4%	2.3	0.0	0.0	0.3	0	20	\$288.88	\$144.44	\$12.55	\$0.00	\$0.00	3.55	1.05	356	355	273	123	Duct sealing - homes with gas furnaces	
15143	HVAC Equipment	Gas Boiler Tier 1 (95 AFUE)	VGS	INSF	All	NC	0.0	0.000	0.000	68.2	15.0%	10.2	0.0	0.0	0.8	0	25	\$2,030.00	\$600.00	\$12.55	\$0.00	\$20.86	2.41	1.00	0	0	1,313	392	Installation of 95 AFUE boiler in homes with old non-gas boilers	
15144	HVAC Equipment	Gas Boiler Tier 1 (95 AFUE)	VGS	INSF	All																									

Appendix B.5

VGS Residential Measure Assumptions

			EEU	Home	Income	Replacement	Per Unit Eloc Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Base NG Use (MMBTu)	% NG Savings	Per unit NG Saving (MMBTu)	Per Unit Oil Savings (MMBTu)	Per Unit Propane Savings (MMBTu)	Per Unit Wood Savings (MMBTu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non- Incentive Cost \$/MMBTu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTu)	20 YR Economic Potential (MMBTu)	20 YR MAP (MMBTu)	20 YR R1P (MMBTu)		
Measure #	End-Use	Measure Name	Assignment	Type	Type	Type																								Measure Description
15165	HVAC Equipment	Gas Furnace Tier 2 (98 AFUE)	VGS	INMF	All	NC	0.0	0.000	0.000	60.0	15.3%	9.2	0.0	0.0	0.0	0	20	\$132.00	\$900.00	\$12.55	\$0.00	\$22.88	7.22	1.00	1,346	1,346	460	301	Installation of 98 AFUE furnace in homes with gas furnaces	
15166	HVAC Equipment	Combination Boiler / DHW Tier 1	VGS	INMF	All	NC	0.0	0.000	0.000	45.5	15.1%	6.9	0.0	0.0	0.0	0	20	\$419.33	\$900.00	\$12.55	\$0.00	\$0.00	3.15	1.00	0	0	77	50	Installation of 90 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers	
15167	HVAC Equipment	Combination Boiler / DHW Tier 1	VGS	INMF	All	NC	0.0	0.000	0.000	47.5	10.2%	4.8	0.0	0.0	0.0	0	20	\$1,094.33	\$900.00	\$12.55	\$0.00	\$0.00	1.83	1.00	0	0	23	13	Installation of 90 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers	
15168	HVAC Equipment	Combination Boiler / DHW Tier 2	VGS	INMF	All	NC	0.0	0.000	0.000	45.5	18.8%	8.5	0.0	0.0	0.0	0	20	\$1,332.67	\$1,100.00	\$12.55	\$0.00	\$0.00	2.64	1.00	179	179	82	44	Installation of 95 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers	
15169	HVAC Equipment	Combination Boiler / DHW Tier 2	VGS	INMF	All	NC	0.0	0.000	0.000	47.5	15.1%	7.2	0.0	0.0	0.0	0	20	\$2,007.67	\$1,100.00	\$12.55	\$0.00	\$0.00	1.47	1.00	351	351	160	66	Installation of 95 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers	
15170	HVAC Equipment	Indirect-Fired Storage Tank	VGS	INMF	All	NC	0.0	0.000	0.000	45.5	26.7%	12.1	0.0	0.0	0.0	0	25	\$2,204.67	\$700.00	\$12.55	\$0.00	\$0.00	2.67	1.00	198	198	151	46	Installation of indirect water heater to high efficiency boiler	
15171	HVAC Equipment	Indirect-Fired Storage Tank	VGS	INMF	All	NC	0.0	0.000	0.000	47.5	32.9%	15.6	0.0	0.0	0.0	0	25	\$3,534.33	\$700.00	\$12.55	\$0.00	\$0.00	2.14	1.00	109	109	83	23	Installation of indirect water heater to high efficiency boiler	
15172	HVAC Equipment	Advanced Thermostats - Gas Heating	VGS	INMF	All	NC	16.9	0.000	0.000	30.9	7.1%	2.2	0.0	0.0	0.0	0	10	\$200.00	\$150.00	\$12.55	\$0.00	\$0.00	2.44	1.00	1,435	1,435	935	502	Installation of advanced ("smart") thermostat in homes with gas primary heating	
15173	Hot Water	DHW Tank Wrap (NatGas WH)	VGS	ADSF	All	NC	0.0	0.000	0.000			0.4	0.0	0.0	0.0	0	6	\$35.00	\$17.50	\$8.42	\$0.00	\$0.00	1.18	0.90	0	0	0	0	Installation of insulation to water heater tank - gas water heating	
15174	Hot Water	DHW Pipe Wrap (NatGas WH)	VGS	ADSF	All	NC	0.0	0.000	0.000			0.1	0.0	0.0	0.0	0	15	\$18.00	\$9.00	\$8.42	\$0.00	\$0.00	1.62	0.90	121	128	83	41	Installation of insulating pipe wrap on water heater pipes - 6ft total - homes with gas water heating	
15175	Hot Water	LF Showerhead (NatGas WH)	VGS	ADSF	All	NC	0.0	0.000	0.000			0.6	0.0	0.0	0.0	0	9	\$15.00	\$15.00	\$8.42	\$0.00	\$0.00	16.43	0.90	1,655	1,748	1,080	758	Installation of low flow showerhead in homes with gas water heating	
15176	Hot Water	LF Faucet Aerator (NatGas WH)	VGS	ADSF	All	NC	0.0	0.000	0.000			0.3	0.0	0.0	0.0	0	9	\$10.00	\$10.00	\$8.42	\$0.00	\$0.00	13.38	0.90	1,299	1,371	847	595	Installation of a low flow faucet aerator (1.0 gpm) in homes with gas water heating	
15177	Hot Water	Gas Storage Water Heater - 0.67 EF	VGS	ADSF	All	NC	0.0	0.000	0.000	13.8		1.7	0.0	0.0	0.0	0	13	\$400.00	\$200.00	\$8.42	\$0.00	\$0.00	0.82	1.00	0	0	0	0	Installation of high efficiency gas storage tank water heater (EF 0.67) in homes with gas water heating	
15178	Hot Water	Condensing Gas Storage Water Heater - 0.80 EF	VGS	ADSF	All	NC	0.0	0.000	0.000	13.8		4.0	0.0	0.0	0.0	0	13	\$685.00	\$200.00	\$8.42	\$0.00	\$0.00	1.14	1.00	3,955	3,955	2,876	1,233	Installation of high efficiency condensing gas storage tank water heater (EF 0.80) in homes with gas water heating	
15179	Hot Water	Tankless whole-house water heater - 0.82 EF	VGS	ADSF	All	NC	0.0	0.000	0.000	13.8		3.2	0.0	0.0	0.0	0	13	\$605.00	\$300.00	\$8.42	\$0.00	\$0.00	1.03	1.00	0	3,164	2,301	1,130	Installation of high efficiency tankless water heater (EF 0.82) in homes with gas water heating	
15180	Hot Water	Tankless whole-house water heater - 0.90 EF	VGS	ADSF	All	NC	0.0	0.000	0.000	13.8		4.3	0.0	0.0	0.0	0	13	\$1,050.00	\$500.00	\$8.42	\$0.00	\$0.00	0.80	1.00	3,820	0	0	0	Installation of high efficiency tankless water heater (EF 0.90) in homes with gas water heating	
15181	Hot Water	Thermostatic Shower Restriction Valve (NatGas WH)	VGS	ADSF	All	NC	0.0	0.000	0.000			0.2	0.0	0.0	0.0	0	7	\$12.00	\$6.00	\$8.42	\$0.00	\$0.00	5.78	1.00	607	641	447	221	Installation of a thermostatically initiated shower restriction valve, in conjunction with a low flow showerhead - homes with gas water heating	
15182	Hot Water	DHW Tank Wrap (NatGas WH)	VGS	ADMF	All	NC	0.0	0.000	0.000			0.4	0.0	0.0	0.0	0	6	\$35.00	\$17.50	\$8.42	\$0.00	\$0.00	1.18	0.90	0	0	0	0	Installation of insulation to water heater tank - gas water heating	
15183	Hot Water	DHW Pipe Wrap (NatGas WH)	VGS	ADMF	All	NC	0.0	0.000	0.000			0.1	0.0	0.0	0.0	0	15	\$18.00	\$9.00	\$8.42	\$0.00	\$0.00	1.62	0.90	34	36	23	11	Installation of insulating pipe wrap on water heater pipes - 6ft total - homes with gas water heating	
15184	Hot Water	LF Showerhead (NatGas WH)	VGS	ADMF	All	NC	0.0	0.000	0.000			0.7	0.0	0.0	0.0	0	9	\$15.00	\$15.00	\$8.42	\$0.00	\$0.00	19.10	0.90	286	302	187	131	Installation of low flow showerhead in homes with gas water heating	
15185	Hot Water	LF Faucet Aerator (NatGas WH)	VGS	ADMF	All	NC	0.0	0.000	0.000			0.3	0.0	0.0	0.0	0	9	\$10.00	\$10.00	\$8.42	\$0.00	\$0.00	13.38	0.90	222	234	145	101	Installation of a low flow faucet aerator (1.0 gpm) in homes with gas water heating	
15186	Hot Water	DHW Water Recirculation Pipe Insulation (NatGas WH)	VGS	ADMF	All	NC	0.0	0.000	0.000			0.3	0.0	0.0	0.0	0	20	\$6.00	\$3.00	\$8.42	\$0.00	\$0.00	12.29	1.00	110	116	78	35	Installation of insulation on hot water recirculation pipe that is continuously circulating - 2 inches of insulation instead of a baseline level of 0.5 inch	
15187	Hot Water	Boiler Hot Water Distribution Pipe Insuation (NatGas WH)	VGS	ADMF	All	NC	0.0	0.000	0.000			0.2	0.0	0.0	0.0	0	20	\$6.00	\$3.00	\$8.42	\$0.00	\$0.00	8.88	1.00	79	84	56	25	Boiler hot water recirculation pipe that is continuously circulating during the heating season is insulated with 2 inches of insulation, 6ft of insulation	
15188	Hot Water	Gas Storage Water Heater - 0.67 EF	VGS	ADMF	All	NC	0.0	0.000	0.000	13.8		1.7	0.0	0.0	0.0	0	13	\$400.00	\$200.00	\$8.42	\$0.00	\$0.00	0.82	1.00	0	0	0	0	Installation of high efficiency gas storage tank water heater (EF 0.67) in homes with gas water heating	
15189	Hot Water	Condensing Gas Storage Water Heater - 0.80 EF	VGS	ADMF	All	NC	0.0	0.000	0.000	13.8		4.0	0.0	0.0	0.0	0	13	\$685.00	\$200.00	\$8.42	\$0.00	\$0.00	1.14	1.00	1,181	1,181	859	368	Installation of high efficiency condensing gas storage tank water heater (EF 0.80) in homes with gas water heating	
15190	Hot Water	Tankless whole-house water heater - 0.82 EF	VGS	ADMF	All	NC	0.0	0.000	0.000	13.8		3.2	0.0	0.0	0.0	0	13	\$605.00	\$300.00	\$8.42	\$0.00	\$0.00	1.03	1.00	0	945	687	337	Installation of high efficiency tankless water heater (EF 0.82) in homes with gas water heating	
15191	Hot Water	Tankless whole-house water heater - 0.90 EF	VGS	ADMF	All	NC	0.0	0.000	0.000	13.8		4.3	0.0	0.0	0.0	0	13	\$1,050.00	\$500.00	\$8.42	\$0.00	\$0.00	0.80	1.00	1,141	0	0	0	Installation of high efficiency tankless water heater (EF 0.90) in homes with gas water heating	
15192	HVAC Shell	Thermostatic Shower Restriction Valve (NatGas WH)	VGS	ADMF	All	NC	0.0	0.000	0.000			0.2	0.0	0.0	0.0	0	7	\$12.00	\$6.00	\$12.55	\$0.00	\$0.00	5.78	1.00	100	99	74	36	Installation of a thermostatically initiated shower restriction valve, in conjunction with a low flow showerhead - homes with gas water heating	
15193	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	ADSF	All	NC	100.1	0.000	0.060	70.8	17.7%	12.5	0.0	0.0	0.0	0	25	\$1,549.06	\$774.53	\$12.55	\$0.00	\$0.00	4.34	1.00	795	793	648	259	30% air leakage reduction - homes with gas heating, no cooling, wood stove back-up heating	
15194	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	ADSF	All	NC	268.6	0.000	0.165	112.8	29.8%	33.7	0.0	0.0	0.0	0	25	\$1,549.06	\$774.53	\$12.55	\$0.00	\$0.00	11.65	1.00	2,172	2,166	1,772	708	40% air leakage reduction - homes with gas heating, no cooling, wood stove back-up heating	
15195	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	ADSF	All	NC	25.5	0.000	0.017	70.8	4.5%	3.2	0.0	0.0	0.0	0	25	\$6,726.00	\$3,363.00	\$12.55	\$0.00	\$0.00	0.26	1.00	2,914	0	0	0	ENERGY STAR windows (u=0.32)- homes with gas heating, no cooling, wood stove back-up heating	
15196	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	ADSF	All	NC	50.5	0.000	0.025	75.0	8.4%	6.3	0.0	0.0	0.0	0	25	\$1,554.00	\$777.00	\$12.55	\$0.00	\$0.00	2.17	1.00	3,289	3,281	2,683	1,072	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, no cooling, wood stove back-up heating	
15197	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	ADSF	All	NC	9.9	0.000	0.006	69.5	1.8%	1.2	0.0	0.0	0.0	1,227	25	\$1,139.60	\$569.80	\$12.55	\$0.00	\$0.00	0.58	1.00	483	0	0	0	R60 ceiling insulation (R-37 baseline)- homes with gas heating, no cooling, wood stove back-up heating	
15198	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	ADSF	All	NC	18.9	0.000	0.009	70.8	3.3%	2.4	0.0	0.0	0.0	726	25	\$907.20	\$453.60	\$12.55	\$0.00	\$0.00	1.40	1.00	1,828	1,823	1,491	596	R30 floor insulation (R6 or less baseline) - homes with gas heating, no cooling, wood stove back-up heating	
15199	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	VGS	ADSF	All	NC	35.9	0.000	0.020	74.4	6.0%	4.5	0.0	0.0	0.0	0	25	\$1,305.60	\$652.80	\$12.55	\$0.00	\$0.00	1.83	1.00	2,409	2,403	1,965	785	R15 basement wall insulation - homes with gas heating, no cooling, wood stove back-up heating	
15200	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	ADSF	All	NC	77.3	0.015	0.060	70.8	17.7%	12.5	0.0	0.0	0.0	0	25	\$1,549.06	\$774.53	\$12.55	\$0.00	\$0.00	4.35	1.00	211	211	172	69	30% air leakage reduction - homes with gas heating, room AC cooling, wood stove back-up heating	
15201	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	ADSF	All	NC	260.6	0.077	0.165	112.8	29.8%	33.7	0.0	0.0	0.0	0	25	\$1,549.06	\$774.53	\$12.55	\$0.00	\$0.00	11.89	1.00	577	576	471	188	40% air leakage reduction - homes with gas heating, room AC cooling, wood stove back-up heating	
15202	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	ADSF	All	NC	117.5	0.131	0.017	70.8	4.5%	3.2	0.0	0.0	0.0	0	25	\$6,726.00	\$3,363.00	\$12.55	\$0.00	\$0.00	0.39	1.00	775	0	0	0	ENERGY STAR windows (u=0.32) - homes with gas heating, room AC cooling, wood stove back-up heating	
15203	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	ADSF	All	NC	126.2	0.107	0.025	75.0	8.4%	6.3	0.0	0.0	0.0	426	25	\$1,554.00	\$777.00	\$12.55	\$0.00	\$0.00	2.64	1.00	874	872	713	285	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, room AC cooling, wood stove back-up heating	
15204	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	ADSF	All	NC	26.8	0.019	0.006	69.5	1.8%	1.2	0.0	0.0	0.0	0	25	\$1,139.60	\$569.80	\$12.55	\$0.00	\$0.00	0.70	1.00	128	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with gas heating, room AC cooling, wood stove back-up heating	
15205	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	ADSF	All	NC	-117.0	-0.117	0.009	70.8	3.3%	2.4	0.0	0.0	0.0	0	25	\$907.20	\$453.60	\$12.55	\$0.00	\$0.00	0.68	1.00	486	0	0	0	R30 floor insulation (R6 or less baseline) - homes with gas heating, room AC cooling, wood stove back-up heating	
15206	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	VGS	ADSF	All	NC	-31.3	-0.063	0.020	74.4	6.0%	4.5	0.0	0.0	0.0	1,429	25	\$1,305.60	\$652.80	\$12.55	\$0.00	\$0.00	1.36	1.00	640	639	522	209	R15 basement wall insulation - homes with gas heating, room AC cooling, wood stove back-up heating	
15207	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	ADSF	All	NC	876.9	0.000	0.060	70.8	17.7%	12.5	0.0	0.0	0.0	726	25	\$1,549.06	\$774.53	\$12.55	\$0.00	\$0.00	5.38	1.00	251	250	205			

Appendix B.5		VGS Residential Measure Assumptions																											
Measure #	End-Use	Measure Name	EEU Assignment	Home Type	Income Type	Replacement Type	Per Unit Elec Savings (kWh)	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Base NG Use (MMBtu)	% NG Savings	Per unit NG Saving (MMBtu)	Per Unit Oil Savings (MMBtu)	Per Unit Propane Savings (MMBtu)	Per Unit Wood Savings (MMBtu)	Per Unit Water Savings (Gallons)	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBtu)	20 YR Economic Potential (MMBtu)	20 YR MAP (MMBtu)	20 YR RAP (MMBtu)	Measure Description
15219	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	ADSF	All	NC	347.3	-0.117	0.025	70.8	3.3%	2.4	0.0	0.0	0.2	0	25	\$907.20	\$453.60	\$12.55	\$0.00	\$0.00	1.62	1.00	153	153	125	50	R30 floor insulation (R6 or less baseline) - homes with gas heating, room AC cooling, electric resistance back-up heating
15220	HVAC Shell	Basement Wall Insulation (R-0 to R-15)	VGS	ADSF	All	NC	580.7	-0.063	0.020	74.4	6.0%	4.5	0.0	0.0	0.3	0	25	\$1,305.60	\$652.80	\$12.55	\$0.00	\$0.00	2.56	1.00	202	202	165	66	R15 basement wall insulation - homes with gas heating, room AC cooling, electric resistance back-up heating
15221	HVAC Shell	Duct sealing	VGS	ADSF	All	NC	18.2	0.000	0.060	70.8	3.2%	2.3	0.0	0.0	0.6	0	20	\$288.88	\$144.44	\$12.55	\$0.00	\$0.00	3.68	1.00	1,201	1,198	859	374	Duct sealing - homes with gas furnaces
15222	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	ADMF	All	NC	41.8	0.000	0.022	30.9	17.6%	5.4	0.0	0.0	1.8	0	25	\$730.00	\$365.00	\$12.55	\$0.00	\$0.00	3.97	1.05	0	0	0	0	30% air leakage reduction - homes with gas heating, no cooling, wood stove back-up heating
15223	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	ADMF	All	NC	122.7	0.000	0.070	50.6	31.5%	15.9	0.0	0.0	4.8	0	25	\$730.00	\$365.00	\$12.55	\$0.00	\$0.00	11.67	1.05	0	0	0	0	40% air leakage reduction - homes with gas heating, no cooling, wood stove back-up heating
15224	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	ADMF	All	NC	18.2	0.000	0.012	30.9	7.6%	2.4	0.0	0.0	0.5	0	25	\$3,154.00	\$1,577.00	\$12.55	\$0.00	\$0.00	0.40	1.05	0	0	0	0	ENERGY STAR windows (u=0.32)- homes with gas heating, no cooling, wood stove back-up heating
15225	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	ADMF	All	NC	15.1	0.000	0.007	32.2	6.1%	2.0	0.0	0.0	0.9	0	25	\$1,500.00	\$750.00	\$12.55	\$0.00	\$0.00	0.70	1.05	0	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, no cooling, wood stove back-up heating
15226	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	ADMF	All	NC	3.9	0.000	0.002	30.5	1.6%	0.5	0.0	0.0	0.2	0	25	\$1,100.00	\$550.00	\$12.55	\$0.00	\$0.00	0.24	1.05	0	0	0	0	R60 ceiling insulation (R-37 baseline)- homes with gas heating, no cooling, wood stove back-up heating
15227	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	ADMF	All	NC	15.6	-0.001	0.022	30.9	17.6%	5.4	0.0	0.0	0.3	0	25	\$730.00	\$365.00	\$12.55	\$0.00	\$0.00	3.88	1.05	666	665	571	228	30% air leakage reduction - homes with gas heating, room AC cooling, wood stove back-up heating
15228	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	ADMF	All	NC	70.1	-0.001	0.070	50.6	31.5%	15.9	0.0	0.0	0.6	0	25	\$730.00	\$365.00	\$12.55	\$0.00	\$0.00	11.49	1.05	1,956	1,951	1,675	669	40% air leakage reduction - homes with gas heating, room AC cooling, wood stove back-up heating
15229	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	ADMF	All	NC	46.9	0.051	0.012	30.9	7.6%	2.4	0.0	0.0	0.0	0	25	\$3,154.00	\$1,577.00	\$12.55	\$0.00	\$0.00	0.50	1.05	1,033	0	0	0	ENERGY STAR windows (u=0.32) - homes with gas heating, room AC cooling, wood stove back-up heating
15230	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	ADMF	All	NC	19.1	0.022	0.007	32.2	6.1%	2.0	0.0	0.0	0.0	0	25	\$1,500.00	\$750.00	\$12.55	\$0.00	\$0.00	0.78	1.05	241	0	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, room AC cooling, wood stove back-up heating
15231	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	ADMF	All	NC	5.1	0.000	0.002	30.5	1.6%	0.5	0.0	0.0	0.0	0	25	\$1,100.00	\$550.00	\$12.55	\$0.00	\$0.00	0.25	1.05	62	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with gas heating, room AC cooling, wood stove back-up heating
15232	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	ADMF	All	NC	361.1	0.000	0.022	30.9	17.6%	5.4	0.0	0.0	0.0	0	25	\$730.00	\$365.00	\$12.55	\$0.00	\$0.00	4.87	1.05	2	2	1	1	30% air leakage reduction - homes with gas heating, no cooling, electric resistance back-up heating
15233	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	ADMF	All	NC	851.7	0.000	0.070	50.6	31.5%	15.9	0.0	0.0	0.0	0	25	\$730.00	\$365.00	\$12.55	\$0.00	\$0.00	13.59	1.05	5	5	4	2	40% air leakage reduction - homes with gas heating, no cooling, electric resistance back-up heating
15234	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	ADMF	All	NC	246.8	0.000	0.012	30.9	7.6%	2.4	0.0	0.0	0.0	0	25	\$3,154.00	\$1,577.00	\$12.55	\$0.00	\$0.00	0.56	1.05	2	0	0	0	ENERGY STAR windows (u=0.32) - homes with gas heating, no cooling, electric resistance back-up heating
15235	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	ADMF	All	NC	235.8	0.000	0.007	32.2	6.1%	2.0	0.0	0.0	0.0	0	25	\$1,500.00	\$750.00	\$12.55	\$0.00	\$0.00	1.03	1.05	1	1	0	0	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, no cooling, electric resistance back-up heating
15236	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	ADMF	All	NC	176.6	0.000	0.002	30.5	1.6%	0.5	0.0	0.0	0.0	0	25	\$1,100.00	\$550.00	\$12.55	\$0.00	\$0.00	0.63	1.05	0	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with gas heating, no cooling, electric resistance back-up heating
15237	HVAC Shell	Floor Insulation (R-6 to R-30)	VGS	ADMF	All	NC	0.0	0.000	0.000	0.0	0.0%	0.0	0.0	0.0	0.0	0	25	\$0.00	\$0.00	\$12.55	\$0.00	\$0.00	#DIV/0!	1.05	0	0	0	0	R30 floor insulation (R6 or less baseline) - homes with gas heating, no cooling, electric resistance back-up heating
15238	HVAC Shell	Air sealing Tier 1 (10 ACH50 to 7 ACH50)	VGS	ADMF	All	NC	334.9	-0.001	0.022	30.9	17.6%	5.4	0.0	0.0	0.0	0	25	\$730.00	\$365.00	\$12.55	\$0.00	\$0.00	4.79	1.05	21	21	18	7	30% air leakage reduction - homes with gas heating, room AC cooling, electric resistance back-up heating
15239	HVAC Shell	Air sealing Tier 2 (20 ACH50 to 12 ACH50)	VGS	ADMF	All	NC	799.1	-0.001	0.070	50.6	31.5%	15.9	0.0	0.0	0.0	0	25	\$730.00	\$365.00	\$12.55	\$0.00	\$0.00	13.45	1.05	60	60	52	21	40% air leakage reduction - homes with gas heating, room AC cooling, electric resistance back-up heating
15240	HVAC Shell	ENERGY STAR Windows (U=0.32, SHGC=0.4)	VGS	ADMF	All	NC	275.5	0.051	0.012	30.9	7.6%	2.4	0.0	0.0	0.0	0	25	\$3,154.00	\$1,577.00	\$12.55	\$0.00	\$0.00	0.67	1.05	32	0	0	0	ENERGY STAR windows (u=0.32) - homes with gas heating, room AC cooling, electric resistance back-up heating
15241	HVAC Shell	Ceiling Insulation (R-16 to R-49)	VGS	ADMF	All	NC	239.8	0.022	0.007	32.2	6.1%	2.0	0.0	0.0	0.0	0	25	\$1,500.00	\$750.00	\$12.55	\$0.00	\$0.00	1.12	1.05	7	7	6	3	R49 ceiling insulation (R-16 or less baseline) - homes with gas heating, room AC cooling, electric resistance back-up heating
15242	HVAC Shell	Ceiling Insulation (R-37 to R-60)	VGS	ADMF	All	NC	177.9	0.000	0.002	30.5	1.6%	0.5	0.0	0.0	0.0	0	25	\$1,100.00	\$550.00	\$12.55	\$0.00	\$0.00	0.64	1.05	2	0	0	0	R60 ceiling insulation (R-37 baseline) - homes with gas heating, room AC cooling, electric resistance back-up heating
15243	HVAC Shell	Duct sealing	VGS	ADMF	All	NC	17.6	0.000	0.001	30.9	7.4%	2.3	0.0	0.0	0.3	0	20	\$288.88	\$144.44	\$12.55	\$0.00	\$0.00	3.55	1.05	375	375	261	102	Duct sealing - homes with gas furnaces
15244	HVAC Equipment	Gas Boiler Tier 1 (95 AFUE)	VGS	ADSF	All	NC	0.0	0.000	0.000	68.2	15.0%	10.2	0.0	0.0	0.8	0	25	\$2,030.00	\$600.00	\$12.55	\$0.00	\$20.86	2.41	1.00	0	0	1,065	304	Installation of 95 AFUE boiler in homes with old non-gas boilers
15245	HVAC Equipment	Gas Boiler Tier 1 (95 AFUE)	VGS	ADSF	All	NC	0.0	0.000	0.000	71.2	21.6%	15.4	0.0	0.0	2.3	0	25	\$5,097.00	\$600.00	\$12.55	\$0.00	\$20.86	1.46	1.00	0	0	3,754	902	Installation of 95 AFUE boiler in homes with newer non-gas boilers
15246	HVAC Equipment	Gas Boiler Tier 2 (98 AFUE)	VGS	ADSF	All	NC	0.0	0.000	0.000	68.2	19.7%	13.5	0.0	0.0	0.3	0	25	\$2,417.00	\$800.00	\$12.55	\$0.00	\$20.86	2.68	1.00	8,571	8,571	3,280	968	Installation of 98 AFUE boiler in homes with gas boilers
15247	HVAC Equipment	Gas Boiler Tier 2 (98 AFUE)	VGS	ADSF	All	NC	0.0	0.000	0.000	71.2	26.2%	18.7	0.0	0.0	0.3	0	25	\$5,484.00	\$800.00	\$12.55	\$0.00	\$20.86	1.65	1.00	5,094	5,094	1,949	481	Installation of 98 AFUE boiler in homes with gas boilers
15248	HVAC Equipment	Gas Furnace Tier 1 (95 AFUE)	VGS	ADSF	All	NC	0.0	0.000	0.000	84.9	7.4%	6.3	0.0	0.0	0.1	0	20	\$742.00	\$400.00	\$12.55	\$0.00	\$22.88	3.37	1.00	0	0	439	172	Installation of 95 AFUE furnace in homes with gas furnaces
15249	HVAC Equipment	Gas Furnace Tier 1 (95 AFUE)	VGS	ADSF	All	NC	0.0	0.000	0.000	90.1	12.6%	11.4	0.0	0.0	0.8	0	20	\$1,161.00	\$400.00	\$12.55	\$0.00	\$22.88	3.96	1.00	0	0	1,861	606	Installation of 95 AFUE furnace in homes with gas furnaces
15250	HVAC Equipment	Gas Furnace Tier 2 (98 AFUE)	VGS	ADSF	All	NC	0.0	0.000	0.000	84.9	10.2%	8.7	0.0	0.0	2.3	0	20	\$851.50	\$500.00	\$12.55	\$0.00	\$22.88	4.08	1.00	4,227	4,227	1,418	584	Installation of 98 AFUE furnace in homes with gas furnaces
15251	HVAC Equipment	Gas Furnace Tier 2 (98 AFUE)	VGS	ADSF	All	NC	0.0	0.000	0.000	90.1	15.3%	13.8	0.0	0.0	0.3	0	20	\$1,270.50	\$500.00	\$12.55	\$0.00	\$22.88	4.39	1.00	2,881	2,881	967	330	Installation of 98 AFUE furnace in homes with gas furnaces
15252	HVAC Equipment	Combination Boiler / DHW Tier 1	VGS	ADSF	All	NC	0.0	0.000	0.000	68.2	15.1%	10.3	0.0	0.0	0.3	0	20	\$629.00	\$900.00	\$12.55	\$0.00	\$0.00	4.72	1.00	0	0	118	74	Installation of 90 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers
15253	HVAC Equipment	Combination Boiler / DHW Tier 1	VGS	ADSF	All	NC	0.0	0.000	0.000	71.2	10.2%	7.3	0.0	0.0	0.1	0	20	\$2,714.00	\$900.00	\$12.55	\$0.00	\$0.00	1.11	1.00	0	0	194	62	Installation of 90 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers
15254	HVAC Equipment	Combination Boiler / DHW Tier 2	VGS	ADSF	All	NC	0.0	0.000	0.000	68.2	18.8%	12.8	0.0	0.0	0.0	0	20	\$1,999.00	\$1,100.00	\$12.55	\$0.00	\$0.00	2.64	1.00	1,528	1,528	683	271	Installation of 95 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers
15255	HVAC Equipment	Combination Boiler / DHW Tier 2	VGS	ADSF	All	NC	0.0	0.000	0.000	71.2	15.1%	10.8	0.0	0.0	0.0	0	20	\$4,084.00	\$1,100.00	\$12.55	\$0.00	\$0.00	1.09	1.00	550	550	246	75	Installation of 95 AFUE condensing boiler w/ on-demand HW heater in homes with gas boilers
15256	HVAC Equipment	Indirect-Fired Storage Tank	VGS	ADSF	All	NC	0.0	0.000	0.000	68.2	26.7%	18.2	0.0	0.0	0.0	0	25	\$3,307.00	\$700.00	\$12.55	\$0.00	\$0.00	2.67	1.00	310	310	238	62	Installation of indirect water heater to high efficiency boiler
15257	HVAC Equipment	Indirect-Fired Storage Tank	VGS	ADSF	All	NC	0.0	0.000	0.000	71.2	32.9%	23.4	0.0	0.0	0.0	0	25	\$6,374.00	\$700.00	\$12.55	\$0.00	\$0.00	1.78	1.00	931	931	713	170	Installation of indirect water heater to high efficiency boiler
15258	HVAC Equipment	Advanced Thermostats - Gas Heating	VGS	ADSF	All	NC	40.2	0.000	0.000	70.8	7.1%	5.0	0.0	0.0	0.0	0	10	\$200.00	\$150.00	\$12.55	\$0.00	\$0.00	5.61	1.00	8,926	8,926	5,702	3,062	ENERGY STAR room air conditioner to replace standard efficiency unit
15259	HVAC Equipment	Gas Boiler Tier 1 (95 AFUE)	VGS	ADMF	All	NC	0.0	0.000	0.000	45.5	15.0%	6.8	0.0	0.0	0.0	0	25	\$1,353.33	\$600.00	\$12.55	\$0.00	\$20.86	2.40	1.00	0	0	551	181	Installation of 95 AFUE boiler in homes with gas boilers
15260	HVAC Equipment	Gas Boiler Tier 1 (95 AFUE)	VGS	ADMF	All	NC	0.0	0.000	0.000	47.5	21.6%	10.3	0.0	0.0	0.0	0	25	\$2,683.00	\$600.00	\$12.55	\$0.00	\$20.86	1.84	1.00	0	0	357	95	Installation of 95 AFUE boiler in homes with gas boilers
15261	HVAC Equipment	Gas Boiler Tier 2 (98 AFUE)	VGS	ADMF	All	NC																							



Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Cooking	Broiler	Assembly	Discretionary	0.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$26.09	\$13.04	6.9	\$0.00	\$0.00	6.08	1.00	79.2	79.2	Infrared Cooking Broiler (37% Cooking Efficiency)
Cooking	Broiler	Assembly	Lost Opportunity	0.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$26.09	\$13.04	10.9	\$0.00	\$0.00	6.08	1.00	27.9	27.9	Infrared Cooking Broiler (37% Cooking Efficiency)
Cooking	Combination Oven	Assembly	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	22.5	0.0	ENERGY STAR Combination Oven
Cooking	Combination Oven	Assembly	Lost Opportunity	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	8.0	0.0	ENERGY STAR Combination Oven
Cooking	Convection Oven	Assembly	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$2.22	\$1.11	6.9	\$0.00	\$0.00	14.42	1.00	16.0	16.0	ENERGY STAR Convection Oven
Cooking	Convection Oven	Assembly	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$2.22	\$1.11	10.9	\$0.00	\$0.00	14.42	1.00	5.6	5.6	ENERGY STAR Convection Oven
Cooking	Conveyor Oven	Assembly	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$26.90	\$13.45	6.9	\$0.00	\$0.00	2.95	1.00	28.6	28.6	High Efficiency Conveyor Oven (42% Cooking Efficiency)
Cooking	Conveyor Oven	Assembly	Lost Opportunity	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$26.90	\$13.45	10.9	\$0.00	\$0.00	2.95	1.00	10.1	10.1	High Efficiency Conveyor Oven (42% Cooking Efficiency)
Cooking	Fryers	Assembly	Discretionary	0.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$24.20	\$12.10	6.9	\$0.00	\$0.00	4.83	1.00	45.4	45.4	ENERGY STAR Fryer
Cooking	Fryers	Assembly	Lost Opportunity	0.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$24.20	\$12.10	10.9	\$0.00	\$0.00	4.83	1.00	16.0	16.0	ENERGY STAR Fryer
Cooking	Griddle	Assembly	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$16.30	\$8.15	6.9	\$0.00	\$0.00	1.99	1.00	9.9	9.9	ENERGY STAR Griddle
Cooking	Griddle	Assembly	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$16.30	\$8.15	10.9	\$0.00	\$0.00	1.99	1.00	3.5	3.5	ENERGY STAR Griddle
Cooking	Rack Oven	Assembly	Discretionary	0.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	35.3	0.0	ENERGY STAR Rack Oven
Cooking	Rack Oven	Assembly	Lost Opportunity	0.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	12.4	0.0	ENERGY STAR Rack Oven
Cooking	Steam Cooker	Assembly	Discretionary	0.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$14.80	\$7.40	6.9	\$0.00	\$0.00	8.80	1.00	54.2	54.2	ENERGY STAR Steam Cooker
Cooking	Steam Cooker	Assembly	Lost Opportunity	0.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$14.80	\$7.40	10.9	\$0.00	\$0.00	8.80	1.00	19.1	19.1	ENERGY STAR Steam Cooker
Room Heat - Gas	Exhaust Air to Ventilation Air Heat Recovery	Assembly	Discretionary	27.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$45,856.90	\$22,928.45	6.9	\$0.00	\$0.00	0.17	1.00	0.0	0.0	Exhaust Air to Ventilation Air Heat Recovery
Room Heat - Gas	Infiltration Reduction	Assembly	Discretionary	18.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$187.97	\$93.99	6.9	\$0.00	\$0.00	19.72	1.00	0.0	0.0	Install Caulking And Weatherstripping (ACH 0.65)
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Assembly	Discretionary	8.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,041.40	\$520.70	6.9	\$0.00	\$0.00	4.99	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Assembly	Lost Opportunity	8.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,041.40	\$520.70	10.9	\$0.00	\$0.00	4.99	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Code	Assembly	Discretionary	28.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$4,751.86	\$2,375.93	6.9	\$0.00	\$0.00	3.48	1.00	0.0	0.0	R-30 c.i. (CBES 2015 Code)
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Assembly	Discretionary	13.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,851.38	\$925.69	6.9	\$0.00	\$0.00	4.14	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Assembly	Lost Opportunity	13.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,851.38	\$925.69	10.9	\$0.00	\$0.00	4.14	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Code	Assembly	Discretionary	22.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$5,307.28	\$2,653.64	6.9	\$0.00	\$0.00	2.51	1.00	0.0	0.0	R-30 (CBES 2015 Code)
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Assembly	Discretionary	15.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,526.71	\$763.35	6.9	\$0.00	\$0.00	5.81	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Assembly	Lost Opportunity	15.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,526.71	\$763.35	10.9	\$0.00	\$0.00	5.81	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Code	Assembly	Discretionary	20.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$10,476.35	\$5,238.18	6.9	\$0.00	\$0.00	1.16	1.00	0.0	0.0	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Gas	Radiant Heater - High Efficiency	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	2.0	\$0.00	\$0.00	31.65	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Radiant Heater - High Efficiency	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	10.9	\$0.00	\$0.00	31.65	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Windows - CBES 2015 - Above Code	Assembly	Discretionary	0.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,111.56	\$555.78	6.9	\$0.00	\$0.00	0.19	1.00	0.0	0.0	U-0.29
Room Heat - Gas	Windows - CBES 2015 - Above Code	Assembly	Lost Opportunity	0.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,111.56	\$555.78	10.9	\$0.00	\$0.00	0.19	1.00	0.0	0.0	U-0.29
Room Heat - Gas	Windows - CBES 2015 - Code	Assembly	Discretionary	1.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$7,340.35	\$3,670.17	6.9	\$0.00	\$0.00	0.07	1.00	0.0	0.0	U-0.36 (CBES 2015 Code)
Space Heat - Gas Boiler	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Assembly	Discretionary	32.1	4.9	0.000	0.000	0.0	0.0	0.0	0.0	15	\$2,608.50	\$1,304.25	6.9	\$0.00	\$0.00	3.79	1.00	94.7	94.7	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Gas Boiler	Boiler - Economizer	Assembly	Discretionary	23.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$891.38	\$445.69	6.9	\$0.00	\$0.00	8.17	1.00	1,213.5	1,213.5	Economizer
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Assembly	Discretionary	1.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$269.76	\$134.88	6.9	\$0.00	\$0.00	2.62	1.00	34.0	34.0	3.5" of Insulation, assuming R-13
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Assembly	Lost Opportunity	1.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$269.76	\$134.88	10.9	\$0.00	\$0.00	2.62	1.00	24.4	24.4	3.5" of Insulation, assuming R-13
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Code	Assembly	Discretionary	1.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$516.54	\$258.27	6.9	\$0.00	\$0.00	1.15	1.00	10.0	10.0	2.5" of Insulation, assuming R-9.0
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Advanced Efficiency	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.55	\$0.27	2.0	\$0.00	\$0.00	3.61	1.00	1,400.4	1,446.1	Advanced Efficiency - AFUE 96%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Advanced Efficiency	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.55	\$0.27	10.9	\$0.00	\$0.00	3.61	1.00	961.7	1,119.9	Advanced Efficiency - AFUE 96%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.31	\$0.16	2.0	\$0.00	\$0.00	3.85	1.00	0.0	0.0	ENERGY STAR - AFUE 90%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.31	\$0.16	10.9	\$0.00	\$0.00	3.85	1.00	0.0	0.0	ENERGY STAR - AFUE 90%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR 2016 Most Efficient	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.51	\$0.25	2.0	\$0.00	\$0.00	3.65	1.00	0.0	0.0	ENERGY STAR 2016 Most Efficient Boiler - 95% AFUE
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR 2016 Most Efficient	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.51	\$0.25	10.9	\$0.00	\$0.00	3.65	1.00	0.0	0.0	ENERGY STAR 2016 Most Efficient Boiler - 95% AFUE
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Federal Standard 2022	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.08	\$0.04	2.0	\$0.00	\$0.00	4.12	1.00	0.0	0.0	Federal Standard 2022 Boiler - AFUE 84%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Federal Standard 2022	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.08	\$0.04	10.9	\$0.00	\$0.00	4.12	1.00	0.0	0.0	Federal Standard 2022 Boiler - AFUE 84%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Premium Efficiency	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.47	\$0.23	2.0	\$0.00	\$0.00	3.68	1.00	0.0	0.0	Premium Efficiency - AFUE 94%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Premium Efficiency	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.47	\$0.23	10.9	\$0.00	\$0.00	3.68	1.00	0.0	0.0	Premium Efficiency - AFUE 94%
Space Heat - Gas Boiler	Boiler Controls	Assembly	Discretionary	18.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$1,721.61	\$860.81	6.9	\$0.00	\$0.00	3.25	1.00	719.1	719.1	Boiler Reset Controls
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Assembly	Discretionary	8.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$34,001.80	\$17,000.90	6.9	\$0.00	\$0.00	0.08	1.00	207.1	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Assembly	Lost Opportunity	8.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$34,001.80	\$17,000.90	10.9	\$0.00	\$0.00	0.08	1.00	97.7	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)
Space Heat - Gas Boiler	Commissioning	Assembly	Lost Opportunity	47.3	6.2	0.000	0.000	0.0	0.0	0.0	0.0	5	\$12,103.44	\$6,051.72	10.9	\$0.00	\$0.00	0.39	1.00	968.2	0.0	Commissioning
Space Heat - Gas Boiler	Convert Constant Volume Air System to VAV	Assembly	Discretionary	95.7	12.4	0.000	0.000	0.0	0.0	0.0	0.0	15	\$57,068.02	\$28,534.01	6.9	\$0.00	\$0.00	0.52	1.00	418.4	0.0	Variable Volume Air System
Space Heat - Gas Boiler	Direct Digital Control System-Installation	Assembly	Discretionary	54.6	7.1	0.000	0.000	0.0	0.0	0.0	0.0	5	\$3,260.63	\$1,630.31	6.9	\$0.00	\$0.00	1.67	1.00	1,746.8	1,746.8	Installation of EMS System
Space Heat - Gas Boiler	Direct Digital Control System-Installation	Assembly	Lost Opportunity	54.6	7.1	0.000	0.000	0.0	0.0	0.0	0.0	5	\$3,260.63	\$1,630.31	10.9	\$0.00	\$0.00	1.67	1.00	74.2	74.2	Installation of EMS System
Space Heat - Gas Boiler	Exhaust Air to Ventilation Air Heat Recovery	Assembly	Discretionary	54.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$45,856.90	\$22,928.45	6.9	\$0.00	\$0.00	0.34	1.00	184.6	0.0	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Gas Boiler	Indirect Information Feedback	Assembly	Discretionary	1.9	0.2	0.000	0.000	0.0	0.0	0.0	0.0	2	\$1,891.86	\$945.93	6.9	\$0.00	\$0.00	0.04	1.00	54.5	0.0	Indirect Information Feedback
Space Heat - Gas Boiler	Indirect Information																					

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Space Heat - Gas Boiler	Re-Commissioning	Assembly	Discretionary	47.3	6.2	0.000	0.000	0.0	0.0	0.0	0.0	5	\$3,130.20	\$1,565.10	6.9	\$0.00	\$0.00	1.51	1.00	2,342.1	2,342.1	Re-Commissioning
Space Heat - Gas Boiler	Retrocommissioning	Assembly	Discretionary	54.0	7.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$5,217.00	\$2,608.50	6.9	\$0.00	\$0.00	1.03	1.00	1,441.5	1,441.5	Retrocommissioning
Space Heat - Gas Boiler	Steam Trap Repair	Assembly	Discretionary	20.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	6	\$401.14	\$200.57	6.9	\$0.00	\$0.00	6.02	1.00	142.5	142.5	Steam Trap Repair
Space Heat - Gas Boiler	Strategic Energy Management (SEM)	Assembly	Discretionary	14.9	1.9	0.000	0.000	0.0	0.0	0.0	0.0	5	\$603.78	\$301.89	6.9	\$0.00	\$0.00	2.46	1.00	84.5	84.5	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Boiler	Strategic Energy Management (SEM)	Assembly	Lost Opportunity	14.9	1.9	0.000	0.000	0.0	0.0	0.0	0.0	5	\$603.78	\$301.89	10.9	\$0.00	\$0.00	2.46	1.00	210.0	210.0	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Boiler	Tune-up - Boiler Maintenance	Assembly	Discretionary	13.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$258.24	\$129.12	6.9	\$0.00	\$0.00	1.96	1.00	384.6	384.6	Boiler Maintenance (Tune-up)
Space Heat - Gas Boiler	Wi-Fi Thermostat	Assembly	Discretionary	14.6	1.9	0.000	0.000	0.0	0.0	0.0	0.0	11	\$347.17	\$173.58	6.9	\$0.00	\$0.00	9.50	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)
Space Heat - Gas Boiler	Windows - CBES 2015 - Above Code	Assembly	Discretionary	1.0	0.1	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,111.56	\$555.78	6.9	\$0.00	\$0.00	0.37	1.00	10.4	0.0	U-0.29
Space Heat - Gas Boiler	Windows - CBES 2015 - Above Code	Assembly	Lost Opportunity	1.0	0.1	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,111.56	\$555.78	10.9	\$0.00	\$0.00	0.37	1.00	16.5	0.0	U-0.29
Space Heat - Gas Boiler	Windows - CBES 2015 - Code	Assembly	Discretionary	2.6	0.3	0.000	0.000	0.0	0.0	0.0	0.0	20	\$7,340.35	\$3,670.17	6.9	\$0.00	\$0.00	0.14	1.00	25.7	0.0	U-0.36 (CBES 2015 Code)
Space Heat - Gas Furnace	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Assembly	Discretionary	32.2	11.3	0.000	0.000	0.0	0.0	0.0	0.0	15	\$2,608.50	\$1,304.25	6.9	\$0.00	\$0.00	3.81	1.00	77.5	77.5	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Gas Furnace	Commissioning	Assembly	Lost Opportunity	47.6	14.2	0.000	0.000	0.0	0.0	0.0	0.0	5	\$12,103.44	\$6,051.72	10.9	\$0.00	\$0.00	0.39	1.00	781.9	0.0	Commissioning
Space Heat - Gas Furnace	Convert Constant Volume Air System to VAV	Assembly	Discretionary	96.2	28.6	0.000	0.000	0.0	0.0	0.0	0.0	15	\$57,068.02	\$28,534.01	6.9	\$0.00	\$0.00	0.52	1.00	356.5	0.0	Variable Volume Air System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	Assembly	Discretionary	54.9	16.3	0.000	0.000	0.0	0.0	0.0	0.0	5	\$3,260.63	\$1,630.31	6.9	\$0.00	\$0.00	1.68	1.00	1,487.4	1,487.4	Installation of EMS System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	Assembly	Lost Opportunity	54.9	16.3	0.000	0.000	0.0	0.0	0.0	0.0	5	\$3,260.63	\$1,630.31	10.9	\$0.00	\$0.00	1.68	1.00	59.9	59.9	Installation of EMS System
Space Heat - Gas Furnace	Duct Repair and Sealing	Assembly	Discretionary	31.8	9.5	0.000	0.000	0.0	0.0	0.0	0.0	18	\$2,504.16	\$1,252.08	6.9	\$0.00	\$0.00	4.68	1.00	638.2	638.2	Reduction In Duct Losses to 5 %
Space Heat - Gas Furnace	Exhaust Air to Ventilation Air Heat Recovery	Assembly	Discretionary	54.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$45,856.90	\$22,928.45	6.9	\$0.00	\$0.00	0.34	1.00	157.2	0.0	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	2.0	\$0.00	\$0.00	9.07	1.00	1,340.2	1,389.8	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	10.9	\$0.00	\$0.00	9.07	1.00	1,103.0	1,266.3	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	2.0	\$0.00	\$0.00	12.67	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	10.9	\$0.00	\$0.00	12.67	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	2.0	\$0.00	\$0.00	10.50	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	10.9	\$0.00	\$0.00	10.50	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Indirect Information Feedback	Assembly	Discretionary	1.9	0.6	0.000	0.000	0.0	0.0	0.0	0.0	2	\$1,901.51	\$950.76	6.9	\$0.00	\$0.00	0.04	1.00	47.1	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Indirect Information Feedback	Assembly	Lost Opportunity	1.9	0.6	0.000	0.000	0.0	0.0	0.0	0.0	2	\$1,901.51	\$950.76	10.9	\$0.00	\$0.00	0.04	1.00	21.1	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Infiltration Reduction	Assembly	Discretionary	36.6	3.3	0.000	0.000	0.0	0.0	0.0	0.0	10	\$187.97	\$93.99	6.9	\$0.00	\$0.00	40.00	1.00	65.4	65.4	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Assembly	Discretionary	18.0	5.4	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,041.40	\$520.70	6.9	\$0.00	\$0.00	10.15	1.00	263.2	263.2	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Assembly	Lost Opportunity	18.0	5.4	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,041.40	\$520.70	10.9	\$0.00	\$0.00	10.15	1.00	41.4	41.4	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Code	Assembly	Discretionary	57.3	18.4	0.000	0.000	0.0	0.0	0.0	0.0	30	\$4,751.86	\$2,375.93	6.9	\$0.00	\$0.00	7.08	1.00	528.4	528.4	R-30 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Assembly	Discretionary	13.2	3.9	0.000	0.000	0.0	0.0	0.0	0.0	20	\$141.51	\$70.76	6.9	\$0.00	\$0.00	37.85	1.00	498.4	498.4	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Assembly	Lost Opportunity	13.2	3.9	0.000	0.000	0.0	0.0	0.0	0.0	20	\$141.51	\$70.76	10.9	\$0.00	\$0.00	37.85	1.00	203.0	203.0	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Code	Assembly	Discretionary	13.2	3.9	0.000	0.000	0.0	0.0	0.0	0.0	20	\$569.96	\$284.98	6.9	\$0.00	\$0.00	9.40	1.00	397.7	397.7	R-8 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Assembly	Discretionary	26.5	7.9	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,851.38	\$925.69	6.9	\$0.00	\$0.00	8.41	1.00	127.3	127.3	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Assembly	Lost Opportunity	26.5	7.9	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,851.38	\$925.69	10.9	\$0.00	\$0.00	8.41	1.00	84.3	84.3	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Code	Assembly	Discretionary	46.2	13.7	0.000	0.000	0.0	0.0	0.0	0.0	30	\$5,307.28	\$2,653.64	6.9	\$0.00	\$0.00	5.11	1.00	214.4	214.4	R-30 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Assembly	Discretionary	30.7	9.1	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,526.71	\$763.35	6.9	\$0.00	\$0.00	11.82	1.00	252.3	252.3	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Assembly	Lost Opportunity	30.7	9.1	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,526.71	\$763.35	10.9	\$0.00	\$0.00	11.82	1.00	246.6	246.6	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Code	Assembly	Discretionary	42.3	10.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$10,476.35	\$5,238.18	6.9	\$0.00	\$0.00	2.37	1.00	219.9	219.9	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Programmable Thermostat	Assembly	Discretionary	14.6	4.4	0.000	0.000	0.0	0.0	0.0	0.0	11	\$43.58	\$21.79	6.9	\$0.00	\$0.00	76.17	1.00	546.0	546.0	Programmable Thermostat
Space Heat - Gas Furnace	Re-Commissioning	Assembly	Discretionary	47.6	14.2	0.000	0.000	0.0	0.0	0.0	0.0	5	\$3,130.20	\$1,565.10	6.9	\$0.00	\$0.00	1.52	1.00	1,994.3	1,994.3	Re-Commissioning
Space Heat - Gas Furnace	Retrocommissioning	Assembly	Discretionary	54.3	16.1	0.000	0.000	0.0	0.0	0.0	0.0	5	\$5,217.00	\$2,608.50	6.9	\$0.00	\$0.00	1.04	1.00	1,228.2	1,228.2	Retrocommissioning
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Assembly	Discretionary	15.0	4.5	0.000	0.000	0.0	0.0	0.0	0.0	5	\$606.86	\$303.43	6.9	\$0.00	\$0.00	2.47	1.00	71.6	71.6	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Assembly	Lost Opportunity	15.0	4.5	0.000	0.000	0.0	0.0	0.0	0.0	5	\$606.86	\$303.43	10.9	\$0.00	\$0.00	2.47	1.00	167.4	167.4	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Tune-up - Furnace Maintenance	Assembly	Discretionary	13.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$234.77	\$117.38	6.9	\$0.00	\$0.00	2.16	1.00	327.5	327.5	Furnace Maintenance (Tune-up)
Space Heat - Gas Furnace	Wi-Fi Thermostat	Assembly	Discretionary	14.6	4.4	0.000	0.000	0.0	0.0	0.0	0.0	11	\$347.17	\$173.58	6.9	\$0.00	\$0.00	9.56	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Assembly	Discretionary	1.0	0.3	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,111.56	\$555.78	6.9	\$0.00	\$0.00	0.38	1.00	8.9	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Assembly	Lost Opportunity	1.0	0.3	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,111.56	\$555.78	10.9	\$0.00	\$0.00	0.38	1.00	13.3	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Code	Assembly	Discretionary	2.6	0.7	0.000	0.000	0.0	0.0	0.0	0.0	20	\$7,340.35	\$3,670.17	6.9	\$0.00	\$0.00	0.14	1.00	21.9	0.0	U-0.36 (CBES 2015 Code)
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Assembly	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	3.0	13	\$36.79	\$18.40	6.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Assembly	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	3.0	13	\$36.79	\$18.40	10.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Assembly	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	4.0	13	\$68.03	\$34.01	6.9	\$0.00	\$0.00	1.22	1.00	0.4	0.5	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Assembly	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	4.0	13	\$68.03	\$34.01	10.9	\$0.00	\$0.00	1.22	1.00	0.1	0.2	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Assembly	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.5	14	\$2.04	\$1.02	6.9	\$0.00	\$0.00	8.59	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.5	14	\$2.04	\$1.02	10.9	\$0.00	\$0.00	8.59	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Assembly	Discretionary	0.																		

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	4.0	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Assembly	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.5	9	\$41.74	\$20.87	6.9	\$0.00	\$0.00	0.35	1.00	0.0	0.0	2.2 GPM (Federal Code)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Assembly	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.0	5	\$1.98	\$0.99	6.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.0	5	\$1.98	\$0.99	10.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	3.3	5	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	0.3	0.0	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	3.3	5	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.1	0.0	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	5.3	5	\$1.98	\$0.99	6.9	\$0.00	\$0.00	16.47	1.00	0.4	0.5	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	5.3	5	\$1.98	\$0.99	10.9	\$0.00	\$0.00	16.47	1.00	0.1	0.2	0.75 GPM
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$1.88	\$0.94	2.0	\$0.51	\$0.51	0.01	1.00	2.5	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$1.88	\$0.94	10.9	\$0.51	\$0.51	0.01	1.00	1.2	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Assembly	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$731.88	\$365.94	6.9	\$0.00	\$0.00	0.02	1.00	0.2	0.0	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$731.88	\$365.94	10.9	\$0.00	\$0.00	0.02	1.00	0.1	0.0	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Assembly	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$335.22	\$167.61	6.9	\$0.00	\$0.00	0.21	1.00	0.1	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Assembly	Lost Opportunity	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$335.22	\$167.61	10.9	\$0.00	\$0.00	0.21	1.00	0.0	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.02	\$0.01	2.0	\$0.00	\$0.00	0.19	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.02	\$0.01	10.9	\$0.00	\$0.00	0.19	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.11	\$0.06	2.0	\$0.00	\$0.00	0.09	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.11	\$0.06	10.9	\$0.00	\$0.00	0.09	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.07	\$0.04	2.0	\$0.00	\$0.00	0.26	1.00	3.0	0.0	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.07	\$0.04	10.9	\$0.00	\$0.00	0.26	1.00	1.4	0.0	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Assembly	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	3.0	13	\$36.79	\$18.40	6.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Assembly	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	3.0	13	\$36.79	\$18.40	10.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Assembly	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	4.0	13	\$68.03	\$34.01	6.9	\$0.00	\$0.00	1.33	1.00	1.7	2.4	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Assembly	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	4.0	13	\$68.03	\$34.01	10.9	\$0.00	\$0.00	1.33	1.00	0.5	0.8	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Assembly	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.5	14	\$2.04	\$1.02	6.9	\$0.00	\$0.00	9.69	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Assembly	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.5	14	\$2.04	\$1.02	10.9	\$0.00	\$0.00	9.69	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Assembly	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.6	14	\$0.83	\$0.42	6.9	\$0.00	\$0.00	52.20	1.00	0.2	0.3	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Assembly	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.6	14	\$0.83	\$0.42	10.9	\$0.00	\$0.00	52.20	1.00	0.1	0.1	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Assembly	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$16.07	\$8.03	6.9	\$0.00	\$0.00	3.97	1.00	6.0	8.4	1.0" of Insulation, assuming R-4 (Code)
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Assembly	Discretionary	0.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$1,590.75	\$795.38	6.9	\$0.00	\$0.00	0.18	1.00	0.7	0.0	Install Heat Recovery Water Heater
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Assembly	Discretionary	0.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.63	\$0.31	6.9	\$0.00	\$0.00	263.74	1.00	3.1	4.3	R-3
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Assembly	Discretionary	2.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$4,014.02	\$2,007.01	6.9	\$0.00	\$0.00	0.19	1.00	4.8	0.0	95% AFUE or Above
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Assembly	Lost Opportunity	2.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$4,014.02	\$2,007.01	10.9	\$0.00	\$0.00	0.19	1.00	4.2	0.0	95% AFUE or Above
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Assembly	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	9.6	9	\$41.74	\$20.87	6.9	\$0.00	\$0.00	2.20	1.00	1.0	1.5	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Assembly	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	9.6	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.3	0.0	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Assembly	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	6.8	9	\$41.74	\$20.87	6.9	\$0.00	\$0.00	1.55	1.00	0.0	0.0	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	6.8	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Assembly	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	4.0	9	\$41.74	\$20.87	6.9	\$0.00	\$0.00	0.90	1.00	0.0	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	4.0	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Assembly	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.5	9	\$41.74	\$20.87	6.9	\$0.00	\$0.00	0.35	1.00	0.1	0.0	2.2 GPM (Federal Code)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Assembly	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.0	5	\$1.98	\$0.99	6.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.0	5	\$1.98	\$0.99	10.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	3.3	5	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	1.0	0.0	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	3.3	5	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.3	0.0	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	5.3	5	\$1.98	\$0.99	6.9	\$0.00	\$0.00	16.47	1.00	1.6	2.2	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Assembly	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	5.3	5	\$1.98	\$0.99	10.9	\$0.00	\$0.00	16.47	1.00	0.5	0.8	0.75 GPM
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$1.96	\$0.98	2.0	\$0.51	\$0.51	0.01	1.00	10.8	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$1.96	\$0.98	10.9	\$0.51	\$0.51	0.01	1.00	5.0	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Assembly	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$731.88	\$365.94	6.9	\$0.00	\$0.00	0.02	1.00	0.8	0.0	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$731.88	\$365.94	10.9	\$0.00	\$0.00	0.02	1.00	0.3	0.0	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Assembly	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$335.22	\$167.61	6.9	\$0.00	\$0.00	0.21	1.00	0.5	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Assembly	Lost Opportunity	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$335.22	\$167.61	10.9	\$0.00	\$0.00	0.21	1.00	0.2	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.18	\$0.09	2.0	\$0.00	\$0.00	0.15	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.18	\$0.09	10.9	\$0.00	\$0.00	0.15	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	Assembly	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0											



Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Cooking	Convection Oven	Grocery	Lost Opportunity	2.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$37.49	\$18.75	10.9	\$0.00	\$0.00	14.42	1.00	734.8	734.8	ENERGY STAR Convection Oven
Cooking	Conveyor Oven	Grocery	Discretionary	6.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$454.99	\$227.50	6.9	\$0.00	\$0.00	2.95	1.00	3,736.7	3,736.7	High Efficiency Conveyor Oven (42% Cooking Efficiency)
Cooking	Conveyor Oven	Grocery	Lost Opportunity	6.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$454.99	\$227.50	10.9	\$0.00	\$0.00	2.95	1.00	1,318.2	1,318.2	High Efficiency Conveyor Oven (42% Cooking Efficiency)
Cooking	Fryers	Grocery	Discretionary	10.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$409.39	\$204.70	6.9	\$0.00	\$0.00	4.83	1.00	5,922.2	5,922.2	ENERGY STAR Fryer
Cooking	Fryers	Grocery	Lost Opportunity	10.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$409.39	\$204.70	10.9	\$0.00	\$0.00	4.83	1.00	2,089.2	2,089.2	ENERGY STAR Fryer
Cooking	Griddle	Grocery	Discretionary	2.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$275.69	\$137.84	6.9	\$0.00	\$0.00	1.99	1.00	1,292.2	1,292.2	ENERGY STAR Griddle
Cooking	Griddle	Grocery	Lost Opportunity	2.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$275.69	\$137.84	10.9	\$0.00	\$0.00	1.99	1.00	455.9	455.9	ENERGY STAR Griddle
Cooking	Rack Oven	Grocery	Discretionary	8.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	4,606.2	0.0	ENERGY STAR Rack Oven
Cooking	Rack Oven	Grocery	Lost Opportunity	8.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	1,625.0	0.0	ENERGY STAR Rack Oven
Cooking	Steam Cooker	Grocery	Discretionary	11.4	0.0	0.000	0.000	0.0	0.0	0.0	2,224.3	12	\$250.32	\$125.16	6.9	\$0.00	\$0.00	107.08	1.00	7,074.5	7,074.5	ENERGY STAR Steam Cooker
Cooking	Steam Cooker	Grocery	Lost Opportunity	11.4	0.0	0.000	0.000	0.0	0.0	0.0	2,224.3	12	\$250.32	\$125.16	10.9	\$0.00	\$0.00	107.08	1.00	2,495.7	2,495.7	ENERGY STAR Steam Cooker
Room Heat - Gas	Exhaust Air to Ventilation Air Heat Recovery	Grocery	Discretionary	23.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$23,231.70	\$11,615.85	6.9	\$0.00	\$0.00	0.29	1.00	0.0	0.0	Exhaust Air to Ventilation Air Heat Recovery
Room Heat - Gas	Infiltration Reduction	Grocery	Discretionary	15.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$176.73	\$88.36	6.9	\$0.00	\$0.00	18.06	1.00	0.0	0.0	Install Caulking And Weatherstripping (ACH 0.65)
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Grocery	Discretionary	6.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$705.37	\$352.69	6.9	\$0.00	\$0.00	5.70	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Grocery	Lost Opportunity	6.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$705.37	\$352.69	10.9	\$0.00	\$0.00	5.70	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Code	Grocery	Discretionary	21.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,218.59	\$1,609.29	6.9	\$0.00	\$0.00	3.97	1.00	0.0	0.0	R-30 c.i. (CBES 2015 Code)
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Grocery	Discretionary	10.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,253.99	\$627.00	6.9	\$0.00	\$0.00	4.72	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Grocery	Lost Opportunity	10.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,253.99	\$627.00	10.9	\$0.00	\$0.00	4.72	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Code	Grocery	Discretionary	17.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,594.78	\$1,797.39	6.9	\$0.00	\$0.00	2.87	1.00	0.0	0.0	R-30 (CBES 2015 Code)
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Grocery	Discretionary	16.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,409.69	\$704.84	6.9	\$0.00	\$0.00	6.63	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Grocery	Lost Opportunity	16.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,409.69	\$704.84	10.9	\$0.00	\$0.00	6.63	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Code	Grocery	Discretionary	22.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$9,673.36	\$4,836.68	6.9	\$0.00	\$0.00	1.33	1.00	0.0	0.0	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Gas	Radiant Heater - High Efficiency	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.01	\$0.00	2.0	\$0.00	\$0.00	27.26	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Radiant Heater - High Efficiency	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.01	\$0.00	10.9	\$0.00	\$0.00	27.26	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Windows - CBES 2015 - Above Code	Grocery	Discretionary	0.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,045.07	\$522.54	6.9	\$0.00	\$0.00	0.21	1.00	0.0	0.0	U-0.29
Room Heat - Gas	Windows - CBES 2015 - Above Code	Grocery	Lost Opportunity	0.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,045.07	\$522.54	10.9	\$0.00	\$0.00	0.21	1.00	0.0	0.0	U-0.29
Room Heat - Gas	Windows - CBES 2015 - Code	Grocery	Discretionary	1.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$6,901.27	\$3,450.64	6.9	\$0.00	\$0.00	0.08	1.00	0.0	0.0	U-0.36 (CBES 2015 Code)
Space Heat - Gas Boiler	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Grocery	Discretionary	24.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$1,982.25	\$991.13	6.9	\$0.00	\$0.00	3.75	1.00	174.1	174.1	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Gas Boiler	Boiler - Economizer	Grocery	Discretionary	17.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$677.37	\$338.69	6.9	\$0.00	\$0.00	8.11	1.00	444.6	444.6	Economizer
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Grocery	Discretionary	1.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$249.08	\$124.54	6.9	\$0.00	\$0.00	2.62	1.00	15.0	15.0	3.5" of Insulation, assuming R-13
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Grocery	Lost Opportunity	1.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$249.08	\$124.54	10.9	\$0.00	\$0.00	2.62	1.00	10.6	10.6	3.5" of Insulation, assuming R-13
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Code	Grocery	Discretionary	1.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$476.95	\$238.47	6.9	\$0.00	\$0.00	1.15	1.00	5.0	5.0	2.5" of Insulation, assuming R-9.0
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Advanced Efficiency	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.55	\$0.27	2.0	\$0.00	\$0.00	3.63	1.00	484.9	509.1	Advanced Efficiency - AFUE 96%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Advanced Efficiency	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.55	\$0.27	10.9	\$0.00	\$0.00	3.63	1.00	393.1	399.3	Advanced Efficiency - AFUE 96%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.31	\$0.16	2.0	\$0.00	\$0.00	3.87	1.00	0.0	0.0	ENERGY STAR - AFUE 90%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.31	\$0.16	10.9	\$0.00	\$0.00	3.87	1.00	0.0	0.0	ENERGY STAR - AFUE 90%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR 2016 Most Efficient	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.51	\$0.25	2.0	\$0.00	\$0.00	3.67	1.00	0.0	0.0	ENERGY STAR 2016 Most Efficient Boiler - 95% AFUE
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR 2016 Most Efficient	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.51	\$0.25	10.9	\$0.00	\$0.00	3.67	1.00	0.0	0.0	ENERGY STAR 2016 Most Efficient Boiler - 95% AFUE
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Federal Standard 2022	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.08	\$0.04	2.0	\$0.00	\$0.00	4.15	1.00	0.0	0.0	Federal Standard 2022 Boiler - AFUE 84%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Federal Standard 2022	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.08	\$0.04	10.9	\$0.00	\$0.00	4.15	1.00	0.0	0.0	Federal Standard 2022 Boiler - AFUE 84%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Premium Efficiency	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.47	\$0.23	2.0	\$0.00	\$0.00	3.71	1.00	0.0	0.0	Premium Efficiency - AFUE 94%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Premium Efficiency	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.47	\$0.23	10.9	\$0.00	\$0.00	3.71	1.00	0.0	0.0	Premium Efficiency - AFUE 94%
Space Heat - Gas Boiler	Boiler Controls	Grocery	Discretionary	13.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$1,308.29	\$654.14	6.9	\$0.00	\$0.00	3.23	1.00	260.0	260.0	Boiler Reset Controls
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Grocery	Discretionary	6.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$25,838.63	\$12,919.31	6.9	\$0.00	\$0.00	0.08	1.00	58.1	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Grocery	Lost Opportunity	6.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$25,838.63	\$12,919.31	10.9	\$0.00	\$0.00	0.08	1.00	24.8	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)
Space Heat - Gas Boiler	Convert Constant Volume Air System to VAV	Grocery	Discretionary	72.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$28,911.40	\$14,455.70	6.9	\$0.00	\$0.00	0.77	1.00	187.9	0.0	Variable Volume Air System
Space Heat - Gas Boiler	Direct Digital Control System-Installation	Grocery	Discretionary	41.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$2,477.81	\$1,238.91	6.9	\$0.00	\$0.00	1.65	1.00	627.9	627.9	Installation of EMS System
Space Heat - Gas Boiler	Direct Digital Control System-Installation	Grocery	Lost Opportunity	41.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$2,477.81	\$1,238.91	10.9	\$0.00	\$0.00	1.65	1.00	26.5	26.5	Installation of EMS System
Space Heat - Gas Boiler	Exhaust Air to Ventilation Air Heat Recovery	Grocery	Discretionary	41.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$23,231.70	\$11,615.85	6.9	\$0.00	\$0.00	0.51	1.00	82.9	0.0	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Gas Boiler	Indirect Information Feedback	Grocery	Discretionary	1.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$1,426.73	\$713.36	6.9	\$0.00	\$0.00	0.04	1.00	24.6	0.0	Indirect Information Feedback
Space Heat - Gas Boiler	Indirect Information Feedback	Grocery	Lost Opportunity	1.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$1,426.73	\$713.36	10.9	\$0.00	\$0.00	0.04	1.00	10.5	0.0	Indirect Information Feedback
Space Heat - Gas Boiler	Infiltration Reduction	Grocery	Discretionary	27.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$176.73	\$88.36	6.9	\$0.00	\$0.00	31.89	1.00	28.7	28.7	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Above Code	Grocery	Discretionary	12.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$705.37	\$352.69	6.9	\$0.00	\$0.00	10.06	1.00	105.8	105.8	R-35 c.i.
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Above Code	Grocery	Lost Opportunity	12.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$705.37	\$352.69	10.9	\$0.00	\$0.00	10.06	1.00	16.7	16.7	R-35 c.i.
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Code	Grocery	Discretionary	38.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,218.59	\$1,609.29	6.9	\$0.00	\$0.00	7.02	1.00	206.6	206.6	R-30 c.i. (CBES 2015 Code)

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Space Heat - Gas Boiler	Wi-Fi Thermostat	Grocery	Discretionary	11.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$389.50	\$194.75	6.9	\$0.00	\$0.00	6.37	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)
Space Heat - Gas Boiler	Windows - CBES 2015 - Above Code	Grocery	Discretionary	1.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,045.07	\$522.54	6.9	\$0.00	\$0.00	0.37	1.00	5.8	0.0	U-0.29
Space Heat - Gas Boiler	Windows - CBES 2015 - Above Code	Grocery	Lost Opportunity	1.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,045.07	\$522.54	10.9	\$0.00	\$0.00	0.37	1.00	8.4	0.0	U-0.29
Space Heat - Gas Boiler	Windows - CBES 2015 - Code	Grocery	Discretionary	2.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$6,901.27	\$3,450.64	6.9	\$0.00	\$0.00	0.14	1.00	14.4	0.0	U-0.36 (CBES 2015 Code)
Space Heat - Gas Furnace	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Grocery	Discretionary	24.5	18.6	0.000	0.000	0.0	0.0	0.0	0.0	15	\$1,982.25	\$991.13	6.9	\$0.00	\$0.00	3.84	1.00	5,755.6	5,755.6	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Gas Furnace	Convert Constant Volume Air System to VAV	Grocery	Discretionary	73.3	46.9	0.000	0.000	0.0	0.0	0.0	0.0	15	\$28,911.40	\$14,455.70	6.9	\$0.00	\$0.00	0.79	1.00	6,466.3	0.0	Variable Volume Air System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	Grocery	Discretionary	41.8	26.8	0.000	0.000	0.0	0.0	0.0	0.0	5	\$2,477.81	\$1,238.91	6.9	\$0.00	\$0.00	1.69	1.00	21,593.8	21,593.8	Installation of EMS System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	Grocery	Lost Opportunity	41.8	26.8	0.000	0.000	0.0	0.0	0.0	0.0	5	\$2,477.81	\$1,238.91	10.9	\$0.00	\$0.00	1.69	1.00	882.0	882.0	Installation of EMS System
Space Heat - Gas Furnace	Duct Repair and Sealing	Grocery	Discretionary	24.3	15.5	0.000	0.000	0.0	0.0	0.0	0.0	18	\$1,902.96	\$951.48	6.9	\$0.00	\$0.00	4.71	1.00	9,474.8	9,474.8	Reduction In Duct Losses to 5 %
Space Heat - Gas Furnace	Exhaust Air to Ventilation Air Heat Recovery	Grocery	Discretionary	41.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$23,231.70	\$11,615.85	6.9	\$0.00	\$0.00	0.52	1.00	2,854.1	0.0	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	2.0	\$0.00	\$0.00	9.13	1.00	24,343.0	25,382.5	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	10.9	\$0.00	\$0.00	9.13	1.00	18,512.9	18,639.3	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	2.0	\$0.00	\$0.00	12.75	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	10.9	\$0.00	\$0.00	12.75	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	2.0	\$0.00	\$0.00	10.57	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	10.9	\$0.00	\$0.00	10.57	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Indirect Information Feedback	Grocery	Discretionary	1.5	0.9	0.000	0.000	0.0	0.0	0.0	0.0	2	\$1,448.87	\$724.44	6.9	\$0.00	\$0.00	0.04	1.00	853.9	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Indirect Information Feedback	Grocery	Lost Opportunity	1.5	0.9	0.000	0.000	0.0	0.0	0.0	0.0	2	\$1,448.87	\$724.44	10.9	\$0.00	\$0.00	0.04	1.00	353.5	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Infiltration Reduction	Grocery	Discretionary	27.9	5.4	0.000	0.000	0.0	0.0	0.0	0.0	10	\$176.73	\$88.36	6.9	\$0.00	\$0.00	32.45	1.00	947.5	947.5	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Grocery	Discretionary	12.3	7.9	0.000	0.000	0.0	0.0	0.0	0.0	30	\$705.37	\$352.69	6.9	\$0.00	\$0.00	10.30	1.00	3,488.8	3,488.8	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Grocery	Lost Opportunity	12.3	7.9	0.000	0.000	0.0	0.0	0.0	0.0	30	\$705.37	\$352.69	10.9	\$0.00	\$0.00	10.30	1.00	546.8	546.8	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Code	Grocery	Discretionary	39.2	27.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,218.59	\$1,609.29	6.9	\$0.00	\$0.00	7.19	1.00	7,018.4	7,018.4	R-30 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Grocery	Discretionary	10.0	6.4	0.000	0.000	0.0	0.0	0.0	0.0	20	\$107.54	\$53.77	6.9	\$0.00	\$0.00	38.10	1.00	7,418.8	7,418.8	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Grocery	Lost Opportunity	10.0	6.4	0.000	0.000	0.0	0.0	0.0	0.0	20	\$107.54	\$53.77	10.9	\$0.00	\$0.00	38.10	1.00	3,031.0	3,031.0	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Code	Grocery	Discretionary	10.0	6.4	0.000	0.000	0.0	0.0	0.0	0.0	20	\$433.12	\$216.56	6.9	\$0.00	\$0.00	9.46	1.00	5,876.8	5,876.8	R-8 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Grocery	Discretionary	18.2	11.6	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,253.99	\$627.00	6.9	\$0.00	\$0.00	8.54	1.00	1,689.5	1,689.5	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Grocery	Lost Opportunity	18.2	11.6	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,253.99	\$627.00	10.9	\$0.00	\$0.00	8.54	1.00	1,113.2	1,113.2	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Code	Grocery	Discretionary	31.6	20.3	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,594.78	\$1,797.39	6.9	\$0.00	\$0.00	5.19	1.00	2,856.1	2,856.1	R-30 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Grocery	Discretionary	28.7	18.4	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,409.69	\$704.84	6.9	\$0.00	\$0.00	11.99	1.00	4,583.7	4,583.7	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Grocery	Lost Opportunity	28.7	18.4	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,409.69	\$704.84	10.9	\$0.00	\$0.00	11.99	1.00	4,507.5	4,507.5	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Code	Grocery	Discretionary	39.4	20.2	0.000	0.000	0.0	0.0	0.0	0.0	30	\$9,673.36	\$4,836.68	6.9	\$0.00	\$0.00	2.40	1.00	3,930.9	3,930.9	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Programmable Thermostat	Grocery	Discretionary	11.2	7.1	0.000	0.000	0.0	0.0	0.0	0.0	11	\$48.90	\$24.45	6.9	\$0.00	\$0.00	51.92	1.00	8,102.6	8,102.6	Programmable Thermostat
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Grocery	Discretionary	11.4	7.3	0.000	0.000	0.0	0.0	0.0	0.0	5	\$462.40	\$231.20	6.9	\$0.00	\$0.00	2.48	1.00	1,044.5	1,044.5	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Grocery	Lost Opportunity	11.4	7.3	0.000	0.000	0.0	0.0	0.0	0.0	5	\$462.40	\$231.20	10.9	\$0.00	\$0.00	2.48	1.00	2,463.8	2,463.8	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Tune-up - Furnace Maintenance	Grocery	Discretionary	10.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$178.40	\$89.20	6.9	\$0.00	\$0.00	2.17	1.00	4,753.9	4,753.9	Furnace Maintenance (Tune-up)
Space Heat - Gas Furnace	Wi-Fi Thermostat	Grocery	Discretionary	11.2	7.1	0.000	0.000	0.0	0.0	0.0	0.0	11	\$389.50	\$194.75	6.9	\$0.00	\$0.00	6.52	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Grocery	Discretionary	1.0	0.6	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,045.07	\$522.54	6.9	\$0.00	\$0.00	0.38	1.00	197.9	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Grocery	Lost Opportunity	1.0	0.6	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,045.07	\$522.54	10.9	\$0.00	\$0.00	0.38	1.00	278.6	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Code	Grocery	Discretionary	2.5	1.5	0.000	0.000	0.0	0.0	0.0	0.0	20	\$6,901.27	\$3,450.64	6.9	\$0.00	\$0.00	0.15	1.00	494.6	0.0	U-0.36 (CBES 2015 Code)
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Grocery	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	3.3	13	\$41.28	\$20.64	6.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Grocery	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	3.3	13	\$41.28	\$20.64	10.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Grocery	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	4.4	13	\$76.32	\$38.16	6.9	\$0.00	\$0.00	1.22	1.00	1.6	2.0	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Grocery	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	4.4	13	\$76.32	\$38.16	10.9	\$0.00	\$0.00	1.22	1.00	0.5	0.7	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Grocery	Discretionary	0.8	0.0	0.000	0.000	0.0	0.0	0.0	9.3	14	\$34.46	\$17.23	6.9	\$0.00	\$0.00	8.59	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Grocery	Lost Opportunity	0.8	0.0	0.000	0.000	0.0	0.0	0.0	9.3	14	\$34.46	\$17.23	10.9	\$0.00	\$0.00	8.59	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Grocery	Discretionary	1.5	0.0	0.000	0.000	0.0	0.0	0.0	26.7	14	\$14.08	\$7.04	6.9	\$0.00	\$0.00	47.28	1.00	23.6	29.4	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Grocery	Lost Opportunity	1.5	0.0	0.000	0.000	0.0	0.0	0.0	26.7	14	\$14.08	\$7.04	10.9	\$0.00	\$0.00	47.28	1.00	7.7	10.2	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	Grocery	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$17.85	\$8.93	6.9	\$0.00	\$0.00	3.28	1.00	3.6	4.5	1.0" of Insulation, assuming R-4 (Code)
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	Grocery	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$1,767.50	\$883.75	6.9	\$0.00	\$0.00	0.10	1.00	0.3	0.0	Install Heat Recovery Water Heater
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	Grocery	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.48	\$0.24	6.9	\$0.00	\$0.00	263.74	1.00	4.0	5.0	R-3
Water Heat GT 55 Gal	Integrated Space Heating and Water Heating	Grocery	Discretionary	1.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$3,050.33	\$1,525.16	6.9	\$0.00	\$0.00	0.15	1.00	1.8	0.0	95% AFUE or Above
Water Heat GT 55 Gal	Integrated Space Heating and Water Heating	Grocery	Lost Opportunity	1.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$3,050.33	\$1,525.16	10.9	\$0.00	\$0.00	0.15	1.00	1.8	0.0	95% AFUE or Above
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Grocery	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	9.0	9	\$31.72	\$15.86	6.9	\$0.00	\$0.00	2.68	1.00	1.7	2.1	0

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$2.75	\$1.37	10.9	\$0.74	\$0.74	0.00	1.00	0.5	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Grocery	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$556.17	\$278.09	6.9	\$0.00	\$0.00	0.02	1.00	1.3	0.0	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$556.17	\$278.09	10.9	\$0.00	\$0.00	0.02	1.00	0.4	0.0	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Grocery	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$7,215.39	\$3,607.70	6.9	\$0.00	\$0.00	0.01	1.00	6.4	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Grocery	Lost Opportunity	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$7,215.39	\$3,607.70	10.9	\$0.00	\$0.00	0.01	1.00	1.8	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.02	\$0.01	2.0	\$0.00	\$0.00	0.11	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.02	\$0.01	10.9	\$0.00	\$0.00	0.11	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.16	\$0.08	2.0	\$0.00	\$0.00	0.05	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.16	\$0.08	10.9	\$0.00	\$0.00	0.05	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.11	\$0.05	2.0	\$0.00	\$0.00	0.15	1.00	6.5	0.0	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.11	\$0.05	10.9	\$0.00	\$0.00	0.15	1.00	0.6	0.0	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Grocery	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	3.3	13	\$41.28	\$20.64	6.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Grocery	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	3.3	13	\$41.28	\$20.64	10.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Grocery	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	4.4	13	\$76.32	\$38.16	6.9	\$0.00	\$0.00	1.33	1.00	7.5	10.5	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Grocery	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	4.4	13	\$76.32	\$38.16	10.9	\$0.00	\$0.00	1.33	1.00	2.4	3.7	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Grocery	Discretionary	1.0	0.0	0.000	0.000	0.0	0.0	0.0	9.3	14	\$34.46	\$17.23	6.9	\$0.00	\$0.00	9.69	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Grocery	Lost Opportunity	1.0	0.0	0.000	0.000	0.0	0.0	0.0	9.3	14	\$34.46	\$17.23	10.9	\$0.00	\$0.00	9.69	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Grocery	Discretionary	1.8	0.0	0.000	0.000	0.0	0.0	0.0	26.7	14	\$14.08	\$7.04	6.9	\$0.00	\$0.00	52.20	1.00	107.1	150.5	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Grocery	Lost Opportunity	1.8	0.0	0.000	0.000	0.0	0.0	0.0	26.7	14	\$14.08	\$7.04	10.9	\$0.00	\$0.00	52.20	1.00	34.0	53.0	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Grocery	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$17.85	\$8.93	6.9	\$0.00	\$0.00	3.97	1.00	15.1	21.2	1.0" of Insulation, assuming R-4 (Code)
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Grocery	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$1,767.50	\$883.75	6.9	\$0.00	\$0.00	0.10	1.00	0.9	0.0	Install Heat Recovery Water Heater
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Grocery	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.48	\$0.24	6.9	\$0.00	\$0.00	263.74	1.00	15.1	21.2	R-3
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Grocery	Discretionary	1.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$3,050.33	\$1,525.16	6.9	\$0.00	\$0.00	0.15	1.00	6.0	0.0	95% AFUE or Above
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Grocery	Lost Opportunity	1.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$3,050.33	\$1,525.16	10.9	\$0.00	\$0.00	0.15	1.00	6.3	0.0	95% AFUE or Above
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Grocery	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	9.0	9	\$31.72	\$15.86	6.9	\$0.00	\$0.00	2.68	1.00	6.2	8.8	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Grocery	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	9.0	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	2.0	0.0	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Grocery	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	6.3	9	\$31.72	\$15.86	6.9	\$0.00	\$0.00	1.89	1.00	0.0	0.0	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	6.3	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Grocery	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	3.7	9	\$31.72	\$15.86	6.9	\$0.00	\$0.00	1.10	1.00	0.0	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	3.7	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Grocery	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.4	9	\$31.72	\$15.86	6.9	\$0.00	\$0.00	0.42	1.00	0.4	0.0	2.2 GPM (Federal Code)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Grocery	Discretionary	0.5	0.0	0.000	0.000	0.0	0.0	0.0	33.8	5	\$33.52	\$16.76	6.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Grocery	Lost Opportunity	0.5	0.0	0.000	0.000	0.0	0.0	0.0	33.8	5	\$33.52	\$16.76	10.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Grocery	Discretionary	0.8	0.0	0.000	0.000	0.0	0.0	0.0	56.0	5	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	109.1	0.0	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Grocery	Lost Opportunity	0.8	0.0	0.000	0.000	0.0	0.0	0.0	56.0	5	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	34.7	0.0	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Grocery	Discretionary	1.2	0.0	0.000	0.000	0.0	0.0	0.0	89.8	5	\$33.52	\$16.76	6.9	\$0.00	\$0.00	16.47	1.00	175.0	246.0	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Grocery	Lost Opportunity	1.2	0.0	0.000	0.000	0.0	0.0	0.0	89.8	5	\$33.52	\$16.76	10.9	\$0.00	\$0.00	16.47	1.00	55.6	86.6	0.75 GPM
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$2.86	\$1.43	2.0	\$0.74	\$0.74	0.00	1.00	25.0	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$2.86	\$1.43	10.9	\$0.74	\$0.74	0.00	1.00	2.0	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Grocery	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$556.17	\$278.09	6.9	\$0.00	\$0.00	0.02	1.00	4.9	0.0	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$556.17	\$278.09	10.9	\$0.00	\$0.00	0.02	1.00	1.5	0.0	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Grocery	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$7,215.39	\$3,607.70	6.9	\$0.00	\$0.00	0.01	1.00	24.5	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Grocery	Lost Opportunity	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$7,215.39	\$3,607.70	10.9	\$0.00	\$0.00	0.01	1.00	6.8	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.27	\$0.13	2.0	\$0.00	\$0.00	0.09	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.27	\$0.13	10.9	\$0.00	\$0.00	0.09	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.07	\$0.03	2.0	\$0.00	\$0.00	0.10	1.00	0.0	0.0	ENERGY STAR Storage Water Heater LE 55 Gal - EF 0.67
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.07	\$0.03	10.9	\$0.00	\$0.00	0.10	1.00	0.0	0.0	ENERGY STAR Storage Water Heater LE 55 Gal - EF 0.67
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Tankless - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.23	\$0.11	2.0	\$0.00	\$0.00	0.15	1.00	50.4	0.0	ENERGY STAR Tankless Water Heater LE 55 Gal - EF 0.90
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Tankless - ENERGY STAR	Grocery	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.23	\$0.11	10.9	\$0.00	\$0.00	0.15	1.00	3.9	0.0	ENERGY STAR Tankless Water Heater LE 55 Gal - EF 0.90
Cooking	Broiler	Health Care Other	Discretionary	0.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$22.63	\$11.32	6.9	\$0.00	\$0.00	6.08	1.00	4,554.0	4,554.0	Infrared Cooking Broiler (37% Cooking Efficiency)
Cooking	Broiler	Health Care Other	Lost Opportunity	0.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$22.63	\$11.32	10.9	\$0.00	\$0.00	6.08	1.00	1,606.5	1,606.5	Infrared Cooking Broiler (37% Cooking Efficiency)
Cooking	Combination Oven	Health Care Other	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	1,296.1	0.0	ENERGY STAR Combination Oven
Cooking	Combination Oven	Health Care Other	Lost Opportunity	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	457.2	0.0	ENERGY STAR Combination Oven
Cooking	Convection Oven	Health Care Other	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$1.92	\$0.96	6.9	\$0.00	\$0.00	14.42	1.00	611.5	611.5	ENERGY STAR Convection Oven
Cooking	Convection Oven	Health Care Other	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$1.92	\$0.96	10.9							



Appendix B.6		VGS Non-residential Measure Assumptions																					
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description	
Cooking	Fryers	Health Care Other	Lost Opportunity	0.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$21.00	\$10.50	10.9	\$0.00	\$0.00	4.83	1.00	920.0	920.0	ENERGY STAR Fryer	
Cooking	Griddle	Health Care Other	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$14.14	\$7.07	6.9	\$0.00	\$0.00	1.99	1.00	569.1	569.1	ENERGY STAR Griddle	
Cooking	Griddle	Health Care Other	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$14.14	\$7.07	10.9	\$0.00	\$0.00	1.99	1.00	200.7	200.7	ENERGY STAR Griddle	
Cooking	Rack Oven	Health Care Other	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	2,028.4	0.0	ENERGY STAR Rack Oven	
Cooking	Rack Oven	Health Care Other	Lost Opportunity	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	715.6	0.0	ENERGY STAR Rack Oven	
Cooking	Steam Cooker	Health Care Other	Discretionary	0.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$12.84	\$6.42	6.9	\$0.00	\$0.00	8.80	1.00	3,115.4	3,115.4	ENERGY STAR Steam Cooker	
Cooking	Steam Cooker	Health Care Other	Lost Opportunity	0.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$12.84	\$6.42	10.9	\$0.00	\$0.00	8.80	1.00	1,099.0	1,099.0	ENERGY STAR Steam Cooker	
Room Heat - Gas	Exhaust Air to Ventilation Air Heat Recovery	Health Care Other	Discretionary	6.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$5,879.47	\$2,939.73	6.9	\$0.00	\$0.00	0.33	1.00	0.0	0.0	Exhaust Air to Ventilation Air Heat Recovery	
Room Heat - Gas	Infiltration Reduction	Health Care Other	Discretionary	4.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$165.87	\$82.93	6.9	\$0.00	\$0.00	5.64	1.00	0.0	0.0	Install Caulking And Weatherstripping (ACH 0.65)	
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Health Care Other	Discretionary	2.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$507.94	\$253.97	6.9	\$0.00	\$0.00	2.67	1.00	0.0	0.0	R-35 c.i.	
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	2.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$507.94	\$253.97	10.9	\$0.00	\$0.00	2.67	1.00	0.0	0.0	R-35 c.i.	
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Code	Health Care Other	Discretionary	7.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,317.70	\$1,158.85	6.9	\$0.00	\$0.00	1.86	1.00	0.0	0.0	R-30 c.i. (CBES 2015 Code)	
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Health Care Other	Discretionary	3.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$903.00	\$451.50	6.9	\$0.00	\$0.00	2.21	1.00	0.0	0.0	R-38	
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	3.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$903.00	\$451.50	10.9	\$0.00	\$0.00	2.21	1.00	0.0	0.0	R-38	
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Code	Health Care Other	Discretionary	6.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,588.60	\$1,294.30	6.9	\$0.00	\$0.00	1.35	1.00	0.0	0.0	R-30 (CBES 2015 Code)	
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Health Care Other	Discretionary	3.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$630.63	\$315.32	6.9	\$0.00	\$0.00	3.11	1.00	0.0	0.0	R-13 + 15.6 c.i.	
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	3.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$630.63	\$315.32	10.9	\$0.00	\$0.00	3.11	1.00	0.0	0.0	R-13 + 15.6 c.i.	
Room Heat - Gas	Insulation - Wall - CBES 2015 - Code	Health Care Other	Discretionary	4.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$4,327.42	\$2,163.71	6.9	\$0.00	\$0.00	0.62	1.00	0.0	0.0	R-13 + 7.5 c.i. (CBES 2015 Code)	
Room Heat - Gas	Radiant Heater - High Efficiency	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.02	\$0.01	2.0	\$0.00	\$0.00	7.99	1.00	0.0	0.0	High Efficiency Radiant Heater	
Room Heat - Gas	Radiant Heater - High Efficiency	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.02	\$0.01	10.9	\$0.00	\$0.00	7.99	1.00	0.0	0.0	High Efficiency Radiant Heater	
Room Heat - Gas	Windows - CBES 2015 - Above Code	Health Care Other	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$980.86	\$490.43	6.9	\$0.00	\$0.00	0.10	1.00	0.0	0.0	U-0.29	
Room Heat - Gas	Windows - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$980.86	\$490.43	10.9	\$0.00	\$0.00	0.10	1.00	0.0	0.0	U-0.29	
Room Heat - Gas	Windows - CBES 2015 - Code	Health Care Other	Discretionary	0.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$6,477.23	\$3,238.62	6.9	\$0.00	\$0.00	0.04	1.00	0.0	0.0	U-0.36 (CBES 2015 Code)	
Space Heat - Gas Boiler	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Health Care Other	Discretionary	10.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$752.50	\$376.25	6.9	\$0.00	\$0.00	4.24	1.00	7.7	7.7	Demand Controlled Ventilation (CO2 sensors)	
Space Heat - Gas Boiler	Boiler - Economizer	Health Care Other	Discretionary	7.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$257.14	\$128.57	6.9	\$0.00	\$0.00	9.16	1.00	101.9	101.9	Economizer	
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Health Care Other	Discretionary	0.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$111.43	\$55.71	6.9	\$0.00	\$0.00	2.62	1.00	3.6	3.6	3.5" of Insulation, assuming R-13	
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Health Care Other	Lost Opportunity	0.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$111.43	\$55.71	10.9	\$0.00	\$0.00	2.62	1.00	2.5	2.5	3.5" of Insulation, assuming R-13	
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Code	Health Care Other	Discretionary	0.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$213.36	\$106.68	6.9	\$0.00	\$0.00	1.15	1.00	1.1	1.1	2.5" of Insulation, assuming R-9.0	
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Advanced Efficiency	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.55	\$0.27	2.0	\$0.00	\$0.00	3.91	1.00	146.5	150.3	Advanced Efficiency - AFUE 96%	
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Advanced Efficiency	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.55	\$0.27	10.9	\$0.00	\$0.00	3.91	1.00	88.7	90.7	Advanced Efficiency - AFUE 96%	
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.31	\$0.16	2.0	\$0.00	\$0.00	4.17	1.00	0.0	0.0	ENERGY STAR - AFUE 90%	
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.31	\$0.16	10.9	\$0.00	\$0.00	4.17	1.00	0.0	0.0	ENERGY STAR - AFUE 90%	
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR 2016 Most Efficient	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.51	\$0.25	2.0	\$0.00	\$0.00	3.95	1.00	0.0	0.0	ENERGY STAR 2016 Most Efficient Boiler - 95% AFUE	
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR 2016 Most Efficient	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.51	\$0.25	10.9	\$0.00	\$0.00	3.95	1.00	0.0	0.0	ENERGY STAR 2016 Most Efficient Boiler - 95% AFUE	
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Federal Standard 2022	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.08	\$0.04	2.0	\$0.00	\$0.00	4.47	1.00	0.0	0.0	Federal Standard 2022 Boiler - AFUE 84%	
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Federal Standard 2022	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.08	\$0.04	10.9	\$0.00	\$0.00	4.47	1.00	0.0	0.0	Federal Standard 2022 Boiler - AFUE 84%	
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Premium Efficiency	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.47	\$0.23	2.0	\$0.00	\$0.00	3.99	1.00	0.0	0.0	Premium Efficiency - AFUE 94%	
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Premium Efficiency	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.47	\$0.23	10.9	\$0.00	\$0.00	3.99	1.00	0.0	0.0	Premium Efficiency - AFUE 94%	
Space Heat - Gas Boiler	Boiler Controls	Health Care Other	Discretionary	5.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$1,000.00	\$500.00	6.9	\$0.00	\$0.00	1.81	1.00	51.2	51.2	Boiler Reset Controls	
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Health Care Other	Discretionary	2.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$19,750.00	\$9,875.00	6.9	\$0.00	\$0.00	0.04	1.00	20.7	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)	
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Health Care Other	Lost Opportunity	2.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$19,750.00	\$9,875.00	10.9	\$0.00	\$0.00	0.04	1.00	9.0	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)	
Space Heat - Gas Boiler	Convert Constant Volume Air System to VAV	Health Care Other	Discretionary	30.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$7,316.88	\$3,658.44	6.9	\$0.00	\$0.00	1.30	1.00	42.0	42.0	Variable Volume Air System	
Space Heat - Gas Boiler	Direct Digital Control System-Installation	Health Care Other	Discretionary	17.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$940.63	\$470.31	6.9	\$0.00	\$0.00	1.87	1.00	147.9	147.9	Installation of EMS System	

Appendix B.6		VGS Non-residential Measure Assumptions																					
End-Use	Measure Name	Building Type	Replacement Type	Per Unit	Per unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	EE	Measure Cost	Incentive Amount	Non-	O&M	O&M	Measure	NTG	20 YR	20 YR	Measure Description
				Gas Savings	Elec Saving	Summer NCP kW	Winter NCP kW	Oil Savings	Propane Savings	Wood Savings	Water Savings	EUL	Incentive Cost (\$/MMBtu)			Benefits			Costs		Level VT Societal	Technical Potential (MMBTU)	
Space Heat - Gas Boiler	Direct Digital Control System-Installation	Health Care Other	Lost Opportunity	17.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$940.63	\$470.31	10.9	\$0.00	\$0.00	1.87	1.00	6.0	6.0	Installation of EMS System	
Space Heat - Gas Boiler	Exhaust Air to Ventilation Air Heat Recovery	Health Care Other	Discretionary	17.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$5,879.47	\$2,939.73	6.9	\$0.00	\$0.00	0.86	1.00	18.5	0.0	Exhaust Air to Ventilation Air Heat Recovery	
Space Heat - Gas Boiler	Indirect Information Feedback	Health Care Other	Discretionary	0.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$612.00	\$306.00	6.9	\$0.00	\$0.00	0.04	1.00	5.5	0.0	Indirect Information Feedback	
Space Heat - Gas Boiler	Indirect Information Feedback	Health Care Other	Lost Opportunity	0.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$612.00	\$306.00	10.9	\$0.00	\$0.00	0.04	1.00	2.4	0.0	Indirect Information Feedback	
Space Heat - Gas Boiler	Infiltration Reduction	Health Care Other	Discretionary	11.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$165.87	\$82.93	6.9	\$0.00	\$0.00	14.58	1.00	6.3	6.3	Install Caulking And Weatherstripping (ACH 0.65)	
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Above Code	Health Care Other	Discretionary	6.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$507.94	\$253.97	6.9	\$0.00	\$0.00	6.90	1.00	25.6	25.6	R-35 c.i.	
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	6.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$507.94	\$253.97	10.9	\$0.00	\$0.00	6.90	1.00	4.4	4.4	R-35 c.i.	
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Code	Health Care Other	Discretionary	19.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,317.70	\$1,158.85	6.9	\$0.00	\$0.00	4.82	1.00	51.8	51.8	R-30 c.i. (CBES 2015 Code)	
Space Heat - Gas Boiler	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Health Care Other	Discretionary	8.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$903.00	\$451.50	6.9	\$0.00	\$0.00	5.72	1.00	12.5	12.5	R-38	
Space Heat - Gas Boiler	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	8.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$903.00	\$451.50	10.9	\$0.00	\$0.00	5.72	1.00	8.9	8.9	R-38	
Space Heat - Gas Boiler	Insulation - Floor (non-slab) - CBES 2015 - Code	Health Care Other	Discretionary	15.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,588.60	\$1,294.30	6.9	\$0.00	\$0.00	3.48	1.00	20.9	20.9	R-30 (CBES 2015 Code)	
Space Heat - Gas Boiler	Insulation - Wall - CBES 2015 - Above Code	Health Care Other	Discretionary	8.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$630.63	\$315.32	6.9	\$0.00	\$0.00	8.04	1.00	20.7	20.7	R-13 + 15.6 c.i.	
Space Heat - Gas Boiler	Insulation - Wall - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	8.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$630.63	\$315.32	10.9	\$0.00	\$0.00	8.04	1.00	21.9	21.9	R-13 + 15.6 c.i.	
Space Heat - Gas Boiler	Insulation - Wall - CBES 2015 - Code	Health Care Other	Discretionary	11.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$4,327.42	\$2,163.71	6.9	\$0.00	\$0.00	1.61	1.00	16.3	16.3	R-13 + 7.5 c.i. (CBES 2015 Code)	
Space Heat - Gas Boiler	Integrated Space Heating and Water Heating	Health Care Other	Discretionary	6.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,157.96	\$578.98	6.9	\$0.00	\$0.00	2.29	1.00	9.5	9.5	95% AFUE or Above	
Space Heat - Gas Boiler	Integrated Space Heating and Water Heating	Health Care Other	Lost Opportunity	6.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,157.96	\$578.98	10.9	\$0.00	\$0.00	2.29	1.00	8.6	8.6	95% AFUE or Above	
Space Heat - Gas Boiler	Programmable Thermostat	Health Care Other	Discretionary	4.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$25.78	\$12.89	6.9	\$0.00	\$0.00	41.31	1.00	52.5	52.5	Programmable Thermostat	
Space Heat - Gas Boiler	Steam Trap Repair	Health Care Other	Discretionary	11.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	6	\$233.00	\$116.50	6.9	\$0.00	\$0.00	6.02	1.00	21.3	21.3	Steam Trap Repair	
Space Heat - Gas Boiler	Strategic Energy Management (SEM)	Health Care Other	Discretionary	4.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$195.32	\$97.66	6.9	\$0.00	\$0.00	2.46	1.00	7.0	7.0	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Space Heat - Gas Boiler	Strategic Energy Management (SEM)	Health Care Other	Lost Opportunity	4.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$195.32	\$97.66	10.9	\$0.00	\$0.00	2.46	1.00	17.0	17.0	Identify Operations and Maintenance Improvements through Strategic Energy Management	
Space Heat - Gas Boiler	Tune-up - Boiler Maintenance	Health Care Other	Discretionary	4.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$74.50	\$37.25	6.9	\$0.00	\$0.00	2.19	1.00	32.6	32.6	Boiler Maintenance (Tune-up)	
Space Heat - Gas Boiler	Wi-Fi Thermostat	Health Care Other	Discretionary	4.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$205.33	\$102.67	6.9	\$0.00	\$0.00	5.19	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)	
Space Heat - Gas Boiler	Windows - CBES 2015 - Above Code	Health Care Other	Discretionary	0.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$980.86	\$490.43	6.9	\$0.00	\$0.00	0.26	1.00	1.9	0.0	U-0.29	
Space Heat - Gas Boiler	Windows - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	0.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$980.86	\$490.43	10.9	\$0.00	\$0.00	0.26	1.00	2.9	0.0	U-0.29	
Space Heat - Gas Boiler	Windows - CBES 2015 - Code	Health Care Other	Discretionary	1.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$6,477.23	\$3,238.62	6.9	\$0.00	\$0.00	0.10	1.00	4.8	0.0	U-0.36 (CBES 2015 Code)	
Space Heat - Gas Furnace	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Health Care Other	Discretionary	10.1	1.5	0.000	0.000	0.0	0.0	0.0	0.0	15	\$752.50	\$376.25	6.9	\$0.00	\$0.00	4.14	1.00	344.1	344.1	Demand Controlled Ventilation (CO2 sensors)	
Space Heat - Gas Furnace	Convert Constant Volume Air System to VAV	Health Care Other	Discretionary	30.2	3.7	0.000	0.000	0.0	0.0	0.0	0.0	15	\$7,316.88	\$3,658.44	6.9	\$0.00	\$0.00	1.27	1.00	1,960.0	1,960.0	Variable Volume Air System	
Space Heat - Gas Furnace	Direct Digital Control System-Installation	Health Care Other	Discretionary	17.3	2.1	0.000	0.000	0.0	0.0	0.0	0.0	5	\$940.63	\$470.31	6.9	\$0.00	\$0.00	1.83	1.00	6,684.7	6,684.7	Installation of EMS System	
Space Heat - Gas Furnace	Direct Digital Control System-Installation	Health Care Other	Lost Opportunity	17.3	2.1	0.000	0.000	0.0	0.0	0.0	0.0	5	\$940.63	\$470.31	10.9	\$0.00	\$0.00	1.83	1.00	263.6	263.6	Installation of EMS System	
Space Heat - Gas Furnace	Duct Repair and Sealing	Health Care Other	Discretionary	10.0	1.2	0.000	0.000	0.0	0.0	0.0	0.0	18	\$722.40	\$361.20	6.9	\$0.00	\$0.00	5.08	1.00	2,912.3	2,912.3	Reduction In Duct Losses to 5 %	
Space Heat - Gas Furnace	Exhaust Air to Ventilation Air Heat Recovery	Health Care Other	Discretionary	17.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$5,879.47	\$2,939.73	6.9	\$0.00	\$0.00	0.84	1.00	865.1	0.0	Exhaust Air to Ventilation Air Heat Recovery	
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	2.0	\$0.00	\$0.00	9.83	1.00	6,974.1	7,104.6	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)	
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	10.9	\$0.00	\$0.00	9.83	1.00	5,525.0	5,571.1	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)	
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	2.0	\$0.00	\$0.00	13.73	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)	
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	10.9	\$0.00	\$0.00	13.73	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)	
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	2.0	\$0.00	\$0.00	11.38	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)	
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	10.9	\$0.00	\$0.00	11.38	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)	
Space Heat - Gas Furnace	Indirect Information Feedback	Health Care Other	Discretionary	0.6	0.1	0.000	0.000	0.0	0.0	0.0	0.0	2	\$597.37	\$298.69	6.9	\$0.00	\$0.00	0.04	1.00	258.4	0.0	Indirect Information Feedback	
Space Heat - Gas Furnace	Indirect Information Feedback	Health Care Other	Lost Opportunity	0.6	0.1	0.000	0.000	0.0	0.0	0.0	0.0	2	\$597.37	\$298.69	10.9	\$0.00	\$0.00	0.04	1.00	105.5	0.0	Indirect Information Feedback	
Space Heat - Gas Furnace	Infiltration Reduction	Health Care Other	Discretionary	11.5	0.4	0.000	0.000	0.0	0.0	0.0	0.0	10	\$165.87	\$82.93	6.9	\$0.00	\$0.00	14.23	1.00	279.9	279.9	Install Caulking And Weatherstripping (ACH 0.65)	
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Health Care Other	Discretionary	5.9	0.7	0.000	0.000	0.0	0.0	0.0	0.0	30	\$507.94	\$253.97	6.9	\$0.00	\$0.00	6.75	1.00	1,174.0	1,174.0	R-35 c.i.	
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	5.9	0.7	0.000	0.000	0.0	0.0	0.0	0.0	30	\$507.94	\$253.97	10.9	\$0.00	\$0.00	6.75	1.00	188.8	188.8	R-35 c.i.	
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Code	Health Care Other	Discretionary	18.6	2.5	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,317.70	\$1,158.85	6.9	\$0.00	\$0.00	4.71	1.00	2,322.3	2,322.3	R-30 c.i. (CBES 2015 Code)	

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR	20 YR	Measure Description
																				Technical Potential (MMBTU)	Economic Potential (MMBTU)	
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Health Care Other	Discretionary	4.1	0.5	0.000	0.000	0.0	0.0	0.0	0.0	20	\$40.82	\$20.41	6.9	\$0.00	\$0.00	41.13	1.00	2,246.3	2,246.3	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	4.1	0.5	0.000	0.000	0.0	0.0	0.0	0.0	20	\$40.82	\$20.41	10.9	\$0.00	\$0.00	41.13	1.00	886.0	886.0	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Code	Health Care Other	Discretionary	4.1	0.5	0.000	0.000	0.0	0.0	0.0	0.0	20	\$164.42	\$82.21	6.9	\$0.00	\$0.00	10.21	1.00	1,808.1	1,808.1	R-8 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Health Care Other	Discretionary	8.6	1.1	0.000	0.000	0.0	0.0	0.0	0.0	30	\$903.00	\$451.50	6.9	\$0.00	\$0.00	5.60	1.00	578.8	578.8	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	8.6	1.1	0.000	0.000	0.0	0.0	0.0	0.0	30	\$903.00	\$451.50	10.9	\$0.00	\$0.00	5.60	1.00	384.0	384.0	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Code	Health Care Other	Discretionary	15.0	1.8	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,588.60	\$1,294.30	6.9	\$0.00	\$0.00	3.40	1.00	937.6	937.6	R-30 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Health Care Other	Discretionary	8.5	1.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$630.63	\$315.32	6.9	\$0.00	\$0.00	7.86	1.00	950.2	950.2	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	8.5	1.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$630.63	\$315.32	10.9	\$0.00	\$0.00	7.86	1.00	943.1	943.1	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Code	Health Care Other	Discretionary	11.6	1.1	0.000	0.000	0.0	0.0	0.0	0.0	30	\$4,327.42	\$2,163.71	6.9	\$0.00	\$0.00	1.57	1.00	760.2	760.2	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Programmable Thermostat	Health Care Other	Discretionary	4.6	0.6	0.000	0.000	0.0	0.0	0.0	0.0	11	\$25.78	\$12.89	6.9	\$0.00	\$0.00	40.38	1.00	2,338.4	2,338.4	Programmable Thermostat
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Health Care Other	Discretionary	4.7	0.6	0.000	0.000	0.0	0.0	0.0	0.0	5	\$190.65	\$95.32	6.9	\$0.00	\$0.00	2.46	1.00	313.9	313.9	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Health Care Other	Lost Opportunity	4.7	0.6	0.000	0.000	0.0	0.0	0.0	0.0	5	\$190.65	\$95.32	10.9	\$0.00	\$0.00	2.46	1.00	736.4	736.4	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Tune-up - Furnace Maintenance	Health Care Other	Discretionary	4.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$67.73	\$33.86	6.9	\$0.00	\$0.00	2.36	1.00	1,471.6	1,471.6	Furnace Maintenance (Tune-up)
Space Heat - Gas Furnace	Wi-Fi Thermostat	Health Care Other	Discretionary	4.6	0.6	0.000	0.000	0.0	0.0	0.0	0.0	11	\$205.33	\$102.67	6.9	\$0.00	\$0.00	5.07	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Health Care Other	Discretionary	0.6	0.1	0.000	0.000	0.0	0.0	0.0	0.0	20	\$980.86	\$490.43	6.9	\$0.00	\$0.00	0.25	1.00	90.1	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Health Care Other	Lost Opportunity	0.6	0.1	0.000	0.000	0.0	0.0	0.0	0.0	20	\$980.86	\$490.43	10.9	\$0.00	\$0.00	0.25	1.00	125.0	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Code	Health Care Other	Discretionary	1.5	0.2	0.000	0.000	0.0	0.0	0.0	0.0	20	\$6,477.23	\$3,238.62	6.9	\$0.00	\$0.00	0.10	1.00	225.0	0.0	U-0.36 (CBES 2015 Code)
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Health Care Other	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.8	13	\$21.76	\$10.88	6.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.8	13	\$21.76	\$10.88	10.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Health Care Other	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$40.24	\$20.12	6.9	\$0.00	\$0.00	1.22	1.00	6.8	8.5	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Health Care Other	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$40.24	\$20.12	10.9	\$0.00	\$0.00	1.22	1.00	2.2	2.9	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Health Care Other	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.5	14	\$1.77	\$0.88	6.9	\$0.00	\$0.00	8.59	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.5	14	\$1.77	\$0.88	10.9	\$0.00	\$0.00	8.59	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Health Care Other	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.4	14	\$0.72	\$0.36	6.9	\$0.00	\$0.00	47.28	1.00	1.4	1.8	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Health Care Other	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.4	14	\$0.72	\$0.36	10.9	\$0.00	\$0.00	47.28	1.00	0.5	0.6	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	Health Care Other	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$17.85	\$8.93	6.9	\$0.00	\$0.00	3.28	1.00	44.7	55.6	1.0" of Insulation, assuming R-4 (Code)
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	Health Care Other	Discretionary	2.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$1,767.50	\$883.75	6.9	\$0.00	\$0.00	0.48	1.00	18.2	0.0	Install Heat Recovery Water Heater
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	Health Care Other	Discretionary	2.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$2.76	\$1.38	6.9	\$0.00	\$0.00	263.74	1.00	109.3	136.0	R-3
Water Heat GT 55 Gal	Integrated Space Heating and Water Heating	Health Care Other	Discretionary	7.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,157.96	\$578.98	6.9	\$0.00	\$0.00	1.96	1.00	126.9	157.9	95% AFUE or Above
Water Heat GT 55 Gal	Integrated Space Heating and Water Heating	Health Care Other	Lost Opportunity	7.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,157.96	\$578.98	10.9	\$0.00	\$0.00	1.96	1.00	109.5	145.7	95% AFUE or Above
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	8.8	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	4.19	1.00	7.7	9.6	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	8.8	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	2.5	0.0	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	6.2	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	2.96	1.00	0.0	0.0	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	6.2	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	3.6	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	1.72	1.00	0.0	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	3.6	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.4	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	0.66	1.00	0.5	0.0	2.2 GPM (Federal Code)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Health Care Other	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.7	5	\$1.72	\$0.86	6.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.7	5	\$1.72	\$0.86	10.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.9	5	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	7.0	0.0	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.9	5	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	2.3	0.0	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	4.6	5	\$1.72	\$0.86	6.9	\$0.00	\$0.00	16.47	1.00	11.3	14.1	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	4.6	5	\$1.72	\$0.86	10.9	\$0.00	\$0.00	16.47	1.00	3.7	4.9	0.75 GPM



Appendix B.6		VGS Non-residential Measure Assumptions																					
End-Use	Measure Name	Building Type	Replacement Type	Per Unit	Per unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	EE	Measure Cost	Incentive Amount	Non-	O&M Benefits	O&M Costs	Measure	NTG Ratio	20 YR	20 YR	Measure Description	
				Gas Savings	Elec Saving	Summer NCP kW	Winter NCP kW	Oil Savings	Propane Savings	Wood Savings	Water Savings	Incentive Cost (\$/MMBtu)			Level VT Societal			Technical Potential (MMBTU)		Economic Potential (MMBTU)			
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$7.24	\$3.62	2.0	\$1.95	\$1.95	0.01	1.00	246.4	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$7.24	\$3.62	10.9	\$1.95	\$1.95	0.01	1.00	113.0	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Health Care Other	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$350.72	\$175.36	6.9	\$0.00	\$0.00	0.03	1.00	5.4	0.0	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$350.72	\$175.36	10.9	\$0.00	\$0.00	0.03	1.00	1.7	0.0	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Health Care Other	Discretionary	1.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$61.88	\$30.94	6.9	\$0.00	\$0.00	3.50	1.00	6.7	8.4	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Health Care Other	Lost Opportunity	1.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$61.88	\$30.94	10.9	\$0.00	\$0.00	3.50	1.00	1.9	2.6	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.06	\$0.03	2.0	\$0.00	\$0.00	0.53	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.06	\$0.03	10.9	\$0.00	\$0.00	0.53	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.43	\$0.21	2.0	\$0.00	\$0.00	0.26	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.43	\$0.21	10.9	\$0.00	\$0.00	0.26	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.28	\$0.14	2.0	\$0.00	\$0.00	0.72	1.00	299.8	0.0	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.28	\$0.14	10.9	\$0.00	\$0.00	0.72	1.00	134.2	0.0	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Health Care Other	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.8	13	\$21.76	\$10.88	6.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Health Care Other	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.8	13	\$21.76	\$10.88	10.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Health Care Other	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$40.24	\$20.12	6.9	\$0.00	\$0.00	1.33	1.00	30.9	43.4	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Health Care Other	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$40.24	\$20.12	10.9	\$0.00	\$0.00	1.33	1.00	9.8	15.3	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Health Care Other	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.5	14	\$1.77	\$0.88	6.9	\$0.00	\$0.00	9.69	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.5	14	\$1.77	\$0.88	10.9	\$0.00	\$0.00	9.69	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Health Care Other	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.4	14	\$0.72	\$0.36	6.9	\$0.00	\$0.00	52.20	1.00	6.5	9.1	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Health Care Other	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.4	14	\$0.72	\$0.36	10.9	\$0.00	\$0.00	52.20	1.00	2.1	3.2	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Health Care Other	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$17.85	\$8.93	6.9	\$0.00	\$0.00	3.97	1.00	203.1	285.5	1.0" of Insulation, assuming R-4 (Code)	
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Health Care Other	Discretionary	2.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$1,767.50	\$883.75	6.9	\$0.00	\$0.00	0.48	1.00	68.9	0.0	Install Heat Recovery Water Heater	
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Health Care Other	Discretionary	2.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$2.76	\$1.38	6.9	\$0.00	\$0.00	263.74	1.00	409.4	575.3	R-3	
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Health Care Other	Discretionary	7.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,157.96	\$578.98	6.9	\$0.00	\$0.00	1.99	1.00	481.8	677.2	95% AFUE or Above	
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Health Care Other	Lost Opportunity	7.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,157.96	\$578.98	10.9	\$0.00	\$0.00	1.99	1.00	408.5	636.6	95% AFUE or Above	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	8.8	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	4.19	1.00	29.0	40.7	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	8.8	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	9.2	0.0	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	6.2	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	2.96	1.00	0.0	0.0	1.0 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	6.2	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	3.6	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	1.72	1.00	0.0	0.0	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	3.6	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Health Care Other	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.4	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	0.66	1.00	1.7	0.0	2.2 GPM (Federal Code)	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Health Care Other	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.7	5	\$1.72	\$0.86	6.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.7	5	\$1.72	\$0.86	10.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.9	5	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	26.4	0.0	0.75 GPM	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.9	5	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	8.4	0.0	0.75 GPM	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	4.6	5	\$1.72	\$0.86	6.9	\$0.00	\$0.00	16.47	1.00	42.3	59.4	0.75 GPM	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Health Care Other	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	4.6	5	\$1.72	\$0.86	10.9	\$0.00	\$0.00	16.47	1.00	13.4	20.9	0.75 GPM	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$7.55	\$3.77	2.0	\$1.95	\$1.95	0.02	1.00	1,072.7	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$7.55	\$3.77	10.9	\$1.95	\$1.95	0.02	1.00	493.7	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Health Care Other	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$350.72	\$175.36	6.9	\$0.00	\$0.00	0.03	1.00	20.2	0.0	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$350.72	\$175.36	10.9	\$0.00	\$0.00	0.03	1.00	6.4	0.0	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Health Care Other	Discretionary	1.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$61.88	\$30.94	6.9	\$0.00	\$0.00	3.56	1.00	25.6	36.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Health Care Other	Lost Opportunity	1.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$61.88	\$30.94	10.9	\$0.00	\$0.00	3.56	1.00	7.2	11.1	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.71	\$0.35	2.0	\$0.00	\$0.00	0.42	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.71	\$0.35	10.9	\$0.00	\$0.00	0.42	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.18	\$0.09	2.0	\$0.00	\$0.00	0.49	1.00	0.0	0.0	ENERGY STAR Storage Water Heater LE 55 Gal - EF 0.67
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.18	\$0.09	10.9	\$0.00	\$0.00	0.49	1.00	0.0	0.0	ENERGY STAR Storage Water Heater LE 55 Gal - EF 0.67
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Tankless - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.59	\$0.30	2.0	\$0.00	\$0.00	0.75	1.00	2,369.7	0.0	ENERGY STAR Tankless Water Heater LE 55 Gal - EF 0.90
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Tankless - ENERGY STAR	Health Care Other	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.59	\$0.30	10.9	\$0.00	\$0.00	0.75	1.00	1,063.7	0.0	ENERGY STAR Tankless Water Heater LE 55 Gal - EF 0.90
Cooking	Broiler	Hospital	Discretionary	5.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$168.80	\$84.40	6.9	\$0.00	\$0.00	6.08	1.00	11.1	11.1	Infrared Cooking Broiler (37% Cooking Efficiency)
Cooking	Broiler	Hospital	Lost Opportunity	5.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$168.80	\$84.40	10.9	\$0.00	\$0.00	6.08	1.00	3.9	3.9	Infrared Cooking Broiler (37% Cooking Efficiency)
Cooking	Combination Oven	Hospital	Discretionary	2.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	3.1	0.0	ENERGY STAR Combination Oven
Cooking	Combination Oven	Hospital	Lost Opportunity	2.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	1.1	0.0	ENERGY STAR Combination Oven
Cooking	Convection Oven	Hospital	Discretionary	1.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$14.34	\$7.17	6.9	\$0.00	\$0.00	14.42	1.00	1.5	1.5	ENERGY STAR Convection Oven
Cooking	Convection Oven	Hospital	Lost Opportunity	1.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$14.34	\$7.17	10.9	\$0.00	\$0.00	14.42	1.00	0.5	0.5	ENERGY STAR Convection Oven
Cooking	Conveyor Oven	Hospital	Discretionary	2.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$174.05	\$87.03	6.9	\$0.00	\$0.00	2.95	1.00	4.0	4.0	High Efficiency Conveyor Oven (42% Cooking Efficiency)
Cooking	Conveyor Oven	Hospital	Lost Opportunity	2.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$174.05	\$87.03	10.9	\$0.00	\$0.00	2.95	1.00	1.4	1.4	High Efficiency Conveyor Oven (42% Cooking Efficiency)
Cooking	Fryers	Hospital	Discretionary	3.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$156.61	\$78.30	6.9	\$0.00	\$0.00	4.83	1.00	6.3	6.3	ENERGY STAR Fryer
Cooking	Fryers	Hospital	Lost Opportunity	3.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$156.61	\$78.30	10.9	\$0.00	\$0.00	4.83	1.00	2.2	2.2	ENERGY STAR Fryer
Cooking	Griddle	Hospital	Discretionary	1.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$105.46	\$52.73	6.9	\$0.00	\$0.00	1.99	1.00	1.4	1.4	ENERGY STAR Griddle
Cooking	Griddle	Hospital	Lost Opportunity	1.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$105.46	\$52.73	10.9	\$0.00	\$0.00	1.99	1.00	0.5	0.5	ENERGY STAR Griddle
Cooking	Rack Oven	Hospital	Discretionary	3.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	4.9	0.0	ENERGY STAR Rack Oven
Cooking	Rack Oven	Hospital	Lost Opportunity	3.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	1.7	0.0	ENERGY STAR Rack Oven
Cooking	Steam Cooker	Hospital	Discretionary	4.3	0.0	0.000	0.000	0.0	0.0	0.0	2,224.3	12	\$95.76	\$47.88	6.9	\$0.00	\$0.00	265.70	1.00	7.6	7.6	ENERGY STAR Steam Cooker
Cooking	Steam Cooker	Hospital	Lost Opportunity	4.3	0.0	0.000	0.000	0.0	0.0	0.0	2,224.3	12	\$95.76	\$47.88	10.9	\$0.00	\$0.00	265.70	1.00	2.7	2.7	ENERGY STAR Steam Cooker
Dryer	Dryer - ENERGY STAR (Residential Sized)	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	2.0	\$0.00	\$0.00	0.31	1.00	0.0	0.0	ENERGY STAR Dryer - CEF 3.48 (Gas Dryer)
Dryer	Dryer - ENERGY STAR (Residential Sized)	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.31	1.00	0.0	0.0	ENERGY STAR Dryer - CEF 3.48 (Gas Dryer)
Room Heat - Gas	Exhaust Air to Ventilation Air Heat Recovery	Hospital	Discretionary	786.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$403,489.61	\$201,744.81	6.9	\$0.00	\$0.00	0.56	1.00	0.0	0.0	Exhaust Air to Ventilation Air Heat Recovery
Room Heat - Gas	Infiltration Reduction	Hospital	Discretionary	524.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$3,137.02	\$1,568.51	6.9	\$0.00	\$0.00	34.28	1.00	0.0	0.0	Install Caulking And Weatherstripping (ACH 0.65)
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Hospital	Discretionary	278.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$9,606.49	\$4,803.25	6.9	\$0.00	\$0.00	16.97	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Hospital	Lost Opportunity	278.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$9,606.49	\$4,803.25	10.9	\$0.00	\$0.00	16.97	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Code	Hospital	Discretionary	887.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$43,834.06	\$21,917.03	6.9	\$0.00	\$0.00	11.84	1.00	0.0	0.0	R-30 c.i. (CBES 2015 Code)
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Hospital	Discretionary	411.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$17,078.20	\$8,539.10	6.9	\$0.00	\$0.00	14.07	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Hospital	Lost Opportunity	411.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$17,078.20	\$8,539.10	10.9	\$0.00	\$0.00	14.07	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Code	Hospital	Discretionary	715.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$48,957.52	\$24,478.76	6.9	\$0.00	\$0.00	8.55	1.00	0.0	0.0	R-30 (CBES 2015 Code)
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Hospital	Discretionary	336.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$9,951.58	\$4,975.79	6.9	\$0.00	\$0.00	19.76	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Hospital	Lost Opportunity	336.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$9,951.58	\$4,975.79	10.9	\$0.00	\$0.00	19.76	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Code	Hospital	Discretionary	462.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$68,288.33	\$34,144.16	6.9	\$0.00	\$0.00	3.96	1.00	0.0	0.0	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Gas	Radiant Heater - High Efficiency	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	2.0	\$0.00	\$0.00	918.54	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Radiant Heater - High Efficiency	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	10.9	\$0.00	\$0.00	918.54	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Windows - CBES 2015 - Above Code	Hospital	Discretionary	28.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$18,550.74	\$9,275.37	6.9	\$0.00	\$0.00	0.63	1.00	0.0	0.0	U-0.29
Room Heat - Gas	Windows - CBES 2015 - Above Code	Hospital	Lost Opportunity	28.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$18,550.74	\$9,275.37	10.9	\$0.00	\$0.00	0.63	1.00	0.0	0.0	U-0.29
Room Heat - Gas	Windows - CBES 2015 - Code	Hospital	Discretionary	73.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$122,502.18	\$61,251.09	6.9	\$0.00	\$0.00	0.24	1.00	0.0	0.0	U-0.36 (CBES 2015 Code)
Space Heat - Gas Boiler	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Hospital	Discretionary	2,653.2	5,010.5	0.000	0.000	0.0	0.0	0.0	0.0	15	\$51,641.76	\$25,820.88	6.9	\$0.00	\$0.00	16.14	1.00	245.9	245.9	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Gas Boiler	Boiler - Economizer	Hospital	Discretionary	1,959.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$17,647.02	\$8,823.51	6.9	\$0.00	\$0.00	34.16	1.00	3,070.8	3,070.8	Economizer
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Hospital	Discretionary	11.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,758.37	\$879.19	6.9	\$0.00	\$0.00	2.62	1.00	4.9	4.9	3.5" of Insulation, assuming R-13
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Hospital	Lost Opportunity	11.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,758.37	\$879.19	10.9	\$0.00	\$0.00	2.62	1.00	5.0	5.0	3.5" of Insulation, assuming R-13
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Code	Hospital	Discretionary	9.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$3,366.96	\$1,683.48	6.9	\$0.00	\$0.00	1.15	1.00	1.9	1.9	2.5" of Insulation, assuming R-9.0
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - Federal Standard 2023	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.04	\$0.02	2.0	\$0.00	\$0.00	73.37	1.00	0.0	0.0	Federal Standard 2023 Boiler - Thermal Efficiency Et = 79%
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - Federal Standard 2023	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.04	\$0.02	10.9	\$0.00	\$0.00	73.37	1.00	0.0	0.0	Federal Standard 2023 Boiler - Thermal Efficiency Et = 79%
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - High Efficiency	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.06	\$0.03	2.0	\$0.00	\$0.00	97.42	1.00	0.0	0.0	High Efficiency - Thermal Efficiency Et = 85%
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - High Efficiency	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.06	\$0.03	10.9	\$0.00	\$0.00	97.42	1.00	0.0	0.0	High Efficiency - Thermal Efficiency Et = 85%
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - Premium Efficiency	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	2.0	\$0.00	\$0.00	81.35	1.00	7,118.2	7,128.9	High Efficiency - Thermal Efficiency Et = 95%
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - Premium Efficiency	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	10.9	\$0.00	\$0.00	81.35	1.00	3,836.5	3,851.2	High Efficiency - Thermal Efficiency Et = 95%
Space Heat - Gas Boiler	Boiler Controls	Hospital	Discretionary	1,507.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$6,816.71	\$3,408.36	6.9	\$0.00	\$0.00	68.03	1.00	2,099.0	2,099.0	Boiler Reset Controls
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Hospital	Discretionary	716.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$134,630.07	\$67,315.04	6.9	\$0.00	\$0.00	1.64	1.00	570.5	570.5	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Hospital	Lost Opportunity	716.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$134,630.07	\$67,315.04	10.9	\$0.00	\$0.00	1.64	1.00	264.0	264.0	Add

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Code	Hospital	Discretionary	5,107.1	8,783.8	0.000	0.000	0.0	0.0	0.0	0.0	30	\$43,834.06	\$21,917.03	6.9	\$0.00	\$0.00	69.57	1.00	1,943.6	1,943.6	R-30 c.i. (CBES 2015 Code)
Space Heat - Gas Boiler	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Hospital	Discretionary	2,364.4	3,778.2	0.000	0.000	0.0	0.0	0.0	0.0	30	\$17,078.20	\$8,539.10	6.9	\$0.00	\$0.00	82.55	1.00	468.4	468.4	R-38
Space Heat - Gas Boiler	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Hospital	Lost Opportunity	2,364.4	3,778.2	0.000	0.000	0.0	0.0	0.0	0.0	30	\$17,078.20	\$8,539.10	10.9	\$0.00	\$0.00	82.55	1.00	310.3	310.3	R-38
Space Heat - Gas Boiler	Insulation - Floor (non-slab) - CBES 2015 - Code	Hospital	Discretionary	4,118.0	6,580.4	0.000	0.000	0.0	0.0	0.0	0.0	30	\$48,957.52	\$24,478.76	6.9	\$0.00	\$0.00	50.15	1.00	761.9	761.9	R-30 (CBES 2015 Code)
Space Heat - Gas Boiler	Insulation - Wall - CBES 2015 - Above Code	Hospital	Discretionary	1,935.0	3,092.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$9,951.58	\$4,975.79	6.9	\$0.00	\$0.00	115.94	1.00	640.3	640.3	R-13 + 15.6 c.i.
Space Heat - Gas Boiler	Insulation - Wall - CBES 2015 - Above Code	Hospital	Lost Opportunity	1,935.0	3,092.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$9,951.58	\$4,975.79	10.9	\$0.00	\$0.00	115.94	1.00	631.0	631.0	R-13 + 15.6 c.i.
Space Heat - Gas Boiler	Insulation - Wall - CBES 2015 - Code	Hospital	Discretionary	2,660.3	3,395.2	0.000	0.000	0.0	0.0	0.0	0.0	30	\$68,288.33	\$34,144.16	6.9	\$0.00	\$0.00	23.14	1.00	547.3	547.3	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Gas Boiler	Integrated Space Heating and Water Heating	Hospital	Discretionary	1,675.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$79,467.47	\$39,733.73	6.9	\$0.00	\$0.00	8.54	1.00	309.2	309.2	95% AFUE or Above
Space Heat - Gas Boiler	Integrated Space Heating and Water Heating	Hospital	Lost Opportunity	1,675.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$79,467.47	\$39,733.73	10.9	\$0.00	\$0.00	8.54	1.00	294.2	294.2	95% AFUE or Above
Space Heat - Gas Boiler	Programmable Thermostat	Hospital	Discretionary	1,206.0	1,927.1	0.000	0.000	0.0	0.0	0.0	0.0	11	\$187.07	\$93.53	6.9	\$0.00	\$0.00	1482.52	1.00	1,772.2	1,772.2	Programmable Thermostat
Space Heat - Gas Boiler	Re-Commissioning	Hospital	Discretionary	3,919.5	6,263.1	0.000	0.000	0.0	0.0	0.0	0.0	5	\$61,970.11	\$30,985.06	6.9	\$0.00	\$0.00	6.40	1.00	6,469.9	6,469.9	Re-Commissioning
Space Heat - Gas Boiler	Retrocommissioning	Hospital	Discretionary	4,472.2	7,146.3	0.000	0.000	0.0	0.0	0.0	0.0	5	\$103,283.52	\$51,641.76	6.9	\$0.00	\$0.00	4.38	1.00	3,873.5	3,873.5	Retrocommissioning
Space Heat - Gas Boiler	Steam Trap Repair	Hospital	Discretionary	79.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	6	\$1,588.29	\$794.15	6.9	\$0.00	\$0.00	6.02	1.00	13.6	13.6	Steam Trap Repair
Space Heat - Gas Boiler	Strategic Energy Management (SEM)	Hospital	Discretionary	1,236.1	1,975.3	0.000	0.000	0.0	0.0	0.0	0.0	5	\$49,981.89	\$24,990.95	6.9	\$0.00	\$0.00	2.50	1.00	155.7	155.7	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Boiler	Strategic Energy Management (SEM)	Hospital	Lost Opportunity	1,236.1	1,975.3	0.000	0.000	0.0	0.0	0.0	0.0	5	\$49,981.89	\$24,990.95	10.9	\$0.00	\$0.00	2.50	1.00	553.6	553.6	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Boiler	Tune-up - Boiler Maintenance	Hospital	Discretionary	1,099.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$5,112.53	\$2,556.27	6.9	\$0.00	\$0.00	8.18	1.00	1,062.3	1,062.3	Boiler Maintenance (Tune-up)
Space Heat - Gas Boiler	Wi-Fi Thermostat	Hospital	Discretionary	1,206.0	1,927.1	0.000	0.000	0.0	0.0	0.0	0.0	11	\$1,490.16	\$745.08	6.9	\$0.00	\$0.00	186.11	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)
Space Heat - Gas Boiler	Windows - CBES 2015 - Above Code	Hospital	Discretionary	166.4	265.8	0.000	0.000	0.0	0.0	0.0	0.0	20	\$18,550.74	\$9,275.37	6.9	\$0.00	\$0.00	3.70	1.00	56.2	56.2	U-0.29
Space Heat - Gas Boiler	Windows - CBES 2015 - Above Code	Hospital	Lost Opportunity	166.4	265.8	0.000	0.000	0.0	0.0	0.0	0.0	20	\$18,550.74	\$9,275.37	10.9	\$0.00	\$0.00	3.70	1.00	102.2	102.2	U-0.29
Space Heat - Gas Boiler	Windows - CBES 2015 - Code	Hospital	Discretionary	420.3	623.4	0.000	0.000	0.0	0.0	0.0	0.0	20	\$122,502.18	\$61,251.09	6.9	\$0.00	\$0.00	1.41	1.00	136.2	136.2	U-0.36 (CBES 2015 Code)
Space Heat - Gas Furnace	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Hospital	Discretionary	2,377.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$51,641.76	\$25,820.88	6.9	\$0.00	\$0.00	14.16	1.00	0.0	0.0	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Gas Furnace	Commissioning	Hospital	Lost Opportunity	3,511.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$239,617.77	\$119,808.89	10.9	\$0.00	\$0.00	1.46	1.00	0.0	0.0	Commissioning
Space Heat - Gas Furnace	Convert Constant Volume Air System to VAV	Hospital	Discretionary	7,096.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$502,134.97	\$251,067.49	6.9	\$0.00	\$0.00	4.35	1.00	0.0	0.0	Variable Volume Air System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	Hospital	Discretionary	4,052.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$64,552.20	\$32,276.10	6.9	\$0.00	\$0.00	6.24	1.00	0.0	0.0	Installation of EMS System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	Hospital	Lost Opportunity	4,052.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$64,552.20	\$32,276.10	10.9	\$0.00	\$0.00	6.24	1.00	0.0	0.0	Installation of EMS System
Space Heat - Gas Furnace	Duct Repair and Sealing	Hospital	Discretionary	2,349.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	18	\$49,576.09	\$24,788.05	6.9	\$0.00	\$0.00	17.37	1.00	0.0	0.0	Reduction In Duct Losses to 5 %
Space Heat - Gas Furnace	Exhaust Air to Ventilation Air Heat Recovery	Hospital	Discretionary	4,052.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$403,489.61	\$201,744.81	6.9	\$0.00	\$0.00	2.89	1.00	0.0	0.0	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	2.0	\$0.00	\$0.00	32.86	1.00	0.0	0.0	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	10.9	\$0.00	\$0.00	32.86	1.00	0.0	0.0	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	2.0	\$0.00	\$0.00	45.87	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	10.9	\$0.00	\$0.00	45.87	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	2.0	\$0.00	\$0.00	38.03	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	10.9	\$0.00	\$0.00	38.03	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Indirect Information Feedback	Hospital	Discretionary	140.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$140,326.19	\$70,163.09	6.9	\$0.00	\$0.00	0.04	1.00	0.0	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Indirect Information Feedback	Hospital	Lost Opportunity	140.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$140,326.19	\$70,163.09	10.9	\$0.00	\$0.00	0.04	1.00	0.0	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Infiltration Reduction	Hospital	Discretionary	2,701.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$3,137.02	\$1,568.51	6.9	\$0.00	\$0.00	176.70	1.00	0.0	0.0	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Hospital	Discretionary	1,437.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$9,606.49	\$4,803.25	6.9	\$0.00	\$0.00	87.47	1.00	0.0	0.0	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Hospital	Lost Opportunity	1,437.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$9,606.49	\$4,803.25	10.9	\$0.00	\$0.00	87.47	1.00	0.0	0.0	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Code	Hospital	Discretionary	4,576.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$43,834.06	\$21,917.03	6.9	\$0.00	\$0.00	61.02	1.00	0.0	0.0	R-30 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Hospital	Discretionary	972.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$2,801.57	\$1,400.78	6.9	\$0.00	\$0.00	140.59	1.00	0.0	0.0	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Hospital	Lost Opportunity	972.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$2,801.57	\$1,400.78	10.9	\$0.00	\$0.00	140.59	1.00	0.0	0.0	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Code	Hospital	Discretionary	972.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$11,283.72	\$5,641.86	6.9	\$0.00	\$0.00	34.91	1.00	0.0	0.0	R-8 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Hospital	Discretionary	2,118.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$17,078.20	\$8,539.10	6.9	\$0.00	\$0.00	72.51	1.00	0.0	0.0	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Hospital	Lost Opportunity	2,118.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$17,078.20	\$8,539.10	10.9	\$0.00	\$0.00	72.51	1.00	0.0	0.0	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Code	Hospital	Discretionary	3,689.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$48,957.52	\$24,478.76	6.9	\$0.00	\$0.00	44.05	1.00	0.0	0.0	R-30 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Hospital	Discretionary	1,733.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$9,951.58	\$4,975.79	6.9	\$0.00	\$0.00	101.84	1.00	0.0	0.0	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Hospital	Lost Opportunity	1,733.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$9,951.58	\$4,975.79	10.9	\$0.00	\$0.00	101.84	1.00	0.0	0.0	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Code	Hospital	Discretionary	2,383.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$68,288.33	\$34,144.16	6.9	\$0.00	\$0.00	20.40	1.00	0.0	0.0	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Programmable Thermostat	Hospital	Discretionary	1,080.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$187.07	\$93.53	6.9	\$0.00	\$0.00	1305.20	1.00	0.0	0.0	Programmable Thermostat
Space Heat - Gas Furnace	Re-Commissioning	Hospital	Discretionary	3,511.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$61,970.11	\$30,985.06	6.9	\$0.00	\$0.00	5.64	1.00	0.0	0.0	Re-Commissioning
Space Heat - Gas Furnace	Retrocommissioning	Hospital	Discretionary	4,007.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$103,283.52	\$51,641.76	6.9	\$0.00	\$0.00	3.86	1.00	0.0	0.0	Retrocommissioning
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Hospital	Discretionary	1,107.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$44,784.74	\$22,392.37	6.9	\$0.00	\$0.00	2.46	1.00	0.0	0.0	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Hospital	Lost Opportunity	1,107.6	0.0	0.000	0.0															



Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	Hospital	Discretionary	23.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$1,263.78	\$631.89	6.9	\$0.00	\$0.00	3.28	1.00	2.1	2.2	1.0" of Insulation, assuming R-4 (Code)
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	Hospital	Discretionary	218.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$125,139.00	\$62,569.50	6.9	\$0.00	\$0.00	0.68	1.00	1.2	0.0	Install Heat Recovery Water Heater
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	Hospital	Discretionary	53.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$64.44	\$32.22	6.9	\$0.00	\$0.00	263.74	1.00	1.6	1.8	R-3
Water Heat GT 55 Gal	Integrated Space Heating and Water Heating	Hospital	Discretionary	723.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$79,467.47	\$39,733.73	6.9	\$0.00	\$0.00	2.89	1.00	8.6	9.2	95% AFUE or Above
Water Heat GT 55 Gal	Integrated Space Heating and Water Heating	Hospital	Lost Opportunity	723.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$79,467.47	\$39,733.73	10.9	\$0.00	\$0.00	2.89	1.00	7.2	7.9	95% AFUE or Above
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Hospital	Discretionary	4.3	0.0	0.000	0.000	0.0	0.0	0.0	741.5	9	\$413.13	\$206.57	6.9	\$0.00	\$0.00	17.05	1.00	0.4	0.4	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Hospital	Lost Opportunity	4.3	0.0	0.000	0.000	0.0	0.0	0.0	741.5	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.1	0.0	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Hospital	Discretionary	3.0	0.0	0.000	0.000	0.0	0.0	0.0	523.4	9	\$413.13	\$206.57	6.9	\$0.00	\$0.00	12.03	1.00	0.0	0.0	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Hospital	Lost Opportunity	3.0	0.0	0.000	0.000	0.0	0.0	0.0	523.4	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Hospital	Discretionary	1.8	0.0	0.000	0.000	0.0	0.0	0.0	305.3	9	\$413.13	\$206.57	6.9	\$0.00	\$0.00	7.02	1.00	0.0	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Hospital	Lost Opportunity	1.8	0.0	0.000	0.000	0.0	0.0	0.0	305.3	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Hospital	Discretionary	0.8	0.0	0.000	0.000	0.0	0.0	0.0	115.1	9	\$413.13	\$206.57	6.9	\$0.00	\$0.00	2.68	1.00	0.0	0.0	2.2 GPM (Federal Code)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Hospital	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	12.9	5	\$12.82	\$6.41	6.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Hospital	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	12.9	5	\$12.82	\$6.41	10.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Hospital	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	21.4	5	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Hospital	Lost Opportunity	0.3	0.0	0.000	0.000	0.0	0.0	0.0	21.4	5	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Hospital	Discretionary	0.5	0.0	0.000	0.000	0.0	0.0	0.0	34.4	5	\$12.82	\$6.41	6.9	\$0.00	\$0.00	16.47	1.00	0.1	0.1	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Hospital	Lost Opportunity	0.5	0.0	0.000	0.000	0.0	0.0	0.0	34.4	5	\$12.82	\$6.41	10.9	\$0.00	\$0.00	16.47	1.00	0.0	0.0	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Hospital	Discretionary	16.5	0.0	0.000	0.000	0.0	0.0	0.0	451.0	9	\$309.85	\$154.93	6.9	\$0.00	\$0.00	20.33	1.00	1.7	1.8	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Hospital	Lost Opportunity	16.5	0.0	0.000	0.000	0.0	0.0	0.0	451.0	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.6	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Hospital	Discretionary	12.4	0.0	0.000	0.000	0.0	0.0	0.0	338.2	9	\$309.85	\$154.93	6.9	\$0.00	\$0.00	15.25	1.00	0.0	0.0	1.75 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Hospital	Lost Opportunity	12.4	0.0	0.000	0.000	0.0	0.0	0.0	338.2	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.75 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Hospital	Discretionary	8.2	0.0	0.000	0.000	0.0	0.0	0.0	225.5	9	\$309.85	\$154.93	6.9	\$0.00	\$0.00	10.17	1.00	0.0	0.0	2.0 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Hospital	Lost Opportunity	8.2	0.0	0.000	0.000	0.0	0.0	0.0	225.5	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	2.0 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Hospital	Discretionary	8.2	0.0	0.000	0.000	0.0	0.0	0.0	225.5	9	\$309.85	\$154.93	6.9	\$0.00	\$0.00	10.17	1.00	0.3	0.3	2.5 GPM (Federal Code)
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$7.47	\$3.73	2.0	\$2.01	\$2.01	0.02	1.00	16.6	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$7.47	\$3.73	10.9	\$2.01	\$2.01	0.02	1.00	7.4	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Hospital	Discretionary	2.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$7,244.72	\$3,622.36	6.9	\$0.00	\$0.00	0.12	1.00	0.3	0.0	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Hospital	Lost Opportunity	2.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$7,244.72	\$3,622.36	10.9	\$0.00	\$0.00	0.12	1.00	0.1	0.0	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Hospital	Discretionary	135.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$15,812.67	\$7,906.33	6.9	\$0.00	\$0.00	1.39	1.00	0.4	0.5	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Hospital	Lost Opportunity	135.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$15,812.67	\$7,906.33	10.9	\$0.00	\$0.00	1.39	1.00	0.1	0.1	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.06	\$0.03	2.0	\$0.00	\$0.00	0.76	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.06	\$0.03	10.9	\$0.00	\$0.00	0.76	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.44	\$0.22	2.0	\$0.00	\$0.00	0.37	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.44	\$0.22	10.9	\$0.00	\$0.00	0.37	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.29	\$0.15	2.0	\$0.00	\$0.00	1.03	1.00	20.2	26.1	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.29	\$0.15	10.9	\$0.00	\$0.00	1.03	1.00	8.8	11.5	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Hospital	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	6.4	13	\$78.96	\$39.48	6.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Hospital	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	6.4	13	\$78.96	\$39.48	10.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Hospital	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	8.5	13	\$146.00	\$73.00	6.9	\$0.00	\$0.00	1.33	1.00	0.1	0.1	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Hospital	Lost Opportunity	0.4	0.0	0.000	0.000	0.0	0.0	0.0	8.5	13	\$146.00	\$73.00	10.9	\$0.00	\$0.00	1.33	1.00	0.0	0.0	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Hospital	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	3.5	14	\$13.18	\$6.59	6.9	\$0.00	\$0.00	9.69	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Hospital	Lost Opportunity	0.4	0.0	0.000	0.000	0.0	0.0	0.0	3.5	14	\$13.18	\$6.59	10.9	\$0.00	\$0.00	9.69	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Hospital	Discretionary	0.7	0.0	0.000	0.000	0.0	0.0	0.0	10.2	14	\$5.38	\$2.69	6.9	\$0.00	\$0.00	52.20	1.00	0.0	0.0	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Hospital	Lost Opportunity	0.7	0.0	0.000	0.000	0.0	0.0	0.0	10.2	14	\$5.38	\$2.69	10.9	\$0.00	\$0.00	52.20	1.00	0.0	0.0	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Hospital	Discretionary	28.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$1,263.78	\$631.89	6.9	\$0.00	\$0.00	3.97	1.00	9.5	9.9	1.0" of Insulation, assuming R-4 (Code)
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Hospital	Discretionary	222.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$125,139.00	\$62,569.50	6.9	\$0.00	\$0.00	0.69	1.00	4.7	0.0	Install Heat Recovery Water Heater
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Hospital	Discretionary	53.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$64.44	\$32.22	6.9	\$0.00	\$0.00	263.74	1.00	6.1	6.4	R-3
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Hospital	Discretionary	735.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$79,467.47	\$39,733.73	6.9	\$0.00	\$0.00	2.94	1.00	32.6	34.1	95% AFUE or Above
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Hospital	Lost Opportunity	735.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$79,467.47	\$39,733.73	10.9	\$0.00	\$0.00	2.94	1.00	26.8	28.6	95% AFUE or Above
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Hospital	Discretionary	4.3	0.0	0.000	0.000	0.0	0.0	0.0	741.5	9	\$413.13	\$206.57	6.9	\$0.00	\$0.00	17.05	1.00	1.6	1.6	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Hospital	Lost Opportunity	4.3	0.0	0.000	0.000	0.0	0.0	0.0	741.5	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.5	0.0	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Hospital	Discretionary	3.0	0.0	0.000	0.000	0.0	0.0	0.0	523.4	9	\$413.13	\$206.57	6.9	\$0.00	\$0.00	12.03	1.00	0.0	0.0	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Hospital	Lost Opportunity	3.0	0.0	0.000	0.000	0.0	0.0	0.0	523.4	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Hospital	Discretionary	1.8	0.0	0.000	0.000	0.0	0.0	0.0	305.3	9	\$413.13	\$206.57	6.9	\$0.00	\$0.00	7.02	1.00	0.0	0.0	1.5 GPM
Water Heat LE 55 Gal																						

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Water Heat LE 55 Gal	Low-Flow Showerheads	Hospital	Lost Opportunity	12.4	0.0	0.000	0.000	0.0	0.0	0.0	338.2	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.75 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Hospital	Discretionary	8.2	0.0	0.000	0.000	0.0	0.0	0.0	225.5	9	\$309.85	\$154.93	6.9	\$0.00	\$0.00	10.17	1.00	0.0	0.0	2.0 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Hospital	Lost Opportunity	8.2	0.0	0.000	0.000	0.0	0.0	0.0	225.5	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	2.0 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Hospital	Discretionary	8.2	0.0	0.000	0.000	0.0	0.0	0.0	225.5	9	\$309.85	\$154.93	6.9	\$0.00	\$0.00	10.17	1.00	0.9	1.0	2.5 GPM (Federal Code)
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$7.79	\$3.89	2.0	\$2.01	\$2.01	0.02	1.00	72.2	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$7.79	\$3.89	10.9	\$2.01	\$2.01	0.02	1.00	32.2	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Hospital	Discretionary	2.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$7,244.72	\$3,622.36	6.9	\$0.00	\$0.00	0.12	1.00	1.1	0.0	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Hospital	Lost Opportunity	2.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$7,244.72	\$3,622.36	10.9	\$0.00	\$0.00	0.12	1.00	0.3	0.0	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Hospital	Discretionary	138.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$15,812.67	\$7,906.33	6.9	\$0.00	\$0.00	1.41	1.00	1.7	1.7	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Hospital	Lost Opportunity	138.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$15,812.67	\$7,906.33	10.9	\$0.00	\$0.00	1.41	1.00	0.5	0.5	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.73	\$0.37	2.0	\$0.00	\$0.00	0.60	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.73	\$0.37	10.9	\$0.00	\$0.00	0.60	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.19	\$0.09	2.0	\$0.00	\$0.00	0.70	1.00	0.0	0.0	ENERGY STAR Storage Water Heater LE 55 Gal - EF 0.67
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.19	\$0.09	10.9	\$0.00	\$0.00	0.70	1.00	0.0	0.0	ENERGY STAR Storage Water Heater LE 55 Gal - EF 0.67
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Tankless - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.61	\$0.31	2.0	\$0.00	\$0.00	1.08	1.00	159.5	206.6	ENERGY STAR Tankless Water Heater LE 55 Gal - EF 0.90
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Tankless - ENERGY STAR	Hospital	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.61	\$0.31	10.9	\$0.00	\$0.00	1.08	1.00	69.4	91.3	ENERGY STAR Tankless Water Heater LE 55 Gal - EF 0.90
Room Heat - Gas	Exhaust Air to Ventilation Air Heat Recovery	Large Office	Discretionary	60.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$66,542.46	\$33,271.23	6.9	\$0.00	\$0.00	0.26	1.00	0.0	0.0	Exhaust Air to Ventilation Air Heat Recovery
Room Heat - Gas	Infiltration Reduction	Large Office	Discretionary	40.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$1,341.13	\$670.56	6.9	\$0.00	\$0.00	6.21	1.00	0.0	0.0	Install Caulking And Weatherstripping (ACH 0.65)
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Large Office	Discretionary	23.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,276.84	\$1,638.42	6.9	\$0.00	\$0.00	4.25	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Large Office	Lost Opportunity	23.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,276.84	\$1,638.42	10.9	\$0.00	\$0.00	4.25	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Code	Large Office	Discretionary	75.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$14,952.10	\$7,476.05	6.9	\$0.00	\$0.00	2.97	1.00	0.0	0.0	R-30 c.i. (CBES 2015 Code)
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Office	Discretionary	35.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$5,825.49	\$2,912.75	6.9	\$0.00	\$0.00	3.53	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Office	Lost Opportunity	35.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$5,825.49	\$2,912.75	10.9	\$0.00	\$0.00	3.53	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Code	Large Office	Discretionary	61.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$16,699.74	\$8,349.87	6.9	\$0.00	\$0.00	2.14	1.00	0.0	0.0	R-30 (CBES 2015 Code)
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Large Office	Discretionary	15.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,873.36	\$936.68	6.9	\$0.00	\$0.00	4.95	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Large Office	Lost Opportunity	15.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,873.36	\$936.68	10.9	\$0.00	\$0.00	4.95	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Code	Large Office	Discretionary	21.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$12,855.13	\$6,427.57	6.9	\$0.00	\$0.00	0.99	1.00	0.0	0.0	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Gas	Radiant Heater - High Efficiency	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	2.0	\$0.00	\$0.00	71.14	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Radiant Heater - High Efficiency	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	10.9	\$0.00	\$0.00	71.14	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Windows - CBES 2015 - Above Code	Large Office	Discretionary	3.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$7,930.74	\$3,965.37	6.9	\$0.00	\$0.00	0.16	1.00	0.0	0.0	U-0.29
Room Heat - Gas	Windows - CBES 2015 - Above Code	Large Office	Lost Opportunity	3.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$7,930.74	\$3,965.37	10.9	\$0.00	\$0.00	0.16	1.00	0.0	0.0	U-0.29
Room Heat - Gas	Windows - CBES 2015 - Code	Large Office	Discretionary	7.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$52,371.65	\$26,185.82	6.9	\$0.00	\$0.00	0.06	1.00	0.0	0.0	U-0.36 (CBES 2015 Code)
Space Heat - Gas Boiler	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Large Office	Discretionary	119.9	52.6	0.000	0.000	0.0	0.0	0.0	0.0	15	\$5,677.75	\$2,838.88	6.9	\$0.00	\$0.00	6.53	1.00	8,853.7	8,853.7	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Gas Boiler	Boiler - Economizer	Large Office	Discretionary	88.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$1,940.20	\$970.10	6.9	\$0.00	\$0.00	14.04	1.00	9,094.8	9,094.8	Economizer
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Large Office	Discretionary	2.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$331.01	\$165.50	6.9	\$0.00	\$0.00	2.62	1.00	69.4	69.4	3.5" of Insulation, assuming R-13
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Large Office	Lost Opportunity	2.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$331.01	\$165.50	10.9	\$0.00	\$0.00	2.62	1.00	59.1	59.1	3.5" of Insulation, assuming R-13
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Code	Large Office	Discretionary	1.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$633.82	\$316.91	6.9	\$0.00	\$0.00	1.15	1.00	20.8	20.8	2.5" of Insulation, assuming R-9.0
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - Federal Standard 2023	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.04	\$0.02	2.0	\$0.00	\$0.00	32.29	1.00	0.0	0.0	Federal Standard 2023 Boiler - Thermal Efficiency Et = 79%
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - Federal Standard 2023	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.04	\$0.02	10.9	\$0.00	\$0.00	32.29	1.00	0.0	0.0	Federal Standard 2023 Boiler - Thermal Efficiency Et = 79%
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - High Efficiency	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.06	\$0.03	2.0	\$0.00	\$0.00	42.87	1.00	0.0	0.0	High Efficiency - Thermal Efficiency Et = 85%
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - High Efficiency	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.06	\$0.03	10.9	\$0.00	\$0.00	42.87	1.00	0.0	0.0	High Efficiency - Thermal Efficiency Et = 85%
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - Premium Efficiency	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	2.0	\$0.00	\$0.00	35.80	1.00	15,492.4	15,755.7	High Efficiency - Thermal Efficiency Et = 95%
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - Premium Efficiency	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	10.9	\$0.00	\$0.00	35.80	1.00	10,700.5	12,513.3	High Efficiency - Thermal Efficiency Et = 95%
Space Heat - Gas Boiler	Boiler Controls	Large Office	Discretionary	68.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$2,141.32	\$1,070.66	6.9	\$0.00	\$0.00	9.78	1.00	5,436.1	5,436.1	Boiler Reset Controls
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Large Office	Discretionary	32.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$42,291.13	\$21,145.56	6.9	\$0.00	\$0.00	0.24	1.00	1,479.6	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Large Office	Lost Opportunity	32.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$42,291.13	\$21,145.56	10.9	\$0.00	\$0.00	0.24	1.00	736.3	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)
Space Heat - Gas Boiler	Commissioning	Large Office	Lost Opportunity	177.1	65.8	0.000	0.000	0.0	0.0	0.0	0.0	5	\$26,344.76	\$13,172.38	10.9	\$0.00	\$0.00	0.67	1.00	7,328.5	0.0	Commissioning
Space Heat - Gas Boiler	Convert Constant Volume Air System to VAV	Large Office	Discretionary	357.8	133.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$82,810.79	\$41,405.40	6.9	\$0.00	\$0.00	1.33	1.00	2,988.8	2,988.8	Variable Volume Air System
Space Heat - Gas Boiler	Direct Digital Control System-Installation	Large Office	Discretionary	204.3	75.9	0.000	0.000	0.0	0.0	0.0	0.0	5	\$7,097.19	\$3,548.59	6.9	\$0.00	\$0.00	2.87	1.00	12,524.2	12,524.2	Installation of EMS System
Space Heat - Gas Boiler	Direct Digital Control System-Installation	Large Office	Lost Opportunity	204.3	75.9	0.000	0.000	0.0	0.0	0.0	0.0	5	\$7,097.19	\$3,548.59	10.9	\$0.00	\$0.00	2.87	1.00	0.0	0.0	Installation of EMS System
Space Heat - Gas Boiler	Exhaust Air to Ventilation Air Heat Recovery	Large Office	Discretionary	204.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$66,542.46	\$33,271.23	6.9	\$0.00	\$0.00	0.88	1.00	1,318.9	0.0	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Gas Boiler	Indirect Information Feedback	Large Office	Discretionary	7.1	2.6	0.000	0.000	0.0	0.0	0.0	0.0	2	\$7,075.10	\$3,537.55	6.9	\$0.00	\$0.00	0.04	1.00	387.6	0.0	Indirect Information Feedback
Space Heat - Gas Boiler	Indirect Information Feedback	Large Office	Lost Opportunity	7.1	2.6	0.000	0.000	0.0	0.0	0.0	0.0	2	\$7,075.10	\$3,537.55	10.9	\$0.00	\$0.00	0.04	1.00	193.8	0.0	Indirect Information Feedback
Space Heat - Gas Boiler	Infiltration Reduction	Large Office	Discretionary	136.2	15.2	0.000	0.000	0.0	0.0	0.0	0.0	10	\$1,341.13	\$670.56	6.9	\$0.00	\$0.00	20.86	1.00			

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Space Heat - Gas Boiler	Retrocommissioning	Large Office	Discretionary	202.0	75.1	0.000	0.000	0.0	0.0	0.0	0.0	5	\$11,355.50	\$5,677.75	6.9	\$0.00	\$0.00	1.78	1.00	10,296.3	10,296.3	Retrocommissioning
Space Heat - Gas Boiler	Steam Trap Repair	Large Office	Discretionary	24.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	6	\$498.93	\$249.46	6.9	\$0.00	\$0.00	6.02	1.00	316.7	316.7	Steam Trap Repair
Space Heat - Gas Boiler	Strategic Energy Management (SEM)	Large Office	Discretionary	55.8	20.8	0.000	0.000	0.0	0.0	0.0	0.0	5	\$2,258.00	\$1,129.00	6.9	\$0.00	\$0.00	2.47	1.00	461.4	461.4	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Boiler	Strategic Energy Management (SEM)	Large Office	Lost Opportunity	55.8	20.8	0.000	0.000	0.0	0.0	0.0	0.0	5	\$2,258.00	\$1,129.00	10.9	\$0.00	\$0.00	2.47	1.00	1,554.0	1,554.0	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Boiler	Tune-up - Boiler Maintenance	Large Office	Discretionary	49.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$562.10	\$281.05	6.9	\$0.00	\$0.00	3.36	1.00	2,788.1	2,788.1	Boiler Maintenance (Tune-up)
Space Heat - Gas Boiler	Wi-Fi Thermostat	Large Office	Discretionary	54.5	20.2	0.000	0.000	0.0	0.0	0.0	0.0	11	\$480.31	\$240.15	6.9	\$0.00	\$0.00	25.74	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)
Space Heat - Gas Boiler	Windows - CBES 2015 - Above Code	Large Office	Discretionary	10.4	3.9	0.000	0.000	0.0	0.0	0.0	0.0	20	\$7,930.74	\$3,965.37	6.9	\$0.00	\$0.00	0.53	1.00	198.6	0.0	U-0.29
Space Heat - Gas Boiler	Windows - CBES 2015 - Above Code	Large Office	Lost Opportunity	10.4	3.9	0.000	0.000	0.0	0.0	0.0	0.0	20	\$7,930.74	\$3,965.37	10.9	\$0.00	\$0.00	0.53	1.00	337.6	0.0	U-0.29
Space Heat - Gas Boiler	Windows - CBES 2015 - Code	Large Office	Discretionary	26.3	9.1	0.000	0.000	0.0	0.0	0.0	0.0	20	\$52,371.65	\$26,185.82	6.9	\$0.00	\$0.00	0.20	1.00	488.7	0.0	U-0.36 (CBES 2015 Code)
Space Heat - Gas Furnace	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Large Office	Discretionary	110.7	25.2	0.000	0.000	0.0	0.0	0.0	0.0	15	\$5,677.75	\$2,838.88	6.9	\$0.00	\$0.00	6.01	1.00	3,647.7	3,647.7	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Gas Furnace	Commissioning	Large Office	Lost Opportunity	163.5	31.5	0.000	0.000	0.0	0.0	0.0	0.0	5	\$26,344.76	\$13,172.38	10.9	\$0.00	\$0.00	0.62	1.00	2,966.2	0.0	Commissioning
Space Heat - Gas Furnace	Convert Constant Volume Air System to VAV	Large Office	Discretionary	330.5	63.7	0.000	0.000	0.0	0.0	0.0	0.0	15	\$82,810.79	\$41,405.40	6.9	\$0.00	\$0.00	1.23	1.00	1,241.1	1,241.1	Variable Volume Air System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	Large Office	Discretionary	188.7	36.4	0.000	0.000	0.0	0.0	0.0	0.0	5	\$7,097.19	\$3,548.59	6.9	\$0.00	\$0.00	2.65	1.00	5,198.0	5,198.0	Installation of EMS System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	Large Office	Lost Opportunity	188.7	36.4	0.000	0.000	0.0	0.0	0.0	0.0	5	\$7,097.19	\$3,548.59	10.9	\$0.00	\$0.00	2.65	1.00	0.0	0.0	Installation of EMS System
Space Heat - Gas Furnace	Duct Repair and Sealing	Large Office	Discretionary	109.4	21.0	0.000	0.000	0.0	0.0	0.0	0.0	18	\$5,450.64	\$2,725.32	6.9	\$0.00	\$0.00	7.38	1.00	2,340.4	2,340.4	Reduction In Duct Losses to 5 %
Space Heat - Gas Furnace	Exhaust Air to Ventilation Air Heat Recovery	Large Office	Discretionary	188.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$66,542.46	\$33,271.23	6.9	\$0.00	\$0.00	0.82	1.00	547.8	0.0	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	2.0	\$0.00	\$0.00	14.46	1.00	4,748.1	4,828.0	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	10.9	\$0.00	\$0.00	14.46	1.00	4,167.1	4,803.6	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	2.0	\$0.00	\$0.00	20.19	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	10.9	\$0.00	\$0.00	20.19	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	2.0	\$0.00	\$0.00	16.74	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	10.9	\$0.00	\$0.00	16.74	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Indirect Information Feedback	Large Office	Discretionary	6.5	1.3	0.000	0.000	0.0	0.0	0.0	0.0	2	\$6,534.64	\$3,267.32	6.9	\$0.00	\$0.00	0.04	1.00	163.3	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Indirect Information Feedback	Large Office	Lost Opportunity	6.5	1.3	0.000	0.000	0.0	0.0	0.0	0.0	2	\$6,534.64	\$3,267.32	10.9	\$0.00	\$0.00	0.04	1.00	79.6	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Infiltration Reduction	Large Office	Discretionary	125.8	7.3	0.000	0.000	0.0	0.0	0.0	0.0	10	\$1,341.13	\$670.56	6.9	\$0.00	\$0.00	19.26	1.00	230.7	230.7	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Large Office	Discretionary	73.9	14.2	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,276.84	\$1,638.42	6.9	\$0.00	\$0.00	13.22	1.00	1,127.7	1,127.7	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Large Office	Lost Opportunity	73.9	14.2	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,276.84	\$1,638.42	10.9	\$0.00	\$0.00	13.22	1.00	186.6	186.6	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Code	Large Office	Discretionary	235.3	48.8	0.000	0.000	0.0	0.0	0.0	0.0	30	\$14,952.10	\$7,476.05	6.9	\$0.00	\$0.00	9.22	1.00	2,300.3	2,300.3	R-30 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Large Office	Discretionary	45.3	8.7	0.000	0.000	0.0	0.0	0.0	0.0	20	\$308.02	\$154.01	6.9	\$0.00	\$0.00	59.68	1.00	1,806.3	1,806.3	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Large Office	Lost Opportunity	45.3	8.7	0.000	0.000	0.0	0.0	0.0	0.0	20	\$308.02	\$154.01	10.9	\$0.00	\$0.00	59.68	1.00	737.5	737.5	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Code	Large Office	Discretionary	45.3	8.7	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,240.59	\$620.29	6.9	\$0.00	\$0.00	14.82	1.00	1,474.0	1,474.0	R-8 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Office	Discretionary	108.9	21.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$5,825.49	\$2,912.75	6.9	\$0.00	\$0.00	10.96	1.00	554.8	554.8	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Office	Lost Opportunity	108.9	21.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$5,825.49	\$2,912.75	10.9	\$0.00	\$0.00	10.96	1.00	379.2	379.2	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Code	Large Office	Discretionary	189.7	36.6	0.000	0.000	0.0	0.0	0.0	0.0	30	\$16,699.74	\$8,349.87	6.9	\$0.00	\$0.00	6.66	1.00	897.7	897.7	R-30 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Large Office	Discretionary	49.2	9.5	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,873.36	\$936.68	6.9	\$0.00	\$0.00	15.39	1.00	424.4	424.4	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Large Office	Lost Opportunity	49.2	9.5	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,873.36	\$936.68	10.9	\$0.00	\$0.00	15.39	1.00	417.1	417.1	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Code	Large Office	Discretionary	67.6	10.4	0.000	0.000	0.0	0.0	0.0	0.0	30	\$12,855.13	\$6,427.57	6.9	\$0.00	\$0.00	3.08	1.00	346.9	346.9	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Programmable Thermostat	Large Office	Discretionary	50.3	9.7	0.000	0.000	0.0	0.0	0.0	0.0	11	\$60.30	\$30.15	6.9	\$0.00	\$0.00	188.97	1.00	1,972.8	1,972.8	Programmable Thermostat
Space Heat - Gas Furnace	Re-Commissioning	Large Office	Discretionary	163.5	31.5	0.000	0.000	0.0	0.0	0.0	0.0	5	\$6,813.30	\$3,406.65	6.9	\$0.00	\$0.00	2.39	1.00	6,942.5	6,942.5	Re-Commissioning
Space Heat - Gas Furnace	Retrocommissioning	Large Office	Discretionary	186.6	36.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$11,355.50	\$5,677.75	6.9	\$0.00	\$0.00	1.64	1.00	4,275.6	4,275.6	Retrocommissioning
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Large Office	Discretionary	51.6	9.9	0.000	0.000	0.0	0.0	0.0	0.0	5	\$2,085.51	\$1,042.76	6.9	\$0.00	\$0.00	2.47	1.00	218.6	218.6	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Large Office	Lost Opportunity	51.6	9.9	0.000	0.000	0.0	0.0	0.0	0.0	5	\$2,085.51	\$1,042.76	10.9	\$0.00	\$0.00	2.47	1.00	629.0	629.0	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Tune-up - Furnace Maintenance	Large Office	Discretionary	45.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$511.00	\$255.50	6.9	\$0.00	\$0.00	3.41	1.00	1,157.2	1,157.2	Furnace Maintenance (Tune-up)
Space Heat - Gas Furnace	Wi-Fi Thermostat	Large Office	Discretionary	50.3	9.7	0.000	0.000	0.0	0.0	0.0	0.0	11	\$480.31	\$240.15	6.9	\$0.00	\$0.00	23.72	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Large Office	Discretionary	9.6	1.9	0.000	0.000	0.0	0.0	0.0	0.0	20	\$7,930.74	\$3,965.37	6.9	\$0.00	\$0.00	0.49	1.00	82.5	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Large Office	Lost Opportunity	9.6	1.9	0.000	0.000	0.0	0.0	0.0	0.0	20	\$7,930.74	\$3,965.37	10.9	\$0.00	\$0.00	0.49	1.00	136.6	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Code	Large Office	Discretionary	24.3	4.3	0.000	0.000	0.0	0.0	0.0	0.0	20	\$52,371.65	\$26,185.82	6.9	\$0.00	\$0.00	0.19	1.00	205.9	0.0	U-0.36 (CBES 2015 Code)
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Large Office	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.1	13	\$25.45	\$12.73	6.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Large Office	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.1	13	\$25.45	\$12.73	10.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Large Office	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.7	13	\$47.06	\$23.53	6.9	\$0.00	\$0.00	1.22	1.00	0.5	0.6	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Large Office	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.7	13	\$47.06	\$23.53	10.9	\$0.00	\$0.00	1.22	1.00	0.2	0.2	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	Large Office	Discretionary	0.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$49.98	\$24.99	6.9	\$0.00	\$0.00	3.28	1.00	6.0	7.5	1.0" of Insulation, assuming R-4 (Code)
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	Large Office	Discretionary	3.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$4,949.00	\$2,474.50								



Appendix B.6		VGS Non-residential Measure Assumptions																					
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description	
Water Heat GT 55 Gal	Low-Flow Showerheads	Large Office	Discretionary	0.8	0.0	0.000	0.000	0.0	0.0	0.0	21.4	9	\$22.71	\$11.36	6.9	\$0.00	\$0.00	13.17	1.00	0.0	0.0	2.0 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Large Office	Lost Opportunity	0.8	0.0	0.000	0.000	0.0	0.0	0.0	21.4	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	2.0 GPM	
Water Heat GT 55 Gal	Low-Flow Showerheads	Large Office	Discretionary	0.8	0.0	0.000	0.000	0.0	0.0	0.0	21.4	9	\$22.71	\$11.36	6.9	\$0.00	\$0.00	13.17	1.00	1.9	2.3	2.5 GPM (Federal Code)	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$2.69	\$1.34	2.0	\$0.72	\$0.72	0.01	1.00	19.2	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$2.69	\$1.34	10.9	\$0.72	\$0.72	0.01	1.00	8.6	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Large Office	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,593.04	\$796.52	6.9	\$0.00	\$0.00	0.05	1.00	2.2	0.0	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Large Office	Lost Opportunity	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,593.04	\$796.52	10.9	\$0.00	\$0.00	0.05	1.00	0.7	0.0	Install Ultrasonic Motion Faucet Control	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Large Office	Discretionary	2.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	1.1	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Large Office	Lost Opportunity	2.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.3	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.02	\$0.01	2.0	\$0.00	\$0.00	0.31	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.02	\$0.01	10.9	\$0.00	\$0.00	0.31	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.16	\$0.08	2.0	\$0.00	\$0.00	0.15	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.16	\$0.08	10.9	\$0.00	\$0.00	0.15	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.11	\$0.05	2.0	\$0.00	\$0.00	0.42	1.00	23.4	0.0	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.11	\$0.05	10.9	\$0.00	\$0.00	0.42	1.00	10.2	0.0	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Large Office	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.1	13	\$25.45	\$12.73	6.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Large Office	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.1	13	\$25.45	\$12.73	10.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Large Office	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.7	13	\$47.06	\$23.53	6.9	\$0.00	\$0.00	1.33	1.00	2.3	3.3	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Large Office	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.7	13	\$47.06	\$23.53	10.9	\$0.00	\$0.00	1.33	1.00	0.7	1.1	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Large Office	Discretionary	1.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$49.98	\$24.99	6.9	\$0.00	\$0.00	3.97	1.00	27.3	38.4	1.0" of Insulation, assuming R-4 (Code)	
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Large Office	Discretionary	3.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$4,949.00	\$2,474.50	6.9	\$0.00	\$0.00	0.28	1.00	5.4	0.0	Install Heat Recovery Water Heater	
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Large Office	Discretionary	1.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1.78	\$0.89	6.9	\$0.00	\$0.00	263.74	1.00	13.3	18.8	R-3	
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Large Office	Discretionary	11.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$8,737.05	\$4,368.52	6.9	\$0.00	\$0.00	0.43	1.00	37.3	0.0	95% AFUE or Above	
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Large Office	Lost Opportunity	11.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$8,737.05	\$4,368.52	10.9	\$0.00	\$0.00	0.43	1.00	34.0	0.0	95% AFUE or Above	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Office	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	70.4	9	\$90.84	\$45.42	6.9	\$0.00	\$0.00	7.36	1.00	11.7	16.4	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Office	Lost Opportunity	0.4	0.0	0.000	0.000	0.0	0.0	0.0	70.4	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	3.7	0.0	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Office	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	49.7	9	\$90.84	\$45.42	6.9	\$0.00	\$0.00	5.20	1.00	0.0	0.0	1.0 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Office	Lost Opportunity	0.3	0.0	0.000	0.000	0.0	0.0	0.0	49.7	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Office	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	29.0	9	\$90.84	\$45.42	6.9	\$0.00	\$0.00	3.03	1.00	0.0	0.0	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Office	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	29.0	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Office	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	10.9	9	\$90.84	\$45.42	6.9	\$0.00	\$0.00	1.16	1.00	0.7	1.0	2.2 GPM (Federal Code)	
Water Heat LE 55 Gal	Low-Flow Showerheads	Large Office	Discretionary	1.6	0.0	0.000	0.000	0.0	0.0	0.0	42.8	9	\$22.71	\$11.36	6.9	\$0.00	\$0.00	26.34	1.00	48.1	67.6	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Large Office	Lost Opportunity	1.6	0.0	0.000	0.000	0.0	0.0	0.0	42.8	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	15.3	0.0	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Large Office	Discretionary	1.2	0.0	0.000	0.000	0.0	0.0	0.0	32.1	9	\$22.71	\$11.36	6.9	\$0.00	\$0.00	19.75	1.00	0.0	0.0	1.75 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Large Office	Lost Opportunity	1.2	0.0	0.000	0.000	0.0	0.0	0.0	32.1	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.75 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Large Office	Discretionary	0.8	0.0	0.000	0.000	0.0	0.0	0.0	21.4	9	\$22.71	\$11.36	6.9	\$0.00	\$0.00	13.17	1.00	0.0	0.0	2.0 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Large Office	Lost Opportunity	0.8	0.0	0.000	0.000	0.0	0.0	0.0	21.4	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	2.0 GPM	
Water Heat LE 55 Gal	Low-Flow Showerheads	Large Office	Discretionary	0.8	0.0	0.000	0.000	0.0	0.0	0.0	21.4	9	\$22.71	\$11.36	6.9	\$0.00	\$0.00	13.17	1.00	7.1	9.9	2.5 GPM (Federal Code)	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$2.80	\$1.40	2.0	\$0.72	\$0.72	0.01	1.00	83.6	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$2.80	\$1.40	10.9	\$0.72	\$0.72	0.01	1.00	37.5	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Large Office	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,593.04	\$796.52	6.9	\$0.00	\$0.00	0.05	1.00	8.1	0.0	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Large Office	Lost Opportunity	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,593.04	\$796.52	10.9	\$0.00	\$0.00	0.05	1.00	2.6	0.0	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Large Office	Discretionary	2.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	4.2	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Large Office	Lost Opportunity	2.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	1.2	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.26	\$0.13	2.0	\$0.00	\$0.00	0.24	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.26	\$0.13	10.9	\$0.00	\$0.00	0.24	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.07	\$0.03	2.0	\$0.00	\$0.00	0.29	1.00	0.0	0.0	ENERGY STAR Storage Water Heater LE 55 Gal - EF 0.67	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.07	\$0.03	10.9	\$0.00	\$0.00	0.29	1.00	0.0	0.0	ENERGY STAR Storage Water Heater LE 55 Gal - EF 0.67	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Tankless - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.22	\$0.11	2.0	\$0.00	\$0.00	0.44	1.00	184.6	0.0	ENERGY STAR Tankless Water Heater LE 55 Gal - EF 0.90	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Tankless - ENERGY STAR	Large Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.22	\$0.11	10.9	\$0.00	\$0.00	0.44	1.00	80.8	0.0	ENERGY STAR Tankless Water Heater LE 55 Gal - EF 0.90	
Cooking	Broiler	Large Retail	Discretionary	7.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$247.88	\$123.94	6.9	\$0.00	\$0.00	6.08	1.00	2,883.7	2,883.7	Infrared Cooking Broiler (37% Cooking Efficiency)	
Cooking	Broiler	Large Retail	Lost Opportunity	7.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$247.88	\$123.94	10.9	\$0.00	\$0.00	6.08	1.00	1,017.3	1,017.3	Infrared Cooking Broiler (37% Cooking Efficiency)	
Cooking	Combination Oven	Large Retail	Discretionary	4.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	820.7	0.0	ENERGY STAR Combination Oven	
Cooking	Combination Oven	Large Retail	Lost Opportunity	4.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	289.5	0.0	ENERGY STAR Combination Oven	
Cooking	Convection Oven	Large Retail	Discretionary	1.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$21.06	\$10.53	6.9	\$0.00	\$0.00	14.42	1.00	580.8	580.8	ENERGY STAR Convection Oven	
Cooking	Convection Oven	Large Retail	Lost Opportunity																				

Appendix B.6		VGS Non-residential Measure Assumptions																					
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description	
Cooking	Steam Cooker	Large Retail	Discretionary	6.4	0.0	0.000	0.000	0.0	0.0	0.0	2,224.3	12	\$140.62	\$70.31	6.9	\$0.00	\$0.00	183.75	1.00	1,972.7	1,972.7	ENERGY STAR Steam Cooker	
Cooking	Steam Cooker	Large Retail	Lost Opportunity	6.4	0.0	0.000	0.000	0.0	0.0	0.0	2,224.3	12	\$140.62	\$70.31	10.9	\$0.00	\$0.00	183.75	1.00	695.9	695.9	ENERGY STAR Steam Cooker	
Room Heat - Gas	Exhaust Air to Ventilation Air Heat Recovery	Large Retail	Discretionary	33.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$26,914.67	\$13,457.33	6.9	\$0.00	\$0.00	0.35	1.00	0.0	0.0	Exhaust Air to Ventilation Air Heat Recovery	
Room Heat - Gas	Infiltration Reduction	Large Retail	Discretionary	22.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$416.02	\$208.01	6.9	\$0.00	\$0.00	10.88	1.00	0.0	0.0	Install Caulking And Weatherstripping (ACH 0.65)	
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Discretionary	11.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,179.31	\$589.66	6.9	\$0.00	\$0.00	5.76	1.00	0.0	0.0	R-35 c.i.	
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Lost Opportunity	11.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,179.31	\$589.66	10.9	\$0.00	\$0.00	5.76	1.00	0.0	0.0	R-35 c.i.	
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Code	Large Retail	Discretionary	37.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$5,381.15	\$2,690.58	6.9	\$0.00	\$0.00	4.02	1.00	0.0	0.0	R-30 c.i. (CBES 2015 Code)	
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Discretionary	17.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,096.55	\$1,048.28	6.9	\$0.00	\$0.00	4.77	1.00	0.0	0.0	R-38	
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Lost Opportunity	17.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,096.55	\$1,048.28	10.9	\$0.00	\$0.00	4.77	1.00	0.0	0.0	R-38	
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Code	Large Retail	Discretionary	29.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$6,010.12	\$3,005.06	6.9	\$0.00	\$0.00	2.90	1.00	0.0	0.0	R-30 (CBES 2015 Code)	
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Discretionary	14.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,263.07	\$631.53	6.9	\$0.00	\$0.00	6.71	1.00	0.0	0.0	R-13 + 15.6 c.i.	
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Lost Opportunity	14.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,263.07	\$631.53	10.9	\$0.00	\$0.00	6.71	1.00	0.0	0.0	R-13 + 15.6 c.i.	
Room Heat - Gas	Insulation - Wall - CBES 2015 - Code	Large Retail	Discretionary	19.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$8,667.22	\$4,333.61	6.9	\$0.00	\$0.00	1.34	1.00	0.0	0.0	R-13 + 7.5 c.i. (CBES 2015 Code)	
Room Heat - Gas	Radiant Heater - High Efficiency	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	2.0	\$0.00	\$0.00	38.65	1.00	0.0	0.0	High Efficiency Radiant Heater	
Room Heat - Gas	Radiant Heater - High Efficiency	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	10.9	\$0.00	\$0.00	38.65	1.00	0.0	0.0	High Efficiency Radiant Heater	
Room Heat - Gas	Windows - CBES 2015 - Above Code	Large Retail	Discretionary	1.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$2,460.13	\$1,230.07	6.9	\$0.00	\$0.00	0.21	1.00	0.0	0.0	U-0.29	
Room Heat - Gas	Windows - CBES 2015 - Above Code	Large Retail	Lost Opportunity	1.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$2,460.13	\$1,230.07	10.9	\$0.00	\$0.00	0.21	1.00	0.0	0.0	U-0.29	
Room Heat - Gas	Windows - CBES 2015 - Code	Large Retail	Discretionary	3.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$16,245.80	\$8,122.90	6.9	\$0.00	\$0.00	0.08	1.00	0.0	0.0	U-0.36 (CBES 2015 Code)	
Space Heat - Gas Boiler	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Large Retail	Discretionary	43.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$2,296.50	\$1,148.25	6.9	\$0.00	\$0.00	5.83	1.00	1,368.6	1,368.6	Demand Controlled Ventilation (CO2 sensors)	
Space Heat - Gas Boiler	Boiler - Economizer	Large Retail	Discretionary	32.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$784.76	\$392.38	6.9	\$0.00	\$0.00	12.59	1.00	3,644.8	3,644.8	Economizer	
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Large Retail	Discretionary	1.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$223.17	\$111.59	6.9	\$0.00	\$0.00	2.62	1.00	58.2	58.2	3.5" of Insulation, assuming R-13	
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Large Retail	Lost Opportunity	1.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$223.17	\$111.59	10.9	\$0.00	\$0.00	2.62	1.00	42.2	42.2	3.5" of Insulation, assuming R-13	
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Code	Large Retail	Discretionary	1.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$427.34	\$213.67	6.9	\$0.00	\$0.00	1.15	1.00	16.0	16.0	2.5" of Insulation, assuming R-9.0	
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - Federal Standard 2023	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.04	\$0.02	2.0	\$0.00	\$0.00	29.29	1.00	0.0	0.0	Federal Standard 2023 Boiler - Thermal Efficiency Et = 79%	
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - Federal Standard 2023	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.04	\$0.02	10.9	\$0.00	\$0.00	29.29	1.00	0.0	0.0	Federal Standard 2023 Boiler - Thermal Efficiency Et = 79%	
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - High Efficiency	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.06	\$0.03	2.0	\$0.00	\$0.00	38.89	1.00	0.0	0.0	High Efficiency - Thermal Efficiency Et = 85%	
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - High Efficiency	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.06	\$0.03	10.9	\$0.00	\$0.00	38.89	1.00	0.0	0.0	High Efficiency - Thermal Efficiency Et = 85%	
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - Premium Efficiency	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	2.0	\$0.00	\$0.00	32.48	1.00	4,917.8	5,034.4	High Efficiency - Thermal Efficiency Et = 95%	
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - Premium Efficiency	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	10.9	\$0.00	\$0.00	32.48	1.00	4,075.6	4,759.0	High Efficiency - Thermal Efficiency Et = 95%	
Space Heat - Gas Boiler	Boiler Controls	Large Retail	Discretionary	24.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$1,000.00	\$500.00	6.9	\$0.00	\$0.00	7.60	1.00	2,187.6	2,187.6	Boiler Reset Controls	
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Large Retail	Discretionary	11.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$19,750.00	\$9,875.00	6.9	\$0.00	\$0.00	0.18	1.00	609.9	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)	
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Large Retail	Lost Opportunity	11.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$19,750.00	\$9,875.00	10.9	\$0.00	\$0.00	0.18	1.00	280.5	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)	
Space Heat - Gas Boiler	Commissioning	Large Retail	Lost Opportunity	64.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$10,655.76	\$5,327.88	10.9	\$0.00	\$0.00	0.60	1.00	2,787.1	0.0	Commissioning	
Space Heat - Gas Boiler	Convert Constant Volume Air System to VAV	Large Retail	Discretionary	129.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$33,494.78	\$16,747.39	6.9	\$0.00	\$0.00	1.19	1.00	1,236.3	1,236.3	Variable Volume Air System	
Space Heat - Gas Boiler	Direct Digital Control System-Installation	Large Retail	Discretionary	74.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$2,870.63	\$1,435.31	6.9	\$0.00	\$0.00	2.57	1.00	5,177.8	5,177.8	Installation of EMS System	
Space Heat - Gas Boiler	Direct Digital Control System-Installation	Large Retail	Lost Opportunity	74.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$2,870.63	\$1,435.31	10.9	\$0.00	\$0.00	2.57	1.00	219.2	219.2	Installation of EMS System	
Space Heat - Gas Boiler	Exhaust Air to Ventilation Air Heat Recovery	Large Retail	Discretionary	74.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$26,914.67	\$13,457.33	6.9	\$0.00	\$0.00	0.79	1.00	545.5	0.0	Exhaust Air to Ventilation Air Heat Recovery	
Space Heat - Gas Boiler	Indirect Information Feedback	Large Retail	Discretionary	2.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$2,567.20	\$1,283.60	6.9	\$0.00	\$0.00	0.04	1.00	160.5	0.0	Indirect Information Feedback	
Space Heat - Gas Boiler	Indirect Information Feedback	Large Retail	Lost Opportunity	2.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$2,567.20	\$1,283.60	10.9	\$0.00	\$0.00	0.04	1.00	73.8	0.0	Indirect Information Feedback	
Space Heat - Gas Boiler	Infiltration Reduction	Large Retail	Discretionary	49.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$416.02	\$208.01	6.9	\$0.00	\$0.00	24.38	1.00	232.4	232.4	Install Caulking And Weatherstripping (ACH 0.65)	
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Discretionary	26.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,179.31	\$589.66	6.9	\$0.00	\$0.00	12.91	1.00	1,030.9	1,030.9	R-35 c.i.	
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Lost Opportunity	26.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,179.31	\$589.66	10.9	\$0.00	\$0.00	12.91	1.00	160.8	160.8	R-35 c.i.	
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Code	Large Retail	Discretionary	82.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$5,381.15	\$2,690.58	6.9	\$0.00	\$0.00	9.00	1.00	2,005.1	2,005.1	R-30 c.i. (CBES 2015 Code)	
Space Heat - Gas Boiler	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Discretionary	38.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,096.55	\$1,048.28	6.9	\$0.00	\$0.00	10.70	1.00	483.2	483.2	R-38	
Space Heat - Gas Boiler	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Lost Opportunity	38.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,096.55	\$1,048.28	10.9	\$0.00	\$0.00	10.70	1.00	326.9	326.9	R-38	
Space Heat - Gas Boiler	Insulation - Floor (non-slab) - CBES 2015 - Code	Large Retail	Discretionary	66.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$6,010.12	\$3,005.06	6.9	\$0.00	\$0.00	6.50	1.00	786.3	786.3	R-30 (CBES 2015 Code)	
Space Heat - Gas Boiler	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Discretionary	32.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,263.07	\$631.53	6.9	\$0.00	\$0.00	15.03	1.00	718.2	718.2	R-13 + 15.6 c.i.	
Space Heat - Gas Boiler	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Lost Opportunity	32.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,263.07	\$631.53	10.9	\$0.00	\$0.00	15.03	1.00	688.2	688.2	R-13 + 15.6 c.i.	
Space Heat - Gas Boiler	Insulation - Wall - CBES 2015 - Code	Large Retail	Discretionary	44.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$8,667.22	\$4,333.61	6.9	\$0.00	\$0.00	3.01	1.00	585.4	585.4	R-13 + 7.5 c.i. (CBES 2015 Code)	
Space Heat - Gas Boiler	Integrated Space Heating and Water Heating	Large Retail	Discretionary	27.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$3,533.90	\$1,766.95	6.9	\$0.00	\$0.00	3.15	1.00	338.4	338.4	95% AFUE or Above	
Space Heat - Gas Boiler	Integrated Space Heating and Water Heating	Large Retail	Lost Opportunity	27.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$3,533.90	\$1,766.95	10.9	\$0.00	\$0.00	3.15	1.00	313.1	313.1	95% AFUE or Above	
Space Heat - Gas Boiler	Programmable Thermostat	Large Retail	Discretionary	19.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$67.76	\$33.88	6.9	\$0.00	\$0.00	65.92	1.00	1,941.5	1,941.5	Programmable Thermostat	
Space Heat - Gas Boiler	Re-Commissioning	Large Retail	Discretionary	64.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$2,755.80	\$1,377.90	6.9	\$0.00	\$0.00	2.32	1.00	6,915.4	6,915.4	Re-Commissioning	
Space Heat - Gas Boiler	Retrocommissioning	Large Retail	Discretionary	73.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$4,593.										

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Space Heat - Gas Furnace	Exhaust Air to Ventilation Air Heat Recovery	Large Retail	Discretionary	69.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$26,914.67	\$13,457.33	6.9	\$0.00	\$0.00	0.74	1.00	611.5	0.0	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	2.0	\$0.00	\$0.00	13.12	1.00	5,140.7	5,223.9	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	10.9	\$0.00	\$0.00	13.12	1.00	4,399.1	5,063.5	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	2.0	\$0.00	\$0.00	18.32	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	10.9	\$0.00	\$0.00	18.32	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	2.0	\$0.00	\$0.00	15.18	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	10.9	\$0.00	\$0.00	15.18	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Indirect Information Feedback	Large Retail	Discretionary	2.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$2,389.09	\$1,194.54	6.9	\$0.00	\$0.00	0.04	1.00	182.6	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Indirect Information Feedback	Large Retail	Lost Opportunity	2.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$2,389.09	\$1,194.54	10.9	\$0.00	\$0.00	0.04	1.00	84.0	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Infiltration Reduction	Large Retail	Discretionary	46.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$416.02	\$208.01	6.9	\$0.00	\$0.00	22.68	1.00	250.8	250.8	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Discretionary	24.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,179.31	\$589.66	6.9	\$0.00	\$0.00	12.01	1.00	1,090.8	1,090.8	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Large Retail	Lost Opportunity	24.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,179.31	\$589.66	10.9	\$0.00	\$0.00	12.01	1.00	177.7	177.7	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Code	Large Retail	Discretionary	77.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$5,381.15	\$2,690.58	6.9	\$0.00	\$0.00	8.38	1.00	2,230.4	2,230.4	R-30 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Large Retail	Discretionary	16.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$124.59	\$62.29	6.9	\$0.00	\$0.00	53.83	1.00	1,963.3	1,963.3	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Large Retail	Lost Opportunity	16.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$124.59	\$62.29	10.9	\$0.00	\$0.00	53.83	1.00	800.5	800.5	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Code	Large Retail	Discretionary	16.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$501.79	\$250.89	6.9	\$0.00	\$0.00	13.36	1.00	1,590.0	1,590.0	R-8 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Discretionary	35.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,096.55	\$1,048.28	6.9	\$0.00	\$0.00	9.96	1.00	537.5	537.5	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Large Retail	Lost Opportunity	35.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,096.55	\$1,048.28	10.9	\$0.00	\$0.00	9.96	1.00	361.3	361.3	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Code	Large Retail	Discretionary	62.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$6,010.12	\$3,005.06	6.9	\$0.00	\$0.00	6.05	1.00	873.3	873.3	R-30 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Discretionary	30.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,263.07	\$631.53	6.9	\$0.00	\$0.00	13.98	1.00	774.9	774.9	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Large Retail	Lost Opportunity	30.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,263.07	\$631.53	10.9	\$0.00	\$0.00	13.98	1.00	760.5	760.5	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Code	Large Retail	Discretionary	41.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$8,667.22	\$4,333.61	6.9	\$0.00	\$0.00	2.80	1.00	655.5	655.5	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Programmable Thermostat	Large Retail	Discretionary	18.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$67.76	\$33.88	6.9	\$0.00	\$0.00	61.34	1.00	2,144.3	2,144.3	Programmable Thermostat
Space Heat - Gas Furnace	Re-Commissioning	Large Retail	Discretionary	59.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$2,755.80	\$1,377.90	6.9	\$0.00	\$0.00	2.16	1.00	7,749.9	7,749.9	Re-Commissioning
Space Heat - Gas Furnace	Retrocommissioning	Large Retail	Discretionary	68.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$4,593.00	\$2,296.50	6.9	\$0.00	\$0.00	1.48	1.00	4,772.8	4,772.8	Retrocommissioning
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Large Retail	Discretionary	18.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$762.47	\$381.24	6.9	\$0.00	\$0.00	2.46	1.00	266.5	266.5	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Large Retail	Lost Opportunity	18.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$762.47	\$381.24	10.9	\$0.00	\$0.00	2.46	1.00	669.3	669.3	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Tune-up - Furnace Maintenance	Large Retail	Discretionary	16.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$206.69	\$103.34	6.9	\$0.00	\$0.00	3.09	1.00	1,301.7	1,301.7	Furnace Maintenance (Tune-up)
Space Heat - Gas Furnace	Wi-Fi Thermostat	Large Retail	Discretionary	18.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$539.80	\$269.90	6.9	\$0.00	\$0.00	7.70	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Large Retail	Discretionary	2.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$2,460.13	\$1,230.07	6.9	\$0.00	\$0.00	0.45	1.00	71.2	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Large Retail	Lost Opportunity	2.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$2,460.13	\$1,230.07	10.9	\$0.00	\$0.00	0.45	1.00	111.3	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Code	Large Retail	Discretionary	6.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$16,245.80	\$8,122.90	6.9	\$0.00	\$0.00	0.17	1.00	177.7	0.0	U-0.36 (CBES 2015 Code)
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Large Retail	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$28.60	\$14.30	6.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Large Retail	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$28.60	\$14.30	10.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Large Retail	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	3.1	13	\$52.89	\$26.44	6.9	\$0.00	\$0.00	1.22	1.00	0.8	0.8	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Large Retail	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	3.1	13	\$52.89	\$26.44	10.9	\$0.00	\$0.00	1.22	1.00	0.2	0.3	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Large Retail	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	5.2	14	\$19.36	\$9.68	6.9	\$0.00	\$0.00	8.59	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Large Retail	Lost Opportunity	0.4	0.0	0.000	0.000	0.0	0.0	0.0	5.2	14	\$19.36	\$9.68	10.9	\$0.00	\$0.00	8.59	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Large Retail	Discretionary	0.8	0.0	0.000	0.000	0.0	0.0	0.0	15.0	14	\$7.91	\$3.95	6.9	\$0.00	\$0.00	47.28	1.00	2.6	2.8	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Large Retail	Lost Opportunity	0.8	0.0	0.000	0.000	0.0	0.0	0.0	15.0	14	\$7.91	\$3.95	10.9	\$0.00	\$0.00	47.28	1.00	0.9	0.9	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	Large Retail	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$10.71	\$5.36	6.9	\$0.00	\$0.00	3.28	1.00	2.1	2.3	1.0" of Insulation, assuming R-4 (Code)
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	Large Retail	Discretionary	1.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$883.75	\$441.88	6.9	\$0.00	\$0.00	0.74	1.00	1.2	0.0	Install Heat Recovery Water Heater
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	Large Retail	Discretionary	1.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1.41	\$0.70	6.9	\$0.00	\$0.00	263.74	1.00	4.7	5.0	R-3
Water Heat GT 55 Gal	Integrated Space Heating and Water Heating	Large Retail	Discretionary	5.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$3,533.90	\$1,766.95	6.9	\$0.00	\$0.00	0.50	1.00	7.6	0.0	95% AFUE or Above
Water Heat GT 55 Gal	Integrated Space Heating and Water Heating	Large Retail	Lost Opportunity	5.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$3,533.90	\$1,766.95	10.9	\$0.00	\$0.00	0.50	1.00	6.7	0.0	95% AFUE or Above
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Large Retail	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	43.4	9	\$36.74	\$18.37	6.9	\$0.00	\$0.00	11.22	1.00	3.2	3.4	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Large Retail	Lost Opportunity	0.3	0.0	0.000	0.000	0.0	0.0	0.0	43.4	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	1.0	0.0	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Large Retail	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	30.6	9	\$36.74	\$18.37	6.9	\$0.00	\$0.00	7.92	1.00	0.0	0.0	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Large Retail	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	30.6	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Large Retail	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	17.9	9	\$36.74	\$18.37	6.9	\$0.00	\$0.00	4.62	1.00	0.0	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Large Retail	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	17.9	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Large Retail	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	6.7	9	\$36.74	\$18.37	6.9	\$0.00	\$0.00	1.76	1.00	0.2	0.2	2.2 GPM (Federal Code)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Large Retail	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	19.0	5	\$18.83	\$9.42	6.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Large Retail	Lost Opportunity	0.3	0.0	0.000	0.000	0.0	0.0	0.0	19.0	5	\$18.83	\$9.42	10.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (20



Appendix B.6		VGS Non-residential Measure Assumptions																					
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.01	\$0.00	2.0	\$0.00	\$0.00	0.83	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.01	\$0.00	10.9	\$0.00	\$0.00	0.83	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.07	\$0.04	2.0	\$0.00	\$0.00	0.40	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.07	\$0.04	10.9	\$0.00	\$0.00	0.40	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.05	\$0.02	2.0	\$0.00	\$0.00	1.11	1.00	17.6	25.0	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90	
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.05	\$0.02	10.9	\$0.00	\$0.00	1.11	1.00	7.5	12.2	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Large Retail	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$28.60	\$14.30	6.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Large Retail	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$28.60	\$14.30	10.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Large Retail	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	3.1	13	\$52.89	\$26.44	6.9	\$0.00	\$0.00	1.33	1.00	3.4	3.6	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Large Retail	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	3.1	13	\$52.89	\$26.44	10.9	\$0.00	\$0.00	1.33	1.00	1.1	1.2	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Large Retail	Discretionary	0.5	0.0	0.000	0.000	0.0	0.0	0.0	5.2	14	\$19.36	\$9.68	6.9	\$0.00	\$0.00	9.69	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Large Retail	Lost Opportunity	0.5	0.0	0.000	0.000	0.0	0.0	0.0	5.2	14	\$19.36	\$9.68	10.9	\$0.00	\$0.00	9.69	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Large Retail	Discretionary	1.0	0.0	0.000	0.000	0.0	0.0	0.0	15.0	14	\$7.91	\$3.95	6.9	\$0.00	\$0.00	52.20	1.00	12.0	12.5	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Large Retail	Lost Opportunity	1.0	0.0	0.000	0.000	0.0	0.0	0.0	15.0	14	\$7.91	\$3.95	10.9	\$0.00	\$0.00	52.20	1.00	3.8	4.0	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)	
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Large Retail	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$10.71	\$5.36	6.9	\$0.00	\$0.00	3.97	1.00	9.5	10.0	1.0" of Insulation, assuming R-4 (Code)	
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Large Retail	Discretionary	1.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$883.75	\$441.88	6.9	\$0.00	\$0.00	0.75	1.00	4.4	0.0	Install Heat Recovery Water Heater	
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Large Retail	Discretionary	1.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1.41	\$0.70	6.9	\$0.00	\$0.00	263.74	1.00	17.6	18.4	R-3	
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Large Retail	Discretionary	5.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$3,533.90	\$1,766.95	6.9	\$0.00	\$0.00	0.51	1.00	29.0	0.0	95% AFUE or Above	
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Large Retail	Lost Opportunity	5.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$3,533.90	\$1,766.95	10.9	\$0.00	\$0.00	0.51	1.00	24.8	0.0	95% AFUE or Above	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Retail	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	43.4	9	\$36.74	\$18.37	6.9	\$0.00	\$0.00	11.22	1.00	12.0	12.6	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Retail	Lost Opportunity	0.3	0.0	0.000	0.000	0.0	0.0	0.0	43.4	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	3.8	0.0	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Retail	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	30.6	9	\$36.74	\$18.37	6.9	\$0.00	\$0.00	7.92	1.00	0.0	0.0	1.0 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Retail	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	30.6	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Retail	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	17.9	9	\$36.74	\$18.37	6.9	\$0.00	\$0.00	4.62	1.00	0.0	0.0	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Retail	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	17.9	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Large Retail	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	6.7	9	\$36.74	\$18.37	6.9	\$0.00	\$0.00	1.76	1.00	0.7	0.7	2.2 GPM (Federal Code)	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Large Retail	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	19.0	5	\$18.83	\$9.42	6.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Large Retail	Lost Opportunity	0.3	0.0	0.000	0.000	0.0	0.0	0.0	19.0	5	\$18.83	\$9.42	10.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Large Retail	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	31.5	5	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	24.4	0.0	0.75 GPM	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Large Retail	Lost Opportunity	0.4	0.0	0.000	0.000	0.0	0.0	0.0	31.5	5	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	7.7	0.0	0.75 GPM	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Large Retail	Discretionary	0.7	0.0	0.000	0.000	0.0	0.0	0.0	50.5	5	\$18.83	\$9.42	6.9	\$0.00	\$0.00	16.47	1.00	39.1	40.9	0.75 GPM	
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Large Retail	Lost Opportunity	0.7	0.0	0.000	0.000	0.0	0.0	0.0	50.5	5	\$18.83	\$9.42	10.9	\$0.00	\$0.00	16.47	1.00	12.4	13.2	0.75 GPM	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$1.24	\$0.62	2.0	\$0.32	\$0.32	0.03	1.00	63.4	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$1.24	\$0.62	10.9	\$0.32	\$0.32	0.03	1.00	27.6	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Large Retail	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$644.34	\$322.17	6.9	\$0.00	\$0.00	0.08	1.00	8.4	0.0	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Large Retail	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$644.34	\$322.17	10.9	\$0.00	\$0.00	0.08	1.00	2.7	0.0	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Large Retail	Discretionary	1.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$861.42	\$430.71	6.9	\$0.00	\$0.00	0.20	1.00	3.4	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Large Retail	Lost Opportunity	1.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$861.42	\$430.71	10.9	\$0.00	\$0.00	0.20	1.00	0.9	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.12	\$0.06	2.0	\$0.00	\$0.00	0.65	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.12	\$0.06	10.9	\$0.00	\$0.00	0.65	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.03	\$0.01	2.0	\$0.00	\$0.00	0.76	1.00	0.0	0.0	ENERGY STAR Storage Water Heater LE 55 Gal - EF 0.67	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.03	\$0.01	10.9	\$0.00	\$0.00	0.76	1.00	0.0	0.0	ENERGY STAR Storage Water Heater LE 55 Gal - EF 0.67	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Tankless - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.10	\$0.05	2.0	\$0.00	\$0.00	1.17	1.00	139.3	197.8	ENERGY STAR Tankless Water Heater LE 55 Gal - EF 0.90	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Tankless - ENERGY STAR	Large Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.10	\$0.05	10.9	\$0.00	\$0.00	1.17	1.00	59.5	96.8	ENERGY STAR Tankless Water Heater LE 55 Gal - EF 0.90	
Cooking	Broiler	Lodging	Discretionary	3.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$124.99	\$62.49	6.9	\$0.00	\$0.00	6.08	1.00	1,219.1	1,219.1	Infrared Cooking Broiler (37% Cooking Efficiency)	
Cooking	Broiler	Lodging	Lost Opportunity	3.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$124.99	\$62.49	10.9	\$0.00	\$0.00	6.08	1.00	430.1	430.1	Infrared Cooking Broiler (37% Cooking Efficiency)	
Cooking	Combination Oven	Lodging	Discretionary	2.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	347.0	0.0	ENERGY STAR Combination Oven	
Cooking	Combination Oven	Lodging	Lost Opportunity	2.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	122.4	0.0	ENERGY STAR Combination Oven	
Cooking	Convection Oven	Lodging	Discretionary	0.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$10.62	\$5.31	6.9	\$0.00	\$0.00	14.42	1.00	163.7	163.7	ENERGY STAR Convection Oven	
Cooking	Convection Oven	Lodging	Lost Opportunity	0.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$10.62	\$5.31	10.9	\$0.00	\$0.00	14.42	1.00	57.7	57.7	ENERGY STAR Convection Oven	
Cooking	Conveyor Oven	Lodging	Discretionary	2.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$128.87	\$64.44	6.9	\$0.00	\$0.00	2.95	1.00	440.5	440.5	High Efficiency Conveyor Oven (42% Cooking Efficiency)	
Cooking	Conveyor Oven	Lodging	Lost Opportunity	2.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$128.87	\$64.44	10.9	\$0.00	\$0.00	2.95	1.00	155.4	155.4	High Efficiency Conveyor Oven (42% Cooking Efficiency)	
Cooking	Fryers	Lodging	Discretionary	2.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$115.96	\$57.98	6.9	\$0.00	\$0.00	4.83	1.00	698.2	698.2	ENERGY STAR Fryer	
Cooking	Fryers	Lodging	Lost Opportunity	2.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$115.96	\$57.98	10.9	\$0.00	\$0.00	4.83	1.00	246.3	246.3	ENERGY STAR Fryer	
Cooking	Griddle	Lodging	Discretionary	0.8	0.0	0.000	0.000	0.0	0.0	0.0													

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Room Heat - Gas	Exhaust Air to Ventilation Air Heat Recovery	Lodging	Discretionary	42.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$62,863.79	\$31,431.90	6.9	\$0.00	\$0.00	0.19	1.00	0.0	0.0	Exhaust Air to Ventilation Air Heat Recovery
Room Heat - Gas	Infiltration Reduction	Lodging	Discretionary	28.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$1,260.08	\$630.04	6.9	\$0.00	\$0.00	4.60	1.00	0.0	0.0	Install Caulking And Weatherstripping (ACH 0.65)
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Discretionary	12.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,874.13	\$937.07	6.9	\$0.00	\$0.00	3.86	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Lost Opportunity	12.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,874.13	\$937.07	10.9	\$0.00	\$0.00	3.86	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Code	Lodging	Discretionary	39.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$8,551.60	\$4,275.80	6.9	\$0.00	\$0.00	2.69	1.00	0.0	0.0	R-30 c.i. (CBES 2015 Code)
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Discretionary	18.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,331.79	\$1,665.90	6.9	\$0.00	\$0.00	3.20	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Lost Opportunity	18.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,331.79	\$1,665.90	10.9	\$0.00	\$0.00	3.20	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Code	Lodging	Discretionary	31.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$9,551.14	\$4,775.57	6.9	\$0.00	\$0.00	1.94	1.00	0.0	0.0	R-30 (CBES 2015 Code)
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Lodging	Discretionary	27.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,510.29	\$1,755.14	6.9	\$0.00	\$0.00	4.50	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Lodging	Lost Opportunity	27.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,510.29	\$1,755.14	10.9	\$0.00	\$0.00	4.50	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Code	Lodging	Discretionary	37.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$24,087.78	\$12,043.89	6.9	\$0.00	\$0.00	0.90	1.00	0.0	0.0	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Gas	Radiant Heater - High Efficiency	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	2.0	\$0.00	\$0.00	49.47	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Radiant Heater - High Efficiency	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	10.9	\$0.00	\$0.00	49.47	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Windows - CBES 2015 - Above Code	Lodging	Discretionary	2.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$7,451.45	\$3,725.72	6.9	\$0.00	\$0.00	0.14	1.00	0.0	0.0	U-0.29
Room Heat - Gas	Windows - CBES 2015 - Above Code	Lodging	Lost Opportunity	2.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$7,451.45	\$3,725.72	10.9	\$0.00	\$0.00	0.14	1.00	0.0	0.0	U-0.29
Room Heat - Gas	Windows - CBES 2015 - Code	Lodging	Discretionary	6.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$49,206.58	\$24,603.29	6.9	\$0.00	\$0.00	0.06	1.00	0.0	0.0	U-0.36 (CBES 2015 Code)
Space Heat - Gas Boiler	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Lodging	Discretionary	61.1	2.8	0.000	0.000	0.0	0.0	0.0	0.0	15	\$8,045.80	\$4,022.90	6.9	\$0.00	\$0.00	2.34	1.00	5,883.9	5,883.9	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Gas Boiler	Boiler - Economizer	Lodging	Discretionary	45.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$2,749.41	\$1,374.71	6.9	\$0.00	\$0.00	5.05	1.00	7,327.8	7,327.8	Economizer
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Lodging	Discretionary	4.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$620.24	\$310.12	6.9	\$0.00	\$0.00	2.62	1.00	265.5	265.5	3.5" of Insulation, assuming R-13
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Lodging	Lost Opportunity	4.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$620.24	\$310.12	10.9	\$0.00	\$0.00	2.62	1.00	182.3	182.3	3.5" of Insulation, assuming R-13
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Code	Lodging	Discretionary	3.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,187.65	\$593.83	6.9	\$0.00	\$0.00	1.15	1.00	90.2	90.2	2.5" of Insulation, assuming R-9.0
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Advanced Efficiency	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.55	\$0.27	2.0	\$0.00	\$0.00	2.26	1.00	8,020.4	9,766.7	Advanced Efficiency - AFUE 96%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Advanced Efficiency	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.55	\$0.27	10.9	\$0.00	\$0.00	2.26	1.00	5,923.4	6,937.2	Advanced Efficiency - AFUE 96%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.31	\$0.16	2.0	\$0.00	\$0.00	2.41	1.00	0.0	0.0	ENERGY STAR - AFUE 90%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.31	\$0.16	10.9	\$0.00	\$0.00	2.41	1.00	0.0	0.0	ENERGY STAR - AFUE 90%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR 2016 Most Efficient	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.51	\$0.25	2.0	\$0.00	\$0.00	2.28	1.00	0.0	0.0	ENERGY STAR 2016 Most Efficient Boiler - 95% AFUE
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR 2016 Most Efficient	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.51	\$0.25	10.9	\$0.00	\$0.00	2.28	1.00	0.0	0.0	ENERGY STAR 2016 Most Efficient Boiler - 95% AFUE
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Federal Standard 2022	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.08	\$0.04	2.0	\$0.00	\$0.00	2.58	1.00	0.0	0.0	Federal Standard 2022 Boiler - AFUE 84%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Federal Standard 2022	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.08	\$0.04	10.9	\$0.00	\$0.00	2.58	1.00	0.0	0.0	Federal Standard 2022 Boiler - AFUE 84%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Premium Efficiency	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.47	\$0.23	2.0	\$0.00	\$0.00	2.30	1.00	0.0	0.0	Premium Efficiency - AFUE 94%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Premium Efficiency	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.47	\$0.23	10.9	\$0.00	\$0.00	2.30	1.00	0.0	0.0	Premium Efficiency - AFUE 94%
Space Heat - Gas Boiler	Boiler Controls	Lodging	Discretionary	34.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$5,310.23	\$2,655.11	6.9	\$0.00	\$0.00	2.01	1.00	4,183.1	4,183.1	Boiler Reset Controls
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Lodging	Discretionary	16.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$104,877.01	\$52,438.51	6.9	\$0.00	\$0.00	0.05	1.00	1,233.3	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Lodging	Lost Opportunity	16.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$104,877.01	\$52,438.51	10.9	\$0.00	\$0.00	0.05	1.00	601.7	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)
Space Heat - Gas Boiler	Commissioning	Lodging	Lost Opportunity	90.3	3.5	0.000	0.000	0.0	0.0	0.0	0.0	5	\$37,332.52	\$18,666.26	10.9	\$0.00	\$0.00	0.24	1.00	5,949.4	0.0	Commissioning
Space Heat - Gas Boiler	Convert Constant Volume Air System to VAV	Lodging	Discretionary	182.4	7.1	0.000	0.000	0.0	0.0	0.0	0.0	15	\$78,232.77	\$39,116.38	6.9	\$0.00	\$0.00	0.72	1.00	2,744.7	0.0	Variable Volume Air System
Space Heat - Gas Boiler	Direct Digital Control System-Installation	Lodging	Discretionary	104.1	4.1	0.000	0.000	0.0	0.0	0.0	0.0	5	\$10,057.25	\$5,028.63	6.9	\$0.00	\$0.00	1.03	1.00	10,457.1	10,457.1	Installation of EMS System
Space Heat - Gas Boiler	Direct Digital Control System-Installation	Lodging	Lost Opportunity	104.1	4.1	0.000	0.000	0.0	0.0	0.0	0.0	5	\$10,057.25	\$5,028.63	10.9	\$0.00	\$0.00	1.03	1.00	459.6	459.6	Installation of EMS System
Space Heat - Gas Boiler	Exhaust Air to Ventilation Air Heat Recovery	Lodging	Discretionary	104.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$62,863.79	\$31,431.90	6.9	\$0.00	\$0.00	0.48	1.00	1,106.3	0.0	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Gas Boiler	Indirect Information Feedback	Lodging	Discretionary	3.6	0.1	0.000	0.000	0.0	0.0	0.0	0.0	2	\$3,606.40	\$1,803.20	6.9	\$0.00	\$0.00	0.04	1.00	324.6	0.0	Indirect Information Feedback
Space Heat - Gas Boiler	Indirect Information Feedback	Lodging	Lost Opportunity	3.6	0.1	0.000	0.000	0.0	0.0	0.0	0.0	2	\$3,606.40	\$1,803.20	10.9	\$0.00	\$0.00	0.04	1.00	158.4	0.0	Indirect Information Feedback
Space Heat - Gas Boiler	Infiltration Reduction	Lodging	Discretionary	69.4	1.6	0.000	0.000	0.0	0.0	0.0	0.0	10	\$1,260.08	\$630.04	6.9	\$0.00	\$0.00	11.31	1.00	489.1	489.1	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Discretionary	30.5	2.4	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,874.13	\$937.07	6.9	\$0.00	\$0.00	9.51	1.00	1,791.0	1,791.0	R-35 c.i.
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Lost Opportunity	30.5	2.2	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,874.13	\$937.07	10.9	\$0.00	\$0.00	9.51	1.00	287.5	287.5	R-35 c.i.
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Code	Lodging	Discretionary	96.9	8.1	0.000	0.000	0.0	0.0	0.0	0.0	30	\$8,551.60	\$4,275.80	6.9	\$0.00	\$0.00	6.63	1.00	3,674.9	3,674.9	R-30 c.i. (CBES 2015 Code)
Space Heat - Gas Boiler	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Discretionary	44.9	3.5	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,331.79	\$1,665.90	6.9	\$0.00	\$0.00	7.88	1.00	884.6	884.6	R-38
Space Heat - Gas Boiler	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Lost Opportunity	44.9	3.3	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,331.79	\$1,665.90	10.9	\$0.00	\$0.00	7.88	1.00	585.4	585.4	R-38
Space Heat - Gas Boiler	Insulation - Floor (non-slab) - CBES 2015 - Code	Lodging	Discretionary	78.2	6.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$9,551.14	\$4,775.57	6.9	\$0.00	\$0.00	4.79	1.00	1,408.6	1,408.6	R-30 (CBES 2015 Code)
Space Heat - Gas Boiler	Insulation - Wall - CBES 2015 - Above Code	Lodging	Discretionary	66.4	5.1	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,510.29	\$1,755.14	6.9	\$0.00	\$0.00	11.07	1.00	2,200.8	2,200.8	R-13 + 15.6 c.i.
Space Heat - Gas Boiler	Insulation - Wall - CBES 2015 - Above Code	Lodging	Lost Opportunity	66.4	4.9	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,510.29	\$1,755.14	10.9	\$0.00	\$0.00	11.07	1.00	2,207.7	2,207.7	R-13 + 15.6 c.i.
Space Heat - Gas Boiler	Insulation - Wall - CBES 2015 - Code	Lodging	Discretionary	91.3	5.6	0.000	0.000	0.0	0.0	0.0	0.0	30	\$24,087.78	\$12,043.89	6.9	\$0.00	\$0.00	2.22	1.00	1,836.0	1,836.0	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Gas Boiler	Integrated Space Heating and Water Heating	Lodging	Discretionary	38.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$12,381.05	\$6,190.53	6.9	\$0.00	\$0.00	1.26	1.00	670.5	670.5	95% AFUE or Above
Space Heat - Gas Boiler	Integrated Space Heating and Water Heating	Lodging	Lost Opportunity	38.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$12,381.05	\$6,190.53	10.9	\$0.00	\$0.00	1.26	1.00	655.4	655.4	95% AFUE or Above
Space Heat - Gas Boiler	Programmable Thermostat	Lodging	Discretionary	27.8	1.1	0.000	0.000	0.0	0.0	0.0	0.0	11	\$74.70	\$37.35</								

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Space Heat - Gas Furnace	Direct Digital Control System-Installation	Lodging	Lost Opportunity	109.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$10,057.25	\$5,028.63	10.9	\$0.00	\$0.00	1.09	1.00	313.2	313.2	Installation of EMS System
Space Heat - Gas Furnace	Duct Repair and Sealing	Lodging	Discretionary	63.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	18	\$7,723.97	\$3,861.98	6.9	\$0.00	\$0.00	3.02	1.00	3,406.6	3,406.6	Reduction In Duct Losses to 5 %
Space Heat - Gas Furnace	Exhaust Air to Ventilation Air Heat Recovery	Lodging	Discretionary	109.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$62,863.79	\$31,431.90	6.9	\$0.00	\$0.00	0.50	1.00	805.5	0.0	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	2.0	\$0.00	\$0.00	5.67	1.00	7,247.7	9,022.2	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	10.9	\$0.00	\$0.00	5.67	1.00	5,733.5	6,619.0	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	2.0	\$0.00	\$0.00	7.92	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	10.9	\$0.00	\$0.00	7.92	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	2.0	\$0.00	\$0.00	6.57	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	10.9	\$0.00	\$0.00	6.57	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Indirect Information Feedback	Lodging	Discretionary	3.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$3,804.40	\$1,902.20	6.9	\$0.00	\$0.00	0.04	1.00	239.8	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Indirect Information Feedback	Lodging	Lost Opportunity	3.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$3,804.40	\$1,902.20	10.9	\$0.00	\$0.00	0.04	1.00	109.5	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Infiltration Reduction	Lodging	Discretionary	73.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$1,260.08	\$630.04	6.9	\$0.00	\$0.00	11.93	1.00	339.8	339.8	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Discretionary	32.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,874.13	\$937.07	6.9	\$0.00	\$0.00	10.02	1.00	1,244.4	1,244.4	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Lodging	Lost Opportunity	32.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,874.13	\$937.07	10.9	\$0.00	\$0.00	10.02	1.00	192.7	192.7	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Code	Lodging	Discretionary	102.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$8,551.60	\$4,275.80	6.9	\$0.00	\$0.00	6.99	1.00	2,553.2	2,553.2	R-30 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Lodging	Discretionary	26.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$436.48	\$218.24	6.9	\$0.00	\$0.00	24.46	1.00	2,660.8	2,660.8	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Lodging	Lost Opportunity	26.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$436.48	\$218.24	10.9	\$0.00	\$0.00	24.46	1.00	1,069.6	1,069.6	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Code	Lodging	Discretionary	26.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,758.01	\$879.00	6.9	\$0.00	\$0.00	6.07	1.00	2,050.7	2,050.7	R-8 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Discretionary	47.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,331.79	\$1,665.90	6.9	\$0.00	\$0.00	8.31	1.00	614.6	614.6	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Lodging	Lost Opportunity	47.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,331.79	\$1,665.90	10.9	\$0.00	\$0.00	8.31	1.00	392.3	392.3	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Code	Lodging	Discretionary	82.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$9,551.14	\$4,775.57	6.9	\$0.00	\$0.00	5.05	1.00	1,019.0	1,019.0	R-30 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Lodging	Discretionary	70.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,510.29	\$1,755.14	6.9	\$0.00	\$0.00	11.67	1.00	1,529.1	1,529.1	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Lodging	Lost Opportunity	70.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,510.29	\$1,755.14	10.9	\$0.00	\$0.00	11.67	1.00	1,479.5	1,479.5	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Code	Lodging	Discretionary	96.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$24,087.78	\$12,043.89	6.9	\$0.00	\$0.00	2.34	1.00	1,286.5	1,286.5	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Programmable Thermostat	Lodging	Discretionary	29.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$74.70	\$37.35	6.9	\$0.00	\$0.00	88.62	1.00	2,906.0	2,906.0	Programmable Thermostat
Space Heat - Gas Furnace	Re-Commissioning	Lodging	Discretionary	95.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$9,654.96	\$4,827.48	6.9	\$0.00	\$0.00	0.98	1.00	10,208.6	0.0	Re-Commissioning
Space Heat - Gas Furnace	Retrocommissioning	Lodging	Discretionary	108.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$16,091.60	\$8,045.80	6.9	\$0.00	\$0.00	0.67	1.00	6,113.6	0.0	Retrocommissioning
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Lodging	Discretionary	30.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$1,214.16	\$607.08	6.9	\$0.00	\$0.00	2.46	1.00	367.5	367.5	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Lodging	Lost Opportunity	30.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$1,214.16	\$607.08	10.9	\$0.00	\$0.00	2.46	1.00	874.9	874.9	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Tune-up - Furnace Maintenance	Lodging	Discretionary	26.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$724.12	\$362.06	6.9	\$0.00	\$0.00	1.40	1.00	1,676.2	1,676.2	Furnace Maintenance (Tune-up)
Space Heat - Gas Furnace	Wi-Fi Thermostat	Lodging	Discretionary	29.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$595.02	\$297.51	6.9	\$0.00	\$0.00	11.12	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Lodging	Discretionary	6.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$7,451.45	\$3,725.72	6.9	\$0.00	\$0.00	0.37	1.00	148.8	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Lodging	Lost Opportunity	6.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$7,451.45	\$3,725.72	10.9	\$0.00	\$0.00	0.37	1.00	263.4	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Code	Lodging	Discretionary	17.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$49,206.58	\$24,603.29	6.9	\$0.00	\$0.00	0.14	1.00	371.2	0.0	U-0.36 (CBES 2015 Code)
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Lodging	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	5.1	13	\$63.06	\$31.53	6.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Lodging	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	5.1	13	\$63.06	\$31.53	10.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Lodging	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	6.8	13	\$116.60	\$58.30	6.9	\$0.00	\$0.00	1.22	1.00	0.2	0.2	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Lodging	Lost Opportunity	0.3	0.0	0.000	0.000	0.0	0.0	0.0	6.8	13	\$116.60	\$58.30	10.9	\$0.00	\$0.00	1.22	1.00	0.1	0.1	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Lodging	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	2.6	14	\$9.76	\$4.88	6.9	\$0.00	\$0.00	8.59	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Lodging	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	2.6	14	\$9.76	\$4.88	10.9	\$0.00	\$0.00	8.59	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Lodging	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	7.6	14	\$3.99	\$1.99	6.9	\$0.00	\$0.00	47.28	1.00	2.9	3.1	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Lodging	Lost Opportunity	0.4	0.0	0.000	0.000	0.0	0.0	0.0	7.6	14	\$3.99	\$1.99	10.9	\$0.00	\$0.00	47.28	1.00	0.9	1.0	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	Lodging	Discretionary	3.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$180.29	\$90.14	6.9	\$0.00	\$0.00	3.28	1.00	27.0	28.9	1.0" of Insulation, assuming R-4 (Code)
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	Lodging	Discretionary	57.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$17,851.75	\$8,925.88	6.9	\$0.00	\$0.00	1.25	1.00	30.8	33.0	Install Heat Recovery Water Heater
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	Lodging	Discretionary	31.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$38.17	\$19.09	6.9	\$0.00	\$0.00	263.74	1.00	93.4	100.1	R-3
Water Heat GT 55 Gal	Integrated Space Heating and Water Heating	Lodging	Discretionary	189.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$12,381.05	\$6,190.53	6.9	\$0.00	\$0.00	4.86	1.00	216.0	231.4	95% AFUE or Above
Water Heat GT 55 Gal	Integrated Space Heating and Water Heating	Lodging	Lost Opportunity	189.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$12,381.05	\$6,190.53	10.9	\$0.00	\$0.00	4.86	1.00	179.1	196.7	95% AFUE or Above
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Lodging	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	23.5	9	\$643.66	\$321.83	6.9	\$0.00	\$0.00	0.35	1.00	1.3	0.0	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Lodging	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	23.5	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.4	0.0	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Lodging	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	16.6	9	\$643.66	\$321.83	6.9	\$0.00	\$0.00	0.24	1.00	0.0	0.0	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Lodging	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	16.6	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Lodging	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	9.7	9	\$643.66	\$321.83	6.9	\$0.00	\$0.00	0.14	1.00	0.0	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Lodging	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	9.7	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Lodging																				



Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$6.84	\$3.42	2.0	\$1.84	\$1.84	0.04	1.00	415.9	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$6.84	\$3.42	10.9	\$1.84	\$1.84	0.04	1.00	186.5	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Lodging	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$11,287.29	\$5,643.65	6.9	\$0.00	\$0.00	0.00	1.00	0.9	0.0	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Lodging	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$11,287.29	\$5,643.65	10.9	\$0.00	\$0.00	0.00	1.00	0.3	0.0	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Lodging	Discretionary	35.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$760.82	\$380.41	6.9	\$0.00	\$0.00	7.57	1.00	44.1	47.3	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Lodging	Lost Opportunity	35.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$760.82	\$380.41	10.9	\$0.00	\$0.00	7.57	1.00	12.6	13.8	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.06	\$0.03	2.0	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.06	\$0.03	10.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.41	\$0.20	2.0	\$0.00	\$0.00	0.68	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.41	\$0.20	10.9	\$0.00	\$0.00	0.68	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.27	\$0.13	2.0	\$0.00	\$0.00	1.88	1.00	506.1	650.9	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.27	\$0.13	10.9	\$0.00	\$0.00	1.88	1.00	221.4	287.2	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Lodging	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	5.1	13	\$63.06	\$31.53	6.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Lodging	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	5.1	13	\$63.06	\$31.53	10.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Lodging	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	6.8	13	\$116.60	\$58.30	6.9	\$0.00	\$0.00	1.33	1.00	0.7	0.8	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Lodging	Lost Opportunity	0.4	0.0	0.000	0.000	0.0	0.0	0.0	6.8	13	\$116.60	\$58.30	10.9	\$0.00	\$0.00	1.33	1.00	0.2	0.2	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Lodging	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	2.6	14	\$9.76	\$4.88	6.9	\$0.00	\$0.00	9.69	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Lodging	Lost Opportunity	0.3	0.0	0.000	0.000	0.0	0.0	0.0	2.6	14	\$9.76	\$4.88	10.9	\$0.00	\$0.00	9.69	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Lodging	Discretionary	0.5	0.0	0.000	0.000	0.0	0.0	0.0	7.6	14	\$3.99	\$1.99	6.9	\$0.00	\$0.00	52.20	1.00	13.2	13.9	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Lodging	Lost Opportunity	0.5	0.0	0.000	0.000	0.0	0.0	0.0	7.6	14	\$3.99	\$1.99	10.9	\$0.00	\$0.00	52.20	1.00	4.2	4.5	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Lodging	Discretionary	4.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$180.29	\$90.14	6.9	\$0.00	\$0.00	3.97	1.00	122.2	127.9	1.0" of Insulation, assuming R-4 (Code)
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Lodging	Discretionary	58.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$17,851.75	\$8,925.88	6.9	\$0.00	\$0.00	1.27	1.00	117.2	122.6	Install Heat Recovery Water Heater
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Lodging	Discretionary	31.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$38.17	\$19.09	6.9	\$0.00	\$0.00	263.74	1.00	349.7	365.9	R-3
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Lodging	Discretionary	192.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$12,381.05	\$6,190.53	6.9	\$0.00	\$0.00	4.94	1.00	822.4	860.5	95% AFUE or Above
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Lodging	Lost Opportunity	192.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$12,381.05	\$6,190.53	10.9	\$0.00	\$0.00	4.94	1.00	667.9	711.3	95% AFUE or Above
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Lodging	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	23.5	9	\$643.66	\$321.83	6.9	\$0.00	\$0.00	0.35	1.00	4.8	0.0	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Lodging	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	23.5	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	1.5	0.0	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Lodging	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	16.6	9	\$643.66	\$321.83	6.9	\$0.00	\$0.00	0.24	1.00	0.0	0.0	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Lodging	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	16.6	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Lodging	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	9.7	9	\$643.66	\$321.83	6.9	\$0.00	\$0.00	0.14	1.00	0.0	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Lodging	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	9.7	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Lodging	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	3.6	9	\$643.66	\$321.83	6.9	\$0.00	\$0.00	0.05	1.00	0.3	0.0	2.2 GPM (Federal Code)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Lodging	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	9.6	5	\$9.50	\$4.75	6.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Lodging	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	9.6	5	\$9.50	\$4.75	10.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Lodging	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	15.9	5	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	9.0	0.0	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Lodging	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	15.9	5	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	2.9	0.0	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Lodging	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	25.4	5	\$9.50	\$4.75	6.9	\$0.00	\$0.00	16.47	1.00	14.4	15.1	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Lodging	Lost Opportunity	0.3	0.0	0.000	0.000	0.0	0.0	0.0	25.4	5	\$9.50	\$4.75	10.9	\$0.00	\$0.00	16.47	1.00	4.6	4.9	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Lodging	Discretionary	0.5	0.0	0.000	0.000	0.0	0.0	0.0	14.3	9	\$965.50	\$482.75	6.9	\$0.00	\$0.00	0.21	1.00	19.6	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Lodging	Lost Opportunity	0.5	0.0	0.000	0.000	0.0	0.0	0.0	14.3	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	6.2	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Lodging	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	10.7	9	\$965.50	\$482.75	6.9	\$0.00	\$0.00	0.15	1.00	0.0	0.0	1.75 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Lodging	Lost Opportunity	0.4	0.0	0.000	0.000	0.0	0.0	0.0	10.7	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.75 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Lodging	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	7.1	9	\$965.50	\$482.75	6.9	\$0.00	\$0.00	0.10	1.00	0.0	0.0	2.0 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Lodging	Lost Opportunity	0.3	0.0	0.000	0.000	0.0	0.0	0.0	7.1	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	2.0 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Lodging	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	7.1	9	\$965.50	\$482.75	6.9	\$0.00	\$0.00	0.10	1.00	2.9	0.0	2.5 GPM (Federal Code)
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$7.13	\$3.56	2.0	\$1.84	\$1.84	0.05	1.00	1,814.3	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$7.13	\$3.56	10.9	\$1.84	\$1.84	0.05	1.00	815.0	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Lodging	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$11,287.29	\$5,643.65	6.9	\$0.00	\$0.00	0.00	1.00	3.3	0.0	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Lodging	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$11,287.29	\$5,643.65	10.9	\$0.00	\$0.00	0.00	1.00	1.1	0.0	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Lodging	Discretionary	36.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$760.82	\$380.41	6.9	\$0.00	\$0.00	7.69	1.00	167.9	175.7	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Lodging	Lost Opportunity	36.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$760.82	\$380.41	10.9	\$0.00	\$0.00	7.69	1.00	46.9	50.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.67	\$0.33	2.0	\$0.00	\$0.00	1.10	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.67	\$0.33	10.9	\$0.00	\$0.00	1.10	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	Lodging	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.17	\$0.09	2.0	\$0.00	\$0.00	1.28	1.00	0.0	0.0	ENERGY STAR Storage Water Heater LE 55 Gal - EF 0.67

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Cooking	Conveyor Oven	Miscellaneous	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$3.68	\$1.84	6.9	\$0.00	\$0.00	2.95	1.00	301.5	301.5	High Efficiency Conveyor Oven (42% Cooking Efficiency)
Cooking	Conveyor Oven	Miscellaneous	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$3.68	\$1.84	10.9	\$0.00	\$0.00	2.95	1.00	106.4	106.4	High Efficiency Conveyor Oven (42% Cooking Efficiency)
Cooking	Fryers	Miscellaneous	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$3.31	\$1.66	6.9	\$0.00	\$0.00	4.83	1.00	477.8	477.8	ENERGY STAR Fryer
Cooking	Fryers	Miscellaneous	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$3.31	\$1.66	10.9	\$0.00	\$0.00	4.83	1.00	168.6	168.6	ENERGY STAR Fryer
Cooking	Griddle	Miscellaneous	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$2.23	\$1.11	6.9	\$0.00	\$0.00	1.99	1.00	104.3	104.3	ENERGY STAR Griddle
Cooking	Griddle	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$2.23	\$1.11	10.9	\$0.00	\$0.00	1.99	1.00	36.8	36.8	ENERGY STAR Griddle
Cooking	Rack Oven	Miscellaneous	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	371.6	0.0	ENERGY STAR Rack Oven
Cooking	Rack Oven	Miscellaneous	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	131.1	0.0	ENERGY STAR Rack Oven
Cooking	Steam Cooker	Miscellaneous	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$2.02	\$1.01	6.9	\$0.00	\$0.00	8.80	1.00	570.8	570.8	ENERGY STAR Steam Cooker
Cooking	Steam Cooker	Miscellaneous	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$2.02	\$1.01	10.9	\$0.00	\$0.00	8.80	1.00	201.4	201.4	ENERGY STAR Steam Cooker
Pool Heat	Pool Heater - Efficient	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$0.09	\$0.04	2.0	\$0.00	\$0.00	0.42	1.00	0.0	0.0	Efficient Pool Heater - 88% Efficient
Pool Heat	Pool Heater - Efficient	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$0.09	\$0.04	10.9	\$0.00	\$0.00	0.42	1.00	0.0	0.0	Efficient Pool Heater - 88% Efficient
Pool Heat	Spa Covers	Miscellaneous	Discretionary	1.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$1,168.35	\$584.18	6.9	\$0.00	\$0.00	0.08	1.00	0.0	0.0	R-14
Pool Heat	Swimming Pool Covers	Miscellaneous	Discretionary	6.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$1,110.00	\$555.00	6.9	\$0.00	\$0.00	0.45	1.00	0.0	0.0	Swimming Pool with Cover
Room Heat - Gas	Exhaust Air to Ventilation Air Heat Recovery	Miscellaneous	Discretionary	8.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$8,045.69	\$4,022.84	6.9	\$0.00	\$0.00	0.31	1.00	0.0	0.0	Exhaust Air to Ventilation Air Heat Recovery
Room Heat - Gas	Infiltration Reduction	Miscellaneous	Discretionary	5.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$83.64	\$41.82	6.9	\$0.00	\$0.00	14.27	1.00	0.0	0.0	Install Caulking And Weatherstripping (ACH 0.65)
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Discretionary	3.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$463.39	\$231.69	6.9	\$0.00	\$0.00	3.74	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	3.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$463.39	\$231.69	10.9	\$0.00	\$0.00	3.74	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Code	Miscellaneous	Discretionary	9.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,114.42	\$1,057.21	6.9	\$0.00	\$0.00	2.61	1.00	0.0	0.0	R-30 c.i. (CBES 2015 Code)
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Miscellaneous	Discretionary	4.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$823.80	\$411.90	6.9	\$0.00	\$0.00	3.10	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	4.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$823.80	\$411.90	10.9	\$0.00	\$0.00	3.10	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Code	Miscellaneous	Discretionary	7.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,361.56	\$1,180.78	6.9	\$0.00	\$0.00	1.88	1.00	0.0	0.0	R-30 (CBES 2015 Code)
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Miscellaneous	Discretionary	4.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$602.34	\$301.17	6.9	\$0.00	\$0.00	4.35	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	4.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$602.34	\$301.17	10.9	\$0.00	\$0.00	4.35	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Code	Miscellaneous	Discretionary	6.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$4,133.29	\$2,066.65	6.9	\$0.00	\$0.00	0.87	1.00	0.0	0.0	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Gas	Radiant Heater - High Efficiency	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.02	\$0.01	2.0	\$0.00	\$0.00	10.19	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Radiant Heater - High Efficiency	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.02	\$0.01	10.9	\$0.00	\$0.00	10.19	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Windows - CBES 2015 - Above Code	Miscellaneous	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$494.61	\$247.30	6.9	\$0.00	\$0.00	0.14	1.00	0.0	0.0	U-0.29
Room Heat - Gas	Windows - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$494.61	\$247.30	10.9	\$0.00	\$0.00	0.14	1.00	0.0	0.0	U-0.29
Room Heat - Gas	Windows - CBES 2015 - Code	Miscellaneous	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$3,266.21	\$1,633.10	6.9	\$0.00	\$0.00	0.05	1.00	0.0	0.0	U-0.36 (CBES 2015 Code)
Space Heat - Gas Boiler	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Miscellaneous	Discretionary	9.8	1.2	0.000	0.000	0.0	0.0	0.0	0.0	15	\$686.50	\$343.25	6.9	\$0.00	\$0.00	4.39	1.00	22,362.6	22,362.6	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Gas Boiler	Boiler - Economizer	Miscellaneous	Discretionary	7.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$234.59	\$117.30	6.9	\$0.00	\$0.00	9.46	1.00	29,742.9	29,742.9	Economizer
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Miscellaneous	Discretionary	0.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$106.43	\$53.21	6.9	\$0.00	\$0.00	2.62	1.00	1,019.4	1,019.4	3.5" of Insulation, assuming R-13
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Miscellaneous	Lost Opportunity	0.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$106.43	\$53.21	10.9	\$0.00	\$0.00	2.62	1.00	744.5	744.5	3.5" of Insulation, assuming R-13
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Code	Miscellaneous	Discretionary	0.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$203.79	\$101.90	6.9	\$0.00	\$0.00	1.15	1.00	266.3	266.3	2.5" of Insulation, assuming R-9.0
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Advanced Efficiency	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.55	\$0.27	2.0	\$0.00	\$0.00	4.18	1.00	32,215.9	33,179.5	Advanced Efficiency - AFUE 96%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Advanced Efficiency	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.55	\$0.27	10.9	\$0.00	\$0.00	4.18	1.00	22,712.9	26,406.1	Advanced Efficiency - AFUE 96%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.31	\$0.16	2.0	\$0.00	\$0.00	4.46	1.00	0.0	0.0	ENERGY STAR - AFUE 90%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.31	\$0.16	10.9	\$0.00	\$0.00	4.46	1.00	0.0	0.0	ENERGY STAR - AFUE 90%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR 2016 Most Efficient	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.51	\$0.25	2.0	\$0.00	\$0.00	4.22	1.00	0.0	0.0	ENERGY STAR 2016 Most Efficient Boiler - 95% AFUE
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR 2016 Most Efficient	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.51	\$0.25	10.9	\$0.00	\$0.00	4.22	1.00	0.0	0.0	ENERGY STAR 2016 Most Efficient Boiler - 95% AFUE
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Federal Standard 2022	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.08	\$0.04	2.0	\$0.00	\$0.00	4.78	1.00	0.0	0.0	Federal Standard 2022 Boiler - AFUE 84%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Federal Standard 2022	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.08	\$0.04	10.9	\$0.00	\$0.00	4.78	1.00	0.0	0.0	Federal Standard 2022 Boiler - AFUE 84%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Premium Efficiency	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.47	\$0.23	2.0	\$0.00	\$0.00	4.27	1.00	0.0	0.0	Premium Efficiency - AFUE 94%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Premium Efficiency	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.47	\$0.23	10.9	\$0.00	\$0.00	4.27	1.00	0.0	0.0	Premium Efficiency - AFUE 94%
Space Heat - Gas Boiler	Boiler Controls	Miscellaneous	Discretionary	5.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$1,000.00	\$500.00	6.9	\$0.00	\$0.00	1.71	1.00	12,586.2	12,586.2	Boiler Reset Controls
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Miscellaneous	Discretionary	2.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$19,750.00	\$9,875.00	6.9	\$0.00	\$0.00	0.04	1.00	4,075.0	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Miscellaneous	Lost Opportunity	2.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$19,750.00	\$9,875.00	10.9	\$0.00	\$0.00	0.04	1.00	2,015.1	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)
Space Heat - Gas Boiler	Commissioning	Miscellaneous	Lost Opportunity	14.4	1.5	0.000	0.000	0.0	0.0	0.0	0.0	5	\$3,185.36	\$1,592.68	10.9	\$0.00	\$0.00	0.45	1.00	22,828.0	0.0	Commissioning
Space Heat - Gas Boiler	Convert Constant Volume Air System to VAV	Miscellaneous	Discretionary	29.2	3.1	0.000	0.000	0.0	0.0	0.0	0.0	15	\$10,012.70	\$5,006.35	6.9	\$0.00	\$0.00	0.90	1.00	9,411.7	0.0	Variable Volume Air System
Space Heat - Gas Boiler	Direct Digital Control System-Installation	Miscellaneous	Discretionary	16.7	1.8	0.000	0.000	0.0	0.0	0.0	0.0	5	\$858.13	\$429.06	6.9	\$0.00	\$0.00	1.93	1.00	41,495.3	41,495.3	Installation of EMS System
Space Heat - Gas Boiler	Direct Digital Control System-Installation	Miscellaneous	Lost Opportunity	16.7	1.8	0.000	0.000	0.0	0.0	0.0	0.0	5	\$858.13	\$429.06	10.9	\$0.00	\$0.00	1.93	1.00	1,749.3	1,749.3	Installation of EMS System
Space Heat - Gas Boiler	Exhaust Air to Ventilation Air Heat Recovery	Miscellaneous	Discretionary	16.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$8,045.69	\$4,022.84	6.9	\$0.00	\$0.00	0.60	1.00	4,154.1	0.0	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Gas Boiler	Indirect Information Feedback	Miscellaneous	Discretionary	0.6	0.1	0.000	0.000	0.0	0.0	0.0	0.0	2	\$576.83	\$288.42	6.9	\$0.00	\$0.00	0.04	1.00	1,228.0	0.0	Indirect Information Feedback
Space Heat - Gas Boiler	Indirect Information Feedback	Miscellaneous	Lost Opportunity	0.6	0.1	0.000	0.000	0.0	0.0	0.0	0.0	2	\$576.83	\$288.42	10.9	\$0.00	\$0.00	0.04	1.00	607.2	0.0	Indirect Information Feedback
Space Heat - Gas Boiler	Infiltration Reduction	Miscellaneous	Discretionary	11.1	0.4	0.000	0.000	0.0	0.0</													

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Space Heat - Gas Boiler	Steam Trap Repair	Miscellaneous	Discretionary	11.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	6	\$233.00	\$116.50	6.9	\$0.00	\$0.00	6.02	1.00	6,596.6	6,596.6	Steam Trap Repair
Space Heat - Gas Boiler	Strategic Energy Management (SEM)	Miscellaneous	Discretionary	4.6	0.5	0.000	0.000	0.0	0.0	0.0	0.0	5	\$184.09	\$92.05	6.9	\$0.00	\$0.00	2.46	1.00	1,959.2	1,959.2	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Boiler	Strategic Energy Management (SEM)	Miscellaneous	Lost Opportunity	4.6	0.5	0.000	0.000	0.0	0.0	0.0	0.0	5	\$184.09	\$92.05	10.9	\$0.00	\$0.00	2.46	1.00	4,951.9	4,951.9	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Boiler	Tune-up - Boiler Maintenance	Miscellaneous	Discretionary	4.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$67.96	\$33.98	6.9	\$0.00	\$0.00	2.27	1.00	9,135.1	9,135.1	Boiler Maintenance (Tune-up)
Space Heat - Gas Boiler	Wi-Fi Thermostat	Miscellaneous	Discretionary	4.4	0.5	0.000	0.000	0.0	0.0	0.0	0.0	11	\$205.33	\$102.67	6.9	\$0.00	\$0.00	4.89	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)
Space Heat - Gas Boiler	Windows - CBES 2015 - Above Code	Miscellaneous	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$494.61	\$247.30	6.9	\$0.00	\$0.00	0.27	1.00	239.1	0.0	U-0.29
Space Heat - Gas Boiler	Windows - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$494.61	\$247.30	10.9	\$0.00	\$0.00	0.27	1.00	401.9	0.0	U-0.29
Space Heat - Gas Boiler	Windows - CBES 2015 - Code	Miscellaneous	Discretionary	0.8	0.1	0.000	0.000	0.0	0.0	0.0	0.0	20	\$3,266.21	\$1,633.10	6.9	\$0.00	\$0.00	0.10	1.00	597.5	0.0	U-0.36 (CBES 2015 Code)
Space Heat - Gas Furnace	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Miscellaneous	Discretionary	9.8	3.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$686.50	\$343.25	6.9	\$0.00	\$0.00	4.42	1.00	18,412.7	18,412.7	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Gas Furnace	Commissioning	Miscellaneous	Lost Opportunity	14.5	3.8	0.000	0.000	0.0	0.0	0.0	0.0	5	\$3,185.36	\$1,592.68	10.9	\$0.00	\$0.00	0.45	1.00	18,452.1	0.0	Commissioning
Space Heat - Gas Furnace	Convert Constant Volume Air System to VAV	Miscellaneous	Discretionary	29.3	7.7	0.000	0.000	0.0	0.0	0.0	0.0	15	\$10,012.70	\$5,006.35	6.9	\$0.00	\$0.00	0.90	1.00	8,069.4	0.0	Variable Volume Air System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	Miscellaneous	Discretionary	16.7	4.4	0.000	0.000	0.0	0.0	0.0	0.0	5	\$858.13	\$429.06	6.9	\$0.00	\$0.00	1.95	1.00	34,416.4	34,416.4	Installation of EMS System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	Miscellaneous	Lost Opportunity	16.7	4.4	0.000	0.000	0.0	0.0	0.0	0.0	5	\$858.13	\$429.06	10.9	\$0.00	\$0.00	1.95	1.00	1,414.0	1,414.0	Installation of EMS System
Space Heat - Gas Furnace	Duct Repair and Sealing	Miscellaneous	Discretionary	9.7	2.5	0.000	0.000	0.0	0.0	0.0	0.0	18	\$659.04	\$329.52	6.9	\$0.00	\$0.00	5.42	1.00	15,582.8	15,582.8	Reduction In Duct Losses to 5 %
Space Heat - Gas Furnace	Exhaust Air to Ventilation Air Heat Recovery	Miscellaneous	Discretionary	16.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$8,045.69	\$4,022.84	6.9	\$0.00	\$0.00	0.60	1.00	3,561.7	0.0	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	2.0	\$0.00	\$0.00	10.51	1.00	30,641.5	31,699.6	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	10.9	\$0.00	\$0.00	10.51	1.00	26,027.2	29,882.0	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	2.0	\$0.00	\$0.00	14.67	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	10.9	\$0.00	\$0.00	14.67	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	2.0	\$0.00	\$0.00	12.16	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	10.9	\$0.00	\$0.00	12.16	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Indirect Information Feedback	Miscellaneous	Discretionary	0.6	0.2	0.000	0.000	0.0	0.0	0.0	0.0	2	\$579.78	\$289.89	6.9	\$0.00	\$0.00	0.04	1.00	1,066.2	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Indirect Information Feedback	Miscellaneous	Lost Opportunity	0.6	0.2	0.000	0.000	0.0	0.0	0.0	0.0	2	\$579.78	\$289.89	10.9	\$0.00	\$0.00	0.04	1.00	497.0	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Infiltration Reduction	Miscellaneous	Discretionary	11.2	0.9	0.000	0.000	0.0	0.0	0.0	0.0	10	\$83.64	\$41.82	6.9	\$0.00	\$0.00	27.41	1.00	1,499.0	1,499.0	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Discretionary	5.7	1.5	0.000	0.000	0.0	0.0	0.0	0.0	30	\$463.39	\$231.69	6.9	\$0.00	\$0.00	7.19	1.00	6,281.3	6,281.3	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	5.7	1.5	0.000	0.000	0.0	0.0	0.0	0.0	30	\$463.39	\$231.69	10.9	\$0.00	\$0.00	7.19	1.00	1,012.5	1,012.5	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Code	Miscellaneous	Discretionary	18.1	5.1	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,114.42	\$1,057.21	6.9	\$0.00	\$0.00	5.02	1.00	12,425.2	12,425.2	R-30 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Miscellaneous	Discretionary	4.0	1.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$37.24	\$18.62	6.9	\$0.00	\$0.00	43.83	1.00	12,030.8	12,030.8	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	4.0	1.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$37.24	\$18.62	10.9	\$0.00	\$0.00	43.83	1.00	4,766.3	4,766.3	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Code	Miscellaneous	Discretionary	4.0	1.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$150.00	\$75.00	6.9	\$0.00	\$0.00	10.88	1.00	9,684.3	9,684.3	R-8 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Miscellaneous	Discretionary	8.4	2.2	0.000	0.000	0.0	0.0	0.0	0.0	30	\$823.80	\$411.90	6.9	\$0.00	\$0.00	5.96	1.00	3,096.6	3,096.6	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	8.4	2.2	0.000	0.000	0.0	0.0	0.0	0.0	30	\$823.80	\$411.90	10.9	\$0.00	\$0.00	5.96	1.00	2,059.6	2,059.6	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Code	Miscellaneous	Discretionary	14.6	3.8	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,361.56	\$1,180.78	6.9	\$0.00	\$0.00	3.62	1.00	4,827.0	4,827.0	R-30 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Miscellaneous	Discretionary	8.6	2.2	0.000	0.000	0.0	0.0	0.0	0.0	30	\$602.34	\$301.17	6.9	\$0.00	\$0.00	8.37	1.00	5,328.0	5,328.0	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	8.6	2.2	0.000	0.000	0.0	0.0	0.0	0.0	30	\$602.34	\$301.17	10.9	\$0.00	\$0.00	8.37	1.00	5,311.3	5,311.3	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Code	Miscellaneous	Discretionary	11.8	2.5	0.000	0.000	0.0	0.0	0.0	0.0	30	\$4,133.29	\$2,066.65	6.9	\$0.00	\$0.00	1.68	1.00	3,591.6	3,591.6	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Programmable Thermostat	Miscellaneous	Discretionary	4.5	1.2	0.000	0.000	0.0	0.0	0.0	0.0	11	\$25.78	\$12.89	6.9	\$0.00	\$0.00	39.25	1.00	12,524.1	12,524.1	Programmable Thermostat
Space Heat - Gas Furnace	Re-Commissioning	Miscellaneous	Discretionary	14.5	3.8	0.000	0.000	0.0	0.0	0.0	0.0	5	\$823.80	\$411.90	6.9	\$0.00	\$0.00	1.76	1.00	46,145.2	46,145.2	Re-Commissioning
Space Heat - Gas Furnace	Retrocommissioning	Miscellaneous	Discretionary	16.6	4.3	0.000	0.000	0.0	0.0	0.0	0.0	5	\$1,373.00	\$686.50	6.9	\$0.00	\$0.00	1.20	1.00	27,798.9	27,798.9	Retrocommissioning
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Miscellaneous	Discretionary	4.6	1.2	0.000	0.000	0.0	0.0	0.0	0.0	5	\$185.03	\$92.52	6.9	\$0.00	\$0.00	2.47	1.00	1,586.9	1,586.9	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Miscellaneous	Lost Opportunity	4.6	1.2	0.000	0.000	0.0	0.0	0.0	0.0	5	\$185.03	\$92.52	10.9	\$0.00	\$0.00	2.47	1.00	3,949.9	3,949.9	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Tune-up - Furnace Maintenance	Miscellaneous	Discretionary	4.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$61.79	\$30.89	6.9	\$0.00	\$0.00	2.51	1.00	7,606.2	7,606.2	Furnace Maintenance (Tune-up)
Space Heat - Gas Furnace	Wi-Fi Thermostat	Miscellaneous	Discretionary	4.5	1.2	0.000	0.000	0.0	0.0	0.0	0.0	11	\$205.33	\$102.67	6.9	\$0.00	\$0.00	4.93	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Miscellaneous	Discretionary	0.3	0.1	0.000	0.000	0.0	0.0	0.0	0.0	20	\$494.61	\$247.30	6.9	\$0.00	\$0.00	0.27	1.00	205.0	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Miscellaneous	Lost Opportunity	0.3	0.1	0.000	0.000	0.0	0.0	0.0	0.0	20	\$494.61	\$247.30	10.9	\$0.00	\$0.00	0.27	1.00	324.9	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Code	Miscellaneous	Discretionary	0.8	0.2	0.000	0.000	0.0	0.0	0.0	0.0	20	\$3,266.21	\$1,633.10	6.9	\$0.00	\$0.00	0.10	1.00	512.3	0.0	U-0.36 (CBES 2015 Code)
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Miscellaneous	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.8	13	\$21.76	\$10.88	6.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.8	13	\$21.76	\$10.88	10.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Miscellaneous	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$40.24	\$20.12	6.9	\$0.00	\$0.00	1.22	1.00	17.2	21.4	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Miscellaneous	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$40.24	\$20.12	10.9	\$0.00	\$0.00	1.22	1.00	5.6	7.4	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Miscellaneous	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.1	14	\$0.28	\$0.14	6.9	\$0.00	\$0.00	8.59	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.1	14	\$0.28	\$0.14	10.9	\$0.00	\$0.00	8.59	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Miscellaneous	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.2	14	\$0.11	\$0.06	6.9	\$0.00	\$0.00	47.28	1.00	0.1	0.1	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.2	14	\$0.11	\$0.06	10.9	\$0						



Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Miscellaneous	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.3	5	\$0.27	\$0.14	6.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.3	5	\$0.27	\$0.14	10.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Miscellaneous	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.5	5	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	2.8	0.0	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.5	5	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.9	0.0	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Miscellaneous	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.7	5	\$0.27	\$0.14	6.9	\$0.00	\$0.00	16.47	1.00	4.5	5.6	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.7	5	\$0.27	\$0.14	10.9	\$0.00	\$0.00	16.47	1.00	1.5	1.9	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Miscellaneous	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	3.4	9	\$2.75	\$1.37	6.9	\$0.00	\$0.00	17.52	1.00	51.5	64.1	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Miscellaneous	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	3.4	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	16.7	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Miscellaneous	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.6	9	\$2.75	\$1.37	6.9	\$0.00	\$0.00	13.14	1.00	0.0	0.0	1.75 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Miscellaneous	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.6	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.75 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Miscellaneous	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.7	9	\$2.75	\$1.37	6.9	\$0.00	\$0.00	8.76	1.00	0.0	0.0	2.0 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Miscellaneous	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.7	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	2.0 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Miscellaneous	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.7	9	\$2.75	\$1.37	6.9	\$0.00	\$0.00	8.76	1.00	7.6	9.4	2.5 GPM (Federal Code)
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$3.17	\$1.59	2.0	\$0.85	\$0.85	0.01	1.00	246.4	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$3.17	\$1.59	10.9	\$0.85	\$0.85	0.01	1.00	113.6	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Miscellaneous	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$350.72	\$175.36	6.9	\$0.00	\$0.00	0.02	1.00	9.7	0.0	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$350.72	\$175.36	10.9	\$0.00	\$0.00	0.02	1.00	3.2	0.0	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Miscellaneous	Discretionary	0.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$50.08	\$25.04	6.9	\$0.00	\$0.00	1.77	1.00	6.9	8.6	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Miscellaneous	Lost Opportunity	0.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$50.08	\$25.04	10.9	\$0.00	\$0.00	1.77	1.00	2.0	2.6	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.03	\$0.01	2.0	\$0.00	\$0.00	0.54	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.03	\$0.01	10.9	\$0.00	\$0.00	0.54	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.19	\$0.09	2.0	\$0.00	\$0.00	0.27	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.19	\$0.09	10.9	\$0.00	\$0.00	0.27	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.12	\$0.06	2.0	\$0.00	\$0.00	0.73	1.00	299.8	0.0	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.12	\$0.06	10.9	\$0.00	\$0.00	0.73	1.00	134.8	0.0	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Miscellaneous	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.8	13	\$21.76	\$10.88	6.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Miscellaneous	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.8	13	\$21.76	\$10.88	10.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Miscellaneous	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$40.24	\$20.12	6.9	\$0.00	\$0.00	1.33	1.00	77.9	109.5	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Miscellaneous	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$40.24	\$20.12	10.9	\$0.00	\$0.00	1.33	1.00	24.7	38.6	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Miscellaneous	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.1	14	\$0.28	\$0.14	6.9	\$0.00	\$0.00	9.69	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.1	14	\$0.28	\$0.14	10.9	\$0.00	\$0.00	9.69	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Miscellaneous	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.2	14	\$0.11	\$0.06	6.9	\$0.00	\$0.00	52.20	1.00	0.3	0.4	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.2	14	\$0.11	\$0.06	10.9	\$0.00	\$0.00	52.20	1.00	0.1	0.1	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Miscellaneous	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$10.71	\$5.36	6.9	\$0.00	\$0.00	3.97	1.00	301.9	424.3	1.0" of Insulation, assuming R-4 (Code)
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Miscellaneous	Discretionary	0.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$707.00	\$353.50	6.9	\$0.00	\$0.00	0.49	1.00	68.3	0.0	Install Heat Recovery Water Heater
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Miscellaneous	Discretionary	1.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1.18	\$0.59	6.9	\$0.00	\$0.00	263.74	1.00	441.0	619.9	R-3
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Miscellaneous	Discretionary	3.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,056.40	\$528.20	6.9	\$0.00	\$0.00	0.89	1.00	475.8	0.0	95% AFUE or Above
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Miscellaneous	Lost Opportunity	3.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,056.40	\$528.20	10.9	\$0.00	\$0.00	0.89	1.00	418.5	0.0	95% AFUE or Above
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	5.7	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	2.69	1.00	46.9	65.9	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	5.7	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	14.9	0.0	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	4.0	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	1.90	1.00	0.0	0.0	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	4.0	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.3	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	1.11	1.00	0.0	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.3	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Miscellaneous	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.9	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	0.42	1.00	2.8	0.0	2.2 GPM (Federal Code)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Miscellaneous	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.3	5	\$0.27	\$0.14	6.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.3	5	\$0.27	\$0.14	10.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Miscellaneous	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.5	5	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	10.5	0.0	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.5	5	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	3.3	0.0	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Miscellaneous	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.7	5	\$0.27	\$0.14	6.9	\$0.00	\$0.00	16.47	1.00	16.8	23.6	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.7	5	\$0.27	\$0.14	10.9	\$0.00	\$0.00	16.47	1.00	5.3	8.3	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Miscellaneous	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	3.4	9	\$2.75	\$1.37	6.9	\$0.00	\$0.00	17.52	1.00	192.9	271.1	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Miscellaneous	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	3.4	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	61.3	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Miscellaneous	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.6	9	\$2.75	\$1.37	6.9	\$0.00	\$0.00	13.14	1.00	0.0	0.0	1.75 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Miscellaneous	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.6	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.75 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Miscellaneous	Discretionary	0.1	0.0	0.000	0.000															

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Miscellaneous	Lost Opportunity	0.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$50.08	\$25.04	10.9	\$0.00	\$0.00	1.80	1.00	7.4	11.5	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.31	\$0.16	2.0	\$0.00	\$0.00	0.43	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.31	\$0.16	10.9	\$0.00	\$0.00	0.43	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.08	\$0.04	2.0	\$0.00	\$0.00	0.50	1.00	0.0	0.0	ENERGY STAR Storage Water Heater LE 55 Gal - EF 0.67
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.08	\$0.04	10.9	\$0.00	\$0.00	0.50	1.00	0.0	0.0	ENERGY STAR Storage Water Heater LE 55 Gal - EF 0.67
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Tankless - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	2.0	\$0.00	\$0.00	0.77	1.00	2,365.6	0.0	ENERGY STAR Tankless Water Heater LE 55 Gal - EF 0.90
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Tankless - ENERGY STAR	Miscellaneous	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	10.9	\$0.00	\$0.00	0.77	1.00	1,068.4	0.0	ENERGY STAR Tankless Water Heater LE 55 Gal - EF 0.90
Cooking	Broiler	Restaurant	Discretionary	62.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$2,000.77	\$1,000.39	6.9	\$0.00	\$0.00	6.08	1.00	55,829.2	55,829.2	Infrared Cooking Broiler (37% Cooking Efficiency)
Cooking	Broiler	Restaurant	Lost Opportunity	62.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$2,000.77	\$1,000.39	10.9	\$0.00	\$0.00	6.08	1.00	19,695.4	19,695.4	Infrared Cooking Broiler (37% Cooking Efficiency)
Cooking	Combination Oven	Restaurant	Discretionary	32.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	15,890.0	0.0	ENERGY STAR Combination Oven
Cooking	Combination Oven	Restaurant	Lost Opportunity	32.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	5,605.7	0.0	ENERGY STAR Combination Oven
Cooking	Convection Oven	Restaurant	Discretionary	12.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$170.00	\$85.00	6.9	\$0.00	\$0.00	14.42	1.00	7,496.3	7,496.3	ENERGY STAR Convection Oven
Cooking	Convection Oven	Restaurant	Lost Opportunity	12.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$170.00	\$85.00	10.9	\$0.00	\$0.00	14.42	1.00	2,644.5	2,644.5	ENERGY STAR Convection Oven
Cooking	Conveyor Oven	Restaurant	Discretionary	31.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$2,063.01	\$1,031.50	6.9	\$0.00	\$0.00	2.95	1.00	20,173.2	20,173.2	High Efficiency Conveyor Oven (42% Cooking Efficiency)
Cooking	Conveyor Oven	Restaurant	Lost Opportunity	31.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$2,063.01	\$1,031.50	10.9	\$0.00	\$0.00	2.95	1.00	7,116.7	7,116.7	High Efficiency Conveyor Oven (42% Cooking Efficiency)
Cooking	Fryers	Restaurant	Discretionary	46.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$1,856.25	\$928.13	6.9	\$0.00	\$0.00	4.83	1.00	31,972.2	31,972.2	ENERGY STAR Fryer
Cooking	Fryers	Restaurant	Lost Opportunity	46.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$1,856.25	\$928.13	10.9	\$0.00	\$0.00	4.83	1.00	11,279.1	11,279.1	ENERGY STAR Fryer
Cooking	Griddle	Restaurant	Discretionary	12.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$1,250.00	\$625.00	6.9	\$0.00	\$0.00	1.99	1.00	5,707.9	5,707.9	ENERGY STAR Griddle
Cooking	Griddle	Restaurant	Lost Opportunity	12.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$1,250.00	\$625.00	10.9	\$0.00	\$0.00	1.99	1.00	2,013.6	2,013.6	ENERGY STAR Griddle
Cooking	Rack Oven	Restaurant	Discretionary	38.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	24,867.7	0.0	ENERGY STAR Rack Oven
Cooking	Rack Oven	Restaurant	Lost Opportunity	38.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	8,772.8	0.0	ENERGY STAR Rack Oven
Cooking	Steam Cooker	Restaurant	Discretionary	51.5	0.0	0.000	0.000	0.0	0.0	0.0	2,224.3	12	\$1,135.00	\$567.50	6.9	\$0.00	\$0.00	30.48	1.00	38,192.8	38,192.8	ENERGY STAR Steam Cooker
Cooking	Steam Cooker	Restaurant	Lost Opportunity	51.5	0.0	0.000	0.000	0.0	0.0	0.0	2,224.3	12	\$1,135.00	\$567.50	10.9	\$0.00	\$0.00	30.48	1.00	13,473.6	13,473.6	ENERGY STAR Steam Cooker
Room Heat - Gas	Exhaust Air to Ventilation Air Heat Recovery	Restaurant	Discretionary	7.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$11,444.45	\$5,722.22	6.9	\$0.00	\$0.00	0.18	1.00	0.0	0.0	Exhaust Air to Ventilation Air Heat Recovery
Room Heat - Gas	Infiltration Reduction	Restaurant	Discretionary	4.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$211.12	\$105.56	6.9	\$0.00	\$0.00	4.56	1.00	0.0	0.0	Install Caulking And Weatherstripping (ACH 0.65)
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Restaurant	Discretionary	2.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$410.62	\$205.31	6.9	\$0.00	\$0.00	3.19	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Restaurant	Lost Opportunity	2.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$410.62	\$205.31	10.9	\$0.00	\$0.00	3.19	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Code	Restaurant	Discretionary	7.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,873.65	\$936.82	6.9	\$0.00	\$0.00	2.23	1.00	0.0	0.0	R-30 c.i. (CBES 2015 Code)
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Restaurant	Discretionary	3.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$729.99	\$365.00	6.9	\$0.00	\$0.00	2.65	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Restaurant	Lost Opportunity	3.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$729.99	\$365.00	10.9	\$0.00	\$0.00	2.65	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Code	Restaurant	Discretionary	5.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,092.65	\$1,046.32	6.9	\$0.00	\$0.00	1.61	1.00	0.0	0.0	R-30 (CBES 2015 Code)
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Restaurant	Discretionary	3.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$606.78	\$303.39	6.9	\$0.00	\$0.00	3.72	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Restaurant	Lost Opportunity	3.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$606.78	\$303.39	10.9	\$0.00	\$0.00	3.72	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Code	Restaurant	Discretionary	5.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$4,163.78	\$2,081.89	6.9	\$0.00	\$0.00	0.74	1.00	0.0	0.0	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Gas	Radiant Heater - High Efficiency	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.02	\$0.01	2.0	\$0.00	\$0.00	8.22	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Radiant Heater - High Efficiency	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.02	\$0.01	10.9	\$0.00	\$0.00	8.22	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Windows - CBES 2015 - Above Code	Restaurant	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,248.44	\$624.22	6.9	\$0.00	\$0.00	0.12	1.00	0.0	0.0	U-0.29
Room Heat - Gas	Windows - CBES 2015 - Above Code	Restaurant	Lost Opportunity	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,248.44	\$624.22	10.9	\$0.00	\$0.00	0.12	1.00	0.0	0.0	U-0.29
Room Heat - Gas	Windows - CBES 2015 - Code	Restaurant	Discretionary	0.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$8,244.23	\$4,122.11	6.9	\$0.00	\$0.00	0.05	1.00	0.0	0.0	U-0.36 (CBES 2015 Code)
Space Heat - Gas Boiler	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Restaurant	Discretionary	6.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$651.00	\$325.50	6.9	\$0.00	\$0.00	2.89	1.00	130.7	130.7	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Gas Boiler	Boiler - Economizer	Restaurant	Discretionary	4.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$222.46	\$111.23	6.9	\$0.00	\$0.00	6.24	1.00	349.6	349.6	Economizer
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Restaurant	Discretionary	0.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$107.21	\$53.61	6.9	\$0.00	\$0.00	2.62	1.00	19.8	19.8	3.5" of Insulation, assuming R-13
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Restaurant	Lost Opportunity	0.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$107.21	\$53.61	10.9	\$0.00	\$0.00	2.62	1.00	14.3	14.3	3.5" of Insulation, assuming R-13
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Code	Restaurant	Discretionary	0.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$205.30	\$102.65	6.9	\$0.00	\$0.00	1.15	1.00	6.8	6.8	2.5" of Insulation, assuming R-9.0
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Advanced Efficiency	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.55	\$0.27	2.0	\$0.00	\$0.00	2.95	1.00	397.8	417.6	Advanced Efficiency - AFUE 96%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Advanced Efficiency	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.55	\$0.27	10.9	\$0.00	\$0.00	2.95	1.00	309.5	314.1	Advanced Efficiency - AFUE 96%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.31	\$0.16	2.0	\$0.00	\$0.00	3.15	1.00	0.0	0.0	ENERGY STAR - AFUE 90%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.31	\$0.16	10.9	\$0.00	\$0.00	3.15	1.00	0.0	0.0	ENERGY STAR - AFUE 90%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR 2016 Most Efficient	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.51	\$0.25	2.0	\$0.00	\$0.00	2.99	1.00	0.0	0.0	ENERGY STAR 2016 Most Efficient Boiler - 95% AFUE
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR 2016 Most Efficient	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.51	\$0.25	10.9	\$0.00	\$0.00	2.99	1.00	0.0	0.0	ENERGY STAR 2016 Most Efficient Boiler - 95% AFUE
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Federal Standard 2022	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.08	\$0.04	2.0	\$0.00	\$0.00	3.38	1.00	0.0	0.0	Federal Standard 2022 Boiler - AFUE 84%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Federal Standard 2022	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.08	\$0.04	10.9	\$0.00	\$0.00	3.38	1.00	0.0	0.0	Federal Standard 2022 Boiler - AFUE 84%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Premium Efficiency	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.47	\$0.23	2.0	\$0.00	\$0.00	3.02	1.00	0.0	0.0	Premium Efficiency - AFUE 94%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Premium Efficiency	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.47	\$0.23	10.9	\$0.00	\$0.00	3.02	1.00	0.0	0.0	Premium Efficiency - AFUE 94%
Space Heat - Gas Boiler	Boiler Controls	Restaurant	Discretionary	3.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15										

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Space Heat - Gas Boiler	Insulation - Floor (non-slab) - CBES 2015 - Code	Restaurant	Discretionary	8.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,092.65	\$1,046.32	6.9	\$0.00	\$0.00	2.38	1.00	65.3	65.3	R-30 (CBES 2015 Code)
Space Heat - Gas Boiler	Insulation - Wall - CBES 2015 - Above Code	Restaurant	Discretionary	5.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$606.78	\$303.39	6.9	\$0.00	\$0.00	5.51	1.00	77.9	77.9	R-13 + 15.6 c.i.
Space Heat - Gas Boiler	Insulation - Wall - CBES 2015 - Above Code	Restaurant	Lost Opportunity	5.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$606.78	\$303.39	10.9	\$0.00	\$0.00	5.51	1.00	85.4	85.4	R-13 + 15.6 c.i.
Space Heat - Gas Boiler	Insulation - Wall - CBES 2015 - Code	Restaurant	Discretionary	7.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$4,163.78	\$2,081.89	6.9	\$0.00	\$0.00	1.10	1.00	62.9	62.9	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Gas Boiler	Integrated Space Heating and Water Heating	Restaurant	Discretionary	3.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,001.77	\$500.89	6.9	\$0.00	\$0.00	1.56	1.00	31.7	31.7	95% AFUE or Above
Space Heat - Gas Boiler	Integrated Space Heating and Water Heating	Restaurant	Lost Opportunity	3.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,001.77	\$500.89	10.9	\$0.00	\$0.00	1.56	1.00	29.7	29.7	95% AFUE or Above
Space Heat - Gas Boiler	Programmable Thermostat	Restaurant	Discretionary	2.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$27.58	\$13.79	6.9	\$0.00	\$0.00	22.76	1.00	180.3	180.3	Programmable Thermostat
Space Heat - Gas Boiler	Steam Trap Repair	Restaurant	Discretionary	11.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	6	\$233.00	\$116.50	6.9	\$0.00	\$0.00	6.02	1.00	128.4	128.4	Steam Trap Repair
Space Heat - Gas Boiler	Strategic Energy Management (SEM)	Restaurant	Discretionary	2.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$115.17	\$57.58	6.9	\$0.00	\$0.00	2.46	1.00	23.6	23.6	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Boiler	Strategic Energy Management (SEM)	Restaurant	Lost Opportunity	2.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$115.17	\$57.58	10.9	\$0.00	\$0.00	2.46	1.00	58.9	58.9	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Boiler	Tune-up - Boiler Maintenance	Restaurant	Discretionary	2.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$64.45	\$32.22	6.9	\$0.00	\$0.00	1.50	1.00	109.0	109.0	Boiler Maintenance (Tune-up)
Space Heat - Gas Boiler	Wi-Fi Thermostat	Restaurant	Discretionary	2.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$219.74	\$109.87	6.9	\$0.00	\$0.00	2.86	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)
Space Heat - Gas Boiler	Windows - CBES 2015 - Above Code	Restaurant	Discretionary	0.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,248.44	\$624.22	6.9	\$0.00	\$0.00	0.18	1.00	9.5	0.0	U-0.29
Space Heat - Gas Boiler	Windows - CBES 2015 - Above Code	Restaurant	Lost Opportunity	0.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,248.44	\$624.22	10.9	\$0.00	\$0.00	0.18	1.00	14.6	0.0	U-0.29
Space Heat - Gas Boiler	Windows - CBES 2015 - Code	Restaurant	Discretionary	1.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$8,244.23	\$4,122.11	6.9	\$0.00	\$0.00	0.07	1.00	23.8	0.0	U-0.36 (CBES 2015 Code)
Space Heat - Gas Furnace	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Restaurant	Discretionary	6.5	13.6	0.000	0.000	0.0	0.0	0.0	0.0	15	\$651.00	\$325.50	6.9	\$0.00	\$0.00	3.16	1.00	190.5	190.5	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Gas Furnace	Convert Constant Volume Air System to VAV	Restaurant	Discretionary	19.5	34.3	0.000	0.000	0.0	0.0	0.0	0.0	15	\$14,242.39	\$7,121.20	6.9	\$0.00	\$0.00	0.43	1.00	213.0	0.0	Variable Volume Air System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	Restaurant	Discretionary	11.1	19.6	0.000	0.000	0.0	0.0	0.0	0.0	5	\$813.75	\$406.88	6.9	\$0.00	\$0.00	1.39	1.00	728.2	728.2	Installation of EMS System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	Restaurant	Lost Opportunity	11.1	19.6	0.000	0.000	0.0	0.0	0.0	0.0	5	\$813.75	\$406.88	10.9	\$0.00	\$0.00	1.39	1.00	29.4	29.4	Installation of EMS System
Space Heat - Gas Furnace	Duct Repair and Sealing	Restaurant	Discretionary	6.5	11.4	0.000	0.000	0.0	0.0	0.0	0.0	18	\$624.96	\$312.48	6.9	\$0.00	\$0.00	3.87	1.00	321.9	321.9	Reduction In Duct Losses to 5 %
Space Heat - Gas Furnace	Exhaust Air to Ventilation Air Heat Recovery	Restaurant	Discretionary	11.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$11,444.45	\$5,722.22	6.9	\$0.00	\$0.00	0.28	1.00	94.0	0.0	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	2.0	\$0.00	\$0.00	7.43	1.00	814.4	852.0	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	10.9	\$0.00	\$0.00	7.43	1.00	615.2	621.7	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	2.0	\$0.00	\$0.00	10.37	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	10.9	\$0.00	\$0.00	10.37	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	2.0	\$0.00	\$0.00	8.60	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	10.9	\$0.00	\$0.00	8.60	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Indirect Information Feedback	Restaurant	Discretionary	0.4	0.7	0.000	0.000	0.0	0.0	0.0	0.0	2	\$385.98	\$192.99	6.9	\$0.00	\$0.00	0.04	1.00	28.0	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Indirect Information Feedback	Restaurant	Lost Opportunity	0.4	0.7	0.000	0.000	0.0	0.0	0.0	0.0	2	\$385.98	\$192.99	10.9	\$0.00	\$0.00	0.04	1.00	11.7	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Infiltration Reduction	Restaurant	Discretionary	7.4	3.9	0.000	0.000	0.0	0.0	0.0	0.0	10	\$211.12	\$105.56	6.9	\$0.00	\$0.00	7.26	1.00	30.4	30.4	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Restaurant	Discretionary	3.6	6.2	0.000	0.000	0.0	0.0	0.0	0.0	30	\$410.62	\$205.31	6.9	\$0.00	\$0.00	5.17	1.00	121.7	121.7	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Restaurant	Lost Opportunity	3.6	6.2	0.000	0.000	0.0	0.0	0.0	0.0	30	\$410.62	\$205.31	10.9	\$0.00	\$0.00	5.17	1.00	19.8	19.8	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Code	Restaurant	Discretionary	11.3	21.4	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,873.65	\$936.82	6.9	\$0.00	\$0.00	3.61	1.00	241.0	241.0	R-30 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Restaurant	Discretionary	2.7	4.7	0.000	0.000	0.0	0.0	0.0	0.0	20	\$35.32	\$17.66	6.9	\$0.00	\$0.00	31.31	1.00	248.6	248.6	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Restaurant	Lost Opportunity	2.7	4.7	0.000	0.000	0.0	0.0	0.0	0.0	20	\$35.32	\$17.66	10.9	\$0.00	\$0.00	31.31	1.00	99.5	99.5	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Code	Restaurant	Discretionary	2.7	4.7	0.000	0.000	0.0	0.0	0.0	0.0	20	\$142.24	\$71.12	6.9	\$0.00	\$0.00	7.77	1.00	200.7	200.7	R-8 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Restaurant	Discretionary	5.2	9.2	0.000	0.000	0.0	0.0	0.0	0.0	30	\$729.99	\$365.00	6.9	\$0.00	\$0.00	4.29	1.00	60.0	60.0	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Restaurant	Lost Opportunity	5.2	9.2	0.000	0.000	0.0	0.0	0.0	0.0	30	\$729.99	\$365.00	10.9	\$0.00	\$0.00	4.29	1.00	40.2	40.2	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Code	Restaurant	Discretionary	9.1	16.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,092.65	\$1,046.32	6.9	\$0.00	\$0.00	2.60	1.00	95.8	95.8	R-30 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Restaurant	Discretionary	6.1	10.7	0.000	0.000	0.0	0.0	0.0	0.0	30	\$606.78	\$303.39	6.9	\$0.00	\$0.00	6.02	1.00	117.5	117.5	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Restaurant	Lost Opportunity	6.1	10.7	0.000	0.000	0.0	0.0	0.0	0.0	30	\$606.78	\$303.39	10.9	\$0.00	\$0.00	6.02	1.00	118.3	118.3	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Code	Restaurant	Discretionary	8.4	11.8	0.000	0.000	0.0	0.0	0.0	0.0	30	\$4,163.78	\$2,081.89	6.9	\$0.00	\$0.00	1.20	1.00	92.6	92.6	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Programmable Thermostat	Restaurant	Discretionary	3.0	5.2	0.000	0.000	0.0	0.0	0.0	0.0	11	\$27.58	\$13.79	6.9	\$0.00	\$0.00	24.82	1.00	258.8	258.8	Programmable Thermostat
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Restaurant	Discretionary	3.0	5.4	0.000	0.000	0.0	0.0	0.0	0.0	5	\$123.19	\$61.59	6.9	\$0.00	\$0.00	2.51	1.00	34.2	34.2	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Restaurant	Lost Opportunity	3.0	5.4	0.000	0.000	0.0	0.0	0.0	0.0	5	\$123.19	\$61.59	10.9	\$0.00	\$0.00	2.51	1.00	82.2	82.2	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Tune-up - Furnace Maintenance	Restaurant	Discretionary	2.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$58.59	\$29.30	6.9	\$0.00	\$0.00	1.76	1.00	160.3	160.3	Furnace Maintenance (Tune-up)
Space Heat - Gas Furnace	Wi-Fi Thermostat	Restaurant	Discretionary	3.0	5.2	0.000	0.000	0.0	0.0	0.0	0.0	11	\$219.74	\$109.87	6.9	\$0.00	\$0.00	3.12	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Restaurant	Discretionary	0.6	1.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,248.44	\$624.22	6.9	\$0.00	\$0.00	0.19	1.00	14.5	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Restaurant	Lost Opportunity	0.6	1.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,248.44	\$624.22	10.9	\$0.00	\$0.00	0.19	1.00	20.6	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Code	Restaurant	Discretionary	1.5	2.4	0.000	0.000	0.0	0.0	0.0	0.0	20	\$8,244.23	\$4,122.11	6.9	\$0.00	\$0.00	0.07	1.00	36.1	0.0	U-0.36 (CBES 2015 Code)
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Restaurant	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.9	13	\$23.29	\$11.64	6.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.9	13	\$23.29	\$11.64	10.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Restaurant	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.5	13	\$43.06	\$21.53	6.9	\$0.00	\$0.00	1.22	1.00	0.4	0.4	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Restaurant	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.5	13	\$43.06	\$21.53	10.9	\$0.00	\$0.00	1.22	1.00	0.1	0.1	



Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	5.8	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Restaurant	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	3.4	9	\$26.04	\$13.02	6.9	\$0.00	\$0.00	1.23	1.00	0.0	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	3.4	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Restaurant	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.3	9	\$26.04	\$13.02	6.9	\$0.00	\$0.00	0.47	1.00	0.1	0.0	2.2 GPM (Federal Code)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Restaurant	Discretionary	2.1	0.0	0.000	0.000	0.0	0.0	0.0	153.3	5	\$152.00	\$76.00	6.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Restaurant	Lost Opportunity	2.1	0.0	0.000	0.000	0.0	0.0	0.0	153.3	5	\$152.00	\$76.00	10.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Restaurant	Discretionary	3.4	0.0	0.000	0.000	0.0	0.0	0.0	253.9	5	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	128.0	0.0	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Restaurant	Lost Opportunity	3.4	0.0	0.000	0.000	0.0	0.0	0.0	253.9	5	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	41.5	0.0	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Restaurant	Discretionary	5.5	0.0	0.000	0.000	0.0	0.0	0.0	407.3	5	\$152.00	\$76.00	6.9	\$0.00	\$0.00	16.47	1.00	205.3	220.0	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Restaurant	Lost Opportunity	5.5	0.0	0.000	0.000	0.0	0.0	0.0	407.3	5	\$152.00	\$76.00	10.9	\$0.00	\$0.00	16.47	1.00	66.5	73.1	0.75 GPM
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$5.86	\$2.93	2.0	\$1.58	\$1.58	0.03	1.00	42.3	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$5.86	\$2.93	10.9	\$1.58	\$1.58	0.03	1.00	9.3	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Restaurant	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$456.64	\$228.32	6.9	\$0.00	\$0.00	0.02	1.00	0.9	0.0	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$456.64	\$228.32	10.9	\$0.00	\$0.00	0.02	1.00	0.3	0.0	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Restaurant	Discretionary	1.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$1,642.94	\$821.47	6.9	\$0.00	\$0.00	0.18	1.00	42.0	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Restaurant	Lost Opportunity	1.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$1,642.94	\$821.47	10.9	\$0.00	\$0.00	0.18	1.00	12.0	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.05	\$0.02	2.0	\$0.00	\$0.00	1.05	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.05	\$0.02	10.9	\$0.00	\$0.00	1.05	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.35	\$0.17	2.0	\$0.00	\$0.00	0.51	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.35	\$0.17	10.9	\$0.00	\$0.00	0.51	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.23	\$0.12	2.0	\$0.00	\$0.00	1.41	1.00	47.9	71.9	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.23	\$0.12	10.9	\$0.00	\$0.00	1.41	1.00	10.8	24.9	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Restaurant	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.9	13	\$23.29	\$11.64	6.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Restaurant	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.9	13	\$23.29	\$11.64	10.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Restaurant	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.5	13	\$43.06	\$21.53	6.9	\$0.00	\$0.00	1.33	1.00	1.8	1.9	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Restaurant	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.5	13	\$43.06	\$21.53	10.9	\$0.00	\$0.00	1.33	1.00	0.6	0.6	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Restaurant	Discretionary	4.4	0.0	0.000	0.000	0.0	0.0	0.0	42.0	14	\$156.26	\$78.13	6.9	\$0.00	\$0.00	9.69	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	Restaurant	Lost Opportunity	4.4	0.0	0.000	0.000	0.0	0.0	0.0	42.0	14	\$156.26	\$78.13	10.9	\$0.00	\$0.00	9.69	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Restaurant	Discretionary	8.0	0.0	0.000	0.000	0.0	0.0	0.0	121.2	14	\$63.82	\$31.91	6.9	\$0.00	\$0.00	52.20	1.00	882.0	922.8	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	Restaurant	Lost Opportunity	8.0	0.0	0.000	0.000	0.0	0.0	0.0	121.2	14	\$63.82	\$31.91	10.9	\$0.00	\$0.00	52.20	1.00	280.2	298.3	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Restaurant	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$12.50	\$6.25	6.9	\$0.00	\$0.00	3.97	1.00	11.9	12.5	1.0" of Insulation, assuming R-4 (Code)
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Restaurant	Discretionary	3.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$1,237.25	\$618.63	6.9	\$0.00	\$0.00	0.95	1.00	8.0	0.0	Install Heat Recovery Water Heater
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Restaurant	Discretionary	3.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$4.24	\$2.12	6.9	\$0.00	\$0.00	263.74	1.00	129.2	135.2	R-3
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Restaurant	Discretionary	10.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,001.77	\$500.89	6.9	\$0.00	\$0.00	3.17	1.00	56.4	59.0	95% AFUE or Above
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Restaurant	Lost Opportunity	10.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,001.77	\$500.89	10.9	\$0.00	\$0.00	3.17	1.00	50.5	53.7	95% AFUE or Above
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Restaurant	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	8.2	9	\$26.04	\$13.02	6.9	\$0.00	\$0.00	2.99	1.00	5.5	5.8	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	8.2	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	1.8	0.0	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Restaurant	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	5.8	9	\$26.04	\$13.02	6.9	\$0.00	\$0.00	2.11	1.00	0.0	0.0	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	5.8	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Restaurant	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	3.4	9	\$26.04	\$13.02	6.9	\$0.00	\$0.00	1.23	1.00	0.0	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	3.4	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Restaurant	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.3	9	\$26.04	\$13.02	6.9	\$0.00	\$0.00	0.47	1.00	0.3	0.0	2.2 GPM (Federal Code)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Restaurant	Discretionary	2.1	0.0	0.000	0.000	0.0	0.0	0.0	153.3	5	\$152.00	\$76.00	6.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	Restaurant	Lost Opportunity	2.1	0.0	0.000	0.000	0.0	0.0	0.0	153.3	5	\$152.00	\$76.00	10.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Restaurant	Discretionary	3.4	0.0	0.000	0.000	0.0	0.0	0.0	253.9	5	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	479.2	0.0	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Restaurant	Lost Opportunity	3.4	0.0	0.000	0.000	0.0	0.0	0.0	253.9	5	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	152.2	0.0	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Restaurant	Discretionary	5.5	0.0	0.000	0.000	0.0	0.0	0.0	407.3	5	\$152.00	\$76.00	6.9	\$0.00	\$0.00	16.47	1.00	768.6	804.2	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	Restaurant	Lost Opportunity	5.5	0.0	0.000	0.000	0.0	0.0	0.0	407.3	5	\$152.00	\$76.00	10.9	\$0.00	\$0.00	16.47	1.00	244.1	260.0	0.75 GPM
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$6.11	\$3.05	2.0	\$1.58	\$1.58	0.03	1.00	180.2	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$6.11	\$3.05	10.9	\$1.58	\$1.58	0.03	1.00	35.8	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Restaurant	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$456.64	\$228.32	6.9	\$0.00	\$0.00	0.02	1.00	3.4	0.0	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Restaurant	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$456.64	\$228.32	10.9	\$0.00	\$0.00	0.02	1.00	1.1	0.0	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Restaurant	Discretionary	1.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$1,642.94	\$821.47	6.9	\$0.00	\$0.00	0.19	1.00	159.7	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Restaurant	Lost Opportunity	1.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$1,642.94	\$821.47	10.9	\$0.00	\$0.00	0.19	1.00	44.7	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Restaurant	Lost Opportunity	0.0	0.0	0.000	0															

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Cooking	Combination Oven	School K-12	Lost Opportunity	0.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	27.2	0.0	ENERGY STAR Combination Oven
Cooking	Convection Oven	School K-12	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$2.71	\$1.35	6.9	\$0.00	\$0.00	14.42	1.00	36.4	36.4	ENERGY STAR Convection Oven
Cooking	Convection Oven	School K-12	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$2.71	\$1.35	10.9	\$0.00	\$0.00	14.42	1.00	12.8	12.8	ENERGY STAR Convection Oven
Cooking	Conveyor Oven	School K-12	Discretionary	0.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$32.83	\$16.42	6.9	\$0.00	\$0.00	2.95	1.00	98.0	98.0	High Efficiency Conveyor Oven (42% Cooking Efficiency)
Cooking	Conveyor Oven	School K-12	Lost Opportunity	0.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$32.83	\$16.42	10.9	\$0.00	\$0.00	2.95	1.00	34.6	34.6	High Efficiency Conveyor Oven (42% Cooking Efficiency)
Cooking	Fryers	School K-12	Discretionary	0.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$29.54	\$14.77	6.9	\$0.00	\$0.00	4.83	1.00	155.3	155.3	ENERGY STAR Fryer
Cooking	Fryers	School K-12	Lost Opportunity	0.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$29.54	\$14.77	10.9	\$0.00	\$0.00	4.83	1.00	54.8	54.8	ENERGY STAR Fryer
Cooking	Griddle	School K-12	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$19.89	\$9.95	6.9	\$0.00	\$0.00	1.99	1.00	24.6	24.6	ENERGY STAR Griddle
Cooking	Griddle	School K-12	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$19.89	\$9.95	10.9	\$0.00	\$0.00	1.99	1.00	8.7	8.7	ENERGY STAR Griddle
Cooking	Rack Oven	School K-12	Discretionary	0.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	120.8	0.0	ENERGY STAR Rack Oven
Cooking	Rack Oven	School K-12	Lost Opportunity	0.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	42.6	0.0	ENERGY STAR Rack Oven
Cooking	Steam Cooker	School K-12	Discretionary	0.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$18.06	\$9.03	6.9	\$0.00	\$0.00	8.80	1.00	185.5	185.5	ENERGY STAR Steam Cooker
Cooking	Steam Cooker	School K-12	Lost Opportunity	0.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$18.06	\$9.03	10.9	\$0.00	\$0.00	8.80	1.00	65.4	65.4	ENERGY STAR Steam Cooker
Pool Heat	Pool Heater - Efficient	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$0.01	\$0.00	2.0	\$0.00	\$0.00	1.10	1.00	0.0	0.0	Efficient Pool Heater - 88% Efficient
Pool Heat	Pool Heater - Efficient	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$0.01	\$0.00	10.9	\$0.00	\$0.00	1.10	1.00	0.0	0.0	Efficient Pool Heater - 88% Efficient
Pool Heat	Swimming Pool Covers	School K-12	Discretionary	16.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$1,110.00	\$555.00	6.9	\$0.00	\$0.00	1.18	1.00	0.0	0.0	Swimming Pool with Cover
Room Heat - Gas	Exhaust Air to Ventilation Air Heat Recovery	School K-12	Discretionary	114.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$99,475.28	\$49,737.64	6.9	\$0.00	\$0.00	0.33	1.00	0.0	0.0	Exhaust Air to Ventilation Air Heat Recovery
Room Heat - Gas	Infiltration Reduction	School K-12	Discretionary	76.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$1,155.00	\$577.50	6.9	\$0.00	\$0.00	13.53	1.00	0.0	0.0	Install Caulking And Weatherstripping (ACH 0.65)
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	School K-12	Discretionary	42.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,477.14	\$1,738.57	6.9	\$0.00	\$0.00	7.21	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	School K-12	Lost Opportunity	42.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,477.14	\$1,738.57	10.9	\$0.00	\$0.00	7.21	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Code	School K-12	Discretionary	136.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$15,866.08	\$7,933.04	6.9	\$0.00	\$0.00	5.03	1.00	0.0	0.0	R-30 c.i. (CBES 2015 Code)
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	School K-12	Discretionary	63.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$6,181.59	\$3,090.79	6.9	\$0.00	\$0.00	5.98	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	School K-12	Lost Opportunity	63.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$6,181.59	\$3,090.79	10.9	\$0.00	\$0.00	5.98	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Code	School K-12	Discretionary	110.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$17,720.56	\$8,860.28	6.9	\$0.00	\$0.00	3.63	1.00	0.0	0.0	R-30 (CBES 2015 Code)
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	School K-12	Discretionary	39.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,718.66	\$1,359.33	6.9	\$0.00	\$0.00	8.40	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	School K-12	Lost Opportunity	39.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,718.66	\$1,359.33	10.9	\$0.00	\$0.00	8.40	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Code	School K-12	Discretionary	53.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$18,655.59	\$9,327.80	6.9	\$0.00	\$0.00	1.68	1.00	0.0	0.0	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Gas	Radiant Heater - High Efficiency	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	2.0	\$0.00	\$0.00	133.48	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Radiant Heater - High Efficiency	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	10.9	\$0.00	\$0.00	133.48	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Windows - CBES 2015 - Above Code	School K-12	Discretionary	4.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$6,830.09	\$3,415.04	6.9	\$0.00	\$0.00	0.27	1.00	0.0	0.0	U-0.29
Room Heat - Gas	Windows - CBES 2015 - Above Code	School K-12	Lost Opportunity	4.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$6,830.09	\$3,415.04	10.9	\$0.00	\$0.00	0.27	1.00	0.0	0.0	U-0.29
Room Heat - Gas	Windows - CBES 2015 - Code	School K-12	Discretionary	11.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$45,103.35	\$22,551.67	6.9	\$0.00	\$0.00	0.10	1.00	0.0	0.0	U-0.36 (CBES 2015 Code)
Space Heat - Gas Boiler	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	School K-12	Discretionary	217.6	17.8	0.000	0.000	0.0	0.0	0.0	0.0	15	\$8,487.75	\$4,243.88	6.9	\$0.00	\$0.00	7.89	1.00	3,373.9	3,373.9	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Gas Boiler	Boiler - Economizer	School K-12	Discretionary	160.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$2,900.43	\$1,450.22	6.9	\$0.00	\$0.00	17.04	1.00	8,641.3	8,641.3	Economizer
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	School K-12	Discretionary	3.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$480.37	\$240.18	6.9	\$0.00	\$0.00	2.62	1.00	48.1	48.1	3.5" of Insulation, assuming R-13
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	School K-12	Lost Opportunity	3.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$480.37	\$240.18	10.9	\$0.00	\$0.00	2.62	1.00	44.6	44.6	3.5" of Insulation, assuming R-13
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Code	School K-12	Discretionary	2.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$919.82	\$459.91	6.9	\$0.00	\$0.00	1.15	1.00	16.5	16.5	2.5" of Insulation, assuming R-9.0
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Advanced Efficiency	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.55	\$0.27	2.0	\$0.00	\$0.00	7.40	1.00	8,941.1	9,058.1	Advanced Efficiency - AFUE 96%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Advanced Efficiency	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.55	\$0.27	10.9	\$0.00	\$0.00	7.40	1.00	6,850.5	7,999.4	Advanced Efficiency - AFUE 96%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.31	\$0.16	2.0	\$0.00	\$0.00	7.89	1.00	0.0	0.0	ENERGY STAR - AFUE 90%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.31	\$0.16	10.9	\$0.00	\$0.00	7.89	1.00	0.0	0.0	ENERGY STAR - AFUE 90%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR 2016 Most Efficient	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.51	\$0.25	2.0	\$0.00	\$0.00	7.48	1.00	0.0	0.0	ENERGY STAR 2016 Most Efficient Boiler - 95% AFUE
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR 2016 Most Efficient	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.51	\$0.25	10.9	\$0.00	\$0.00	7.48	1.00	0.0	0.0	ENERGY STAR 2016 Most Efficient Boiler - 95% AFUE
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Federal Standard 2022	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.08	\$0.04	2.0	\$0.00	\$0.00	8.46	1.00	0.0	0.0	Federal Standard 2022 Boiler - AFUE 84%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Federal Standard 2022	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.08	\$0.04	10.9	\$0.00	\$0.00	8.46	1.00	0.0	0.0	Federal Standard 2022 Boiler - AFUE 84%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Premium Efficiency	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.47	\$0.23	2.0	\$0.00	\$0.00	7.56	1.00	0.0	0.0	Premium Efficiency - AFUE 94%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Premium Efficiency	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.47	\$0.23	10.9	\$0.00	\$0.00	7.56	1.00	0.0	0.0	Premium Efficiency - AFUE 94%
Space Heat - Gas Boiler	Boiler Controls	School K-12	Discretionary	123.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$5,601.92	\$2,800.96	6.9	\$0.00	\$0.00	6.79	1.00	5,038.1	5,038.1	Boiler Reset Controls
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	School K-12	Discretionary	58.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$110,637.82	\$55,318.91	6.9	\$0.00	\$0.00	0.16	1.00	1,458.4	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	School K-12	Lost Opportunity	58.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$110,637.82	\$55,318.91	10.9	\$0.00	\$0.00	0.16	1.00	695.9	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)
Space Heat - Gas Boiler	Commissioning	School K-12	Lost Opportunity	321.4	22.3	0.000	0.000	0.0	0.0	0.0	0.0	5	\$39,383.16	\$19,691.58	10.9	\$0.00	\$0.00	0.81	1.00	6,880.5	0.0	Commissioning
Space Heat - Gas Boiler	Convert Constant Volume Air System to VAV	School K-12	Discretionary	649.5	45.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$123,795.05	\$61,897.52	6.9	\$0.00	\$0.00	1.62	1.00	2,955.6	2,955.6	Variable Volume Air System
Space Heat - Gas Boiler	Direct Digital Control System-Installation	School K-12	Discretionary	370.9	25.7	0.000	0.000	0.0	0.0	0.0	0.0	5	\$10,609.69	\$5,304.84	6.9	\$0.00	\$0.00	3.48	1.00	12,383.8	12,383.8	Installation of EMS System
Space Heat - Gas Boiler	Direct Digital Control System-Installation	School K-12	Lost Opportunity	370.9	25.7	0.000	0.000	0.0	0.0	0.0	0.0	5	\$10,609.69	\$5,304.84	10.9	\$0.00	\$0.00	3.48	1.00	544.2	544.2	Installation of EMS System
Space Heat - Gas Boiler	Exhaust Air to Ventilation Air Heat Recovery	School K-12	Discretionary	370.9	0.0	0.000	0															

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Space Heat - Gas Boiler	Re-Commissioning	School K-12	Discretionary	321.4	22.3	0.000	0.000	0.0	0.0	0.0	0.0	5	\$10,185.30	\$5,092.65	6.9	\$0.00	\$0.00	3.14	1.00	16,604.1	16,604.1	Re-Commissioning
Space Heat - Gas Boiler	Retrocommissioning	School K-12	Discretionary	366.7	25.4	0.000	0.000	0.0	0.0	0.0	0.0	5	\$16,975.50	\$8,487.75	6.9	\$0.00	\$0.00	2.15	1.00	10,182.0	10,182.0	Retrocommissioning
Space Heat - Gas Boiler	Steam Trap Repair	School K-12	Discretionary	65.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	6	\$1,305.25	\$652.62	6.9	\$0.00	\$0.00	6.02	1.00	453.3	453.3	Steam Trap Repair
Space Heat - Gas Boiler	Strategic Energy Management (SEM)	School K-12	Discretionary	101.4	7.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$4,098.78	\$2,049.39	6.9	\$0.00	\$0.00	2.46	1.00	456.3	456.3	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Boiler	Strategic Energy Management (SEM)	School K-12	Lost Opportunity	101.4	7.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$4,098.78	\$2,049.39	10.9	\$0.00	\$0.00	2.46	1.00	1,466.5	1,466.5	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Boiler	Tune-up - Boiler Maintenance	School K-12	Discretionary	90.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$840.29	\$420.14	6.9	\$0.00	\$0.00	4.08	1.00	2,726.3	2,726.3	Boiler Maintenance (Tune-up)
Space Heat - Gas Boiler	Wi-Fi Thermostat	School K-12	Discretionary	98.9	6.9	0.000	0.000	0.0	0.0	0.0	0.0	11	\$338.33	\$169.16	6.9	\$0.00	\$0.00	66.10	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)
Space Heat - Gas Boiler	Windows - CBES 2015 - Above Code	School K-12	Discretionary	14.7	1.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$6,830.09	\$3,415.04	6.9	\$0.00	\$0.00	0.87	1.00	152.8	0.0	U-0.29
Space Heat - Gas Boiler	Windows - CBES 2015 - Above Code	School K-12	Lost Opportunity	14.7	1.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$6,830.09	\$3,415.04	10.9	\$0.00	\$0.00	0.87	1.00	282.7	0.0	U-0.29
Space Heat - Gas Boiler	Windows - CBES 2015 - Code	School K-12	Discretionary	37.1	2.5	0.000	0.000	0.0	0.0	0.0	0.0	20	\$45,103.35	\$22,551.67	6.9	\$0.00	\$0.00	0.33	1.00	381.6	0.0	U-0.36 (CBES 2015 Code)
Space Heat - Gas Furnace	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	School K-12	Discretionary	190.0	0.9	0.000	0.000	0.0	0.0	0.0	0.0	15	\$8,487.75	\$4,243.88	6.9	\$0.00	\$0.00	6.89	1.00	308.3	308.3	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Gas Furnace	Commissioning	School K-12	Lost Opportunity	280.8	1.1	0.000	0.000	0.0	0.0	0.0	0.0	5	\$39,383.16	\$19,691.58	10.9	\$0.00	\$0.00	0.71	1.00	668.2	0.0	Commissioning
Space Heat - Gas Furnace	Convert Constant Volume Air System to VAV	School K-12	Discretionary	567.3	2.3	0.000	0.000	0.0	0.0	0.0	0.0	15	\$123,795.05	\$61,897.52	6.9	\$0.00	\$0.00	1.41	1.00	281.4	281.4	Variable Volume Air System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	School K-12	Discretionary	323.9	1.3	0.000	0.000	0.0	0.0	0.0	0.0	5	\$10,609.69	\$5,304.84	6.9	\$0.00	\$0.00	3.04	1.00	1,178.5	1,178.5	Installation of EMS System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	School K-12	Lost Opportunity	323.9	1.3	0.000	0.000	0.0	0.0	0.0	0.0	5	\$10,609.69	\$5,304.84	10.9	\$0.00	\$0.00	3.04	1.00	52.8	52.8	Installation of EMS System
Space Heat - Gas Furnace	Duct Repair and Sealing	School K-12	Discretionary	187.8	0.8	0.000	0.000	0.0	0.0	0.0	0.0	18	\$8,148.24	\$4,074.12	6.9	\$0.00	\$0.00	8.45	1.00	507.5	507.5	Reduction In Duct Losses to 5 %
Space Heat - Gas Furnace	Exhaust Air to Ventilation Air Heat Recovery	School K-12	Discretionary	323.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$99,475.28	\$49,737.64	6.9	\$0.00	\$0.00	0.94	1.00	124.2	0.0	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	2.0	\$0.00	\$0.00	18.61	1.00	1,078.9	1,096.7	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	10.9	\$0.00	\$0.00	18.61	1.00	944.9	1,087.6	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	2.0	\$0.00	\$0.00	25.98	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	10.9	\$0.00	\$0.00	25.98	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	2.0	\$0.00	\$0.00	21.54	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	10.9	\$0.00	\$0.00	21.54	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Indirect Information Feedback	School K-12	Discretionary	11.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$11,217.98	\$5,608.99	6.9	\$0.00	\$0.00	0.04	1.00	37.1	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Indirect Information Feedback	School K-12	Lost Opportunity	11.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$11,217.98	\$5,608.99	10.9	\$0.00	\$0.00	0.04	1.00	18.0	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Infiltration Reduction	School K-12	Discretionary	216.0	0.3	0.000	0.000	0.0	0.0	0.0	0.0	10	\$1,155.00	\$577.50	6.9	\$0.00	\$0.00	38.37	1.00	50.7	50.7	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	School K-12	Discretionary	121.6	0.5	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,477.14	\$1,738.57	6.9	\$0.00	\$0.00	20.45	1.00	241.5	241.5	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	School K-12	Lost Opportunity	121.6	0.5	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,477.14	\$1,738.57	10.9	\$0.00	\$0.00	20.45	1.00	40.8	40.8	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Code	School K-12	Discretionary	387.1	1.7	0.000	0.000	0.0	0.0	0.0	0.0	30	\$15,866.08	\$7,933.04	6.9	\$0.00	\$0.00	14.26	1.00	483.5	483.5	R-30 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	School K-12	Discretionary	77.7	0.3	0.000	0.000	0.0	0.0	0.0	0.0	20	\$460.46	\$230.23	6.9	\$0.00	\$0.00	68.39	1.00	397.1	397.1	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	School K-12	Lost Opportunity	77.7	0.3	0.000	0.000	0.0	0.0	0.0	0.0	20	\$460.46	\$230.23	10.9	\$0.00	\$0.00	68.39	1.00	170.1	170.1	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Code	School K-12	Discretionary	77.7	0.3	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,854.57	\$927.29	6.9	\$0.00	\$0.00	16.98	1.00	318.3	318.3	R-8 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	School K-12	Discretionary	179.2	0.7	0.000	0.000	0.0	0.0	0.0	0.0	30	\$6,181.59	\$3,090.79	6.9	\$0.00	\$0.00	16.95	1.00	116.6	116.6	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	School K-12	Lost Opportunity	179.2	0.7	0.000	0.000	0.0	0.0	0.0	0.0	30	\$6,181.59	\$3,090.79	10.9	\$0.00	\$0.00	16.95	1.00	83.0	83.0	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Code	School K-12	Discretionary	312.2	1.3	0.000	0.000	0.0	0.0	0.0	0.0	30	\$17,720.56	\$8,860.28	6.9	\$0.00	\$0.00	10.30	1.00	195.5	195.5	R-30 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	School K-12	Discretionary	110.7	0.5	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,718.66	\$1,359.33	6.9	\$0.00	\$0.00	23.80	1.00	122.3	122.3	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	School K-12	Lost Opportunity	110.7	0.5	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,718.66	\$1,359.33	10.9	\$0.00	\$0.00	23.80	1.00	126.1	126.1	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Code	School K-12	Discretionary	152.2	0.5	0.000	0.000	0.0	0.0	0.0	0.0	30	\$18,655.59	\$9,327.80	6.9	\$0.00	\$0.00	4.77	1.00	105.4	105.4	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Programmable Thermostat	School K-12	Discretionary	86.4	0.4	0.000	0.000	0.0	0.0	0.0	0.0	11	\$42.47	\$21.24	6.9	\$0.00	\$0.00	459.59	1.00	433.7	433.7	Programmable Thermostat
Space Heat - Gas Furnace	Re-Commissioning	School K-12	Discretionary	280.8	1.1	0.000	0.000	0.0	0.0	0.0	0.0	5	\$10,185.30	\$5,092.65	6.9	\$0.00	\$0.00	2.74	1.00	1,580.1	1,580.1	Re-Commissioning
Space Heat - Gas Furnace	Retrocommissioning	School K-12	Discretionary	320.3	1.3	0.000	0.000	0.0	0.0	0.0	0.0	5	\$16,975.50	\$8,487.75	6.9	\$0.00	\$0.00	1.88	1.00	969.3	969.3	Retrocommissioning
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	School K-12	Discretionary	88.5	0.4	0.000	0.000	0.0	0.0	0.0	0.0	5	\$3,580.19	\$1,790.09	6.9	\$0.00	\$0.00	2.46	1.00	43.4	43.4	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	School K-12	Lost Opportunity	88.5	0.4	0.000	0.000	0.0	0.0	0.0	0.0	5	\$3,580.19	\$1,790.09	10.9	\$0.00	\$0.00	2.46	1.00	142.4	142.4	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Tune-up - Furnace Maintenance	School K-12	Discretionary	78.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$763.90	\$381.95	6.9	\$0.00	\$0.00	3.92	1.00	259.4	259.4	Furnace Maintenance (Tune-up)
Space Heat - Gas Furnace	Wi-Fi Thermostat	School K-12	Discretionary	86.4	0.4	0.000	0.000	0.0	0.0	0.0	0.0	11	\$338.33	\$169.16	6.9	\$0.00	\$0.00	57.69	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	School K-12	Discretionary	12.8	0.1	0.000	0.000	0.0	0.0	0.0	0.0	20	\$6,830.09	\$3,415.04	6.9	\$0.00	\$0.00	0.76	1.00	14.5	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	School K-12	Lost Opportunity	12.8	0.1	0.000	0.000	0.0	0.0	0.0	0.0	20	\$6,830.09	\$3,415.04	10.9	\$0.00	\$0.00	0.76	1.00	27.5	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Code	School K-12	Discretionary	32.4	0.1	0.000	0.000	0.0	0.0	0.0	0.0	20	\$45,103.35	\$22,551.67	6.9	\$0.00	\$0.00	0.29	1.00	36.3	0.0	U-0.36 (CBES 2015 Code)
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	School K-12	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.9	13	\$35.86	\$17.93	6.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	School K-12	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.9	13	\$35.86	\$17.93	10.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	School K-12	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	3.9	13	\$66.30	\$33.15	6.9	\$0.00	\$0.00	1.22	1.00	0.3	0.3	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	School K-12	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	3.9	13	\$66.30	\$33.15	10.9	\$0.00	\$0.00	1.22	1.00	0.1	0.1	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp																					



Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	School K-12	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	20.4	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	School K-12	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	7.7	9	\$135.80	\$67.90	6.9	\$0.00	\$0.00	0.54	1.00	0.2	0.0	2.2 GPM (Federal Code)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	School K-12	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.4	5	\$2.42	\$1.21	6.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.4	5	\$2.42	\$1.21	10.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	School K-12	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	4.0	5	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	0.8	0.0	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	School K-12	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	4.0	5	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.3	0.0	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	School K-12	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	6.5	5	\$2.42	\$1.21	6.9	\$0.00	\$0.00	16.47	1.00	1.4	1.5	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	School K-12	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	6.5	5	\$2.42	\$1.21	10.9	\$0.00	\$0.00	16.47	1.00	0.4	0.5	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	School K-12	Discretionary	1.1	0.0	0.000	0.000	0.0	0.0	0.0	30.1	9	\$101.85	\$50.93	6.9	\$0.00	\$0.00	4.13	1.00	15.3	16.4	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	School K-12	Lost Opportunity	1.1	0.0	0.000	0.000	0.0	0.0	0.0	30.1	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	4.9	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	School K-12	Discretionary	0.8	0.0	0.000	0.000	0.0	0.0	0.0	22.6	9	\$101.85	\$50.93	6.9	\$0.00	\$0.00	3.09	1.00	0.0	0.0	1.75 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	School K-12	Lost Opportunity	0.8	0.0	0.000	0.000	0.0	0.0	0.0	22.6	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.75 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	School K-12	Discretionary	0.5	0.0	0.000	0.000	0.0	0.0	0.0	15.0	9	\$101.85	\$50.93	6.9	\$0.00	\$0.00	2.06	1.00	0.0	0.0	2.0 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	School K-12	Lost Opportunity	0.5	0.0	0.000	0.000	0.0	0.0	0.0	15.0	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	2.0 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	School K-12	Discretionary	0.5	0.0	0.000	0.000	0.0	0.0	0.0	15.0	9	\$101.85	\$50.93	6.9	\$0.00	\$0.00	2.06	1.00	2.2	2.4	2.5 GPM (Federal Code)
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.32	\$0.16	2.0	\$0.09	\$0.09	0.36	1.00	264.9	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.32	\$0.16	10.9	\$0.09	\$0.09	0.36	1.00	117.5	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Ultrasonic Faucet Control	School K-12	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$2,381.46	\$1,190.73	6.9	\$0.00	\$0.00	0.02	1.00	2.3	0.0	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Ultrasonic Faucet Control	School K-12	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$2,381.46	\$1,190.73	10.9	\$0.00	\$0.00	0.02	1.00	0.7	0.0	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	School K-12	Discretionary	16.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$597.71	\$298.86	6.9	\$0.00	\$0.00	4.47	1.00	70.8	75.9	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	School K-12	Lost Opportunity	16.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$597.71	\$298.86	10.9	\$0.00	\$0.00	4.47	1.00	20.2	22.2	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.00	\$0.00	2.0	\$0.00	\$0.00	13.09	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.00	\$0.00	10.9	\$0.00	\$0.00	13.09	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.02	\$0.01	2.0	\$0.00	\$0.00	6.41	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.02	\$0.01	10.9	\$0.00	\$0.00	6.41	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.01	\$0.01	2.0	\$0.00	\$0.00	17.63	1.00	322.4	414.0	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.01	\$0.01	10.9	\$0.00	\$0.00	17.63	1.00	139.4	182.1	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	School K-12	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.9	13	\$35.86	\$17.93	6.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	School K-12	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.9	13	\$35.86	\$17.93	10.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	School K-12	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	3.9	13	\$66.30	\$33.15	6.9	\$0.00	\$0.00	1.33	1.00	1.2	1.2	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	School K-12	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	3.9	13	\$66.30	\$33.15	10.9	\$0.00	\$0.00	1.33	1.00	0.4	0.4	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	School K-12	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.7	14	\$2.49	\$1.24	6.9	\$0.00	\$0.00	9.69	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	School K-12	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.7	14	\$2.49	\$1.24	10.9	\$0.00	\$0.00	9.69	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	School K-12	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.9	14	\$1.02	\$0.51	6.9	\$0.00	\$0.00	52.20	1.00	5.5	5.7	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	School K-12	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.9	14	\$1.02	\$0.51	10.9	\$0.00	\$0.00	52.20	1.00	1.7	1.8	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	School K-12	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$10.71	\$5.36	6.9	\$0.00	\$0.00	3.97	1.00	10.4	10.8	1.0" of Insulation, assuming R-4 (Code)
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	School K-12	Discretionary	27.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$883.75	\$441.88	6.9	\$0.00	\$0.00	11.90	1.00	81.2	85.0	Install Heat Recovery Water Heater
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	School K-12	Discretionary	10.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$12.99	\$6.50	6.9	\$0.00	\$0.00	263.74	1.00	164.9	172.5	R-3
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	School K-12	Discretionary	89.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$13,061.13	\$6,530.57	6.9	\$0.00	\$0.00	2.17	1.00	515.1	539.0	95% AFUE or Above
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	School K-12	Lost Opportunity	89.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$13,061.13	\$6,530.57	10.9	\$0.00	\$0.00	2.17	1.00	423.5	451.0	95% AFUE or Above
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	School K-12	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	49.5	9	\$135.80	\$67.90	6.9	\$0.00	\$0.00	3.46	1.00	13.9	14.5	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	School K-12	Lost Opportunity	0.3	0.0	0.000	0.000	0.0	0.0	0.0	49.5	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	4.4	0.0	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	School K-12	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	34.9	9	\$135.80	\$67.90	6.9	\$0.00	\$0.00	2.44	1.00	0.0	0.0	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	School K-12	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	34.9	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	School K-12	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	20.4	9	\$135.80	\$67.90	6.9	\$0.00	\$0.00	1.42	1.00	0.0	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	School K-12	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	20.4	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	School K-12	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	7.7	9	\$135.80	\$67.90	6.9	\$0.00	\$0.00	0.54	1.00	0.8	0.0	2.2 GPM (Federal Code)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	School K-12	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.4	5	\$2.42	\$1.21	6.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.4	5	\$2.42	\$1.21	10.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	School K-12	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	4.0	5	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	3.2	0.0	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	School K-12	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	4.0	5	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	1.0	0.0	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	School K-12	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	6.5	5	\$2.42	\$1.21	6.9	\$0.00	\$0.00	16.47	1.00	5.1	5.3	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	School K-12	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	6.5	5	\$2.42	\$1.21	10.9	\$0.00	\$0.00	16.47	1.00	1.6	1.7	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	School K-12	Discretionary	1.1	0.0	0.000	0.000	0.0	0.0	0.0	30.1	9	\$101.85	\$50.93	6.9	\$0.00	\$0.00	4.13	1.00	57.2	59.8	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	School K-12	Lost Opportunity	1.1</																		

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	School K-12	Discretionary	16.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$597.71	\$298.86	6.9	\$0.00	\$0.00	4.54	1.00	269.6	282.1	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	School K-12	Lost Opportunity	16.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$597.71	\$298.86	10.9	\$0.00	\$0.00	4.54	1.00	75.4	80.2	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.03	\$0.02	2.0	\$0.00	\$0.00	10.31	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.03	\$0.02	10.9	\$0.00	\$0.00	10.31	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.01	\$0.00	2.0	\$0.00	\$0.00	12.01	1.00	0.0	0.0	ENERGY STAR Storage Water Heater LE 55 Gal - EF 0.67
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.01	\$0.00	10.9	\$0.00	\$0.00	12.01	1.00	0.0	0.0	ENERGY STAR Storage Water Heater LE 55 Gal - EF 0.67
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Tankless - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.03	\$0.01	2.0	\$0.00	\$0.00	18.49	1.00	2,555.4	3,285.3	ENERGY STAR Tankless Water Heater LE 55 Gal - EF 0.90
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Tankless - ENERGY STAR	School K-12	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.03	\$0.01	10.9	\$0.00	\$0.00	18.49	1.00	1,106.0	1,444.1	ENERGY STAR Tankless Water Heater LE 55 Gal - EF 0.90
Room Heat - Gas	Exhaust Air to Ventilation Air Heat Recovery	Small Office	Discretionary	6.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$4,884.25	\$2,442.13	6.9	\$0.00	\$0.00	0.40	1.00	0.0	0.0	Exhaust Air to Ventilation Air Heat Recovery
Room Heat - Gas	Infiltration Reduction	Small Office	Discretionary	4.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$115.13	\$57.57	6.9	\$0.00	\$0.00	8.13	1.00	0.0	0.0	Install Caulking And Weatherstripping (ACH 0.65)
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Discretionary	2.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$281.31	\$140.65	6.9	\$0.00	\$0.00	4.40	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Lost Opportunity	2.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$281.31	\$140.65	10.9	\$0.00	\$0.00	4.40	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Code	Small Office	Discretionary	6.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,283.59	\$641.80	6.9	\$0.00	\$0.00	3.07	1.00	0.0	0.0	R-30 c.i. (CBES 2015 Code)
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Discretionary	3.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$500.10	\$250.05	6.9	\$0.00	\$0.00	3.65	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Lost Opportunity	3.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$500.10	\$250.05	10.9	\$0.00	\$0.00	3.65	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Code	Small Office	Discretionary	5.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,433.62	\$716.81	6.9	\$0.00	\$0.00	2.22	1.00	0.0	0.0	R-30 (CBES 2015 Code)
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Small Office	Discretionary	4.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$469.31	\$234.65	6.9	\$0.00	\$0.00	5.12	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Small Office	Lost Opportunity	4.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$469.31	\$234.65	10.9	\$0.00	\$0.00	5.12	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Code	Small Office	Discretionary	5.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,220.43	\$1,610.21	6.9	\$0.00	\$0.00	1.03	1.00	0.0	0.0	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Gas	Radiant Heater - High Efficiency	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.03	\$0.01	2.0	\$0.00	\$0.00	7.99	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Radiant Heater - High Efficiency	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.03	\$0.01	10.9	\$0.00	\$0.00	7.99	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Windows - CBES 2015 - Above Code	Small Office	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$680.83	\$340.41	6.9	\$0.00	\$0.00	0.16	1.00	0.0	0.0	U-0.29
Room Heat - Gas	Windows - CBES 2015 - Above Code	Small Office	Lost Opportunity	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$680.83	\$340.41	10.9	\$0.00	\$0.00	0.16	1.00	0.0	0.0	U-0.29
Room Heat - Gas	Windows - CBES 2015 - Code	Small Office	Discretionary	0.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$4,495.94	\$2,247.97	6.9	\$0.00	\$0.00	0.06	1.00	0.0	0.0	U-0.36 (CBES 2015 Code)
Space Heat - Gas Boiler	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Small Office	Discretionary	6.3	0.3	0.000	0.000	0.0	0.0	0.0	0.0	15	\$416.75	\$208.38	6.9	\$0.00	\$0.00	4.64	1.00	3,884.5	3,884.5	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Gas Boiler	Boiler - Economizer	Small Office	Discretionary	4.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$142.41	\$71.21	6.9	\$0.00	\$0.00	10.03	1.00	10,397.0	10,397.0	Economizer
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Small Office	Discretionary	0.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$82.92	\$41.46	6.9	\$0.00	\$0.00	2.62	1.00	438.8	438.8	3.5" of Insulation, assuming R-13
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Small Office	Lost Opportunity	0.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$82.92	\$41.46	10.9	\$0.00	\$0.00	2.62	1.00	321.3	321.3	3.5" of Insulation, assuming R-13
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Code	Small Office	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$158.78	\$79.39	6.9	\$0.00	\$0.00	1.15	1.00	147.3	147.3	2.5" of Insulation, assuming R-9.0
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Advanced Efficiency	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.55	\$0.27	2.0	\$0.00	\$0.00	4.44	1.00	13,147.2	13,718.9	Advanced Efficiency - AFUE 96%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Advanced Efficiency	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.55	\$0.27	10.9	\$0.00	\$0.00	4.44	1.00	9,274.7	9,400.0	Advanced Efficiency - AFUE 96%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.31	\$0.16	2.0	\$0.00	\$0.00	4.73	1.00	0.0	0.0	ENERGY STAR - AFUE 90%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.31	\$0.16	10.9	\$0.00	\$0.00	4.73	1.00	0.0	0.0	ENERGY STAR - AFUE 90%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR 2016 Most Efficient	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.51	\$0.25	2.0	\$0.00	\$0.00	4.48	1.00	0.0	0.0	ENERGY STAR 2016 Most Efficient Boiler - 95% AFUE
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR 2016 Most Efficient	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.51	\$0.25	10.9	\$0.00	\$0.00	4.48	1.00	0.0	0.0	ENERGY STAR 2016 Most Efficient Boiler - 95% AFUE
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Federal Standard 2022	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.08	\$0.04	2.0	\$0.00	\$0.00	5.07	1.00	0.0	0.0	Federal Standard 2022 Boiler - AFUE 84%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Federal Standard 2022	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.08	\$0.04	10.9	\$0.00	\$0.00	5.07	1.00	0.0	0.0	Federal Standard 2022 Boiler - AFUE 84%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Premium Efficiency	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.47	\$0.23	2.0	\$0.00	\$0.00	4.53	1.00	0.0	0.0	Premium Efficiency - AFUE 94%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Premium Efficiency	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.47	\$0.23	10.9	\$0.00	\$0.00	4.53	1.00	0.0	0.0	Premium Efficiency - AFUE 94%
Space Heat - Gas Boiler	Boiler Controls	Small Office	Discretionary	3.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$1,000.00	\$500.00	6.9	\$0.00	\$0.00	1.10	1.00	4,965.6	4,965.6	Boiler Reset Controls
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Small Office	Discretionary	1.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$19,750.00	\$9,875.00	6.9	\$0.00	\$0.00	0.03	1.00	639.1	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Small Office	Lost Opportunity	1.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$19,750.00	\$9,875.00	10.9	\$0.00	\$0.00	0.03	1.00	290.4	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)
Space Heat - Gas Boiler	Convert Constant Volume Air System to VAV	Small Office	Discretionary	18.8	0.8	0.000	0.000	0.0	0.0	0.0	0.0	15	\$6,078.36	\$3,039.18	6.9	\$0.00	\$0.00	0.95	1.00	4,159.9	0.0	Variable Volume Air System
Space Heat - Gas Boiler	Direct Digital Control System-Installation	Small Office	Discretionary	10.7	0.5	0.000	0.000	0.0	0.0	0.0	0.0	5	\$520.94	\$260.47	6.9	\$0.00	\$0.00	2.05	1.00	14,738.9	14,738.9	Installation of EMS System
Space Heat - Gas Boiler	Direct Digital Control System-Installation	Small Office	Lost Opportunity	10.7	0.5	0.000	0.000	0.0	0.0	0.0	0.0	5	\$520.94	\$260.47	10.9	\$0.00	\$0.00	2.05	1.00	622.7	622.7	Installation of EMS System
Space Heat - Gas Boiler	Exhaust Air to Ventilation Air Heat Recovery	Small Office	Discretionary	10.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$4,884.25	\$2,442.13	6.9	\$0.00	\$0.00	0.63	1.00	1,836.1	0.0	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Gas Boiler	Indirect Information Feedback	Small Office	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$371.01	\$185.51	6.9	\$0.00	\$0.00	0.04	1.00	548.1	0.0	Indirect Information Feedback
Space Heat - Gas Boiler	Indirect Information Feedback	Small Office	Lost Opportunity	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$371.01	\$185.51	10.9	\$0.00	\$0.00	0.04	1.00	249.1	0.0	Indirect Information Feedback
Space Heat - Gas Boiler	Infiltration Reduction	Small Office	Discretionary	7.1	0.1	0.000	0.000	0.0	0.0	0.0	0.0	10	\$115.13	\$57.57	6.9	\$0.00	\$0.00	12.73	1.00	6,596.0	6,596.0	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Discretionary	3.3	0.1	0.000	0.000	0.0	0.0	0.0	0.0	30	\$281.31	\$140.65	6.9	\$0.00	\$0.00	6.90	1.00	2,370.9	2,370.9	R-35 c.i.
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Lost Opportunity	3.3	0.1	0.000	0.000	0.0	0.0	0.0	0.0	30	\$281.31	\$140.65	10.9	\$0.00	\$0.00	6.90	1.00	413.4	413.4	R-35 c.i.
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Code	Small Office	Discretionary	10.6	0.5	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,283.59	\$641.80	6.9	\$0.00	\$0.00	4.81	1.00	4,770.9	4,770.9	R-30 c.i. (CBES 2015 Code)
Space Heat - Gas Boiler	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Discretionary	4.9	0.2	0.000	0.000	0.0	0.0	0.0	0.0	30	\$500.10	\$250.05	6.9	\$0.00	\$0.00	5.72	1.00	1,148.8	1,148.8	R-38
Space Heat - Gas Boiler	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Lost Opportunity	4.9	0.2	0.000	0.000	0.0	0.0	0.0	0.0	30</										

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Space Heat - Gas Boiler	Windows - CBES 2015 - Above Code	Small Office	Lost Opportunity	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$680.83	\$340.41	10.9	\$0.00	\$0.00	0.26	1.00	337.7	0.0	U-0.29
Space Heat - Gas Boiler	Windows - CBES 2015 - Code	Small Office	Discretionary	1.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$4,495.94	\$2,247.97	6.9	\$0.00	\$0.00	0.10	1.00	545.9	0.0	U-0.36 (CBES 2015 Code)
Space Heat - Gas Furnace	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Small Office	Discretionary	6.3	2.1	0.000	0.000	0.0	0.0	0.0	0.0	15	\$416.75	\$208.38	6.9	\$0.00	\$0.00	4.64	1.00	1,626.8	1,626.8	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Gas Furnace	Convert Constant Volume Air System to VAV	Small Office	Discretionary	18.7	5.2	0.000	0.000	0.0	0.0	0.0	0.0	15	\$6,078.36	\$3,039.18	6.9	\$0.00	\$0.00	0.95	1.00	1,815.2	0.0	Variable Volume Air System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	Small Office	Discretionary	10.7	3.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$520.94	\$260.47	6.9	\$0.00	\$0.00	2.05	1.00	6,220.3	6,220.3	Installation of EMS System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	Small Office	Lost Opportunity	10.7	3.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$520.94	\$260.47	10.9	\$0.00	\$0.00	2.05	1.00	255.6	255.6	Installation of EMS System
Space Heat - Gas Furnace	Duct Repair and Sealing	Small Office	Discretionary	6.2	1.7	0.000	0.000	0.0	0.0	0.0	0.0	18	\$400.08	\$200.04	6.9	\$0.00	\$0.00	5.70	1.00	2,746.7	2,746.7	Reduction In Duct Losses to 5 %
Space Heat - Gas Furnace	Exhaust Air to Ventilation Air Heat Recovery	Small Office	Discretionary	10.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$4,884.25	\$2,442.13	6.9	\$0.00	\$0.00	0.63	1.00	801.2	0.0	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	2.0	\$0.00	\$0.00	11.15	1.00	6,679.1	6,978.0	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	10.9	\$0.00	\$0.00	11.15	1.00	5,354.3	5,402.4	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	2.0	\$0.00	\$0.00	15.57	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	10.9	\$0.00	\$0.00	15.57	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	2.0	\$0.00	\$0.00	12.91	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	10.9	\$0.00	\$0.00	12.91	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Indirect Information Feedback	Small Office	Discretionary	0.4	0.1	0.000	0.000	0.0	0.0	0.0	0.0	2	\$369.98	\$184.99	6.9	\$0.00	\$0.00	0.04	1.00	239.2	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Indirect Information Feedback	Small Office	Lost Opportunity	0.4	0.1	0.000	0.000	0.0	0.0	0.0	0.0	2	\$369.98	\$184.99	10.9	\$0.00	\$0.00	0.04	1.00	102.3	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Infiltration Reduction	Small Office	Discretionary	7.1	0.6	0.000	0.000	0.0	0.0	0.0	0.0	10	\$115.13	\$57.57	6.9	\$0.00	\$0.00	12.71	1.00	2,721.2	2,721.2	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Discretionary	3.3	0.9	0.000	0.000	0.0	0.0	0.0	0.0	30	\$281.31	\$140.65	6.9	\$0.00	\$0.00	6.90	1.00	1,008.3	1,008.3	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Small Office	Lost Opportunity	3.3	0.9	0.000	0.000	0.0	0.0	0.0	0.0	30	\$281.31	\$140.65	10.9	\$0.00	\$0.00	6.90	1.00	166.7	166.7	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Code	Small Office	Discretionary	10.5	3.2	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,283.59	\$641.80	6.9	\$0.00	\$0.00	4.81	1.00	1,998.0	1,998.0	R-30 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Small Office	Discretionary	2.6	0.7	0.000	0.000	0.0	0.0	0.0	0.0	20	\$22.61	\$11.30	6.9	\$0.00	\$0.00	46.08	1.00	2,184.0	2,184.0	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Small Office	Lost Opportunity	2.6	0.7	0.000	0.000	0.0	0.0	0.0	0.0	20	\$22.61	\$11.30	10.9	\$0.00	\$0.00	46.08	1.00	869.9	869.9	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Code	Small Office	Discretionary	2.6	0.7	0.000	0.000	0.0	0.0	0.0	0.0	20	\$91.06	\$45.53	6.9	\$0.00	\$0.00	11.44	1.00	1,710.5	1,710.5	R-8 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Discretionary	4.9	1.4	0.000	0.000	0.0	0.0	0.0	0.0	30	\$500.10	\$250.05	6.9	\$0.00	\$0.00	5.72	1.00	497.7	497.7	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Office	Lost Opportunity	4.9	1.4	0.000	0.000	0.0	0.0	0.0	0.0	30	\$500.10	\$250.05	10.9	\$0.00	\$0.00	5.72	1.00	339.3	339.3	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Code	Small Office	Discretionary	8.5	2.4	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,433.62	\$716.81	6.9	\$0.00	\$0.00	3.47	1.00	795.1	795.1	R-30 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Small Office	Discretionary	6.4	1.8	0.000	0.000	0.0	0.0	0.0	0.0	30	\$469.31	\$234.65	6.9	\$0.00	\$0.00	8.03	1.00	1,101.9	1,101.9	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Small Office	Lost Opportunity	6.4	1.8	0.000	0.000	0.0	0.0	0.0	0.0	30	\$469.31	\$234.65	10.9	\$0.00	\$0.00	8.03	1.00	1,135.0	1,135.0	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Code	Small Office	Discretionary	8.8	2.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,220.43	\$1,610.21	6.9	\$0.00	\$0.00	1.61	1.00	867.2	867.2	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Programmable Thermostat	Small Office	Discretionary	2.8	0.8	0.000	0.000	0.0	0.0	0.0	0.0	11	\$25.78	\$12.89	6.9	\$0.00	\$0.00	25.05	1.00	2,273.6	2,273.6	Programmable Thermostat
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Small Office	Discretionary	2.9	0.8	0.000	0.000	0.0	0.0	0.0	0.0	5	\$118.08	\$59.04	6.9	\$0.00	\$0.00	2.47	1.00	286.8	286.8	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Small Office	Lost Opportunity	2.9	0.8	0.000	0.000	0.0	0.0	0.0	0.0	5	\$118.08	\$59.04	10.9	\$0.00	\$0.00	2.47	1.00	714.1	714.1	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Tune-up - Furnace Maintenance	Small Office	Discretionary	2.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$37.51	\$18.75	6.9	\$0.00	\$0.00	2.63	1.00	1,374.7	1,374.7	Furnace Maintenance (Tune-up)
Space Heat - Gas Furnace	Wi-Fi Thermostat	Small Office	Discretionary	2.8	0.8	0.000	0.000	0.0	0.0	0.0	0.0	11	\$205.33	\$102.67	6.9	\$0.00	\$0.00	3.14	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Small Office	Discretionary	0.4	0.1	0.000	0.000	0.0	0.0	0.0	0.0	20	\$680.83	\$340.41	6.9	\$0.00	\$0.00	0.26	1.00	95.4	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Small Office	Lost Opportunity	0.4	0.1	0.000	0.000	0.0	0.0	0.0	0.0	20	\$680.83	\$340.41	10.9	\$0.00	\$0.00	0.26	1.00	138.6	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Code	Small Office	Discretionary	1.1	0.3	0.000	0.000	0.0	0.0	0.0	0.0	20	\$4,495.94	\$2,247.97	6.9	\$0.00	\$0.00	0.10	1.00	238.2	0.0	U-0.36 (CBES 2015 Code)
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Small Office	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.8	13	\$21.76	\$10.88	6.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.8	13	\$21.76	\$10.88	10.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Small Office	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$40.24	\$20.12	6.9	\$0.00	\$0.00	1.22	1.00	8.6	10.7	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Small Office	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$40.24	\$20.12	10.9	\$0.00	\$0.00	1.22	1.00	2.8	3.7	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	Small Office	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$10.71	\$5.36	6.9	\$0.00	\$0.00	3.28	1.00	19.6	24.4	1.0" of Insulation, assuming R-4 (Code)
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	Small Office	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$707.00	\$353.50	6.9	\$0.00	\$0.00	0.03	1.00	0.2	0.0	Install Heat Recovery Water Heater
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	Small Office	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.11	\$0.05	6.9	\$0.00	\$0.00	263.74	1.00	4.5	5.7	R-3
Water Heat GT 55 Gal	Integrated Space Heating and Water Heating	Small Office	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$641.30	\$320.65	6.9	\$0.00	\$0.00	0.10	1.00	1.1	0.0	95% AFUE or Above
Water Heat GT 55 Gal	Integrated Space Heating and Water Heating	Small Office	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$641.30	\$320.65	10.9	\$0.00	\$0.00	0.10	1.00	3.1	0.0	95% AFUE or Above
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Office	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	5.5	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	2.60	1.00	5.1	6.3	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	5.5	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	1.6	0.0	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Office	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	3.9	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	1.84	1.00	0.0	0.0	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	3.9	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Office	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.3	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	1.07	1.00	0.0	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.3	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Office	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.9	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	0.41	1.00	0.3	0.0	2.2 GPM (Federal Code)
Water Heat GT 55 Gal	Low-Flow Showerheads	Small Office	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	3.3	9	\$1.67	\$0.83	6.9	\$0.00	\$0.00	27.95	1.00	20.8	25.9	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	Small Office	Lost Opportunity	0.1	0.0	0.000</																



Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.04	\$0.02	2.0	\$0.00	\$0.00	0.04	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.04	\$0.02	10.9	\$0.00	\$0.00	0.04	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.31	\$0.16	2.0	\$0.00	\$0.00	0.02	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.31	\$0.16	10.9	\$0.00	\$0.00	0.02	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.21	\$0.10	2.0	\$0.00	\$0.00	0.05	1.00	5.3	0.0	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.21	\$0.10	10.9	\$0.00	\$0.00	0.05	1.00	2.1	0.0	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Small Office	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.8	13	\$21.76	\$10.88	6.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Small Office	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.8	13	\$21.76	\$10.88	10.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Small Office	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$40.24	\$20.12	6.9	\$0.00	\$0.00	1.33	1.00	39.0	54.9	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Small Office	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$40.24	\$20.12	10.9	\$0.00	\$0.00	1.33	1.00	12.4	19.3	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Small Office	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$10.71	\$5.36	6.9	\$0.00	\$0.00	3.97	1.00	89.5	125.8	1.0" of Insulation, assuming R-4 (Code)
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Small Office	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$707.00	\$353.50	6.9	\$0.00	\$0.00	0.04	1.00	0.5	0.0	Install Heat Recovery Water Heater
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Small Office	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.11	\$0.05	6.9	\$0.00	\$0.00	263.74	1.00	17.0	23.9	R-3
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Small Office	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$641.30	\$320.65	6.9	\$0.00	\$0.00	0.11	1.00	3.1	0.0	95% AFUE or Above
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Small Office	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$641.30	\$320.65	10.9	\$0.00	\$0.00	0.11	1.00	11.2	0.0	95% AFUE or Above
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Office	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	5.5	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	2.60	1.00	19.0	26.7	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	5.5	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	6.0	0.0	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Office	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	3.9	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	1.84	1.00	0.0	0.0	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	3.9	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Office	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.3	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	1.07	1.00	0.0	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.3	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Office	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.9	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	0.41	1.00	1.1	0.0	2.2 GPM (Federal Code)
Water Heat LE 55 Gal	Low-Flow Showerheads	Small Office	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	3.3	9	\$1.67	\$0.83	6.9	\$0.00	\$0.00	27.95	1.00	78.0	109.7	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Small Office	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	3.3	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	24.8	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Small Office	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.5	9	\$1.67	\$0.83	6.9	\$0.00	\$0.00	20.96	1.00	0.0	0.0	1.75 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Small Office	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.5	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.75 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Small Office	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.7	9	\$1.67	\$0.83	6.9	\$0.00	\$0.00	13.97	1.00	0.0	0.0	2.0 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Small Office	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.7	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	2.0 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	Small Office	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.7	9	\$1.67	\$0.83	6.9	\$0.00	\$0.00	13.97	1.00	11.5	16.1	2.5 GPM (Federal Code)
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$5.45	\$2.73	2.0	\$1.41	\$1.41	0.00	1.00	19.7	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$5.45	\$2.73	10.9	\$1.41	\$1.41	0.00	1.00	7.8	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Small Office	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$350.72	\$175.36	6.9	\$0.00	\$0.00	0.02	1.00	13.2	0.0	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$350.72	\$175.36	10.9	\$0.00	\$0.00	0.02	1.00	4.2	0.0	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Small Office	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	1.6	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.4	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.51	\$0.26	2.0	\$0.00	\$0.00	0.03	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.51	\$0.26	10.9	\$0.00	\$0.00	0.03	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.13	\$0.07	2.0	\$0.00	\$0.00	0.04	1.00	0.0	0.0	ENERGY STAR Storage Water Heater LE 55 Gal - EF 0.67
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.13	\$0.07	10.9	\$0.00	\$0.00	0.04	1.00	0.0	0.0	ENERGY STAR Storage Water Heater LE 55 Gal - EF 0.67
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Tankless - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.43	\$0.21	2.0	\$0.00	\$0.00	0.06	1.00	40.2	0.0	ENERGY STAR Tankless Water Heater LE 55 Gal - EF 0.90
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Tankless - ENERGY STAR	Small Office	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.43	\$0.21	10.9	\$0.00	\$0.00	0.06	1.00	16.6	0.0	ENERGY STAR Tankless Water Heater LE 55 Gal - EF 0.90
Room Heat - Gas	Exhaust Air to Ventilation Air Heat Recovery	Small Retail	Discretionary	2.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$7,616.45	\$3,808.22	6.9	\$0.00	\$0.00	0.08	1.00	0.0	0.0	Exhaust Air to Ventilation Air Heat Recovery
Room Heat - Gas	Infiltration Reduction	Small Retail	Discretionary	1.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$103.16	\$51.58	6.9	\$0.00	\$0.00	2.89	1.00	0.0	0.0	Install Caulking And Weatherstripping (ACH 0.65)
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Small Retail	Discretionary	0.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$292.44	\$146.22	6.9	\$0.00	\$0.00	1.36	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Small Retail	Lost Opportunity	0.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$292.44	\$146.22	10.9	\$0.00	\$0.00	1.36	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Code	Small Retail	Discretionary	2.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,334.41	\$667.21	6.9	\$0.00	\$0.00	0.95	1.00	0.0	0.0	R-30 c.i. (CBES 2015 Code)
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Retail	Discretionary	1.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$519.90	\$259.95	6.9	\$0.00	\$0.00	1.13	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Retail	Lost Opportunity	1.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$519.90	\$259.95	10.9	\$0.00	\$0.00	1.13	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Code	Small Retail	Discretionary	1.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,490.38	\$745.19	6.9	\$0.00	\$0.00	0.69	1.00	0.0	0.0	R-30 (CBES 2015 Code)
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Small Retail	Discretionary	1.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$478.51	\$239.25	6.9	\$0.00	\$0.00	1.59	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Small Retail	Lost Opportunity	1.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$478.51	\$239.25	10.9	\$0.00	\$0.00	1.59	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Code	Small Retail	Discretionary	1.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,283.56	\$1,641.78	6.9	\$0.00	\$0.00	0.32	1.00	0.0	0.0	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Gas	Radiant Heater - High Efficiency	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.03	\$0.01	2.0	\$0.00	\$0.00	2.54	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Radiant Heater - High Efficiency	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.03	\$0.01	10.9	\$0.00	\$0.00	2.54	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Windows - CBES 2015 - Above Code	Small Retail	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0											

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR 2016 Most Efficient	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.51	\$0.25	10.9	\$0.00	\$0.00	1.43	1.00	0.0	0.0	ENERGY STAR 2016 Most Efficient Boiler - 95% AFUE
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Federal Standard 2022	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.08	\$0.04	2.0	\$0.00	\$0.00	1.61	1.00	0.0	0.0	Federal Standard 2022 Boiler - AFUE 84%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Federal Standard 2022	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.08	\$0.04	10.9	\$0.00	\$0.00	1.61	1.00	0.0	0.0	Federal Standard 2022 Boiler - AFUE 84%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Premium Efficiency	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.47	\$0.23	2.0	\$0.00	\$0.00	1.44	1.00	0.0	0.0	Premium Efficiency - AFUE 94%
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Premium Efficiency	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.47	\$0.23	10.9	\$0.00	\$0.00	1.44	1.00	0.0	0.0	Premium Efficiency - AFUE 94%
Space Heat - Gas Boiler	Boiler Controls	Small Retail	Discretionary	1.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$1,000.00	\$500.00	6.9	\$0.00	\$0.00	0.36	1.00	3,494.4	0.0	Boiler Reset Controls
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Small Retail	Discretionary	0.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$19,750.00	\$9,875.00	6.9	\$0.00	\$0.00	0.01	1.00	450.0	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Small Retail	Lost Opportunity	0.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$19,750.00	\$9,875.00	10.9	\$0.00	\$0.00	0.01	1.00	204.8	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)
Space Heat - Gas Boiler	Convert Constant Volume Air System to VAV	Small Retail	Discretionary	6.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$9,478.52	\$4,739.26	6.9	\$0.00	\$0.00	0.20	1.00	2,927.5	0.0	Variable Volume Air System
Space Heat - Gas Boiler	Direct Digital Control System-Installation	Small Retail	Discretionary	3.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$541.56	\$270.78	6.9	\$0.00	\$0.00	0.65	1.00	10,360.0	0.0	Installation of EMS System
Space Heat - Gas Boiler	Direct Digital Control System-Installation	Small Retail	Lost Opportunity	3.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$541.56	\$270.78	10.9	\$0.00	\$0.00	0.65	1.00	438.9	0.0	Installation of EMS System
Space Heat - Gas Boiler	Exhaust Air to Ventilation Air Heat Recovery	Small Retail	Discretionary	3.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$7,616.45	\$3,808.22	6.9	\$0.00	\$0.00	0.13	1.00	1,292.1	0.0	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Gas Boiler	Indirect Information Feedback	Small Retail	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$122.18	\$61.09	6.9	\$0.00	\$0.00	0.04	1.00	387.3	0.0	Indirect Information Feedback
Space Heat - Gas Boiler	Indirect Information Feedback	Small Retail	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$122.18	\$61.09	10.9	\$0.00	\$0.00	0.04	1.00	175.7	0.0	Indirect Information Feedback
Space Heat - Gas Boiler	Infiltration Reduction	Small Retail	Discretionary	2.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$103.16	\$51.58	6.9	\$0.00	\$0.00	4.68	1.00	2,260.0	2,260.0	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Above Code	Small Retail	Discretionary	1.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$292.44	\$146.22	6.9	\$0.00	\$0.00	2.21	1.00	1,648.6	1,648.6	R-35 c.i.
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Above Code	Small Retail	Lost Opportunity	1.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$292.44	\$146.22	10.9	\$0.00	\$0.00	2.21	1.00	285.7	285.7	R-35 c.i.
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Code	Small Retail	Discretionary	3.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,334.41	\$667.21	6.9	\$0.00	\$0.00	1.54	1.00	3,378.6	3,378.6	R-30 c.i. (CBES 2015 Code)
Space Heat - Gas Boiler	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Retail	Discretionary	1.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$519.90	\$259.95	6.9	\$0.00	\$0.00	1.83	1.00	813.6	813.6	R-38
Space Heat - Gas Boiler	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Small Retail	Lost Opportunity	1.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$519.90	\$259.95	10.9	\$0.00	\$0.00	1.83	1.00	581.4	581.4	R-38
Space Heat - Gas Boiler	Insulation - Floor (non-slab) - CBES 2015 - Code	Small Retail	Discretionary	2.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,490.38	\$745.19	6.9	\$0.00	\$0.00	1.11	1.00	1,340.2	1,340.2	R-30 (CBES 2015 Code)
Space Heat - Gas Boiler	Insulation - Wall - CBES 2015 - Above Code	Small Retail	Discretionary	2.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$478.51	\$239.25	6.9	\$0.00	\$0.00	2.57	1.00	1,773.4	1,773.4	R-13 + 15.6 c.i.
Space Heat - Gas Boiler	Insulation - Wall - CBES 2015 - Above Code	Small Retail	Lost Opportunity	2.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$478.51	\$239.25	10.9	\$0.00	\$0.00	2.57	1.00	1,956.1	1,956.1	R-13 + 15.6 c.i.
Space Heat - Gas Boiler	Insulation - Wall - CBES 2015 - Code	Small Retail	Discretionary	2.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,283.56	\$1,641.78	6.9	\$0.00	\$0.00	0.51	1.00	1,431.4	0.0	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Gas Boiler	Integrated Space Heating and Water Heating	Small Retail	Discretionary	1.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$666.69	\$333.35	6.9	\$0.00	\$0.00	0.79	1.00	663.8	0.0	95% AFUE or Above
Space Heat - Gas Boiler	Integrated Space Heating and Water Heating	Small Retail	Lost Opportunity	1.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$666.69	\$333.35	10.9	\$0.00	\$0.00	0.79	1.00	625.9	0.0	95% AFUE or Above
Space Heat - Gas Boiler	Programmable Thermostat	Small Retail	Discretionary	0.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$25.78	\$12.89	6.9	\$0.00	\$0.00	8.25	1.00	3,998.8	3,998.8	Programmable Thermostat
Space Heat - Gas Boiler	Steam Trap Repair	Small Retail	Discretionary	11.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	6	\$233.00	\$116.50	6.9	\$0.00	\$0.00	6.02	1.00	8,867.5	8,867.5	Steam Trap Repair
Space Heat - Gas Boiler	Strategic Energy Management (SEM)	Small Retail	Discretionary	1.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$38.99	\$19.50	6.9	\$0.00	\$0.00	2.46	1.00	529.1	529.1	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Boiler	Strategic Energy Management (SEM)	Small Retail	Lost Opportunity	1.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$38.99	\$19.50	10.9	\$0.00	\$0.00	2.46	1.00	1,265.1	1,265.1	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Boiler	Tune-up - Boiler Maintenance	Small Retail	Discretionary	0.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$42.89	\$21.45	6.9	\$0.00	\$0.00	0.76	1.00	2,280.7	0.0	Boiler Maintenance (Tune-up)
Space Heat - Gas Boiler	Wi-Fi Thermostat	Small Retail	Discretionary	0.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$205.33	\$102.67	6.9	\$0.00	\$0.00	1.04	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)
Space Heat - Gas Boiler	Windows - CBES 2015 - Above Code	Small Retail	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$610.06	\$305.03	6.9	\$0.00	\$0.00	0.08	1.00	134.0	0.0	U-0.29
Space Heat - Gas Boiler	Windows - CBES 2015 - Above Code	Small Retail	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$610.06	\$305.03	10.9	\$0.00	\$0.00	0.08	1.00	207.3	0.0	U-0.29
Space Heat - Gas Boiler	Windows - CBES 2015 - Code	Small Retail	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$4,028.61	\$2,014.30	6.9	\$0.00	\$0.00	0.03	1.00	333.4	0.0	U-0.36 (CBES 2015 Code)
Space Heat - Gas Furnace	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Small Retail	Discretionary	2.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$433.25	\$216.63	6.9	\$0.00	\$0.00	1.47	1.00	3,245.4	3,245.4	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Gas Furnace	Convert Constant Volume Air System to VAV	Small Retail	Discretionary	6.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$9,478.52	\$4,739.26	6.9	\$0.00	\$0.00	0.20	1.00	3,635.8	0.0	Variable Volume Air System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	Small Retail	Discretionary	3.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$541.56	\$270.78	6.9	\$0.00	\$0.00	0.65	1.00	12,456.4	0.0	Installation of EMS System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	Small Retail	Lost Opportunity	3.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$541.56	\$270.78	10.9	\$0.00	\$0.00	0.65	1.00	503.9	0.0	Installation of EMS System
Space Heat - Gas Furnace	Duct Repair and Sealing	Small Retail	Discretionary	2.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	18	\$415.92	\$207.96	6.9	\$0.00	\$0.00	1.80	1.00	5,481.1	5,481.1	Reduction In Duct Losses to 5 %
Space Heat - Gas Furnace	Exhaust Air to Ventilation Air Heat Recovery	Small Retail	Discretionary	3.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$7,616.45	\$3,808.22	6.9	\$0.00	\$0.00	0.13	1.00	1,604.7	0.0	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	2.0	\$0.00	\$0.00	3.55	1.00	13,073.6	15,363.9	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	10.9	\$0.00	\$0.00	3.55	1.00	10,560.5	10,749.2	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	2.0	\$0.00	\$0.00	4.96	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	10.9	\$0.00	\$0.00	4.96	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	2.0	\$0.00	\$0.00	4.11	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	10.9	\$0.00	\$0.00	4.11	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Indirect Information Feedback	Small Retail	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$122.04	\$61.02	6.9	\$0.00	\$0.00	0.04	1.00	481.0	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Indirect Information Feedback	Small Retail	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$122.04	\$61.02	10.9	\$0.00	\$0.00	0.04	1.00	201.7	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Infiltration Reduction	Small Retail	Discretionary	2.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$103.16	\$51.58	6.9	\$0.00	\$0.00	4.67	1.00	2,684.1	2,684.1	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Small Retail	Discretionary	1.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$292.44	\$146.22	6.9	\$0.00	\$0.00	2.20	1.00	2,033.6	2,033.6	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Small Retail	Lost Opportunity	1.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$292.44	\$146.22	10.9	\$0.00	\$0.00	2.20	1.00	323.6	323.6	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Code	Small Retail	Discretionary	3.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,334.41	\$667.21	6.9	\$0.00	\$0.00	1.54	1.00	4,029.0	4,029.0	R-30 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Small Retail	Discretionary	0.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$23.50	\$11.75	6.9	\$0.00	\$0.00	14.				

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Small Retail	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$610.06	\$305.03	6.9	\$0.00	\$0.00	0.08	1.00	166.4	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Small Retail	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$610.06	\$305.03	10.9	\$0.00	\$0.00	0.08	1.00	238.0	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Code	Small Retail	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$4,028.61	\$2,014.30	6.9	\$0.00	\$0.00	0.03	1.00	414.1	0.0	U-0.36 (CBES 2015 Code)
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Small Retail	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.8	13	\$21.76	\$10.88	6.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.8	13	\$21.76	\$10.88	10.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Small Retail	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$40.24	\$20.12	6.9	\$0.00	\$0.00	1.22	1.00	3.2	4.0	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Small Retail	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$40.24	\$20.12	10.9	\$0.00	\$0.00	1.22	1.00	1.0	1.4	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	Small Retail	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$10.71	\$5.36	6.9	\$0.00	\$0.00	3.28	1.00	94.7	117.8	1.0" of Insulation, assuming R-4 (Code)
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	Small Retail	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$707.00	\$353.50	6.9	\$0.00	\$0.00	0.06	1.00	2.3	0.0	Install Heat Recovery Water Heater
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	Small Retail	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.17	\$0.08	6.9	\$0.00	\$0.00	263.74	1.00	23.7	29.5	R-3
Water Heat GT 55 Gal	Integrated Space Heating and Water Heating	Small Retail	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$666.69	\$333.35	6.9	\$0.00	\$0.00	0.16	1.00	15.9	0.0	95% AFUE or Above
Water Heat GT 55 Gal	Integrated Space Heating and Water Heating	Small Retail	Lost Opportunity	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$666.69	\$333.35	10.9	\$0.00	\$0.00	0.16	1.00	18.0	0.0	95% AFUE or Above
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Retail	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.2	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	1.05	1.00	6.9	8.6	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.2	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	2.2	0.0	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Retail	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.6	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	0.74	1.00	0.0	0.0	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.6	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Retail	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.9	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	0.43	1.00	0.0	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.9	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Small Retail	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.3	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	0.17	1.00	0.4	0.0	2.2 GPM (Federal Code)
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$5.03	\$2.51	2.0	\$1.35	\$1.35	0.00	1.00	33.5	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$5.03	\$2.51	10.9	\$1.35	\$1.35	0.00	1.00	18.2	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Small Retail	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$350.72	\$175.36	6.9	\$0.00	\$0.00	0.01	1.00	4.8	0.0	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Ultrasonic Faucet Control	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$350.72	\$175.36	10.9	\$0.00	\$0.00	0.01	1.00	1.6	0.0	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Small Retail	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	2.2	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	Small Retail	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.6	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.04	\$0.02	2.0	\$0.00	\$0.00	0.06	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.04	\$0.02	10.9	\$0.00	\$0.00	0.06	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.30	\$0.15	2.0	\$0.00	\$0.00	0.03	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.30	\$0.15	10.9	\$0.00	\$0.00	0.03	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	2.0	\$0.00	\$0.00	0.08	1.00	39.7	0.0	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	10.9	\$0.00	\$0.00	0.08	1.00	21.5	0.0	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Small Retail	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.8	13	\$21.76	\$10.88	6.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Small Retail	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.8	13	\$21.76	\$10.88	10.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Small Retail	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$40.24	\$20.12	6.9	\$0.00	\$0.00	1.33	1.00	14.6	20.5	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Small Retail	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$40.24	\$20.12	10.9	\$0.00	\$0.00	1.33	1.00	4.6	7.2	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Small Retail	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$10.71	\$5.36	6.9	\$0.00	\$0.00	3.97	1.00	429.1	603.1	1.0" of Insulation, assuming R-4 (Code)
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Small Retail	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$707.00	\$353.50	6.9	\$0.00	\$0.00	0.06	1.00	8.2	0.0	Install Heat Recovery Water Heater
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Small Retail	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.17	\$0.08	6.9	\$0.00	\$0.00	263.74	1.00	88.8	124.8	R-3
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Small Retail	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$666.69	\$333.35	6.9	\$0.00	\$0.00	0.16	1.00	57.0	0.0	95% AFUE or Above
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Small Retail	Lost Opportunity	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$666.69	\$333.35	10.9	\$0.00	\$0.00	0.16	1.00	67.1	0.0	95% AFUE or Above
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Retail	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.2	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	1.05	1.00	25.8	36.3	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.2	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	8.2	0.0	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Retail	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.6	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	0.74	1.00	0.0	0.0	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.6	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Retail	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.9	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	0.43	1.00	0.0	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.9	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Small Retail	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.3	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	0.17	1.00	1.5	0.0	2.2 GPM (Federal Code)
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$5.24	\$2.62	2.0	\$1.35	\$1.35	0.00	1.00	141.6	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$5.24	\$2.62	10.9	\$1.35	\$1.35	0.00	1.00	79.3	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Small Retail	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$350.72	\$175.36	6.9	\$0.00	\$0.00	0.01	1.00	18.0	0.0	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$350.72	\$175.36	10.9	\$0.00	\$0.00	0.01	1.00	5.7	0.0	Install Ultrasonic Motion Faucet Control
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Small Retail	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	8.4	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Small Retail	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	2.4	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.49	\$0.25	2.0	\$0.00	\$0.00	0.05	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Small Retail	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.49	\$0.25	10.9	\$0.00	\$0.00	0.05	1.00	0.0		



Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Cooking	Convection Oven	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.14	\$0.07	10.9	\$0.00	\$0.00	14.42	1.00	0.1	0.1	ENERGY STAR Convection Oven
Cooking	Conveyor Oven	University	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$1.72	\$0.86	6.9	\$0.00	\$0.00	2.95	1.00	1.1	1.1	High Efficiency Conveyor Oven (42% Cooking Efficiency)
Cooking	Conveyor Oven	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$1.72	\$0.86	10.9	\$0.00	\$0.00	2.95	1.00	0.4	0.4	High Efficiency Conveyor Oven (42% Cooking Efficiency)
Cooking	Fryers	University	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$1.55	\$0.77	6.9	\$0.00	\$0.00	4.83	1.00	1.7	1.7	ENERGY STAR Fryer
Cooking	Fryers	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$1.55	\$0.77	10.9	\$0.00	\$0.00	4.83	1.00	0.6	0.6	ENERGY STAR Fryer
Cooking	Griddle	University	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$1.04	\$0.52	6.9	\$0.00	\$0.00	1.99	1.00	0.3	0.3	ENERGY STAR Griddle
Cooking	Griddle	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$1.04	\$0.52	10.9	\$0.00	\$0.00	1.99	1.00	0.1	0.1	ENERGY STAR Griddle
Cooking	Rack Oven	University	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	1.3	0.0	ENERGY STAR Rack Oven
Cooking	Rack Oven	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.5	0.0	ENERGY STAR Rack Oven
Cooking	Steam Cooker	University	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.95	\$0.47	6.9	\$0.00	\$0.00	8.80	1.00	2.0	2.0	ENERGY STAR Steam Cooker
Cooking	Steam Cooker	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	12	\$0.95	\$0.47	10.9	\$0.00	\$0.00	8.80	1.00	0.7	0.7	ENERGY STAR Steam Cooker
Pool Heat	Pool Heater - Efficient	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$0.01	\$0.00	2.0	\$0.00	\$0.00	1.25	1.00	0.0	0.0	Efficient Pool Heater - 88% Efficient
Pool Heat	Pool Heater - Efficient	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$0.01	\$0.00	10.9	\$0.00	\$0.00	1.25	1.00	0.0	0.0	Efficient Pool Heater - 88% Efficient
Pool Heat	Swimming Pool Covers	University	Discretionary	19.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$1,110.00	\$555.00	6.9	\$0.00	\$0.00	1.35	1.00	0.0	0.0	Swimming Pool with Cover
Room Heat - Gas	Exhaust Air to Ventilation Air Heat Recovery	University	Discretionary	298.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$123,684.85	\$61,842.42	6.9	\$0.00	\$0.00	0.69	1.00	0.0	0.0	Exhaust Air to Ventilation Air Heat Recovery
Room Heat - Gas	Infiltration Reduction	University	Discretionary	199.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$647.77	\$323.88	6.9	\$0.00	\$0.00	63.05	1.00	0.0	0.0	Install Caulking And Weatherstripping (ACH 0.65)
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	University	Discretionary	82.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,950.11	\$975.06	6.9	\$0.00	\$0.00	24.80	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	University	Lost Opportunity	82.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,950.11	\$975.06	10.9	\$0.00	\$0.00	24.80	1.00	0.0	0.0	R-35 c.i.
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Code	University	Discretionary	263.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$8,898.28	\$4,449.14	6.9	\$0.00	\$0.00	17.30	1.00	0.0	0.0	R-30 c.i. (CBES 2015 Code)
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	University	Discretionary	121.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,466.86	\$1,733.43	6.9	\$0.00	\$0.00	20.56	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	University	Lost Opportunity	121.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,466.86	\$1,733.43	10.9	\$0.00	\$0.00	20.56	1.00	0.0	0.0	R-38
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Code	University	Discretionary	212.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$9,938.34	\$4,969.17	6.9	\$0.00	\$0.00	12.49	1.00	0.0	0.0	R-30 (CBES 2015 Code)
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	University	Discretionary	223.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$4,513.75	\$2,256.88	6.9	\$0.00	\$0.00	28.87	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	University	Lost Opportunity	223.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$4,513.75	\$2,256.88	10.9	\$0.00	\$0.00	28.87	1.00	0.0	0.0	R-13 + 15.6 c.i.
Room Heat - Gas	Insulation - Wall - CBES 2015 - Code	University	Discretionary	306.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$30,973.63	\$15,486.82	6.9	\$0.00	\$0.00	5.79	1.00	0.0	0.0	R-13 + 7.5 c.i. (CBES 2015 Code)
Room Heat - Gas	Radiant Heater - High Efficiency	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	2.0	\$0.00	\$0.00	348.84	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Radiant Heater - High Efficiency	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	10.9	\$0.00	\$0.00	348.84	1.00	0.0	0.0	High Efficiency Radiant Heater
Room Heat - Gas	Windows - CBES 2015 - Above Code	University	Discretionary	8.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$3,830.56	\$1,915.28	6.9	\$0.00	\$0.00	0.92	1.00	0.0	0.0	U-0.29
Room Heat - Gas	Windows - CBES 2015 - Above Code	University	Lost Opportunity	8.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$3,830.56	\$1,915.28	10.9	\$0.00	\$0.00	0.92	1.00	0.0	0.0	U-0.29
Room Heat - Gas	Windows - CBES 2015 - Code	University	Discretionary	22.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$25,295.62	\$12,647.81	6.9	\$0.00	\$0.00	0.35	1.00	0.0	0.0	U-0.36 (CBES 2015 Code)
Space Heat - Gas Boiler	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	University	Discretionary	493.6	66.7	0.000	0.000	0.0	0.0	0.0	0.0	15	\$10,553.44	\$5,276.72	6.9	\$0.00	\$0.00	14.41	1.00	1,416.8	1,416.8	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Gas Boiler	Boiler - Economizer	University	Discretionary	364.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$3,606.32	\$1,803.16	6.9	\$0.00	\$0.00	31.10	1.00	3,705.7	3,705.7	Economizer
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	University	Discretionary	5.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$797.55	\$398.77	6.9	\$0.00	\$0.00	2.62	1.00	13.8	13.8	3.5" of Insulation, assuming R-13
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	University	Lost Opportunity	5.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$797.55	\$398.77	10.9	\$0.00	\$0.00	2.62	1.00	13.5	13.5	3.5" of Insulation, assuming R-13
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Code	University	Discretionary	4.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,527.16	\$763.58	6.9	\$0.00	\$0.00	1.15	1.00	5.2	5.2	2.5" of Insulation, assuming R-9.0
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - Federal Standard 2023	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.04	\$0.02	2.0	\$0.00	\$0.00	69.15	1.00	0.0	0.0	Federal Standard 2023 Boiler - Thermal Efficiency Et = 79%
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - Federal Standard 2023	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.04	\$0.02	10.9	\$0.00	\$0.00	69.15	1.00	0.0	0.0	Federal Standard 2023 Boiler - Thermal Efficiency Et = 79%
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - High Efficiency	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.06	\$0.03	2.0	\$0.00	\$0.00	91.81	1.00	0.0	0.0	High Efficiency - Thermal Efficiency Et = 85%
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - High Efficiency	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.06	\$0.03	10.9	\$0.00	\$0.00	91.81	1.00	0.0	0.0	High Efficiency - Thermal Efficiency Et = 85%
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - Premium Efficiency	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	2.0	\$0.00	\$0.00	76.67	1.00	5,953.8	6,008.4	High Efficiency - Thermal Efficiency Et = 95%
Space Heat - Gas Boiler	Boiler >= 300 and <= 2,500 kBtuh - Premium Efficiency	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	10.9	\$0.00	\$0.00	76.67	1.00	4,195.1	4,272.0	High Efficiency - Thermal Efficiency Et = 95%
Space Heat - Gas Boiler	Boiler Controls	University	Discretionary	280.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$3,980.15	\$1,990.08	6.9	\$0.00	\$0.00	21.67	1.00	2,304.8	2,304.8	Boiler Reset Controls
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	University	Discretionary	133.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$78,608.03	\$39,304.02	6.9	\$0.00	\$0.00	0.52	1.00	644.2	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	University	Lost Opportunity	133.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$78,608.03	\$39,304.02	10.9	\$0.00	\$0.00	0.52	1.00	288.7	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)
Space Heat - Gas Boiler	Commissioning	University	Lost Opportunity	729.2	83.3	0.000	0.000	0.0	0.0	0.0	0.0	5	\$48,967.95	\$24,483.97	10.9	\$0.00	\$0.00	1.48	1.00	2,854.4	2,854.4	Commissioning
Space Heat - Gas Boiler	Convert Constant Volume Air System to VAV	University	Discretionary	1,473.5	168.4	0.000	0.000	0.0	0.0	0.0	0.0	15	\$153,923.39	\$76,961.69	6.9	\$0.00	\$0.00	2.95	1.00	1,309.2	1,309.2	Variable Volume Air System
Space Heat - Gas Boiler	Direct Digital Control System-Installation	University	Discretionary	841.4	96.1	0.000	0.000	0.0	0.0	0.0	0.0	5	\$13,191.80	\$6,595.90	6.9	\$0.00	\$0.00	6.35	1.00	5,466.9	5,466.9	Installation of EMS System
Space Heat - Gas Boiler	Direct Digital Control System-Installation	University	Lost Opportunity	841.4	96.1	0.000	0.000	0.0	0.0	0.0	0.0	5	\$13,191.80	\$6,595.90	10.9	\$0.00	\$0.00	6.35	1.00	225.4	225.4	Installation of EMS System
Space Heat - Gas Boiler	Exhaust Air to Ventilation Air Heat Recovery	University	Discretionary	841.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$123,684.85	\$61,842.42	6.9	\$0.00	\$0.00	1.96	1.00	574.8	574.8	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Gas Boiler	Indirect Information Feedback	University	Discretionary	29.2	3.3	0.000	0.000	0.0	0.0	0.0	0.0	2	\$29,136.23	\$14,568.11	6.9	\$0.00	\$0.00	0.04	1.00	169.6	0.0	Indirect Information Feedback
Space Heat - Gas Boiler	Indirect Information Feedback	University	Lost Opportunity	29.2	3.3	0.000	0.000	0.0	0.0	0.0	0.0	2	\$29,136.23	\$14,568.11	10.9	\$0.00	\$0.00	0.04	1.00	76.0	0.0	Indirect Information Feedback
Space Heat - Gas Boiler	Infiltration Reduction	University	Discretionary	560.9	19.2	0.000	0.000	0.0	0.0	0.0	0.0	10	\$647.77	\$323.88	6.9	\$0.00	\$0.00	177.74	1.00	247.8	247.8	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Above Code	University	Discretionary	233.2	26.6	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,950.11	\$975.06	6.9	\$0.00	\$0.00	69.99	1.00	855.9	855.9	R-35 c.i.
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Above Code	University	Lost Opportunity	233.2	26.6	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,950.11	\$975.06	10.9	\$0.00	\$0.00	69.99	1.00	129.7	129.7	R-35 c.i.
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Code	University	Discretionary	742.2	91.3	0.000	0.000	0.0	0.0	0.0	0.0	30	\$8,898.28	\$4,449.14	6.9	\$0.00	\$0.00	48.83	1.00			

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Space Heat - Gas Boiler	Strategic Energy Management (SEM)	University	Lost Opportunity	230.0	26.3	0.000	0.000	0.0	0.0	0.0	0.0	5	\$9,298.75	\$4,649.38	10.9	\$0.00	\$0.00	2.46	1.00	605.3	605.3	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Boiler	Tune-up - Boiler Maintenance	University	Discretionary	204.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$1,044.79	\$522.40	6.9	\$0.00	\$0.00	7.45	1.00	1,203.5	1,203.5	Boiler Maintenance (Tune-up)
Space Heat - Gas Boiler	Wi-Fi Thermostat	University	Discretionary	224.4	25.6	0.000	0.000	0.0	0.0	0.0	0.0	11	\$1,500.14	\$750.07	6.9	\$0.00	\$0.00	33.84	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)
Space Heat - Gas Boiler	Windows - CBES 2015 - Above Code	University	Discretionary	24.6	2.8	0.000	0.000	0.0	0.0	0.0	0.0	20	\$3,830.56	\$1,915.28	6.9	\$0.00	\$0.00	2.60	1.00	50.6	50.6	U-0.29
Space Heat - Gas Boiler	Windows - CBES 2015 - Above Code	University	Lost Opportunity	24.6	2.8	0.000	0.000	0.0	0.0	0.0	0.0	20	\$3,830.56	\$1,915.28	10.9	\$0.00	\$0.00	2.60	1.00	88.7	88.7	U-0.29
Space Heat - Gas Boiler	Windows - CBES 2015 - Code	University	Discretionary	62.1	6.6	0.000	0.000	0.0	0.0	0.0	0.0	20	\$25,295.62	\$12,647.81	6.9	\$0.00	\$0.00	1.00	1.00	124.3	124.3	U-0.36 (CBES 2015 Code)
Space Heat - Gas Furnace	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	University	Discretionary	393.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$10,553.44	\$5,276.72	6.9	\$0.00	\$0.00	11.46	1.00	128.1	128.1	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Gas Furnace	Commissioning	University	Lost Opportunity	581.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$48,967.95	\$24,483.97	10.9	\$0.00	\$0.00	1.18	1.00	274.3	274.3	Commissioning
Space Heat - Gas Furnace	Convert Constant Volume Air System to VAV	University	Discretionary	1,174.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$153,923.39	\$76,961.69	6.9	\$0.00	\$0.00	2.35	1.00	118.6	118.6	Variable Volume Air System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	University	Discretionary	670.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$13,191.80	\$6,595.90	6.9	\$0.00	\$0.00	5.05	1.00	496.9	496.9	Installation of EMS System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	University	Lost Opportunity	670.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$13,191.80	\$6,595.90	10.9	\$0.00	\$0.00	5.05	1.00	21.6	21.6	Installation of EMS System
Space Heat - Gas Furnace	Duct Repair and Sealing	University	Discretionary	388.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	18	\$10,131.30	\$5,065.65	6.9	\$0.00	\$0.00	14.07	1.00	217.7	217.7	Reduction In Duct Losses to 5 %
Space Heat - Gas Furnace	Exhaust Air to Ventilation Air Heat Recovery	University	Discretionary	670.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$123,684.85	\$61,842.42	6.9	\$0.00	\$0.00	1.56	1.00	52.3	52.3	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	2.0	\$0.00	\$0.00	30.97	1.00	457.3	459.6	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	10.9	\$0.00	\$0.00	30.97	1.00	387.8	389.3	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	2.0	\$0.00	\$0.00	43.23	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	10.9	\$0.00	\$0.00	43.23	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	2.0	\$0.00	\$0.00	35.84	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	10.9	\$0.00	\$0.00	35.84	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Indirect Information Feedback	University	Discretionary	23.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$23,214.70	\$11,607.35	6.9	\$0.00	\$0.00	0.04	1.00	15.7	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Indirect Information Feedback	University	Lost Opportunity	23.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$23,214.70	\$11,607.35	10.9	\$0.00	\$0.00	0.04	1.00	7.4	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Infiltration Reduction	University	Discretionary	446.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$647.77	\$323.88	6.9	\$0.00	\$0.00	141.57	1.00	22.3	22.3	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	University	Discretionary	185.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,950.11	\$975.06	6.9	\$0.00	\$0.00	55.68	1.00	75.2	75.2	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	University	Lost Opportunity	185.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,950.11	\$975.06	10.9	\$0.00	\$0.00	55.68	1.00	12.3	12.3	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Code	University	Discretionary	591.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$8,898.28	\$4,449.14	6.9	\$0.00	\$0.00	38.84	1.00	154.4	154.4	R-30 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	University	Discretionary	160.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$572.52	\$286.26	6.9	\$0.00	\$0.00	113.81	1.00	169.9	169.9	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	University	Lost Opportunity	160.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$572.52	\$286.26	10.9	\$0.00	\$0.00	113.81	1.00	73.0	73.0	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Code	University	Discretionary	160.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$2,305.93	\$1,152.96	6.9	\$0.00	\$0.00	28.26	1.00	131.0	131.0	R-8 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	University	Discretionary	273.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,466.86	\$1,733.43	6.9	\$0.00	\$0.00	46.16	1.00	37.1	37.1	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	University	Lost Opportunity	273.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,466.86	\$1,733.43	10.9	\$0.00	\$0.00	46.16	1.00	25.0	25.0	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Code	University	Discretionary	476.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$9,938.34	\$4,969.17	6.9	\$0.00	\$0.00	28.04	1.00	61.7	61.7	R-30 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	University	Discretionary	500.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$4,513.75	\$2,256.88	6.9	\$0.00	\$0.00	64.83	1.00	114.7	114.7	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	University	Lost Opportunity	500.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$4,513.75	\$2,256.88	10.9	\$0.00	\$0.00	64.83	1.00	118.2	118.2	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Code	University	Discretionary	688.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$30,973.63	\$15,486.82	6.9	\$0.00	\$0.00	12.99	1.00	100.9	100.9	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Programmable Thermostat	University	Discretionary	178.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$188.32	\$94.16	6.9	\$0.00	\$0.00	214.49	1.00	186.1	186.1	Programmable Thermostat
Space Heat - Gas Furnace	Re-Commissioning	University	Discretionary	581.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$12,664.12	\$6,332.06	6.9	\$0.00	\$0.00	4.56	1.00	666.2	666.2	Re-Commissioning
Space Heat - Gas Furnace	Retrocommissioning	University	Discretionary	662.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$21,106.87	\$10,553.44	6.9	\$0.00	\$0.00	3.12	1.00	410.3	410.3	Retrocommissioning
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	University	Discretionary	183.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$7,408.91	\$3,704.45	6.9	\$0.00	\$0.00	2.46	1.00	16.7	16.7	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	University	Lost Opportunity	183.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$7,408.91	\$3,704.45	10.9	\$0.00	\$0.00	2.46	1.00	58.4	58.4	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Tune-up - Furnace Maintenance	University	Discretionary	162.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$949.81	\$474.90	6.9	\$0.00	\$0.00	6.53	1.00	109.4	109.4	Furnace Maintenance (Tune-up)
Space Heat - Gas Furnace	Wi-Fi Thermostat	University	Discretionary	178.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$1,500.14	\$750.07	6.9	\$0.00	\$0.00	26.93	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	University	Discretionary	19.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$3,830.56	\$1,915.28	6.9	\$0.00	\$0.00	2.07	1.00	4.6	4.6	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	University	Lost Opportunity	19.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$3,830.56	\$1,915.28	10.9	\$0.00	\$0.00	2.07	1.00	8.3	8.3	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Code	University	Discretionary	49.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$25,295.62	\$12,647.81	6.9	\$0.00	\$0.00	0.79	1.00	11.3	0.0	U-0.36 (CBES 2015 Code)
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	University	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	6.4	13	\$79.49	\$39.75	6.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	University	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	6.4	13	\$79.49	\$39.75	10.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	University	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	8.6	13	\$146.98	\$73.49	6.9	\$0.00	\$0.00	1.22	1.00	0.1	0.1	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	University	Lost Opportunity	0.4	0.0	0.000	0.000	0.0	0.0	0.0	8.6	13	\$146.98	\$73.49	10.9	\$0.00	\$0.00	1.22	1.00	0.0	0.0	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	University	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$0.13	\$0.07	6.9	\$0.00	\$0.00	8.59	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - High Temp	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$0.13	\$0.07	10.9	\$0.00	\$0.00	8.59	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	University	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.1	14	\$0.05	\$0.03	6.9	\$0.00	\$0.00	47.28	1.00	0.0	0.0	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat GT 55 Gal	Dishwashing - Commercial - Low Temp	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.1	14	\$0.05	\$0.03	10.9	\$0.00	\$0.00	47.28	1.00	0.0	0.0	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	University	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$10.71	\$5.36	6.9	\$0.00	\$0.00	3.28	1.00	0.4	0.5	1.0" of Insulation, assuming R-4 (Code)
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	University	Discretionary	63.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$883.75	\$441.88								

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	University	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.2	5	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.2	5	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	University	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.3	5	\$0.13	\$0.06	6.9	\$0.00	\$0.00	16.47	1.00	0.0	0.0	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.3	5	\$0.13	\$0.06	10.9	\$0.00	\$0.00	16.47	1.00	0.0	0.0	0.75 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	University	Discretionary	2.1	0.0	0.000	0.000	0.0	0.0	0.0	56.5	9	\$126.64	\$63.32	6.9	\$0.00	\$0.00	6.23	1.00	5.9	6.4	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	University	Lost Opportunity	2.1	0.0	0.000	0.000	0.0	0.0	0.0	56.5	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	1.9	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	University	Discretionary	1.5	0.0	0.000	0.000	0.0	0.0	0.0	42.4	9	\$126.64	\$63.32	6.9	\$0.00	\$0.00	4.67	1.00	0.0	0.0	1.75 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	University	Lost Opportunity	1.5	0.0	0.000	0.000	0.0	0.0	0.0	42.4	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.75 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	University	Discretionary	1.0	0.0	0.000	0.000	0.0	0.0	0.0	28.2	9	\$126.64	\$63.32	6.9	\$0.00	\$0.00	3.12	1.00	0.0	0.0	2.0 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	University	Lost Opportunity	1.0	0.0	0.000	0.000	0.0	0.0	0.0	28.2	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	2.0 GPM
Water Heat GT 55 Gal	Low-Flow Showerheads	University	Discretionary	1.0	0.0	0.000	0.000	0.0	0.0	0.0	28.2	9	\$126.64	\$63.32	6.9	\$0.00	\$0.00	3.12	1.00	0.9	0.9	2.5 GPM (Federal Code)
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.26	\$0.13	2.0	\$0.07	\$0.07	0.86	1.00	131.2	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Solar Assisted GT 55 Water Heating System	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.26	\$0.13	10.9	\$0.07	\$0.07	0.86	1.00	58.4	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers
Water Heat GT 55 Gal	Ultrasonic Faucet Control	University	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$2,961.04	\$1,480.52	6.9	\$0.00	\$0.00	0.04	1.00	0.9	0.0	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Ultrasonic Faucet Control	University	Lost Opportunity	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$2,961.04	\$1,480.52	10.9	\$0.00	\$0.00	0.04	1.00	0.3	0.0	Install Ultrasonic Motion Faucet Control
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	University	Discretionary	39.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$19.23	\$9.62	6.9	\$0.00	\$0.00	331.84	1.00	35.1	37.6	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Cooled Refrigeration with Heat Recovery	University	Lost Opportunity	39.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$19.23	\$9.62	10.9	\$0.00	\$0.00	331.84	1.00	10.0	11.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.00	\$0.00	2.0	\$0.00	\$0.00	31.30	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - ENERGY STAR	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.00	\$0.00	10.9	\$0.00	\$0.00	31.30	1.00	0.0	0.0	ENERGY STAR Condensing Water Heater GT 55 Gal - EF 0.77
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.02	\$0.01	2.0	\$0.00	\$0.00	15.32	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Condensing - High Efficiency	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.02	\$0.01	10.9	\$0.00	\$0.00	15.32	1.00	0.0	0.0	Condensing Water Heater GT 55 Gal - EF 0.85
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.01	\$0.01	2.0	\$0.00	\$0.00	42.14	1.00	159.7	205.0	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.01	\$0.01	10.9	\$0.00	\$0.00	42.14	1.00	69.3	90.3	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	University	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	6.4	13	\$79.49	\$39.75	6.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	University	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	6.4	13	\$79.49	\$39.75	10.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	University	Discretionary	0.5	0.0	0.000	0.000	0.0	0.0	0.0	8.6	13	\$146.98	\$73.49	6.9	\$0.00	\$0.00	1.33	1.00	0.5	0.5	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	University	Lost Opportunity	0.5	0.0	0.000	0.000	0.0	0.0	0.0	8.6	13	\$146.98	\$73.49	10.9	\$0.00	\$0.00	1.33	1.00	0.2	0.2	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	University	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$0.13	\$0.07	6.9	\$0.00	\$0.00	9.69	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - High Temp	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$0.13	\$0.07	10.9	\$0.00	\$0.00	9.69	1.00	0.0	0.0	High Efficiency Dishwasher (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	University	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.1	14	\$0.05	\$0.03	6.9	\$0.00	\$0.00	52.20	1.00	0.1	0.1	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat LE 55 Gal	Dishwashing - Commercial - Low Temp	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.1	14	\$0.05	\$0.03	10.9	\$0.00	\$0.00	52.20	1.00	0.0	0.0	Low-Temp Commercial Dishwasher (Includes Extra Chemical Cost) - (ENERGY STAR)
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	University	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$10.71	\$5.36	6.9	\$0.00	\$0.00	3.97	1.00	2.0	2.0	1.0" of Insulation, assuming R-4 (Code)
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	University	Discretionary	64.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$883.75	\$441.88	6.9	\$0.00	\$0.00	28.46	1.00	39.1	39.1	Install Heat Recovery Water Heater
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	University	Discretionary	34.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$41.48	\$20.74	6.9	\$0.00	\$0.00	263.74	1.00	106.4	106.4	R-3
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	University	Discretionary	213.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$16,239.86	\$8,119.93	6.9	\$0.00	\$0.00	4.18	1.00	255.1	255.1	95% AFUE or Above
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	University	Lost Opportunity	213.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$16,239.86	\$8,119.93	10.9	\$0.00	\$0.00	4.18	1.00	210.2	210.2	95% AFUE or Above
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	University	Discretionary	0.5	0.0	0.000	0.000	0.0	0.0	0.0	92.9	9	\$168.86	\$84.43	6.9	\$0.00	\$0.00	5.22	1.00	5.4	5.4	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	University	Lost Opportunity	0.5	0.0	0.000	0.000	0.0	0.0	0.0	92.9	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	1.7	0.0	0.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	University	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	65.6	9	\$168.86	\$84.43	6.9	\$0.00	\$0.00	3.69	1.00	0.0	0.0	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	University	Lost Opportunity	0.4	0.0	0.000	0.000	0.0	0.0	0.0	65.6	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	University	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	38.2	9	\$168.86	\$84.43	6.9	\$0.00	\$0.00	2.15	1.00	0.0	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	University	Lost Opportunity	0.2	0.0	0.000	0.000	0.0	0.0	0.0	38.2	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	University	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	14.4	9	\$168.86	\$84.43	6.9	\$0.00	\$0.00	0.82	1.00	0.3	0.0	2.2 GPM (Federal Code)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	University	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.1	5	\$0.13	\$0.06	6.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 1 (Water Sense)	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.1	5	\$0.13	\$0.06	10.9	\$0.00	\$0.00	6.20	1.00	0.0	0.0	1.28 GPM (2020 Federal Standard)
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	University	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.2	5	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.2	5	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	University	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.3	5	\$0.13	\$0.06	6.9	\$0.00	\$0.00	16.47	1.00	0.1	0.1	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Pre-Rinse Spray Valves - CEE Tier 2	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.3	5	\$0.13	\$0.06	10.9	\$0.00	\$0.00	16.47	1.00	0.0	0.0	0.75 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	University	Discretionary	2.1	0.0	0.000	0.000	0.0	0.0	0.0	56.5	9	\$126.64	\$63.32	6.9	\$0.00	\$0.00	6.23	1.00	22.3	22.3	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	University	Lost Opportunity	2.1	0.0	0.000	0.000	0.0	0.0	0.0	56.5	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	7.1	0.0	1.5 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	University	Discretionary	1.5	0.0	0.000	0.000	0.0	0.0	0.0	42.4	9	\$126.64	\$63.32	6.9	\$0.00	\$0.00	4.67	1.00	0.0	0.0	1.75 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	University	Lost Opportunity	1.5	0.0	0.000	0.000	0.0	0.0	0.0	42.4	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.75 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	University	Discretionary	1.0	0.0	0.000	0.000	0.0	0.0	0.0	28.2	9	\$126.64	\$63.32	6.9	\$0.00	\$0.00	3.12	1.00	0.0	0.0	2.0 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	University	Lost Opportunity	1.0	0.0	0.000	0.000	0.0	0.0	0.0	28.2	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	2.0 GPM
Water Heat LE 55 Gal	Low-Flow Showerheads	University	Discretionary	1.0	0.0	0.000	0.000	0.0	0.0	0.0	28.2</											



Appendix B.6		VGS Non-residential Measure Assumptions																					
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.03	\$0.01	10.9	\$0.00	\$0.00	24.64	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.01	\$0.00	2.0	\$0.00	\$0.00	28.71	1.00	0.0	0.0	ENERGY STAR Storage Water Heater LE 55 Gal - EF 0.67	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.01	\$0.00	10.9	\$0.00	\$0.00	28.71	1.00	0.0	0.0	ENERGY STAR Storage Water Heater LE 55 Gal - EF 0.67	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Tankless - ENERGY STAR	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.02	\$0.01	2.0	\$0.00	\$0.00	44.20	1.00	1,266.0	1,266.8	ENERGY STAR Tankless Water Heater LE 55 Gal - EF 0.90	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Tankless - ENERGY STAR	University	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.02	\$0.01	10.9	\$0.00	\$0.00	44.20	1.00	550.1	553.8	ENERGY STAR Tankless Water Heater LE 55 Gal - EF 0.90	
Room Heat - Gas	Exhaust Air to Ventilation Air Heat Recovery	Warehouse	Discretionary	6.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$35,845.20	\$17,922.60	6.9	\$0.00	\$0.00	0.06	1.00	0.0	0.0	Exhaust Air to Ventilation Air Heat Recovery	
Room Heat - Gas	Infiltration Reduction	Warehouse	Discretionary	4.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$183.33	\$91.67	6.9	\$0.00	\$0.00	5.16	1.00	0.0	0.0	Install Caulking And Weatherstripping (ACH 0.65)	
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Discretionary	2.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,064.49	\$1,032.24	6.9	\$0.00	\$0.00	0.78	1.00	0.0	0.0	R-35 c.i.	
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Lost Opportunity	2.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,064.49	\$1,032.24	10.9	\$0.00	\$0.00	0.78	1.00	0.0	0.0	R-35 c.i.	
Room Heat - Gas	Insulation - Ceiling - CBES 2015 - Code	Warehouse	Discretionary	8.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$9,420.18	\$4,710.09	6.9	\$0.00	\$0.00	0.55	1.00	0.0	0.0	R-30 c.i. (CBES 2015 Code)	
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Discretionary	4.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,670.20	\$1,835.10	6.9	\$0.00	\$0.00	0.65	1.00	0.0	0.0	R-38	
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Lost Opportunity	4.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,670.20	\$1,835.10	10.9	\$0.00	\$0.00	0.65	1.00	0.0	0.0	R-38	
Room Heat - Gas	Insulation - Floor (non-slab) - CBES 2015 - Code	Warehouse	Discretionary	7.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$10,521.24	\$5,260.62	6.9	\$0.00	\$0.00	0.39	1.00	0.0	0.0	R-30 (CBES 2015 Code)	
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Discretionary	2.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,271.38	\$635.69	6.9	\$0.00	\$0.00	0.91	1.00	0.0	0.0	R-13 + 15.6 c.i.	
Room Heat - Gas	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Lost Opportunity	2.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,271.38	\$635.69	10.9	\$0.00	\$0.00	0.91	1.00	0.0	0.0	R-13 + 15.6 c.i.	
Room Heat - Gas	Insulation - Wall - CBES 2015 - Code	Warehouse	Discretionary	2.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	30	\$8,724.29	\$4,362.15	6.9	\$0.00	\$0.00	0.18	1.00	0.0	0.0	R-13 + 7.5 c.i. (CBES 2015 Code)	
Room Heat - Gas	Radiant Heater - High Efficiency	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	2.0	\$0.00	\$0.00	8.08	1.00	0.0	0.0	High Efficiency Radiant Heater	
Room Heat - Gas	Radiant Heater - High Efficiency	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	10.9	\$0.00	\$0.00	8.08	1.00	0.0	0.0	High Efficiency Radiant Heater	
Room Heat - Gas	Windows - CBES 2015 - Above Code	Warehouse	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,084.13	\$542.06	6.9	\$0.00	\$0.00	0.03	1.00	0.0	0.0	U-0.29	
Room Heat - Gas	Windows - CBES 2015 - Above Code	Warehouse	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,084.13	\$542.06	10.9	\$0.00	\$0.00	0.03	1.00	0.0	0.0	U-0.29	
Room Heat - Gas	Windows - CBES 2015 - Code	Warehouse	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$7,159.18	\$3,579.59	6.9	\$0.00	\$0.00	0.01	1.00	0.0	0.0	U-0.36 (CBES 2015 Code)	
Space Heat - Gas Boiler	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Warehouse	Discretionary	10.8	0.4	0.000	0.000	0.0	0.0	0.0	0.0	15	\$3,058.50	\$1,529.25	6.9	\$0.00	\$0.00	1.09	1.00	58.2	58.2	Demand Controlled Ventilation (CO2 sensors)	
Space Heat - Gas Boiler	Boiler - Economizer	Warehouse	Discretionary	8.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$1,045.15	\$522.58	6.9	\$0.00	\$0.00	2.35	1.00	755.9	755.9	Economizer	
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Warehouse	Discretionary	1.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$224.64	\$112.32	6.9	\$0.00	\$0.00	2.62	1.00	60.6	60.6	3.5" of Insulation, assuming R-13	
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Above Code	Warehouse	Lost Opportunity	1.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$224.64	\$112.32	10.9	\$0.00	\$0.00	2.62	1.00	40.9	40.9	3.5" of Insulation, assuming R-13	
Space Heat - Gas Boiler	Boiler - Pipe Insulation - Code	Warehouse	Discretionary	1.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$430.15	\$215.08	6.9	\$0.00	\$0.00	1.15	1.00	20.7	20.7	2.5" of Insulation, assuming R-9.0	
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Advanced Efficiency	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.55	\$0.27	2.0	\$0.00	\$0.00	1.04	1.00	868.1	1,205.5	Advanced Efficiency - AFUE 96%	
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Advanced Efficiency	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.55	\$0.27	10.9	\$0.00	\$0.00	1.04	1.00	614.5	731.3	Advanced Efficiency - AFUE 96%	
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.31	\$0.16	2.0	\$0.00	\$0.00	1.11	1.00	0.0	0.0	ENERGY STAR - AFUE 90%	
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.31	\$0.16	10.9	\$0.00	\$0.00	1.11	1.00	0.0	0.0	ENERGY STAR - AFUE 90%	
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR 2016 Most Efficient	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.51	\$0.25	2.0	\$0.00	\$0.00	1.05	1.00	0.0	0.0	ENERGY STAR 2016 Most Efficient Boiler - 95% AFUE	
Space Heat - Gas Boiler	Boiler < 300 kBtuh - ENERGY STAR 2016 Most Efficient	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.51	\$0.25	10.9	\$0.00	\$0.00	1.05	1.00	0.0	0.0	ENERGY STAR 2016 Most Efficient Boiler - 95% AFUE	
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Federal Standard 2022	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.08	\$0.04	2.0	\$0.00	\$0.00	1.19	1.00	0.0	0.0	Federal Standard 2022 Boiler - AFUE 84%	
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Federal Standard 2022	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.08	\$0.04	10.9	\$0.00	\$0.00	1.19	1.00	0.0	0.0	Federal Standard 2022 Boiler - AFUE 84%	
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Premium Efficiency	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.47	\$0.23	2.0	\$0.00	\$0.00	1.06	1.00	0.0	0.0	Premium Efficiency - AFUE 94%	
Space Heat - Gas Boiler	Boiler < 300 kBtuh - Premium Efficiency	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.47	\$0.23	10.9	\$0.00	\$0.00	1.06	1.00	0.0	0.0	Premium Efficiency - AFUE 94%	
Space Heat - Gas Boiler	Boiler Controls	Warehouse	Discretionary	6.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$2,018.61	\$1,009.31	6.9	\$0.00	\$0.00	0.94	1.00	436.0	0.0	Boiler Reset Controls	
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Warehouse	Discretionary	2.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$39,867.55	\$19,933.77	6.9	\$0.00	\$0.00	0.02	1.00	127.4	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)	
Space Heat - Gas Boiler	Boiler Oxygen Trim Controls	Warehouse	Lost Opportunity	2.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$39,867.55	\$19,933.77	10.9	\$0.00	\$0.00	0.02	1.00	62.2	0.0	Add Oxygen Trim Controls to Boiler (TEMP-A-TRIM)	
Space Heat - Gas Boiler	Commissioning	Warehouse	Lost Opportunity	16.0	0.6	0.000	0.000	0.0	0.0	0.0	0.0	5	\$14,191.44	\$7,095.72	10.9	\$0.00	\$0.00	0.11	1.00	618.0	0.0	Commissioning	
Space Heat - Gas Boiler	Convert Constant Volume Air System to VAV	Warehouse	Discretionary	32.3	1.1	0.000	0.000	0.0	0.0	0.0	0.0	15	\$44,608.66	\$22,304.33	6.9	\$0.00	\$0.00	0.22	1.00	258.3	0.0	Variable Volume Air System	
Space Heat - Gas Boiler	Direct Digital Control System-Installation	Warehouse	Discretionary	18.5	0.6	0.000	0.000	0.0	0.0	0.0	0.0	5	\$3,823.13	\$1,911.56	6.9	\$0.00	\$0.00	0.48	1.00	1,077.4	0.0	Installation of EMS System	
Space Heat - Gas Boiler	Direct Digital Control System-Installation	Warehouse	Lost Opportunity	18.5	0.6	0.000	0.000	0.0	0.0	0.0	0.0	5	\$3,823.13	\$1,911.56	10.9	\$0.00	\$0.00	0.48	1.00	47.4	0.0	Installation of EMS System	
Space Heat - Gas Boiler	Exhaust Air to Ventilation Air Heat Recovery	Warehouse	Discretionary	18.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$35,845.20	\$17,922.60	6.9	\$0.00	\$0.00	0.15	1.00	114.0	0.0	Exhaust Air to Ventilation Air Heat Recovery	
Space Heat - Gas Boiler	Indirect Information Feedback	Warehouse	Discretionary	0.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$639.19	\$319.59	6.9	\$0.00	\$0.00	0.04	1.00	34.2	0.0	Indirect Information Feedback	
Space Heat - Gas Boiler	Indirect Information Feedback	Warehouse	Lost Opportunity	0.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$639.19	\$319.59	10.9	\$0.00	\$0.00	0.04	1.00	16.7	0.0	Indirect Information Feedback	
Space Heat - Gas Boiler	Infiltration Reduction	Warehouse	Discretionary	12.3	0.1	0.000	0.000	0.0	0.0	0.0	0.0	10	\$183.33	\$91.67	6.9	\$0.00	\$0.00	13.77	1.00	48.6	48.6	Install Caulking And Weatherstripping (ACH 0.65)	
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Discretionary	7.4	0.3	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,064.49	\$1,032.24	6.9	\$0.00	\$0.00	2.09	1.00	228.3	228.3	R-35 c.i.	
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Lost Opportunity	7.4	0.3	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,064.49	\$1,032.24	10.9	\$0.00	\$0.00	2.09	1.00	39.6	39.6	R-35 c.i.	
Space Heat - Gas Boiler	Insulation - Ceiling - CBES 2015 - Code	Warehouse	Discretionary	23.5	0.9	0.000	0.000	0.0	0.0	0.0	0.0	30	\$9,420.18	\$4,710.09	6.9	\$0.00	\$0.00	1.46	1.00	465.5	465.5	R-30 c.i. (CBES 2015 Code)	
Space Heat - Gas Boiler	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Discretionary	10.9	0.4	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,670.20	\$1,835.10	6.9	\$0.00	\$0.00	1.73	1.00	112.3	112.3	R-38	
Space Heat - Gas Boiler	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Lost Opportunity	10.9	0.4	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,670.20	\$1,835.10	10.9	\$0.00	\$0.00	1.73	1.00	80.4	80.4	R-38	
Space Heat - Gas Boiler	Insulation - Floor (non-slab) - CBES 2015 - Code	Warehouse	Discretionary	18.9	0.7	0.000	0.000	0.0	0.0	0.0	0.0	30	\$10,521.24	\$5,260.62	6.9	\$0.00	\$0.00	1.05	1.00	186.7	186.7	R-30 (CBES 2015 Code)	
Space Heat - Gas Boiler	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Discretionary	5.3	0.2	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,271.38	\$635.69	6.9	\$0.00	\$0.00	2.43	1.00	95.5	95.5	R-13 + 15.6 c.i.	
Space Heat - Gas Boiler	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Lost Opportunity	5.3	0.2	0.000																	

Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Space Heat - Gas Boiler	Windows - CBES 2015 - Code	Warehouse	Discretionary	0.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$7,159.18	\$3,579.59	6.9	\$0.00	\$0.00	0.03	1.00	9.5	0.0	U-0.36 (CBES 2015 Code)
Space Heat - Gas Furnace	Automated Ventilation VFD Control (Occupancy Sensors / CO2 Sensors)	Warehouse	Discretionary	10.9	9.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$3,058.50	\$1,529.25	6.9	\$0.00	\$0.00	1.11	1.00	48.7	48.7	Demand Controlled Ventilation (CO2 sensors)
Space Heat - Gas Furnace	Commissioning	Warehouse	Lost Opportunity	16.1	11.3	0.000	0.000	0.0	0.0	0.0	0.0	5	\$14,191.44	\$7,095.72	10.9	\$0.00	\$0.00	0.11	1.00	501.3	0.0	Commissioning
Space Heat - Gas Furnace	Convert Constant Volume Air System to VAV	Warehouse	Discretionary	32.5	22.8	0.000	0.000	0.0	0.0	0.0	0.0	15	\$44,608.66	\$22,304.33	6.9	\$0.00	\$0.00	0.23	1.00	224.2	0.0	Variable Volume Air System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	Warehouse	Discretionary	18.6	13.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$3,823.13	\$1,911.56	6.9	\$0.00	\$0.00	0.49	1.00	935.3	0.0	Installation of EMS System
Space Heat - Gas Furnace	Direct Digital Control System-Installation	Warehouse	Lost Opportunity	18.6	13.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$3,823.13	\$1,911.56	10.9	\$0.00	\$0.00	0.49	1.00	38.4	0.0	Installation of EMS System
Space Heat - Gas Furnace	Duct Repair and Sealing	Warehouse	Discretionary	10.8	7.5	0.000	0.000	0.0	0.0	0.0	0.0	18	\$2,936.16	\$1,468.08	6.9	\$0.00	\$0.00	1.35	1.00	400.4	400.4	Reduction In Duct Losses to 5 %
Space Heat - Gas Furnace	Exhaust Air to Ventilation Air Heat Recovery	Warehouse	Discretionary	18.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$35,845.20	\$17,922.60	6.9	\$0.00	\$0.00	0.15	1.00	98.9	0.0	Exhaust Air to Ventilation Air Heat Recovery
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	2.0	\$0.00	\$0.00	2.61	1.00	840.8	1,177.5	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Advanced Efficiency	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.26	\$0.13	10.9	\$0.00	\$0.00	2.61	1.00	707.9	819.5	Advanced Efficiency - 96% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	2.0	\$0.00	\$0.00	3.65	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - High Efficiency	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.14	\$0.07	10.9	\$0.00	\$0.00	3.65	1.00	0.0	0.0	High Efficiency - 92% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	2.0	\$0.00	\$0.00	3.03	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Furnace < 225 kBtuh - Premium Efficiency	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.20	\$0.10	10.9	\$0.00	\$0.00	3.03	1.00	0.0	0.0	Premium Efficiency - 94% AFUE Gas Furnaces (Non-Weatherized)
Space Heat - Gas Furnace	Indirect Information Feedback	Warehouse	Discretionary	0.6	0.5	0.000	0.000	0.0	0.0	0.0	0.0	2	\$642.45	\$321.22	6.9	\$0.00	\$0.00	0.04	1.00	29.7	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Indirect Information Feedback	Warehouse	Lost Opportunity	0.6	0.5	0.000	0.000	0.0	0.0	0.0	0.0	2	\$642.45	\$321.22	10.9	\$0.00	\$0.00	0.04	1.00	13.5	0.0	Indirect Information Feedback
Space Heat - Gas Furnace	Infiltration Reduction	Warehouse	Discretionary	12.4	2.6	0.000	0.000	0.0	0.0	0.0	0.0	10	\$183.33	\$91.67	6.9	\$0.00	\$0.00	13.87	1.00	40.6	40.6	Install Caulking And Weatherstripping (ACH 0.65)
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Discretionary	7.4	5.2	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,064.49	\$1,032.24	6.9	\$0.00	\$0.00	2.12	1.00	197.1	197.1	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Above Code	Warehouse	Lost Opportunity	7.4	5.2	0.000	0.000	0.0	0.0	0.0	0.0	30	\$2,064.49	\$1,032.24	10.9	\$0.00	\$0.00	2.12	1.00	31.7	31.7	R-35 c.i.
Space Heat - Gas Furnace	Insulation - Ceiling - CBES 2015 - Code	Warehouse	Discretionary	23.6	17.8	0.000	0.000	0.0	0.0	0.0	0.0	30	\$9,420.18	\$4,710.09	6.9	\$0.00	\$0.00	1.48	1.00	401.9	401.9	R-30 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Warehouse	Discretionary	4.5	3.1	0.000	0.000	0.0	0.0	0.0	0.0	20	\$165.92	\$82.96	6.9	\$0.00	\$0.00	10.96	1.00	310.0	310.0	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Above Code	Warehouse	Lost Opportunity	4.5	3.1	0.000	0.000	0.0	0.0	0.0	0.0	20	\$165.92	\$82.96	10.9	\$0.00	\$0.00	10.96	1.00	126.3	126.3	R-12
Space Heat - Gas Furnace	Insulation - Duct - CBES 2015 - Code	Warehouse	Discretionary	4.5	3.1	0.000	0.000	0.0	0.0	0.0	0.0	20	\$668.28	\$334.14	6.9	\$0.00	\$0.00	2.72	1.00	256.6	256.6	R-8 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Discretionary	10.9	7.7	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,670.20	\$1,835.10	6.9	\$0.00	\$0.00	1.76	1.00	97.0	97.0	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Above Code	Warehouse	Lost Opportunity	10.9	7.7	0.000	0.000	0.0	0.0	0.0	0.0	30	\$3,670.20	\$1,835.10	10.9	\$0.00	\$0.00	1.76	1.00	64.4	64.4	R-38
Space Heat - Gas Furnace	Insulation - Floor (non-slab) - CBES 2015 - Code	Warehouse	Discretionary	19.0	13.4	0.000	0.000	0.0	0.0	0.0	0.0	30	\$10,521.24	\$5,260.62	6.9	\$0.00	\$0.00	1.07	1.00	156.1	156.1	R-30 (CBES 2015 Code)
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Discretionary	5.3	3.7	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,271.38	\$635.69	6.9	\$0.00	\$0.00	2.47	1.00	78.5	78.5	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Above Code	Warehouse	Lost Opportunity	5.3	3.7	0.000	0.000	0.0	0.0	0.0	0.0	30	\$1,271.38	\$635.69	10.9	\$0.00	\$0.00	2.47	1.00	76.5	76.5	R-13 + 15.6 c.i.
Space Heat - Gas Furnace	Insulation - Wall - CBES 2015 - Code	Warehouse	Discretionary	7.3	4.1	0.000	0.000	0.0	0.0	0.0	0.0	30	\$8,724.29	\$4,362.15	6.9	\$0.00	\$0.00	0.49	1.00	68.7	0.0	R-13 + 7.5 c.i. (CBES 2015 Code)
Space Heat - Gas Furnace	Programmable Thermostat	Warehouse	Discretionary	4.9	3.5	0.000	0.000	0.0	0.0	0.0	0.0	11	\$25.78	\$12.89	6.9	\$0.00	\$0.00	43.70	1.00	339.6	339.6	Programmable Thermostat
Space Heat - Gas Furnace	Re-Commissioning	Warehouse	Discretionary	16.1	11.3	0.000	0.000	0.0	0.0	0.0	0.0	5	\$3,670.20	\$1,835.10	6.9	\$0.00	\$0.00	0.44	1.00	1,254.0	0.0	Re-Commissioning
Space Heat - Gas Furnace	Retrocommissioning	Warehouse	Discretionary	18.3	12.9	0.000	0.000	0.0	0.0	0.0	0.0	5	\$6,117.00	\$3,058.50	6.9	\$0.00	\$0.00	0.30	1.00	772.3	0.0	Retrocommissioning
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Warehouse	Discretionary	5.1	3.6	0.000	0.000	0.0	0.0	0.0	0.0	5	\$205.04	\$102.52	6.9	\$0.00	\$0.00	2.48	1.00	50.1	50.1	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Strategic Energy Management (SEM)	Warehouse	Lost Opportunity	5.1	3.6	0.000	0.000	0.0	0.0	0.0	0.0	5	\$205.04	\$102.52	10.9	\$0.00	\$0.00	2.48	1.00	113.8	113.8	Identify Operations and Maintenance Improvements through Strategic Energy Management
Space Heat - Gas Furnace	Tune-up - Furnace Maintenance	Warehouse	Discretionary	4.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	2	\$275.27	\$137.63	6.9	\$0.00	\$0.00	0.62	1.00	208.4	0.0	Furnace Maintenance (Tune-up)
Space Heat - Gas Furnace	Wi-Fi Thermostat	Warehouse	Discretionary	4.9	3.5	0.000	0.000	0.0	0.0	0.0	0.0	11	\$205.33	\$102.67	6.9	\$0.00	\$0.00	5.49	1.00	0.0	0.0	Wi-Fi Thermostat (Learning Type)
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Warehouse	Discretionary	0.2	0.1	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,084.13	\$542.06	6.9	\$0.00	\$0.00	0.08	1.00	3.3	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Above Code	Warehouse	Lost Opportunity	0.2	0.1	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,084.13	\$542.06	10.9	\$0.00	\$0.00	0.08	1.00	5.1	0.0	U-0.29
Space Heat - Gas Furnace	Windows - CBES 2015 - Code	Warehouse	Discretionary	0.5	0.3	0.000	0.000	0.0	0.0	0.0	0.0	20	\$7,159.18	\$3,579.59	6.9	\$0.00	\$0.00	0.03	1.00	8.2	0.0	U-0.36 (CBES 2015 Code)
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Warehouse	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.8	13	\$21.76	\$10.88	6.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.8	13	\$21.76	\$10.88	10.9	\$0.00	\$0.00	1.40	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Warehouse	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$40.24	\$20.12	6.9	\$0.00	\$0.00	1.22	1.00	0.4	0.5	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Warehouse	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$40.24	\$20.12	10.9	\$0.00	\$0.00	1.22	1.00	0.1	0.2	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle
Water Heat GT 55 Gal	Domestic Hot Water Pipe Insulation - Code	Warehouse	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$10.71	\$5.36	6.9	\$0.00	\$0.00	3.28	1.00	1.7	2.1	1.0" of Insulation, assuming R-4 (Code)
Water Heat GT 55 Gal	Drainwater Heat Recovery Water Heater	Warehouse	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$707.00	\$353.50	6.9	\$0.00	\$0.00	0.24	1.00	0.2	0.0	Install Heat Recovery Water Heater
Water Heat GT 55 Gal	Hot Water Circulation Insulation - Code	Warehouse	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.27	\$0.14	6.9	\$0.00	\$0.00	263.74	1.00	0.7	0.8	R-3
Water Heat GT 55 Gal	Integrated Space Heating and Water Heating	Warehouse	Discretionary	1.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$4,706.49	\$2,353.24	6.9	\$0.00	\$0.00	0.10	1.00	1.5	0.0	95% AFUE or Above
Water Heat GT 55 Gal	Integrated Space Heating and Water Heating	Warehouse	Lost Opportunity	1.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$4,706.49	\$2,353.24	10.9	\$0.00	\$0.00	0.10	1.00	1.3	0.0	95% AFUE or Above
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	6.8	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	3.25	1.00	0.4	0.5	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	6.8	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.1	0.0	0.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	4.8	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	2.30	1.00	0.0	0.0	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	4.8	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.8	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	1.34	1.00	0.0	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.8	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM
Water Heat GT 55 Gal	Low-Flow Faucet Aerators																					

Appendix B.6		VGS Non-residential Measure Assumptions																					
End-Use	Measure Name	Building Type	Replacement Type	Per Unit	Per unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	EE	Measure Cost	Incentive Amount	Non-	O&M	O&M	Measure	NTG	20 YR	20 YR	Measure Description	
				Gas Savings	Elec Savings	Summer NCP kW	Winter NCP kW	Oil Savings	Propane Savings	Wood Savings	Water Savings	Incentive Cost (\$/MMBtu)			Benefits	Costs	Level VT Societal	Technical Potential (MMBTU)		Economic Potential (MMBTU)			
Water Heat GT 55 Gal	Water Heater GT 55 Gal - Tankless - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.03	\$0.01	10.9	\$0.00	\$0.00	0.36	1.00	1.6	0.0	ENERGY STAR Tankless Water Heater GT 55 Gal - EF 0.90	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Warehouse	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.8	13	\$21.76	\$10.88	6.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR (Residential Sized)	Warehouse	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	1.8	13	\$21.76	\$10.88	10.9	\$0.00	\$0.00	1.50	1.00	0.0	0.0	ENERGY STAR Dishwasher - 270 kWh/yr and 3.55 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Warehouse	Discretionary	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$40.24	\$20.12	6.9	\$0.00	\$0.00	1.33	1.00	1.9	2.6	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Dishwasher - ENERGY STAR 2016 Most Efficient (Residential Sized)	Warehouse	Lost Opportunity	0.1	0.0	0.000	0.000	0.0	0.0	0.0	2.3	13	\$40.24	\$20.12	10.9	\$0.00	\$0.00	1.33	1.00	0.6	0.9	ENERGY STAR Most Efficient Dishwasher - 225 kWh/yr and 3.07 gal/cycle	
Water Heat LE 55 Gal	Domestic Hot Water Pipe Insulation - Code	Warehouse	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$10.71	\$5.36	6.9	\$0.00	\$0.00	3.97	1.00	7.6	10.6	1.0" of Insulation, assuming R-4 (Code)	
Water Heat LE 55 Gal	Drainwater Heat Recovery Water Heater	Warehouse	Discretionary	0.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$707.00	\$353.50	6.9	\$0.00	\$0.00	0.24	1.00	0.8	0.0	Install Heat Recovery Water Heater	
Water Heat LE 55 Gal	Hot Water Circulation Insulation - Code	Warehouse	Discretionary	0.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.27	\$0.14	6.9	\$0.00	\$0.00	263.74	1.00	2.5	3.5	R-3	
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Warehouse	Discretionary	1.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$4,706.49	\$2,353.24	6.9	\$0.00	\$0.00	0.10	1.00	5.6	0.0	95% AFUE or Above	
Water Heat LE 55 Gal	Integrated Space Heating and Water Heating	Warehouse	Lost Opportunity	1.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$4,706.49	\$2,353.24	10.9	\$0.00	\$0.00	0.10	1.00	4.9	0.0	95% AFUE or Above	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	6.8	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	3.25	1.00	1.4	1.9	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	6.8	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.4	0.0	0.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	4.8	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	2.30	1.00	0.0	0.0	1.0 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	4.8	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.0 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.8	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	1.34	1.00	0.0	0.0	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	2.8	9	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.0	0.0	1.5 GPM	
Water Heat LE 55 Gal	Low-Flow Faucet Aerators	Warehouse	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	1.1	9	\$20.00	\$10.00	6.9	\$0.00	\$0.00	0.51	1.00	0.1	0.0	2.2 GPM (Federal Code)	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.74	\$0.37	2.0	\$0.19	\$0.19	0.01	1.00	12.5	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat LE 55 Gal	Solar Assisted LT 55 Water Heating System	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.74	\$0.37	10.9	\$0.19	\$0.19	0.01	1.00	5.8	0.0	Complete solar (assisted) residential water heating system (freeze-protected and not), including collectors, pumps, and controllers	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Warehouse	Discretionary	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$350.72	\$175.36	6.9	\$0.00	\$0.00	0.02	1.00	1.1	0.0	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Ultrasonic Faucet Control	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$350.72	\$175.36	10.9	\$0.00	\$0.00	0.02	1.00	0.3	0.0	Install Ultrasonic Motion Faucet Control	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Warehouse	Discretionary	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	6.9	\$0.00	\$0.00	0.00	1.00	0.3	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Cooled Refrigeration with Heat Recovery	Warehouse	Lost Opportunity	0.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$0.00	\$0.00	10.9	\$0.00	\$0.00	0.00	1.00	0.1	0.0	Heat Recovery from Refrigeration System - Applied to Water Heating Electric End use	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.07	\$0.03	2.0	\$0.00	\$0.00	0.21	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Condensing - High Efficiency	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.07	\$0.03	10.9	\$0.00	\$0.00	0.21	1.00	0.0	0.0	Condensing Water Heater LE 55 Gal - EF 0.85	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.02	\$0.01	2.0	\$0.00	\$0.00	0.24	1.00	0.0	0.0	ENERGY STAR Storage Water Heater LE 55 Gal - EF 0.67	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Storage - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$0.02	\$0.01	10.9	\$0.00	\$0.00	0.24	1.00	0.0	0.0	ENERGY STAR Storage Water Heater LE 55 Gal - EF 0.67	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Tankless - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.06	\$0.03	2.0	\$0.00	\$0.00	0.38	1.00	27.6	0.0	ENERGY STAR Tankless Water Heater LE 55 Gal - EF 0.90	
Water Heat LE 55 Gal	Water Heater LE 55 Gal - Tankless - ENERGY STAR	Warehouse	Lost Opportunity	0.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$0.06	\$0.03	10.9	\$0.00	\$0.00	0.38	1.00	12.6	0.0	ENERGY STAR Tankless Water Heater LE 55 Gal - EF 0.90	
HVAC	Building Envelope Infiltration Improvements	Electrical Equipment Mfg	Discretionary	2,544.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$101,395.00	\$50,697.50	6.9	\$0.00	\$0.00	5.51	1.00	324.6	324.6		
HVAC	Building Envelope Insulation Improvements	Electrical Equipment Mfg	Discretionary	1,619.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$228,329.78	\$114,164.89	6.9	\$0.00	\$0.00	1.56	1.00	185.8	185.8		
HVAC	Equipment Upgrade - Replace Existing HVAC Unit With High Efficiency Mod	Electrical Equipment Mfg	Discretionary	4,341.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$168,587.01	\$84,293.50	6.9	\$0.00	\$0.00	4.26	1.00	630.8	630.8		
HVAC	HVAC Equipment Scheduling Improvements - HVAC Controls, Timers Or Thermostats	Electrical Equipment Mfg	Discretionary	2,517.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$39,828.87	\$19,914.43	6.9	\$0.00	\$0.00	7.58	1.00	345.7	345.7		
HVAC	Optimize Ventilation System	Electrical Equipment Mfg	Discretionary	3,669.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$138,237.93	\$69,118.97	6.9	\$0.00	\$0.00	2.88	1.00	439.2	439.2		
Indirect Boiler	Analyze Flue Gas For Proper Air/Fuel Ratio	Electrical Equipment Mfg	Discretionary	1,195.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$16,210.99	\$8,105.49	6.9	\$0.00	\$0.00	3.70	1.00	143.9	143.9		



Appendix B.6		VGS Non-residential Measure Assumptions																				
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Gas Savings	Per unit Elec Saving	Per Unit Summer NCP kW	Per Unit Winter NCP kW	Per Unit Oil Savings	Per Unit Propane Savings	Per Unit Wood Savings	Per Unit Water Savings	EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR Technical Potential (MMBTU)	20 YR Economic Potential (MMBTU)	Measure Description
Indirect Boiler	Boiler - Operation, Maintenance, And Scheduling	Fabricated Metal Products	Discretionary	223.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$1,566.67	\$783.33	6.9	\$0.00	\$0.00	7.14	1.00	28.8	28.8	
Indirect Boiler	Equipment Upgrade - Boiler Replacement	Fabricated Metal Products	Discretionary	324.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$18,943.04	\$9,471.52	6.9	\$0.00	\$0.00	4.65	1.00	47.1	47.1	
Indirect Boiler	Improve Combustion Control Capability And Air Flow	Fabricated Metal Products	Discretionary	500.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$11,259.24	\$5,629.62	6.9	\$0.00	\$0.00	4.81	1.00	63.7	63.7	
Indirect Boiler	Install Or Repair Insulation On Condensate Lines And Optimize Condensate	Fabricated Metal Products	Discretionary	535.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$4,935.17	\$2,467.59	6.9	\$0.00	\$0.00	11.77	1.00	72.5	72.5	
Indirect Boiler	Insulate Steam, Hot Water Lines Or Feedwater Tank	Fabricated Metal Products	Discretionary	43.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$994.50	\$497.25	6.9	\$0.00	\$0.00	4.69	1.00	5.3	5.3	
Indirect Boiler	Minimize Boiler Blowdown	Fabricated Metal Products	Discretionary	28.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$761.93	\$380.97	6.9	\$0.00	\$0.00	1.85	1.00	3.3	3.3	
Indirect Boiler	Optimize Heating System To Improve Burner Efficiency, Reduce Energy Rec	Fabricated Metal Products	Discretionary	252.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$5,845.18	\$2,922.59	6.9	\$0.00	\$0.00	2.17	1.00	30.0	30.0	
Indirect Boiler	Repair And Eliminate Steam Leaks	Fabricated Metal Products	Discretionary	218.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$1,177.55	\$588.77	6.9	\$0.00	\$0.00	9.30	1.00	28.6	28.6	
Indirect Boiler	Repair Or Replace Steam Traps	Fabricated Metal Products	Discretionary	246.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	6	\$981.25	\$490.63	6.9	\$0.00	\$0.00	15.47	1.00	33.8	33.8	
Process Heat	Heat Recovery And Waste Heat For Process	Fabricated Metal Products	Discretionary	546.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$42,902.70	\$21,451.35	6.9	\$0.00	\$0.00	1.96	1.00	328.7	328.7	
Process Heat	Isolate And Prevent Infiltration Of Heat Loss From Equipment	Fabricated Metal Products	Discretionary	189.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$7,532.45	\$3,766.22	6.9	\$0.00	\$0.00	2.72	1.00	115.2	115.2	
Process Heat	Waste Heat From Hot Flue Gases To Preheat	Fabricated Metal Products	Discretionary	647.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$53,555.67	\$26,777.83	6.9	\$0.00	\$0.00	1.86	1.00	377.0	377.0	
HVAC	Building Envelope Infiltration Improvements	Food Mfg	Discretionary	10,328.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$58,729.14	\$29,364.57	6.9	\$0.00	\$0.00	38.65	1.00	188.0	188.0	
HVAC	Building Envelope Insulation Improvements	Food Mfg	Discretionary	6,575.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$132,251.23	\$66,125.61	6.9	\$0.00	\$0.00	10.92	1.00	107.6	107.6	
HVAC	Equipment Upgrade - Replace Existing HVAC Unit With High Efficiency Mod	Food Mfg	Discretionary	17,625.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$97,647.53	\$48,823.76	6.9	\$0.00	\$0.00	29.86	1.00	365.4	365.4	
HVAC	HVAC Equipment Scheduling Improvements - HVAC Controls, Timers Or Th	Food Mfg	Discretionary	10,222.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$23,069.34	\$11,534.67	6.9	\$0.00	\$0.00	53.12	1.00	200.2	200.2	
HVAC	Optimize Ventilation System	Food Mfg	Discretionary	14,898.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$80,068.99	\$40,034.50	6.9	\$0.00	\$0.00	20.16	1.00	254.4	254.4	
Indirect Boiler	Analyze Flue Gas For Proper Air/Fuel Ratio	Food Mfg	Discretionary	4,717.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$125,473.88	\$62,736.94	6.9	\$0.00	\$0.00	1.89	1.00	1,014.8	1,014.8	
Indirect Boiler	Boiler - Operation, Maintenance, And Scheduling	Food Mfg	Discretionary	4,732.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$154,497.83	\$77,248.91	6.9	\$0.00	\$0.00	1.54	1.00	980.9	980.9	
Indirect Boiler	Equipment Upgrade - Boiler Replacement	Food Mfg	Discretionary	6,882.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$1,198,511.95	\$599,255.97	6.9	\$0.00	\$0.00	1.56	1.00	1,722.7	1,722.7	
Indirect Boiler	Improve Combustion Control Capability And Air Flow	Food Mfg	Discretionary	10,610.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$387,522.10	\$193,761.05	6.9	\$0.00	\$0.00	2.97	1.00	2,432.6	2,432.6	
Indirect Boiler	Install Or Repair Insulation On Condensate Lines And Optimize Condensate	Food Mfg	Discretionary	11,368.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$598,978.12	\$299,489.06	6.9	\$0.00	\$0.00	2.06	1.00	2,527.5	2,527.5	
Indirect Boiler	Insulate Steam, Hot Water Lines Or Feedwater Tank	Food Mfg	Discretionary	913.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$24,197.47	\$12,098.74	6.9	\$0.00	\$0.00	4.09	1.00	210.0	210.0	
Indirect Boiler	Minimize Boiler Blowdown	Food Mfg	Discretionary	594.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$30,423.94	\$15,211.97	6.9	\$0.00	\$0.00	0.98	1.00	119.8	0.0	
Indirect Boiler	Optimize Heating System To Improve Burner Efficiency, Reduce Energy Rec	Food Mfg	Discretionary	5,356.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$213,593.09	\$106,796.54	6.9	\$0.00	\$0.00	1.26	1.00	1,095.4	1,095.4	
Indirect Boiler	Repair And Eliminate Steam Leaks	Food Mfg	Discretionary	4,632.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$25,664.26	\$12,832.13	6.9	\$0.00	\$0.00	9.05	1.00	1,095.6	1,095.6	
Indirect Boiler	Repair Or Replace Steam Traps	Food Mfg	Discretionary	5,223.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	6	\$42,208.20	\$21,104.10	6.9	\$0.00	\$0.00	7.63	1.00	1,218.9	1,218.9	
Process Heat	Heat Recovery And Waste Heat For Process	Food Mfg	Discretionary	5,513.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$170,760.41	\$85,380.21	6.9	\$0.00	\$0.00	4.98	1.00	1,411.7	1,411.7	
Process Heat	Isolate And Prevent Infiltration Of Heat Loss From Equipment	Food Mfg	Discretionary	1,911.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$40,067.71	\$20,033.86	6.9	\$0.00	\$0.00	5.17	1.00	494.9	494.9	
Process Heat	Waste Heat From Hot Flue Gases To Preheat	Food Mfg	Discretionary	6,540.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$205,581.24	\$102,790.62	6.9	\$0.00	\$0.00	4.90	1.00	1,619.3	1,619.3	
Process Other	Plant Operatations - Equipment Scheduling Improvements	Food Mfg	Discretionary	761.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$79,041.89	\$39,520.95	6.9	\$0.00	\$0.00	1.04	1.00	99.6	99.6	
HVAC	Building Envelope Infiltration Improvements	Furniture Mfg	Discretionary	825.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$32,881.46	\$16,440.73	6.9	\$0.00	\$0.00	5.51	1.00	105.3	105.3	
HVAC	Building Envelope Insulation Improvements	Furniture Mfg	Discretionary	525.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$74,045.24	\$37,022.62	6.9	\$0.00	\$0.00	1.56	1.00	60.3	60.3	
HVAC	Equipment Upgrade - Replace Existing HVAC Unit With High Efficiency Mod	Furniture Mfg	Discretionary	1,407.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$54,671.21	\$27,335.61	6.9	\$0.00	\$0.00	4.26	1.00	204.6	204.6	
HVAC	HVAC Equipment Scheduling Improvements - HVAC Controls, Timers Or Th	Furniture Mfg	Discretionary	816.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$12,916.13	\$6,458.07	6.9	\$0.00	\$0.00	7.58	1.00	112.1	112.1	
HVAC	Optimize Ventilation System	Furniture Mfg	Discretionary	1,190.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$44,829.29	\$22,414.64	6.9	\$0.00	\$0.00	2.88	1.00	142.4	142.4	
Indirect Boiler	Analyze Flue Gas For Proper Air/Fuel Ratio	Furniture Mfg	Discretionary	75.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$1,022.21	\$511.10	6.9	\$0.00	\$0.00	3.70	1.00	9.5	9.5	
Indirect Boiler	Boiler - Operation, Maintenance, And Scheduling	Furniture Mfg	Discretionary	75.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$938.34	\$469.17	6.9	\$0.00	\$0.00	4.04	1.00	9.6	9.6	
Indirect Boiler	Equipment Upgrade - Boiler Replacement	Furniture Mfg	Discretionary	110.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$6,419.55	\$3,209.78	6.9	\$0.00	\$0.00	4.65	1.00	16.0	16.0	
Indirect Boiler	Install Or Repair Insulation On Condensate Lines And Optimize Condensate	Furniture Mfg	Discretionary	181.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$1,672.47	\$836.23	6.9	\$0.00	\$0.00	11.77	1.00	24.6	24.6	
Indirect Boiler	Insulate Steam, Hot Water Lines Or Feedwater Tank	Furniture Mfg	Discretionary	14.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$210.26	\$105.13	6.9	\$0.00	\$0.00	7.52	1.00	1.9	1.9	
Indirect Boiler	Minimize Boiler Blowdown	Furniture Mfg	Discretionary	9.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$258.21	\$129.10	6.9	\$0.00	\$0.00	1.85	1.00	1.2	1.2	
Indirect Boiler	Repair Or Replace Steam Traps	Furniture Mfg	Discretionary	83.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	6	\$332.53	\$166.27	6.9	\$0.00	\$0.00	15.47	1.00	11.5	11.5	
Process Heat	Heat Recovery And Waste Heat For Process	Furniture Mfg	Discretionary	488.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$11,784.41	\$5,892.21	6.9	\$0.00	\$0.00	6.39	1.00	125.1	125.1	
Process Heat	Isolate And Prevent Infiltration Of Heat Loss From Equipment	Furniture Mfg	Discretionary	169.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$2,625.49	\$1,312.74	6.9	\$0.00	\$0.00	6.99	1.00	43.9	43.9	
Process Heat	Waste Heat From Hot Flue Gases To Preheat	Furniture Mfg	Discretionary	579.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$16,076.93	\$8,038.47	6.9	\$0.00	\$0.00	5.56	1.00	143.5	143.5	
HVAC	Building Envelope Infiltration Improvements	Industrial Machinery	Discretionary	1,826.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$58,249.95	\$29,124.98	6.9	\$0.00	\$0.00	6.89	1.00	233.0	233.0	
HVAC	Building Envelope Insulation Improvements	Industrial Machinery	Discretionary	1,162.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$182,711.36	\$91,355.68	6.9	\$0.00	\$0.00	1.40	1.00	133.4	133.4	
HVAC	Equipment Upgrade - Replace Existing HVAC Unit With High Efficiency Mod	Industrial Machinery	Discretionary	3,116.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$127,689.43	\$63,844.72	6.9	\$0.00	\$0.00	4.04	1.00	452.9	452.9	
HVAC	HVAC Equipment Scheduling Improvements - HVAC Controls, Timers Or Th	Industrial Machinery	Discretionary	1,807.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$25,149.55	\$12,574.78	6.9	\$0.00	\$0.00	8.62	1.00	248.1	248.1	
HVAC	Optimize Ventilation System	Industrial Machinery	Discretionary	2,634.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$126,630.17	\$63,315.09	6.9	\$0.00	\$0.00	2.25	1.00	315.3	315.3	
Indirect Boiler	Analyze Flue Gas For Proper Air/Fuel Ratio	Industrial Machinery	Discretionary	186.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$2,534.83	\$1,267.41	6.9	\$0.00	\$0.00	3.70	1.00	23.2	23.2	
Indirect Boiler	Boiler - Operation, Maintenance, And Scheduling	Industrial Machinery	Discretionary	187.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$5,034.85	\$2,517.43	6.9	\$0.00	\$0.00	1.87	1.00	22.6	22.6	
Indirect Boiler	Equipment Upgrade - Boiler Replacement	Industrial Machinery	Discretionary	272.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$15,918.93	\$7,959.47	6.9	\$0.00	\$0.00	4.65	1.00	39.6	39.6	
Indirect Boiler	Improve Combustion Control Capability And Air Flow	Industrial Machinery	Discretionary	420.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$8,559.59	\$4,279.79	6.9	\$0.00	\$0.00	5.32	1.00	54.9	54.9	
Indirect Boiler	Install Or Repair Insulation On Condensate Lines And Optimize Condensate	Industrial Machinery	Discretionary	450.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$4,147.31	\$2,073.65	6.9							

Appendix B.6		VGS Non-residential Measure Assumptions																					
End-Use	Measure Name	Building Type	Replacement Type	Per Unit	Per unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	EE	Measure Cost	Incentive Amount	Non-	O&M	O&M	Measure	NTG	20 YR	20 YR	Measure Description
				Gas Savings	Elec Saving	Summer NCP kW	Winter NCP kW	Oil Savings	Propane Savings	Wood Savings	Water Savings	EUL	Incentive Cost (\$/MMBtu)			Benefits			Costs		Level VT Societal Ratio	Technical Potential (MMBTU)	
Indirect Boiler	Insulate Steam, Hot Water Lines Or Feedwater Tank	Industrial Machinery	Discretionary	36.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$521.39	\$260.69	6.9	\$0.00	\$0.00	7.52	1.00	4.7	4.7		
Indirect Boiler	Optimize Heating System To Improve Burner Efficiency, Reduce Energy Rec	Industrial Machinery	Discretionary	212.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$4,912.04	\$2,456.02	6.9	\$0.00	\$0.00	2.17	1.00	25.9	25.9		
Indirect Boiler	Repair And Eliminate Steam Leaks	Industrial Machinery	Discretionary	183.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$989.56	\$494.78	6.9	\$0.00	\$0.00	9.30	1.00	24.4	24.4		
Process Heat	Heat Recovery And Waste Heat For Process	Industrial Machinery	Discretionary	1,131.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$31,516.59	\$15,758.29	6.9	\$0.00	\$0.00	5.53	1.00	289.6	289.6		
Process Heat	Isolate And Prevent Infiltration Of Heat Loss From Equipment	Industrial Machinery	Discretionary	392.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$4,050.37	\$2,025.19	6.9	\$0.00	\$0.00	10.49	1.00	101.5	101.5		
Process Heat	Waste Heat From Hot Flue Gases To Preheat	Industrial Machinery	Discretionary	1,341.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$64,457.04	\$32,228.52	6.9	\$0.00	\$0.00	3.21	1.00	332.2	332.2		
Process Other	Plant Operatations - Equipment Scheduling Improvements	Industrial Machinery	Discretionary	20.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$2,113.10	\$1,056.55	6.9	\$0.00	\$0.00	1.04	1.00	2.7	2.7		
HVAC	Building Envelope Infiltration Improvements	Miscellaneous Mfg	Discretionary	20,405.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$813,264.29	\$406,632.15	6.9	\$0.00	\$0.00	5.51	1.00	2,603.6	2,603.6		
HVAC	Building Envelope Insulation Improvements	Miscellaneous Mfg	Discretionary	12,989.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,831,376.91	\$915,688.45	6.9	\$0.00	\$0.00	1.56	1.00	1,490.6	1,490.6		
HVAC	Equipment Upgrade - Replace Existing HVAC Unit With High Efficiency Mod	Miscellaneous Mfg	Discretionary	34,821.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$1,352,194.84	\$676,097.42	6.9	\$0.00	\$0.00	4.26	1.00	5,059.7	5,059.7		
HVAC	HVAC Equipment Scheduling Improvements - HVAC Controls, Timers Or Th	Miscellaneous Mfg	Discretionary	20,195.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$319,457.53	\$159,728.77	6.9	\$0.00	\$0.00	7.58	1.00	2,772.4	2,772.4		
HVAC	Optimize Ventilation System	Miscellaneous Mfg	Discretionary	29,433.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$1,108,772.39	\$554,386.19	6.9	\$0.00	\$0.00	2.88	1.00	3,522.5	3,522.5		
Indirect Boiler	Analyze Flue Gas For Proper Air/Fuel Ratio	Miscellaneous Mfg	Discretionary	9,320.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$126,412.56	\$63,206.28	6.9	\$0.00	\$0.00	3.70	1.00	1,121.9	1,121.9		
Indirect Boiler	Boiler - Operation, Maintenance, And Scheduling	Miscellaneous Mfg	Discretionary	9,349.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$116,041.23	\$58,020.62	6.9	\$0.00	\$0.00	4.04	1.00	1,140.7	1,140.7		
Indirect Boiler	Equipment Upgrade - Boiler Replacement	Miscellaneous Mfg	Discretionary	13,597.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$793,880.83	\$396,940.41	6.9	\$0.00	\$0.00	4.65	1.00	1,975.8	1,975.8		
Indirect Boiler	Improve Combustion Control Capability And Air Flow	Miscellaneous Mfg	Discretionary	20,962.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$426,868.58	\$213,434.29	6.9	\$0.00	\$0.00	5.32	1.00	2,699.3	2,699.3		
Indirect Boiler	Install Or Repair Insulation On Condensate Lines And Optimize Condensate	Miscellaneous Mfg	Discretionary	22,460.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$206,827.29	\$103,413.65	6.9	\$0.00	\$0.00	11.77	1.00	3,037.3	3,037.3		
Indirect Boiler	Insulate Steam, Hot Water Lines Or Feedwater Tank	Miscellaneous Mfg	Discretionary	1,805.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$26,001.64	\$13,000.82	6.9	\$0.00	\$0.00	7.52	1.00	233.1	233.1		
Indirect Boiler	Optimize Heating System To Improve Burner Efficiency, Reduce Energy Rec	Miscellaneous Mfg	Discretionary	10,582.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$244,964.49	\$122,482.25	6.9	\$0.00	\$0.00	2.17	1.00	1,256.6	1,256.6		
Indirect Boiler	Repair And Eliminate Steam Leaks	Miscellaneous Mfg	Discretionary	9,152.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$49,349.62	\$24,674.81	6.9	\$0.00	\$0.00	9.30	1.00	1,197.6	1,197.6		
Indirect Boiler	Repair Or Replace Steam Traps	Miscellaneous Mfg	Discretionary	10,319.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	6	\$41,123.05	\$20,561.53	6.9	\$0.00	\$0.00	15.47	1.00	1,416.7	1,416.7		
Process Heat	Heat Recovery And Waste Heat For Process	Miscellaneous Mfg	Discretionary	9,671.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$330,054.18	\$165,027.09	6.9	\$0.00	\$0.00	4.52	1.00	2,379.4	2,379.4		
Process Heat	Isolate And Prevent Infiltration Of Heat Loss From Equipment	Miscellaneous Mfg	Discretionary	3,352.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$70,928.56	\$35,464.28	6.9	\$0.00	\$0.00	5.12	1.00	834.2	834.2		
Process Heat	Waste Heat From Hot Flue Gases To Preheat	Miscellaneous Mfg	Discretionary	11,472.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$318,107.36	\$159,053.68	6.9	\$0.00	\$0.00	5.56	1.00	2,971.1	2,971.1		
HVAC	Building Envelope Infiltration Improvements	Nonmetallic Mineral Products	Discretionary	49.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$1,984.14	\$992.07	6.9	\$0.00	\$0.00	5.51	1.00	6.4	6.4		
		Nonmetallic Mineral Products	Discretionary	31.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$4,468.04	\$2,234.02	6.9	\$0.00	\$0.00	1.56	1.00	3.6	3.6		
HVAC	Equipment Upgrade - Replace Existing HVAC Unit With High Efficiency Mod	Nonmetallic Mineral Products	Discretionary	85.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$3,298.97	\$1,649.49	6.9	\$0.00	\$0.00	4.26	1.00	12.3	12.3		
HVAC	HVAC Equipment Scheduling Improvements - HVAC Controls, Timers Or Th	Nonmetallic Mineral Products	Discretionary	49.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$779.39	\$389.69	6.9	\$0.00	\$0.00	7.58	1.00	6.8	6.8		
HVAC	Optimize Ventilation System	Nonmetallic Mineral Products	Discretionary	71.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$2,705.09	\$1,352.55	6.9	\$0.00	\$0.00	2.88	1.00	8.6	8.6		
Indirect Boiler	Analyze Flue Gas For Proper Air/Fuel Ratio	Nonmetallic Mineral Products	Discretionary	17.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$242.30	\$121.15	6.9	\$0.00	\$0.00	3.70	1.00	2.2	2.2		
Indirect Boiler	Boiler - Operation, Maintenance, And Scheduling	Nonmetallic Mineral Products	Discretionary	17.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$222.42	\$111.21	6.9	\$0.00	\$0.00	4.04	1.00	2.3	2.3		
Indirect Boiler	Equipment Upgrade - Boiler Replacement	Nonmetallic Mineral Products	Discretionary	26.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$1,521.68	\$760.84	6.9	\$0.00	\$0.00	4.65	1.00	3.8	3.8		
Indirect Boiler	Install Or Repair Insulation On Condensate Lines And Optimize Condensate	Nonmetallic Mineral Products	Discretionary	43.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$396.44	\$198.22	6.9	\$0.00	\$0.00	11.77	1.00	5.8	5.8		
Indirect Boiler	Insulate Steam, Hot Water Lines Or Feedwater Tank	Nonmetallic Mineral Products	Discretionary	3.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$49.84	\$24.92	6.9	\$0.00	\$0.00	7.52	1.00	0.4	0.4		
Indirect Boiler	Minimize Boiler Blowdown	Nonmetallic Mineral Products	Discretionary	2.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$61.21	\$30.60	6.9	\$0.00	\$0.00	1.85	1.00	0.3	0.3		
Indirect Boiler	Optimize Heating System To Improve Burner Efficiency, Reduce Energy Rec	Nonmetallic Mineral Products	Discretionary	20.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$469.54	\$234.77	6.9	\$0.00	\$0.00	2.17	1.00	2.5	2.5		
Indirect Boiler	Repair And Eliminate Steam Leaks	Nonmetallic Mineral Products	Discretionary	17.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$94.59	\$47.30	6.9	\$0.00	\$0.00	9.30	1.00	2.3	2.3		

Appendix B.6		VGS Non-residential Measure Assumptions																					
End-Use	Measure Name	Building Type	Replacement Type	Per Unit	Per unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	EE	Measure Cost	Incentive Amount	Non-	O&M	O&M	Measure	NTG	20 YR	20 YR	Measure Description
				Gas Savings	Elec Saving	Summer NCP kW	Winter NCP kW	Oil Savings	Propane Savings	Wood Savings	Water Savings	Cost (\$/MMBtu)	Level VT Societal			Technical Potential (MMBTU)			Economic Potential (MMBTU)				
Indirect Boiler	Repair Or Replace Steam Traps	Nonmetallic Mineral Products	Discretionary	19.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	6	\$78.82	\$39.41	6.9	\$0.00	\$0.00	15.47	1.00	2.7	2.7		
Process Heat	Heat Recovery And Waste Heat For Process	Nonmetallic Mineral Products	Discretionary	530.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$8,431.16	\$4,215.58	6.9	\$0.00	\$0.00	9.70	1.00	137.4	137.4		
Process Heat	Isolate And Prevent Infiltration Of Heat Loss From Equipment	Nonmetallic Mineral Products	Discretionary	183.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$3,295.60	\$1,647.80	6.9	\$0.00	\$0.00	6.05	1.00	44.3	44.3		
Process Heat	Waste Heat From Hot Flue Gases To Preheat	Nonmetallic Mineral Products	Discretionary	629.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$13,295.95	\$6,647.98	6.9	\$0.00	\$0.00	7.30	1.00	157.6	157.6		
Process Other	Plant Operatons - Equipment Scheduling Improvements	Nonmetallic Mineral Products	Discretionary	2.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$242.39	\$121.19	6.9	\$0.00	\$0.00	1.04	1.00	0.3	0.3		
HVAC	Building Envelope Infiltration Improvements	Paper Mfg	Discretionary	1,072.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$42,746.86	\$21,373.43	6.9	\$0.00	\$0.00	5.51	1.00	136.9	136.9		
HVAC	Building Envelope Insulation Improvements	Paper Mfg	Discretionary	682.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$96,260.97	\$48,130.49	6.9	\$0.00	\$0.00	1.56	1.00	78.4	78.4		
HVAC	Equipment Upgrade - Replace Existing HVAC Unit With High Efficiency Mod	Paper Mfg	Discretionary	1,830.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$71,074.17	\$35,537.08	6.9	\$0.00	\$0.00	4.26	1.00	265.9	265.9		
HVAC	HVAC Equipment Scheduling Improvements - HVAC Controls, Timers Or Th	Paper Mfg	Discretionary	1,061.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$16,791.35	\$8,395.68	6.9	\$0.00	\$0.00	7.58	1.00	145.7	145.7		
HVAC	Optimize Ventilation System	Paper Mfg	Discretionary	1,547.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$58,279.38	\$29,139.69	6.9	\$0.00	\$0.00	2.88	1.00	185.1	185.1		
Indirect Boiler	Analyze Flue Gas For Proper Air/Fuel Ratio	Paper Mfg	Discretionary	8,608.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$69,895.37	\$34,947.69	6.9	\$0.00	\$0.00	6.18	1.00	1,123.4	1,123.4		
Indirect Boiler	Boiler - Operation, Maintenance, And Scheduling	Paper Mfg	Discretionary	8,635.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$80,939.66	\$40,469.83	6.9	\$0.00	\$0.00	5.35	1.00	1,111.7	1,111.7		
Indirect Boiler	Equipment Upgrade - Boiler Replacement	Paper Mfg	Discretionary	12,559.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$689,561.04	\$344,780.52	6.9	\$0.00	\$0.00	4.94	1.00	1,824.9	1,824.9		
Indirect Boiler	Improve Combustion Control Capability And Air Flow	Paper Mfg	Discretionary	19,360.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$394,263.90	\$197,131.95	6.9	\$0.00	\$0.00	5.32	1.00	2,458.8	2,458.8		
Indirect Boiler	Install Or Repair Insulation On Condensate Lines And Optimize Condensate	Paper Mfg	Discretionary	20,744.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$191,029.61	\$95,514.80	6.9	\$0.00	\$0.00	11.77	1.00	2,847.8	2,847.8		
Indirect Boiler	Insulate Steam, Hot Water Lines Or Feedwater Tank	Paper Mfg	Discretionary	1,667.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$24,919.44	\$12,459.72	6.9	\$0.00	\$0.00	7.25	1.00	218.2	218.2		
Indirect Boiler	Minimize Boiler Blowdown	Paper Mfg	Discretionary	1,085.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$29,492.76	\$14,746.38	6.9	\$0.00	\$0.00	1.85	1.00	128.6	128.6		
Indirect Boiler	Optimize Heating System To Improve Burner Efficiency, Reduce Energy Rec	Paper Mfg	Discretionary	9,774.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$226,253.85	\$113,126.92	6.9	\$0.00	\$0.00	2.17	1.00	1,175.8	1,175.8		
Indirect Boiler	Repair And Eliminate Steam Leaks	Paper Mfg	Discretionary	8,453.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$366,560.96	\$183,280.48	6.9	\$0.00	\$0.00	1.16	1.00	999.7	999.7		
Indirect Boiler	Repair Or Replace Steam Traps	Paper Mfg	Discretionary	9,531.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	6	\$69,213.37	\$34,606.69	6.9	\$0.00	\$0.00	8.49	1.00	1,266.0	1,266.0		
Process Heat	Heat Recovery And Waste Heat For Process	Paper Mfg	Discretionary	5,583.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$201,647.13	\$100,823.57	6.9	\$0.00	\$0.00	4.27	1.00	1,373.5	1,373.5		
Process Heat	Isolate And Prevent Infiltration Of Heat Loss From Equipment	Paper Mfg	Discretionary	1,935.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$17,877.80	\$8,938.90	6.9	\$0.00	\$0.00	11.73	1.00	501.1	501.1		
Process Heat	Waste Heat From Hot Flue Gases To Preheat	Paper Mfg	Discretionary	6,622.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$128,654.63	\$64,327.31	6.9	\$0.00	\$0.00	7.94	1.00	1,695.5	1,695.5		
Process Other	Plant Operatons - Equipment Scheduling Improvements	Paper Mfg	Discretionary	316.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$32,832.07	\$16,416.04	6.9	\$0.00	\$0.00	1.04	1.00	41.4	41.4		
HVAC	Building Envelope Infiltration Improvements	Plastics Rubber Products	Discretionary	2,803.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$74,066.11	\$37,033.05	6.9	\$0.00	\$0.00	8.32	1.00	366.6	366.6		
HVAC	Building Envelope Insulation Improvements	Plastics Rubber Products	Discretionary	1,784.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$251,627.00	\$125,813.50	6.9	\$0.00	\$0.00	1.56	1.00	204.8	204.8		
HVAC	Equipment Upgrade - Replace Existing HVAC Unit With High Efficiency Mod	Plastics Rubber Products	Discretionary	4,784.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$185,788.48	\$92,894.24	6.9	\$0.00	\$0.00	4.26	1.00	695.2	695.2		
HVAC	HVAC Equipment Scheduling Improvements - HVAC Controls, Timers Or Th	Plastics Rubber Products	Discretionary	2,774.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$54,717.55	\$27,358.78	6.9	\$0.00	\$0.00	6.08	1.00	372.0	372.0		
HVAC	Optimize Ventilation System	Plastics Rubber Products	Discretionary	4,044.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$152,342.79	\$76,171.40	6.9	\$0.00	\$0.00	2.88	1.00	484.0	484.0		
Indirect Boiler	Analyze Flue Gas For Proper Air/Fuel Ratio	Plastics Rubber Products	Discretionary	3,146.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$45,210.66	\$22,605.33	6.9	\$0.00	\$0.00	3.49	1.00	378.6	378.6		
Indirect Boiler	Boiler - Operation, Maintenance, And Scheduling	Plastics Rubber Products	Discretionary	3,156.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$31,175.65	\$15,587.82	6.9	\$0.00	\$0.00	5.08	1.00	394.1	394.1		
Indirect Boiler	Equipment Upgrade - Boiler Replacement	Plastics Rubber Products	Discretionary	4,590.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$268,018.78	\$134,009.39	6.9	\$0.00	\$0.00	4.65	1.00	667.0	667.0		
Indirect Boiler	Improve Combustion Control Capability And Air Flow	Plastics Rubber Products	Discretionary	7,076.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$144,113.31	\$72,056.66	6.9	\$0.00	\$0.00	5.32	1.00	911.3	911.3		
Indirect Boiler	Install Or Repair Insulation On Condensate Lines And Optimize Condensate	Plastics Rubber Products	Discretionary	7,582.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$69,826.10	\$34,913.05	6.9	\$0.00	\$0.00	11.77	1.00	1,022.7	1,022.7		
Indirect Boiler	Insulate Steam, Hot Water Lines Or Feedwater Tank	Plastics Rubber Products	Discretionary	609.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$5,117.68	\$2,558.84	6.9	\$0.00	\$0.00	12.90	1.00	82.4	82.4		
Indirect Boiler	Minimize Boiler Blowdown	Plastics Rubber Products	Discretionary	396.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$10,780.34	\$5,390.17	6.9	\$0.00	\$0.00	1.85	1.00	46.4	46.4		
Indirect Boiler	Optimize Heating System To Improve Burner Efficiency, Reduce Energy Rec	Plastics Rubber Products	Discretionary	3,572.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$82,701.44	\$41,350.72	6.9	\$0.00	\$0.00	2.17	1.00	424.1	424.1		
Indirect Boiler	Repair And Eliminate Steam Leaks	Plastics Rubber Products	Discretionary	3,090.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$13,247.02	\$6,623.51	6.9	\$0.00	\$0.00	11.70	1.00	403.2	403.2		
Indirect Boiler	Repair Or Replace Steam Traps	Plastics Rubber Products	Discretionary	3,484.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	6	\$13,883.38	\$6,941.69	6.9	\$0.00	\$0.00	15.47	1.00	478.3	478.3		
Process Heat	Heat Recovery And Waste Heat For Process	Plastics Rubber Products	Discretionary	3,132.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$98,726.08	\$49,363.04	6.9	\$0.00	\$0.00	4.89	1.00	802.0	802.0		
Process Heat	Isolate And Prevent Infiltration Of Heat Loss From Equipment	Plastics Rubber Products	Discretion																				



Appendix B.6		VGS Non-residential Measure Assumptions																					
End-Use	Measure Name	Building Type	Replacement Type	Per Unit	Per unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	Per Unit	EE	Measure Cost	Incentive Amount	Non-	O&M	O&M	Measure	NTG	20 YR	20 YR	Measure Description
				Gas Savings	Elec Saving	Summer NCP kW	Winter NCP kW	Oil Savings	Propane Savings	Wood Savings	Water Savings	EUL	Incentive Cost (\$/MMBtu)			Benefits			Costs		Level VT Societal	Technical Potential (MMBTU)	
Indirect Boiler	Boiler - Operation, Maintenance, And Scheduling	Primary Metal Mfg	Discretionary	81.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$2,960.58	\$1,480.29	6.9	\$0.00	\$0.00	1.38	1.00	9.7	9.7		
Indirect Boiler	Equipment Upgrade - Boiler Replacement	Primary Metal Mfg	Discretionary	118.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$6,925.26	\$3,462.63	6.9	\$0.00	\$0.00	4.65	1.00	17.2	17.2		
Indirect Boiler	Improve Combustion Control Capability And Air Flow	Primary Metal Mfg	Discretionary	182.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$932.39	\$466.19	6.9	\$0.00	\$0.00	21.25	1.00	25.1	25.1		
Indirect Boiler	Install Or Repair Insulation On Condensate Lines And Optimize Condensate	Primary Metal Mfg	Discretionary	195.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$1,804.22	\$902.11	6.9	\$0.00	\$0.00	11.77	1.00	25.7	25.7		
Indirect Boiler	Insulate Steam, Hot Water Lines Or Feedwater Tank	Primary Metal Mfg	Discretionary	15.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$423.58	\$211.79	6.9	\$0.00	\$0.00	4.03	1.00	1.9	1.9		
Indirect Boiler	Minimize Boiler Blowdown	Primary Metal Mfg	Discretionary	10.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$278.55	\$139.28	6.9	\$0.00	\$0.00	1.85	1.00	1.2	1.2		
Indirect Boiler	Optimize Heating System To Improve Burner Efficiency, Reduce Energy Rec	Primary Metal Mfg	Discretionary	92.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$2,136.90	\$1,068.45	6.9	\$0.00	\$0.00	2.17	1.00	11.1	11.1		
Indirect Boiler	Repair And Eliminate Steam Leaks	Primary Metal Mfg	Discretionary	79.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$430.49	\$215.25	6.9	\$0.00	\$0.00	9.30	1.00	10.1	10.1		
Indirect Boiler	Repair Or Replace Steam Traps	Primary Metal Mfg	Discretionary	90.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	6	\$358.73	\$179.36	6.9	\$0.00	\$0.00	15.47	1.00	12.0	12.0		
Process Heat	Heat Recovery And Waste Heat For Process	Primary Metal Mfg	Discretionary	666.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$13,340.29	\$6,670.14	6.9	\$0.00	\$0.00	7.71	1.00	172.7	172.7		
Process Heat	Isolate And Prevent Infiltration Of Heat Loss From Equipment	Primary Metal Mfg	Discretionary	231.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$3,859.57	\$1,929.79	6.9	\$0.00	\$0.00	6.49	1.00	55.6	55.6		
Process Heat	Waste Heat From Hot Flue Gases To Preheat	Primary Metal Mfg	Discretionary	790.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$18,750.51	\$9,375.25	6.9	\$0.00	\$0.00	6.50	1.00	198.1	198.1		
Process Other	Plant Operations - Equipment Scheduling Improvements	Primary Metal Mfg	Discretionary	79.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$8,195.52	\$4,097.76	6.9	\$0.00	\$0.00	1.04	1.00	9.6	9.6		
Process Other	Process Improvements To Reduce Energy Requirments	Primary Metal Mfg	Discretionary	142.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$656.21	\$328.10	6.9	\$0.00	\$0.00	23.55	1.00	18.6	18.6		
HVAC	Building Envelope Infiltration Improvements	Printing Related Support	Discretionary	719.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$28,685.80	\$14,342.90	6.9	\$0.00	\$0.00	5.51	1.00	91.8	91.8		
HVAC	Building Envelope Insulation Improvements	Printing Related Support	Discretionary	458.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$64,597.11	\$32,298.55	6.9	\$0.00	\$0.00	1.56	1.00	52.6	52.6		
HVAC	Equipment Upgrade - Replace Existing HVAC Unit With High Efficiency Mod	Printing Related Support	Discretionary	1,228.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$47,695.19	\$23,847.60	6.9	\$0.00	\$0.00	4.26	1.00	178.5	178.5		
HVAC	HVAC Equipment Scheduling Improvements - HVAC Controls, Timers Or Th	Printing Related Support	Discretionary	712.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$11,268.04	\$5,634.02	6.9	\$0.00	\$0.00	7.58	1.00	97.8	97.8		
HVAC	Optimize Ventilation System	Printing Related Support	Discretionary	1,038.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$39,109.09	\$19,554.55	6.9	\$0.00	\$0.00	2.88	1.00	124.2	124.2		
Indirect Boiler	Analyze Flue Gas For Proper Air/Fuel Ratio	Printing Related Support	Discretionary	302.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$4,099.22	\$2,049.61	6.9	\$0.00	\$0.00	3.70	1.00	37.6	37.6		
Indirect Boiler	Boiler - Operation, Maintenance, And Scheduling	Printing Related Support	Discretionary	303.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$3,762.91	\$1,881.45	6.9	\$0.00	\$0.00	4.04	1.00	38.3	38.3		
Indirect Boiler	Equipment Upgrade - Boiler Replacement	Printing Related Support	Discretionary	440.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$25,743.42	\$12,871.71	6.9	\$0.00	\$0.00	4.65	1.00	64.1	64.1		
Indirect Boiler	Improve Combustion Control Capability And Air Flow	Printing Related Support	Discretionary	679.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$13,842.20	\$6,921.10	6.9	\$0.00	\$0.00	5.32	1.00	90.5	90.5		
Indirect Boiler	Insulate Steam, Hot Water Lines Or Feedwater Tank	Printing Related Support	Discretionary	58.5	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$843.16	\$421.58	6.9	\$0.00	\$0.00	7.52	1.00	7.8	7.8		
Indirect Boiler	Minimize Boiler Blowdown	Printing Related Support	Discretionary	38.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$1,035.46	\$517.73	6.9	\$0.00	\$0.00	1.85	1.00	4.6	4.6		
Indirect Boiler	Optimize Heating System To Improve Burner Efficiency, Reduce Energy Rec	Printing Related Support	Discretionary	343.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$7,943.54	\$3,971.77	6.9	\$0.00	\$0.00	2.17	1.00	42.1	42.1		
Indirect Boiler	Repair And Eliminate Steam Leaks	Printing Related Support	Discretionary	296.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$1,600.28	\$800.14	6.9	\$0.00	\$0.00	9.30	1.00	40.1	40.1		
Indirect Boiler	Repair Or Replace Steam Traps	Printing Related Support	Discretionary	334.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	6	\$1,333.51	\$666.76	6.9	\$0.00	\$0.00	15.47	1.00	45.9	45.9		
Process Heat	Heat Recovery And Waste Heat For Process	Printing Related Support	Discretionary	672.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$19,206.20	\$9,603.10	6.9	\$0.00	\$0.00	5.39	1.00	165.3	165.3		
Process Heat	Isolate And Prevent Infiltration Of Heat Loss From Equipment	Printing Related Support	Discretionary	232.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$3,609.81	\$1,804.91	6.9	\$0.00	\$0.00	6.99	1.00	60.3	60.3		
Process Heat	Waste Heat From Hot Flue Gases To Preheat	Printing Related Support	Discretionary	797.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$22,104.36	\$11,052.18	6.9	\$0.00	\$0.00	5.56	1.00	204.1	204.1		
HVAC	Building Envelope Infiltration Improvements	Wood Product Mfg	Discretionary	438.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$17,485.49	\$8,742.75	6.9	\$0.00	\$0.00	5.51	1.00	57.4	57.4		
HVAC	Building Envelope Insulation Improvements	Wood Product Mfg	Discretionary	279.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	20	\$39,375.31	\$19,687.65	6.9	\$0.00	\$0.00	1.56	1.00	36.5	36.5		
HVAC	Equipment Upgrade - Replace Existing HVAC Unit With High Efficiency Mod	Wood Product Mfg	Discretionary	748.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	15	\$29,072.71	\$14,536.35	6.9	\$0.00	\$0.00	4.26	1.00	108.8	108.8		
HVAC	HVAC Equipment Scheduling Improvements - HVAC Controls, Timers Or Th	Wood Product Mfg	Discretionary	434.2	0.0	0.000	0.000	0.0	0.0	0.0	0.0	11	\$6,868.46	\$3,434.23	6.9	\$0.00	\$0.00	7.58	1.00	59.6	59.6		
HVAC	Optimize Ventilation System	Wood Product Mfg	Discretionary	632.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$23,839.03	\$11,919.52	6.9	\$0.00	\$0.00	2.88	1.00	83.4	83.4		
Indirect Boiler	Analyze Flue Gas For Proper Air/Fuel Ratio	Wood Product Mfg	Discretionary	465.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$6,306.99	\$3,153.50	6.9	\$0.00	\$0.00	3.70	1.00	63.8	63.8		
Indirect Boiler	Boiler - Operation, Maintenance, And Scheduling	Wood Product Mfg	Discretionary	466.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$5,789.54	\$2,894.77	6.9	\$0.00	\$0.00	4.04	1.00	64.0	64.0		
Indirect Boiler	Equipment Upgrade - Boiler Replacement	Wood Product Mfg	Discretionary	678.4	0.0	0.000	0.000	0.0	0.0	0.0	0.0	25	\$39,608.40	\$19,804.20	6.9	\$0.00	\$0.00	4.65	1.00	98.6	98.6		
Indirect Boiler	Improve Combustion Control Capability And Air Flow	Wood Product Mfg	Discretionary	1,045.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$21,297.38	\$10,648.69	6.9	\$0.00	\$0.00	5.32	1.00	143.6	143.6		
Indirect Boiler	Install Or Repair Insulation On Condensate Lines And Optimize Condensate	Wood Product Mfg	Discretionary	1,120.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$10,319.05	\$5,159.53	6.9	\$0.00	\$0.00	11.77	1.00	153.8	153.8		
Indirect Boiler	Insulate Steam, Hot Water Lines Or Feedwater Tank	Wood Product Mfg	Discretionary	90.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$1,297.28	\$648.64	6.9	\$0.00	\$0.00	7.52	1.00	12.4	12.4		
Indirect Boiler	Minimize Boiler Blowdown	Wood Product Mfg	Discretionary	58.6	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$1,593.14	\$796.57	6.9	\$0.00	\$0.00	1.85	1.00	8.0	8.0		

Appendix B.6		VGS Non-residential Measure Assumptions																						
End-Use	Measure Name	Building Type	Replacement Type	Per Unit Savings										EE EUL	Measure Cost	Incentive Amount	Non-Incentive Cost (\$/MMBtu)	O&M Benefits	O&M Costs	Measure Level VT Societal	NTG Ratio	20 YR	20 YR	Measure Description
				Gas Savings	Elec Saving	Summer NCP kW	Winter NCP kW	Oil Savings	Propane Savings	Wood Savings	Water Savings	Technical Potential (MMBTU)	Economic Potential (MMBTU)											
Indirect Boiler	Optimize Heating System To Improve Burner Efficiency, Reduce Energy Rec	Wood Product Mfg	Discretionary	528.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$12,221.80	\$6,110.90	6.9	\$0.00	\$0.00	2.17	1.00	72.5	72.5			
Indirect Boiler	Repair And Eliminate Steam Leaks	Wood Product Mfg	Discretionary	456.7	0.0	0.000	0.000	0.0	0.0	0.0	0.0	5	\$2,462.16	\$1,231.08	6.9	\$0.00	\$0.00	9.30	1.00	62.7	62.7			
Indirect Boiler	Repair Or Replace Steam Traps	Wood Product Mfg	Discretionary	514.9	0.0	0.000	0.000	0.0	0.0	0.0	0.0	6	\$2,051.72	\$1,025.86	6.9	\$0.00	\$0.00	15.47	1.00	70.7	70.7			
Process Heat	Heat Recovery And Waste Heat For Process	Wood Product Mfg	Discretionary	1,583.3	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$35,312.74	\$17,656.37	6.9	\$0.00	\$0.00	6.91	1.00	410.1	410.1			
Process Heat	Isolate And Prevent Infiltration Of Heat Loss From Equipment	Wood Product Mfg	Discretionary	548.8	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$6,301.55	\$3,150.77	6.9	\$0.00	\$0.00	9.44	1.00	142.1	142.1			
Process Heat	Waste Heat From Hot Flue Gases To Preheat	Wood Product Mfg	Discretionary	1,878.1	0.0	0.000	0.000	0.0	0.0	0.0	0.0	14	\$52,076.88	\$26,038.44	6.9	\$0.00	\$0.00	5.56	1.00	486.4	486.4			
Process Other	Plant Opertations - Equipment Scheduling Improvements	Wood Product Mfg	Discretionary	38.0	0.0	0.000	0.000	0.0	0.0	0.0	0.0	10	\$3,943.25	\$1,971.62	6.9	\$0.00	\$0.00	1.04	1.00	5.0	5.0			

## APPENDIX C • MAP and RAP Savings and Costs



Appendix C.1

EVT Residential Achievable Potential - Savings and Costs

MWh	Maximum Achievable Potential by End-Use - Incremental Annual Energy Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	3,836	3,830	3,842	3,825	3,809	3,801	3,780	3,772	3,758	3,743	3,744	3,752	3,750	3,732	3,742	3,751	3,803	3,922	3,919	3,928
Clothes Washer/Dryer	5,497	5,465	5,506	5,451	5,398	5,373	5,303	5,278	5,232	5,185	5,187	5,213	5,598	5,519	5,756	5,737	5,811	5,683	5,619	5,595
Dishwasher	216	215	216	214	212	211	209	208	206	204	204	205	205	225	225	227	229	223	222	220
Electronics	19,014	18,974	19,052	18,946	20,995	20,926	21,037	20,900	22,895	22,764	22,713	22,637	24,785	24,515	24,529	24,473	26,636	26,226	26,435	26,361
Hot Water	10,476	10,277	10,158	9,917	9,679	9,476	9,215	9,028	8,797	8,964	8,774	8,621	8,417	8,868	8,878	8,981	9,048	8,869	9,179	9,107
Pool/Spa	1,742	1,732	1,740	1,728	1,717	1,712	1,697	1,692	1,682	1,672	1,797	1,792	1,799	1,775	1,771	1,772	1,778	1,752	1,743	1,733
Lighting	76,340	76,125	30,513	30,355	17,055	4,564	4,563	788	781	775	800	804	804	795	793	821	834	825	818	816
Ventilation	350	347	354	345	336	332	320	316	309	301	301	305	304	295	300	305	321	306	306	492
HVAC Shell	1,751	1,708	1,694	1,652	1,613	1,584	1,548	1,526	1,499	1,474	1,464	1,460	1,450	1,425	1,428	1,429	1,446	1,413	1,412	1,412
HVAC Equipment	4,504	4,473	4,495	4,451	4,409	4,386	4,331	4,308	4,270	4,232	4,250	4,266	4,357	4,310	4,355	4,366	4,424	4,353	4,591	4,568
Behavioral	22,821	21,512	21,599	20,859	21,054	21,770	21,577	21,721	21,610	21,524	21,480	21,436	21,361	21,309	21,328	21,354	21,339	21,352	21,386	21,422
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	522	522	522	707	707	707	707	707	707	707	707	707	707	707	891	891	891	891	891	891
ER Hot Water	605	605	605	605	1,158	1,158	1,158	1,158	1,158	1,158	1,158	1,158	1,158	1,712	1,712	1,712	1,712	1,712	1,712	1,712
ER HVAC Equipment	1,386	1,379	1,371	1,364	1,356	1,349	1,549	1,541	1,532	1,523	1,523	1,523	1,523	1,523	1,523	1,523	1,523	1,523	1,728	1,728
Total	149,062	147,163	101,667	100,419	89,497	77,350	76,994	72,943	74,435	74,225	74,102	73,880	76,220	76,711	77,233	77,341	79,795	79,052	79,963	79,986

MWh	Maximum Achievable Potential by End-Use - Cumulative Annual Energy Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	3,836	7,665	11,507	15,332	19,141	22,942	26,722	30,494	31,634	32,761	33,888	35,022	36,155	37,271	38,396	39,530	40,522	40,610	40,698	40,787
Clothes Washer/Dryer	5,497	10,963	16,468	21,919	27,317	32,690	37,993	43,271	48,503	53,687	58,875	64,088	66,887	69,630	69,884	70,165	70,545	70,831	71,117	71,405
Dishwasher	216	431	647	862	1,074	1,285	1,494	1,702	1,907	2,112	2,316	2,521	2,726	2,734	2,744	2,755	2,770	2,781	2,792	2,803
Electronics	19,014	37,988	57,040	75,986	83,671	91,017	93,812	96,560	99,218	101,029	102,845	104,710	106,563	108,306	110,110	111,969	114,019	115,886	117,755	119,626
Hot Water	10,476	20,583	30,399	39,803	48,798	57,419	65,609	72,853	79,752	85,083	90,267	95,334	100,242	101,985	103,753	105,227	106,826	108,306	109,786	111,268
Pool/Spa	1,742	3,474	5,214	6,943	8,660	10,372	12,069	13,761	15,443	17,115	17,170	17,230	17,289	17,336	17,390	17,449	17,530	17,590	17,651	17,712
Lighting	76,340	152,465	111,615	141,971	106,433	26,843	31,260	5,967	6,664	7,357	8,050	8,745	9,440	10,129	10,821	11,516	12,220	12,916	13,611	14,307
Ventilation	350	698	1,051	1,396	1,732	2,064	2,384	2,701	3,009	3,310	3,611	3,917	4,221	4,516	4,816	5,121	5,442	5,748	6,054	6,195
HVAC Shell	1,751	3,432	5,073	6,649	8,167	9,640	11,096	12,516	13,906	15,264	16,620	17,960	19,299	20,608	21,945	23,276	24,560	25,842	27,246	28,651
HVAC Equipment	4,504	8,971	13,454	17,888	22,272	26,628	30,923	35,189	39,412	43,589	47,585	51,598	54,207	56,777	59,240	61,723	64,274	66,759	67,224	67,690
Behavioral	22,821	21,512	21,599	20,859	21,054	21,770	21,577	21,721	21,610	21,524	21,480	21,436	21,361	21,309	21,328	21,354	21,339	21,352	21,386	21,422
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	522	1,045	1,567	1,752	1,936	2,121	2,305	2,489	2,674	2,858	3,042	3,227	3,411	3,596	3,780	3,964	4,149	4,333	4,518	4,702
ER Hot Water	605	1,209	1,814	2,419	2,972	3,526	4,080	4,634	5,188	5,741	6,295	6,849	7,403	7,957	8,511	9,064	9,618	10,172	10,726	11,280
ER HVAC Equipment	1,386	2,758	4,114	5,455	6,780	8,091	8,254	8,415	8,573	8,729	8,934	9,139	9,344	9,550	9,755	9,960	10,165	10,370	10,575	10,780
Total	149,062	273,192	281,564	359,232	360,007	316,409	349,579	352,271	377,492	400,159	420,977	441,775	458,550	471,704	482,473	493,075	503,978	513,496	521,140	528,627

**Appendix C.1****EVT Residential Achievable Potential - Savings and Costs**

MW	Maximum Achievable Potential by End-Use - Incremental Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5
Clothes Washer/Dryer	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.7
Dishwasher	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Electronics	1.9	1.9	1.9	1.9	2.1	2.1	2.1	2.0	2.3	2.2	2.2	2.2	2.4	2.4	2.4	2.4	2.6	2.6	2.6	2.6
Hot Water	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Pool/Spa	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.1	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Lighting	5.3	5.3	2.0	2.0	1.1	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventilation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
HVAC Shell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Equipment	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.8	0.8	0.8	0.8	0.8	0.8
Behavioral	2.6	2.5	2.5	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
ER Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Clothes Washer/Dryer	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ER Hot Water	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ER HVAC Equipment	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total	14.1	13.9	10.5	10.4	9.8	9.1	9.0	8.7	8.9	8.8	8.9	8.9	9.1	9.2	9.3	9.3	9.5	9.4	9.5	9.5

MW	Maximum Achievable Potential by End-Use - Cumulative Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.5	0.9	1.4	1.8	2.3	2.7	3.2	3.6	3.7	3.9	4.0	4.1	4.3	4.4	4.5	4.7	4.8	4.8	4.8	4.8
Clothes Washer/Dryer	0.6	1.3	1.9	2.6	3.2	3.8	4.5	5.1	5.7	6.3	6.9	7.5	7.9	8.3	8.3	8.3	8.4	8.4	8.4	8.5
Dishwasher	0.2	0.3	0.5	0.7	0.8	1.0	1.1	1.3	1.5	1.6	1.8	1.9	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Electronics	1.9	3.7	5.6	7.4	8.1	8.8	9.1	9.4	9.7	9.9	10.1	10.3	10.4	10.6	10.8	11.0	11.2	11.4	11.6	11.8
Hot Water	0.8	1.5	2.2	2.9	3.6	4.3	4.9	5.4	5.8	6.2	6.6	6.9	7.3	7.4	7.4	7.5	7.5	7.6	7.6	7.7
Pool/Spa	1.1	2.2	3.3	4.4	5.5	6.6	7.7	8.8	9.9	11.0	11.0	11.0	11.1	11.1	11.1	11.2	11.2	11.3	11.3	11.3
Lighting	5.3	10.6	5.9	7.9	5.4	1.9	2.3	0.5	0.6	0.7	0.7	0.8	0.9	1.0	1.0	1.0	1.1	1.1	1.2	1.3
Ventilation	0.0	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.7
HVAC Shell	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3
HVAC Equipment	0.8	1.6	2.3	3.1	3.9	4.6	5.4	6.1	6.8	7.5	8.3	9.0	9.3	9.6	9.7	9.8	9.9	10.0	10.1	10.1
Behavioral	2.6	2.5	2.5	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
ER Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Clothes Washer/Dryer	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5
ER Hot Water	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.9	0.9
ER HVAC Equipment	0.2	0.3	0.5	0.7	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Total	14.1	25.3	26.7	34.5	36.8	38.2	42.6	44.8	48.4	51.8	54.2	56.6	58.3	59.6	60.3	61.1	61.8	62.4	63.0	63.5

Appendix C.1

EVT Residential Achievable Potential - Savings and Costs

MW	Maximum Achievable Potential by End-Use - Incremental Annual Winter Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Clothes Washer/Dryer	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Dishwasher	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Electronics	1.7	1.7	1.7	1.7	1.8	1.8	1.9	1.8	2.0	2.0	2.0	2.0	2.2	2.1	2.1	2.1	2.3	2.3	2.3	2.3
Hot Water	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.2	1.3	1.3	1.3	1.3	1.3	1.4	1.3
Pool/Spa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lighting	19.2	19.1	7.0	7.0	3.7	1.1	1.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Ventilation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
HVAC Shell	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
HVAC Equipment	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Behavioral	2.6	2.5	2.5	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
ER Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Clothes Washer/Dryer	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ER Hot Water	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
ER HVAC Equipment	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total	27.3	27.1	15.0	14.9	11.8	9.3	9.2	8.3	8.4	8.3	8.3	8.3	8.5	8.6	8.7	8.7	8.9	8.8	8.9	8.9

MW	Maximum Achievable Potential by End-Use - Cumulative Annual Winter Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.4	0.7	1.1	1.4	1.8	2.2	2.5	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.8	3.8	3.8
Clothes Washer/Dryer	0.9	1.7	2.6	3.4	4.3	5.1	6.0	6.8	7.6	8.4	9.2	10.1	10.6	11.0	11.1	11.1	11.2	11.2	11.2	11.3
Dishwasher	0.3	0.6	1.0	1.3	1.6	1.9	2.3	2.6	2.9	3.2	3.5	3.8	4.1	4.1	4.1	4.2	4.2	4.2	4.2	4.2
Electronics	1.7	3.4	5.0	6.7	7.5	8.3	8.5	8.8	9.0	9.2	9.3	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.8
Hot Water	1.5	3.0	4.4	5.8	7.1	8.4	9.6	10.5	11.4	12.2	12.9	13.6	14.3	14.5	14.6	14.7	14.8	14.9	15.0	15.1
Pool/Spa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lighting	19.2	38.2	21.0	28.0	18.7	6.8	7.9	1.8	2.0	2.2	2.4	2.6	2.8	3.1	3.3	3.5	3.7	3.9	4.1	4.3
Ventilation	0.0	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.7
HVAC Shell	0.3	0.5	0.8	1.0	1.2	1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5	3.7	3.9	4.1	4.3
HVAC Equipment	0.1	0.2	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1
Behavioral	2.6	2.5	2.5	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
ER Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Clothes Washer/Dryer	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6
ER Hot Water	0.1	0.2	0.3	0.4	0.5	0.6	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.3	1.4	1.5	1.6	1.7	1.8
ER HVAC Equipment	0.2	0.5	0.7	1.0	1.2	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Total	27.3	51.8	40.0	52.2	47.3	39.8	44.3	41.3	44.4	47.1	49.9	52.7	55.1	56.6	57.7	58.8	59.9	60.9	61.8	62.8



**Appendix C.1**
**EVT Residential Achievable Potential - Savings and Costs**

MMBtu	Maximum Achievable Potential by End-Use - Incremental Annual Natural Gas Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	-3,110	-3,120	-3,107	-3,125	-3,142	-3,150	-3,172	-3,180	-3,195	-3,210	-3,209	-3,201	-3,130	-3,152	-3,028	-3,031	-2,999	-3,043	-3,062	-3,069
Dishwasher	74	74	75	74	74	73	73	72	72	71	71	72	72	77	77	78	78	77	76	76
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	-3,624	-3,624	-3,624	-3,624	-3,624	-3,624	-3,624	-3,624	-3,624	-3,624	-3,624	-3,624	-3,624	-3,624	-3,624	-3,794	-3,794	-3,794	-3,794	-3,794
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Behavioral	58,779	58,825	61,848	61,967	64,483	68,445	69,376	71,235	72,124	72,963	73,866	74,720	75,403	76,072	76,976	77,888	78,683	79,492	80,350	81,196
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	1,685	1,685	1,685	1,892	1,892	1,892	1,892	1,892	1,892	1,892	1,892	1,892	1,892	1,892	2,099	2,099	2,099	2,099	2,099	2,099
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>53,804</b>	<b>53,839</b>	<b>56,876</b>	<b>57,184</b>	<b>59,682</b>	<b>63,636</b>	<b>64,544</b>	<b>66,394</b>	<b>67,268</b>	<b>68,092</b>	<b>68,996</b>	<b>69,858</b>	<b>70,612</b>	<b>71,263</b>	<b>72,500</b>	<b>73,238</b>	<b>74,066</b>	<b>74,830</b>	<b>75,669</b>	<b>76,507</b>

\*Note: This data corresponds to MMBtu savings associated with electric measures installed by EVT

MMBtu	Maximum Achievable Potential by End-Use - Cumulative Annual Natural Gas Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	-3,110	-6,230	-9,337	-12,462	-15,604	-18,753	-21,926	-25,106	-28,301	-31,511	-34,720	-37,922	-41,568	-45,233	-45,151	-45,061	-44,939	-44,847	-44,755	-44,662
Dishwasher	74	149	223	298	371	445	517	590	662	733	804	876	948	950	953	956	960	963	966	969
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	-3,624	-7,249	-10,873	-14,498	-18,122	-21,746	-25,371	-28,995	-32,620	-36,244	-39,868	-43,493	-47,117	-50,742	-54,366	-54,536	-54,706	-54,876	-55,046	-55,216
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Behavioral	58,779	58,825	61,848	61,967	64,483	68,445	69,376	71,235	72,124	72,963	73,866	74,720	75,403	76,072	76,976	77,888	78,683	79,492	80,350	81,196
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	1,685	3,369	5,054	5,261	5,468	5,675	5,882	6,089	6,296	6,503	6,710	6,917	7,124	7,331	7,538	7,745	7,952	8,159	8,366	8,573
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>53,804</b>	<b>48,864</b>	<b>46,914</b>	<b>40,566</b>	<b>36,597</b>	<b>34,065</b>	<b>28,479</b>	<b>23,812</b>	<b>18,161</b>	<b>12,444</b>	<b>6,792</b>	<b>1,099</b>	<b>-5,210</b>	<b>-11,622</b>	<b>-14,050</b>	<b>-13,008</b>	<b>-12,050</b>	<b>-11,109</b>	<b>-10,118</b>	<b>-9,140</b>

\*Note: This data corresponds to MMBtu savings associated with electric measures installed by EVT

Appendix C.1

EVT Residential Achievable Potential - Savings and Costs

\$ Maximum Achievable Potential by End-Use - Annual Incentive Costs																				
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$1,453,702	\$1,455,840	\$1,469,012	\$1,451,137	\$1,433,837	\$1,425,811	\$1,402,867	\$1,394,863	\$1,379,739	\$1,364,412	\$1,365,202	\$1,373,568	\$1,371,517	\$1,352,986	\$1,363,312	\$1,372,508	\$1,431,939	\$1,544,972	\$1,551,231	\$1,560,179
Clothes Washer/Dryer	\$7,872,262	\$7,808,561	\$7,874,561	\$7,784,992	\$7,698,307	\$7,658,090	\$7,543,117	\$7,503,011	\$7,427,226	\$7,350,426	\$7,354,383	\$7,396,307	\$7,868,727	\$7,748,561	\$8,293,078	\$8,256,286	\$8,403,267	\$8,185,952	\$8,086,129	\$8,047,516
Dishwasher	\$702,301	\$699,157	\$702,936	\$697,808	\$692,844	\$690,542	\$683,959	\$681,662	\$677,323	\$672,926	\$673,152	\$675,553	\$674,964	\$723,035	\$722,854	\$729,272	\$733,317	\$719,573	\$717,358	\$710,864
Electronics	\$4,683,349	\$4,673,924	\$4,692,342	\$4,667,346	\$5,198,659	\$5,182,414	\$5,210,558	\$5,178,665	\$5,697,590	\$5,666,671	\$5,654,319	\$5,636,658	\$6,193,818	\$6,130,609	\$6,134,054	\$6,120,333	\$6,678,644	\$6,583,001	\$6,634,153	\$6,616,463
Hot Water	\$7,065,040	\$7,038,783	\$7,091,167	\$7,020,077	\$6,951,276	\$6,919,356	\$6,828,104	\$6,804,641	\$6,744,003	\$6,782,814	\$6,784,103	\$6,818,295	\$6,807,474	\$7,082,792	\$7,117,397	\$7,202,017	\$7,293,466	\$7,135,560	\$7,218,052	\$7,173,486
Pool/Spa	\$533,708	\$530,378	\$533,000	\$529,442	\$525,999	\$524,402	\$519,836	\$518,243	\$515,233	\$512,182	\$550,522	\$548,857	\$551,071	\$543,825	\$542,437	\$542,670	\$544,467	\$536,783	\$533,835	\$530,846
Lighting	\$21,134,551	\$19,370,230	\$6,843,152	\$6,469,352	\$3,942,640	\$1,887,709	\$1,853,995	\$1,501,107	\$1,492,208	\$1,483,216	\$1,489,628	\$1,494,758	\$1,493,781	\$1,482,542	\$1,487,260	\$1,498,342	\$1,516,770	\$1,499,953	\$1,498,563	\$1,498,059
Ventilation	\$370,016	\$366,516	\$374,981	\$363,493	\$352,375	\$347,216	\$332,470	\$327,326	\$317,606	\$307,756	\$308,263	\$313,640	\$312,322	\$300,413	\$307,049	\$312,959	\$333,508	\$313,839	\$314,037	\$476,940
HVAC Shell	\$5,188,222	\$5,154,839	\$5,181,118	\$5,145,455	\$5,110,940	\$5,094,927	\$5,049,149	\$5,033,180	\$5,003,005	\$4,972,426	\$4,974,001	\$4,990,694	\$4,986,601	\$4,949,629	\$4,970,230	\$4,988,578	\$5,052,371	\$4,991,310	\$4,991,923	\$4,992,539
HVAC Equipment	\$3,605,831	\$3,603,205	\$3,619,252	\$3,597,474	\$3,576,397	\$3,566,618	\$3,538,663	\$3,528,912	\$3,510,485	\$3,491,811	\$3,500,231	\$3,509,774	\$3,555,926	\$3,530,385	\$3,604,815	\$3,613,557	\$3,651,724	\$3,605,734	\$3,679,272	\$3,672,144
Behavioral	\$1,674,495	\$1,685,637	\$1,697,617	\$1,708,460	\$1,718,202	\$1,727,434	\$1,735,205	\$1,742,468	\$1,748,768	\$1,754,093	\$1,759,469	\$1,765,376	\$1,771,153	\$1,775,751	\$1,781,007	\$1,786,847	\$1,794,721	\$1,800,649	\$1,806,595	\$1,812,562
ER Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Clothes Washer/Dryer	\$777,592	\$777,592	\$777,592	\$777,592	\$777,592	\$777,592	\$777,592	\$777,592	\$777,592	\$777,592	\$777,592	\$777,592	\$777,592	\$777,592	\$777,592	\$1,286,540	\$1,286,540	\$1,286,540	\$1,286,540	\$1,286,540
ER Hot Water	\$434,346	\$434,346	\$434,346	\$434,346	\$434,346	\$434,346	\$434,346	\$434,346	\$434,346	\$434,346	\$434,346	\$434,346	\$434,346	\$434,346	\$434,346	\$788,694	\$788,694	\$788,694	\$788,694	\$788,694
ER HVAC Equipment	\$678,896	\$678,896	\$678,896	\$678,896	\$678,896	\$678,896	\$678,896	\$678,896	\$678,896	\$678,896	\$678,896	\$678,896	\$678,896	\$678,896	\$678,896	\$678,896	\$678,896	\$678,896	\$728,655	\$728,655
Total	\$56,174,311	\$54,277,904	\$41,969,972	\$41,325,869	\$39,092,311	\$36,915,353	\$36,588,757	\$36,104,912	\$36,404,020	\$36,249,567	\$36,304,107	\$36,414,314	\$37,478,188	\$37,865,711	\$39,077,624	\$39,177,499	\$40,188,323	\$39,671,453	\$39,835,037	\$39,895,486

\$ Maximum Achievable Potential by End-Use - Annual Admin Costs																				
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$777,548	\$777,090	\$778,045	\$776,749	\$775,495	\$774,913	\$773,250	\$772,670	\$771,574	\$770,463	\$770,520	\$771,126	\$770,978	\$769,634	\$770,383	\$771,049	\$774,933	\$784,193	\$783,976	\$784,694
Clothes Washer/Dryer	\$555,841	\$552,515	\$556,694	\$551,023	\$545,534	\$542,987	\$535,707	\$533,168	\$528,369	\$523,506	\$523,757	\$526,411	\$571,751	\$563,269	\$582,709	\$580,474	\$587,248	\$574,306	\$567,517	\$565,073
Dishwasher	\$20,377	\$20,289	\$20,398	\$20,250	\$20,107	\$20,041	\$19,851	\$19,785	\$19,660	\$19,533	\$19,539	\$19,609	\$19,592	\$20,975	\$20,973	\$21,158	\$21,274	\$20,878	\$20,814	\$20,627
Electronics	\$2,081,056	\$2,078,024	\$2,083,977	\$2,075,897	\$2,886,741	\$2,881,450	\$2,888,817	\$2,878,369	\$3,684,868	\$3,674,635	\$3,670,747	\$3,664,797	\$4,481,999	\$4,461,399	\$4,462,435	\$4,458,198	\$5,277,548	\$5,246,095	\$5,260,775	\$5,255,312
Hot Water	\$1,230,827	\$1,227,656	\$1,233,346	\$1,225,624	\$1,218,151	\$1,214,684	\$1,204,771	\$1,204,352	\$1,197,641	\$1,533,069	\$1,532,524	\$1,536,988	\$1,534,434	\$1,568,173	\$1,573,200	\$1,606,296	\$1,615,104	\$1,596,159	\$1,934,740	\$1,928,686
Pool/Spa	\$121,968	\$121,207	\$121,806	\$120,993	\$120,207	\$119,842	\$118,798	\$118,434	\$117,746	\$117,049	\$125,811	\$125,430	\$125,936	\$124,280	\$123,963	\$124,016	\$124,427	\$122,671	\$121,997	\$121,314
Lighting	\$6,163,141	\$6,145,799	\$2,330,539	\$2,317,739	\$1,384,967	\$324,851	\$324,580	\$60,251	\$59,614	\$58,977	\$60,946	\$61,370	\$61,363	\$60,467	\$60,436	\$62,664	\$63,878	\$62,998	\$62,472	\$62,249
Ventilation	\$77,120	\$76,875	\$77,467	\$76,663	\$75,885	\$75,524	\$74,493	\$74,133	\$73,453	\$72,763	\$72,799	\$73,175	\$73,083	\$72,250	\$72,714	\$73,127	\$74,565	\$73,189	\$73,203	\$135,831
HVAC Shell	\$506,449	\$478,905	\$500,588	\$471,161	\$442,683	\$429,470	\$391,699	\$378,523	\$353,625	\$328,394	\$329,694	\$343,467	\$340,090	\$309,584	\$326,582	\$341,721	\$394,357	\$343,975	\$344,481	\$344,990
HVAC Equipment	\$1,386,208	\$1,331,672	\$1,389,187	\$1,311,133	\$1,235,593	\$1,200,546	\$1,100,355	\$1,065,405	\$999,363	\$932,437	\$964,970	\$998,968	\$1,198,274	\$1,100,217	\$1,189,446	\$1,210,191	\$1,329,917	\$1,182,829	\$1,678,718	\$1,628,897
Behavioral	\$568,114	\$572,173	\$576,539	\$580,489	\$584,039	\$587,403	\$590,234	\$592,881	\$595,176	\$597,117	\$599,075	\$601,228	\$603,333	\$605,008	\$606,923	\$609,051	\$611,920	\$614,080	\$616,246	\$618,420
ER Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Clothes Washer/Dryer	\$36,574	\$36,574	\$36,574	\$36,574	\$36,574	\$36,574	\$36,574	\$36,574	\$36,574	\$36,574	\$36,574	\$36,574	\$36,574	\$36,574	\$49,480	\$49,480	\$49,480	\$49,480	\$49,480	\$49,480
ER Hot Water	\$47,792	\$47,792	\$47,792	\$47,792	\$47,792	\$47,792	\$47,792	\$47,792	\$47,792	\$47,792	\$47,792	\$47,792	\$47,792	\$91,568	\$91,568	\$91,568	\$91,568	\$91,568	\$91,568	\$91,568
ER HVAC Equipment	\$180,691	\$180,691	\$180,691	\$180,691	\$180,691	\$180,691	\$180,691	\$180,691	\$180,691	\$180,691	\$180,691	\$180,691	\$180,691	\$180,691	\$180,691	\$180,691	\$180,691	\$180,691	\$209,519	\$209,519
Total	\$13,753,706	\$13,647,261	\$9,933,643	\$9,792,780	\$9,554,459	\$8,436,768	\$8,287,611	\$7,963,026	\$8,666,144	\$8,892,998	\$8,935,438	\$8,987,625	\$10,045,888	\$9,964,089	\$10,111,502	\$10,179,685	\$11,196,910	\$10,943,112	\$11,815,505	\$11,816,661

**Appendix C.1** **EVT Residential Achievable Potential - Savings and Costs**

MWh	Realistic Achievable Potential by End-Use - Incremental Annual Energy Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	2,532	2,724	3,260	3,590	3,725	3,718	3,697	3,690	3,677	3,663	3,664	3,671	3,669	3,653	3,662	3,670	3,717	3,833	3,829	3,838
Clothes Washer/Dryer	2,224	2,511	3,356	3,852	4,043	4,024	3,968	3,948	3,912	3,874	3,876	3,897	4,234	4,168	4,328	4,311	4,365	4,265	4,213	4,195
Dishwasher	119	122	133	138	140	139	137	137	136	134	134	135	135	148	148	150	151	147	146	145
Electronics	8,376	8,890	10,348	11,226	13,307	13,273	13,348	13,275	14,924	14,864	14,840	14,802	16,551	16,403	16,410	16,382	18,125	17,905	18,045	18,001
Hot Water	4,418	4,935	6,425	7,283	7,564	7,442	7,280	7,169	7,027	7,340	7,226	7,141	7,017	7,283	7,242	7,292	7,328	7,198	7,572	7,521
Pool/Spa	1,506	1,512	1,549	1,561	1,561	1,556	1,543	1,539	1,530	1,522	1,629	1,625	1,631	1,610	1,607	1,607	1,612	1,591	1,582	1,574
Lighting	20,845	20,623	15,142	15,285	12,499	4,479	4,478	671	666	661	681	685	685	677	676	698	708	701	696	694
Ventilation	233	247	296	318	323	319	308	304	297	289	290	294	293	284	289	293	309	294	294	473
HVAC Shell	761	836	1,072	1,201	1,241	1,222	1,194	1,178	1,158	1,138	1,131	1,130	1,122	1,103	1,106	1,107	1,123	1,096	1,094	1,092
HVAC Equipment	2,532	2,734	3,336	3,687	3,818	3,800	3,756	3,738	3,707	3,677	3,689	3,702	3,763	3,723	3,754	3,764	3,815	3,756	3,984	3,962
Behavioral	10,098	11,120	14,147	15,918	16,653	16,875	16,742	16,831	16,760	16,700	16,671	16,650	16,607	16,566	16,565	16,578	16,579	16,593	16,615	16,641
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	161	180	231	321	342	360	372	377	377	377	377	377	377	377	434	440	459	470	475	475
ER Hot Water	228	255	328	376	605	630	697	740	759	759	759	759	759	968	993	1,060	1,103	1,122	1,122	1,122
ER HVAC Equipment	360	402	515	587	617	615	668	672	687	696	700	699	698	698	698	698	698	698	753	760
Total	54,392	57,090	60,138	65,343	66,438	58,453	58,189	54,270	55,617	55,696	55,669	55,566	57,542	57,662	57,913	58,052	60,091	59,671	60,423	60,493

MWh	Realistic Achievable Potential by End-Use - Cumulative Annual Energy Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	2,532	5,255	8,515	12,105	15,830	19,548	23,245	26,935	28,731	30,398	31,754	32,914	33,983	35,036	36,098	37,168	38,202	38,773	39,242	39,509
Clothes Washer/Dryer	2,224	4,735	8,091	11,943	15,986	20,010	23,978	27,926	31,838	35,712	39,589	43,485	46,574	49,399	50,725	51,603	52,145	52,444	52,671	52,899
Dishwasher	119	241	374	512	652	791	928	1,065	1,201	1,335	1,470	1,605	1,740	1,769	1,795	1,812	1,824	1,831	1,838	1,846
Electronics	8,376	17,266	27,614	38,840	46,888	54,311	58,218	61,267	63,727	65,578	67,338	69,033	70,659	72,197	73,769	75,371	77,078	78,685	80,293	81,902
Hot Water	4,418	9,319	15,642	22,724	29,978	37,011	43,783	50,076	56,114	61,048	65,711	70,008	74,042	76,950	79,609	81,550	83,152	84,444	85,702	86,945
Pool/Spa	1,506	3,018	4,567	6,129	7,689	9,245	10,789	12,327	13,858	15,380	15,503	15,616	15,697	15,746	15,792	15,843	15,912	15,964	16,016	16,068
Lighting	20,845	41,468	46,466	61,751	62,634	21,963	26,359	4,793	5,398	5,998	6,597	7,199	7,800	8,397	8,996	9,597	10,205	10,807	11,408	12,010
Ventilation	233	479	776	1,094	1,417	1,735	2,043	2,347	2,644	2,933	3,223	3,516	3,809	4,093	4,382	4,675	4,984	5,278	5,572	5,812
HVAC Shell	761	1,590	2,646	3,818	5,017	6,187	7,326	8,439	9,530	10,599	11,662	12,717	13,769	14,798	15,841	16,881	17,902	18,913	19,957	21,004
HVAC Equipment	2,532	5,264	8,597	12,277	16,085	19,872	23,611	27,328	31,011	34,660	38,232	41,806	44,278	46,690	49,064	51,435	53,840	56,181	57,639	58,925
Behavioral	10,098	11,120	14,147	15,918	16,653	16,875	16,742	16,831	16,760	16,700	16,671	16,650	16,607	16,566	16,565	16,578	16,579	16,593	16,615	16,641
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	161	340	571	732	894	1,024	1,131	1,230	1,328	1,426	1,524	1,622	1,720	1,818	1,916	2,014	2,113	2,211	2,309	2,407
ER Hot Water	228	483	811	1,187	1,564	1,939	2,308	2,672	3,036	3,399	3,762	4,125	4,488	4,851	5,214	5,577	5,940	6,303	6,666	7,029
ER HVAC Equipment	360	761	1,274	1,856	2,466	3,071	3,375	3,641	3,810	3,918	4,007	4,097	4,189	4,284	4,380	4,476	4,571	4,667	4,763	4,858
Total	54,392	101,342	140,092	190,886	223,753	213,582	243,836	246,878	268,986	289,083	307,043	324,391	339,355	352,593	364,145	374,580	384,448	393,093	400,690	407,856



**Appendix C.1**
**EVT Residential Achievable Potential - Savings and Costs**

MW	Realistic Achievable Potential by End-Use - Incremental Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5
Clothes Washer/Dryer	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Dishwasher	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Electronics	0.8	0.9	1.0	1.1	1.3	1.3	1.3	1.3	1.5	1.4	1.4	1.4	1.6	1.6	1.6	1.6	1.8	1.8	1.8	1.8
Hot Water	0.3	0.4	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6
Pool/Spa	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lighting	1.5	1.4	1.0	1.0	0.8	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventilation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
HVAC Shell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Equipment	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Behavioral	1.2	1.3	1.6	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
ER Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Clothes Washer/Dryer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Hot Water	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ER HVAC Equipment	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>Total</b>	<b>5.9</b>	<b>6.1</b>	<b>6.6</b>	<b>7.1</b>	<b>7.3</b>	<b>6.8</b>	<b>6.8</b>	<b>6.5</b>	<b>6.6</b>	<b>6.6</b>	<b>6.7</b>	<b>6.7</b>	<b>6.9</b>	<b>6.9</b>	<b>6.9</b>	<b>6.9</b>	<b>7.2</b>	<b>7.1</b>	<b>7.1</b>	<b>7.2</b>

MW	Realistic Achievable Potential by End-Use - Cumulative Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.3	0.6	1.0	1.4	1.9	2.3	2.7	3.2	3.4	3.6	3.7	3.9	4.0	4.1	4.3	4.4	4.5	4.6	4.6	4.7
Clothes Washer/Dryer	0.3	0.5	0.9	1.4	1.8	2.3	2.7	3.2	3.7	4.1	4.5	5.0	5.4	5.7	5.9	6.0	6.0	6.1	6.1	6.1
Dishwasher	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4
Electronics	0.8	1.7	2.6	3.7	4.5	5.2	5.6	5.9	6.1	6.3	6.5	6.7	6.9	7.0	7.2	7.3	7.5	7.7	7.8	8.0
Hot Water	0.3	0.7	1.1	1.7	2.2	2.7	3.2	3.7	4.1	4.4	4.7	5.0	5.3	5.5	5.7	5.8	5.8	5.9	5.9	6.0
Pool/Spa	1.0	1.9	2.9	3.9	4.9	5.9	6.9	7.9	8.8	9.8	9.9	10.0	10.0	10.0	10.1	10.1	10.1	10.2	10.2	10.2
Lighting	1.5	2.9	2.9	3.9	3.9	1.6	1.9	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.9	0.9	1.0	1.1
Ventilation	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.7
HVAC Shell	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
HVAC Equipment	0.4	0.8	1.3	1.8	2.3	2.8	3.4	3.9	4.3	4.8	5.3	5.8	6.0	6.2	6.4	6.5	6.6	6.7	6.7	6.8
Behavioral	1.2	1.3	1.6	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
ER Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Clothes Washer/Dryer	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
ER Hot Water	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6
ER HVAC Equipment	0.0	0.1	0.2	0.2	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
<b>Total</b>	<b>5.9</b>	<b>10.9</b>	<b>15.1</b>	<b>20.6</b>	<b>24.7</b>	<b>26.3</b>	<b>30.1</b>	<b>31.9</b>	<b>35.0</b>	<b>37.9</b>	<b>39.8</b>	<b>41.6</b>	<b>43.1</b>	<b>44.2</b>	<b>45.2</b>	<b>46.0</b>	<b>46.8</b>	<b>47.3</b>	<b>47.9</b>	<b>48.3</b>

Appendix C.1

EVT Residential Achievable Potential - Savings and Costs

MW	Realistic Achievable Potential by End-Use - Incremental Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
Clothes Washer/Dryer	0.3	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.6	0.6
Dishwasher	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Electronics	0.8	0.8	0.9	1.0	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.6	1.5	1.6	1.6
Hot Water	0.6	0.7	0.9	1.1	1.1	1.1	1.1	1.0	1.0	1.1	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Pool/Spa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lighting	5.2	5.1	3.5	3.5	2.8	1.1	1.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Ventilation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
HVAC Shell	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
HVAC Equipment	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Behavioral	1.2	1.3	1.6	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
ER Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Clothes Washer/Dryer	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ER Hot Water	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2
ER HVAC Equipment	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total	8.8	9.1	8.4	9.0	8.7	7.0	7.0	6.1	6.2	6.2	6.1	6.1	6.3	6.4	6.4	6.4	6.6	6.6	6.6	6.6

MW	Realistic Achievable Potential by End-Use - Cumulative Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.2	0.5	0.8	1.1	1.5	1.8	2.2	2.5	2.7	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.6	3.7	3.7
Clothes Washer/Dryer	0.3	0.7	1.2	1.8	2.4	3.1	3.7	4.3	4.9	5.5	6.1	6.7	7.2	7.6	7.8	8.0	8.1	8.1	8.1	8.2
Dishwasher	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.7	2.7	2.7	2.7	2.8	2.8	2.8
Electronics	0.8	1.5	2.5	3.5	4.2	4.9	5.3	5.5	5.8	5.9	6.1	6.2	6.4	6.5	6.6	6.8	6.9	7.0	7.2	7.3
Hot Water	0.6	1.3	2.2	3.3	4.3	5.4	6.3	7.2	8.0	8.7	9.3	9.9	10.4	10.8	11.1	11.3	11.5	11.6	11.6	11.7
Pool/Spa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lighting	5.2	10.3	10.2	13.7	13.7	5.6	6.7	1.4	1.6	1.8	2.0	2.2	2.4	2.5	2.7	2.9	3.1	3.3	3.5	3.7
Ventilation	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.7
HVAC Shell	0.1	0.2	0.4	0.6	0.7	0.9	1.1	1.2	1.4	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	3.0
HVAC Equipment	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9
Behavioral	1.2	1.3	1.6	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
ER Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Clothes Washer/Dryer	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3
ER Hot Water	0.0	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.7	0.8	0.8	0.9	0.9	1.0	1.1	1.1
ER HVAC Equipment	0.1	0.1	0.2	0.3	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Total	8.8	16.7	20.2	27.6	31.1	26.4	30.4	27.9	30.5	32.8	35.0	37.2	39.2	40.8	42.2	43.3	44.3	45.2	46.1	46.9

**Appendix C.1****EVT Residential Achievable Potential - Savings and Costs**

MMBtu	Realistic Achievable Potential by End-Use - Incremental Annual Natural Gas Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	-603	-794	-1,286	-1,624	-1,780	-1,786	-1,803	-1,809	-1,821	-1,832	-1,832	-1,825	-1,764	-1,781	-1,692	-1,696	-1,672	-1,705	-1,720	-1,726
Dishwasher	40	41	45	47	48	47	47	47	46	46	46	46	46	49	50	50	50	49	49	49
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	-1,162	-1,353	-1,866	-2,202	-2,349	-2,349	-2,349	-2,349	-2,349	-2,349	-2,349	-2,349	-2,349	-2,349	-2,349	-2,468	-2,468	-2,468	-2,468	-2,468
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Behavioral	26,008	30,408	40,510	47,289	51,005	53,055	53,829	55,199	55,936	56,613	57,332	58,037	58,621	59,139	59,786	60,467	61,134	61,773	62,425	63,074
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	518	579	745	916	971	991	1,005	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,074	1,081	1,101	1,115	1,120	1,120
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	24,801	28,882	38,147	44,426	47,895	49,958	50,729	52,098	52,823	53,489	54,208	54,919	55,565	56,069	56,869	57,435	58,146	58,764	59,407	60,050

\*Note: This data corresponds to MMBtu savings associated with electric measures installed by EVT

MMBtu	Realistic Achievable Potential by End-Use - Cumulative Annual Natural Gas Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	-603	-1,397	-2,683	-4,306	-6,086	-7,872	-9,675	-11,485	-13,305	-15,137	-16,969	-18,794	-20,767	-22,794	-24,025	-25,095	-25,566	-25,668	-25,598	-25,527
Dishwasher	40	81	126	172	220	267	314	361	407	453	499	546	592	602	610	616	619	621	623	625
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	-1,162	-2,514	-4,381	-6,583	-8,932	-11,280	-13,629	-15,978	-18,327	-20,676	-23,025	-25,373	-27,722	-30,071	-32,420	-33,726	-34,841	-35,443	-35,708	-35,827
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Behavioral	26,008	30,408	40,510	47,289	51,005	53,055	53,829	55,199	55,936	56,613	57,332	58,037	58,621	59,139	59,786	60,467	61,134	61,773	62,425	63,074
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	518	1,097	1,842	2,241	2,632	2,879	3,030	3,140	3,251	3,361	3,471	3,581	3,691	3,801	3,912	4,022	4,132	4,242	4,352	4,462
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	24,801	27,675	35,414	38,812	38,839	37,048	33,869	31,238	27,962	24,614	21,308	17,996	14,415	10,677	7,864	6,284	5,478	5,526	6,094	6,807

\*Note: This data corresponds to MMBtu savings associated with electric measures installed by EVT



Appendix C.1

EVT Residential Achievable Potential - Savings and Costs

\$ Realistic Achievable Potential by End-Use - Annual Incentive Costs																				
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$765,860	\$851,226	\$1,089,723	\$1,225,739	\$1,275,736	\$1,268,688	\$1,248,537	\$1,241,507	\$1,228,224	\$1,214,764	\$1,215,457	\$1,222,805	\$1,221,004	\$1,204,729	\$1,213,798	\$1,221,874	\$1,265,556	\$1,375,169	\$1,378,237	\$1,387,510
Clothes Washer/Dryer	\$7,872,262	\$1,756,291	\$2,392,881	\$2,762,605	\$2,902,193	\$2,885,762	\$2,838,791	\$2,822,405	\$2,791,443	\$2,760,067	\$2,761,684	\$2,778,811	\$3,098,518	\$3,040,590	\$3,143,978	\$3,126,987	\$3,166,528	\$3,084,373	\$3,039,792	\$3,024,031
Dishwasher	\$702,301	\$161,413	\$174,484	\$181,322	\$183,495	\$182,889	\$181,156	\$180,551	\$179,409	\$178,251	\$178,310	\$178,942	\$178,788	\$191,516	\$191,397	\$193,087	\$194,152	\$190,533	\$189,950	\$188,240
Electronics	\$4,683,349	\$1,035,922	\$1,169,101	\$1,251,364	\$1,658,629	\$1,658,349	\$1,667,042	\$1,663,407	\$2,032,902	\$2,034,196	\$2,033,883	\$2,032,931	\$2,413,276	\$2,404,509	\$2,405,035	\$2,404,204	\$2,779,649	\$2,768,222	\$2,785,211	\$2,781,610
Hot Water	\$7,065,040	\$1,486,289	\$1,987,594	\$2,286,390	\$2,403,340	\$2,393,131	\$2,363,945	\$2,356,640	\$2,337,210	\$2,414,623	\$2,414,072	\$2,426,068	\$2,421,139	\$2,536,392	\$2,543,955	\$2,585,381	\$2,611,362	\$2,557,079	\$2,646,017	\$2,627,519
Pool/Spa	\$533,708	\$330,580	\$336,475	\$337,675	\$336,922	\$335,976	\$333,270	\$332,326	\$330,542	\$328,734	\$351,454	\$350,468	\$351,779	\$347,486	\$346,663	\$346,801	\$347,866	\$343,313	\$341,565	\$339,794
Lighting	\$21,134,551	\$4,029,065	\$2,837,786	\$2,798,753	\$2,257,756	\$1,374,805	\$1,347,229	\$993,591	\$989,637	\$985,641	\$989,423	\$991,697	\$991,257	\$986,273	\$988,403	\$994,266	\$1,002,463	\$994,962	\$994,384	\$994,177
Ventilation	\$370,016	\$241,241	\$303,884	\$331,216	\$336,632	\$331,784	\$317,922	\$313,087	\$303,950	\$294,691	\$295,168	\$300,222	\$298,983	\$287,788	\$294,026	\$299,582	\$318,898	\$300,409	\$300,594	\$456,457
HVAC Shell	\$5,188,222	\$1,898,696	\$2,453,641	\$2,789,274	\$2,923,211	\$2,913,647	\$2,886,306	\$2,876,769	\$2,858,747	\$2,840,483	\$2,841,424	\$2,851,394	\$2,848,950	\$2,826,868	\$2,839,172	\$2,850,131	\$2,888,231	\$2,851,762	\$2,852,128	\$2,852,496
HVAC Equipment	\$3,605,831	\$1,657,882	\$2,155,059	\$2,464,661	\$2,592,843	\$2,587,455	\$2,572,053	\$2,566,680	\$2,556,528	\$2,546,239	\$2,551,060	\$2,556,302	\$2,574,464	\$2,560,371	\$2,582,389	\$2,586,942	\$2,607,206	\$2,584,177	\$2,651,426	\$2,645,660
Behavioral	\$1,674,495	\$799,569	\$1,035,100	\$1,192,775	\$1,266,044	\$1,272,846	\$1,278,572	\$1,283,924	\$1,288,566	\$1,292,490	\$1,296,451	\$1,300,804	\$1,305,060	\$1,308,448	\$1,312,321	\$1,316,624	\$1,322,426	\$1,326,794	\$1,331,176	\$1,335,572
ER Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Clothes Washer/Dryer	\$777,592	\$29,193	\$37,526	\$42,968	\$45,349	\$45,349	\$45,349	\$45,349	\$45,349	\$45,349	\$45,349	\$45,349	\$45,349	\$45,349	\$45,349	\$71,447	\$74,542	\$82,875	\$88,317	\$90,698
ER Hot Water	\$434,346	\$85,000	\$109,262	\$125,106	\$132,038	\$132,038	\$132,038	\$132,038	\$132,038	\$132,038	\$132,038	\$132,038	\$132,038	\$132,038	\$208,026	\$217,038	\$241,300	\$257,144	\$264,076	\$264,076
ER HVAC Equipment	\$678,896	\$48,779	\$62,702	\$71,795	\$75,773	\$75,773	\$75,773	\$75,773	\$75,773	\$75,773	\$75,773	\$75,773	\$75,773	\$75,773	\$75,773	\$75,773	\$75,773	\$75,773	\$87,262	\$88,624
Total	\$55,486,469	\$14,411,144	\$16,145,218	\$17,861,642	\$18,389,962	\$17,458,491	\$17,287,982	\$16,884,047	\$17,150,318	\$17,143,339	\$17,181,547	\$17,243,605	\$17,956,377	\$18,024,118	\$18,225,394	\$18,317,494	\$18,920,130	\$18,804,958	\$18,952,516	\$19,076,465

\$ Realistic Achievable Potential by End-Use - Annual Admin Costs																				
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$661,770	\$678,507	\$725,138	\$754,053	\$765,961	\$765,412	\$763,841	\$763,293	\$762,258	\$761,209	\$761,263	\$761,835	\$761,695	\$760,426	\$761,133	\$761,763	\$765,197	\$774,286	\$773,953	\$774,671
Clothes Washer/Dryer	\$221,223	\$253,036	\$346,160	\$401,130	\$422,362	\$420,274	\$414,306	\$412,223	\$408,289	\$404,302	\$404,507	\$406,684	\$446,377	\$439,074	\$452,921	\$450,951	\$456,127	\$445,639	\$440,002	\$437,999
Dishwasher	\$11,406	\$11,700	\$12,649	\$13,146	\$13,305	\$13,261	\$13,137	\$13,093	\$13,011	\$12,927	\$12,932	\$12,977	\$12,966	\$13,881	\$13,874	\$13,996	\$14,073	\$13,812	\$13,770	\$13,647
Electronics	\$614,612	\$653,279	\$762,919	\$828,940	\$979,692	\$977,070	\$982,104	\$976,551	\$1,094,702	\$1,089,951	\$1,088,074	\$1,085,107	\$1,210,227	\$1,198,928	\$1,199,506	\$1,197,380	\$1,322,581	\$1,305,754	\$1,315,581	\$1,312,364
Hot Water	\$688,200	\$736,108	\$873,260	\$955,780	\$988,486	\$985,968	\$978,772	\$978,349	\$973,467	\$1,302,355	\$1,301,632	\$1,305,136	\$1,302,947	\$1,326,277	\$1,329,278	\$1,356,073	\$1,362,443	\$1,348,535	\$1,679,493	\$1,674,941
Pool/Spa	\$105,402	\$105,842	\$108,462	\$109,296	\$109,239	\$108,927	\$108,032	\$107,720	\$107,131	\$106,533	\$114,043	\$113,717	\$114,150	\$112,731	\$112,459	\$112,505	\$112,857	\$111,352	\$110,774	\$110,189
Lighting	\$1,690,619	\$1,672,554	\$1,197,419	\$1,202,812	\$1,002,903	\$317,757	\$317,535	\$50,977	\$50,496	\$50,014	\$51,581	\$51,899	\$51,892	\$51,217	\$51,204	\$52,969	\$53,891	\$53,216	\$52,830	\$52,667
Ventilation	\$64,871	\$66,125	\$70,508	\$72,420	\$72,799	\$72,460	\$71,490	\$71,152	\$70,513	\$69,865	\$69,898	\$70,252	\$70,165	\$69,382	\$69,818	\$70,207	\$71,558	\$70,265	\$70,278	\$130,429
HVAC Shell	\$226,507	\$239,249	\$321,827	\$346,294	\$342,804	\$332,282	\$302,203	\$291,711	\$271,884	\$251,791	\$252,826	\$263,795	\$261,106	\$236,813	\$250,349	\$262,405	\$304,320	\$264,199	\$264,603	\$265,007
HVAC Equipment	\$735,139	\$775,135	\$1,004,703	\$1,071,458	\$1,060,594	\$1,030,893	\$945,986	\$916,367	\$860,399	\$803,681	\$828,918	\$857,933	\$993,097	\$911,694	\$974,755	\$994,854	\$1,098,924	\$976,986	\$1,452,880	\$1,406,079
Behavioral	\$240,910	\$271,406	\$351,537	\$405,273	\$430,345	\$432,823	\$434,910	\$436,859	\$438,551	\$439,981	\$441,424	\$443,010	\$444,561	\$445,795	\$447,206	\$448,774	\$450,888	\$452,480	\$454,076	\$455,678
ER Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Clothes Washer/Dryer	\$11,248	\$12,582	\$16,173	\$18,519	\$19,545	\$19,545	\$19,545	\$19,545	\$19,545	\$19,545	\$19,545	\$19,545	\$19,545	\$19,545	\$19,545	\$23,497	\$23,966	\$25,228	\$26,052	\$26,413
ER Hot Water	\$18,031	\$20,169	\$25,926	\$29,685	\$31,330	\$31,330	\$31,330	\$31,330	\$31,330	\$31,330	\$31,330	\$31,330	\$31,330	\$31,330	\$47,844	\$49,802	\$55,075	\$58,518	\$60,025	\$60,025
ER HVAC Equipment	\$47,017	\$52,593	\$67,604	\$77,408	\$81,697	\$81,697	\$81,697	\$81,697	\$81,697	\$81,697	\$81,697	\$81,697	\$81,697	\$81,697	\$81,697	\$81,697	\$81,697	\$81,697	\$89,386	\$90,298
Total	\$5,336,954	\$5,548,284	\$5,884,285	\$6,286,215	\$6,321,063	\$5,589,700	\$5,464,887	\$5,150,868	\$5,183,271	\$5,425,180	\$5,459,670	\$5,504,917	\$5,801,756	\$5,715,304	\$5,817,501	\$5,882,614	\$6,178,303	\$5,984,296	\$6,804,063	\$6,810,406

Appendix C.2

EVT Non-residential Achievable Potential - Savings and Costs

MWh	Maximum Achievable Potential by End-Use - Incremental Annual Energy Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	1,129	1,127	1,127	1,124	1,122	1,159	1,153	1,152	1,147	1,141	50	48	46	40	38	41	50	48	44	46
Cooking	325	325	325	324	323	8	7	6	6	5	5	6	331	329	330	329	330	15	14	13
Cooling Chillers	235	234	233	231	230	57	64	55	54	50	5	28	29	28	28	158	136	134	134	134
Cooling Dx Evap	430	429	428	427	421	79	80	77	76	74	161	194	198	197	196	77	44	38	59	54
Cooling Dx Evap - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flat Screen Monitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Freezers	35	34	33	33	32	2	3	1	31	31	30	30	35	4	3	3	2	2	4	1
Lighting Exterior	9,443	9,434	9,434	9,424	9,412	125	109	102	4,339	4,327	4,341	5,090	5,088	825	830	825	134	127	124	176
Lighting Interior Fluorescent	9,260	10,010	9,264	8,701	8,302	6,490	12,420	6,203	6,082	3,866	4,306	4,049	3,771	3,380	3,146	9,647	8,712	7,908	9,206	8,683
Lighting Interior Fluorescent - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior HID	2,757	3,068	2,837	2,665	2,548	2,344	4,500	2,509	2,480	1,466	1,198	1,112	1,017	871	787	3,414	3,097	2,820	3,380	3,214
Lighting Interior Other	1,414	1,369	1,374	1,330	1,282	512	729	452	404	347	345	374	365	302	328	1,025	1,848	1,831	1,789	1,742
Lighting Interior Screw Base - Standard	1,791	1,122	26	26	26	0	0	0	26	26	26	26	1,791	1,096	0	0	0	0	0	0
Lighting Interior Screw Base - Standard - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Plug Load	458	457	457	456	455	11	10	9	8	7	321	321	465	463	463	159	160	19	18	17
Photo Copiers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Printers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Refrigeration	10,806	10,797	10,797	10,786	10,774	514	497	2,597	4,239	4,585	4,610	4,611	2,572	906	558	5,904	6,064	6,047	6,042	6,039
Refrigerators	295	292	283	277	271	31	57	24	256	245	241	239	297	58	50	43	38	33	59	26
Room Cool	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Cool - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Heat - Electric	89	88	88	88	87	1	1	1	1	1	5	5	5	5	7	4	3	3	3	1
Servers	191	190	190	190	208	177	176	176	175	156	9	9	9	8	8	22	23	23	23	23
Space Heat - Electric	659	658	658	658	657	325	324	324	323	323	11	50	50	49	51	119	81	81	128	127
Vending Machines	198	198	197	197	196	203	202	202	201	200	9	9	8	7	7	7	9	9	8	8
Ventilation And Circulation	6,485	6,483	6,483	6,481	6,478	151	147	146	143	144	22	24	24	51	49	6,088	6,385	6,383	6,351	6,348
Water Heat GT 55 Gal	223	220	215	211	271	84	99	169	167	119	153	150	56	55	34	30	45	27	21	13
Water Heat LE 55 Gal	1,151	1,149	1,143	1,136	1,411	320	345	636	630	660	712	710	380	507	210	200	227	195	59	30
Heat Pump	27	26	26	26	26	2	2	2	2	2	1	6	7	7	7	11	6	5	6	5
Dryer	0	1	0	0	0	0	1	0	0	0	0	0	1	1	1	1	0	0	1	0
Compressed Air	120	120	120	120	119	7	7	7	7	6	103	103	103	102	102	19	19	19	18	18
Package Terminal AC	2	2	2	2	2	1	2	1	1	1	1	0	0	0	0	3	2	2	2	2
Pool Pump	159	161	150	140	133	73	132	65	60	38	188	187	172	160	150	88	137	70	76	52
Fans	523	523	523	523	523	0	0	0	0	0	523	523	523	523	523	0	0	0	0	0
HVAC	10,389	10,389	10,389	10,389	10,389	605	605	605	605	605	1,250	1,764	1,764	1,764	1,886	6,386	5,873	5,873	5,873	5,751
Indirect Boiler	624	624	624	624	624	0	0	0	0	0	392	392	392	392	392	0	0	0	0	0
Lighting	5,272	5,272	5,272	6,777	6,777	1,643	1,643	1,643	265	265	127	127	127	0	0	3,078	3,078	3,078	3,078	3,078
Motors Other	481	481	481	481	481	0	481	481	481	481	481	0	0	0	0	0	0	0	0	0
Process AirComp	2,083	2,083	2,083	2,083	2,083	0	0	0	0	0	2,083	2,083	2,083	2,083	2,083	0	0	0	0	0
Process Electro Chemical	55	55	55	55	55	0	0	0	0	0	55	55	55	55	55	0	0	0	0	0
Process Heat	2,388	2,388	2,388	2,388	2,388	0	0	0	0	0	1,245	1,245	1,245	1,245	2,388	1,142	1,142	1,142	1,142	0
Process Other	577	577	577	577	577	0	0	0	0	0	577	577	577	577	577	0	0	0	0	0
Process Refrig and Cooling	3,446	3,446	3,446	3,446	3,446	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pumps	239	239	239	239	239	0	0	0	0	0	0	0	0	0	0	239	239	239	239	239
Total	73,756	74,071	71,969	72,634	72,369	14,925	23,797	17,643	22,208	19,170	23,587	24,148	23,587	16,092	15,284	39,062	37,885	36,174	37,903	35,841

Appendix C.2

EVT Non-residential Achievable Potential - Savings and Costs

MWh	Maximum Achievable Potential by End-Use - Cumulative Annual Energy Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	1,129	2,256	3,383	4,507	5,629	5,659	5,686	5,711	5,733	5,752	5,771	5,793	5,814	5,832	5,851	5,872	5,900	5,928	5,954	5,981
Cooking	325	650	974	1,298	1,622	1,629	1,636	1,642	1,648	1,653	1,658	1,664	1,669	1,674	1,679	1,684	1,691	1,698	1,705	1,712
Cooling Chillers	235	469	702	933	1,163	1,175	1,195	1,205	1,214	1,219	1,223	1,227	1,231	1,233	1,235	1,238	1,241	1,244	1,247	1,250
Cooling Dx Evap	430	859	1,287	1,713	2,134	2,142	2,152	2,159	2,165	2,170	2,175	2,180	2,185	2,190	2,194	2,199	2,206	2,213	2,220	2,226
Cooling Dx Evap - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flat Screen Monitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Freezers	35	69	102	135	167	169	173	174	175	176	176	176	176	176	176	176	176	177	177	177
Lighting Exterior	9,443	18,877	28,312	37,736	47,148	47,272	47,381	47,483	47,574	47,653	47,733	47,821	47,908	47,981	48,059	48,147	48,263	48,374	48,483	48,593
Lighting Interior Fluorescent	9,260	19,270	28,533	37,234	45,537	52,027	64,447	70,650	76,550	80,234	83,151	85,810	88,191	90,362	92,300	94,077	94,168	94,202	96,097	97,867
Lighting Interior Fluorescent - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior HID	2,757	5,825	8,661	11,326	13,875	16,218	20,718	23,227	25,633	27,024	28,147	29,185	30,127	30,998	31,785	32,517	32,620	32,678	33,468	34,207
Lighting Interior Other	1,414	2,783	4,157	5,487	6,769	7,281	8,010	8,462	8,866	9,212	9,556	9,929	10,294	10,596	10,923	11,290	11,768	12,227	12,686	13,146
Lighting Interior Screw Base - Standard	1,791	2,914	2,940	2,966	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992
Lighting Interior Screw Base - Standard - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Plug Load	458	915	1,373	1,829	2,285	2,296	2,305	2,314	2,322	2,329	2,336	2,344	2,352	2,358	2,365	2,373	2,383	2,393	2,402	2,412
Photo Copiers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Printers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Refrigeration	10,806	21,603	32,401	43,187	53,961	54,090	54,203	54,309	54,404	54,486	54,569	54,660	54,751	54,826	54,908	54,999	55,120	55,235	55,349	55,462
Refrigerators	295	587	870	1,147	1,418	1,448	1,505	1,528	1,549	1,558	1,563	1,567	1,569	1,571	1,572	1,574	1,577	1,580	1,582	1,585
Room Cool	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Cool - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Heat - Electric	89	176	264	351	439	440	442	443	444	445	446	447	448	449	449	450	452	453	454	456
Servers	191	381	571	761	951	955	959	963	966	969	972	976	979	981	984	988	992	996	1,000	1,004
Space Heat - Electric	659	1,317	1,975	2,633	3,290	3,294	3,298	3,302	3,305	3,308	3,310	3,313	3,316	3,319	3,321	3,324	3,328	3,332	3,336	3,340
Vending Machines	198	396	593	790	986	991	996	1,000	1,004	1,008	1,011	1,015	1,019	1,022	1,025	1,029	1,034	1,039	1,044	1,048
Ventilation And Circulation	6,485	12,969	19,452	25,933	32,411	32,440	32,465	32,489	32,510	32,528	32,547	32,568	32,588	32,605	32,623	32,644	32,671	32,696	32,722	32,747
Water Heat GT 55 Gal	223	443	658	869	1,077	1,098	1,134	1,150	1,165	1,174	1,180	1,185	1,189	1,192	1,194	1,196	1,199	1,202	1,204	1,207
Water Heat LE 55 Gal	1,151	2,299	3,442	4,578	5,708	5,747	5,811	5,844	5,874	5,892	5,906	5,920	5,932	5,941	5,950	5,959	5,969	5,979	5,990	6,000
Heat Pump	27	53	79	106	131	132	133	134	135	135	135	136	136	137	137	138	138	139	139	140
Dryer	0	1	1	2	2	3	3	4	4	4	5	5	5	5	5	5	5	5	5	6
Compressed Air	120	240	359	479	598	601	603	606	608	609	611	613	615	617	618	620	623	625	628	630
Package Terminal AC	2	4	6	8	10	11	14	15	16	17	17	18	18	19	19	19	19	19	20	20
Pool Pump	159	319	469	610	743	816	948	1,013	1,073	1,111	1,140	1,167	1,189	1,208	1,225	1,240	1,245	1,250	1,266	1,281
Fans	523	1,047	1,570	2,093	2,617	2,617	2,617	2,617	2,617	2,617	2,617	2,617	2,617	2,617	2,617	2,617	2,617	2,617	2,617	2,617
HVAC	10,389	20,778	31,167	41,555	51,944	51,944	51,944	51,944	51,944	51,944	51,944	51,944	51,944	51,944	51,944	51,944	51,944	51,944	51,944	51,944
Indirect Boiler	624	1,247	1,871	2,494	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118
Lighting	5,272	10,544	15,816	21,089	26,361	26,361	26,361	26,361	26,361	26,361	26,361	26,361	26,361	26,361	26,361	26,361	26,361	26,361	26,361	26,361
Motors Other	481	961	1,442	1,922	2,403	2,403	2,403	2,403	2,403	2,403	2,403	2,403	2,403	2,403	2,403	2,403	2,403	2,403	2,403	2,403
Process AirComp	2,083	4,166	6,250	8,333	10,416	10,416	10,416	10,416	10,416	10,416	10,416	10,416	10,416	10,416	10,416	10,416	10,416	10,416	10,416	10,416
Process Electro Chemical	55	110	165	220	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275
Process Heat	2,388	4,775	7,163	9,551	11,938	11,938	11,938	11,938	11,938	11,938	11,938	11,938	11,938	11,938	11,938	11,938	11,938	11,938	11,938	11,938
Process Other	577	1,153	1,730	2,307	2,884	2,884	2,884	2,884	2,884	2,884	2,884	2,884	2,884	2,884	2,884	2,884	2,884	2,884	2,884	2,884
Process Refrig and Cooling	3,446	6,893	10,339	13,785	17,232	17,232	17,232	17,232	17,232	17,232	17,232	17,232	17,232	17,232	17,232	17,232	17,232	17,232	17,232	17,232
Pumps	239	478	717	956	1,195	1,195	1,195	1,195	1,195	1,195	1,195	1,195	1,195	1,195	1,195	1,195	1,195	1,195	1,195	1,195
Total	73,756	147,827	219,795	290,924	361,425	371,310	389,590	399,200	408,309	414,039	418,713	423,089	427,074	430,664	433,975	437,134	438,165	439,059	442,553	445,872



Appendix C.2

EVT Non-residential Achievable Potential - Savings and Costs

MW	Maximum Achievable Potential by End-Use - Incremental Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	0.164	0.163	0.163	0.163	0.162	0.168	0.167	0.167	0.166	0.165	0.007	0.007	0.007	0.006	0.006	0.006	0.007	0.007	0.006	0.007
Cooking	0.037	0.037	0.037	0.037	0.037	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.038	0.038	0.038	0.038	0.038	0.002	0.002	0.002
Cooling Chillers	0.080	0.080	0.080	0.079	0.079	0.019	0.022	0.019	0.018	0.017	0.002	0.010	0.010	0.010	0.010	0.054	0.047	0.046	0.046	0.046
Cooling Dx Evap	0.147	0.147	0.147	0.146	0.144	0.027	0.027	0.026	0.026	0.025	0.055	0.066	0.068	0.067	0.067	0.026	0.015	0.013	0.020	0.019
Cooling Dx Evap - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Fax	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Flat Screen Monitors	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Freezers	0.004	0.004	0.004	0.004	0.004	0.000	0.000	0.000	0.004	0.003	0.003	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting Exterior	0.105	0.105	0.105	0.104	0.104	0.001	0.001	0.001	0.048	0.048	0.048	0.056	0.056	0.009	0.009	0.009	0.001	0.001	0.001	0.002
Lighting Interior Fluorescent	1.796	1.942	1.797	1.688	1.611	1.259	2.410	1.203	1.180	0.750	0.835	0.785	0.732	0.656	0.610	1.871	1.690	1.534	1.786	1.684
Lighting Interior Fluorescent - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting Interior HID	0.535	0.595	0.550	0.517	0.494	0.455	0.873	0.487	0.481	0.284	0.232	0.216	0.197	0.169	0.153	0.662	0.601	0.547	0.656	0.623
Lighting Interior Other	0.274	0.266	0.267	0.258	0.249	0.099	0.141	0.088	0.078	0.067	0.067	0.072	0.071	0.059	0.064	0.199	0.358	0.355	0.347	0.338
Lighting Interior Screw Base - Standard	0.348	0.218	0.005	0.005	0.005	0.000	0.000	0.000	0.005	0.005	0.005	0.005	0.348	0.213	0.000	0.000	0.000	0.000	0.000	0.000
Lighting Interior Screw Base - Standard - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Plug Load	0.066	0.066	0.066	0.066	0.066	0.002	0.001	0.001	0.001	0.001	0.047	0.047	0.067	0.067	0.067	0.023	0.023	0.003	0.003	0.003
Photo Copiers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Printers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Refrigeration	1.424	1.423	1.423	1.421	1.419	0.068	0.065	0.342	0.558	0.604	0.607	0.608	0.339	0.119	0.073	0.778	0.799	0.797	0.796	0.796
Refrigerators	0.034	0.033	0.032	0.032	0.031	0.003	0.006	0.003	0.029	0.028	0.027	0.027	0.034	0.007	0.006	0.005	0.004	0.004	0.007	0.003
Room Cool	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Cool - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Heat - Electric	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Servers	0.028	0.028	0.028	0.028	0.030	0.026	0.025	0.025	0.025	0.023	0.001	0.001	0.001	0.001	0.001	0.003	0.003	0.003	0.003	0.003
Space Heat - Electric	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Vending Machines	0.023	0.023	0.023	0.022	0.022	0.023	0.023	0.023	0.023	0.023	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Ventilation And Circulation	0.741	0.741	0.741	0.741	0.740	0.017	0.017	0.017	0.016	0.016	0.003	0.003	0.003	0.006	0.006	0.696	0.730	0.730	0.726	0.726
Water Heat GT 55 Gal	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Water Heat LE 55 Gal	0.002	0.002	0.002	0.002	0.003	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Heat Pump	0.009	0.009	0.009	0.009	0.008	0.001	0.001	0.001	0.001	0.001	0.000	0.002	0.002	0.002	0.002	0.004	0.002	0.002	0.002	0.002
Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Compressed Air	0.014	0.014	0.014	0.014	0.014	0.001	0.001	0.001	0.001	0.001	0.012	0.012	0.012	0.012	0.012	0.002	0.002	0.002	0.002	0.002
Package Terminal AC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool Pump	0.018	0.018	0.017	0.016	0.015	0.008	0.015	0.007	0.007	0.004	0.021	0.021	0.020	0.018	0.017	0.010	0.016	0.008	0.009	0.006
Fans	0.110	0.110	0.110	0.110	0.110	0.000	0.000	0.000	0.000	0.000	0.110	0.110	0.110	0.110	0.110	0.000	0.000	0.000	0.000	0.000
HVAC	3.553	3.553	3.553	3.553	3.553	0.207	0.207	0.207	0.207	0.207	0.428	0.603	0.603	0.603	0.645	2.184	2.008	2.008	2.008	1.967
Indirect Boiler	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000
Lighting	0.837	0.837	0.837	1.076	1.076	0.261	0.261	0.261	0.042	0.042	0.020	0.020	0.020	0.000	0.000	0.489	0.489	0.489	0.489	0.489
Motors Other	0.101	0.101	0.101	0.101	0.101	0.000	0.101	0.101	0.101	0.101	0.101	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Process AirComp	0.476	0.476	0.476	0.476	0.476	0.000	0.000	0.000	0.000	0.000	0.476	0.476	0.476	0.476	0.476	0.000	0.000	0.000	0.000	0.000
Process Electro Chemical	0.013	0.013	0.013	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.013	0.013	0.013	0.013	0.013	0.000	0.000	0.000	0.000	0.000
Process Heat	0.545	0.545	0.545	0.545	0.545	0.000	0.000	0.000	0.000	0.000	0.284	0.284	0.284	0.284	0.545	0.261	0.261	0.261	0.261	0.000
Process Other	0.132	0.132	0.132	0.132	0.132	0.000	0.000	0.000	0.000	0.000	0.132	0.132	0.132	0.132	0.132	0.000	0.000	0.000	0.000	0.000
Process Refrig and Cooling	0.787	0.787	0.787	0.787	0.787	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pumps	0.050	0.050	0.050	0.050	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.050	0.050	0.050	0.050	0.050
Total	12.456	12.521	12.116	12.199	12.085	2.648	4.369	2.983	3.022	2.420	3.543	3.585	3.649	3.079	3.063	7.372	7.147	6.864	7.222	6.768

Appendix C.2

EVT Non-residential Achievable Potential - Savings and Costs

MW	Maximum Achievable Potential by End-Use - Cumulative Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	0.164	0.327	0.490	0.653	0.815	0.820	0.824	0.827	0.830	0.833	0.836	0.839	0.842	0.845	0.847	0.851	0.855	0.859	0.862	0.866
Cooking	0.037	0.074	0.111	0.148	0.185	0.186	0.187	0.187	0.188	0.189	0.189	0.190	0.191	0.191	0.192	0.192	0.193	0.194	0.195	0.195
Cooling Chillers	0.080	0.160	0.240	0.319	0.398	0.402	0.409	0.412	0.415	0.417	0.418	0.420	0.421	0.422	0.422	0.423	0.424	0.425	0.427	0.428
Cooling Dx Evap	0.147	0.294	0.440	0.586	0.730	0.733	0.736	0.738	0.740	0.742	0.744	0.746	0.747	0.749	0.750	0.752	0.755	0.757	0.759	0.761
Cooling Dx Evap - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Fax	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Flat Screen Monitors	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Freezers	0.004	0.008	0.012	0.015	0.019	0.019	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020
Lighting Exterior	0.105	0.209	0.314	0.418	0.523	0.524	0.525	0.526	0.527	0.528	0.529	0.530	0.531	0.532	0.533	0.534	0.535	0.536	0.537	0.539
Lighting Interior Fluorescent	1.796	3.738	5.535	7.223	8.834	10.093	12.503	13.706	14.851	15.565	16.131	16.647	17.109	17.530	17.906	18.251	18.269	18.275	18.643	18.986
Lighting Interior Fluorescent - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting Interior HID	0.535	1.130	1.680	2.197	2.692	3.146	4.019	4.506	4.973	5.243	5.461	5.662	5.845	6.014	6.166	6.308	6.328	6.340	6.493	6.636
Lighting Interior Other	0.274	0.540	0.806	1.064	1.313	1.412	1.554	1.642	1.720	1.787	1.854	1.926	1.997	2.056	2.119	2.190	2.283	2.372	2.461	2.550
Lighting Interior Screw Base - Standard	0.348	0.565	0.570	0.575	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580
Lighting Interior Screw Base - Standard - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Plug Load	0.066	0.133	0.199	0.265	0.331	0.333	0.334	0.335	0.336	0.337	0.338	0.340	0.341	0.342	0.343	0.344	0.345	0.347	0.348	0.349
Photo Copiers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Printers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Refrigeration	1.424	2.846	4.269	5.690	7.109	7.126	7.141	7.155	7.168	7.179	7.190	7.202	7.214	7.223	7.234	7.246	7.262	7.277	7.292	7.307
Refrigerators	0.034	0.067	0.099	0.131	0.162	0.165	0.172	0.174	0.177	0.178	0.178	0.179	0.179	0.179	0.179	0.180	0.180	0.180	0.181	0.181
Room Cool	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Cool - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Heat - Electric	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Servers	0.028	0.055	0.083	0.110	0.138	0.138	0.139	0.140	0.140	0.140	0.141	0.141	0.142	0.142	0.143	0.143	0.144	0.144	0.145	0.145
Space Heat - Electric	0.001	0.003	0.004	0.006	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007
Vending Machines	0.023	0.045	0.068	0.090	0.113	0.113	0.114	0.114	0.115	0.115	0.115	0.116	0.116	0.117	0.117	0.117	0.118	0.119	0.119	0.120
Ventilation And Circulation	0.741	1.482	2.223	2.964	3.704	3.708	3.710	3.713	3.716	3.718	3.720	3.722	3.725	3.726	3.729	3.731	3.734	3.737	3.740	3.743
Water Heat GT 55 Gal	0.000	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Water Heat LE 55 Gal	0.002	0.005	0.007	0.010	0.012	0.012	0.012	0.012	0.012	0.012	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013
Heat Pump	0.009	0.018	0.026	0.035	0.043	0.044	0.044	0.044	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.046	0.046	0.046	0.046	0.046
Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Compressed Air	0.014	0.027	0.041	0.055	0.068	0.069	0.069	0.069	0.069	0.070	0.070	0.070	0.070	0.070	0.071	0.071	0.071	0.071	0.072	0.072
Package Terminal AC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool Pump	0.018	0.036	0.054	0.070	0.085	0.093	0.108	0.116	0.123	0.127	0.130	0.133	0.136	0.138	0.140	0.142	0.142	0.143	0.145	0.146
Fans	0.110	0.221	0.331	0.442	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552
HVAC	3.553	7.106	10.659	14.212	17.765	17.765	17.765	17.765	17.765	17.765	17.765	17.765	17.765	17.765	17.765	17.765	17.765	17.765	17.765	17.765
Indirect Boiler	0.001	0.003	0.004	0.005	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007
Lighting	0.837	1.674	2.511	3.348	4.185	4.185	4.185	4.185	4.185	4.185	4.185	4.185	4.185	4.185	4.185	4.185	4.185	4.185	4.185	4.185
Motors Other	0.101	0.203	0.304	0.406	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507
Process AirComp	0.476	0.951	1.427	1.903	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379
Process Electro Chemical	0.013	0.025	0.038	0.050	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063
Process Heat	0.545	1.091	1.636	2.181	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726
Process Other	0.132	0.263	0.395	0.527	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659
Process Refrig and Cooling	0.787	1.574	2.361	3.148	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935
Pumps	0.050	0.101	0.151	0.202	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252
Total	12.456	24.976	37.092	49.052	60.895	62.758	66.240	68.059	69.786	70.866	71.743	72.561	73.303	73.975	74.591	75.175	75.338	75.476	76.118	76.726

Appendix C.2

EVT Non-residential Achievable Potential - Savings and Costs

MW	Maximum Achievable Potential by End-Use - Incremental Annual Winter Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	0.102	0.102	0.102	0.102	0.102	0.105	0.104	0.104	0.104	0.103	0.005	0.004	0.004	0.004	0.003	0.004	0.004	0.004	0.004	0.004
Cooking	0.037	0.037	0.037	0.037	0.037	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.038	0.038	0.038	0.038	0.002	0.002	0.002
Cooling Chillers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cooling Dx Evap	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cooling Dx Evap - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Fax	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Flat Screen Monitors	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Freezers	0.004	0.004	0.004	0.004	0.004	0.000	0.000	0.000	0.004	0.003	0.003	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting Exterior	1.986	1.984	1.984	1.982	1.979	0.026	0.023	0.021	0.913	0.910	0.913	1.071	1.070	0.174	0.175	0.174	0.028	0.027	0.026	0.037
Lighting Interior Fluorescent	1.241	1.341	1.241	1.166	1.113	0.870	1.664	0.831	0.815	0.518	0.577	0.543	0.505	0.453	0.422	1.293	1.167	1.060	1.234	1.163
Lighting Interior Fluorescent - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting Interior HID	0.369	0.411	0.380	0.357	0.341	0.314	0.603	0.336	0.332	0.196	0.160	0.149	0.136	0.117	0.105	0.458	0.415	0.378	0.453	0.431
Lighting Interior Other	0.189	0.183	0.184	0.178	0.172	0.069	0.098	0.061	0.054	0.047	0.046	0.050	0.049	0.040	0.044	0.137	0.248	0.245	0.240	0.233
Lighting Interior Screw Base - Standard	0.240	0.150	0.003	0.003	0.003	0.000	0.000	0.000	0.003	0.003	0.003	0.003	0.240	0.147	0.000	0.000	0.000	0.000	0.000	0.000
Lighting Interior Screw Base - Standard - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Plug Load	0.041	0.041	0.041	0.041	0.041	0.001	0.001	0.001	0.001	0.001	0.029	0.029	0.042	0.042	0.042	0.014	0.014	0.002	0.002	0.002
Photo Copiers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Printers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Refrigeration	1.274	1.273	1.273	1.271	1.270	0.061	0.059	0.306	0.500	0.540	0.543	0.543	0.303	0.107	0.066	0.696	0.715	0.713	0.712	0.712
Refrigerators	0.034	0.033	0.032	0.032	0.031	0.003	0.006	0.003	0.029	0.028	0.027	0.027	0.034	0.007	0.006	0.005	0.004	0.004	0.007	0.003
Room Cool	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Cool - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Heat - Electric	0.036	0.035	0.035	0.035	0.035	0.001	0.001	0.000	0.000	0.000	0.002	0.002	0.002	0.002	0.003	0.001	0.001	0.001	0.001	0.001
Servers	0.017	0.017	0.017	0.017	0.019	0.016	0.016	0.016	0.016	0.014	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002
Space Heat - Electric	0.265	0.265	0.265	0.265	0.264	0.131	0.130	0.130	0.130	0.130	0.004	0.020	0.020	0.020	0.020	0.048	0.033	0.033	0.052	0.051
Vending Machines	0.023	0.023	0.023	0.022	0.022	0.023	0.023	0.023	0.023	0.023	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Ventilation And Circulation	0.800	0.800	0.800	0.799	0.799	0.019	0.018	0.018	0.018	0.018	0.003	0.003	0.003	0.006	0.006	0.751	0.788	0.787	0.783	0.783
Water Heat GT 55 Gal	0.090	0.089	0.087	0.085	0.109	0.034	0.040	0.068	0.067	0.048	0.062	0.060	0.022	0.022	0.014	0.012	0.018	0.011	0.008	0.005
Water Heat LE 55 Gal	0.463	0.462	0.460	0.457	0.568	0.129	0.139	0.256	0.254	0.266	0.287	0.285	0.153	0.204	0.084	0.080	0.091	0.079	0.024	0.012
Heat Pump	0.007	0.007	0.007	0.007	0.007	0.001	0.001	0.000	0.000	0.000	0.000	0.001	0.002	0.002	0.002	0.003	0.002	0.001	0.002	0.001
Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Compressed Air	0.014	0.014	0.014	0.014	0.014	0.001	0.001	0.001	0.001	0.001	0.012	0.012	0.012	0.012	0.012	0.002	0.002	0.002	0.002	0.002
Package Terminal AC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool Pump	0.018	0.018	0.017	0.016	0.015	0.008	0.015	0.007	0.007	0.004	0.021	0.021	0.020	0.018	0.017	0.010	0.016	0.008	0.009	0.006
Fans	0.110	0.110	0.110	0.110	0.110	0.000	0.000	0.000	0.000	0.000	0.110	0.110	0.110	0.110	0.110	0.000	0.000	0.000	0.000	0.000
HVAC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Indirect Boiler	0.251	0.251	0.251	0.251	0.251	0.000	0.000	0.000	0.000	0.000	0.158	0.158	0.158	0.158	0.158	0.000	0.000	0.000	0.000	0.000
Lighting	0.548	0.548	0.548	0.705	0.705	0.171	0.171	0.171	0.028	0.028	0.013	0.013	0.013	0.000	0.000	0.320	0.320	0.320	0.320	0.320
Motors Other	0.101	0.101	0.101	0.101	0.101	0.000	0.101	0.101	0.101	0.101	0.101	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Process AirComp	0.476	0.476	0.476	0.476	0.476	0.000	0.000	0.000	0.000	0.000	0.476	0.476	0.476	0.476	0.476	0.000	0.000	0.000	0.000	0.000
Process Electro Chemical	0.013	0.013	0.013	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.013	0.013	0.013	0.013	0.013	0.000	0.000	0.000	0.000	0.000
Process Heat	0.545	0.545	0.545	0.545	0.545	0.000	0.000	0.000	0.000	0.000	0.284	0.284	0.284	0.284	0.545	0.261	0.261	0.261	0.261	0.000
Process Other	0.132	0.132	0.132	0.132	0.132	0.000	0.000	0.000	0.000	0.000	0.132	0.132	0.132	0.132	0.132	0.000	0.000	0.000	0.000	0.000
Process Refrig and Cooling	0.787	0.787	0.787	0.787	0.787	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pumps	0.050	0.050	0.050	0.050	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.050	0.050	0.050	0.050	0.050
Total	10.263	10.303	10.019	10.060	10.115	1.982	3.215	2.457	3.400	2.984	3.989	4.017	3.847	2.588	2.493	4.360	4.219	3.991	4.194	3.821



Appendix C.2

EVT Non-residential Achievable Potential - Savings and Costs

MW	Maximum Achievable Potential by End-Use - Cumulative Annual Winter Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	0.102	0.204	0.306	0.408	0.510	0.512	0.515	0.517	0.519	0.521	0.522	0.524	0.526	0.528	0.530	0.532	0.534	0.537	0.539	0.541
Cooking	0.037	0.074	0.111	0.148	0.185	0.186	0.187	0.187	0.188	0.189	0.189	0.190	0.191	0.191	0.192	0.192	0.193	0.194	0.195	0.195
Cooling Chillers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cooling Dx Evap	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cooling Dx Evap - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Fax	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Flat Screen Monitors	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Freezers	0.004	0.008	0.012	0.015	0.019	0.019	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020
Lighting Exterior	1.986	3.970	5.954	7.936	9.915	9.942	9.964	9.986	10.005	10.022	10.038	10.057	10.075	10.091	10.107	10.126	10.150	10.173	10.196	10.219
Lighting Interior Fluorescent	1.241	2.582	3.823	4.989	6.102	6.972	8.636	9.467	10.258	10.751	11.142	11.498	11.818	12.109	12.368	12.606	12.619	12.623	12.877	13.114
Lighting Interior Fluorescent - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting Interior HID	0.369	0.781	1.161	1.518	1.859	2.173	2.776	3.112	3.435	3.621	3.772	3.911	4.037	4.154	4.259	4.357	4.371	4.379	4.485	4.584
Lighting Interior Other	0.189	0.373	0.557	0.735	0.907	0.976	1.073	1.134	1.188	1.234	1.281	1.330	1.379	1.420	1.464	1.513	1.577	1.638	1.700	1.762
Lighting Interior Screw Base - Standard	0.240	0.390	0.394	0.397	0.401	0.401	0.401	0.401	0.401	0.401	0.401	0.401	0.401	0.401	0.401	0.401	0.401	0.401	0.401	0.401
Lighting Interior Screw Base - Standard - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Plug Load	0.041	0.083	0.124	0.166	0.207	0.208	0.209	0.210	0.210	0.211	0.212	0.212	0.213	0.213	0.214	0.215	0.216	0.217	0.217	0.218
Photo Copiers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Printers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Refrigeration	1.274	2.546	3.819	5.090	6.360	6.375	6.388	6.401	6.412	6.421	6.431	6.442	6.453	6.462	6.471	6.482	6.496	6.510	6.523	6.537
Refrigerators	0.034	0.067	0.099	0.131	0.162	0.165	0.172	0.174	0.177	0.178	0.178	0.179	0.179	0.179	0.179	0.180	0.180	0.180	0.181	0.181
Room Cool	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Cool - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Heat - Electric	0.036	0.071	0.106	0.141	0.177	0.177	0.178	0.178	0.179	0.179	0.179	0.180	0.180	0.180	0.181	0.181	0.182	0.182	0.183	0.183
Servers	0.017	0.034	0.052	0.069	0.086	0.086	0.087	0.087	0.087	0.088	0.088	0.088	0.089	0.089	0.089	0.089	0.090	0.090	0.091	0.091
Space Heat - Electric	0.265	0.530	0.794	1.059	1.324	1.325	1.327	1.328	1.329	1.330	1.332	1.333	1.334	1.335	1.336	1.337	1.339	1.340	1.342	1.343
Vending Machines	0.023	0.045	0.068	0.090	0.113	0.113	0.114	0.114	0.115	0.115	0.115	0.116	0.116	0.117	0.117	0.117	0.118	0.119	0.119	0.120
Ventilation And Circulation	0.800	1.600	2.399	3.199	3.998	4.002	4.005	4.008	4.010	4.012	4.015	4.017	4.020	4.022	4.024	4.027	4.030	4.033	4.036	4.039
Water Heat GT 55 Gal	0.090	0.178	0.265	0.350	0.433	0.442	0.456	0.463	0.469	0.472	0.475	0.477	0.478	0.479	0.480	0.481	0.482	0.483	0.484	0.486
Water Heat LE 55 Gal	0.463	0.925	1.385	1.841	2.296	2.312	2.338	2.351	2.363	2.370	2.376	2.381	2.386	2.390	2.394	2.397	2.401	2.405	2.409	2.414
Heat Pump	0.007	0.014	0.020	0.027	0.034	0.034	0.034	0.034	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.036	0.036	0.036	0.036
Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Compressed Air	0.014	0.027	0.041	0.055	0.068	0.069	0.069	0.069	0.069	0.070	0.070	0.070	0.070	0.070	0.071	0.071	0.071	0.071	0.072	0.072
Package Terminal AC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool Pump	0.018	0.036	0.054	0.070	0.085	0.093	0.108	0.116	0.123	0.127	0.130	0.133	0.136	0.138	0.140	0.142	0.142	0.143	0.145	0.146
Fans	0.110	0.221	0.331	0.442	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552
HVAC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Indirect Boiler	0.251	0.502	0.753	1.003	1.254	1.254	1.254	1.254	1.254	1.254	1.254	1.254	1.254	1.254	1.254	1.254	1.254	1.254	1.254	1.254
Lighting	0.548	1.096	1.644	2.192	2.740	2.740	2.740	2.740	2.740	2.740	2.740	2.740	2.740	2.740	2.740	2.740	2.740	2.740	2.740	2.740
Motors Other	0.101	0.203	0.304	0.406	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507
Process AirComp	0.476	0.951	1.427	1.903	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379
Process Electro Chemical	0.013	0.025	0.038	0.050	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063
Process Heat	0.545	1.091	1.636	2.181	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726
Process Other	0.132	0.263	0.395	0.527	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659
Process Refrig and Cooling	0.787	1.574	2.361	3.148	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935
Pumps	0.050	0.101	0.151	0.202	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252
Total	10.263	20.566	30.585	40.489	50.307	51.649	54.123	55.425	56.659	57.436	58.070	58.664	59.205	59.691	60.141	60.570	60.716	60.844	61.319	61.771

Appendix C.2

EVT Non-residential Achievable Potential - Savings and Costs

MMBtu	Maximum Achievable Potential by End-Use - Incremental Annual Natural Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cooking	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cooling Chillers	674	673	673	672	672	327	326	325	324	323	21	114	114	112	112	133	42	41	41	41
Cooling Dx Evap	4,976	4,970	4,997	4,989	4,966	1,229	1,218	1,188	1,179	1,166	210	849	848	837	839	1,033	414	411	752	754
Cooling Dx Evap - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flat Screen Monitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Freezers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Exterior	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior Fluorescent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior Fluorescent - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior HID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior Screw Base - Standard	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior Screw Base - Standard - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Plug Load	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Photo Copiers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Printers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Refrigerators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Cool	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Cool - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Heat - Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Servers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Space Heat - Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vending Machines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation And Circulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Heat GT 55 Gal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Heat LE 55 Gal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heat Pump	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Compressed Air	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Package Terminal AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pool Pump	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Indirect Boiler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Motors Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process AirComp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Electro Chemical	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Refrig and Cooling	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pumps	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	5,650	5,643	5,670	5,662	5,638	1,557	1,544	1,514	1,504	1,488	231	964	962	949	951	1,165	456	453	793	794

Appendix C.2

EVT Non-residential Achievable Potential - Savings and Costs

MMBtu	Maximum Achievable Potential by End-Use - Cumulative Annual Natural Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cooking	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cooling Chillers	674	1,347	2,020	2,693	3,364	3,373	3,381	3,388	3,395	3,401	3,407	3,413	3,419	3,425	3,430	3,437	3,445	3,453	3,461	3,469
Cooling Dx Evap	4,976	9,946	14,917	19,879	24,819	24,893	24,958	25,019	25,073	25,119	25,167	25,220	25,272	25,316	25,363	25,416	25,487	25,555	25,622	25,689
Cooling Dx Evap - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flat Screen Monitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Freezers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Exterior	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior Fluorescent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior Fluorescent - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior HID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior Screw Base - Standard	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior Screw Base - Standard - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Plug Load	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Photo Copiers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Printers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Refrigerators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Cool	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Cool - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Heat - Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Servers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Space Heat - Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vending Machines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation And Circulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Heat GT 55 Gal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Heat LE 55 Gal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heat Pump	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Compressed Air	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Package Terminal AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pool Pump	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Indirect Boiler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Motors Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process AirComp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Electro Chemical	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Refrig and Cooling	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pumps	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	5,650	11,293	16,937	22,572	28,183	28,266	28,339	28,407	28,468	28,520	28,574	28,633	28,692	28,740	28,794	28,853	28,932	29,008	29,083	29,158



Appendix C.2

EVT Non-residential Achievable Potential - Savings and Costs

	Maximum Achievable Potential by End-Use - Annual Incentive Costs																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	\$69,036	\$68,904	\$68,906	\$68,748	\$68,572	\$70,890	\$70,523	\$70,423	\$70,100	\$69,749	\$3,044	\$2,931	\$2,819	\$2,431	\$2,347	\$2,498	\$3,036	\$2,956	\$2,707	\$2,800
Cooking	\$54,437	\$54,344	\$54,345	\$54,234	\$54,110	\$1,303	\$1,138	\$1,066	\$950	\$827	\$837	\$998	\$55,352	\$55,102	\$55,168	\$55,153	\$55,247	\$2,465	\$2,283	\$2,211
Cooling Chillers	\$251,623	\$251,404	\$250,854	\$250,024	\$249,277	\$34,011	\$36,804	\$32,789	\$32,085	\$30,357	\$4,467	\$14,422	\$14,245	\$13,564	\$13,488	\$159,651	\$150,385	\$150,145	\$149,875	\$149,804
Cooling Dx Evap	\$2,287,027	\$2,283,216	\$2,284,145	\$2,280,175	\$2,266,986	\$255,669	\$251,490	\$247,952	\$244,576	\$240,758	\$1,363,633	\$1,379,405	\$1,379,636	\$1,372,507	\$1,366,401	\$151,439	\$140,369	\$137,147	\$229,180	\$224,643
Cooling Dx Evap - Early Replacement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fax	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Flat Screen Monitors	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Freezers	\$6,430	\$6,390	\$6,325	\$6,273	\$6,232	\$164	\$302	\$115	\$6,126	\$6,066	\$6,045	\$6,045	\$6,441	\$366	\$301	\$250	\$213	\$177	\$315	\$128
Lighting Exterior	\$3,705,782	\$3,699,714	\$3,699,825	\$3,692,575	\$3,684,494	\$85,040	\$74,299	\$69,563	\$220,203	\$212,179	\$215,957	\$309,233	\$308,698	\$140,244	\$144,250	\$147,267	\$81,311	\$77,752	\$76,450	\$95,688
Lighting Interior Fluorescent	\$626,842	\$675,533	\$626,294	\$589,168	\$562,806	\$424,796	\$812,744	\$405,622	\$452,632	\$307,584	\$300,417	\$283,482	\$265,237	\$184,556	\$169,194	\$632,217	\$570,773	\$517,974	\$602,167	\$567,686
Lighting Interior Fluorescent - Early Replacement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lighting Interior HID	\$1,276,153	\$1,424,867	\$1,316,083	\$1,235,736	\$1,180,976	\$1,108,789	\$2,129,802	\$1,245,015	\$1,205,620	\$670,191	\$543,435	\$503,076	\$458,063	\$413,280	\$373,490	\$1,612,425	\$1,462,669	\$1,332,742	\$1,599,489	\$1,521,134
Lighting Interior Other	\$349,930	\$338,733	\$340,017	\$329,317	\$317,393	\$125,500	\$179,794	\$110,919	\$99,400	\$85,338	\$84,769	\$91,817	\$89,708	\$74,015	\$80,333	\$254,117	\$455,533	\$451,907	\$441,473	\$429,754
Lighting Interior Screw Base - Standard	\$93,442	\$60,050	\$5,178	\$5,178	\$5,178	\$0	\$0	\$0	\$5,178	\$5,178	\$5,178	\$5,178	\$93,442	\$54,872	\$0	\$0	\$0	\$0	\$0	\$0
Lighting Interior Screw Base - Standard - Early Replacement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other Plug Load	\$29,468	\$29,417	\$29,418	\$29,358	\$29,291	\$706	\$617	\$578	\$515	\$448	\$1,803	\$1,846	\$29,962	\$29,826	\$29,858	\$28,545	\$28,636	\$1,331	\$1,233	\$1,193
Photo Copiers	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Printers	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Refrigeration	\$1,952,573	\$1,950,848	\$1,950,879	\$1,948,817	\$1,946,519	\$58,493	\$55,380	\$390,591	\$561,121	\$586,794	\$873,947	\$874,723	\$554,997	\$379,186	\$352,555	\$1,022,057	\$1,086,867	\$1,077,670	\$1,076,365	\$1,075,071
Refrigerators	\$109,615	\$107,471	\$100,509	\$94,811	\$90,292	\$24,948	\$46,305	\$19,414	\$77,887	\$68,971	\$65,488	\$64,050	\$111,336	\$47,562	\$40,685	\$35,154	\$31,141	\$27,021	\$48,383	\$21,496
Room Cool	\$3	\$3	\$3	\$3	\$3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3	\$3	\$3	\$3	\$3	\$0	\$0	\$0
Room Cool - Early Replacement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Room Heat - Electric	\$35,998	\$35,609	\$35,610	\$35,581	\$35,550	\$332	\$290	\$271	\$242	\$211	\$380	\$402	\$400	\$360	\$1,656	\$1,879	\$1,589	\$1,576	\$1,571	\$292
Servers	\$11,790	\$11,770	\$11,770	\$11,746	\$14,377	\$8,560	\$8,515	\$8,494	\$8,451	\$5,834	\$687	\$684	\$669	\$616	\$617	\$3,537	\$3,603	\$3,583	\$3,559	\$3,562
Space Heat - Electric	\$111,947	\$111,915	\$111,915	\$111,877	\$111,834	\$44,899	\$44,835	\$44,810	\$44,762	\$44,709	\$634	\$1,146	\$1,138	\$1,074	\$2,086	\$26,923	\$26,536	\$26,518	\$34,412	\$33,419
Vending Machines	\$15,652	\$15,620	\$15,585	\$15,549	\$15,508	\$16,078	\$15,992	\$15,934	\$15,860	\$15,779	\$700	\$674	\$648	\$559	\$540	\$575	\$700	\$682	\$624	\$646
Ventilation And Circulation	\$800,519	\$800,079	\$800,087	\$799,561	\$798,974	\$15,055	\$14,275	\$13,932	\$13,384	\$12,949	\$4,108	\$4,511	\$4,483	\$19,366	\$19,496	\$792,696	\$796,762	\$796,490	\$780,757	\$780,166
Water Heat GT 55 Gal	\$19,406	\$18,712	\$17,375	\$16,208	\$15,306	\$5,589	\$10,026	\$6,967	\$6,412	\$7,273	\$16,681	\$15,705	\$11,706	\$12,367	\$8,775	\$8,268	\$12,490	\$7,249	\$4,678	\$2,801
Water Heat LE 55 Gal	\$110,651	\$110,461	\$109,924	\$109,320	\$108,882	\$3,728	\$6,035	\$22,259	\$21,895	\$59,799	\$65,092	\$64,886	\$45,100	\$77,362	\$38,363	\$37,014	\$39,553	\$36,628	\$4,123	\$2,705
Heat Pump	\$23,212	\$23,160	\$23,129	\$23,045	\$22,722	\$827	\$850	\$700	\$636	\$538	\$687	\$1,231	\$1,303	\$1,223	\$1,249	\$1,812	\$1,431	\$1,295	\$3,288	\$3,066
Dryer	\$262	\$280	\$257	\$239	\$225	\$211	\$385	\$199	\$188	\$123	\$101	\$94	\$347	\$356	\$327	\$305	\$240	\$225	\$456	\$266
Compressed Air	\$19,932	\$19,898	\$19,899	\$19,858	\$19,814	\$769	\$709	\$683	\$641	\$597	\$11,245	\$11,257	\$11,255	\$11,176	\$11,174	\$9,285	\$9,343	\$9,311	\$9,263	\$9,219
Package Terminal AC	\$799	\$785	\$702	\$632	\$576	\$466	\$820	\$409	\$374	\$237	\$185	\$164	\$200	\$180	\$164	\$894	\$815	\$671	\$676	\$612
Pool Pump	\$7,020	\$7,129	\$6,524	\$6,016	\$5,614	\$4,019	\$7,233	\$3,594	\$3,308	\$2,072	\$8,633	\$8,568	\$7,767	\$7,073	\$6,531	\$4,848	\$7,517	\$3,866	\$4,190	\$2,875
Fans	\$27,451	\$27,451	\$27,451	\$27,451	\$27,451	\$0	\$0	\$0	\$0	\$0	\$27,451	\$27,451	\$27,451	\$27,451	\$27,451	\$0	\$0	\$0	\$0	\$0
HVAC	\$1,613,323	\$1,613,323	\$1,613,323	\$1,613,323	\$1,613,323	\$28,034	\$28,034	\$28,034	\$28,034	\$28,034	\$74,252	\$84,303	\$84,303	\$84,303	\$95,821	\$1,343,228	\$1,333,176	\$1,333,176	\$1,333,176	\$1,321,659
Indirect Boiler	\$147,300	\$147,300	\$147,300	\$147,300	\$147,300	\$0	\$0	\$0	\$0	\$0	\$94,128	\$94,128	\$94,128	\$94,128	\$94,128	\$0	\$0	\$0	\$0	\$0
Lighting	\$1,112,393	\$1,112,393	\$1,112,393	\$1,458,286	\$1,458,286	\$347,803	\$347,803	\$347,803	\$7,921	\$7,921	\$6,011	\$6,011	\$6,011	\$0	\$0	\$707,493	\$707,493	\$707,493	\$707,493	\$707,493
Motors Other	\$110,445	\$110,445	\$110,445	\$110,445	\$110,445	\$0	\$110,445	\$110,445	\$110,445	\$110,445	\$110,445	\$110,445	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Process AirComp	\$71,229	\$71,229	\$71,229	\$71,229	\$71,229	\$0	\$0	\$0	\$0	\$0	\$71,229	\$71,229	\$71,229	\$71,229	\$71,229	\$0	\$0	\$0	\$0	\$0
Process Electro Chemical	\$1,070	\$1,070	\$1,070	\$1,070	\$1,070	\$0	\$0	\$0	\$0	\$0	\$1,070	\$1,070	\$1,070	\$1,070	\$1,070	\$0	\$0	\$0	\$0	\$0
Process Heat	\$157,362	\$157,362	\$157,362	\$157,362	\$157,362	\$0	\$0	\$0	\$0	\$0	\$55,280	\$55,280	\$55,280	\$55,280	\$157,362	\$102,082	\$102,082	\$102,082	\$102,082	\$0
Process Other	\$18,361	\$18,361	\$18,361	\$18,361	\$18,361	\$0	\$0	\$0	\$0	\$0	\$18,361	\$18,361	\$18,361	\$18,361	\$18,361	\$0	\$0	\$0	\$0	\$0
Process Refrig and Cooling	\$499,738	\$499,738	\$499,738	\$499,738	\$499,738	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pumps	\$16,575	\$16,575	\$16,575	\$16,575	\$16,575	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,575	\$16,575	\$16,575	\$16,575	\$16,575
Total	\$15,744,794	\$15,881,555	\$15,660,804	\$15,855,188	\$15,732,650	\$2,666,679	\$4,255,447	\$3,198,581	\$3,238,944	\$2,580,962	\$4,036,377	\$4,004,358	\$3,812,788	\$3,251,046	\$3,184,475	\$7,158,189	\$7,126,086	\$6,826,705	\$7,236,843	\$6,976,965

Appendix C.2

EVT Non-residential Achievable Potential - Savings and Costs

\$	Maximum Achievable Potential by End-Use - Annual Admin Costs																			
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	\$233,750	\$233,363	\$233,370	\$232,907	\$232,392	\$239,177	\$238,104	\$237,809	\$236,865	\$235,837	\$8,911	\$8,580	\$8,253	\$7,116	\$6,872	\$7,312	\$8,889	\$8,654	\$7,924	\$8,197
Cooking	\$67,351	\$67,251	\$67,253	\$67,134	\$67,002	\$1,394	\$1,218	\$1,140	\$1,017	\$885	\$895	\$1,047	\$68,330	\$68,062	\$68,133	\$68,117	\$68,237	\$2,637	\$2,442	\$2,366
Cooling Chillers	\$48,661	\$48,641	\$48,353	\$48,030	\$47,762	\$11,643	\$13,265	\$11,259	\$11,032	\$10,285	\$1,029	\$5,738	\$5,946	\$5,771	\$5,699	\$32,830	\$28,164	\$27,812	\$27,763	\$27,750
Cooling Dx Evap	\$89,143	\$88,835	\$88,818	\$88,537	\$87,358	\$16,251	\$16,349	\$15,794	\$15,614	\$15,312	\$33,103	\$39,984	\$40,894	\$40,650	\$40,509	\$15,663	\$8,825	\$7,679	\$11,906	\$11,050
Cooling Dx Evap - Early Replacement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fax	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Flat Screen Monitors	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Freezers	\$7,195	\$7,102	\$6,949	\$6,827	\$6,732	\$385	\$711	\$271	\$6,483	\$6,342	\$6,290	\$6,288	\$7,217	\$855	\$704	\$584	\$495	\$412	\$738	\$299
Lighting Exterior	\$1,959,819	\$1,958,228	\$1,958,257	\$1,956,357	\$1,954,239	\$22,290	\$19,475	\$18,234	\$900,049	\$897,945	\$900,660	\$1,055,724	\$1,055,396	\$168,912	\$169,735	\$168,593	\$23,973	\$22,706	\$22,215	\$32,942
Lighting Interior Fluorescent	\$1,926,334	\$2,082,494	\$1,927,160	\$1,810,141	\$1,727,192	\$1,350,111	\$2,583,841	\$1,290,415	\$1,265,253	\$804,247	\$895,873	\$842,268	\$784,427	\$703,149	\$654,408	\$2,006,839	\$1,812,391	\$1,645,134	\$1,915,226	\$1,806,345
Lighting Interior Fluorescent - Early Replacement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lighting Interior HID	\$573,485	\$638,284	\$590,096	\$554,457	\$530,109	\$487,595	\$936,076	\$521,928	\$516,000	\$304,908	\$249,145	\$231,338	\$211,504	\$181,225	\$163,730	\$710,278	\$644,231	\$586,655	\$703,247	\$668,533
Lighting Interior Other	\$274,638	\$266,715	\$267,524	\$259,707	\$250,994	\$91,694	\$130,473	\$80,936	\$72,389	\$62,144	\$61,747	\$66,911	\$65,389	\$54,065	\$58,680	\$183,449	\$352,301	\$349,408	\$341,897	\$333,349
Lighting Interior Screw Base - Standard	\$372,690	\$233,474	\$5,396	\$5,396	\$5,396	\$0	\$0	\$0	\$5,396	\$5,396	\$5,396	\$5,396	\$5,396	\$372,690	\$228,078	\$0	\$0	\$0	\$0	\$0
Lighting Interior Screw Base - Standard - Early Replacement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other Plug Load	\$94,895	\$94,755	\$94,757	\$94,590	\$94,403	\$1,966	\$1,718	\$1,608	\$1,434	\$1,248	\$66,297	\$66,329	\$96,182	\$95,786	\$95,755	\$32,498	\$32,712	\$3,474	\$3,249	\$3,089
Photo Copiers	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Printers	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Refrigeration	\$2,243,230	\$2,241,578	\$2,241,608	\$2,239,634	\$2,237,433	\$102,823	\$99,780	\$535,018	\$876,651	\$948,838	\$953,993	\$954,318	\$530,069	\$184,246	\$111,750	\$1,222,059	\$1,254,732	\$1,251,353	\$1,250,475	\$1,249,811
Refrigerators	\$61,176	\$60,639	\$58,870	\$57,429	\$56,289	\$6,269	\$11,669	\$4,874	\$53,160	\$50,901	\$50,015	\$49,645	\$61,563	\$11,952	\$10,197	\$8,792	\$7,762	\$6,723	\$12,123	\$5,329
Room Cool	\$1	\$1	\$1	\$1	\$1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1	\$1	\$1	\$1	\$1	\$0	\$0	\$0
Room Cool - Early Replacement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Room Heat - Electric	\$18,358	\$18,181	\$18,182	\$18,160	\$18,135	\$260	\$227	\$212	\$189	\$165	\$1,016	\$1,033	\$1,032	\$1,000	\$1,380	\$708	\$608	\$598	\$595	\$228
Servers	\$39,491	\$39,432	\$39,433	\$39,363	\$43,051	\$36,474	\$36,324	\$36,272	\$36,135	\$32,328	\$1,756	\$1,721	\$1,673	\$1,507	\$1,485	\$4,403	\$4,624	\$4,579	\$4,485	\$4,517
Space Heat - Electric	\$136,832	\$136,777	\$136,778	\$136,713	\$136,640	\$67,404	\$67,291	\$67,249	\$67,163	\$67,069	\$2,177	\$10,274	\$10,258	\$10,146	\$10,439	\$24,671	\$16,783	\$16,752	\$26,602	\$26,337
Vending Machines	\$40,984	\$40,910	\$40,833	\$40,751	\$40,659	\$41,948	\$41,752	\$41,621	\$41,453	\$41,270	\$1,583	\$1,525	\$1,467	\$1,264	\$1,221	\$1,301	\$1,584	\$1,543	\$1,412	\$1,462
Ventilation And Circulation	\$1,348,089	\$1,347,719	\$1,347,725	\$1,347,283	\$1,346,789	\$30,592	\$29,936	\$29,647	\$29,186	\$29,496	\$4,134	\$4,472	\$4,448	\$10,186	\$9,632	\$1,265,023	\$1,326,428	\$1,326,130	\$1,319,536	\$1,319,056
Water Heat GT 55 Gal	\$46,199	\$45,685	\$44,710	\$43,803	\$56,275	\$17,396	\$20,539	\$35,057	\$34,575	\$24,596	\$31,773	\$31,089	\$11,490	\$11,303	\$6,984	\$6,187	\$9,098	\$5,440	\$4,225	\$2,470
Water Heat LE 55 Gal	\$238,898	\$238,532	\$237,314	\$235,856	\$292,975	\$66,037	\$71,224	\$131,729	\$130,697	\$136,923	\$147,690	\$147,176	\$78,525	\$105,049	\$43,182	\$41,009	\$46,649	\$40,095	\$11,765	\$5,630
Heat Pump	\$5,489	\$5,478	\$5,461	\$5,436	\$5,303	\$410	\$447	\$380	\$363	\$328	\$222	\$1,192	\$1,409	\$1,391	\$1,392	\$2,228	\$1,281	\$1,037	\$1,228	\$1,112
Dryer	\$100	\$107	\$98	\$91	\$86	\$80	\$147	\$76	\$72	\$47	\$38	\$35	\$132	\$135	\$124	\$116	\$91	\$85	\$174	\$101
Compressed Air	\$24,850	\$24,815	\$24,816	\$24,773	\$24,726	\$1,471	\$1,408	\$1,381	\$1,337	\$1,290	\$21,220	\$21,221	\$21,219	\$21,123	\$21,106	\$3,754	\$3,806	\$3,763	\$3,712	\$3,666
Package Terminal AC	\$468	\$460	\$408	\$365	\$331	\$286	\$504	\$251	\$229	\$145	\$113	\$99	\$99	\$87	\$77	\$525	\$476	\$409	\$413	\$373
Pool Pump	\$32,814	\$33,237	\$30,947	\$29,036	\$27,525	\$15,063	\$27,171	\$13,472	\$12,403	\$7,740	\$38,817	\$38,572	\$35,538	\$32,942	\$30,898	\$18,090	\$28,097	\$14,358	\$15,602	\$10,637
Fans	\$108,873	\$108,873	\$108,873	\$108,873	\$108,873	\$0	\$0	\$0	\$0	\$0	\$108,873	\$108,873	\$108,873	\$108,873	\$108,873	\$0	\$0	\$0	\$0	\$0
HVAC	\$2,161,260	\$2,161,260	\$2,161,260	\$2,161,260	\$2,161,260	\$125,845	\$125,845	\$125,845	\$125,845	\$125,845	\$260,146	\$366,935	\$366,935	\$366,935	\$392,331	\$1,328,512	\$1,221,722	\$1,221,722	\$1,221,722	\$1,196,326
Indirect Boiler	\$129,725	\$129,725	\$129,725	\$129,725	\$129,725	\$0	\$0	\$0	\$0	\$0	\$81,596	\$81,596	\$81,596	\$81,596	\$81,596	\$0	\$0	\$0	\$0	\$0
Lighting	\$1,096,798	\$1,096,798	\$1,096,798	\$1,409,890	\$1,409,890	\$341,731	\$341,731	\$341,731	\$55,154	\$55,154	\$26,516	\$26,516	\$26,516	\$0	\$0	\$640,401	\$640,401	\$640,401	\$640,401	\$640,401
Motors Other	\$99,971	\$99,971	\$99,971	\$99,971	\$99,971	\$0	\$99,971	\$99,971	\$99,971	\$99,971	\$99,971	\$99,971	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Process AirComp	\$433,380	\$433,380	\$433,380	\$433,380	\$433,380	\$0	\$0	\$0	\$0	\$0	\$433,380	\$433,380	\$433,380	\$433,380	\$433,380	\$0	\$0	\$0	\$0	\$0
Process Electro Chemical	\$11,462	\$11,462	\$11,462	\$11,462	\$11,462	\$0	\$0	\$0	\$0	\$0	\$11,462	\$11,462	\$11,462	\$11,462	\$11,462	\$0	\$0	\$0	\$0	\$0
Process Heat	\$496,714	\$496,714	\$496,714	\$496,714	\$496,714	\$0	\$0	\$0	\$0	\$0	\$259,047	\$259,047	\$259,047	\$259,047	\$496,714	\$237,667	\$237,667	\$237,667	\$237,667	\$0
Process Other	\$119,981	\$119,981	\$119,981	\$119,981	\$119,981	\$0	\$0	\$0	\$0	\$0	\$119,981	\$119,981	\$119,981	\$119,981	\$119,981	\$0	\$0	\$0	\$0	\$0
Process Refrig and Cooling	\$716,964	\$716,964	\$716,964	\$716,964	\$716,964	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pumps	\$49,713	\$49,713	\$49,713	\$49,713	\$49,713	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$49,713	\$49,713	\$49,713	\$49,713	\$49,713
Total	\$15,309,780	\$15,377,535	\$14,939,958	\$15,080,710	\$15,027,730	\$3,076,596	\$4,917,194	\$3,644,180	\$4,596,114	\$3,966,658	\$4,884,864	\$4,999,765	\$4,882,942	\$3,327,278	\$3,158,432	\$8,081,322	\$7,831,742	\$7,476,942	\$7,838,458	\$7,411,090

Appendix C.2

EVT Non-residential Achievable Potential - Savings and Costs

MWh	Realistic Achievable Potential by End-Use - Incremental Annual Energy Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	639	637	637	634	631	1,268	1,262	1,261	1,065	896	649	647	645	448	284	41	50	48	44	46
Cooking	183	183	183	182	181	181	180	180	124	76	5	6	189	187	188	188	189	188	187	186
Cooling Chillers	137	137	135	134	132	156	164	155	115	79	29	41	42	33	26	90	90	90	90	86
Cooling Dx Evap	244	243	243	241	235	275	276	273	200	137	131	149	152	138	127	132	132	131	115	83
Cooling Dx Evap - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flat Screen Monitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Freezers	21	21	20	19	19	18	20	18	29	24	17	17	21	21	20	19	14	9	4	1
Lighting Exterior	5,267	5,258	5,258	5,247	5,235	5,229	5,213	5,207	5,908	4,504	2,423	2,850	2,848	2,833	2,838	2,845	2,129	1,484	524	425
Lighting Interior Fluorescent	8,634	9,385	8,638	8,076	7,677	7,254	13,184	6,967	6,521	4,097	3,681	3,423	3,145	2,936	2,702	10,411	9,444	8,613	9,659	8,955
Lighting Interior Fluorescent - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior HID	2,723	3,035	2,803	2,632	2,515	2,385	4,541	2,550	2,475	1,449	1,164	1,078	983	912	828	3,455	3,125	2,837	3,380	3,214
Lighting Interior Other	1,079	1,035	1,039	995	947	921	1,138	861	683	514	345	373	365	302	328	1,025	1,513	1,497	1,455	1,407
Lighting Interior Screw Base - Standard	1,780	1,111	14	14	14	14	14	14	24	20	14	14	1,780	1,111	14	14	10	6	0	0
Lighting Interior Screw Base - Standard - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Plug Load	258	258	258	257	256	255	254	253	174	107	184	184	266	263	263	263	265	264	209	163
Photo Copiers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Printers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Refrigeration	6,019	6,010	6,010	5,999	5,987	6,197	6,180	7,359	6,401	4,994	2,817	2,819	2,821	2,732	2,677	5,426	4,931	4,156	3,659	3,517
Refrigerators	189	186	177	171	165	160	186	153	238	192	135	133	191	188	179	173	126	86	59	26
Room Cool	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Cool - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Heat - Electric	50	49	49	49	49	49	48	48	33	20	3	3	3	3	4	5	5	5	4	3
Servers	108	107	107	107	117	203	202	202	169	141	100	100	97	67	40	16	18	17	16	16
Space Heat - Electric	365	364	364	364	364	540	540	540	425	326	183	205	205	148	101	71	72	72	97	89
Vending Machines	112	112	111	111	110	222	221	221	186	157	114	113	113	79	50	7	9	9	8	8
Ventilation And Circulation	3,584	3,582	3,582	3,579	3,577	3,642	3,639	3,637	2,506	1,538	88	90	90	82	65	3,372	3,542	3,540	3,537	3,533
Water Heat GT 55 Gal	140	137	133	128	161	158	173	203	168	145	136	133	117	105	89	74	75	34	28	17
Water Heat LE 55 Gal	661	659	653	646	799	796	821	967	771	769	573	570	515	541	487	427	406	247	197	116
Heat Pump	15	15	15	15	14	15	16	15	11	7	1	4	5	4	4	7	7	7	7	6
Dryer	0	1	0	0	0	0	1	0	0	0	0	0	1	1	1	1	0	0	1	0
Compressed Air	68	67	67	67	67	69	69	69	48	31	61	61	61	60	59	66	67	66	49	34
Package Terminal AC	2	2	2	2	2	1	2	1	1	1	0	0	0	0	0	3	2	2	2	2
Pool Pump	135	137	126	117	109	102	161	95	80	50	164	163	148	136	126	117	166	100	96	64
Fans	288	288	288	288	288	288	288	288	196	118	288	288	288	288	288	288	288	288	196	118
HVAC	5,714	5,714	5,714	5,714	5,714	6,047	6,047	6,047	4,229	2,670	1,020	1,303	1,303	1,197	1,173	4,200	4,200	4,200	3,981	3,704
Indirect Boiler	343	343	343	343	343	343	343	343	234	140	216	216	216	216	216	216	216	216	147	88
Lighting	2,900	2,900	2,900	3,727	3,727	3,803	3,803	3,803	2,951	2,160	974	710	484	122	101	1,763	1,741	1,722	1,693	1,693
Motors Other	264	264	264	264	264	264	529	529	445	372	264	264	264	264	180	108	0	0	0	0
Process AirComp	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146	781	469	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146	781	469
Process Electro Chemical	30	30	30	30	30	30	30	30	21	12	30	30	30	30	30	30	30	30	21	12
Process Heat	1,313	1,313	1,313	1,313	1,313	1,313	1,313	1,313	895	537	685	685	685	685	1,313	1,313	1,313	1,313	1,095	909
Process Other	317	317	317	317	317	317	317	317	216	130	317	317	317	317	317	317	317	317	216	130
Process Refrig and Cooling	1,895	1,895	1,895	1,895	1,895	1,895	1,895	1,895	1,292	775	0	0	0	0	0	0	0	0	0	0
Pumps	131	131	131	131	131	131	131	131	90	54	0	0	0	0	0	131	131	131	131	131
Total	46,755	47,070	44,968	44,956	44,533	45,694	54,350	47,091	39,706	27,710	17,960	18,138	19,535	17,596	16,265	37,762	35,768	32,871	31,690	29,251



Appendix C.2

EVT Non-residential Achievable Potential - Savings and Costs

MWh	Realistic Achievable Potential by End-Use - Cumulative Annual Energy Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	1,129	2,256	3,383	4,507	5,629	5,659	5,686	5,711	5,733	5,752	5,771	5,793	5,814	5,832	5,851	5,872	5,900	5,928	5,954	5,981
Cooking	325	650	974	1,298	1,622	1,629	1,636	1,642	1,648	1,653	1,658	1,664	1,669	1,674	1,679	1,684	1,691	1,698	1,705	1,712
Cooling Chillers	235	469	702	933	1,163	1,175	1,195	1,205	1,214	1,219	1,223	1,227	1,231	1,233	1,235	1,238	1,241	1,244	1,247	1,250
Cooling Dx Evap	430	859	1,287	1,713	2,134	2,142	2,152	2,159	2,165	2,170	2,175	2,180	2,185	2,190	2,194	2,199	2,206	2,213	2,220	2,226
Cooling Dx Evap - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flat Screen Monitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Freezers	35	69	102	135	167	169	173	174	175	176	176	176	176	176	176	176	176	177	177	177
Lighting Exterior	9,443	18,877	28,312	37,736	47,148	47,272	47,381	47,483	47,574	47,653	47,733	47,821	47,908	47,981	48,059	48,147	48,263	48,374	48,483	48,593
Lighting Interior Fluorescent	9,260	19,270	28,533	37,234	45,537	52,027	64,447	70,650	76,550	80,234	83,151	85,810	88,191	90,362	92,300	94,077	94,168	94,202	96,097	97,867
Lighting Interior Fluorescent - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior HID	2,757	5,825	8,661	11,326	13,875	16,218	20,718	23,227	25,633	27,024	28,147	29,185	30,127	30,998	31,785	32,517	32,620	32,678	33,468	34,207
Lighting Interior Other	1,414	2,783	4,157	5,487	6,769	7,281	8,010	8,462	8,866	9,212	9,556	9,929	10,294	10,596	10,923	11,290	11,768	12,227	12,686	13,146
Lighting Interior Screw Base - Standard	1,791	2,914	2,940	2,966	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992
Lighting Interior Screw Base - Standard - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Plug Load	458	915	1,373	1,829	2,285	2,296	2,305	2,314	2,322	2,329	2,336	2,344	2,352	2,358	2,365	2,373	2,383	2,393	2,402	2,412
Photo Copiers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Printers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Refrigeration	10,806	21,603	32,401	43,187	53,961	54,090	54,203	54,309	54,404	54,486	54,569	54,660	54,751	54,826	54,908	54,999	55,120	55,235	55,349	55,462
Refrigerators	295	587	870	1,147	1,418	1,448	1,505	1,528	1,549	1,558	1,563	1,567	1,569	1,571	1,572	1,574	1,577	1,580	1,582	1,585
Room Cool	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Cool - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Heat - Electric	89	176	264	351	439	440	442	443	444	445	446	447	448	449	449	450	452	453	454	456
Servers	191	381	571	761	951	955	959	963	966	969	972	976	979	981	984	988	992	996	1,000	1,004
Space Heat - Electric	659	1,317	1,975	2,633	3,290	3,294	3,298	3,302	3,305	3,308	3,310	3,313	3,316	3,319	3,321	3,324	3,328	3,332	3,336	3,340
Vending Machines	198	396	593	790	986	991	996	1,000	1,004	1,008	1,011	1,015	1,019	1,022	1,025	1,029	1,034	1,039	1,044	1,048
Ventilation And Circulation	6,485	12,969	19,452	25,933	32,411	32,440	32,465	32,489	32,510	32,528	32,547	32,568	32,588	32,605	32,623	32,644	32,671	32,696	32,722	32,747
Water Heat GT 55 Gal	223	443	658	869	1,077	1,098	1,134	1,150	1,165	1,174	1,180	1,185	1,189	1,192	1,194	1,196	1,199	1,202	1,204	1,207
Water Heat LE 55 Gal	1,151	2,299	3,442	4,578	5,708	5,747	5,811	5,844	5,874	5,892	5,906	5,920	5,932	5,941	5,950	5,959	5,969	5,979	5,990	6,000
Heat Pump	27	53	79	106	131	132	133	134	135	135	135	136	136	137	137	138	138	139	139	140
Dryer	0	1	1	2	2	3	3	4	4	4	5	5	5	5	5	5	5	5	5	6
Compressed Air	120	240	359	479	598	601	603	606	608	609	611	613	615	617	618	620	623	625	628	630
Package Terminal AC	2	4	6	8	10	11	14	15	16	17	17	18	18	19	19	19	19	19	20	20
Pool Pump	159	319	469	610	743	816	948	1,013	1,073	1,111	1,140	1,167	1,189	1,208	1,225	1,240	1,245	1,250	1,266	1,281
Fans	523	1,047	1,570	2,093	2,617	2,617	2,617	2,617	2,617	2,617	2,617	2,617	2,617	2,617	2,617	2,617	2,617	2,617	2,617	2,617
HVAC	10,389	20,778	31,167	41,555	51,944	51,944	51,944	51,944	51,944	51,944	51,944	51,944	51,944	51,944	51,944	51,944	51,944	51,944	51,944	51,944
Indirect Boiler	624	1,247	1,871	2,494	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118
Lighting	5,272	10,544	15,816	21,089	26,361	26,361	26,361	26,361	26,361	26,361	26,361	26,361	26,361	26,361	26,361	26,361	26,361	26,361	26,361	26,361
Motors Other	481	961	1,442	1,922	2,403	2,403	2,403	2,403	2,403	2,403	2,403	2,403	2,403	2,403	2,403	2,403	2,403	2,403	2,403	2,403
Process AirComp	2,083	4,166	6,250	8,333	10,416	10,416	10,416	10,416	10,416	10,416	10,416	10,416	10,416	10,416	10,416	10,416	10,416	10,416	10,416	10,416
Process Electro Chemical	55	110	165	220	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275
Process Heat	2,388	4,775	7,163	9,551	11,938	11,938	11,938	11,938	11,938	11,938	11,938	11,938	11,938	11,938	11,938	11,938	11,938	11,938	11,938	11,938
Process Other	577	1,153	1,730	2,307	2,884	2,884	2,884	2,884	2,884	2,884	2,884	2,884	2,884	2,884	2,884	2,884	2,884	2,884	2,884	2,884
Process Refrig and Cooling	3,446	6,893	10,339	13,785	17,232	17,232	17,232	17,232	17,232	17,232	17,232	17,232	17,232	17,232	17,232	17,232	17,232	17,232	17,232	17,232
Pumps	239	478	717	956	1,195	1,195	1,195	1,195	1,195	1,195	1,195	1,195	1,195	1,195	1,195	1,195	1,195	1,195	1,195	1,195
Total	73,756	147,827	219,795	290,924	361,425	371,310	389,590	399,200	408,309	414,039	418,713	423,089	427,074	430,664	433,975	437,134	438,165	439,059	442,553	445,872

Appendix C.2

EVT Non-residential Achievable Potential - Savings and Costs

MW	Realistic Achievable Potential by End-Use - Incremental Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	0.093	0.092	0.092	0.092	0.091	0.184	0.183	0.183	0.154	0.130	0.094	0.094	0.093	0.065	0.041	0.006	0.007	0.007	0.006	0.007
Cooking	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.014	0.009	0.001	0.001	0.022	0.021	0.021	0.021	0.022	0.021	0.021	0.021
Cooling Chillers	0.047	0.047	0.046	0.046	0.045	0.054	0.056	0.053	0.039	0.027	0.010	0.014	0.014	0.011	0.009	0.031	0.031	0.031	0.031	0.029
Cooling Dx Evap	0.084	0.083	0.083	0.082	0.080	0.094	0.094	0.094	0.068	0.047	0.045	0.051	0.052	0.047	0.044	0.045	0.045	0.045	0.039	0.028
Cooling Dx Evap - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Fax	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Flat Screen Monitors	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Freezers	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.000	0.000
Lighting Exterior	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.065	0.050	0.027	0.032	0.032	0.031	0.031	0.032	0.024	0.016	0.006	0.005
Lighting Interior Fluorescent	1.675	1.821	1.676	1.567	1.489	1.407	2.558	1.352	1.265	0.795	0.714	0.664	0.610	0.570	0.524	2.020	1.832	1.671	1.874	1.737
Lighting Interior Fluorescent - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting Interior HID	0.528	0.589	0.544	0.511	0.488	0.463	0.881	0.495	0.480	0.281	0.226	0.209	0.191	0.177	0.161	0.670	0.606	0.550	0.656	0.623
Lighting Interior Other	0.209	0.201	0.202	0.193	0.184	0.179	0.221	0.167	0.132	0.100	0.067	0.072	0.071	0.059	0.064	0.199	0.294	0.290	0.282	0.273
Lighting Interior Screw Base - Standard	0.345	0.215	0.003	0.003	0.003	0.003	0.003	0.003	0.005	0.004	0.003	0.003	0.345	0.215	0.003	0.003	0.002	0.001	0.000	0.000
Lighting Interior Screw Base - Standard - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Plug Load	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.025	0.015	0.027	0.027	0.038	0.038	0.038	0.038	0.038	0.038	0.030	0.024
Photo Copiers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Printers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Refrigeration	0.793	0.792	0.792	0.790	0.789	0.817	0.814	0.970	0.843	0.658	0.371	0.371	0.372	0.360	0.353	0.715	0.650	0.548	0.482	0.463
Refrigerators	0.022	0.021	0.020	0.019	0.019	0.018	0.021	0.018	0.027	0.022	0.015	0.015	0.022	0.021	0.020	0.020	0.014	0.010	0.007	0.003
Room Cool	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Cool - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Heat - Electric	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Servers	0.016	0.016	0.016	0.015	0.017	0.029	0.029	0.029	0.024	0.020	0.015	0.014	0.014	0.010	0.006	0.002	0.003	0.003	0.002	0.002
Space Heat - Electric	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Vending Machines	0.013	0.013	0.013	0.013	0.013	0.025	0.025	0.025	0.021	0.018	0.013	0.013	0.013	0.009	0.006	0.001	0.001	0.001	0.001	0.001
Ventilation And Circulation	0.410	0.409	0.409	0.409	0.409	0.416	0.416	0.416	0.286	0.176	0.010	0.010	0.010	0.009	0.007	0.385	0.405	0.405	0.404	0.404
Water Heat GT 55 Gal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Water Heat LE 55 Gal	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000
Heat Pump	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.004	0.002	0.000	0.001	0.002	0.001	0.001	0.002	0.002	0.002	0.002	0.002
Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Compressed Air	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.006	0.003	0.007	0.007	0.007	0.007	0.007	0.008	0.008	0.008	0.006	0.004
Package Terminal AC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool Pump	0.015	0.016	0.014	0.013	0.012	0.012	0.018	0.011	0.009	0.006	0.019	0.019	0.017	0.016	0.014	0.013	0.019	0.011	0.011	0.007
Fans	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.041	0.025	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.041	0.025
HVAC	1.954	1.954	1.954	1.954	1.954	2.068	2.068	2.068	1.446	0.913	0.349	0.446	0.446	0.409	0.401	1.436	1.436	1.436	1.362	1.267
Indirect Boiler	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting	0.460	0.460	0.460	0.592	0.592	0.604	0.604	0.604	0.468	0.343	0.155	0.113	0.077	0.019	0.016	0.280	0.276	0.273	0.269	0.269
Motors Other	0.056	0.056	0.056	0.056	0.056	0.056	0.112	0.112	0.094	0.079	0.056	0.056	0.056	0.056	0.038	0.023	0.000	0.000	0.000	0.000
Process AirComp	0.262	0.262	0.262	0.262	0.262	0.262	0.262	0.262	0.178	0.107	0.262	0.262	0.262	0.262	0.262	0.262	0.262	0.262	0.178	0.107
Process Electro Chemical	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.005	0.003	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.005	0.003
Process Heat	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.204	0.123	0.156	0.156	0.156	0.156	0.300	0.300	0.300	0.300	0.250	0.207
Process Other	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.049	0.030	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.049	0.030
Process Refrig and Cooling	0.433	0.433	0.433	0.433	0.433	0.433	0.433	0.433	0.295	0.177	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pumps	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.019	0.011	0.000	0.000	0.000	0.000	0.000	0.028	0.028	0.028	0.028	0.028
Total	8.017	8.081	7.677	7.652	7.537	7.725	9.400	7.893	6.278	4.178	2.785	2.794	3.065	2.716	2.512	6.683	6.447	6.100	6.045	5.570

Appendix C.2

EVT Non-residential Achievable Potential - Savings and Costs

MW	Realistic Achievable Potential by End-Use - Cumulative Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	0.093	0.185	0.277	0.369	0.460	0.551	0.642	0.732	0.795	0.833	0.836	0.839	0.842	0.845	0.847	0.851	0.855	0.859	0.862	0.866
Cooking	0.021	0.042	0.063	0.083	0.104	0.125	0.145	0.166	0.180	0.189	0.189	0.190	0.191	0.191	0.192	0.192	0.193	0.194	0.195	0.195
Cooling Chillers	0.047	0.094	0.140	0.186	0.231	0.276	0.323	0.368	0.398	0.417	0.418	0.420	0.421	0.422	0.422	0.423	0.424	0.425	0.427	0.428
Cooling Dx Evap	0.084	0.167	0.249	0.332	0.412	0.493	0.574	0.654	0.709	0.742	0.744	0.746	0.747	0.749	0.750	0.752	0.755	0.757	0.759	0.761
Cooling Dx Evap - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Fax	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Flat Screen Monitors	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Freezers	0.002	0.005	0.007	0.009	0.011	0.013	0.016	0.018	0.019	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020
Lighting Exterior	0.058	0.117	0.175	0.233	0.291	0.349	0.407	0.465	0.504	0.528	0.529	0.530	0.531	0.532	0.533	0.534	0.535	0.536	0.537	0.539
Lighting Interior Fluorescent	1.675	3.496	5.172	6.738	8.228	9.635	12.193	13.544	14.790	15.565	16.131	16.647	17.109	17.530	17.906	18.251	18.269	18.275	18.643	18.986
Lighting Interior Fluorescent - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting Interior HID	0.528	1.117	1.661	2.171	2.659	3.122	4.003	4.497	4.969	5.243	5.461	5.662	5.845	6.014	6.166	6.308	6.328	6.340	6.493	6.636
Lighting Interior Other	0.209	0.410	0.612	0.805	0.988	1.167	1.388	1.555	1.687	1.787	1.854	1.926	1.997	2.056	2.119	2.190	2.283	2.372	2.461	2.550
Lighting Interior Screw Base - Standard	0.345	0.561	0.564	0.566	0.569	0.572	0.575	0.577	0.579	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580
Lighting Interior Screw Base - Standard - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Plug Load	0.037	0.075	0.112	0.149	0.186	0.223	0.260	0.297	0.322	0.337	0.338	0.340	0.341	0.342	0.343	0.344	0.345	0.347	0.348	0.349
Photo Copiers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Printers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Refrigeration	0.793	1.585	2.377	3.167	3.956	4.744	5.530	6.314	6.852	7.179	7.190	7.202	7.214	7.223	7.234	7.246	7.262	7.277	7.292	7.307
Refrigerators	0.022	0.043	0.063	0.082	0.101	0.120	0.141	0.158	0.171	0.178	0.178	0.179	0.179	0.179	0.179	0.180	0.180	0.180	0.181	0.181
Room Cool	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Cool - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Heat - Electric	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Servers	0.016	0.031	0.047	0.062	0.078	0.093	0.108	0.123	0.134	0.140	0.141	0.141	0.142	0.142	0.143	0.143	0.144	0.144	0.145	0.145
Space Heat - Electric	0.001	0.002	0.002	0.003	0.004	0.005	0.005	0.006	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007
Vending Machines	0.013	0.026	0.038	0.051	0.064	0.076	0.089	0.101	0.110	0.115	0.115	0.116	0.116	0.117	0.117	0.117	0.118	0.119	0.119	0.120
Ventilation And Circulation	0.410	0.819	1.228	1.637	2.046	2.455	2.863	3.271	3.550	3.718	3.720	3.722	3.725	3.726	3.729	3.731	3.734	3.737	3.740	3.743
Water Heat GT 55 Gal	0.000	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Water Heat LE 55 Gal	0.001	0.003	0.004	0.006	0.007	0.008	0.010	0.011	0.012	0.012	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013
Heat Pump	0.005	0.010	0.015	0.020	0.025	0.030	0.035	0.039	0.043	0.045	0.045	0.045	0.045	0.045	0.045	0.046	0.046	0.046	0.046	0.046
Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Compressed Air	0.008	0.015	0.023	0.031	0.038	0.046	0.054	0.061	0.066	0.070	0.070	0.070	0.070	0.070	0.071	0.071	0.071	0.071	0.072	0.072
Package Terminal AC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool Pump	0.015	0.031	0.045	0.059	0.071	0.083	0.101	0.112	0.121	0.127	0.130	0.133	0.136	0.138	0.140	0.142	0.142	0.143	0.145	0.146
Fans	0.061	0.122	0.182	0.243	0.304	0.365	0.425	0.486	0.528	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552
HVAC	1.954	3.908	5.862	7.817	9.771	11.725	13.679	15.633	16.966	17.765	17.765	17.765	17.765	17.765	17.765	17.765	17.765	17.765	17.765	17.765
Indirect Boiler	0.001	0.001	0.002	0.003	0.004	0.004	0.005	0.006	0.006	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007
Lighting	0.460	0.921	1.381	1.841	2.302	2.762	3.222	3.683	3.997	4.185	4.185	4.185	4.185	4.185	4.185	4.185	4.185	4.185	4.185	4.185
Motors Other	0.056	0.112	0.167	0.223	0.279	0.335	0.391	0.446	0.484	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507
Process AirComp	0.262	0.523	0.785	1.047	1.308	1.570	1.832	2.093	2.272	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379
Process Electro Chemical	0.007	0.014	0.021	0.028	0.035	0.042	0.048	0.055	0.060	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063
Process Heat	0.300	0.600	0.900	1.200	1.499	1.799	2.099	2.399	2.604	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726
Process Other	0.072	0.145	0.217	0.290	0.362	0.435	0.507	0.580	0.629	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659
Process Refrig and Cooling	0.433	0.866	1.299	1.731	2.164	2.597	3.030	3.463	3.758	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935
Pumps	0.028	0.055	0.083	0.111	0.139	0.166	0.194	0.222	0.241	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252
Total	8.017	16.098	23.775	31.295	38.699	45.987	54.896	62.140	67.566	70.866	71.743	72.561	73.303	73.975	74.591	75.175	75.338	75.476	76.118	76.726



Appendix C.2

EVT Non-residential Achievable Potential - Savings and Costs

MW	Realistic Achievable Potential by End-Use - Incremental Annual Winter Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	0.058	0.058	0.058	0.057	0.057	0.115	0.114	0.114	0.096	0.081	0.059	0.059	0.058	0.041	0.026	0.004	0.004	0.004	0.004	0.004
Cooking	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.014	0.009	0.001	0.001	0.022	0.021	0.021	0.021	0.022	0.021	0.021	0.021
Cooling Chillers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cooling Dx Evap	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cooling Dx Evap - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Fax	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Flat Screen Monitors	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Freezers	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.000	0.000
Lighting Exterior	1.108	1.106	1.106	1.104	1.101	1.100	1.096	1.095	1.242	0.947	0.510	0.599	0.599	0.596	0.597	0.598	0.448	0.312	0.110	0.089
Lighting Interior Fluorescent	1.157	1.258	1.158	1.082	1.029	0.972	1.767	0.934	0.874	0.549	0.493	0.459	0.421	0.393	0.362	1.395	1.266	1.154	1.294	1.200
Lighting Interior Fluorescent - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting Interior HID	0.365	0.407	0.376	0.353	0.337	0.320	0.608	0.342	0.332	0.194	0.156	0.145	0.132	0.122	0.111	0.463	0.419	0.380	0.453	0.431
Lighting Interior Other	0.145	0.139	0.139	0.133	0.127	0.123	0.152	0.115	0.092	0.069	0.046	0.050	0.049	0.041	0.044	0.137	0.203	0.201	0.195	0.189
Lighting Interior Screw Base - Standard	0.238	0.149	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.238	0.149	0.002	0.002	0.001	0.001	0.000	0.000
Lighting Interior Screw Base - Standard - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Plug Load	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.016	0.010	0.017	0.017	0.024	0.024	0.024	0.024	0.024	0.024	0.019	0.015
Photo Copiers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Printers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Refrigeration	0.709	0.708	0.708	0.707	0.706	0.730	0.728	0.867	0.754	0.589	0.332	0.332	0.332	0.322	0.315	0.640	0.581	0.490	0.431	0.414
Refrigerators	0.022	0.021	0.020	0.019	0.019	0.018	0.021	0.018	0.027	0.022	0.015	0.015	0.022	0.021	0.020	0.020	0.014	0.010	0.007	0.003
Room Cool	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Cool - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Heat - Electric	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.019	0.013	0.008	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.001
Servers	0.010	0.010	0.010	0.010	0.011	0.018	0.018	0.018	0.015	0.013	0.009	0.009	0.009	0.006	0.004	0.001	0.002	0.002	0.001	0.001
Space Heat - Electric	0.147	0.147	0.147	0.146	0.146	0.217	0.217	0.217	0.171	0.131	0.074	0.082	0.082	0.060	0.041	0.029	0.029	0.029	0.039	0.036
Vending Machines	0.013	0.013	0.013	0.013	0.013	0.025	0.025	0.025	0.021	0.018	0.013	0.013	0.013	0.009	0.006	0.001	0.001	0.001	0.001	0.001
Ventilation And Circulation	0.442	0.442	0.442	0.442	0.441	0.449	0.449	0.449	0.309	0.190	0.011	0.011	0.011	0.010	0.008	0.416	0.437	0.437	0.436	0.436
Water Heat GT 55 Gal	0.056	0.055	0.053	0.052	0.065	0.064	0.070	0.082	0.068	0.058	0.055	0.054	0.047	0.042	0.036	0.030	0.030	0.014	0.011	0.007
Water Heat LE 55 Gal	0.266	0.265	0.263	0.260	0.322	0.320	0.330	0.389	0.310	0.309	0.230	0.229	0.207	0.218	0.196	0.172	0.163	0.099	0.079	0.047
Heat Pump	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.002	0.000	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.001
Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Compressed Air	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.006	0.003	0.007	0.007	0.007	0.007	0.007	0.008	0.008	0.008	0.006	0.004
Package Terminal AC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool Pump	0.015	0.016	0.014	0.013	0.012	0.012	0.018	0.011	0.009	0.006	0.019	0.019	0.017	0.016	0.014	0.013	0.019	0.011	0.011	0.007
Fans	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.041	0.025	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.041	0.025
HVAC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Indirect Boiler	0.138	0.138	0.138	0.138	0.138	0.138	0.138	0.138	0.094	0.056	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.059	0.035
Lighting	0.301	0.301	0.301	0.387	0.387	0.395	0.395	0.395	0.307	0.225	0.101	0.074	0.050	0.013	0.011	0.183	0.181	0.179	0.176	0.176
Motors Other	0.056	0.056	0.056	0.056	0.056	0.056	0.112	0.112	0.094	0.079	0.056	0.056	0.056	0.056	0.038	0.023	0.000	0.000	0.000	0.000
Process AirComp	0.262	0.262	0.262	0.262	0.262	0.262	0.262	0.262	0.178	0.107	0.262	0.262	0.262	0.262	0.262	0.262	0.262	0.262	0.178	0.107
Process Electro Chemical	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.005	0.003	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.005	0.003
Process Heat	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.204	0.123	0.156	0.156	0.156	0.156	0.300	0.300	0.300	0.300	0.250	0.207
Process Other	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.049	0.030	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.049	0.030
Process Refrig and Cooling	0.433	0.433	0.433	0.433	0.433	0.433	0.433	0.433	0.295	0.177	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pumps	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.019	0.011	0.000	0.000	0.000	0.000	0.000	0.028	0.028	0.028	0.028	0.028
Total	6.486	6.527	6.243	6.213	6.207	6.315	7.502	6.561	5.666	4.048	2.854	2.881	3.047	2.815	2.675	5.002	4.673	4.197	3.910	3.519

Appendix C.2

EVT Non-residential Achievable Potential - Savings and Costs

MW	Realistic Achievable Potential by End-Use - Cumulative Annual Winter Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	0.058	0.115	0.173	0.230	0.288	0.345	0.401	0.458	0.497	0.521	0.522	0.524	0.526	0.528	0.530	0.532	0.534	0.537	0.539	0.541
Cooking	0.021	0.042	0.063	0.083	0.104	0.125	0.145	0.166	0.180	0.189	0.189	0.190	0.191	0.191	0.192	0.192	0.193	0.194	0.195	0.195
Cooling Chillers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cooling Dx Evap	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cooling Dx Evap - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Fax	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Flat Screen Monitors	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Freezers	0.002	0.005	0.007	0.009	0.011	0.013	0.016	0.018	0.019	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020
Lighting Exterior	1.108	2.213	3.319	4.423	5.524	6.623	7.720	8.815	9.566	10.022	10.038	10.057	10.075	10.091	10.107	10.126	10.150	10.173	10.196	10.219
Lighting Interior Fluorescent	1.157	2.415	3.572	4.654	5.683	6.655	8.422	9.355	10.216	10.751	11.142	11.498	11.818	12.109	12.368	12.606	12.619	12.623	12.877	13.114
Lighting Interior Fluorescent - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting Interior HID	0.365	0.772	1.147	1.500	1.837	2.156	2.765	3.106	3.433	3.621	3.772	3.911	4.037	4.154	4.259	4.357	4.371	4.379	4.485	4.584
Lighting Interior Other	0.145	0.283	0.422	0.556	0.683	0.806	0.959	1.074	1.166	1.234	1.281	1.330	1.379	1.420	1.464	1.513	1.577	1.638	1.700	1.762
Lighting Interior Screw Base - Standard	0.238	0.387	0.389	0.391	0.393	0.395	0.397	0.399	0.400	0.401	0.401	0.401	0.401	0.401	0.401	0.401	0.401	0.401	0.401	0.401
Lighting Interior Screw Base - Standard - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Plug Load	0.023	0.047	0.070	0.093	0.116	0.140	0.162	0.185	0.201	0.211	0.212	0.212	0.213	0.213	0.214	0.215	0.216	0.217	0.217	0.218
Photo Copiers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Printers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Refrigeration	0.709	1.418	2.126	2.833	3.539	4.243	4.946	5.648	6.130	6.421	6.431	6.442	6.453	6.462	6.471	6.482	6.496	6.510	6.523	6.537
Refrigerators	0.022	0.043	0.063	0.082	0.101	0.120	0.141	0.158	0.171	0.178	0.178	0.179	0.179	0.179	0.179	0.180	0.180	0.180	0.181	0.181
Room Cool	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Cool - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Heat - Electric	0.020	0.040	0.060	0.079	0.099	0.118	0.138	0.157	0.171	0.179	0.179	0.180	0.180	0.180	0.181	0.181	0.182	0.182	0.183	0.183
Servers	0.010	0.019	0.029	0.039	0.048	0.058	0.068	0.077	0.084	0.088	0.088	0.088	0.089	0.089	0.089	0.089	0.090	0.090	0.091	0.091
Space Heat - Electric	0.147	0.293	0.440	0.586	0.733	0.879	1.025	1.171	1.270	1.330	1.332	1.333	1.334	1.335	1.336	1.337	1.339	1.340	1.342	1.343
Vending Machines	0.013	0.026	0.038	0.051	0.064	0.076	0.089	0.101	0.110	0.115	0.115	0.116	0.116	0.117	0.117	0.117	0.118	0.119	0.119	0.120
Ventilation And Circulation	0.442	0.884	1.326	1.767	2.208	2.649	3.090	3.530	3.831	4.012	4.015	4.017	4.020	4.022	4.024	4.027	4.030	4.033	4.036	4.039
Water Heat GT 55 Gal	0.056	0.111	0.165	0.216	0.266	0.316	0.371	0.418	0.452	0.472	0.475	0.477	0.478	0.479	0.480	0.481	0.482	0.483	0.484	0.486
Water Heat LE 55 Gal	0.266	0.531	0.794	1.054	1.312	1.568	1.834	2.088	2.264	2.370	2.376	2.381	2.386	2.390	2.394	2.397	2.401	2.405	2.409	2.414
Heat Pump	0.004	0.008	0.012	0.016	0.019	0.023	0.027	0.031	0.033	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.036	0.036	0.036	0.036
Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Compressed Air	0.008	0.015	0.023	0.031	0.038	0.046	0.054	0.061	0.066	0.070	0.070	0.070	0.070	0.070	0.071	0.071	0.071	0.071	0.072	0.072
Package Terminal AC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool Pump	0.015	0.031	0.045	0.059	0.071	0.083	0.101	0.112	0.121	0.127	0.130	0.133	0.136	0.138	0.140	0.142	0.142	0.143	0.145	0.146
Fans	0.061	0.122	0.182	0.243	0.304	0.365	0.425	0.486	0.528	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552	0.552
HVAC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Indirect Boiler	0.138	0.276	0.414	0.552	0.690	0.828	0.966	1.104	1.198	1.254	1.254	1.254	1.254	1.254	1.254	1.254	1.254	1.254	1.254	1.254
Lighting	0.301	0.603	0.904	1.206	1.507	1.809	2.110	2.411	2.617	2.740	2.740	2.740	2.740	2.740	2.740	2.740	2.740	2.740	2.740	2.740
Motors Other	0.056	0.112	0.167	0.223	0.279	0.335	0.391	0.446	0.484	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507	0.507
Process AirComp	0.262	0.523	0.785	1.047	1.308	1.570	1.832	2.093	2.272	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379	2.379
Process Electro Chemical	0.007	0.014	0.021	0.028	0.035	0.042	0.048	0.055	0.060	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063
Process Heat	0.300	0.600	0.900	1.200	1.499	1.799	2.099	2.399	2.604	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726	2.726
Process Other	0.072	0.145	0.217	0.290	0.362	0.435	0.507	0.580	0.629	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659	0.659
Process Refrig and Cooling	0.433	0.866	1.299	1.731	2.164	2.597	3.030	3.463	3.758	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935	3.935
Pumps	0.028	0.055	0.083	0.111	0.139	0.166	0.194	0.222	0.241	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252
Total	6.486	13.013	19.256	25.383	31.425	37.383	44.472	50.390	54.770	57.436	58.070	58.664	59.205	59.691	60.141	60.570	60.716	60.844	61.319	61.771

Appendix C.2

EVT Non-residential Achievable Potential - Savings and Costs

MMBtu	Realistic Achievable Potential by End-Use - Incremental Annual Natural Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cooking	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cooling Chillers	376	375	375	374	374	551	550	549	432	332	188	239	239	183	136	83	85	85	82	65
Cooling Dx Evap	2,789	2,782	2,798	2,790	2,767	3,399	3,387	3,383	2,523	1,780	759	1,108	1,101	898	736	675	694	691	853	722
Cooling Dx Evap - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flat Screen Monitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Freezers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Exterior	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior Fluorescent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior Fluorescent - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior HID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior Screw Base - Standard	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior Screw Base - Standard - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Plug Load	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Photo Copiers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Printers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Refrigerators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Cool	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Cool - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Heat - Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Servers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Space Heat - Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vending Machines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation And Circulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Heat GT 55 Gal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Heat LE 55 Gal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heat Pump	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Compressed Air	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Package Terminal AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pool Pump	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Indirect Boiler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Motors Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process AirComp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Electro Chemical	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Refrig and Cooling	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pumps	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3,165	3,158	3,173	3,165	3,141	3,950	3,937	3,932	2,955	2,112	946	1,347	1,339	1,081	871	758	780	776	935	786



Appendix C.2

EVT Non-residential Achievable Potential - Savings and Costs

MMBtu	Realistic Achievable Potential by End-Use - Cumulative Annual Natural Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cooking	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cooling Chillers	376	751	1,126	1,501	1,875	2,248	2,620	2,991	3,246	3,401	3,407	3,413	3,419	3,425	3,430	3,437	3,445	3,453	3,461	3,469
Cooling Dx Evap	2,789	5,571	8,354	11,129	13,880	16,629	19,367	22,102	23,979	25,119	25,167	25,220	25,272	25,316	25,363	25,416	25,487	25,555	25,622	25,689
Cooling Dx Evap - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flat Screen Monitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Freezers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Exterior	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior Fluorescent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior Fluorescent - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior HID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior Screw Base - Standard	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting Interior Screw Base - Standard - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Plug Load	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Photo Copiers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Printers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Refrigerators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Cool	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Cool - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Heat - Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Servers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Space Heat - Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vending Machines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation And Circulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Heat GT 55 Gal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Heat LE 55 Gal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heat Pump	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Compressed Air	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Package Terminal AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pool Pump	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Indirect Boiler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Motors Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process AirComp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Electro Chemical	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Refrig and Cooling	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pumps	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3,165	6,322	9,480	12,629	15,755	18,876	21,987	25,093	27,225	28,520	28,574	28,633	28,692	28,740	28,794	28,853	28,932	29,008	29,083	29,158

Appendix C.2

EVT Non-residential Achievable Potential - Savings and Costs

\$	Realistic Achievable Potential by End-Use - Annual Incentive Costs																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	\$39,054	\$38,922	\$38,924	\$38,766	\$38,590	\$77,552	\$77,186	\$77,085	\$65,103	\$54,758	\$39,688	\$39,575	\$39,463	\$27,416	\$17,338	\$2,498	\$3,036	\$2,956	\$2,707	\$2,800
Cooking	\$30,702	\$30,609	\$30,611	\$30,500	\$30,376	\$30,311	\$30,147	\$30,074	\$20,729	\$12,694	\$837	\$963	\$31,618	\$31,368	\$31,434	\$31,419	\$31,589	\$31,474	\$31,291	\$31,206
Cooling Chillers	\$142,850	\$142,631	\$142,081	\$141,251	\$140,504	\$155,348	\$158,141	\$154,127	\$111,122	\$73,136	\$18,458	\$23,891	\$23,670	\$18,475	\$14,529	\$90,218	\$91,002	\$90,860	\$90,514	\$88,619
Cooling Dx Evap	\$1,284,325	\$1,280,514	\$1,281,063	\$1,277,092	\$1,263,904	\$1,382,947	\$1,378,767	\$1,376,075	\$982,759	\$644,707	\$898,491	\$907,159	\$907,059	\$861,870	\$823,142	\$823,402	\$827,838	\$824,929	\$646,583	\$444,308
Cooling Dx Evap - Early Replacement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fax	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Flat Screen Monitors	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Freezers	\$3,715	\$3,675	\$3,610	\$3,558	\$3,517	\$3,482	\$3,620	\$3,433	\$5,673	\$4,708	\$3,329	\$3,329	\$3,726	\$3,684	\$3,620	\$3,569	\$2,475	\$1,535	\$315	\$128
Lighting Exterior	\$2,087,929	\$2,081,861	\$2,081,972	\$2,074,722	\$2,066,641	\$2,062,416	\$2,051,675	\$2,046,939	\$1,497,230	\$949,922	\$143,392	\$198,416	\$197,881	\$187,614	\$191,620	\$197,707	\$189,071	\$161,784	\$124,352	\$119,819
Lighting Interior Fluorescent	\$577,293	\$625,984	\$576,746	\$539,619	\$513,257	\$485,356	\$873,303	\$466,181	\$463,790	\$302,226	\$250,869	\$233,934	\$215,688	\$201,968	\$186,606	\$692,777	\$619,614	\$556,771	\$618,347	\$577,394
Lighting Interior Fluorescent - Early Replacement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lighting Interior HID	\$1,271,100	\$1,419,815	\$1,311,031	\$1,230,684	\$1,175,924	\$1,114,964	\$2,135,977	\$1,251,191	\$1,204,778	\$667,665	\$538,382	\$498,023	\$453,011	\$419,456	\$379,666	\$1,618,600	\$1,466,879	\$1,335,268	\$1,599,489	\$1,521,134
Lighting Interior Other	\$266,384	\$255,187	\$256,472	\$245,771	\$233,847	\$227,611	\$281,905	\$213,030	\$168,847	\$126,937	\$84,595	\$91,643	\$89,534	\$74,228	\$80,546	\$254,330	\$372,306	\$368,622	\$358,101	\$346,382
Lighting Interior Screw Base - Standard	\$91,112	\$57,720	\$2,848	\$2,848	\$2,848	\$2,848	\$2,848	\$2,848	\$4,789	\$4,013	\$2,848	\$2,848	\$91,112	\$57,720	\$2,848	\$2,848	\$1,942	\$1,165	\$0	\$0
Lighting Interior Screw Base - Standard - Early Replacement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other Plug Load	\$16,621	\$16,570	\$16,571	\$16,511	\$16,444	\$16,409	\$16,319	\$16,280	\$11,221	\$6,872	\$1,214	\$1,258	\$17,115	\$16,979	\$17,011	\$17,004	\$17,095	\$17,033	\$16,706	\$16,470
Photo Copiers	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Printers	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Refrigeration	\$1,088,064	\$1,086,339	\$1,086,370	\$1,084,308	\$1,082,010	\$1,100,158	\$1,097,045	\$1,284,545	\$1,041,551	\$766,803	\$510,558	\$511,334	\$516,240	\$506,447	\$502,055	\$989,993	\$948,720	\$843,161	\$742,961	\$687,414
Refrigerators	\$82,023	\$79,879	\$72,917	\$67,219	\$62,700	\$58,672	\$80,029	\$53,138	\$73,288	\$55,175	\$37,895	\$36,457	\$83,743	\$81,285	\$74,409	\$68,878	\$54,134	\$40,817	\$48,383	\$21,496
Room Cool	\$1	\$1	\$1	\$1	\$1	\$1	\$1	\$1	\$1	\$1	\$0	\$0	\$1	\$1	\$1	\$1	\$1	\$1	\$1	\$1
Room Cool - Early Replacement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Room Heat - Electric	\$20,157	\$19,768	\$19,769	\$19,741	\$19,709	\$19,693	\$19,651	\$19,632	\$13,443	\$8,131	\$305	\$326	\$325	\$285	\$1,005	\$1,395	\$1,105	\$1,092	\$1,058	\$1,033
Servers	\$6,651	\$6,630	\$6,631	\$6,607	\$8,079	\$11,232	\$11,187	\$11,166	\$9,124	\$7,368	\$4,962	\$4,959	\$4,494	\$3,102	\$1,707	\$2,310	\$2,376	\$2,356	\$2,279	\$2,237
Space Heat - Electric	\$61,835	\$61,802	\$61,803	\$61,765	\$61,722	\$86,205	\$86,141	\$86,116	\$66,579	\$49,823	\$24,899	\$25,188	\$25,180	\$17,361	\$11,276	\$15,114	\$15,222	\$15,204	\$19,495	\$19,377
Vending Machines	\$8,874	\$8,842	\$8,808	\$8,771	\$8,731	\$17,584	\$17,498	\$17,440	\$14,730	\$12,390	\$8,983	\$8,957	\$8,932	\$6,207	\$3,928	\$575	\$700	\$682	\$624	\$646
Ventilation And Circulation	\$443,895	\$443,454	\$443,462	\$442,936	\$442,350	\$446,930	\$446,151	\$445,808	\$306,573	\$187,197	\$8,929	\$9,331	\$9,303	\$15,818	\$14,763	\$441,575	\$444,283	\$443,985	\$443,371	\$442,747
Water Heat GT 55 Gal	\$15,387	\$14,693	\$13,356	\$12,189	\$11,287	\$10,501	\$14,938	\$10,798	\$8,680	\$7,002	\$14,270	\$13,293	\$11,696	\$11,449	\$10,469	\$9,834	\$13,695	\$7,447	\$6,444	\$4,043
Water Heat LE 55 Gal	\$63,477	\$63,287	\$62,750	\$62,146	\$61,702	\$61,379	\$63,686	\$71,315	\$52,606	\$57,270	\$38,520	\$38,314	\$37,627	\$55,370	\$55,136	\$51,459	\$51,133	\$37,093	\$30,828	\$20,898
Heat Pump	\$13,269	\$13,216	\$13,185	\$13,102	\$12,779	\$12,935	\$12,958	\$12,808	\$8,877	\$5,465	\$625	\$940	\$975	\$878	\$889	\$1,473	\$1,603	\$1,547	\$2,582	\$2,232
Dryer	\$262	\$280	\$257	\$239	\$225	\$211	\$385	\$199	\$188	\$123	\$101	\$94	\$347	\$356	\$327	\$305	\$240	\$225	\$456	\$266
Compressed Air	\$11,238	\$11,204	\$11,205	\$11,165	\$11,120	\$11,260	\$11,201	\$11,175	\$7,752	\$4,810	\$6,638	\$6,650	\$6,648	\$6,517	\$6,470	\$11,327	\$11,385	\$11,353	\$9,450	\$7,815
Package Terminal AC	\$772	\$758	\$675	\$605	\$550	\$499	\$853	\$442	\$396	\$251	\$185	\$164	\$174	\$153	\$137	\$867	\$788	\$703	\$708	\$645
Pool Pump	\$6,473	\$6,582	\$5,977	\$5,469	\$5,067	\$4,687	\$7,901	\$4,262	\$3,763	\$2,345	\$8,086	\$8,021	\$7,220	\$6,526	\$5,984	\$5,516	\$8,185	\$4,534	\$4,646	\$3,148
Fans	\$15,098	\$15,098	\$15,098	\$15,098	\$15,098	\$15,098	\$15,098	\$15,098	\$10,294	\$6,176	\$15,098	\$15,098	\$15,098	\$15,098	\$15,098	\$15,098	\$15,098	\$15,098	\$10,294	\$6,176
HVAC	\$887,328	\$887,328	\$887,328	\$887,328	\$887,328	\$902,747	\$902,747	\$902,747	\$620,415	\$378,417	\$56,257	\$61,786	\$61,786	\$56,880	\$59,009	\$779,614	\$779,614	\$779,614	\$766,620	\$753,723
Indirect Boiler	\$81,015	\$81,015	\$81,015	\$81,015	\$81,015	\$81,015	\$81,015	\$81,015	\$55,237	\$33,142	\$51,771	\$51,771	\$51,771	\$51,771	\$51,771	\$51,771	\$51,771	\$51,771	\$35,298	\$21,179
Lighting	\$611,816	\$611,816	\$611,816	\$802,057	\$802,057	\$803,108	\$803,108	\$803,108	\$611,745	\$444,886	\$194,598	\$134,066	\$82,182	\$4,022	\$3,736	\$392,427	\$391,375	\$390,473	\$389,121	\$389,121
Motors Other	\$60,745	\$60,745	\$60,745	\$60,745	\$60,745	\$60,745	\$121,489	\$121,489	\$102,161	\$85,595	\$60,745	\$60,745	\$60,745	\$60,745	\$41,417	\$24,850	\$0	\$0	\$0	\$0
Process AirComp	\$39,176	\$39,176	\$39,176	\$39,176	\$39,176	\$39,176	\$39,176	\$39,176	\$26,711	\$16,027	\$39,176	\$39,176	\$39,176	\$39,176	\$39,176	\$39,176	\$39,176	\$39,176	\$26,711	\$16,027
Process Electro Chemical	\$588	\$588	\$588	\$588	\$588	\$588	\$588	\$588	\$401	\$241	\$588	\$588	\$588	\$588	\$588	\$588	\$588	\$588	\$401	\$241
Process Heat	\$86,549	\$86,549	\$86,549	\$86,549	\$86,549	\$86,549	\$86,549	\$86,549	\$59,011	\$35,406	\$30,404	\$30,404	\$30,404	\$30,404	\$86,549	\$86,549	\$86,549	\$86,549	\$76,875	\$68,583
Process Other	\$10,099	\$10,099	\$10,099	\$10,099	\$10,099	\$10,099	\$10,099	\$10,099	\$6,885	\$4,131	\$10,099	\$10,099	\$10,099	\$10,099	\$10,099	\$10,099	\$10,099	\$10,099	\$6,885	\$4,131
Process Refrig and Cooling	\$274,856	\$274,856	\$274,856	\$274,856	\$274,856	\$274,856	\$274,856	\$274,856	\$187,402	\$112,441	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pumps	\$9,116	\$9,116	\$9,116	\$9,116	\$9,116	\$9,116	\$9,116	\$9,116	\$6,216	\$3,729	\$0	\$0	\$0	\$0	\$0	\$9,116	\$9,116	\$9,116	\$9,116	\$9,116
Total	\$9,709,849	\$9,846,610	\$9,625,479	\$9,664,211	\$9,540,509	\$9,684,288	#####	#####	\$7,830,070	\$5,131,983	\$3,105,795	\$3,068,801	\$3,134,633	\$2,881,314	\$2,744,359	\$6,744,282	\$6,559,804	\$6,185,082	\$6,123,013	\$5,630,559

Appendix C.2

EVT Non-residential Achievable Potential - Savings and Costs

\$	Realistic Achievable Potential by End-Use - Annual Admin Costs																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	\$131,737	\$131,350	\$131,357	\$130,894	\$130,379	\$261,846	\$260,774	\$260,479	\$219,863	\$184,831	\$133,594	\$133,262	\$132,935	\$92,127	\$57,878	\$7,312	\$8,889	\$8,654	\$7,924	\$8,197
Cooking	\$37,858	\$37,759	\$37,761	\$37,642	\$37,509	\$37,440	\$37,264	\$37,186	\$25,593	\$15,631	\$895	\$1,020	\$38,838	\$38,570	\$38,641	\$38,625	\$38,807	\$38,683	\$38,488	\$38,401
Cooling Chillers	\$28,339	\$28,319	\$28,030	\$27,707	\$27,440	\$32,413	\$34,035	\$32,029	\$23,899	\$16,378	\$5,978	\$8,527	\$8,587	\$6,831	\$5,403	\$18,479	\$18,613	\$18,588	\$18,529	\$17,668
Cooling Dx Evap	\$50,502	\$50,194	\$50,129	\$49,849	\$48,669	\$57,026	\$57,124	\$56,676	\$41,468	\$28,286	\$26,991	\$30,763	\$31,234	\$28,499	\$26,224	\$27,075	\$27,111	\$26,888	\$23,664	\$16,944
Cooling Dx Evap - Early Replacement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fax	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Flat Screen Monitors	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Freezers	\$4,376	\$4,283	\$4,130	\$4,008	\$3,912	\$3,830	\$4,157	\$3,717	\$6,014	\$4,932	\$3,470	\$3,469	\$4,398	\$4,301	\$4,150	\$4,030	\$2,845	\$1,822	\$738	\$299
Lighting Exterior	\$1,090,940	\$1,089,350	\$1,089,379	\$1,087,478	\$1,085,361	\$1,084,253	\$1,081,438	\$1,080,196	\$1,226,407	\$934,678	\$501,834	\$589,633	\$589,305	\$586,615	\$587,438	\$588,781	\$438,975	\$305,139	\$105,360	\$84,742
Lighting Interior Fluorescent	\$1,796,238	\$1,952,398	\$1,797,064	\$1,680,046	\$1,597,096	\$1,509,117	\$2,742,847	\$1,449,422	\$1,356,658	\$852,287	\$765,777	\$712,172	\$654,331	\$610,850	\$562,109	\$2,165,845	\$1,964,783	\$1,791,856	\$2,009,465	\$1,862,889
Lighting Interior Fluorescent - Early Replacement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lighting Interior HID	\$566,515	\$631,314	\$583,125	\$547,487	\$523,138	\$496,115	\$944,595	\$530,447	\$514,838	\$301,423	\$242,175	\$224,367	\$204,533	\$189,745	\$172,250	\$718,798	\$650,040	\$590,141	\$703,247	\$668,533
Lighting Interior Other	\$205,003	\$197,080	\$197,890	\$190,072	\$181,359	\$176,803	\$215,582	\$166,045	\$130,354	\$96,897	\$61,683	\$66,846	\$65,325	\$54,144	\$58,758	\$183,528	\$282,784	\$279,870	\$272,326	\$263,779
Lighting Interior Screw Base - Standard	\$370,262	\$231,046	\$2,968	\$2,968	\$2,968	\$2,968	\$2,968	\$2,968	\$4,991	\$4,182	\$2,968	\$2,968	\$370,262	\$231,046	\$2,968	\$2,968	\$2,024	\$1,214	\$0	\$0
Lighting Interior Screw Base - Standard - Early Replacement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other Plug Load	\$53,342	\$53,202	\$53,205	\$53,037	\$52,850	\$52,752	\$52,504	\$52,395	\$36,061	\$22,024	\$37,819	\$37,851	\$54,629	\$54,233	\$54,203	\$54,228	\$54,442	\$54,261	\$42,961	\$33,309
Photo Copiers	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Printers	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Refrigeration	\$1,247,324	\$1,245,672	\$1,245,702	\$1,243,728	\$1,241,527	\$1,285,158	\$1,282,115	\$1,525,783	\$1,326,416	\$1,033,936	\$581,124	\$581,449	\$581,942	\$564,114	\$552,654	\$1,122,668	\$1,018,924	\$857,966	\$754,741	\$725,217
Refrigerators	\$39,126	\$38,589	\$36,820	\$35,379	\$34,239	\$33,219	\$38,619	\$31,824	\$49,485	\$39,875	\$27,965	\$27,595	\$39,513	\$38,902	\$37,147	\$35,742	\$26,137	\$17,748	\$12,123	\$5,329
Room Cool	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Room Cool - Early Replacement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Room Heat - Electric	\$10,320	\$10,143	\$10,144	\$10,122	\$10,097	\$10,084	\$10,051	\$10,037	\$6,888	\$4,184	\$634	\$651	\$650	\$618	\$833	\$1,010	\$910	\$900	\$748	\$621
Servers	\$22,200	\$22,141	\$22,142	\$22,072	\$24,112	\$41,994	\$41,844	\$41,792	\$34,931	\$29,023	\$20,621	\$20,586	\$19,897	\$13,751	\$8,249	\$3,210	\$3,432	\$3,387	\$3,208	\$3,167
Space Heat - Electric	\$75,705	\$75,650	\$75,651	\$75,586	\$75,513	\$112,256	\$112,143	\$112,101	\$88,243	\$67,774	\$38,011	\$42,475	\$42,459	\$30,735	\$20,951	\$14,682	\$14,868	\$14,838	\$19,982	\$18,360
Vending Machines	\$23,143	\$23,069	\$22,992	\$22,910	\$22,818	\$45,913	\$45,717	\$45,586	\$38,480	\$32,350	\$23,389	\$23,331	\$23,273	\$16,132	\$10,142	\$1,301	\$1,584	\$1,543	\$1,412	\$1,462
Ventilation And Circulation	\$744,486	\$744,116	\$744,122	\$743,680	\$743,186	\$756,898	\$756,243	\$755,954	\$520,758	\$319,508	\$17,743	\$18,082	\$18,058	\$16,564	\$13,001	\$700,150	\$735,055	\$734,617	\$734,096	\$733,436
Water Heat GT 55 Gal	\$28,945	\$28,431	\$27,457	\$26,550	\$33,254	\$32,716	\$35,859	\$42,075	\$34,883	\$30,098	\$28,221	\$27,537	\$24,144	\$21,660	\$18,372	\$15,295	\$15,440	\$6,902	\$5,728	\$3,441
Water Heat LE 55 Gal	\$137,061	\$136,695	\$135,477	\$134,019	\$165,698	\$165,065	\$170,251	\$200,607	\$159,972	\$159,494	\$118,682	\$118,168	\$106,623	\$112,109	\$100,774	\$88,344	\$83,934	\$50,914	\$40,472	\$23,557
Heat Pump	\$3,153	\$3,142	\$3,125	\$3,100	\$2,967	\$3,171	\$3,208	\$3,140	\$2,215	\$1,401	\$287	\$821	\$938	\$884	\$853	\$1,407	\$1,429	\$1,407	\$1,484	\$1,181
Dryer	\$100	\$107	\$98	\$91	\$86	\$80	\$147	\$76	\$72	\$47	\$38	\$35	\$132	\$135	\$124	\$116	\$91	\$85	\$174	\$101
Compressed Air	\$13,957	\$13,922	\$13,922	\$13,880	\$13,833	\$14,346	\$14,283	\$14,256	\$9,975	\$6,298	\$12,604	\$12,605	\$12,604	\$12,336	\$12,173	\$13,639	\$13,691	\$13,648	\$10,038	\$6,941
Package Terminal AC	\$462	\$454	\$402	\$359	\$325	\$294	\$511	\$258	\$234	\$148	\$113	\$99	\$93	\$81	\$71	\$519	\$469	\$417	\$420	\$381
Pool Pump	\$27,850	\$28,273	\$25,982	\$24,071	\$22,560	\$21,131	\$33,239	\$19,539	\$16,540	\$10,223	\$33,853	\$33,607	\$30,574	\$27,978	\$25,933	\$24,158	\$34,164	\$20,426	\$19,739	\$13,120
Fans	\$59,880	\$59,880	\$59,880	\$59,880	\$59,880	\$59,880	\$59,880	\$59,880	\$40,828	\$24,497	\$59,880	\$59,880	\$59,880	\$59,880	\$59,880	\$59,880	\$59,880	\$59,880	\$40,828	\$24,497
HVAC	\$1,188,693	\$1,188,693	\$1,188,693	\$1,188,693	\$1,188,693	\$1,257,908	\$1,257,908	\$1,257,908	\$879,687	\$555,498	\$212,295	\$271,029	\$271,029	\$249,006	\$244,097	\$873,762	\$873,762	\$873,762	\$828,236	\$770,526
Indirect Boiler	\$71,349	\$71,349	\$71,349	\$71,349	\$71,349	\$71,349	\$71,349	\$71,349	\$48,647	\$29,188	\$44,878	\$44,878	\$44,878	\$44,878	\$44,878	\$44,878	\$44,878	\$44,878	\$30,599	\$18,359
Lighting	\$603,239	\$603,239	\$603,239	\$775,440	\$775,440	\$791,191	\$791,191	\$791,191	\$613,835	\$449,315	\$202,535	\$147,744	\$100,781	\$25,323	\$21,027	\$366,804	\$362,164	\$358,187	\$352,221	\$352,221
Motors Other	\$54,984	\$54,984	\$54,984	\$54,984	\$54,984	\$54,984	\$109,968	\$109,968	\$92,473	\$77,478	\$54,984	\$54,984	\$54,984	\$54,984	\$37,489	\$22,494	\$0	\$0	\$0	\$0
Process AirComp	\$238,359	\$238,359	\$238,359	\$238,359	\$238,359	\$238,359	\$238,359	\$238,359	\$162,517	\$97,510	\$238,359	\$238,359	\$238,359	\$238,359	\$238,359	\$238,359	\$238,359	\$238,359	\$162,517	\$97,510
Process Electro Chemical	\$6,304	\$6,304	\$6,304	\$6,304	\$6,304	\$6,304	\$6,304	\$6,304	\$4,298	\$2,579	\$6,304	\$6,304	\$6,304	\$6,304	\$6,304	\$6,304	\$6,304	\$6,304	\$4,298	\$2,579
Process Heat	\$273,193	\$273,193	\$273,193	\$273,193	\$273,193	\$273,193	\$273,193	\$273,193	\$186,268	\$111,761	\$142,476	\$142,476	\$142,476	\$142,476	\$273,193	\$273,193	\$273,193	\$273,193	\$227,860	\$189,003
Process Other	\$65,989	\$65,989	\$65,989	\$65,989	\$65,989	\$65,989	\$65,989	\$65,989	\$44,993	\$26,996	\$65,989	\$65,989	\$65,989	\$65,989	\$65,989	\$65,989	\$65,989	\$65,989	\$44,993	\$26,996
Process Refrig and Cooling	\$394,330	\$394,330	\$394,330	\$394,330	\$394,330	\$394,330	\$394,330	\$394,330	\$268,862	\$161,317	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pumps	\$27,342	\$27,342	\$27,342	\$27,342	\$27,342	\$27,342	\$27,342	\$27,342	\$18,642	\$11,185	\$0	\$0	\$0	\$0	\$0	\$27,342	\$27,342	\$27,342	\$27,342	\$27,342
Total	\$9,692,607	\$9,760,361	\$9,322,737	\$9,322,597	\$9,236,761	\$9,477,720	#####	\$9,770,401	\$8,236,288	\$5,743,231	\$3,714,169	\$3,749,564	\$4,039,958	\$3,640,159	\$3,362,515	\$7,810,914	\$7,391,313	\$6,789,808	\$6,545,962	\$6,040,105



### Appendix C.3

### BED Residential Achievable Potential - Savings and Costs

MWh	Maximum Achievable Potential by End-Use - Incremental Annual Energy Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	166	152	139	138	138	138	138	138	138	138	138	138	138	138	138	138	140	168	154	142
Clothes Washer/Dryer	319	290	262	261	261	260	261	261	261	261	261	261	308	287	284	276	267	267	267	267
Dishwasher	14	13	11	11	11	11	11	11	11	11	11	11	11	15	13	11	11	11	11	11
Electronics	1,090	1,019	948	946	1,087	1,036	1,018	1,001	1,127	1,082	1,029	1,024	1,198	1,131	1,063	1,064	1,203	1,150	1,138	1,119
Hot Water	330	292	253	248	244	239	235	233	228	234	227	219	215	281	252	222	220	220	230	227
Pool/Spa	52	47	42	42	42	42	42	42	42	42	53	49	44	44	44	43	43	43	43	43
Lighting	3,843	3,543	1,475	1,469	1,156	134	128	36	35	36	50	44	38	38	38	53	46	40	40	40
Ventilation	27	19	12	11	11	11	11	11	11	11	11	12	12	12	11	11	11	11	11	30
HVAC Shell	41	34	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
HVAC Equipment	150	135	120	119	119	118	118	118	118	118	118	118	135	128	128	130	124	121	121	121
Behavioral	452	779	787	758	751	796	790	789	785	781	778	775	774	773	774	775	776	778	780	782
ER Refrigeration	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6
ER Clothes Washer/Dryer	33	33	33	45	45	45	45	45	45	45	45	45	45	45	58	58	58	58	58	58
ER Hot Water	46	46	46	46	88	88	88	88	88	88	88	88	88	130	130	130	130	130	130	130
ER HVAC Equipment	53	53	53	53	52	56	56	55	55	55	55	55	55	55	55	59	59	59	59	59
<b>Total</b>	<b>6,622</b>	<b>6,460</b>	<b>4,210</b>	<b>4,178</b>	<b>4,036</b>	<b>3,007</b>	<b>2,972</b>	<b>2,861</b>	<b>2,976</b>	<b>2,934</b>	<b>2,897</b>	<b>2,871</b>	<b>3,092</b>	<b>3,107</b>	<b>3,021</b>	<b>3,001</b>	<b>3,122</b>	<b>3,090</b>	<b>3,075</b>	<b>3,061</b>

MWh	Maximum Achievable Potential by End-Use - Cumulative Annual Energy Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	166	319	457	596	734	872	1,010	1,148	1,217	1,285	1,353	1,422	1,490	1,559	1,627	1,695	1,758	1,761	1,765	1,768
Clothes Washer/Dryer	319	609	870	1,131	1,392	1,652	1,913	2,173	2,434	2,695	2,956	3,217	3,363	3,510	3,517	3,523	3,530	3,537	3,543	3,549
Dishwasher	14	27	38	49	60	71	81	92	103	114	125	136	147	147	148	148	148	149	149	150
Electronics	1,090	2,109	3,057	4,003	4,317	4,614	4,687	4,762	4,836	4,877	4,917	4,958	5,000	5,041	5,081	5,120	5,159	5,199	5,237	5,276
Hot Water	330	618	862	1,097	1,324	1,542	1,752	1,937	2,116	2,240	2,362	2,483	2,603	2,636	2,669	2,688	2,706	2,725	2,743	2,762
Pool/Spa	52	99	142	184	227	269	311	354	396	438	439	441	442	443	444	445	447	448	449	450
Lighting	3,843	7,386	5,072	6,541	6,444	690	787	244	261	279	296	314	331	349	366	384	401	418	436	453
Ventilation	27	46	57	69	80	92	103	114	126	137	149	160	172	183	195	206	217	229	240	243
HVAC Shell	41	75	101	126	152	178	204	230	255	281	307	333	359	384	410	436	462	487	513	539
HVAC Equipment	150	285	404	523	641	758	875	992	1,109	1,225	1,335	1,446	1,493	1,540	1,577	1,592	1,606	1,621	1,636	1,650
Behavioral	452	779	787	758	751	796	790	789	785	781	778	775	774	773	774	775	776	778	780	782
ER Refrigeration	5	9	14	15	15	16	16	17	17	18	18	19	19	20	21	21	22	22	23	23
ER Clothes Washer/Dryer	33	66	98	111	123	136	149	161	174	186	199	211	224	236	249	262	274	287	299	312
ER Hot Water	46	92	138	185	227	269	311	353	395	437	480	522	564	606	648	690	732	775	817	859
ER HVAC Equipment	53	106	159	210	261	302	305	307	309	311	315	319	323	327	331	335	339	343	348	352
<b>Total</b>	<b>6,622</b>	<b>12,625</b>	<b>12,257</b>	<b>15,597</b>	<b>16,747</b>	<b>12,255</b>	<b>13,294</b>	<b>13,674</b>	<b>14,533</b>	<b>15,305</b>	<b>16,031</b>	<b>16,756</b>	<b>17,304</b>	<b>17,756</b>	<b>18,057</b>	<b>18,321</b>	<b>18,579</b>	<b>18,779</b>	<b>18,977</b>	<b>19,167</b>

**Appendix C.3**
**BED Residential Achievable Potential - Savings and Costs**

MW	Maximum Achievable Potential by End-Use - Incremental Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Clothes Washer/Dryer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dishwasher	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electronics	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Hot Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pool/Spa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lighting	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventilation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Shell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Equipment	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Behavioral	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ER Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Clothes Washer/Dryer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Hot Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER HVAC Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>0.7</b>	<b>0.6</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>

MW	Maximum Achievable Potential by End-Use - Cumulative Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Clothes Washer/Dryer	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Dishwasher	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Electronics	0.1	0.2	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Hot Water	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Pool/Spa	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Lighting	0.3	0.5	0.2	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventilation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Shell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Equipment	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Behavioral	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ER Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Clothes Washer/Dryer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Hot Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
ER HVAC Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>0.7</b>	<b>1.2</b>	<b>1.2</b>	<b>1.5</b>	<b>1.7</b>	<b>1.7</b>	<b>1.8</b>	<b>2.0</b>	<b>2.1</b>	<b>2.3</b>	<b>2.4</b>	<b>2.5</b>	<b>2.6</b>	<b>2.6</b>	<b>2.7</b>	<b>2.7</b>	<b>2.7</b>	<b>2.7</b>	<b>2.8</b>	<b>2.8</b>

**Appendix C.3**
**BED Residential Achievable Potential - Savings and Costs**

MW	Maximum Achievable Potential by End-Use - Incremental Annual Winter Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Clothes Washer/Dryer	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dishwasher	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electronics	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Hot Water	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pool/Spa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lighting	0.9	0.9	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventilation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Shell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Behavioral	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ER Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Clothes Washer/Dryer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Hot Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER HVAC Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>1.3</b>	<b>1.2</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>	<b>0.4</b>	<b>0.4</b>	<b>0.3</b>	<b>0.4</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>

MW	Maximum Achievable Potential by End-Use - Cumulative Annual Winter Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Clothes Washer/Dryer	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Dishwasher	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Electronics	0.1	0.2	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Hot Water	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Pool/Spa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lighting	0.9	1.8	0.7	0.9	0.8	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventilation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Shell	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
HVAC Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Behavioral	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ER Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Clothes Washer/Dryer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Hot Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ER HVAC Equipment	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>Total</b>	<b>1.3</b>	<b>2.4</b>	<b>1.6</b>	<b>2.0</b>	<b>2.0</b>	<b>1.6</b>	<b>1.8</b>	<b>1.8</b>	<b>1.9</b>	<b>2.0</b>	<b>2.1</b>	<b>2.3</b>	<b>2.4</b>	<b>2.4</b>	<b>2.5</b>	<b>2.5</b>	<b>2.6</b>	<b>2.6</b>	<b>2.6</b>	<b>2.7</b>



**Appendix C.3**
**BED Residential Achievable Potential - Savings and Costs**

MMBtu	Maximum Achievable Potential by End-Use - Incremental Annual Natural Gas Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	132	80	29	27	27	27	27	28	27	28	28	28	37	33	137	88	40	39	39	38
Dishwasher	18	16	13	13	13	13	13	13	13	13	13	13	13	18	16	14	14	14	14	14
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Behavioral	5,717	9,899	9,994	9,629	9,540	10,121	10,044	10,038	9,981	9,937	9,905	9,868	9,850	9,845	9,860	9,871	9,887	9,911	9,939	9,968
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	106	106	106	120	120	120	120	120	120	120	120	120	120	120	134	134	134	134	134	134
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>5,851</b>	<b>9,979</b>	<b>10,021</b>	<b>9,669</b>	<b>9,579</b>	<b>10,159</b>	<b>10,083</b>	<b>10,077</b>	<b>10,020</b>	<b>9,977</b>	<b>9,945</b>	<b>9,908</b>	<b>9,899</b>	<b>9,895</b>	<b>10,025</b>	<b>9,986</b>	<b>9,954</b>	<b>9,977</b>	<b>10,004</b>	<b>10,033</b>

\*Note: This data corresponds to MMBtu savings associated with electric measures installed by BED

MMBtu	Maximum Achievable Potential by End-Use - Cumulative Annual Natural Gas Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	132	212	241	268	296	322	350	377	405	432	460	488	495	502	515	527	538	550	562	573
Dishwasher	18	33	47	60	73	86	100	113	126	139	153	166	179	180	180	181	181	182	182	183
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	-121	-243	-364	-485	-606	-728	-849	-970	-1,091	-1,213	-1,334	-1,455	-1,576	-1,698	-1,819	-1,819	-1,819	-1,819	-1,819	-1,819
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Behavioral	5,717	9,899	9,994	9,629	9,540	10,121	10,044	10,038	9,981	9,937	9,905	9,868	9,850	9,845	9,860	9,871	9,887	9,911	9,939	9,968
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	106	212	317	332	346	360	374	388	402	416	430	444	458	473	487	501	515	529	543	557
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>5,851</b>	<b>10,113</b>	<b>10,235</b>	<b>9,804</b>	<b>9,648</b>	<b>10,162</b>	<b>10,018</b>	<b>9,946</b>	<b>9,822</b>	<b>9,713</b>	<b>9,614</b>	<b>9,511</b>	<b>9,407</b>	<b>9,301</b>	<b>9,223</b>	<b>9,260</b>	<b>9,303</b>	<b>9,353</b>	<b>9,407</b>	<b>9,462</b>

\*Note: This data corresponds to MMBtu savings associated with electric measures installed by BED

### Appendix C.3

### BED Residential Achievable Potential - Savings and Costs

\$	Maximum Achievable Potential by End-Use - Annual Incentive Costs																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$151,750	\$131,120	\$110,491	\$109,918	\$109,918	\$109,689	\$109,804	\$110,033	\$109,918	\$110,033	\$110,033	\$110,147	\$110,262	\$110,147	\$109,918	\$109,689	\$112,543	\$155,257	\$134,398	\$115,049
Clothes Washer/Dryer	\$379,805	\$340,757	\$301,709	\$300,624	\$300,624	\$300,191	\$300,407	\$300,841	\$300,624	\$300,841	\$300,841	\$301,058	\$358,932	\$333,340	\$338,601	\$323,789	\$309,898	\$309,454	\$309,161	\$309,309
Dishwasher	\$41,830	\$37,500	\$33,170	\$33,050	\$33,050	\$33,002	\$33,026	\$33,074	\$33,050	\$33,074	\$33,074	\$33,098	\$33,122	\$42,936	\$38,558	\$34,180	\$34,036	\$34,060	\$33,964	\$33,990
Electronics	\$265,273	\$248,498	\$231,722	\$231,256	\$265,202	\$253,251	\$249,351	\$245,341	\$275,510	\$264,881	\$252,439	\$251,366	\$293,520	\$277,541	\$261,542	\$261,550	\$295,233	\$282,817	\$280,476	\$275,811
Hot Water	\$217,171	\$186,448	\$155,725	\$154,872	\$154,872	\$154,530	\$154,701	\$155,944	\$155,376	\$158,573	\$157,436	\$156,481	\$156,616	\$209,553	\$186,733	\$162,872	\$161,670	\$161,823	\$164,653	\$163,670
Pool/Spa	\$15,977	\$14,492	\$13,007	\$12,966	\$12,966	\$12,950	\$12,958	\$12,974	\$12,966	\$12,974	\$16,348	\$14,871	\$13,395	\$13,345	\$13,329	\$13,296	\$13,296	\$13,321	\$13,296	\$13,305
Lighting	\$1,080,039	\$881,494	\$417,158	\$404,906	\$344,795	\$47,831	\$45,978	\$37,371	\$37,294	\$37,332	\$40,753	\$39,370	\$37,995	\$37,909	\$37,841	\$41,186	\$39,735	\$38,367	\$38,236	\$38,231
Ventilation	\$34,300	\$24,350	\$14,401	\$14,125	\$14,125	\$14,014	\$14,069	\$14,180	\$14,125	\$14,180	\$14,180	\$14,235	\$14,290	\$14,235	\$14,125	\$14,014	\$13,959	\$14,014	\$13,903	\$37,263
HVAC Shell	\$91,273	\$76,216	\$61,159	\$60,740	\$60,740	\$60,573	\$60,657	\$60,824	\$60,740	\$60,824	\$60,824	\$60,908	\$60,991	\$60,908	\$60,740	\$60,573	\$60,489	\$60,573	\$60,406	\$60,413
HVAC Equipment	\$170,271	\$148,051	\$125,831	\$125,213	\$125,213	\$124,966	\$125,090	\$125,337	\$125,213	\$125,337	\$125,337	\$125,460	\$138,801	\$132,861	\$154,271	\$148,152	\$133,129	\$130,044	\$129,751	\$129,692
Behavioral	\$96,849	\$98,102	\$98,370	\$98,611	\$98,852	\$99,082	\$99,317	\$99,563	\$99,804	\$100,050	\$100,296	\$100,548	\$100,805	\$101,057	\$101,298	\$101,527	\$101,752	\$101,982	\$102,201	\$102,420
ER Refrigeration	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,711	\$3,711	\$3,711	\$3,711
ER Clothes Washer/Dryer	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$68,974	\$68,974	\$68,974	\$68,974	\$68,974	\$68,974
ER Hot Water	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$61,031	\$61,031	\$61,031	\$61,031	\$61,031	\$61,031
ER HVAC Equipment	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$66,341	\$66,341	\$39,517	\$39,517	\$39,517	\$39,517
<b>Total</b>	<b>\$2,659,279</b>	<b>\$2,301,770</b>	<b>\$1,677,485</b>	<b>\$1,661,023</b>	<b>\$1,635,100</b>	<b>\$1,324,821</b>	<b>\$1,320,100</b>	<b>\$1,310,224</b>	<b>\$1,339,362</b>	<b>\$1,332,841</b>	<b>\$1,326,303</b>	<b>\$1,322,285</b>	<b>\$1,433,471</b>	<b>\$1,475,935</b>	<b>\$1,486,345</b>	<b>\$1,443,392</b>	<b>\$1,448,973</b>	<b>\$1,474,943</b>	<b>\$1,453,677</b>	<b>\$1,452,385</b>

\$	Maximum Achievable Potential by End-Use - Annual Admin Costs																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$23,727	\$22,841	\$21,955	\$21,930	\$21,930	\$21,920	\$21,925	\$21,935	\$21,930	\$21,935	\$21,935	\$21,940	\$21,945	\$21,940	\$21,930	\$21,920	\$22,056	\$23,872	\$22,976	\$22,150
Clothes Washer/Dryer	\$19,336	\$17,847	\$16,359	\$16,317	\$16,317	\$16,301	\$16,309	\$16,326	\$16,317	\$16,326	\$16,326	\$16,334	\$18,622	\$17,610	\$17,694	\$17,164	\$16,670	\$16,654	\$16,643	\$16,649
Dishwasher	\$951	\$853	\$755	\$752	\$752	\$751	\$751	\$752	\$752	\$752	\$752	\$753	\$977	\$977	\$877	\$774	\$775	\$773	\$773	\$773
Electronics	\$96,869	\$92,425	\$87,982	\$87,859	\$125,682	\$122,400	\$120,988	\$120,032	\$156,967	\$154,004	\$150,605	\$150,330	\$190,069	\$185,825	\$181,579	\$181,588	\$219,339	\$215,925	\$214,899	\$213,784
Hot Water	\$107,458	\$95,784	\$84,111	\$82,168	\$80,503	\$78,727	\$77,117	\$76,046	\$74,113	\$80,608	\$77,494	\$74,442	\$72,483	\$91,098	\$82,916	\$74,564	\$74,079	\$74,123	\$81,217	\$80,140
Pool/Spa	\$3,030	\$2,748	\$2,467	\$2,459	\$2,459	\$2,456	\$2,457	\$2,461	\$2,459	\$2,461	\$3,100	\$2,820	\$2,540	\$2,531	\$2,528	\$2,522	\$2,522	\$2,526	\$2,522	\$2,523
Lighting	\$261,161	\$241,471	\$93,436	\$93,059	\$74,870	\$8,085	\$7,681	\$2,305	\$2,291	\$2,294	\$3,261	\$2,859	\$2,459	\$2,443	\$2,439	\$3,399	\$2,993	\$2,596	\$2,574	\$2,572
Ventilation	\$10,409	\$7,918	\$5,427	\$5,358	\$5,358	\$5,330	\$5,344	\$5,371	\$5,358	\$5,371	\$5,371	\$5,385	\$5,399	\$5,385	\$5,358	\$5,330	\$5,316	\$5,330	\$5,302	\$12,972
HVAC Shell	\$66,162	\$50,544	\$34,942	\$34,495	\$34,482	\$34,297	\$34,375	\$34,540	\$34,447	\$34,526	\$34,521	\$34,601	\$34,685	\$34,595	\$34,421	\$34,249	\$34,161	\$34,247	\$34,074	\$34,081
HVAC Equipment	\$251,122	\$214,058	\$176,995	\$175,723	\$175,474	\$174,815	\$174,770	\$174,930	\$174,476	\$174,431	\$174,431	\$174,635	\$218,061	\$198,835	\$198,289	\$203,307	\$188,513	\$181,996	\$181,519	\$181,655
Behavioral	\$43,755	\$75,444	\$76,154	\$73,360	\$72,664	\$77,074	\$76,477	\$76,414	\$75,965	\$75,621	\$75,361	\$75,063	\$74,913	\$74,858	\$74,960	\$75,032	\$75,140	\$75,309	\$75,508	\$75,717
ER Refrigeration	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$303	\$303	\$303	\$303
ER Clothes Washer/Dryer	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$2,634	\$2,634	\$2,634	\$2,634	\$2,634	\$2,634
ER Hot Water	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$24,974	\$24,974	\$24,974	\$24,974	\$24,974	\$24,974	\$24,974
ER HVAC Equipment	\$73,861	\$73,457	\$73,054	\$72,650	\$72,246	\$71,843	\$71,439	\$71,036	\$70,632	\$70,229	\$70,229	\$70,229	\$70,229	\$70,229	\$70,229	\$75,713	\$75,713	\$75,713	\$75,713	\$75,713
<b>Total</b>	<b>\$973,071</b>	<b>\$910,621</b>	<b>\$688,865</b>	<b>\$681,359</b>	<b>\$697,965</b>	<b>\$629,228</b>	<b>\$624,865</b>	<b>\$617,378</b>	<b>\$650,936</b>	<b>\$653,787</b>	<b>\$648,616</b>	<b>\$644,621</b>	<b>\$727,388</b>	<b>\$733,475</b>	<b>\$721,098</b>	<b>\$723,444</b>	<b>\$745,186</b>	<b>\$736,976</b>	<b>\$741,630</b>	<b>\$746,641</b>

**Appendix C.3**
**BED Residential Achievable Potential - Savings and Costs**

MWh	Realistic Achievable Potential by End-Use - Incremental Annual Energy Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	166	152	139	138	138	138	138	138	138	138	138	138	138	138	138	138	140	168	154	142
Clothes Washer/Dryer	319	290	262	261	261	260	261	261	261	261	261	261	308	287	284	276	267	267	267	267
Dishwasher	14	13	11	11	11	11	11	11	11	11	11	11	11	15	13	11	11	11	11	11
Electronics	1,090	1,019	948	946	1,087	1,036	1,018	1,001	1,127	1,082	1,029	1,024	1,198	1,131	1,063	1,064	1,203	1,150	1,138	1,119
Hot Water	330	292	253	248	244	239	235	233	228	234	227	219	215	281	252	222	220	220	230	227
Pool/Spa	52	47	42	42	42	42	42	42	42	42	53	49	44	44	44	43	43	43	43	43
Lighting	3,843	3,543	1,475	1,469	1,156	134	128	36	35	36	50	44	38	38	38	53	46	40	40	40
Ventilation	27	19	12	11	11	11	11	11	11	11	11	12	12	12	11	11	11	11	11	30
HVAC Shell	41	34	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
HVAC Equipment	150	135	120	119	119	118	118	118	118	118	118	118	135	128	128	130	124	121	121	121
Behavioral	452	779	787	758	751	796	790	789	785	781	778	775	774	773	774	775	776	778	780	782
ER Refrigeration	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6
ER Clothes Washer/Dryer	33	33	33	45	45	45	45	45	45	45	45	45	45	45	58	58	58	58	58	58
ER Hot Water	46	46	46	46	88	88	88	88	88	88	88	88	88	130	130	130	130	130	130	130
ER HVAC Equipment	53	53	53	53	52	56	56	55	55	55	55	55	55	55	55	59	59	59	59	59
Total	6,622	6,460	4,210	4,178	4,036	3,007	2,972	2,861	2,976	2,934	2,897	2,871	3,092	3,107	3,021	3,001	3,122	3,090	3,075	3,061

MWh	Realistic Achievable Potential by End-Use - Cumulative Annual Energy Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	166	319	457	596	734	872	1,010	1,148	1,217	1,285	1,353	1,422	1,490	1,559	1,627	1,695	1,758	1,761	1,765	1,768
Clothes Washer/Dryer	319	609	870	1,131	1,392	1,652	1,913	2,173	2,434	2,695	2,956	3,217	3,363	3,510	3,517	3,523	3,530	3,537	3,543	3,549
Dishwasher	14	27	38	49	60	71	81	92	103	114	125	136	147	147	148	148	148	149	149	150
Electronics	1,090	2,109	3,057	4,003	4,317	4,614	4,687	4,762	4,836	4,877	4,917	4,958	5,000	5,041	5,081	5,120	5,159	5,199	5,237	5,276
Hot Water	330	618	862	1,097	1,324	1,542	1,752	1,937	2,116	2,240	2,362	2,483	2,603	2,636	2,669	2,688	2,706	2,725	2,743	2,762
Pool/Spa	52	99	142	184	227	269	311	354	396	438	439	441	442	443	444	445	447	448	449	450
Lighting	3,843	7,386	5,072	6,541	6,444	690	787	244	261	279	296	314	331	349	366	384	401	418	436	453
Ventilation	27	46	57	69	80	92	103	114	126	137	149	160	172	183	195	206	217	229	240	243
HVAC Shell	41	75	101	126	152	178	204	230	255	281	307	333	359	384	410	436	462	487	513	539
HVAC Equipment	150	285	404	523	641	758	875	992	1,109	1,225	1,335	1,446	1,493	1,540	1,577	1,592	1,606	1,621	1,636	1,650
Behavioral	452	779	787	758	751	796	790	789	785	781	778	775	774	773	774	775	776	778	780	782
ER Refrigeration	5	9	14	15	15	16	16	17	17	18	18	19	19	20	21	21	22	22	23	23
ER Clothes Washer/Dryer	33	66	98	111	123	136	149	161	174	186	199	211	224	236	249	262	274	287	299	312
ER Hot Water	46	92	138	185	227	269	311	353	395	437	480	522	564	606	648	690	732	775	817	859
ER HVAC Equipment	53	106	159	210	261	302	305	307	309	311	315	319	323	327	331	335	339	343	348	352
Total	6,622	12,625	12,257	15,597	16,747	12,255	13,294	13,674	14,533	15,305	16,031	16,756	17,304	17,756	18,057	18,321	18,579	18,779	18,977	19,167



**Appendix C.3**
**BED Residential Achievable Potential - Savings and Costs**

MW	Realistic Achievable Potential by End-Use - Incremental Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Clothes Washer/Dryer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dishwasher	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electronics	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Hot Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pool/Spa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lighting	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventilation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Shell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Equipment	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Behavioral	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ER Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Clothes Washer/Dryer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Hot Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER HVAC Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>0.7</b>	<b>0.6</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>

MW	Realistic Achievable Potential by End-Use - Cumulative Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Clothes Washer/Dryer	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Dishwasher	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Electronics	0.1	0.2	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Hot Water	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Pool/Spa	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Lighting	0.3	0.5	0.2	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventilation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Shell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Equipment	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Behavioral	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ER Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Clothes Washer/Dryer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Hot Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
ER HVAC Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>0.7</b>	<b>1.2</b>	<b>1.2</b>	<b>1.5</b>	<b>1.7</b>	<b>1.7</b>	<b>1.8</b>	<b>2.0</b>	<b>2.1</b>	<b>2.3</b>	<b>2.4</b>	<b>2.5</b>	<b>2.6</b>	<b>2.6</b>	<b>2.7</b>	<b>2.7</b>	<b>2.7</b>	<b>2.7</b>	<b>2.8</b>	<b>2.8</b>

**Appendix C.3**
**BED Residential Achievable Potential - Savings and Costs**

MW	Realistic Achievable Potential by End-Use - Incremental Annual Winter Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Clothes Washer/Dryer	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dishwasher	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electronics	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Hot Water	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pool/Spa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lighting	0.9	0.9	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventilation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Shell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Behavioral	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ER Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Clothes Washer/Dryer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Hot Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER HVAC Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>1.3</b>	<b>1.2</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>	<b>0.4</b>	<b>0.4</b>	<b>0.3</b>	<b>0.4</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>

MW	Realistic Achievable Potential by End-Use - Cumulative Annual Winter Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Clothes Washer/Dryer	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Dishwasher	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Electronics	0.1	0.2	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Hot Water	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Pool/Spa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lighting	0.9	1.8	0.7	0.9	0.8	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventilation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Shell	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
HVAC Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Behavioral	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ER Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Clothes Washer/Dryer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Hot Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ER HVAC Equipment	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>Total</b>	<b>1.3</b>	<b>2.4</b>	<b>1.6</b>	<b>2.0</b>	<b>2.0</b>	<b>1.6</b>	<b>1.8</b>	<b>1.8</b>	<b>1.9</b>	<b>2.0</b>	<b>2.1</b>	<b>2.3</b>	<b>2.4</b>	<b>2.4</b>	<b>2.5</b>	<b>2.5</b>	<b>2.6</b>	<b>2.6</b>	<b>2.6</b>	<b>2.7</b>

**Appendix C.3**
**BED Residential Achievable Potential - Savings and Costs**

MMBtu	Realistic Achievable Potential by End-Use - Incremental Annual Natural Gas Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	132	80	29	27	27	27	27	28	27	28	28	28	37	33	137	88	40	39	39	38
Dishwasher	18	16	13	13	13	13	13	13	13	13	13	13	13	18	16	14	14	14	14	14
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121	-121
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Behavioral	5,717	9,899	9,994	9,629	9,540	10,121	10,044	10,038	9,981	9,937	9,905	9,868	9,850	9,845	9,860	9,871	9,887	9,911	9,939	9,968
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	106	106	106	120	120	120	120	120	120	120	120	120	120	120	134	134	134	134	134	134
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>5,851</b>	<b>9,979</b>	<b>10,021</b>	<b>9,669</b>	<b>9,579</b>	<b>10,159</b>	<b>10,083</b>	<b>10,077</b>	<b>10,020</b>	<b>9,977</b>	<b>9,945</b>	<b>9,908</b>	<b>9,899</b>	<b>9,895</b>	<b>10,025</b>	<b>9,986</b>	<b>9,954</b>	<b>9,977</b>	<b>10,004</b>	<b>10,033</b>

\*Note: This data corresponds to MMBtu savings associated with electric measures installed by BED

MMBtu	Realistic Achievable Potential by End-Use - Cumulative Annual Natural Gas Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	132	212	241	268	296	322	350	377	405	432	460	488	495	502	515	527	538	550	562	573
Dishwasher	18	33	47	60	73	86	100	113	126	139	153	166	179	180	180	181	181	182	182	183
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	-121	-243	-364	-485	-606	-728	-849	-970	-1,091	-1,213	-1,334	-1,455	-1,576	-1,698	-1,819	-1,819	-1,819	-1,819	-1,819	-1,819
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Behavioral	5,717	9,899	9,994	9,629	9,540	10,121	10,044	10,038	9,981	9,937	9,905	9,868	9,850	9,845	9,860	9,871	9,887	9,911	9,939	9,968
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	106	212	317	332	346	360	374	388	402	416	430	444	458	473	487	501	515	529	543	557
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>5,851</b>	<b>10,113</b>	<b>10,235</b>	<b>9,804</b>	<b>9,648</b>	<b>10,162</b>	<b>10,018</b>	<b>9,946</b>	<b>9,822</b>	<b>9,713</b>	<b>9,614</b>	<b>9,511</b>	<b>9,407</b>	<b>9,301</b>	<b>9,223</b>	<b>9,260</b>	<b>9,303</b>	<b>9,353</b>	<b>9,407</b>	<b>9,462</b>

\*Note: This data corresponds to MMBtu savings associated with electric measures installed by BED



## Appendix C.3

## BED Residential Achievable Potential - Savings and Costs

\$	Realistic Achievable Potential by End-Use - Annual Incentive Costs																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$151,750	\$131,120	\$110,491	\$109,918	\$109,918	\$109,689	\$109,804	\$110,033	\$109,918	\$110,033	\$110,033	\$110,147	\$110,262	\$110,147	\$109,918	\$109,689	\$112,543	\$155,257	\$134,398	\$115,049
Clothes Washer/Dryer	\$379,805	\$340,757	\$301,709	\$300,624	\$300,624	\$300,191	\$300,407	\$300,841	\$300,624	\$300,841	\$300,841	\$301,058	\$358,932	\$333,340	\$338,601	\$323,789	\$309,898	\$309,454	\$309,161	\$309,309
Dishwasher	\$41,830	\$37,500	\$33,170	\$33,050	\$33,050	\$33,002	\$33,026	\$33,074	\$33,050	\$33,074	\$33,074	\$33,098	\$33,122	\$42,936	\$38,558	\$34,180	\$34,036	\$34,060	\$33,964	\$33,990
Electronics	\$265,273	\$248,498	\$231,722	\$231,256	\$265,202	\$253,251	\$249,351	\$245,341	\$275,510	\$264,881	\$252,439	\$251,366	\$293,520	\$277,541	\$261,542	\$261,550	\$295,233	\$282,817	\$280,476	\$275,811
Hot Water	\$217,171	\$186,448	\$155,725	\$154,872	\$154,872	\$154,530	\$154,701	\$155,944	\$155,376	\$158,573	\$157,436	\$156,481	\$156,616	\$209,553	\$186,733	\$162,872	\$161,670	\$161,823	\$164,653	\$163,670
Pool/Spa	\$15,977	\$14,492	\$13,007	\$12,966	\$12,966	\$12,950	\$12,958	\$12,974	\$12,966	\$12,974	\$12,974	\$16,348	\$14,871	\$13,395	\$13,345	\$13,329	\$13,296	\$13,296	\$13,321	\$13,305
Lighting	\$1,080,039	\$881,494	\$417,158	\$404,906	\$344,795	\$47,831	\$45,978	\$37,371	\$37,294	\$37,332	\$40,753	\$39,370	\$37,995	\$37,909	\$37,841	\$41,186	\$39,735	\$38,367	\$38,236	\$38,231
Ventilation	\$34,300	\$24,350	\$14,401	\$14,125	\$14,125	\$14,014	\$14,069	\$14,180	\$14,125	\$14,180	\$14,180	\$14,235	\$14,290	\$14,235	\$14,125	\$14,014	\$13,959	\$14,014	\$13,903	\$37,263
HVAC Shell	\$91,273	\$76,216	\$61,159	\$60,740	\$60,740	\$60,573	\$60,657	\$60,824	\$60,740	\$60,824	\$60,824	\$60,908	\$60,991	\$60,908	\$60,740	\$60,573	\$60,489	\$60,573	\$60,406	\$60,413
HVAC Equipment	\$170,271	\$148,051	\$125,831	\$125,213	\$125,213	\$124,966	\$125,090	\$125,337	\$125,213	\$125,337	\$125,337	\$125,460	\$138,801	\$132,861	\$154,271	\$148,152	\$133,129	\$130,044	\$129,751	\$129,692
Behavioral	\$96,849	\$98,102	\$98,370	\$98,611	\$98,852	\$99,082	\$99,317	\$99,563	\$99,804	\$100,050	\$100,296	\$100,548	\$100,805	\$101,057	\$101,298	\$101,527	\$101,752	\$101,982	\$102,201	\$102,420
ER Refrigeration	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,711	\$3,711	\$3,711	\$3,711
ER Clothes Washer/Dryer	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$68,974	\$68,974	\$68,974	\$68,974	\$68,974	\$68,974
ER Hot Water	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$61,031	\$61,031	\$61,031	\$61,031	\$61,031	\$61,031
ER HVAC Equipment	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$61,031	\$61,031	\$61,031	\$61,031	\$61,031	\$61,031
<b>Total</b>	<b>\$2,659,279</b>	<b>\$2,301,770</b>	<b>\$1,677,485</b>	<b>\$1,661,023</b>	<b>\$1,635,100</b>	<b>\$1,324,821</b>	<b>\$1,320,100</b>	<b>\$1,310,224</b>	<b>\$1,339,362</b>	<b>\$1,332,841</b>	<b>\$1,326,303</b>	<b>\$1,322,285</b>	<b>\$1,433,471</b>	<b>\$1,475,935</b>	<b>\$1,486,345</b>	<b>\$1,443,392</b>	<b>\$1,448,973</b>	<b>\$1,474,943</b>	<b>\$1,453,677</b>	<b>\$1,452,385</b>

\$	Realistic Achievable Potential by End-Use - Annual Admin Costs																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$23,727	\$22,841	\$21,955	\$21,930	\$21,930	\$21,920	\$21,925	\$21,935	\$21,930	\$21,935	\$21,935	\$21,940	\$21,945	\$21,940	\$21,930	\$21,920	\$22,056	\$23,872	\$22,976	\$22,150
Clothes Washer/Dryer	\$19,336	\$17,847	\$16,359	\$16,317	\$16,317	\$16,301	\$16,309	\$16,326	\$16,317	\$16,326	\$16,326	\$16,334	\$18,622	\$17,610	\$17,694	\$17,164	\$16,670	\$16,654	\$16,643	\$16,649
Dishwasher	\$951	\$853	\$755	\$752	\$752	\$751	\$751	\$752	\$752	\$752	\$752	\$753	\$977	\$977	\$877	\$774	\$775	\$775	\$773	\$773
Electronics	\$96,869	\$92,425	\$87,982	\$87,859	\$125,682	\$122,400	\$120,988	\$120,032	\$156,967	\$154,004	\$150,605	\$150,330	\$190,069	\$185,825	\$181,579	\$181,588	\$219,339	\$215,925	\$214,899	\$213,784
Hot Water	\$107,458	\$95,784	\$84,111	\$82,168	\$80,503	\$78,727	\$77,117	\$76,046	\$74,113	\$80,608	\$77,494	\$74,442	\$72,483	\$91,098	\$82,916	\$74,564	\$74,079	\$74,123	\$81,217	\$80,140
Pool/Spa	\$3,030	\$2,748	\$2,467	\$2,459	\$2,459	\$2,456	\$2,457	\$2,461	\$2,459	\$2,461	\$3,100	\$2,820	\$2,540	\$2,531	\$2,528	\$2,522	\$2,522	\$2,526	\$2,522	\$2,523
Lighting	\$261,161	\$241,471	\$93,436	\$93,059	\$74,870	\$8,085	\$7,681	\$2,305	\$2,291	\$2,294	\$3,261	\$2,859	\$2,459	\$2,443	\$2,439	\$3,399	\$2,993	\$2,596	\$2,574	\$2,572
Ventilation	\$10,409	\$7,918	\$5,427	\$5,358	\$5,358	\$5,330	\$5,344	\$5,371	\$5,358	\$5,371	\$5,371	\$5,385	\$5,399	\$5,385	\$5,358	\$5,330	\$5,316	\$5,330	\$5,302	\$12,972
HVAC Shell	\$66,162	\$50,544	\$34,942	\$34,495	\$34,482	\$34,297	\$34,375	\$34,540	\$34,447	\$34,526	\$34,521	\$34,601	\$34,685	\$34,595	\$34,421	\$34,249	\$34,161	\$34,247	\$34,074	\$34,081
HVAC Equipment	\$251,122	\$214,058	\$176,995	\$175,723	\$175,474	\$174,815	\$174,770	\$174,930	\$174,476	\$174,431	\$174,431	\$174,635	\$218,061	\$198,835	\$198,289	\$203,307	\$188,513	\$181,996	\$181,519	\$181,655
Behavioral	\$43,755	\$75,444	\$76,154	\$73,360	\$72,664	\$77,074	\$76,477	\$76,414	\$75,965	\$75,621	\$75,361	\$75,063	\$74,913	\$74,858	\$74,960	\$75,032	\$75,140	\$75,309	\$75,508	\$75,717
ER Refrigeration	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$303	\$303	\$303	\$303
ER Clothes Washer/Dryer	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$2,634	\$2,634	\$2,634	\$2,634	\$2,634	\$2,634
ER Hot Water	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$24,974	\$24,974	\$24,974	\$24,974	\$24,974	\$24,974	\$24,974
ER HVAC Equipment	\$73,861	\$73,457	\$73,054	\$72,650	\$72,246	\$71,843	\$71,439	\$71,036	\$70,632	\$70,229	\$70,229	\$70,229	\$70,229	\$70,229	\$70,229	\$75,713	\$75,713	\$75,713	\$75,713	\$75,713
<b>Total</b>	<b>\$973,071</b>	<b>\$910,621</b>	<b>\$688,865</b>	<b>\$681,359</b>	<b>\$697,965</b>	<b>\$629,228</b>	<b>\$624,865</b>	<b>\$617,378</b>	<b>\$650,936</b>	<b>\$653,787</b>	<b>\$648,616</b>	<b>\$644,621</b>	<b>\$727,388</b>	<b>\$733,475</b>	<b>\$721,098</b>	<b>\$723,444</b>	<b>\$745,186</b>	<b>\$736,976</b>	<b>\$741,630</b>	<b>\$746,641</b>

Appendix C.4

EVT Non-residential Achievable Potential - Savings and Costs

MW	Realistic Achievable Potential by End-Use - Incremental Annual Winter Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	0.010	0.010	0.010	0.010	0.010	0.020	0.020	0.020	0.020	0.020	0.011	0.011	0.011	0.011	0.011	0.001	0.001	0.001	0.001	0.001
Cooking	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cooling Chillers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cooling Dx Evap	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cooling Dx Evap - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Fax	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Flat Screen Monitors	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Freezers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting Exterior	0.178	0.178	0.177	0.177	0.178	0.178	0.178	0.179	0.265	0.265	0.089	0.102	0.103	0.102	0.102	0.103	0.103	0.103	0.017	0.018
Lighting Interior Fluorescent	0.089	0.105	0.106	0.108	0.121	0.128	0.137	0.132	0.140	0.133	0.127	0.111	0.105	0.101	0.100	0.373	0.336	0.279	0.246	0.229
Lighting Interior Fluorescent - Early Replacement	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.005	0.005	0.005
Lighting Interior HID	0.026	0.032	0.030	0.031	0.036	0.039	0.042	0.041	0.044	0.042	0.040	0.035	0.033	0.032	0.033	0.128	0.115	0.093	0.082	0.077
Lighting Interior Other	0.011	0.012	0.011	0.011	0.012	0.013	0.013	0.014	0.015	0.015	0.007	0.007	0.008	0.008	0.008	0.018	0.025	0.022	0.022	0.023
Lighting Interior Screw Base - Standard	0.015	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.058	0.035	0.000	0.000	0.000	0.000	0.000	0.000
Lighting Interior Screw Base - Standard - Early Replacement	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.000	0.000	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Other Plug Load	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Photo Copiers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Printers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Refrigeration	0.039	0.039	0.039	0.039	0.039	0.040	0.040	0.045	0.051	0.053	0.015	0.015	0.015	0.015	0.015	0.038	0.039	0.034	0.029	0.027
Refrigerators	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.005	0.005	0.002	0.002	0.004	0.003	0.003	0.003	0.003	0.003	0.000	0.000
Room Cool	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Cool - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Heat - Electric	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Servers	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000
Space Heat - Electric	0.019	0.019	0.019	0.019	0.019	0.027	0.027	0.027	0.027	0.027	0.009	0.010	0.010	0.010	0.010	0.004	0.004	0.004	0.005	0.005
Vending Machines	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.000	0.000	0.000	0.000	0.000
Ventilation And Circulation	0.092	0.092	0.092	0.092	0.092	0.095	0.095	0.095	0.095	0.095	0.003	0.003	0.003	0.003	0.003	0.087	0.091	0.091	0.091	0.091
Water Heat GT 55 Gal	0.007	0.007	0.007	0.007	0.009	0.009	0.009	0.012	0.012	0.012	0.009	0.008	0.008	0.008	0.005	0.006	0.005	0.002	0.002	0.001
Water Heat LE 55 Gal	0.036	0.036	0.036	0.036	0.044	0.044	0.044	0.052	0.052	0.066	0.034	0.033	0.033	0.037	0.029	0.029	0.029	0.020	0.020	0.007
Heat Pump	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Compressed Air	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Package Terminal AC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool Pump	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Fans	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
HVAC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Indirect Boiler	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Motors Other	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Process AirComp	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Process Electro Chemical	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Process Heat	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Process Other	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Process Refrig and Cooling	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pumps	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.547	0.567	0.552	0.556	0.586	0.622	0.634	0.645	0.752	0.759	0.355	0.348	0.404	0.380	0.336	0.807	0.769	0.669	0.533	0.496

Appendix C.4

EVT Non-residential Achievable Potential - Savings and Costs

MW	Realistic Achievable Potential by End-Use - Cumulative Annual Winter Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Computers	0.010	0.020	0.030	0.040	0.050	0.060	0.071	0.081	0.091	0.101	0.102	0.102	0.102	0.103	0.103	0.104	0.104	0.104	0.105	0.105
Cooking	0.001	0.002	0.003	0.004	0.006	0.007	0.008	0.009	0.010	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.012	0.012	0.012	0.012
Cooling Chillers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cooling Dx Evap	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cooling Dx Evap - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Fax	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Flat Screen Monitors	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Freezers	0.000	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Lighting Exterior	0.178	0.355	0.533	0.710	0.888	1.066	1.245	1.423	1.602	1.781	1.784	1.787	1.790	1.793	1.796	1.799	1.802	1.806	1.809	1.812
Lighting Interior Fluorescent	0.089	0.194	0.300	0.409	0.529	0.657	0.794	0.926	1.064	1.195	1.305	1.400	1.488	1.571	1.654	1.938	2.169	2.342	2.481	2.592
Lighting Interior Fluorescent - Early Replacement	0.005	0.011	0.016	0.022	0.027	0.033	0.038	0.044	0.049	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054
Lighting Interior HID	0.026	0.058	0.089	0.120	0.156	0.195	0.237	0.278	0.321	0.362	0.402	0.436	0.468	0.499	0.531	0.633	0.717	0.779	0.831	0.872
Lighting Interior Other	0.011	0.023	0.034	0.045	0.057	0.070	0.083	0.097	0.112	0.128	0.134	0.141	0.149	0.157	0.165	0.181	0.194	0.205	0.217	0.228
Lighting Interior Screw Base - Standard	0.015	0.027	0.028	0.028	0.028	0.029	0.029	0.030	0.030	0.030	0.030	0.030	0.030	0.074	0.096	0.096	0.096	0.096	0.096	0.096
Lighting Interior Screw Base - Standard - Early Replacement	0.004	0.008	0.012	0.016	0.020	0.024	0.028	0.032	0.036	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Other Plug Load	0.004	0.007	0.011	0.014	0.018	0.022	0.025	0.029	0.033	0.036	0.036	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.038	0.038
Photo Copiers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Printers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Refrigeration	0.039	0.078	0.117	0.156	0.195	0.234	0.273	0.312	0.352	0.391	0.392	0.392	0.393	0.394	0.394	0.395	0.396	0.397	0.398	0.399
Refrigerators	0.003	0.005	0.008	0.011	0.013	0.016	0.018	0.021	0.024	0.026	0.026	0.026	0.028	0.028	0.029	0.029	0.030	0.030	0.030	0.030
Room Cool	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Cool - Early Replacement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Heat - Electric	0.002	0.004	0.007	0.009	0.011	0.013	0.016	0.018	0.020	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.023	0.023	0.023	0.023
Servers	0.001	0.002	0.004	0.005	0.006	0.007	0.009	0.010	0.011	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013
Space Heat - Electric	0.019	0.037	0.056	0.075	0.094	0.112	0.131	0.150	0.169	0.187	0.188	0.188	0.188	0.188	0.188	0.188	0.189	0.189	0.189	0.189
Vending Machines	0.002	0.003	0.005	0.006	0.008	0.010	0.011	0.013	0.015	0.016	0.016	0.016	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017
Ventilation And Circulation	0.092	0.185	0.277	0.369	0.462	0.554	0.647	0.739	0.832	0.924	0.925	0.925	0.926	0.926	0.927	0.927	0.928	0.929	0.929	0.930
Water Heat GT 55 Gal	0.007	0.014	0.021	0.027	0.034	0.041	0.048	0.055	0.062	0.068	0.071	0.073	0.074	0.075	0.076	0.077	0.077	0.078	0.078	0.078
Water Heat LE 55 Gal	0.036	0.072	0.108	0.145	0.181	0.217	0.254	0.290	0.327	0.363	0.367	0.370	0.372	0.373	0.375	0.376	0.377	0.377	0.378	0.379
Heat Pump	0.001	0.002	0.002	0.003	0.004	0.005	0.005	0.006	0.007	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008
Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Compressed Air	0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.009	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Package Terminal AC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool Pump	0.001	0.001	0.002	0.003	0.004	0.004	0.005	0.006	0.007	0.007	0.009	0.010	0.011	0.012	0.012	0.013	0.013	0.013	0.013	0.014
Fans	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
HVAC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Indirect Boiler	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Motors Other	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Process AirComp	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Process Electro Chemical	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Process Heat	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Process Other	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Process Refrig and Cooling	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pumps	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.547	1.113	1.666	2.222	2.797	3.384	3.985	4.580	5.184	5.779	5.948	6.095	6.276	6.431	6.563	6.973	7.308	7.562	7.772	7.942



Appendix C.5

VGS Residential Achievable Potential - Savings and Costs

MMBtu	Maximum Achievable Potential by End-Use - Incremental Annual Natural Gas Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	72	72	72	72	72	72	72	72	72	72	72	72	75	75	75	75	75	75	75	75
Dishwasher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	19,785	19,150	18,825	18,467	18,300	18,093	17,856	17,772	17,492	18,335	17,974	17,704	17,419	19,784	19,520	19,300	19,024	18,886	19,801	19,765
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	23,495	22,155	21,445	20,705	20,348	19,929	19,469	18,979	18,529	18,139	17,837	17,555	17,264	17,014	16,780	16,620	16,443	16,282	16,134	16,406
HVAC Equipment	41,771	40,239	39,559	38,797	38,566	38,225	37,797	37,280	36,812	36,430	38,310	37,676	37,252	36,866	36,624	36,409	36,149	35,882	35,636	36,172
Behavioral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	5,577	5,577	5,577	5,577	5,577	5,577	5,834	6,444	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,276
Total	90,700	87,193	85,478	83,618	82,864	81,896	81,027	80,547	81,924	81,995	83,212	82,027	81,030	82,758	82,018	81,422	80,710	80,144	80,666	81,693

MMBtu	Maximum Achievable Potential by End-Use - Cumulative Annual Natural Gas Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	72	144	217	289	361	433	505	578	650	722	794	866	869	872	875	878	882	885	888	891
Dishwasher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	19,785	38,812	57,393	75,493	93,304	110,785	127,906	143,181	158,136	168,378	178,503	188,520	198,421	200,518	202,539	204,394	206,187	207,923	209,605	211,487
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	23,495	45,315	66,140	85,950	105,170	123,747	141,684	158,961	175,668	191,835	208,307	224,449	240,161	255,533	270,572	286,107	301,421	316,526	331,553	346,754
HVAC Equipment	41,771	81,904	121,251	159,731	197,874	235,571	272,733	309,274	345,240	380,718	403,395	425,817	447,967	469,906	491,635	504,577	517,345	529,955	542,415	554,837
Behavioral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	5,577	11,153	16,730	22,307	27,883	33,460	38,899	43,670	47,112	50,554	53,997	57,439	60,881	64,323	67,766	71,208	74,650	78,092	81,535	84,977
Total	90,700	177,329	261,730	343,769	424,592	503,996	581,727	655,663	726,806	792,207	844,997	897,091	948,300	991,152	1,033,388	1,067,165	1,100,484	1,133,380	1,165,996	1,198,946

Appendix C.5

VGS Residential Achievable Potential - Savings and Costs

MWh	Maximum Achievable Potential by End-Use - Incremental Annual Energy Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17	17	17	17	17
Dishwasher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	804	760	737	713	700	686	671	654	640	627	617	607	598	589	581	576	570	565	560	569
HVAC Equipment	-473	-473	-471	-469	-466	-463	-461	-458	-456	-453	-435	-439	-441	-442	-443	-444	-445	-446	-447	-447
Behavioral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	347	303	282	259	250	239	226	212	200	190	198	185	174	164	155	149	142	136	130	139

MWh	Maximum Achievable Potential by End-Use - Cumulative Annual Energy Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	16	32	49	65	81	97	114	130	146	162	179	195	196	196	197	198	198	199	200	200
Dishwasher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	804	1,552	2,268	2,950	3,612	4,251	4,870	5,466	6,043	6,602	7,172	7,731	8,275	8,808	9,330	9,869	10,401	10,926	11,448	11,976
HVAC Equipment	-473	-943	-1,408	-1,868	-2,321	-2,768	-3,209	-3,645	-4,074	-4,498	-5,059	-5,621	-6,183	-6,746	-7,309	-7,303	-7,297	-7,291	-7,285	-7,279
Behavioral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	347	642	909	1,147	1,372	1,581	1,774	1,951	2,115	2,266	2,291	2,305	2,288	2,259	2,218	2,764	3,303	3,834	4,362	4,897

Appendix C.5

VGS Residential Achievable Potential - Savings and Costs

MW	Maximum Achievable Potential by End-Use - Incremental Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Clothes Washer/Dryer	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Dishwasher	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Electronics	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hot Water	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool/Spa	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ventilation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
HVAC Shell	0.012	0.012	0.012	0.012	0.012	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.010	0.010	0.010	0.010	0.010	0.010	0.010
HVAC Equipment	0.051	0.051	0.051	0.051	0.050	0.050	0.050	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049
Behavioral	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Refrigeration	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Clothes Washer/Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Hot Water	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER HVAC Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.065	0.065	0.064	0.064	0.064	0.063	0.063	0.062	0.062	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061

MW	Maximum Achievable Potential by End-Use - Cumulative Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Clothes Washer/Dryer	0.002	0.003	0.005	0.007	0.008	0.010	0.012	0.013	0.015	0.017	0.018	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.021
Dishwasher	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Electronics	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hot Water	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool/Spa	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ventilation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
HVAC Shell	0.012	0.024	0.036	0.047	0.058	0.069	0.079	0.090	0.100	0.109	0.119	0.129	0.139	0.148	0.158	0.167	0.177	0.187	0.196	0.206
HVAC Equipment	0.051	0.102	0.152	0.202	0.251	0.300	0.348	0.395	0.442	0.488	0.537	0.586	0.635	0.684	0.733	0.733	0.733	0.733	0.733	0.733
Behavioral	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Refrigeration	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Clothes Washer/Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Hot Water	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER HVAC Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.065	0.130	0.194	0.256	0.318	0.379	0.439	0.498	0.557	0.614	0.675	0.735	0.794	0.852	0.911	0.920	0.930	0.940	0.949	0.959



Appendix C.5

VGS Residential Achievable Potential - Savings and Costs

MW	Maximum Achievable Potential by End-Use - Incremental Annual Winter Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Clothes Washer/Dryer	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Dishwasher	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Electronics	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hot Water	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool/Spa	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ventilation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
HVAC Shell	0.059	0.056	0.054	0.052	0.051	0.050	0.049	0.048	0.046	0.045	0.045	0.044	0.043	0.043	0.042	0.042	0.041	0.041	0.040	0.041
HVAC Equipment	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008
Behavioral	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Refrigeration	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Clothes Washer/Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Hot Water	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER HVAC Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.053	0.050	0.048	0.046	0.045	0.044	0.043	0.042	0.041	0.040	0.039	0.039	0.038	0.037	0.037	0.036	0.036	0.036	0.035	0.036

MW	Maximum Achievable Potential by End-Use - Cumulative Annual Winter Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Clothes Washer/Dryer	0.002	0.004	0.007	0.009	0.011	0.013	0.016	0.018	0.020	0.022	0.024	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027
Dishwasher	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Electronics	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hot Water	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool/Spa	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ventilation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
HVAC Shell	0.059	0.114	0.166	0.215	0.264	0.310	0.355	0.398	0.440	0.481	0.522	0.562	0.602	0.640	0.678	0.717	0.755	0.793	0.830	0.869
HVAC Equipment	-0.008	-0.016	-0.023	-0.031	-0.039	-0.046	-0.054	-0.061	-0.068	-0.075	-0.083	-0.090	-0.098	-0.105	-0.113	-0.113	-0.113	-0.113	-0.113	-0.113
Behavioral	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Refrigeration	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Clothes Washer/Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Hot Water	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER HVAC Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.053	0.102	0.149	0.193	0.236	0.277	0.317	0.355	0.392	0.428	0.464	0.499	0.531	0.562	0.592	0.631	0.669	0.707	0.745	0.783

Appendix C.5

VGS Residential Achievable Potential - Savings and Costs

\$	Maximum Achievable Potential by End-Use - Annual Incentive Costs																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clothes Washer/Dryer	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$57,367	\$57,367	\$57,367	\$57,367	\$57,367	\$57,367	\$57,367	\$57,367
Dishwasher	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Electronics	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hot Water	\$2,340,718	\$2,269,461	\$2,241,083	\$2,208,302	\$2,202,081	\$2,190,339	\$2,174,255	\$2,167,530	\$2,147,383	\$2,180,507	\$2,160,281	\$2,145,121	\$2,128,684	\$2,556,526	\$2,496,225	\$2,467,140	\$2,426,227	\$2,409,707	\$2,437,295	\$2,443,427
Pool/Spa	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lighting	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ventilation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HVAC Shell	\$4,703,467	\$4,492,285	\$4,406,796	\$4,309,595	\$4,291,094	\$4,256,200	\$4,208,418	\$4,148,126	\$4,094,493	\$4,053,105	\$4,012,473	\$3,974,627	\$3,934,396	\$3,902,987	\$3,872,657	\$3,849,967	\$3,823,835	\$3,800,420	\$3,778,250	\$3,859,734
HVAC Equipment	\$4,638,441	\$4,390,173	\$4,290,076	\$4,175,820	\$4,154,088	\$4,113,094	\$4,056,954	\$3,985,338	\$3,922,283	\$3,874,045	\$3,930,358	\$3,868,594	\$3,814,364	\$3,769,519	\$3,731,619	\$3,702,090	\$3,667,882	\$3,635,394	\$3,604,985	\$3,705,403
Behavioral	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Clothes Washer/Dryer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Hot Water	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER HVAC Equipment	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,209,916
Total	\$12,907,462	\$12,376,755	\$12,162,790	\$11,918,552	\$11,872,098	\$11,784,469	\$11,664,462	\$11,525,830	\$11,388,994	\$11,332,493	\$11,327,948	\$11,213,178	\$11,104,602	\$11,456,189	\$11,327,660	\$11,246,354	\$11,145,103	\$11,072,679	\$11,047,688	\$11,275,846

\$	Maximum Achievable Potential by End-Use - Annual Admin Costs																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clothes Washer/Dryer	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,267	\$1,267	\$1,267	\$1,267	\$1,267	\$1,267	\$1,267	\$1,267
Dishwasher	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Electronics	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hot Water	\$183,709	\$178,735	\$176,784	\$174,497	\$174,064	\$173,247	\$172,126	\$172,827	\$171,247	\$189,134	\$186,466	\$184,921	\$183,206	\$202,956	\$201,085	\$199,335	\$196,725	\$195,290	\$212,795	\$212,090
Pool/Spa	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lighting	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ventilation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HVAC Shell	\$1,833,050	\$1,820,155	\$1,814,877	\$1,808,940	\$1,807,808	\$1,805,673	\$1,802,751	\$1,799,175	\$1,795,901	\$1,793,314	\$1,790,829	\$1,788,512	\$1,786,049	\$1,784,125	\$1,782,377	\$1,780,991	\$1,779,334	\$1,777,900	\$1,776,539	\$1,781,489
HVAC Equipment	\$406,002	\$387,111	\$379,494	\$370,801	\$369,147	\$366,028	\$361,756	\$356,307	\$351,509	\$347,838	\$371,241	\$363,108	\$357,597	\$352,604	\$349,420	\$346,606	\$343,227	\$339,764	\$336,579	\$343,719
Behavioral	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Clothes Washer/Dryer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Hot Water	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER HVAC Equipment	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$49,129
Total	\$2,470,942	\$2,434,183	\$2,419,337	\$2,402,419	\$2,399,200	\$2,393,128	\$2,384,814	\$2,376,490	\$2,366,838	\$2,378,466	\$2,396,717	\$2,384,722	\$2,375,084	\$2,387,918	\$2,381,115	\$2,375,164	\$2,367,519	\$2,361,186	\$2,374,144	\$2,387,694

Appendix C.5

VGS Residential Achievable Potential - Savings and Costs

MMBtu	Realistic Achievable Potential by End-Use - Incremental Annual Natural Gas Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	5	19	44	58	62	62	62	62	62	62	62	62	65	65	65	65	65	65	65	65
Dishwasher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	9,773	11,034	13,268	14,407	14,692	14,560	14,412	14,349	14,180	14,905	14,670	14,496	14,312	15,482	15,368	15,262	15,123	15,048	15,831	15,790
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	4,994	7,022	10,620	12,489	13,004	12,853	12,678	12,484	12,304	12,150	12,013	11,890	11,773	11,680	11,596	11,527	11,451	11,386	11,328	11,474
HVAC Equipment	10,505	13,419	18,605	21,373	22,199	22,063	21,891	21,683	21,495	21,342	22,403	22,074	21,872	21,689	21,585	21,488	21,370	21,247	21,133	21,366
Behavioral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	703	1,104	1,801	2,202	2,324	2,324	2,359	2,457	2,857	3,137	3,506	3,702	3,757	3,757	3,757	3,757	3,757	3,757	3,757	3,793
Total	25,980	32,598	44,338	50,528	52,281	51,862	51,403	51,036	50,899	51,597	52,654	52,224	51,779	52,673	52,371	52,099	51,766	51,503	52,115	52,488

MMBtu	Realistic Achievable Potential by End-Use - Cumulative Annual Natural Gas Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	5	24	68	126	188	250	312	374	436	499	561	623	683	728	749	756	759	762	764	767
Dishwasher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	9,773	20,778	33,974	48,239	62,706	76,953	90,964	104,488	117,582	129,287	139,744	148,560	156,468	158,692	160,584	162,101	163,393	164,580	165,724	166,967
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	4,994	11,996	22,552	34,901	47,687	60,247	72,567	84,624	96,442	108,052	119,568	130,992	142,361	153,675	164,894	176,071	187,183	198,267	209,340	220,561
HVAC Equipment	10,505	23,912	42,476	63,765	85,838	107,737	129,426	150,868	172,083	193,107	211,872	228,512	241,823	253,229	264,005	273,639	282,586	290,397	297,531	304,411
Behavioral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	703	1,807	3,608	5,810	8,133	10,457	12,762	14,971	16,947	18,734	20,306	21,768	23,202	24,635	26,069	27,503	28,936	30,370	31,804	33,237
Total	25,980	58,517	102,677	152,841	204,553	255,645	306,031	355,325	403,491	449,679	492,050	530,455	564,537	590,960	616,302	640,070	662,857	684,375	705,163	725,943



Appendix C.5

VGS Residential Achievable Potential - Savings and Costs

MWh	Realistic Achievable Potential by End-Use - Incremental Annual Energy Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	1	4	10	13	14	14	14	14	14	14	14	14	15	15	15	15	15	15	15	15
Dishwasher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	177	248	375	442	460	455	449	442	436	431	427	423	419	416	413	410	408	406	404	409
HVAC Equipment	-47	-74	-121	-148	-155	-154	-153	-153	-152	-152	-140	-142	-143	-143	-144	-144	-145	-146	-146	-146
Behavioral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	131	179	264	307	319	315	309	303	298	294	300	295	291	287	283	281	278	275	272	277

MWh	Realistic Achievable Potential by End-Use - Cumulative Annual Energy Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	1	5	15	28	42	56	70	84	98	112	126	140	154	164	169	170	171	171	172	173
Dishwasher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	177	425	798	1,234	1,686	2,131	2,567	2,994	3,413	3,825	4,235	4,641	5,045	5,448	5,847	6,245	6,641	7,037	7,432	7,831
HVAC Equipment	-47	-121	-241	-387	-540	-690	-839	-986	-1,132	-1,276	-1,437	-1,616	-1,825	-2,051	-2,282	-2,442	-2,561	-2,611	-2,619	-2,615
Behavioral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	131	309	572	875	1,189	1,497	1,798	2,092	2,380	2,662	2,923	3,164	3,374	3,561	3,734	3,974	4,251	4,597	4,984	5,389

Appendix C.5

VGS Residential Achievable Potential - Savings and Costs

MW	Realistic Achievable Potential by End-Use - Incremental Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Clothes Washer/Dryer	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Dishwasher	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Electronics	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hot Water	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool/Spa	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ventilation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
HVAC Shell	0.002	0.004	0.006	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007
HVAC Equipment	0.006	0.010	0.016	0.020	0.021	0.021	0.021	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020
Behavioral	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Refrigeration	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Clothes Washer/Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Hot Water	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER HVAC Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.009	0.014	0.023	0.028	0.029	0.029	0.029	0.029	0.029	0.029	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028

MW	Realistic Achievable Potential by End-Use - Cumulative Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Clothes Washer/Dryer	0.000	0.001	0.002	0.003	0.004	0.006	0.007	0.009	0.010	0.011	0.013	0.014	0.016	0.017	0.017	0.017	0.017	0.018	0.018	0.018
Dishwasher	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Electronics	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hot Water	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool/Spa	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ventilation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
HVAC Shell	0.002	0.006	0.012	0.018	0.025	0.032	0.039	0.046	0.052	0.059	0.066	0.072	0.079	0.085	0.092	0.098	0.105	0.111	0.118	0.124
HVAC Equipment	0.006	0.016	0.032	0.052	0.073	0.093	0.113	0.133	0.153	0.173	0.192	0.212	0.232	0.252	0.272	0.287	0.297	0.302	0.303	0.303
Behavioral	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Refrigeration	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Clothes Washer/Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Hot Water	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER HVAC Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.009	0.023	0.046	0.073	0.102	0.131	0.159	0.188	0.216	0.243	0.271	0.299	0.327	0.354	0.381	0.402	0.419	0.430	0.438	0.445

Appendix C.5

VGS Residential Achievable Potential - Savings and Costs

MW	Realistic Achievable Potential by End-Use - Incremental Annual Winter Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Clothes Washer/Dryer	0.000	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Dishwasher	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Electronics	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hot Water	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool/Spa	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ventilation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
HVAC Shell	0.013	0.018	0.027	0.032	0.033	0.033	0.032	0.032	0.031	0.031	0.031	0.030	0.030	0.030	0.030	0.029	0.029	0.029	0.029	0.029
HVAC Equipment	-0.001	-0.002	-0.002	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003
Behavioral	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Refrigeration	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Clothes Washer/Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Hot Water	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER HVAC Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.012	0.017	0.026	0.031	0.032	0.031	0.031	0.031	0.030	0.030	0.029	0.029	0.029	0.029	0.028	0.028	0.028	0.028	0.028	0.028

MW	Realistic Achievable Potential by End-Use - Cumulative Annual Winter Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Clothes Washer/Dryer	0.000	0.001	0.002	0.004	0.006	0.008	0.010	0.012	0.013	0.015	0.017	0.019	0.021	0.022	0.023	0.023	0.023	0.023	0.023	0.024
Dishwasher	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Electronics	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hot Water	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool/Spa	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lighting	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ventilation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
HVAC Shell	0.013	0.031	0.058	0.089	0.122	0.154	0.185	0.216	0.246	0.275	0.305	0.334	0.363	0.392	0.420	0.449	0.477	0.505	0.534	0.562
HVAC Equipment	-0.001	-0.003	-0.005	-0.008	-0.011	-0.014	-0.017	-0.021	-0.024	-0.027	-0.030	-0.033	-0.036	-0.039	-0.042	-0.044	-0.046	-0.046	-0.047	-0.047
Behavioral	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Refrigeration	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Clothes Washer/Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Hot Water	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER HVAC Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.012	0.029	0.055	0.085	0.116	0.147	0.177	0.207	0.236	0.264	0.292	0.320	0.348	0.375	0.401	0.428	0.455	0.482	0.511	0.539



Appendix C.5

VGS Residential Achievable Potential - Savings and Costs

\$	Realistic Achievable Potential by End-Use - Annual Incentive Costs																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clothes Washer/Dryer	\$3,099	\$11,940	\$27,314	\$36,154	\$38,845	\$38,845	\$38,845	\$38,845	\$38,845	\$38,845	\$38,845	\$38,845	\$40,480	\$40,480	\$40,480	\$40,480	\$40,480	\$40,480	\$40,480	\$40,480
Dishwasher	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Electronics	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hot Water	\$524,082	\$573,478	\$662,870	\$709,032	\$723,421	\$720,784	\$717,170	\$716,310	\$711,739	\$746,466	\$739,239	\$734,757	\$729,832	\$813,344	\$802,730	\$797,897	\$789,153	\$784,967	\$818,372	\$817,180
Pool/Spa	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lighting	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ventiliation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HVAC Shell	\$485,879	\$684,391	\$1,039,369	\$1,228,550	\$1,287,088	\$1,279,510	\$1,269,132	\$1,256,037	\$1,244,388	\$1,235,399	\$1,226,575	\$1,218,355	\$1,209,617	\$1,202,795	\$1,196,208	\$1,191,280	\$1,185,605	\$1,180,519	\$1,175,704	\$1,193,401
HVAC Equipment	\$508,644	\$605,022	\$779,175	\$869,337	\$897,422	\$892,368	\$885,448	\$876,620	\$868,847	\$862,901	\$901,386	\$888,933	\$880,297	\$872,542	\$867,447	\$863,008	\$857,697	\$852,296	\$847,319	\$862,113
Behavioral	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Clothes Washer/Dryer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Hot Water	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER HVAC Equipment	\$26,472	\$41,568	\$67,822	\$82,918	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$90,770
Total	\$1,548,176	\$1,916,398	\$2,576,550	\$2,925,992	\$3,034,288	\$3,019,018	\$2,998,107	\$2,975,324	\$2,951,331	\$2,971,123	\$2,993,557	\$2,968,402	\$2,947,738	\$3,016,674	\$2,994,378	\$2,980,177	\$2,960,447	\$2,945,774	\$2,969,387	\$3,003,945

\$	Realistic Achievable Potential by End-Use - Annual Admin Costs																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clothes Washer/Dryer	\$84	\$322	\$736	\$974	\$1,047	\$1,047	\$1,047	\$1,047	\$1,047	\$1,047	\$1,047	\$1,047	\$1,091	\$1,091	\$1,091	\$1,091	\$1,091	\$1,091	\$1,091	\$1,091
Dishwasher	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Electronics	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hot Water	\$91,046	\$103,353	\$125,346	\$137,116	\$140,755	\$140,316	\$139,715	\$140,105	\$139,271	\$154,725	\$153,044	\$152,112	\$151,076	\$160,824	\$160,031	\$159,269	\$157,912	\$157,107	\$172,347	\$171,721
Pool/Spa	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lighting	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ventiliation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HVAC Shell	\$377,502	\$572,702	\$913,351	\$1,107,407	\$1,166,584	\$1,165,657	\$1,164,387	\$1,162,834	\$1,161,412	\$1,160,288	\$1,159,209	\$1,158,202	\$1,157,133	\$1,156,297	\$1,155,538	\$1,154,935	\$1,154,216	\$1,153,593	\$1,153,001	\$1,155,152
HVAC Equipment	\$95,423	\$122,679	\$171,737	\$197,420	\$205,399	\$204,120	\$202,368	\$200,133	\$198,165	\$196,660	\$210,239	\$206,301	\$203,798	\$201,473	\$200,114	\$198,860	\$197,338	\$195,744	\$194,284	\$197,368
Behavioral	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Clothes Washer/Dryer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Hot Water	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER HVAC Equipment	\$5,920	\$9,296	\$15,167	\$18,543	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,869
Total	\$569,974	\$808,352	\$1,226,338	\$1,461,461	\$1,533,356	\$1,530,711	\$1,527,088	\$1,523,690	\$1,519,466	\$1,532,291	\$1,543,109	\$1,537,233	\$1,532,667	\$1,539,255	\$1,536,344	\$1,533,726	\$1,530,127	\$1,527,105	\$1,540,294	\$1,545,201

**Appendix C.6**
**VGS Non-residential Achievable Potential - Savings and Costs**

MMBtu	Maximum Achievable Potential by End-Use - Incremental Annual Natural Gas Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	39,452	38,620	38,453	38,376	38,330	3,432	3,306	3,214	3,184	3,095	3,096	2,923	42,293	41,437	41,190	41,035	40,940	5,994	5,850	4,875
Room Heat - Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Space Heat - Gas Boiler	138,942	132,190	135,267	133,018	123,059	61,268	65,549	60,897	60,064	59,245	14,779	17,645	16,976	16,473	16,261	42,173	34,793	34,586	34,481	32,740
Space Heat - Gas Furnace	103,812	98,453	101,614	100,115	99,096	48,902	46,906	43,057	42,383	41,697	11,066	16,371	15,774	15,320	14,802	19,818	13,348	12,972	20,114	19,175
Water Heat GT 55 Gal	546	500	492	476	464	166	149	141	134	153	131	167	162	166	171	145	99	96	88	48
Water Heat LE 55 Gal	2,867	2,526	2,466	2,339	2,243	1,001	877	813	758	815	707	877	841	850	875	831	574	550	497	321
Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pool Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC	3,933	3,933	3,933	3,933	3,933	0	0	0	0	0	898	1,602	1,602	1,602	1,602	1,991	1,287	1,287	1,287	1,287
Indirect Boiler	6,898	6,898	6,898	6,898	6,898	2,356	3,036	3,036	3,036	3,036	3,577	2,897	2,897	2,897	2,897	0	0	0	0	0
Process Heat	3,229	3,229	3,229	3,229	3,229	0	0	0	0	0	444	444	444	444	3,229	2,784	2,784	2,784	2,784	0
Process Other	25	25	25	25	25	0	0	0	0	0	25	25	25	25	25	0	0	0	0	0
Total	299,704	286,373	292,377	288,409	277,277	117,124	119,824	111,158	109,559	108,041	34,722	42,952	81,015	79,214	81,053	108,779	93,826	58,270	65,102	58,445

MMBtu	Maximum Achievable Potential by End-Use - Cumulative Annual Natural Gas Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	39,452	78,072	116,525	154,901	193,232	196,663	199,969	203,184	206,368	209,463	212,559	215,483	218,323	221,140	223,877	226,536	229,146	231,708	234,252	235,913
Room Heat - Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Space Heat - Gas Boiler	138,942	271,132	402,746	532,110	651,515	661,854	673,321	683,841	693,551	702,457	710,724	718,198	725,032	731,371	737,171	742,523	747,656	752,608	757,462	760,954
Space Heat - Gas Furnace	103,812	202,265	300,818	397,872	493,907	507,297	518,860	529,668	539,817	549,290	558,222	566,448	574,096	581,296	587,988	594,194	600,000	605,447	610,740	615,118
Water Heat GT 55 Gal	546	1,047	1,539	2,015	2,479	2,598	2,702	2,798	2,887	2,969	3,045	3,116	3,181	3,243	3,301	3,355	3,407	3,455	3,502	3,542
Water Heat LE 55 Gal	2,867	5,393	7,859	10,199	12,442	13,268	13,974	14,616	15,204	15,741	16,236	16,685	17,099	17,485	17,843	18,174	18,484	18,775	19,052	19,305
Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pool Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC	3,933	7,865	11,798	15,730	19,663	19,663	19,663	19,663	19,663	19,663	19,663	19,663	19,663	19,663	19,663	19,663	19,663	19,663	19,663	19,663
Indirect Boiler	6,898	13,796	20,694	27,592	34,490	34,490	34,490	34,490	34,490	34,490	34,490	34,490	34,490	34,490	34,490	34,490	34,490	34,490	34,490	34,490
Process Heat	3,229	6,457	9,686	12,914	16,143	16,143	16,143	16,143	16,143	16,143	16,143	16,143	16,143	16,143	16,143	16,143	16,143	16,143	16,143	16,143
Process Other	25	51	76	102	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127
Total	299,704	586,078	871,740	1,153,433	1,423,995	1,452,102	1,479,248	1,504,528	1,528,249	1,550,341	1,571,209	1,590,352	1,608,153	1,624,957	1,640,601	1,655,204	1,669,115	1,682,415	1,695,431	1,705,253

**Appendix C.6**
**VGS Non-residential Achievable Potential - Savings and Costs**

MWh	Maximum Achievable Potential by End-Use - Incremental Annual Energy Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Heat - Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Space Heat - Gas Boiler	16	16	16	16	16	10	10	10	10	10	1	2	2	2	2	4	2	2	2	2
Space Heat - Gas Furnace	22	22	22	22	22	9	9	9	9	9	1	3	3	3	2	4	3	3	5	4
Water Heat GT 55 Gal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Heat LE 55 Gal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pool Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Indirect Boiler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>39</b>	<b>39</b>	<b>39</b>	<b>38</b>	<b>38</b>	<b>19</b>	<b>19</b>	<b>19</b>	<b>19</b>	<b>19</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>8</b>	<b>5</b>	<b>5</b>	<b>7</b>	<b>7</b>

MWh	Maximum Achievable Potential by End-Use - Cumulative Annual Energy Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Heat - Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Space Heat - Gas Boiler	16	33	49	65	82	82	83	83	84	84	85	85	86	86	86	87	87	88	88	88
Space Heat - Gas Furnace	22	45	67	89	111	112	113	113	114	115	115	116	116	117	117	118	119	119	120	120
Water Heat GT 55 Gal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Heat LE 55 Gal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pool Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Indirect Boiler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>39</b>	<b>77</b>	<b>116</b>	<b>154</b>	<b>193</b>	<b>194</b>	<b>195</b>	<b>196</b>	<b>198</b>	<b>199</b>	<b>200</b>	<b>201</b>	<b>202</b>	<b>203</b>	<b>204</b>	<b>205</b>	<b>206</b>	<b>207</b>	<b>208</b>	<b>208</b>



## Appendix C.6

## VGS Non-residential Achievable Potential - Savings and Costs

MW	Maximum Achievable Potential by End-Use - Incremental Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Heat - Gas	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Space Heat - Gas Boiler	0.006	0.006	0.006	0.006	0.006	0.004	0.003	0.003	0.003	0.003	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Space Heat - Gas Furnace	0.008	0.008	0.008	0.008	0.008	0.003	0.003	0.003	0.003	0.003	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002
Water Heat GT 55 Gal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Water Heat LE 55 Gal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool Heat	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
HVAC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Indirect Boiler	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Process Heat	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Process Other	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Total</b>	<b>0.013</b>	<b>0.013</b>	<b>0.013</b>	<b>0.013</b>	<b>0.013</b>	<b>0.007</b>	<b>0.007</b>	<b>0.007</b>	<b>0.007</b>	<b>0.007</b>	<b>0.001</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.003</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>

MW	Maximum Achievable Potential by End-Use - Cumulative Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Heat - Gas	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Space Heat - Gas Boiler	0.006	0.011	0.017	0.022	0.028	0.028	0.028	0.028	0.029	0.029	0.029	0.029	0.029	0.029	0.030	0.030	0.030	0.030	0.030	0.030
Space Heat - Gas Furnace	0.008	0.015	0.023	0.030	0.038	0.038	0.039	0.039	0.039	0.039	0.039	0.040	0.040	0.040	0.040	0.040	0.041	0.041	0.041	0.041
Water Heat GT 55 Gal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Water Heat LE 55 Gal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool Heat	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
HVAC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Indirect Boiler	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Process Heat	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Process Other	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Total</b>	<b>0.013</b>	<b>0.026</b>	<b>0.040</b>	<b>0.053</b>	<b>0.066</b>	<b>0.066</b>	<b>0.067</b>	<b>0.067</b>	<b>0.068</b>	<b>0.068</b>	<b>0.068</b>	<b>0.069</b>	<b>0.069</b>	<b>0.069</b>	<b>0.070</b>	<b>0.070</b>	<b>0.070</b>	<b>0.071</b>	<b>0.071</b>	<b>0.071</b>

### VGS Non-residential Achievable Potential - Savings and Costs

[illegible]

Appendix C.6 VGS Non-residential Achievable Potential - Savings and Costs

	Maximum Achievable Potential by End-Use - Annual Incentive Costs																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	\$729,830	\$714,437	\$711,346	\$709,931	\$709,077	\$63,485	\$61,161	\$59,460	\$58,900	\$57,261	\$57,279	\$54,080	\$782,380	\$766,548	\$761,978	\$759,114	\$757,359	\$110,886	\$108,225	\$90,175
Room Heat - Gas	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Space Heat - Gas Boiler	\$4,751,552	\$4,481,972	\$4,492,307	\$4,404,448	\$3,848,164	\$1,775,892	\$1,736,054	\$1,669,403	\$1,636,526	\$1,603,888	\$443,082	\$398,186	\$371,369	\$350,921	\$363,505	\$1,385,468	\$1,350,193	\$1,339,274	\$1,332,509	\$1,250,182
Space Heat - Gas Furnace	\$3,528,203	\$3,396,486	\$3,424,059	\$3,388,172	\$3,363,950	\$1,307,705	\$1,259,592	\$1,215,935	\$1,199,985	\$1,183,487	\$263,709	\$268,693	\$254,276	\$243,450	\$231,416	\$567,989	\$534,676	\$525,427	\$850,217	\$826,448
Water Heat GT 55 Gal	\$23,458	\$20,777	\$20,329	\$19,395	\$18,690	\$7,076	\$6,177	\$5,699	\$5,299	\$7,613	\$7,085	\$7,895	\$7,620	\$8,864	\$6,100	\$5,593	\$4,257	\$4,116	\$2,757	\$2,231
Water Heat LE 55 Gal	\$127,613	\$108,229	\$104,929	\$97,784	\$92,367	\$46,175	\$39,463	\$35,912	\$32,860	\$41,215	\$38,015	\$40,396	\$38,565	\$43,194	\$31,061	\$30,447	\$23,959	\$22,868	\$16,663	\$14,642
Dryer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pool Heat	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HVAC	\$84,040	\$84,040	\$84,040	\$84,040	\$84,040	\$0	\$0	\$0	\$0	\$0	\$16,463	\$21,877	\$21,877	\$21,877	\$21,877	\$29,553	\$24,139	\$24,139	\$24,139	\$24,139
Indirect Boiler	\$98,030	\$98,030	\$98,030	\$98,030	\$98,030	\$22,145	\$24,154	\$24,154	\$24,154	\$24,154	\$33,869	\$31,860	\$31,860	\$31,860	\$31,860	\$0	\$0	\$0	\$0	\$0
Process Heat	\$51,180	\$51,180	\$51,180	\$51,180	\$51,180	\$0	\$0	\$0	\$0	\$0	\$4,066	\$4,066	\$4,066	\$4,066	\$51,180	\$47,114	\$47,114	\$47,114	\$47,114	\$0
Process Other	\$1,186	\$1,186	\$1,186	\$1,186	\$1,186	\$0	\$0	\$0	\$0	\$0	\$1,186	\$1,186	\$1,186	\$1,186	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$9,395,091	\$8,956,336	\$8,987,405	\$8,854,166	\$8,266,684	\$3,222,477	\$3,126,601	\$3,010,562	\$2,957,723	\$2,917,618	\$864,753	\$828,238	\$1,513,198	\$1,471,965	\$1,500,164	\$2,825,278	\$2,741,695	\$2,073,824	\$2,381,623	\$2,207,817

	Maximum Achievable Potential by End-Use - Annual Admin Costs																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	\$499,147	\$482,169	\$478,759	\$477,199	\$476,257	\$70,023	\$67,460	\$65,583	\$64,966	\$63,158	\$63,178	\$59,649	\$557,108	\$539,647	\$534,606	\$531,447	\$529,511	\$122,306	\$119,370	\$99,461
Room Heat - Gas	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Space Heat - Gas Boiler	\$1,613,222	\$1,522,356	\$1,569,748	\$1,554,460	\$1,455,975	\$741,925	\$794,578	\$743,090	\$737,134	\$729,818	\$216,151	\$249,156	\$242,663	\$238,988	\$237,301	\$539,442	\$453,063	\$450,208	\$449,002	\$412,666
Space Heat - Gas Furnace	\$1,224,311	\$1,146,556	\$1,190,416	\$1,179,716	\$1,172,600	\$591,234	\$573,888	\$530,749	\$525,826	\$519,340	\$166,104	\$227,076	\$221,130	\$217,785	\$212,424	\$271,528	\$196,968	\$193,270	\$276,739	\$247,136
Water Heat GT 55 Gal	\$6,300	\$5,680	\$5,673	\$5,563	\$5,483	\$2,051	\$1,914	\$1,842	\$1,793	\$2,038	\$1,830	\$2,246	\$2,195	\$2,259	\$2,364	\$2,058	\$1,517	\$1,487	\$1,396	\$774
Water Heat LE 55 Gal	\$31,294	\$26,959	\$27,017	\$26,189	\$25,577	\$11,263	\$10,341	\$9,846	\$9,487	\$10,333	\$9,395	\$11,412	\$11,090	\$11,365	\$11,866	\$11,200	\$8,252	\$8,067	\$7,536	\$4,546
Dryer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pool Heat	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HVAC	\$45,756	\$45,756	\$45,756	\$45,756	\$45,756	\$0	\$0	\$0	\$0	\$0	\$10,447	\$18,639	\$18,639	\$18,639	\$18,639	\$23,171	\$14,980	\$14,980	\$14,980	\$14,980
Indirect Boiler	\$80,260	\$80,260	\$80,260	\$80,260	\$80,260	\$27,415	\$35,321	\$35,321	\$35,321	\$35,321	\$41,615	\$33,710	\$33,710	\$33,710	\$33,710	\$0	\$0	\$0	\$0	\$0
Process Heat	\$37,565	\$37,565	\$37,565	\$37,565	\$37,565	\$0	\$0	\$0	\$0	\$0	\$5,169	\$5,169	\$5,169	\$5,169	\$37,565	\$32,397	\$32,397	\$32,397	\$32,397	\$0
Process Other	\$296	\$296	\$296	\$296	\$296	\$0	\$0	\$0	\$0	\$0	\$296	\$296	\$296	\$296	\$296	\$0	\$0	\$0	\$0	\$0
Total	\$3,538,152	\$3,347,598	\$3,435,491	\$3,407,004	\$3,299,770	\$1,443,910	\$1,483,503	\$1,386,431	\$1,374,527	\$1,360,007	\$514,185	\$607,352	\$1,091,999	\$1,067,857	\$1,088,770	\$1,411,243	\$1,236,687	\$822,713	\$901,420	\$779,563



**Appendix C.6**
**VGS Non-residential Achievable Potential - Savings and Costs**

MMBtu	Realistic Achievable Potential by End-Use - Incremental Annual Natural Gas Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	6,447	6,520	6,628	6,740	6,853	6,969	7,055	7,142	7,244	7,322	7,431	7,461	15,994	15,805	15,899	16,020	16,157	16,294	16,361	15,676
Room Heat - Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Space Heat - Gas Boiler	21,463	21,675	22,857	23,126	21,730	31,353	32,539	32,677	32,803	32,874	33,993	35,099	35,042	35,030	35,002	40,302	40,145	40,097	40,120	39,080
Space Heat - Gas Furnace	16,257	16,401	17,415	17,671	17,923	24,453	24,408	24,595	24,766	24,886	25,713	26,722	26,722	26,759	26,724	28,281	28,116	28,015	29,352	28,640
Water Heat GT 55 Gal	79	81	86	88	90	104	104	105	106	112	121	128	128	130	139	140	140	139	140	134
Water Heat LE 55 Gal	372	388	421	437	450	517	511	517	521	543	574	610	608	616	652	700	686	681	677	654
Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pool Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC	748	748	748	748	748	748	748	748	748	748	919	1,053	1,053	1,053	1,053	1,298	1,298	1,298	1,298	1,298
Indirect Boiler	1,313	1,313	1,313	1,313	1,313	1,761	1,890	1,890	1,890	1,890	2,441	2,441	2,441	2,441	2,441	2,441	2,441	2,441	2,441	2,441
Process Heat	614	614	614	614	614	614	614	614	614	614	699	699	699	699	1,229	1,229	1,229	1,229	1,229	1,229
Process Other	5	5	5	5	5	5	5	5	5	5	10	10	10	10	10	10	10	10	10	10
<b>Total</b>	<b>47,298</b>	<b>47,746</b>	<b>50,087</b>	<b>50,742</b>	<b>49,726</b>	<b>66,525</b>	<b>67,875</b>	<b>68,293</b>	<b>68,698</b>	<b>68,994</b>	<b>71,900</b>	<b>74,222</b>	<b>82,697</b>	<b>82,545</b>	<b>83,149</b>	<b>90,421</b>	<b>90,221</b>	<b>90,205</b>	<b>91,629</b>	<b>89,162</b>

MMBtu	Realistic Achievable Potential by End-Use - Cumulative Annual Natural Gas Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	6,447	12,967	19,595	26,335	33,188	40,157	47,212	54,354	61,598	68,919	76,350	83,810	93,357	102,643	111,914	121,194	130,497	139,822	149,128	157,662
Room Heat - Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Space Heat - Gas Boiler	21,463	43,138	65,395	87,922	109,052	131,490	154,531	177,678	200,915	224,189	247,862	271,379	294,809	318,190	341,458	364,836	388,138	411,415	434,722	457,014
Space Heat - Gas Furnace	16,257	32,658	49,571	66,739	84,160	102,398	120,577	138,920	157,412	176,000	194,925	213,785	232,625	251,477	270,275	289,131	307,875	326,533	345,226	363,225
Water Heat GT 55 Gal	79	160	245	334	424	520	616	712	810	908	1,009	1,109	1,209	1,310	1,413	1,515	1,617	1,718	1,820	1,916
Water Heat LE 55 Gal	372	761	1,182	1,619	2,069	2,554	3,034	3,518	4,006	4,495	4,993	5,485	5,975	6,466	6,963	7,495	8,014	8,526	9,033	9,517
Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pool Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC	748	1,497	2,245	2,993	3,741	4,490	5,238	5,986	6,735	7,483	8,231	8,980	9,728	10,476	11,224	11,973	12,721	13,469	14,218	14,966
Indirect Boiler	1,313	2,625	3,938	5,250	6,563	7,875	9,188	10,501	11,813	13,126	14,438	15,751	17,063	18,376	19,689	21,001	22,314	23,626	24,939	26,251
Process Heat	614	1,229	1,843	2,457	3,072	3,686	4,300	4,915	5,529	6,143	6,758	7,372	7,986	8,601	9,215	9,829	10,444	11,058	11,673	12,287
Process Other	5	10	15	19	24	29	34	39	44	48	53	58	63	68	73	77	82	87	92	97
<b>Total</b>	<b>47,298</b>	<b>95,044</b>	<b>144,028</b>	<b>193,668</b>	<b>242,293</b>	<b>293,200</b>	<b>344,730</b>	<b>396,623</b>	<b>448,861</b>	<b>501,311</b>	<b>554,619</b>	<b>607,729</b>	<b>662,816</b>	<b>717,607</b>	<b>772,223</b>	<b>827,052</b>	<b>881,702</b>	<b>936,255</b>	<b>990,851</b>	<b>1,042,935</b>

**Appendix C.6**
**VGS Non-residential Achievable Potential - Savings and Costs**

MWh	Realistic Achievable Potential by End-Use - Incremental Annual Energy Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Heat - Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Space Heat - Gas Boiler	3	3	3	3	3	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6
Space Heat - Gas Furnace	4	4	4	4	4	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7
Water Heat GT 55 Gal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Heat LE 55 Gal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pool Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Indirect Boiler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>11</b>	<b>11</b>	<b>11</b>	<b>11</b>	<b>11</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>13</b>	<b>12</b>

MWh	Realistic Achievable Potential by End-Use - Cumulative Annual Energy Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Room Heat - Gas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Space Heat - Gas Boiler	3	6	9	12	15	18	21	24	27	30	33	36	39	43	46	49	52	56	59	62
Space Heat - Gas Furnace	4	8	12	16	20	24	28	32	36	40	45	49	53	57	62	66	70	74	79	83
Water Heat GT 55 Gal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Heat LE 55 Gal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pool Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Indirect Boiler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Process Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>7</b>	<b>14</b>	<b>20</b>	<b>27</b>	<b>34</b>	<b>41</b>	<b>49</b>	<b>56</b>	<b>63</b>	<b>70</b>	<b>78</b>	<b>85</b>	<b>92</b>	<b>100</b>	<b>107</b>	<b>115</b>	<b>122</b>	<b>130</b>	<b>137</b>	<b>145</b>

## Appendix C.6

## VGS Non-residential Achievable Potential - Savings and Costs

MW	Realistic Achievable Potential by End-Use - Incremental Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Heat - Gas	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Space Heat - Gas Boiler	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Space Heat - Gas Furnace	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Water Heat GT 55 Gal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Water Heat LE 55 Gal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool Heat	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
HVAC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Indirect Boiler	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Process Heat	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Process Other	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Total</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.004</b>	<b>0.004</b>	<b>0.004</b>	<b>0.004</b>	<b>0.004</b>	<b>0.004</b>	<b>0.004</b>	<b>0.004</b>	<b>0.004</b>	<b>0.004</b>	<b>0.004</b>	<b>0.004</b>	<b>0.004</b>	<b>0.004</b>	<b>0.004</b>

MW	Realistic Achievable Potential by End-Use - Cumulative Annual Summer Peak Demand Savings																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Room Heat - Gas	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Space Heat - Gas Boiler	0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.009	0.010	0.011	0.012	0.013	0.015	0.016	0.017	0.018	0.019	0.020	0.021
Space Heat - Gas Furnace	0.001	0.003	0.004	0.005	0.007	0.008	0.010	0.011	0.012	0.014	0.015	0.017	0.018	0.020	0.021	0.023	0.024	0.025	0.027	0.028
Water Heat GT 55 Gal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Water Heat LE 55 Gal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dryer	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pool Heat	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
HVAC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Indirect Boiler	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Process Heat	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Process Other	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Total</b>	<b>0.002</b>	<b>0.005</b>	<b>0.007</b>	<b>0.009</b>	<b>0.012</b>	<b>0.014</b>	<b>0.017</b>	<b>0.019</b>	<b>0.022</b>	<b>0.024</b>	<b>0.027</b>	<b>0.029</b>	<b>0.032</b>	<b>0.034</b>	<b>0.037</b>	<b>0.039</b>	<b>0.042</b>	<b>0.044</b>	<b>0.047</b>	<b>0.049</b>



### VGS Non-residential Achievable Potential - Savings and Costs

[illegible]

Appendix C.6 VGS Non-residential Achievable Potential - Savings and Costs

	Maximum Achievable Potential by End-Use - Annual Incentive Costs																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	\$119,263	\$120,613	\$122,610	\$124,684	\$126,777	\$128,928	\$130,505	\$132,116	\$134,008	\$135,443	\$137,462	\$138,013	\$295,871	\$292,388	\$294,116	\$296,354	\$298,886	\$301,422	\$302,667	\$289,986
Room Heat - Gas	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Space Heat - Gas Boiler	\$716,385	\$725,348	\$754,350	\$766,088	\$679,802	\$996,584	\$1,002,582	\$1,008,721	\$1,014,213	\$1,017,511	\$1,040,366	\$1,040,316	\$1,039,080	\$1,039,415	\$1,042,697	\$1,234,608	\$1,231,031	\$1,229,891	\$1,231,171	\$1,197,061
Space Heat - Gas Furnace	\$574,377	\$578,207	\$595,183	\$601,930	\$608,620	\$795,421	\$794,867	\$799,924	\$804,683	\$808,106	\$824,477	\$827,389	\$827,964	\$829,499	\$829,274	\$901,846	\$898,668	\$896,815	\$956,693	\$939,073
Water Heat GT 55 Gal	\$3,047	\$3,164	\$3,417	\$3,542	\$3,647	\$4,017	\$3,986	\$4,031	\$4,069	\$4,603	\$4,736	\$4,926	\$4,916	\$5,274	\$5,296	\$5,312	\$5,302	\$5,296	\$5,316	\$5,064
Water Heat LE 55 Gal	\$14,761	\$15,549	\$17,311	\$18,080	\$18,698	\$20,833	\$20,443	\$20,631	\$20,734	\$22,849	\$23,238	\$23,875	\$23,758	\$25,183	\$25,133	\$26,340	\$25,934	\$25,780	\$25,702	\$24,719
Dryer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pool Heat	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HVAC	\$15,992	\$15,992	\$15,992	\$15,992	\$15,992	\$15,992	\$15,992	\$15,992	\$15,992	\$15,992	\$19,124	\$20,154	\$20,154	\$20,154	\$20,154	\$24,748	\$24,748	\$24,748	\$24,748	\$24,748
Indirect Boiler	\$18,654	\$18,654	\$18,654	\$18,654	\$18,654	\$22,867	\$23,250	\$23,250	\$23,250	\$23,250	\$29,312	\$29,312	\$29,312	\$29,312	\$29,312	\$29,312	\$29,312	\$29,312	\$29,312	\$29,312
Process Heat	\$9,739	\$9,739	\$9,739	\$9,739	\$9,739	\$9,739	\$9,739	\$9,739	\$9,739	\$9,739	\$10,512	\$10,512	\$10,512	\$10,512	\$19,477	\$19,477	\$19,477	\$19,477	\$19,477	\$19,477
Process Other	\$226	\$226	\$226	\$226	\$226	\$226	\$226	\$226	\$226	\$226	\$451	\$451	\$451	\$451	\$451	\$451	\$451	\$451	\$451	\$451
Total	\$1,472,442	\$1,487,490	\$1,537,480	\$1,558,933	\$1,482,154	\$1,994,606	\$2,001,589	\$2,014,628	\$2,026,912	\$2,037,718	\$2,089,679	\$2,094,949	\$2,252,019	\$2,252,189	\$2,265,911	\$2,538,448	\$2,533,809	\$2,533,192	\$2,595,538	\$2,529,892

	Maximum Achievable Potential by End-Use - Annual Admin Costs																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	\$77,830	\$79,319	\$81,522	\$83,810	\$86,118	\$88,491	\$90,230	\$92,007	\$94,093	\$95,677	\$97,904	\$98,512	\$218,911	\$215,070	\$216,976	\$219,444	\$222,236	\$225,034	\$226,407	\$212,420
Room Heat - Gas	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Space Heat - Gas Boiler	\$249,670	\$250,854	\$265,663	\$270,510	\$257,968	\$372,741	\$388,338	\$391,944	\$395,926	\$398,932	\$420,665	\$433,818	\$434,941	\$437,183	\$438,564	\$506,713	\$504,406	\$504,139	\$505,116	\$481,311
Space Heat - Gas Furnace	\$190,405	\$191,147	\$203,965	\$208,374	\$212,789	\$290,629	\$292,468	\$296,177	\$300,233	\$303,329	\$319,283	\$331,245	\$332,760	\$335,282	\$336,361	\$359,228	\$357,917	\$357,875	\$374,499	\$353,078
Water Heat GT 55 Gal	\$908	\$923	\$984	\$1,025	\$1,063	\$1,241	\$1,258	\$1,288	\$1,320	\$1,403	\$1,560	\$1,652	\$1,666	\$1,714	\$1,848	\$1,897	\$1,895	\$1,902	\$1,918	\$1,734
Water Heat LE 55 Gal	\$4,162	\$4,225	\$4,627	\$4,863	\$5,085	\$5,891	\$5,967	\$6,120	\$6,285	\$6,644	\$7,270	\$7,736	\$7,804	\$8,046	\$8,644	\$9,222	\$9,121	\$9,177	\$9,245	\$8,267
Dryer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pool Heat	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HVAC	\$8,707	\$8,707	\$8,707	\$8,707	\$8,707	\$8,707	\$8,707	\$8,707	\$8,707	\$8,707	\$10,695	\$12,253	\$12,253	\$12,253	\$12,253	\$15,104	\$15,104	\$15,104	\$15,104	\$15,104
Indirect Boiler	\$15,272	\$15,272	\$15,272	\$15,272	\$15,272	\$20,489	\$21,993	\$21,993	\$21,993	\$21,993	\$28,408	\$28,408	\$28,408	\$28,408	\$28,408	\$28,408	\$28,408	\$28,408	\$28,408	\$28,408
Process Heat	\$7,148	\$7,148	\$7,148	\$7,148	\$7,148	\$7,148	\$7,148	\$7,148	\$7,148	\$7,148	\$8,132	\$8,132	\$8,132	\$8,132	\$14,296	\$14,296	\$14,296	\$14,296	\$14,296	\$14,296
Process Other	\$56	\$56	\$56	\$56	\$56	\$56	\$56	\$56	\$56	\$56	\$113	\$113	\$113	\$113	\$113	\$113	\$113	\$113	\$113	\$113
Total	\$554,160	\$557,651	\$587,944	\$599,765	\$594,208	\$795,394	\$816,166	\$825,439	\$835,763	\$843,889	\$894,029	\$921,867	\$1,044,987	\$1,046,200	\$1,057,463	\$1,154,423	\$1,153,496	\$1,156,047	\$1,175,106	\$1,114,730

## APPENDIX D • Comparison of Update to 2017 Report

After the release of the draft analysis and report, the VT DPS and EEU developed revised planning assumptions regarding screw-in lighting. These revisions acknowledge the expanded definition of general service lighting and a lower than previously expected performance standard. The revised approach reflects a more gradual exit from support of residential lighting than previously considered, particularly in 2020 and 2021. The impact of these revised assumptions, coupled with other modifications made to the Vermont Gas Systems (VGS) analysis to assist in the development of the final modeled scenarios for the Demand Resource Plan (DRP) proceeding, are discussed further below.

The GDS Team only produced final DRP model scenarios and consequently, revised estimates of maximum and realistic achievable potential, for Burlington Electric Department (BED) and VGS. Although the lighting revision would also impact the Efficiency Vermont (EVT) service area, the GDS Team did not make any subsequent revisions to the EVT analysis.

### *Burlington Electric Department (BED) Revisions*

The initial modeling scenarios for BED assumed, based on an expected revision to the Department of Energy (DOE) performance standard for general service lamps (GSL), that LED bulbs would effectively become the baseline beginning in 2020 for all standard GSLs, followed by directional bulbs in 2023. However, in January 2017, the DOE did not publish a new GSL standard, but instead only expanded the scope of the standard to include directional and specialty bulbs. As a result, EVT proposed a revised planning strategy for LED screw-based lamps that (1) retains the previous EISA backstop provision as the appropriate GSL baseline (45 lumens/per watt, or effectively, the CFL bulb), (2) subjects directional and decorative bulbs to performance requirements in 2020, (3) increases the total volume of LED screw-base lamps included in the 2018-2020 planning period while decreasing the number of direct install LEDs, and (4) alters the NTG assumption for retail lamps by assuming a 0.95 NTG in 2018 with a subsequent decline over time to a 0.65 NTG for each year from 2023-2025, reflecting a natural market shift to LEDs over the analysis timeframe.<sup>42</sup>

The table below provides the total volume of LED screw base bulbs included in the EVT planning scenario for upstream and direct install (DI) bulbs. Based on prior planning assumptions and historical evaluation, it was assumed that 2.56% of these bulbs would be credited to the BED service area for the RAP scenario.

ASSUMED VOLUME OF EFFICIENCY VERMONT LED LAMPS FOR DRP PLANNING

Delivery Type	2018	2019	2020	2021	2022	2023	2024	2025
Upstream	874,238	667,924	432,627	272,957	174,314	67,009	2,705	2,656
Direct Install	7,837	11,097	15,113	17,691	15,935	15,243	15,349	13,932

Appendix D.1 compares the updated MAP and RAP results to the original results presented in the main body of this report. The tables show comparisons for incremental annual and cumulative annual energy (MWh) and summer peak demand (MW) savings, as well as program costs, by sector. As the critical update for BED focused on residential lighting, the comparison shows a change in the residential sector results only.

### *Vermont Gas Systems (VGS) Revisions*

In the development of the final modeled scenario for VGS' long-term DRP proceeding, the initial estimates of energy efficiency potential and associated acquisition costs were updated following an in-depth review of verified and unverified historical VGS program data.

<sup>42</sup> The NTG for direct install bulb is assumed to be 1.0 and is consistent with prior modeling assumptions. The revised LED planning assumptions do not include LED screw base lamps beginning in 2026 and in all subsequent years.



First, modeled incentive and non-incentive acquisition costs in the residential and nonresidential sector were updated to reflect the most recent observed trends from actual 2015 and 2016 VGS program data. The GDS team revised select measure applicability factors and incentive yields update the analysis to be reflective of actual observed. These refinements decreased residential and nonresidential sector resource acquisition cost estimates than the original modeling effort.

Appendices D.2 and D.3 compare the updated MAP and RAP results to the original results presented in the main body of this report. The tables show comparisons for incremental annual and cumulative annual natural gas (MMBtu) savings, as well as program costs, by sector.

**Appendix D.1****BED Residential Achievable Potential - Savings and Costs**

MWh	Maximum Achievable Potential by End-Use - Incremental Annual Energy Savings - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	166	152	139	138	138	138	138	138	138	138	138	138	138	138	138	138	140	168	154	142
Clothes Washer/Dryer	319	290	262	261	261	260	261	261	261	261	261	261	308	287	284	276	267	267	267	267
Dishwasher	14	13	11	11	11	11	11	11	11	11	11	11	11	15	13	11	11	11	11	11
Electronics	1,090	1,019	948	946	1,087	1,036	1,018	1,001	1,127	1,082	1,029	1,024	1,198	1,131	1,063	1,064	1,203	1,150	1,138	1,119
Hot Water	330	292	253	248	244	239	235	233	228	234	227	219	215	281	252	222	220	220	230	227
Pool/Spa	52	47	42	42	42	42	42	42	42	42	53	49	44	44	44	43	43	43	43	43
Lighting	4,218	3,560	3,299	821	821	211	202	192	192	192	218	208	199	198	197	978	921	865	863	863
Ventilation	27	19	12	11	11	11	11	11	11	11	11	12	12	12	11	11	11	11	11	30
HVAC Shell	41	34	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
HVAC Equipment	150	135	120	119	119	118	118	118	118	118	118	118	135	128	128	130	124	121	121	121
Behavioral	450	779	733	787	771	766	759	753	747	743	739	736	733	732	732	732	733	734	735	737
ER Refrigeration	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6
ER Clothes Washer/Dryer	33	33	33	45	45	45	45	45	45	45	45	45	45	45	58	58	58	58	58	58
ER Hot Water	46	46	46	46	88	88	88	88	88	88	88	88	88	130	130	130	130	130	130	130
ER HVAC Equipment	53	53	53	53	52	56	56	55	55	55	55	55	55	55	55	59	59	59	59	59
Total	6,994	6,477	5,981	3,559	3,722	3,054	3,016	2,981	3,095	3,052	3,025	2,995	3,212	3,226	3,138	3,884	3,953	3,871	3,853	3,839

MWh	Maximum Achievable Potential by End-Use - Incremental Annual Energy Savings - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	166	152	139	138	138	138	138	138	138	138	138	138	138	138	138	138	140	168	154	142
Clothes Washer/Dryer	319	290	262	261	261	260	261	261	261	261	261	261	308	287	284	276	267	267	267	267
Dishwasher	14	13	11	11	11	11	11	11	11	11	11	11	11	15	13	11	11	11	11	11
Electronics	1,090	1,019	948	946	1,087	1,036	1,018	1,001	1,127	1,082	1,029	1,024	1,198	1,131	1,063	1,064	1,203	1,150	1,138	1,119
Hot Water	330	292	253	248	244	239	235	233	228	234	227	219	215	281	252	222	220	220	230	227
Pool/Spa	52	47	42	42	42	42	42	42	42	42	53	49	44	44	44	43	43	43	43	43
Lighting	3,843	3,543	1,475	1,469	1,156	134	128	36	35	36	50	44	38	38	38	53	46	40	40	40
Ventilation	27	19	12	11	11	11	11	11	11	11	11	12	12	12	11	11	11	11	11	30
HVAC Shell	41	34	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
HVAC Equipment	150	135	120	119	119	118	118	118	118	118	118	118	135	128	128	130	124	121	121	121
Behavioral	452	779	787	758	751	796	790	789	785	781	778	775	774	773	774	775	776	778	780	782
ER Refrigeration	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6
ER Clothes Washer/Dryer	33	33	33	45	45	45	45	45	45	45	45	45	45	45	58	58	58	58	58	58
ER Hot Water	46	46	46	46	88	88	88	88	88	88	88	88	88	130	130	130	130	130	130	130
ER HVAC Equipment	53	53	53	53	52	56	56	55	55	55	55	55	55	55	55	59	59	59	59	59
Total	6,622	6,460	4,210	4,178	4,036	3,007	2,972	2,861	2,976	2,934	2,897	2,871	3,092	3,107	3,021	3,001	3,122	3,090	3,075	3,061

Appendix D.1

BED Residential Achievable Potential - Savings and Costs

MWh	Maximum Achievable Potential by End-Use - Cumulative Annual Energy Savings - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	166	319	457	596	734	872	1,010	1,148	1,217	1,285	1,353	1,422	1,490	1,559	1,627	1,695	1,758	1,761	1,765	1,768
Clothes Washer/Dryer	319	609	870	1,131	1,392	1,652	1,913	2,173	2,434	2,695	2,956	3,217	3,363	3,510	3,517	3,523	3,530	3,537	3,543	3,549
Dishwasher	14	27	38	49	60	71	81	92	103	114	125	136	147	147	148	148	148	149	149	150
Electronics	1,090	2,109	3,057	4,003	4,317	4,614	4,687	4,762	4,836	4,877	4,917	4,958	5,000	5,041	5,081	5,120	5,159	5,199	5,237	5,276
Hot Water	330	618	862	1,097	1,324	1,542	1,752	1,937	2,116	2,240	2,362	2,483	2,603	2,636	2,669	2,688	2,706	2,725	2,743	2,762
Pool/Spa	52	99	142	184	227	269	311	354	396	438	439	441	442	443	444	445	447	448	449	450
Lighting	4,218	7,381	10,680	3,489	4,310	3,970	4,107	4,245	4,383	4,520	4,658	4,797	4,935	5,073	5,211	5,348	5,484	5,621	5,758	5,894
Ventilation	27	46	57	69	80	92	103	114	126	137	149	160	172	183	195	206	217	229	240	243
HVAC Shell	41	75	101	126	152	178	204	230	255	281	307	333	359	384	410	436	462	487	513	539
HVAC Equipment	150	285	404	523	641	758	875	992	1,109	1,225	1,335	1,446	1,493	1,540	1,577	1,592	1,606	1,621	1,636	1,650
Behavioral	450	779	733	787	771	766	759	753	747	743	739	736	733	732	732	732	733	734	735	737
ER Refrigeration	5	9	14	15	15	16	16	17	17	18	18	19	19	20	21	21	22	22	23	23
ER Clothes Washer/Dryer	33	66	98	111	123	136	149	161	174	186	199	211	224	236	249	262	274	287	299	312
ER Hot Water	46	92	138	185	227	269	311	353	395	437	480	522	564	606	648	690	732	775	817	859
ER HVAC Equipment	53	106	159	210	261	302	305	307	309	311	315	319	323	327	331	335	339	343	348	352
Total	6,994	12,619	17,812	12,574	14,633	15,505	16,583	17,639	18,617	19,508	20,354	21,199	21,867	22,439	22,859	23,242	23,619	23,938	24,254	24,562

MWh	Maximum Achievable Potential by End-Use - Cumulative Annual Energy Savings - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	166	319	457	596	734	872	1,010	1,148	1,217	1,285	1,353	1,422	1,490	1,559	1,627	1,695	1,758	1,761	1,765	1,768
Clothes Washer/Dryer	319	609	870	1,131	1,392	1,652	1,913	2,173	2,434	2,695	2,956	3,217	3,363	3,510	3,517	3,523	3,530	3,537	3,543	3,549
Dishwasher	14	27	38	49	60	71	81	92	103	114	125	136	147	147	148	148	148	149	149	150
Electronics	1,090	2,109	3,057	4,003	4,317	4,614	4,687	4,762	4,836	4,877	4,917	4,958	5,000	5,041	5,081	5,120	5,159	5,199	5,237	5,276
Hot Water	330	618	862	1,097	1,324	1,542	1,752	1,937	2,116	2,240	2,362	2,483	2,603	2,636	2,669	2,688	2,706	2,725	2,743	2,762
Pool/Spa	52	99	142	184	227	269	311	354	396	438	439	441	442	443	444	445	447	448	449	450
Lighting	3,843	7,386	5,072	6,541	6,444	690	787	244	261	279	296	314	331	349	366	384	401	418	436	453
Ventilation	27	46	57	69	80	92	103	114	126	137	149	160	172	183	195	206	217	229	240	243
HVAC Shell	41	75	101	126	152	178	204	230	255	281	307	333	359	384	410	436	462	487	513	539
HVAC Equipment	150	285	404	523	641	758	875	992	1,109	1,225	1,335	1,446	1,493	1,540	1,577	1,592	1,606	1,621	1,636	1,650
Behavioral	452	779	787	758	751	796	790	789	785	781	778	775	774	773	774	775	776	778	780	782
ER Refrigeration	5	9	14	15	15	16	16	17	17	18	18	19	19	20	21	21	22	22	23	23
ER Clothes Washer/Dryer	33	66	98	111	123	136	149	161	174	186	199	211	224	236	249	262	274	287	299	312
ER Hot Water	46	92	138	185	227	269	311	353	395	437	480	522	564	606	648	690	732	775	817	859
ER HVAC Equipment	53	106	159	210	261	302	305	307	309	311	315	319	323	327	331	335	339	343	348	352
Total	6,622	12,625	12,257	15,597	16,747	12,255	13,294	13,674	14,533	15,305	16,031	16,756	17,304	17,756	18,057	18,321	18,579	18,779	18,977	19,167



**Appendix D.1****BED Residential Achievable Potential - Savings and Costs**

MW	Maximum Achievable Potential by End-Use - Incremental Annual Summer Peak Demand Savings - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.020	0.018	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.017	0.020	0.018	0.017
Clothes Washer/Dryer	0.039	0.036	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.037	0.035	0.035	0.034	0.033	0.033	0.033	0.033
Dishwasher	0.011	0.010	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.011	0.010	0.009	0.009	0.009	0.009	0.009
Electronics	0.107	0.100	0.093	0.093	0.107	0.102	0.100	0.098	0.111	0.107	0.101	0.101	0.118	0.111	0.105	0.105	0.119	0.114	0.112	0.110
Hot Water	0.027	0.024	0.021	0.020	0.020	0.019	0.019	0.019	0.019	0.019	0.018	0.018	0.017	0.023	0.021	0.018	0.018	0.018	0.018	0.018
Pool/Spa	0.033	0.030	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.034	0.031	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028
Lighting	0.300	0.253	0.234	0.059	0.059	0.018	0.017	0.016	0.016	0.016	0.019	0.018	0.017	0.017	0.017	0.071	0.067	0.062	0.062	0.062
Ventilation	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003
HVAC Shell	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
HVAC Equipment	0.071	0.061	0.051	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.057	0.054	0.066	0.059	0.052	0.052	0.052	0.052
Behavioral	0.051	0.089	0.084	0.090	0.088	0.087	0.087	0.086	0.085	0.085	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084
ER Refrigeration	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
ER Clothes Washer/Dryer	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.006	0.006	0.006	0.006	0.006	0.006
ER Hot Water	0.004	0.004	0.004	0.004	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.010	0.010	0.010	0.010	0.010	0.010	0.010
ER HVAC Equipment	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Total	0.675	0.635	0.580	0.411	0.427	0.380	0.375	0.372	0.384	0.379	0.382	0.377	0.401	0.400	0.404	0.447	0.449	0.442	0.440	0.438

MW	Maximum Achievable Potential by End-Use - Incremental Annual Summer Peak Demand Savings - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Clothes Washer/Dryer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dishwasher	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electronics	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Hot Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pool/Spa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lighting	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventilation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Shell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Equipment	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Behavioral	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ER Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Clothes Washer/Dryer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Hot Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER HVAC Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.655	0.637	0.423	0.419	0.414	0.376	0.372	0.364	0.376	0.371	0.373	0.368	0.393	0.392	0.396	0.386	0.392	0.389	0.386	0.385

**Appendix D.1****BED Residential Achievable Potential - Savings and Costs**

MW	Maximum Achievable Potential by End-Use - Cumulative Annual Summer Peak Demand Savings - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Clothes Washer/Dryer	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Dishwasher	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Electronics	0.1	0.2	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Hot Water	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Pool/Spa	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Lighting	0.3	0.5	0.8	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Ventilation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Shell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Equipment	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Behavioral	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ER Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Clothes Washer/Dryer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Hot Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
ER HVAC Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>0.7</b>	<b>1.2</b>	<b>1.7</b>	<b>1.5</b>	<b>1.7</b>	<b>1.9</b>	<b>2.1</b>	<b>2.2</b>	<b>2.4</b>	<b>2.5</b>	<b>2.7</b>	<b>2.8</b>	<b>2.9</b>	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>	<b>3.1</b>	<b>3.1</b>	<b>3.1</b>	<b>3.2</b>

MW	Maximum Achievable Potential by End-Use - Cumulative Annual Summer Peak Demand Savings - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Clothes Washer/Dryer	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Dishwasher	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Electronics	0.1	0.2	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Hot Water	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Pool/Spa	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Lighting	0.3	0.5	0.2	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventilation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Shell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Equipment	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Behavioral	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ER Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Clothes Washer/Dryer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Hot Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
ER HVAC Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>0.7</b>	<b>1.2</b>	<b>1.2</b>	<b>1.5</b>	<b>1.7</b>	<b>1.7</b>	<b>1.8</b>	<b>2.0</b>	<b>2.1</b>	<b>2.3</b>	<b>2.4</b>	<b>2.5</b>	<b>2.6</b>	<b>2.6</b>	<b>2.7</b>	<b>2.7</b>	<b>2.7</b>	<b>2.7</b>	<b>2.8</b>	<b>2.8</b>

Appendix D.1

BED Residential Achievable Potential - Savings and Costs

\$	Maximum Achievable Potential by End-Use - Annual Incentive Costs - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$151,750	\$131,120	\$110,491	\$109,918	\$109,918	\$109,689	\$109,804	\$110,033	\$109,918	\$110,033	\$110,033	\$110,147	\$110,262	\$110,147	\$109,918	\$109,689	\$112,543	\$155,257	\$134,398	\$115,049
Clothes Washer/Dryer	\$385,370	\$345,756	\$306,142	\$305,042	\$305,042	\$304,602	\$304,822	\$305,262	\$305,042	\$305,262	\$305,262	\$305,482	\$363,359	\$337,764	\$344,304	\$328,920	\$314,461	\$314,003	\$313,704	\$313,847
Dishwasher	\$41,830	\$37,500	\$33,170	\$33,050	\$33,050	\$33,002	\$33,026	\$33,074	\$33,050	\$33,074	\$33,074	\$33,098	\$33,122	\$42,936	\$38,558	\$34,180	\$34,036	\$34,060	\$33,964	\$33,990
Electronics	\$265,273	\$248,498	\$231,722	\$231,256	\$265,202	\$253,251	\$249,351	\$245,341	\$275,510	\$264,881	\$252,439	\$251,366	\$293,520	\$277,541	\$261,542	\$261,550	\$295,233	\$282,817	\$280,476	\$275,811
Hot Water	\$217,171	\$186,448	\$155,725	\$154,872	\$154,872	\$154,530	\$154,701	\$155,944	\$155,376	\$158,573	\$157,436	\$156,481	\$156,616	\$209,553	\$186,733	\$162,872	\$161,670	\$161,823	\$164,653	\$163,670
Pool/Spa	\$15,977	\$14,492	\$13,007	\$12,966	\$12,966	\$12,950	\$12,958	\$12,974	\$12,966	\$12,974	\$16,348	\$14,871	\$13,395	\$13,345	\$13,329	\$13,296	\$13,296	\$13,321	\$13,296	\$13,305
Lighting	\$1,080,039	\$881,494	\$701,069	\$660,100	\$626,225	\$124,311	\$119,484	\$116,773	\$113,771	\$112,056	\$113,627	\$110,301	\$106,998	\$106,343	\$105,145	\$741,205	\$637,479	\$534,968	\$530,880	\$530,923
Ventiliation	\$34,300	\$24,350	\$14,401	\$14,125	\$14,125	\$14,014	\$14,069	\$14,180	\$14,125	\$14,180	\$14,180	\$14,235	\$14,290	\$14,235	\$14,125	\$14,014	\$13,959	\$14,014	\$13,903	\$37,263
HVAC Shell	\$91,273	\$76,216	\$61,159	\$60,740	\$60,740	\$60,573	\$60,657	\$60,824	\$60,740	\$60,824	\$60,824	\$60,908	\$60,991	\$60,908	\$60,740	\$60,573	\$60,489	\$60,573	\$60,406	\$60,413
HVAC Equipment	\$170,271	\$148,051	\$125,831	\$125,213	\$125,213	\$124,966	\$125,090	\$125,337	\$125,213	\$125,337	\$125,337	\$125,460	\$138,801	\$132,861	\$154,271	\$148,152	\$133,129	\$130,044	\$129,751	\$129,692
Behavioral	\$96,849	\$98,102	\$98,370	\$98,611	\$98,852	\$99,082	\$99,317	\$99,563	\$99,804	\$100,050	\$100,296	\$100,548	\$100,805	\$101,057	\$101,298	\$101,527	\$101,752	\$101,982	\$102,201	\$102,420
ER Refrigeration	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,711	\$3,711	\$3,711	\$3,711
ER Clothes Washer/Dryer	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$68,974	\$68,974	\$68,974	\$68,974	\$68,974
ER Hot Water	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$61,031	\$61,031	\$61,031	\$61,031	\$61,031	\$61,031	\$61,031
ER HVAC Equipment	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$39,517	\$39,517	\$39,517	\$39,517	\$39,517
Total	\$2,664,843	\$2,306,769	\$1,965,830	\$1,920,635	\$1,920,947	\$1,405,712	\$1,398,020	\$1,394,046	\$1,420,257	\$1,411,986	\$1,403,597	\$1,397,640	\$1,506,902	\$1,548,793	\$1,559,352	\$2,148,542	\$2,051,279	\$1,976,094	\$1,950,865	\$1,949,614

\$	Maximum Achievable Potential by End-Use - Annual Incentive Costs - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$151,750	\$131,120	\$110,491	\$109,918	\$109,918	\$109,689	\$109,804	\$110,033	\$109,918	\$110,033	\$110,033	\$110,147	\$110,262	\$110,147	\$109,918	\$109,689	\$112,543	\$155,257	\$134,398	\$115,049
Clothes Washer/Dryer	\$379,805	\$340,757	\$301,709	\$300,624	\$300,624	\$300,191	\$300,407	\$300,841	\$300,624	\$300,841	\$300,841	\$301,058	\$358,932	\$333,340	\$338,601	\$323,789	\$309,898	\$309,454	\$309,161	\$309,309
Dishwasher	\$41,830	\$37,500	\$33,170	\$33,050	\$33,050	\$33,002	\$33,026	\$33,074	\$33,050	\$33,074	\$33,074	\$33,098	\$33,122	\$42,936	\$38,558	\$34,180	\$34,036	\$34,060	\$33,964	\$33,990
Electronics	\$265,273	\$248,498	\$231,722	\$231,256	\$265,202	\$253,251	\$249,351	\$245,341	\$275,510	\$264,881	\$252,439	\$251,366	\$293,520	\$277,541	\$261,542	\$261,550	\$295,233	\$282,817	\$280,476	\$275,811
Hot Water	\$217,171	\$186,448	\$155,725	\$154,872	\$154,872	\$154,530	\$154,701	\$155,944	\$155,376	\$158,573	\$157,436	\$156,481	\$156,616	\$209,553	\$186,733	\$162,872	\$161,670	\$161,823	\$164,653	\$163,670
Pool/Spa	\$15,977	\$14,492	\$13,007	\$12,966	\$12,966	\$12,950	\$12,958	\$12,974	\$12,966	\$12,974	\$16,348	\$14,871	\$13,395	\$13,345	\$13,329	\$13,296	\$13,296	\$13,321	\$13,296	\$13,305
Lighting	\$1,080,039	\$881,494	\$417,158	\$404,906	\$344,795	\$47,831	\$45,978	\$37,371	\$37,294	\$37,332	\$40,753	\$39,370	\$37,995	\$37,909	\$37,841	\$41,186	\$39,735	\$38,367	\$38,236	\$38,231
Ventiliation	\$34,300	\$24,350	\$14,401	\$14,125	\$14,125	\$14,014	\$14,069	\$14,180	\$14,125	\$14,180	\$14,180	\$14,235	\$14,290	\$14,235	\$14,125	\$14,014	\$13,959	\$14,014	\$13,903	\$37,263
HVAC Shell	\$91,273	\$76,216	\$61,159	\$60,740	\$60,740	\$60,573	\$60,657	\$60,824	\$60,740	\$60,824	\$60,824	\$60,908	\$60,991	\$60,908	\$60,740	\$60,573	\$60,489	\$60,573	\$60,406	\$60,413
HVAC Equipment	\$170,271	\$148,051	\$125,831	\$125,213	\$125,213	\$124,966	\$125,090	\$125,337	\$125,213	\$125,337	\$125,337	\$125,460	\$138,801	\$132,861	\$154,271	\$148,152	\$133,129	\$130,044	\$129,751	\$129,692
Behavioral	\$96,849	\$98,102	\$98,370	\$98,611	\$98,852	\$99,082	\$99,317	\$99,563	\$99,804	\$100,050	\$100,296	\$100,548	\$100,805	\$101,057	\$101,298	\$101,527	\$101,752	\$101,982	\$102,201	\$102,420
ER Refrigeration	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,043	\$3,711	\$3,711	\$3,711	\$3,711
ER Clothes Washer/Dryer	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$41,688	\$68,974	\$68,974	\$68,974	\$68,974	\$68,974
ER Hot Water	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$33,670	\$61,031	\$61,031	\$61,031	\$61,031	\$61,031	\$61,031	\$61,031
ER HVAC Equipment	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$36,341	\$39,517	\$39,517	\$39,517	\$39,517	\$39,517
Total	\$2,659,279	\$2,301,770	\$1,677,485	\$1,661,023	\$1,635,100	\$1,324,821	\$1,320,100	\$1,310,224	\$1,339,362	\$1,332,841	\$1,326,303	\$1,322,285	\$1,433,471	\$1,475,935	\$1,486,345	\$1,443,392	\$1,448,973	\$1,474,943	\$1,453,677	\$1,452,385



Appendix D.1

BED Residential Achievable Potential - Savings and Costs

\$	Maximum Achievable Potential by End-Use - Annual Incentive Costs - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$23,727	\$22,841	\$21,955	\$21,930	\$21,930	\$21,920	\$21,925	\$21,935	\$21,930	\$21,935	\$21,935	\$21,940	\$21,945	\$21,940	\$21,930	\$21,920	\$22,056	\$23,872	\$22,976	\$22,150
Clothes Washer/Dryer	\$19,336	\$17,847	\$16,359	\$16,317	\$16,317	\$16,301	\$16,309	\$16,326	\$16,317	\$16,326	\$16,326	\$16,334	\$18,622	\$17,610	\$17,694	\$17,164	\$16,670	\$16,654	\$16,643	\$16,649
Dishwasher	\$951	\$853	\$755	\$752	\$752	\$751	\$751	\$752	\$752	\$752	\$752	\$753	\$753	\$977	\$877	\$777	\$774	\$775	\$773	\$773
Electronics	\$96,869	\$92,425	\$87,982	\$87,859	\$125,682	\$122,400	\$120,988	\$120,032	\$156,967	\$154,004	\$150,605	\$150,330	\$190,069	\$185,825	\$181,579	\$181,588	\$219,339	\$215,925	\$214,899	\$213,784
Hot Water	\$107,458	\$95,784	\$84,111	\$82,168	\$80,503	\$78,727	\$77,117	\$76,046	\$74,113	\$80,608	\$77,494	\$74,442	\$72,483	\$91,098	\$82,916	\$74,564	\$74,079	\$74,123	\$81,217	\$80,140
Pool/Spa	\$3,030	\$2,748	\$2,467	\$2,459	\$2,459	\$2,456	\$2,457	\$2,461	\$2,459	\$2,461	\$3,100	\$2,820	\$2,540	\$2,531	\$2,528	\$2,522	\$2,522	\$2,526	\$2,522	\$2,523
Lighting	\$256,954	\$239,133	\$221,312	\$61,081	\$61,081	\$14,217	\$13,513	\$12,837	\$12,788	\$12,816	\$14,661	\$13,961	\$13,266	\$13,213	\$13,161	\$79,186	\$74,268	\$69,410	\$69,210	\$69,208
Ventiliation	\$10,409	\$7,918	\$5,427	\$5,358	\$5,358	\$5,330	\$5,344	\$5,371	\$5,358	\$5,371	\$5,371	\$5,385	\$5,399	\$5,385	\$5,358	\$5,330	\$5,316	\$5,330	\$5,302	\$12,972
HVAC Shell	\$66,162	\$50,544	\$34,942	\$34,495	\$34,482	\$34,297	\$34,375	\$34,540	\$34,447	\$34,526	\$34,521	\$34,601	\$34,685	\$34,595	\$34,421	\$34,249	\$34,161	\$34,247	\$34,074	\$34,081
HVAC Equipment	\$251,122	\$214,058	\$176,995	\$175,723	\$175,474	\$174,815	\$174,770	\$174,930	\$174,476	\$174,431	\$174,431	\$174,635	\$218,061	\$198,835	\$198,289	\$203,307	\$188,513	\$181,996	\$181,519	\$181,655
Behavioral	\$43,562	\$75,449	\$70,991	\$76,153	\$74,599	\$74,123	\$73,522	\$72,866	\$72,337	\$71,918	\$71,594	\$71,217	\$70,986	\$70,854	\$70,890	\$70,883	\$70,923	\$71,026	\$71,173	\$71,330
ER Refrigeration	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$303	\$303	\$303	\$303
ER Clothes Washer/Dryer	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$2,634	\$2,634	\$2,634	\$2,634	\$2,634	\$2,634
ER Hot Water	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$24,974	\$24,974	\$24,974	\$24,974	\$24,974	\$24,974	\$24,974
ER HVAC Equipment	\$73,861	\$73,457	\$73,054	\$72,650	\$72,246	\$71,843	\$71,439	\$71,036	\$70,632	\$70,229	\$70,229	\$70,229	\$70,229	\$70,229	\$70,229	\$75,713	\$75,713	\$75,713	\$75,713	\$75,713
Total	\$968,671	\$908,289	\$811,578	\$652,175	\$686,112	\$632,408	\$627,742	\$624,362	\$657,805	\$660,607	\$656,249	\$651,878	\$734,268	\$740,241	\$727,750	\$795,082	\$812,244	\$799,508	\$803,930	\$808,890

\$	Maximum Achievable Potential by End-Use - Annual Admin Costs - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$23,727	\$22,841	\$21,955	\$21,930	\$21,930	\$21,920	\$21,925	\$21,935	\$21,930	\$21,935	\$21,935	\$21,940	\$21,945	\$21,940	\$21,930	\$21,920	\$22,056	\$23,872	\$22,976	\$22,150
Clothes Washer/Dryer	\$19,336	\$17,847	\$16,359	\$16,317	\$16,317	\$16,301	\$16,309	\$16,326	\$16,317	\$16,326	\$16,326	\$16,334	\$18,622	\$17,610	\$17,694	\$17,164	\$16,670	\$16,654	\$16,643	\$16,649
Dishwasher	\$951	\$853	\$755	\$752	\$752	\$751	\$751	\$752	\$752	\$752	\$752	\$753	\$753	\$977	\$877	\$777	\$774	\$775	\$773	\$773
Electronics	\$96,869	\$92,425	\$87,982	\$87,859	\$125,682	\$122,400	\$120,988	\$120,032	\$156,967	\$154,004	\$150,605	\$150,330	\$190,069	\$185,825	\$181,579	\$181,588	\$219,339	\$215,925	\$214,899	\$213,784
Hot Water	\$107,458	\$95,784	\$84,111	\$82,168	\$80,503	\$78,727	\$77,117	\$76,046	\$74,113	\$80,608	\$77,494	\$74,442	\$72,483	\$91,098	\$82,916	\$74,564	\$74,079	\$74,123	\$81,217	\$80,140
Pool/Spa	\$3,030	\$2,748	\$2,467	\$2,459	\$2,459	\$2,456	\$2,457	\$2,461	\$2,459	\$2,461	\$3,100	\$2,820	\$2,540	\$2,531	\$2,528	\$2,522	\$2,522	\$2,526	\$2,522	\$2,523
Lighting	\$261,161	\$241,471	\$93,436	\$93,059	\$74,870	\$8,085	\$7,681	\$2,305	\$2,291	\$2,294	\$3,261	\$2,859	\$2,459	\$2,443	\$2,439	\$3,399	\$2,993	\$2,596	\$2,574	\$2,572
Ventiliation	\$10,409	\$7,918	\$5,427	\$5,358	\$5,358	\$5,330	\$5,344	\$5,371	\$5,358	\$5,371	\$5,371	\$5,385	\$5,399	\$5,385	\$5,358	\$5,330	\$5,316	\$5,330	\$5,302	\$12,972
HVAC Shell	\$66,162	\$50,544	\$34,942	\$34,495	\$34,482	\$34,297	\$34,375	\$34,540	\$34,447	\$34,526	\$34,521	\$34,601	\$34,685	\$34,595	\$34,421	\$34,249	\$34,161	\$34,247	\$34,074	\$34,081
HVAC Equipment	\$251,122	\$214,058	\$176,995	\$175,723	\$175,474	\$174,815	\$174,770	\$174,930	\$174,476	\$174,431	\$174,431	\$174,635	\$218,061	\$198,835	\$198,289	\$203,307	\$188,513	\$181,996	\$181,519	\$181,655
Behavioral	\$43,755	\$75,444	\$76,154	\$73,360	\$72,664	\$77,074	\$76,477	\$76,414	\$75,965	\$75,621	\$75,361	\$75,063	\$74,913	\$74,858	\$74,960	\$75,032	\$75,140	\$75,309	\$75,508	\$75,717
ER Refrigeration	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$303	\$303	\$303	\$303
ER Clothes Washer/Dryer	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$2,634	\$2,634	\$2,634	\$2,634	\$2,634	\$2,634
ER Hot Water	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$24,974	\$24,974	\$24,974	\$24,974	\$24,974	\$24,974	\$24,974
ER HVAC Equipment	\$73,861	\$73,457	\$73,054	\$72,650	\$72,246	\$71,843	\$71,439	\$71,036	\$70,632	\$70,229	\$70,229	\$70,229	\$70,229	\$70,229	\$70,229	\$75,713	\$75,713	\$75,713	\$75,713	\$75,713
Total	\$973,071	\$910,621	\$688,865	\$681,359	\$697,965	\$629,228	\$624,865	\$617,378	\$650,936	\$653,787	\$648,616	\$644,621	\$727,388	\$733,475	\$721,098	\$723,444	\$745,186	\$736,976	\$741,630	\$746,641

**Appendix D.1****BED Residential Achievable Potential - Savings and Costs**

MWh	Realistic Achievable Potential by End-Use - Incremental Annual Energy Savings - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	69	82	104	123	129	129	129	129	129	129	129	129	129	129	129	129	130	155	143	132
Clothes Washer/Dryer	66	89	133	167	178	178	178	178	178	178	178	178	216	199	193	188	183	183	183	183
Dishwasher	6	6	6	6	7	7	7	7	7	7	7	7	7	9	8	7	7	7	7	7
Electronics	388	425	493	549	626	601	595	585	635	615	588	584	664	628	592	593	652	625	625	612
Hot Water	70	91	129	158	166	164	162	161	159	163	158	154	152	188	171	153	152	152	157	155
Pool/Spa	40	39	38	38	39	38	39	39	39	39	48	44	40	40	40	39	39	40	39	39
Lighting	1,470	1,022	684	129	93	64	39	34	27	27	37	33	28	28	28	38	34	29	29	29
Ventilation	9	8	7	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	23
HVAC Shell	8	9	10	12	12	12	12	12	12	12	12	13	13	13	12	12	12	12	12	12
HVAC Equipment	60	64	71	78	80	80	80	80	80	80	80	80	90	86	85	87	84	82	82	82
Behavioral	143	406	652	809	845	839	836	832	830	827	826	825	824	823	824	826	828	831	833	836
ER Refrigeration	1	1	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
ER Clothes Washer/Dryer	6	8	13	18	19	21	22	22	22	22	22	22	22	22	25	26	27	28	29	29
ER Hot Water	10	13	20	24	35	38	44	48	49	49	49	49	49	58	61	68	72	73	73	73
ER HVAC Equipment	8	10	16	19	20	21	21	21	21	21	21	21	21	21	21	22	22	22	23	23
Total	2,353	2,274	2,378	2,143	2,260	2,204	2,176	2,161	2,200	2,181	2,168	2,150	2,266	2,256	2,201	2,199	2,254	2,250	2,246	2,237

MWh	Realistic Achievable Potential by End-Use - Incremental Annual Energy Savings - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	69	82	104	123	129	129	129	129	129	129	129	129	129	129	129	129	130	155	143	132
Clothes Washer/Dryer	66	90	134	169	179	179	179	180	179	180	180	180	217	201	195	189	184	184	184	184
Dishwasher	6	6	6	6	7	7	7	7	7	7	7	7	7	9	8	7	7	7	7	7
Electronics	388	425	493	549	626	601	595	585	635	615	588	584	664	628	592	593	652	625	625	612
Hot Water	70	91	129	158	166	164	162	161	159	163	158	154	152	188	171	153	152	152	157	155
Pool/Spa	40	39	38	38	39	38	39	39	39	39	48	44	40	40	40	39	39	40	39	39
Lighting	844	827	546	550	515	88	84	27	27	27	37	33	28	28	28	38	34	29	29	29
Ventilation	9	8	7	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	23
HVAC Shell	8	9	10	12	12	12	12	12	12	12	12	13	13	13	12	12	12	12	12	12
HVAC Equipment	60	64	71	78	80	80	80	80	80	80	80	80	90	86	85	87	84	82	82	82
Behavioral	144	409	662	796	830	843	838	838	835	832	831	829	828	828	828	829	830	831	833	836
ER Refrigeration	1	1	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
ER Clothes Washer/Dryer	6	8	13	18	19	21	22	22	22	22	22	22	22	22	25	26	27	28	29	29
ER Hot Water	10	13	20	24	35	38	44	48	49	49	49	49	49	58	61	68	72	73	73	73
ER HVAC Equipment	8	10	16	19	20	21	21	21	21	21	21	21	21	21	21	22	22	22	23	23
Total	1,728	2,083	2,251	2,553	2,669	2,233	2,224	2,160	2,206	2,187	2,174	2,156	2,272	2,262	2,207	2,204	2,257	2,253	2,248	2,238

**Appendix D.1****BED Residential Achievable Potential - Savings and Costs**

MWh	Realistic Achievable Potential by End-Use - Cumulative Annual Energy Savings - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	69	151	255	378	507	636	764	893	990	1,079	1,152	1,215	1,275	1,335	1,395	1,454	1,514	1,562	1,594	1,607
Clothes Washer/Dryer	66	155	287	455	633	810	988	1,167	1,345	1,523	1,701	1,879	2,064	2,219	2,308	2,361	2,384	2,393	2,398	2,402
Dishwasher	6	12	18	24	31	37	44	51	57	64	70	77	84	87	89	90	90	90	90	91
Electronics	388	813	1,306	1,856	2,292	2,659	2,782	2,843	2,881	2,908	2,929	2,944	2,955	2,965	2,974	2,983	2,992	3,001	3,010	3,019
Hot Water	70	161	288	443	604	761	914	1,060	1,201	1,316	1,418	1,505	1,582	1,668	1,731	1,764	1,782	1,794	1,805	1,815
Pool/Spa	40	79	117	156	194	233	271	310	348	387	395	399	401	402	403	404	405	406	407	408
Lighting	1,470	2,340	3,025	898	991	832	785	758	739	731	735	746	757	771	784	625	505	430	384	360
Ventilation	9	17	25	33	42	51	60	70	79	88	97	106	115	124	133	142	151	160	169	184
HVAC Shell	8	17	26	38	51	63	75	88	100	113	125	138	150	163	175	188	200	213	225	237
HVAC Equipment	60	125	196	274	354	434	514	593	673	753	831	908	948	983	1,016	1,044	1,066	1,081	1,094	1,106
Behavioral	143	406	652	809	845	839	836	832	830	827	826	825	824	823	824	826	828	831	833	836
ER Refrigeration	1	2	4	6	7	8	8	9	9	9	9	10	10	10	11	11	11	12	12	12
ER Clothes Washer/Dryer	6	14	27	38	50	58	65	71	77	83	89	95	102	108	114	120	126	132	138	145
ER Hot Water	10	23	43	67	92	117	141	164	188	212	235	259	282	306	329	353	377	400	424	447
ER HVAC Equipment	8	18	33	52	72	90	103	112	116	118	120	121	122	124	125	127	128	130	132	133
Total	2,353	4,332	6,303	5,526	6,763	7,629	8,351	9,020	9,633	10,210	10,733	11,227	11,672	12,088	12,412	12,492	12,561	12,636	12,716	12,802

MWh	Realistic Achievable Potential by End-Use - Cumulative Annual Energy Savings - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	69	151	255	378	507	636	764	893	990	1,079	1,152	1,215	1,275	1,335	1,395	1,454	1,514	1,562	1,594	1,607
Clothes Washer/Dryer	66	156	290	458	638	817	996	1,176	1,355	1,535	1,714	1,894	2,080	2,237	2,328	2,382	2,405	2,415	2,419	2,424
Dishwasher	6	12	18	24	31	37	44	51	57	64	70	77	84	87	89	90	90	90	90	91
Electronics	388	813	1,306	1,856	2,292	2,659	2,782	2,843	2,881	2,908	2,929	2,944	2,955	2,965	2,974	2,983	2,992	3,001	3,010	3,019
Hot Water	70	161	288	443	604	761	914	1,060	1,201	1,316	1,418	1,505	1,582	1,668	1,731	1,764	1,782	1,794	1,805	1,815
Pool/Spa	40	79	117	156	194	233	271	310	348	387	395	399	401	402	403	404	405	406	407	408
Lighting	844	1,671	1,696	2,247	2,615	429	499	170	184	197	210	224	237	251	264	277	290	303	317	330
Ventilation	9	17	25	33	42	51	60	70	79	88	97	106	115	124	133	142	151	160	169	184
HVAC Shell	8	17	26	38	51	63	75	88	100	113	125	138	150	163	175	188	200	213	225	237
HVAC Equipment	60	125	196	274	354	434	514	593	673	753	831	908	948	983	1,016	1,044	1,066	1,081	1,094	1,106
Behavioral	144	409	662	796	830	843	838	838	835	832	831	829	828	828	828	829	830	831	833	836
ER Refrigeration	1	2	4	6	7	8	8	9	9	9	9	10	10	10	11	11	11	12	12	12
ER Clothes Washer/Dryer	6	14	27	38	50	58	65	71	77	83	89	95	102	108	114	120	126	132	138	145
ER Hot Water	10	23	43	67	92	117	141	164	188	212	235	259	282	306	329	353	377	400	424	447
ER HVAC Equipment	8	18	33	52	72	90	103	112	116	118	120	121	122	124	125	127	128	130	132	133
Total	1,728	3,667	4,986	6,867	8,378	7,236	8,075	8,447	9,094	9,693	10,227	10,724	11,172	11,590	11,916	12,168	12,369	12,532	12,670	12,793



**Appendix D.1****BED Residential Achievable Potential - Savings and Costs**

MW	Realistic Achievable Potential by End-Use - Incremental Annual Summer Peak Demand Savings - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.008	0.010	0.012	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.018	0.017	0.016
Clothes Washer/Dryer	0.007	0.010	0.016	0.020	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.025	0.024	0.023	0.023	0.022	0.022	0.022	0.022
Dishwasher	0.004	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.007	0.006	0.005	0.005	0.005	0.005	0.005
Electronics	0.037	0.040	0.047	0.053	0.060	0.058	0.057	0.056	0.061	0.059	0.056	0.056	0.064	0.060	0.057	0.057	0.063	0.060	0.060	0.059
Hot Water	0.005	0.007	0.010	0.012	0.013	0.013	0.013	0.013	0.013	0.013	0.012	0.012	0.012	0.015	0.014	0.012	0.012	0.012	0.012	0.012
Pool/Spa	0.025	0.025	0.024	0.024	0.025	0.025	0.025	0.025	0.025	0.025	0.031	0.028	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Lighting	0.125	0.087	0.058	0.011	0.008	0.006	0.004	0.003	0.003	0.003	0.004	0.003	0.003	0.003	0.003	0.004	0.004	0.003	0.003	0.003
Ventilation	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003
HVAC Shell	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
HVAC Equipment	0.022	0.023	0.024	0.026	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.030	0.029	0.034	0.031	0.028	0.028	0.028	0.028
Behavioral	0.016	0.046	0.074	0.092	0.096	0.096	0.095	0.095	0.095	0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.095	0.095	0.095	0.095
ER Refrigeration	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Clothes Washer/Dryer	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003
ER Hot Water	0.001	0.001	0.002	0.002	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.006	0.006	0.006	0.006
ER HVAC Equipment	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002
Total	0.254	0.257	0.276	0.266	0.279	0.274	0.271	0.270	0.274	0.272	0.276	0.272	0.284	0.282	0.282	0.278	0.281	0.281	0.279	0.279

MW	Realistic Achievable Potential by End-Use - Incremental Annual Summer Peak Demand Savings - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.008	0.010	0.012	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.018	0.017	0.016
Clothes Washer/Dryer	0.008	0.010	0.016	0.020	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.026	0.024	0.023	0.023	0.022	0.022	0.022	0.022
Dishwasher	0.004	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.007	0.006	0.005	0.005	0.005	0.005	0.005
Electronics	0.037	0.040	0.047	0.053	0.060	0.058	0.057	0.056	0.061	0.059	0.056	0.056	0.064	0.060	0.057	0.057	0.063	0.060	0.060	0.059
Hot Water	0.005	0.007	0.010	0.012	0.013	0.013	0.013	0.013	0.013	0.013	0.012	0.012	0.012	0.015	0.014	0.012	0.012	0.012	0.012	0.012
Pool/Spa	0.025	0.025	0.024	0.024	0.025	0.025	0.025	0.025	0.025	0.025	0.031	0.028	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Lighting	0.063	0.061	0.039	0.039	0.037	0.008	0.007	0.003	0.003	0.003	0.004	0.003	0.003	0.003	0.003	0.004	0.003	0.003	0.003	0.003
Ventilation	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003
HVAC Shell	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
HVAC Equipment	0.022	0.023	0.024	0.026	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.030	0.029	0.034	0.031	0.028	0.028	0.028	0.028
Behavioral	0.016	0.047	0.076	0.091	0.095	0.096	0.096	0.096	0.095	0.095	0.095	0.095	0.095	0.094	0.095	0.095	0.095	0.095	0.095	0.095
ER Refrigeration	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ER Clothes Washer/Dryer	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003
ER Hot Water	0.001	0.001	0.002	0.002	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.006	0.006	0.006	0.006
ER HVAC Equipment	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002
Total	0.192	0.232	0.258	0.292	0.306	0.276	0.275	0.270	0.275	0.272	0.276	0.272	0.284	0.283	0.283	0.279	0.281	0.281	0.280	0.279

**Appendix D.1****BED Residential Achievable Potential - Savings and Costs**

MW	Realistic Achievable Potential by End-Use - Cumulative Annual Summer Peak Demand Savings - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Clothes Washer/Dryer	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Dishwasher	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Electronics	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Hot Water	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Pool/Spa	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Lighting	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Ventilation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Shell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Equipment	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4
Behavioral	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ER Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Clothes Washer/Dryer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Hot Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER HVAC Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>0.3</b>	<b>0.5</b>	<b>0.7</b>	<b>0.7</b>	<b>0.9</b>	<b>1.0</b>	<b>1.1</b>	<b>1.2</b>	<b>1.3</b>	<b>1.4</b>	<b>1.5</b>	<b>1.6</b>	<b>1.7</b>	<b>1.7</b>	<b>1.8</b>	<b>1.8</b>	<b>1.8</b>	<b>1.8</b>	<b>1.8</b>	<b>1.8</b>

MW	Realistic Achievable Potential by End-Use - Cumulative Annual Summer Peak Demand Savings - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Clothes Washer/Dryer	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Dishwasher	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Electronics	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Hot Water	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Pool/Spa	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Lighting	0.1	0.1	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventilation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Shell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HVAC Equipment	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4
Behavioral	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ER Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Clothes Washer/Dryer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER Hot Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ER HVAC Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>0.2</b>	<b>0.4</b>	<b>0.6</b>	<b>0.8</b>	<b>1.0</b>	<b>1.0</b>	<b>1.1</b>	<b>1.2</b>	<b>1.3</b>	<b>1.4</b>	<b>1.5</b>	<b>1.6</b>	<b>1.6</b>	<b>1.7</b>	<b>1.7</b>	<b>1.8</b>	<b>1.8</b>	<b>1.8</b>	<b>1.8</b>	<b>1.8</b>

Appendix D.1

BED Residential Achievable Potential - Savings and Costs

\$	Realistic Achievable Potential by End-Use - Annual Incentive Costs - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$58,494	\$64,883	\$76,178	\$88,732	\$92,666	\$92,475	\$92,570	\$92,762	\$92,666	\$92,762	\$92,762	\$92,858	\$92,954	\$92,858	\$92,666	\$92,475	\$93,972	\$131,003	\$113,546	\$96,971
Clothes Washer/Dryer	\$46,515	\$61,649	\$89,758	\$113,504	\$120,851	\$120,648	\$120,750	\$120,952	\$120,851	\$120,952	\$120,952	\$121,054	\$156,639	\$140,921	\$131,083	\$127,814	\$125,081	\$124,935	\$124,819	\$124,972
Dishwasher	\$7,518	\$7,599	\$7,692	\$8,079	\$8,203	\$8,191	\$8,197	\$8,209	\$8,203	\$8,209	\$8,209	\$8,215	\$8,221	\$10,657	\$9,570	\$8,484	\$8,448	\$8,454	\$8,430	\$8,437
Electronics	\$37,980	\$41,001	\$46,668	\$51,164	\$55,077	\$54,326	\$55,229	\$54,101	\$55,651	\$55,611	\$54,412	\$53,745	\$58,274	\$56,190	\$54,088	\$54,416	\$56,762	\$55,476	\$57,602	\$56,145
Hot Water	\$22,491	\$28,641	\$39,923	\$50,200	\$53,392	\$53,283	\$53,338	\$53,705	\$53,537	\$55,555	\$54,637	\$53,777	\$53,805	\$70,876	\$63,481	\$55,726	\$55,359	\$55,405	\$57,296	\$56,427
Pool/Spa	\$8,780	\$8,624	\$8,270	\$8,308	\$8,325	\$8,315	\$8,320	\$8,330	\$8,325	\$8,330	\$10,329	\$9,454	\$8,579	\$8,550	\$8,540	\$8,521	\$8,521	\$8,535	\$8,521	\$8,526
Lighting	\$164,958	\$120,250	\$80,333	\$57,807	\$42,503	\$30,861	\$22,715	\$21,800	\$19,196	\$19,213	\$20,567	\$19,988	\$19,412	\$19,376	\$19,346	\$20,667	\$20,058	\$19,486	\$19,429	\$19,428
Ventiliation	\$10,613	\$10,210	\$8,947	\$10,594	\$11,148	\$11,058	\$11,103	\$11,193	\$11,148	\$11,193	\$11,193	\$11,238	\$11,284	\$11,238	\$11,148	\$11,058	\$11,013	\$11,058	\$10,967	\$29,441
HVAC Shell	\$7,062	\$8,115	\$9,963	\$12,099	\$12,769	\$12,735	\$12,752	\$12,786	\$12,769	\$12,786	\$12,786	\$12,803	\$12,821	\$12,803	\$12,769	\$12,735	\$12,717	\$12,735	\$12,700	\$12,702
HVAC Equipment	\$29,186	\$32,590	\$38,728	\$44,887	\$46,809	\$46,729	\$46,769	\$46,849	\$46,809	\$46,849	\$46,849	\$46,889	\$50,840	\$49,079	\$53,570	\$54,096	\$49,780	\$48,218	\$48,105	\$48,097
Behavioral	\$29,297	\$46,598	\$76,237	\$93,434	\$98,852	\$99,082	\$99,317	\$99,563	\$99,804	\$100,050	\$100,296	\$100,548	\$100,805	\$101,057	\$101,298	\$101,527	\$101,752	\$101,982	\$102,201	\$102,420
ER Refrigeration	\$94	\$129	\$197	\$241	\$255	\$255	\$255	\$255	\$255	\$255	\$255	\$255	\$255	\$255	\$255	\$255	\$349	\$384	\$452	\$496
ER Clothes Washer/Dryer	\$845	\$1,160	\$1,767	\$2,160	\$2,280	\$2,280	\$2,280	\$2,280	\$2,280	\$2,280	\$2,280	\$2,280	\$2,280	\$2,280	\$3,125	\$3,440	\$4,047	\$4,440	\$4,560	\$4,560
ER Hot Water	\$3,251	\$4,461	\$6,796	\$8,308	\$8,769	\$8,769	\$8,769	\$8,769	\$8,769	\$8,769	\$8,769	\$8,769	\$8,769	\$12,020	\$13,230	\$15,565	\$17,077	\$17,538	\$17,538	\$17,538
ER HVAC Equipment	\$1,245	\$1,709	\$2,603	\$3,182	\$3,359	\$3,359	\$3,359	\$3,359	\$3,359	\$3,359	\$3,359	\$3,359	\$3,359	\$3,359	\$3,359	\$3,717	\$3,850	\$4,108	\$4,274	\$4,325
Total	\$428,329	\$437,619	\$494,059	\$552,700	\$565,257	\$552,364	\$545,721	\$544,913	\$543,621	\$546,172	\$547,655	\$545,232	\$588,295	\$591,517	\$577,527	\$570,494	\$568,786	\$603,756	\$590,441	\$590,484

\$	Realistic Achievable Potential by End-Use - Annual Incentive Costs - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$58,494	\$64,883	\$76,178	\$88,732	\$92,666	\$92,475	\$92,570	\$92,762	\$92,666	\$92,762	\$92,762	\$92,858	\$92,954	\$92,858	\$92,666	\$92,475	\$93,972	\$131,003	\$113,546	\$96,971
Clothes Washer/Dryer	\$46,545	\$61,696	\$89,838	\$113,609	\$120,964	\$120,761	\$120,863	\$121,065	\$120,964	\$121,065	\$121,065	\$121,167	\$156,752	\$141,034	\$131,229	\$127,946	\$125,197	\$125,052	\$124,936	\$125,089
Dishwasher	\$7,518	\$7,599	\$7,692	\$8,079	\$8,203	\$8,191	\$8,197	\$8,209	\$8,203	\$8,209	\$8,209	\$8,215	\$8,221	\$10,657	\$9,570	\$8,484	\$8,448	\$8,454	\$8,430	\$8,437
Electronics	\$37,980	\$41,001	\$46,668	\$51,164	\$55,077	\$54,326	\$55,229	\$54,101	\$55,651	\$55,611	\$54,412	\$53,745	\$58,274	\$56,190	\$54,088	\$54,416	\$56,762	\$55,476	\$57,602	\$56,145
Hot Water	\$22,491	\$28,641	\$39,923	\$50,200	\$53,392	\$53,283	\$53,338	\$53,705	\$53,537	\$55,555	\$54,637	\$53,777	\$53,805	\$70,876	\$63,481	\$55,726	\$55,359	\$55,405	\$57,296	\$56,427
Pool/Spa	\$8,780	\$8,624	\$8,270	\$8,308	\$8,325	\$8,315	\$8,320	\$8,330	\$8,325	\$8,330	\$10,329	\$9,454	\$8,579	\$8,550	\$8,540	\$8,521	\$8,521	\$8,535	\$8,521	\$8,526
Lighting	\$142,037	\$125,252	\$69,510	\$68,620	\$60,531	\$25,077	\$24,218	\$19,229	\$19,196	\$19,213	\$20,567	\$19,988	\$19,412	\$19,376	\$19,346	\$20,667	\$20,058	\$19,486	\$19,429	\$19,428
Ventiliation	\$10,613	\$10,210	\$8,947	\$10,594	\$11,148	\$11,058	\$11,103	\$11,193	\$11,148	\$11,193	\$11,193	\$11,238	\$11,284	\$11,238	\$11,148	\$11,058	\$11,013	\$11,058	\$10,967	\$29,441
HVAC Shell	\$7,062	\$8,115	\$9,963	\$12,099	\$12,769	\$12,735	\$12,752	\$12,786	\$12,769	\$12,786	\$12,786	\$12,803	\$12,821	\$12,803	\$12,769	\$12,735	\$12,717	\$12,735	\$12,700	\$12,702
HVAC Equipment	\$29,186	\$32,590	\$38,728	\$44,887	\$46,809	\$46,729	\$46,769	\$46,849	\$46,809	\$46,849	\$46,849	\$46,889	\$50,840	\$49,079	\$53,570	\$54,096	\$49,780	\$48,218	\$48,105	\$48,097
Behavioral	\$29,297	\$46,598	\$76,237	\$93,434	\$98,852	\$99,082	\$99,317	\$99,563	\$99,804	\$100,050	\$100,296	\$100,548	\$100,805	\$101,057	\$101,298	\$101,527	\$101,752	\$101,982	\$102,201	\$102,420
ER Refrigeration	\$94	\$129	\$197	\$241	\$255	\$255	\$255	\$255	\$255	\$255	\$255	\$255	\$255	\$255	\$255	\$255	\$349	\$384	\$452	\$496
ER Clothes Washer/Dryer	\$845	\$1,160	\$1,767	\$2,160	\$2,280	\$2,280	\$2,280	\$2,280	\$2,280	\$2,280	\$2,280	\$2,280	\$2,280	\$2,280	\$3,125	\$3,440	\$4,047	\$4,440	\$4,560	\$4,560
ER Hot Water	\$3,251	\$4,461	\$6,796	\$8,308	\$8,769	\$8,769	\$8,769	\$8,769	\$8,769	\$8,769	\$8,769	\$8,769	\$8,769	\$12,020	\$13,230	\$15,565	\$17,077	\$17,538	\$17,538	\$17,538
ER HVAC Equipment	\$1,245	\$1,709	\$2,603	\$3,182	\$3,359	\$3,359	\$3,359	\$3,359	\$3,359	\$3,359	\$3,359	\$3,359	\$3,359	\$3,359	\$3,359	\$3,717	\$3,850	\$4,108	\$4,274	\$4,325
Total	\$405,439	\$442,669	\$483,315	\$563,618	\$583,398	\$546,693	\$547,338	\$542,455	\$543,734	\$546,285	\$547,768	\$545,345	\$588,408	\$591,631	\$577,674	\$570,626	\$568,903	\$603,873	\$590,557	\$590,601



Appendix D.1

BED Residential Achievable Potential - Savings and Costs

\$	Realistic Achievable Potential by End-Use - Annual Incentive Costs - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$23,727	\$22,841	\$21,955	\$21,930	\$21,930	\$21,920	\$21,925	\$21,935	\$21,930	\$21,935	\$21,935	\$21,940	\$21,945	\$21,940	\$21,930	\$21,920	\$22,056	\$23,872	\$22,976	\$22,150
Clothes Washer/Dryer	\$19,336	\$17,847	\$16,359	\$16,317	\$16,317	\$16,301	\$16,309	\$16,326	\$16,317	\$16,326	\$16,326	\$16,334	\$18,622	\$17,610	\$17,694	\$17,164	\$16,670	\$16,654	\$16,643	\$16,649
Dishwasher	\$951	\$853	\$755	\$752	\$752	\$751	\$751	\$752	\$752	\$752	\$752	\$753	\$753	\$977	\$877	\$777	\$774	\$775	\$773	\$773
Electronics	\$96,869	\$92,425	\$87,982	\$87,859	\$125,682	\$122,400	\$120,988	\$120,032	\$156,967	\$154,004	\$150,605	\$150,330	\$190,069	\$185,825	\$181,579	\$181,588	\$219,339	\$215,925	\$214,899	\$213,784
Hot Water	\$107,458	\$95,784	\$84,111	\$82,168	\$80,503	\$78,727	\$77,117	\$76,046	\$74,113	\$80,608	\$77,494	\$74,442	\$72,483	\$91,098	\$82,916	\$74,564	\$74,079	\$74,123	\$81,217	\$80,140
Pool/Spa	\$3,030	\$2,748	\$2,467	\$2,459	\$2,459	\$2,456	\$2,457	\$2,461	\$2,459	\$2,461	\$3,100	\$2,820	\$2,540	\$2,531	\$2,528	\$2,522	\$2,522	\$2,526	\$2,522	\$2,523
Lighting	\$256,954	\$239,133	\$221,312	\$61,081	\$61,081	\$14,217	\$13,513	\$12,837	\$12,788	\$12,816	\$14,661	\$13,961	\$13,266	\$13,213	\$13,161	\$79,186	\$74,268	\$69,410	\$69,210	\$69,208
Ventiliation	\$10,409	\$7,918	\$5,427	\$5,358	\$5,358	\$5,330	\$5,344	\$5,371	\$5,358	\$5,371	\$5,371	\$5,385	\$5,399	\$5,385	\$5,358	\$5,330	\$5,316	\$5,330	\$5,302	\$12,972
HVAC Shell	\$66,162	\$50,544	\$34,942	\$34,495	\$34,482	\$34,297	\$34,375	\$34,540	\$34,447	\$34,526	\$34,521	\$34,601	\$34,685	\$34,595	\$34,421	\$34,249	\$34,161	\$34,247	\$34,074	\$34,081
HVAC Equipment	\$251,122	\$214,058	\$176,995	\$175,723	\$175,474	\$174,815	\$174,770	\$174,930	\$174,476	\$174,431	\$174,431	\$174,635	\$218,061	\$198,835	\$198,289	\$203,307	\$188,513	\$181,996	\$181,519	\$181,655
Behavioral	\$43,562	\$75,449	\$70,991	\$76,153	\$74,599	\$74,123	\$73,522	\$72,866	\$72,337	\$71,918	\$71,594	\$71,217	\$70,986	\$70,854	\$70,890	\$70,883	\$70,923	\$71,026	\$71,173	\$71,330
ER Refrigeration	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$303	\$303	\$303	\$303
ER Clothes Washer/Dryer	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$2,634	\$2,634	\$2,634	\$2,634	\$2,634	\$2,634
ER Hot Water	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$24,974	\$24,974	\$24,974	\$24,974	\$24,974	\$24,974	\$24,974
ER HVAC Equipment	\$73,861	\$73,457	\$73,054	\$72,650	\$72,246	\$71,843	\$71,439	\$71,036	\$70,632	\$70,229	\$70,229	\$70,229	\$70,229	\$70,229	\$70,229	\$75,713	\$75,713	\$75,713	\$75,713	\$75,713
Total	\$968,671	\$908,289	\$811,578	\$652,175	\$686,112	\$632,408	\$627,742	\$624,362	\$657,805	\$660,607	\$656,249	\$651,878	\$734,268	\$740,241	\$727,750	\$795,082	\$812,244	\$799,508	\$803,930	\$808,890

\$	Realistic Achievable Potential by End-Use - Annual Admin Costs - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$23,727	\$22,841	\$21,955	\$21,930	\$21,930	\$21,920	\$21,925	\$21,935	\$21,930	\$21,935	\$21,935	\$21,940	\$21,945	\$21,940	\$21,930	\$21,920	\$22,056	\$23,872	\$22,976	\$22,150
Clothes Washer/Dryer	\$19,336	\$17,847	\$16,359	\$16,317	\$16,317	\$16,301	\$16,309	\$16,326	\$16,317	\$16,326	\$16,326	\$16,334	\$18,622	\$17,610	\$17,694	\$17,164	\$16,670	\$16,654	\$16,643	\$16,649
Dishwasher	\$951	\$853	\$755	\$752	\$752	\$751	\$751	\$752	\$752	\$752	\$752	\$753	\$753	\$977	\$877	\$777	\$774	\$775	\$773	\$773
Electronics	\$96,869	\$92,425	\$87,982	\$87,859	\$125,682	\$122,400	\$120,988	\$120,032	\$156,967	\$154,004	\$150,605	\$150,330	\$190,069	\$185,825	\$181,579	\$181,588	\$219,339	\$215,925	\$214,899	\$213,784
Hot Water	\$107,458	\$95,784	\$84,111	\$82,168	\$80,503	\$78,727	\$77,117	\$76,046	\$74,113	\$80,608	\$77,494	\$74,442	\$72,483	\$91,098	\$82,916	\$74,564	\$74,079	\$74,123	\$81,217	\$80,140
Pool/Spa	\$3,030	\$2,748	\$2,467	\$2,459	\$2,459	\$2,456	\$2,457	\$2,461	\$2,459	\$2,461	\$3,100	\$2,820	\$2,540	\$2,531	\$2,528	\$2,522	\$2,522	\$2,526	\$2,522	\$2,523
Lighting	\$261,161	\$241,471	\$93,436	\$93,059	\$74,870	\$8,085	\$7,681	\$2,305	\$2,291	\$2,294	\$3,261	\$2,859	\$2,459	\$2,443	\$2,439	\$3,399	\$2,993	\$2,596	\$2,574	\$2,572
Ventiliation	\$10,409	\$7,918	\$5,427	\$5,358	\$5,358	\$5,330	\$5,344	\$5,371	\$5,358	\$5,371	\$5,371	\$5,385	\$5,399	\$5,385	\$5,358	\$5,330	\$5,316	\$5,330	\$5,302	\$12,972
HVAC Shell	\$66,162	\$50,544	\$34,942	\$34,495	\$34,482	\$34,297	\$34,375	\$34,540	\$34,447	\$34,526	\$34,521	\$34,601	\$34,685	\$34,595	\$34,421	\$34,249	\$34,161	\$34,247	\$34,074	\$34,081
HVAC Equipment	\$251,122	\$214,058	\$176,995	\$175,723	\$175,474	\$174,815	\$174,770	\$174,930	\$174,476	\$174,431	\$174,431	\$174,635	\$218,061	\$198,835	\$198,289	\$203,307	\$188,513	\$181,996	\$181,519	\$181,655
Behavioral	\$43,755	\$75,444	\$76,154	\$73,360	\$72,664	\$77,074	\$76,477	\$76,414	\$75,965	\$75,621	\$75,361	\$75,063	\$74,913	\$74,858	\$74,960	\$75,032	\$75,140	\$75,309	\$75,508	\$75,717
ER Refrigeration	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$272	\$303	\$303	\$303	\$303
ER Clothes Washer/Dryer	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$1,904	\$2,634	\$2,634	\$2,634	\$2,634	\$2,634	\$2,634
ER Hot Water	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$13,054	\$24,974	\$24,974	\$24,974	\$24,974	\$24,974	\$24,974	\$24,974
ER HVAC Equipment	\$73,861	\$73,457	\$73,054	\$72,650	\$72,246	\$71,843	\$71,439	\$71,036	\$70,632	\$70,229	\$70,229	\$70,229	\$70,229	\$70,229	\$70,229	\$75,713	\$75,713	\$75,713	\$75,713	\$75,713
Total	\$973,071	\$910,621	\$688,865	\$681,359	\$697,965	\$629,228	\$624,865	\$617,378	\$650,936	\$653,787	\$648,616	\$644,621	\$727,388	\$733,475	\$721,098	\$723,444	\$745,186	\$736,976	\$741,630	\$746,641

Appendix D.2

VGS Residential Achievable Potential - Savings and Costs

MMBtu	Maximum Achievable Potential by End-Use - Incremental Annual Natural Gas Savings - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	72	72	72	72	72	72	72	72	72	72	72	72	75	75	75	75	75	75	75	75
Dishwasher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	19,785	19,150	18,825	18,467	18,300	18,093	17,856	17,772	17,492	18,335	17,974	17,704	17,419	19,784	19,520	19,300	19,024	18,886	19,801	19,765
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	23,495	22,155	21,445	20,705	20,348	19,929	19,469	18,979	18,529	18,139	17,837	17,555	17,264	17,014	16,780	16,620	16,443	16,282	16,134	16,406
HVAC Equipment	41,771	40,239	39,559	38,797	38,566	38,225	37,797	37,280	36,812	36,430	38,310	37,676	37,252	36,866	36,624	36,409	36,149	35,882	35,636	36,172
Behavioral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	5,577	5,577	5,577	5,577	5,577	5,577	5,834	6,444	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,019	9,276
Total	90,700	87,193	85,478	83,618	82,864	81,896	81,027	80,547	81,924	81,995	83,212	82,027	81,030	82,758	82,018	81,422	80,710	80,144	80,666	81,693

MMBtu	Maximum Achievable Potential by End-Use - Incremental Annual Natural Gas Savings - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	72	72	72	72	72	72	72	72	72	72	72	72	75	75	75	75	75	75	75	75
Dishwasher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	19,328	18,699	18,381	18,030	17,869	17,669	17,437	17,361	17,087	17,938	17,584	17,321	17,042	19,407	19,143	18,923	18,647	18,509	19,427	19,390
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	23,492	22,149	21,436	20,693	20,334	19,912	19,451	18,960	18,508	18,117	17,812	17,529	17,236	16,985	16,749	16,587	16,409	16,247	16,097	16,372
HVAC Equipment	42,092	40,558	39,876	39,113	38,880	38,537	38,108	37,589	37,119	36,735	38,616	37,982	37,558	37,172	36,930	36,714	36,454	36,187	35,942	36,477
Behavioral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	5,710	5,710	5,710	5,710	5,710	5,710	6,352	6,962	9,227	9,227	9,227	9,227	9,227	9,227	9,227	9,227	9,227	9,227	9,227	9,870
Total	90,694	87,189	85,476	83,618	82,865	81,900	81,420	80,944	82,014	82,089	83,311	82,131	81,139	82,866	82,124	81,526	80,813	80,245	80,768	82,185

Appendix D.2

VGS Residential Achievable Potential - Savings and Costs

MMBtu	Maximum Achievable Potential by End-Use - Cumulative Annual Natural Gas Savings - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	72	144	217	289	361	433	505	578	650	722	794	866	869	872	875	878	882	885	888	891
Dishwasher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	19,785	38,812	57,393	75,493	93,304	110,785	127,906	143,181	158,136	168,378	178,503	188,520	198,421	200,518	202,539	204,394	206,187	207,923	209,605	211,487
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	23,495	45,315	66,140	85,950	105,170	123,747	141,684	158,961	175,668	191,835	208,307	224,449	240,161	255,533	270,572	286,107	301,421	316,526	331,553	346,754
HVAC Equipment	41,771	81,904	121,251	159,731	197,874	235,571	272,733	309,274	345,240	380,718	403,395	425,817	447,967	469,906	491,635	504,577	517,345	529,955	542,415	554,837
Behavioral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	5,577	11,153	16,730	22,307	27,883	33,460	38,899	43,670	47,112	50,554	53,997	57,439	60,881	64,323	67,766	71,208	74,650	78,092	81,535	84,977
Total	90,700	177,329	261,730	343,769	424,592	503,996	581,727	655,663	726,806	792,207	844,997	897,091	948,300	991,152	1,033,388	1,067,165	1,100,484	1,133,380	1,165,996	1,198,946

MMBtu	Maximum Achievable Potential by End-Use - Cumulative Annual Natural Gas Savings - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	72	144	217	289	361	433	505	578	650	722	794	866	869	872	875	878	882	885	888	891
Dishwasher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	19,328	37,911	56,061	73,743	91,148	108,237	124,979	139,875	154,462	164,300	174,024	183,638	193,139	195,242	197,269	199,129	200,926	202,667	204,353	206,240
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	23,492	45,302	66,111	85,901	105,094	123,641	141,551	158,801	175,471	191,596	208,023	224,116	239,776	255,093	270,073	285,546	300,795	315,832	330,790	346,048
HVAC Equipment	42,092	82,543	122,204	160,994	199,444	237,445	274,907	311,744	348,004	383,771	406,753	429,480	451,936	474,180	496,215	509,462	522,535	535,450	548,216	559,739
Behavioral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	5,710	11,420	17,130	22,840	28,550	34,260	39,626	44,323	47,841	51,358	54,875	58,393	61,910	65,427	68,944	72,462	75,979	79,496	83,014	86,531
Total	90,694	177,320	261,723	343,766	424,598	504,016	581,568	655,322	726,427	791,748	844,470	896,494	947,631	990,814	1,033,378	1,067,477	1,101,117	1,134,330	1,167,260	1,199,450



Appendix D.2

VGS Residential Achievable Potential - Savings and Costs

\$	Maximum Achievable Potential by End-Use - Annual Incentive Costs - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clothes Washer/Dryer	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$57,367	\$57,367	\$57,367	\$57,367	\$57,367	\$57,367	\$57,367	\$57,367
Dishwasher	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Electronics	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hot Water	\$2,340,718	\$2,269,461	\$2,241,083	\$2,208,302	\$2,202,081	\$2,190,339	\$2,174,255	\$2,167,530	\$2,147,383	\$2,180,507	\$2,160,281	\$2,145,121	\$2,128,684	\$2,556,526	\$2,496,225	\$2,467,140	\$2,426,227	\$2,409,707	\$2,437,295	\$2,443,427
Pool/Spa	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lighting	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ventilation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HVAC Shell	\$4,703,467	\$4,492,285	\$4,406,796	\$4,309,595	\$4,291,094	\$4,256,200	\$4,208,418	\$4,148,126	\$4,094,493	\$4,053,105	\$4,012,473	\$3,974,627	\$3,934,396	\$3,902,987	\$3,872,657	\$3,849,967	\$3,823,835	\$3,800,420	\$3,778,250	\$3,859,734
HVAC Equipment	\$4,638,441	\$4,390,173	\$4,290,076	\$4,175,820	\$4,154,088	\$4,113,094	\$4,056,954	\$3,985,338	\$3,922,283	\$3,874,045	\$3,930,358	\$3,868,594	\$3,814,364	\$3,769,519	\$3,731,619	\$3,702,090	\$3,667,882	\$3,635,394	\$3,604,985	\$3,705,403
Behavioral	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Clothes Washer/Dryer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Hot Water	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER HVAC Equipment	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,169,791	\$1,209,916
Total	\$12,907,462	\$12,376,755	\$12,162,790	\$11,918,552	\$11,872,098	\$11,784,469	\$11,664,462	\$11,525,830	\$11,388,994	\$11,332,493	\$11,327,948	\$11,213,178	\$11,104,602	\$11,456,189	\$11,327,660	\$11,246,354	\$11,145,103	\$11,072,679	\$11,047,688	\$11,275,846

\$	Maximum Achievable Potential by End-Use - Annual Incentive Costs - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clothes Washer/Dryer	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$55,045	\$57,367	\$57,367	\$57,367	\$57,367	\$57,367	\$57,367	\$57,367	\$57,367
Dishwasher	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Electronics	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hot Water	\$2,294,479	\$2,223,222	\$2,194,843	\$2,162,062	\$2,155,842	\$2,144,099	\$2,128,016	\$2,121,291	\$2,101,143	\$2,134,267	\$2,114,042	\$2,098,882	\$2,082,445	\$2,510,287	\$2,449,986	\$2,420,900	\$2,379,988	\$2,363,467	\$2,391,055	\$2,397,188
Pool/Spa	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lighting	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ventilation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HVAC Shell	\$4,703,467	\$4,492,285	\$4,406,796	\$4,309,595	\$4,291,094	\$4,256,200	\$4,208,418	\$4,148,126	\$4,094,493	\$4,053,105	\$4,012,473	\$3,974,627	\$3,934,396	\$3,902,987	\$3,872,657	\$3,849,967	\$3,823,835	\$3,800,420	\$3,778,250	\$3,859,734
HVAC Equipment	\$4,638,638	\$4,390,370	\$4,290,272	\$4,176,016	\$4,154,284	\$4,113,290	\$4,057,150	\$3,985,534	\$3,922,480	\$3,874,242	\$3,930,555	\$3,868,791	\$3,814,561	\$3,769,715	\$3,731,816	\$3,702,286	\$3,668,079	\$3,635,591	\$3,605,182	\$3,705,599
Behavioral	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Clothes Washer/Dryer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Hot Water	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER HVAC Equipment	\$1,168,506	\$1,168,506	\$1,168,506	\$1,168,506	\$1,168,506	\$1,168,506	\$1,168,506	\$1,168,506	\$1,168,506	\$1,168,506	\$1,168,506	\$1,168,506	\$1,168,506	\$1,168,506	\$1,168,506	\$1,168,506	\$1,168,506	\$1,168,506	\$1,168,506	\$1,268,819
Total	\$12,860,134	\$12,329,427	\$12,115,461	\$11,871,224	\$11,824,770	\$11,737,140	\$11,617,134	\$11,478,502	\$11,341,666	\$11,285,165	\$11,280,619	\$11,165,850	\$11,057,273	\$11,408,861	\$11,280,331	\$11,199,026	\$11,097,775	\$11,025,351	\$11,000,360	\$11,288,706

Appendix D.2

VGS Residential Achievable Potential - Savings and Costs

\$	Maximum Achievable Potential by End-Use - Annual Admin Costs - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clothes Washer/Dryer	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,267	\$1,267	\$1,267	\$1,267	\$1,267	\$1,267	\$1,267	\$1,267
Dishwasher	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Electronics	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hot Water	\$183,709	\$178,735	\$176,784	\$174,497	\$174,064	\$173,247	\$172,126	\$172,827	\$171,247	\$189,134	\$186,466	\$184,921	\$183,206	\$202,956	\$201,085	\$199,335	\$196,725	\$195,290	\$212,795	\$212,090
Pool/Spa	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lighting	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ventilation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HVAC Shell	\$1,833,050	\$1,820,155	\$1,814,877	\$1,808,940	\$1,807,808	\$1,805,673	\$1,802,751	\$1,799,175	\$1,795,901	\$1,793,314	\$1,790,829	\$1,788,512	\$1,786,049	\$1,784,125	\$1,782,377	\$1,780,991	\$1,779,334	\$1,777,900	\$1,776,539	\$1,781,489
HVAC Equipment	\$406,002	\$387,111	\$379,494	\$370,801	\$369,147	\$366,028	\$361,756	\$356,307	\$351,509	\$347,838	\$371,241	\$363,108	\$357,597	\$352,604	\$349,420	\$346,606	\$343,227	\$339,764	\$336,579	\$343,719
Behavioral	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Clothes Washer/Dryer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Hot Water	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER HVAC Equipment	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$49,129
Total	\$2,470,942	\$2,434,183	\$2,419,337	\$2,402,419	\$2,399,200	\$2,393,128	\$2,384,814	\$2,376,490	\$2,366,838	\$2,378,466	\$2,396,717	\$2,384,722	\$2,375,084	\$2,387,918	\$2,381,115	\$2,375,164	\$2,367,519	\$2,361,186	\$2,374,144	\$2,387,694

\$	Maximum Achievable Potential by End-Use - Annual Admin Costs - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clothes Washer/Dryer	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,216	\$1,267	\$1,267	\$1,267	\$1,267	\$1,267	\$1,267	\$1,267	\$1,267
Dishwasher	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Electronics	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hot Water	\$183,709	\$178,735	\$176,784	\$174,497	\$174,064	\$173,247	\$172,126	\$172,827	\$171,247	\$189,134	\$186,466	\$184,921	\$183,206	\$202,956	\$201,085	\$199,335	\$196,725	\$195,290	\$212,795	\$212,090
Pool/Spa	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lighting	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ventilation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HVAC Shell	\$1,833,050	\$1,820,155	\$1,814,877	\$1,808,940	\$1,807,808	\$1,805,673	\$1,802,751	\$1,799,175	\$1,795,901	\$1,793,314	\$1,790,829	\$1,788,512	\$1,786,049	\$1,784,125	\$1,782,377	\$1,780,991	\$1,779,334	\$1,777,900	\$1,776,539	\$1,781,489
HVAC Equipment	\$406,002	\$387,111	\$379,494	\$370,801	\$369,147	\$366,028	\$361,756	\$356,307	\$351,509	\$347,838	\$371,241	\$363,108	\$357,597	\$352,604	\$349,420	\$346,606	\$343,227	\$339,764	\$336,579	\$343,719
Behavioral	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Clothes Washer/Dryer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Hot Water	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER HVAC Equipment	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$46,965	\$49,129
Total	\$2,470,942	\$2,434,183	\$2,419,337	\$2,402,419	\$2,399,200	\$2,393,128	\$2,384,814	\$2,376,490	\$2,366,838	\$2,378,466	\$2,396,717	\$2,384,722	\$2,375,084	\$2,387,918	\$2,381,115	\$2,375,164	\$2,367,519	\$2,361,186	\$2,374,144	\$2,387,694

Appendix D.2

VGS Residential Achievable Potential - Savings and Costs

MMBtu	Realistic Achievable Potential by End-Use - Incremental Annual Natural Gas Savings - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	5	19	44	58	62	62	62	62	62	62	62	62	65	65	65	65	65	65	65	65
Dishwasher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	9,773	11,034	13,268	14,407	14,692	14,560	14,412	14,349	14,180	14,905	14,670	14,496	14,312	15,482	15,368	15,262	15,123	15,048	15,831	15,790
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	4,994	7,022	10,620	12,489	13,004	12,853	12,678	12,484	12,304	12,150	12,013	11,890	11,773	11,680	11,596	11,527	11,451	11,386	11,328	11,474
HVAC Equipment	10,505	13,419	18,605	21,373	22,199	22,063	21,891	21,683	21,495	21,342	22,403	22,074	21,872	21,689	21,585	21,488	21,370	21,247	21,133	21,366
Behavioral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	703	1,104	1,801	2,202	2,324	2,324	2,359	2,457	2,857	3,137	3,506	3,702	3,757	3,757	3,757	3,757	3,757	3,757	3,757	3,793
Total	25,980	32,598	44,338	50,528	52,281	51,862	51,403	51,036	50,899	51,597	52,654	52,224	51,779	52,673	52,371	52,099	51,766	51,503	52,115	52,488

MMBtu	Realistic Achievable Potential by End-Use - Incremental Annual Natural Gas Savings - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	5	19	44	58	62	62	62	62	62	62	62	62	65	65	65	65	65	65	65	65
Dishwasher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	9,405	10,669	12,910	14,055	14,346	14,219	14,075	14,017	13,852	14,584	14,353	14,184	14,005	15,175	15,061	14,955	14,816	14,740	15,526	15,485
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	5,043	7,098	10,743	12,638	13,162	13,009	12,833	12,638	12,457	12,301	12,162	12,038	11,919	11,825	11,739	11,668	11,591	11,525	11,465	11,612
HVAC Equipment	10,692	13,656	18,932	21,749	22,589	22,452	22,279	22,069	21,879	21,725	22,785	22,455	22,252	22,069	21,965	21,868	21,751	21,627	21,514	21,746
Behavioral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	724	1,137	1,855	2,268	2,394	2,394	2,483	2,611	3,023	3,310	3,647	3,820	3,869	3,869	3,869	3,869	3,869	3,869	3,869	3,957
Total	25,868	32,580	44,484	50,769	52,553	52,135	51,732	51,398	51,274	51,983	53,010	52,559	52,110	53,002	52,698	52,424	52,091	51,826	52,438	52,865



Appendix D.2

VGS Residential Achievable Potential - Savings and Costs

MMBtu	Realistic Achievable Potential by End-Use - Cumulative Annual Natural Gas Savings - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	5	24	68	126	188	250	312	374	436	499	561	623	683	728	749	756	759	762	764	767
Dishwasher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	9,773	20,778	33,974	48,239	62,706	76,953	90,964	104,488	117,582	129,287	139,744	148,560	156,468	158,692	160,584	162,101	163,393	164,580	165,724	166,967
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	4,994	11,996	22,552	34,901	47,687	60,247	72,567	84,624	96,442	108,052	119,568	130,992	142,361	153,675	164,894	176,071	187,183	198,267	209,340	220,561
HVAC Equipment	10,505	23,912	42,476	63,765	85,838	107,737	129,426	150,868	172,083	193,107	211,872	228,512	241,823	253,229	264,005	273,639	282,586	290,397	297,531	304,411
Behavioral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	703	1,807	3,608	5,810	8,133	10,457	12,762	14,971	16,947	18,734	20,306	21,768	23,202	24,635	26,069	27,503	28,936	30,370	31,804	33,237
Total	25,980	58,517	102,677	152,841	204,553	255,645	306,031	355,325	403,491	449,679	492,050	530,455	564,537	590,960	616,302	640,070	662,857	684,375	705,163	725,943

MMBtu	Realistic Achievable Potential by End-Use - Cumulative Annual Natural Gas Savings - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clothes Washer/Dryer	5	24	68	126	188	250	312	374	436	499	561	623	683	728	749	756	759	762	764	767
Dishwasher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water	9,405	20,047	32,888	46,809	60,941	74,863	88,558	101,774	114,566	125,966	136,115	144,614	152,199	154,427	156,322	157,842	159,137	160,327	161,474	162,720
Pool/Spa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HVAC Shell	5,043	12,121	22,799	35,297	48,237	60,950	73,419	85,626	97,588	109,338	120,988	132,542	144,039	155,477	166,818	178,114	189,344	200,543	211,730	223,104
HVAC Equipment	10,692	24,335	43,224	64,887	87,347	109,628	131,697	153,515	175,104	196,498	215,634	232,647	246,334	258,119	269,276	279,290	288,616	296,808	304,322	310,921
Behavioral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Clothes Washer/Dryer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ER HVAC Equipment	724	1,861	3,717	5,985	8,379	10,774	13,120	15,354	17,348	19,146	20,744	22,244	23,718	25,193	26,667	28,142	29,616	31,091	32,565	34,040
Total	25,868	58,389	102,696	153,103	205,092	256,464	307,106	356,643	405,042	451,446	494,041	532,669	566,972	593,944	619,833	644,145	667,473	689,530	710,855	731,551

Appendix D.2

VGS Residential Achievable Potential - Savings and Costs

\$	Realistic Achievable Potential by End-Use - Annual Incentive Costs - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clothes Washer/Dryer	\$3,099	\$11,940	\$27,314	\$36,154	\$38,845	\$38,845	\$38,845	\$38,845	\$38,845	\$38,845	\$38,845	\$38,845	\$40,480	\$40,480	\$40,480	\$40,480	\$40,480	\$40,480	\$40,480	\$40,480
Dishwasher	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Electronics	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hot Water	\$524,082	\$573,478	\$662,870	\$709,032	\$723,421	\$720,784	\$717,170	\$716,310	\$711,739	\$746,466	\$739,239	\$734,757	\$729,832	\$813,344	\$802,730	\$797,897	\$789,153	\$784,967	\$818,372	\$817,180
Pool/Spa	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lighting	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ventilation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HVAC Shell	\$485,879	\$684,391	\$1,039,369	\$1,228,550	\$1,287,088	\$1,279,510	\$1,269,132	\$1,256,037	\$1,244,388	\$1,235,399	\$1,226,575	\$1,218,355	\$1,209,617	\$1,202,795	\$1,196,208	\$1,191,280	\$1,185,605	\$1,180,519	\$1,175,704	\$1,193,401
HVAC Equipment	\$508,644	\$605,022	\$779,175	\$869,337	\$897,422	\$892,368	\$885,448	\$876,620	\$868,847	\$862,901	\$901,386	\$888,933	\$880,297	\$872,542	\$867,447	\$863,008	\$857,697	\$852,296	\$847,319	\$862,113
Behavioral	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Clothes Washer/Dryer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Hot Water	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER HVAC Equipment	\$26,472	\$41,568	\$67,822	\$82,918	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$87,512	\$90,770
Total	\$1,548,176	\$1,916,398	\$2,576,550	\$2,925,992	\$3,034,288	\$3,019,018	\$2,998,107	\$2,975,324	\$2,951,331	\$2,971,123	\$2,993,557	\$2,968,402	\$2,947,738	\$3,016,674	\$2,994,378	\$2,980,177	\$2,960,447	\$2,945,774	\$2,969,387	\$3,003,945

\$	Realistic Achievable Potential by End-Use - Annual Incentive Costs - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clothes Washer/Dryer	\$3,099	\$11,940	\$27,314	\$36,154	\$38,845	\$38,845	\$38,845	\$38,845	\$38,845	\$38,845	\$38,845	\$38,845	\$40,480	\$40,480	\$40,480	\$40,480	\$40,480	\$40,480	\$40,480	\$40,480
Dishwasher	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Electronics	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hot Water	\$570,176	\$619,571	\$708,964	\$755,126	\$769,515	\$766,877	\$763,264	\$762,404	\$757,833	\$792,560	\$785,333	\$780,851	\$775,926	\$859,438	\$848,824	\$843,991	\$835,247	\$831,061	\$864,466	\$863,274
Pool/Spa	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lighting	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ventilation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HVAC Shell	\$505,106	\$714,582	\$1,088,629	\$1,288,774	\$1,350,649	\$1,343,071	\$1,332,693	\$1,319,598	\$1,307,949	\$1,298,960	\$1,290,136	\$1,281,916	\$1,273,178	\$1,266,356	\$1,259,769	\$1,254,841	\$1,249,166	\$1,244,080	\$1,239,265	\$1,256,962
HVAC Equipment	\$540,786	\$641,844	\$824,134	\$918,976	\$948,484	\$943,431	\$936,511	\$927,683	\$919,910	\$913,964	\$952,449	\$939,996	\$931,360	\$923,605	\$918,510	\$914,071	\$908,760	\$903,359	\$898,382	\$913,175
Behavioral	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Clothes Washer/Dryer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Hot Water	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER HVAC Equipment	\$27,788	\$43,635	\$71,193	\$87,039	\$91,862	\$91,862	\$91,862	\$91,862	\$91,862	\$91,862	\$91,862	\$91,862	\$91,862	\$91,862	\$91,862	\$91,862	\$91,862	\$91,862	\$91,862	\$100,008
Total	\$1,646,956	\$2,031,572	\$2,720,234	\$3,086,070	\$3,199,356	\$3,184,086	\$3,163,175	\$3,140,391	\$3,116,399	\$3,136,191	\$3,158,624	\$3,133,469	\$3,112,806	\$3,181,742	\$3,159,445	\$3,145,244	\$3,125,514	\$3,110,842	\$3,134,455	\$3,173,900

Appendix D.2

VGS Residential Achievable Potential - Savings and Costs

\$	Realistic Achievable Potential by End-Use - Annual Admin Costs - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clothes Washer/Dryer	\$84	\$322	\$736	\$974	\$1,047	\$1,047	\$1,047	\$1,047	\$1,047	\$1,047	\$1,047	\$1,047	\$1,091	\$1,091	\$1,091	\$1,091	\$1,091	\$1,091	\$1,091	\$1,091
Dishwasher	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Electronics	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hot Water	\$91,046	\$103,353	\$125,346	\$137,116	\$140,755	\$140,316	\$139,715	\$140,105	\$139,271	\$154,725	\$153,044	\$152,112	\$151,076	\$160,824	\$160,031	\$159,269	\$157,912	\$157,107	\$172,347	\$171,721
Pool/Spa	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lighting	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ventilation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HVAC Shell	\$377,502	\$572,702	\$913,351	\$1,107,407	\$1,166,584	\$1,165,657	\$1,164,387	\$1,162,834	\$1,161,412	\$1,160,288	\$1,159,209	\$1,158,202	\$1,157,133	\$1,156,297	\$1,155,538	\$1,154,935	\$1,154,216	\$1,153,593	\$1,153,001	\$1,155,152
HVAC Equipment	\$95,423	\$122,679	\$171,737	\$197,420	\$205,399	\$204,120	\$202,368	\$200,133	\$198,165	\$196,660	\$210,239	\$206,301	\$203,798	\$201,473	\$200,114	\$198,860	\$197,338	\$195,744	\$194,284	\$197,368
Behavioral	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Clothes Washer/Dryer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Hot Water	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER HVAC Equipment	\$5,920	\$9,296	\$15,167	\$18,543	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,570	\$19,869
Total	\$569,974	\$808,352	\$1,226,338	\$1,461,461	\$1,533,356	\$1,530,711	\$1,527,088	\$1,523,690	\$1,519,466	\$1,532,291	\$1,543,109	\$1,537,233	\$1,532,667	\$1,539,255	\$1,536,344	\$1,533,726	\$1,530,127	\$1,527,105	\$1,540,294	\$1,545,201

\$	Realistic Achievable Potential by End-Use - Annual Admin Costs - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clothes Washer/Dryer	\$84	\$322	\$736	\$974	\$1,047	\$1,047	\$1,047	\$1,047	\$1,047	\$1,047	\$1,047	\$1,047	\$1,091	\$1,091	\$1,091	\$1,091	\$1,091	\$1,091	\$1,091	\$1,091
Dishwasher	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Electronics	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hot Water	\$87,935	\$100,241	\$122,235	\$134,005	\$137,644	\$137,205	\$136,603	\$136,994	\$136,160	\$151,614	\$149,932	\$149,000	\$147,964	\$157,713	\$156,919	\$156,158	\$154,800	\$153,996	\$169,236	\$168,609
Pool/Spa	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lighting	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ventilation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HVAC Shell	\$378,087	\$573,622	\$914,851	\$1,109,241	\$1,168,520	\$1,167,592	\$1,166,323	\$1,164,770	\$1,163,347	\$1,162,224	\$1,161,144	\$1,160,138	\$1,159,068	\$1,158,232	\$1,157,473	\$1,156,871	\$1,156,151	\$1,155,528	\$1,154,937	\$1,157,087
HVAC Equipment	\$305,506	\$390,803	\$540,801	\$624,525	\$650,169	\$648,890	\$647,138	\$644,903	\$642,935	\$641,430	\$655,009	\$651,071	\$648,567	\$646,242	\$644,884	\$643,630	\$642,108	\$640,514	\$639,054	\$642,138
Behavioral	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Refrigeration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Clothes Washer/Dryer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER Hot Water	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ER HVAC Equipment	\$6,099	\$9,577	\$15,626	\$19,104	\$20,163	\$20,163	\$20,163	\$20,163	\$20,163	\$20,163	\$20,163	\$20,163	\$20,163	\$20,163	\$20,163	\$20,163	\$20,163	\$20,163	\$20,163	\$20,910
Total	\$777,711	\$1,074,565	\$1,594,249	\$1,887,849	\$1,977,542	\$1,974,896	\$1,971,273	\$1,967,876	\$1,963,652	\$1,976,477	\$1,987,295	\$1,981,418	\$1,976,853	\$1,983,441	\$1,980,530	\$1,977,912	\$1,974,313	\$1,971,291	\$1,984,480	\$1,989,835



Appendix D.3

VGS Non-residential Achievable Potential - Savings and Costs

MMBtu	Maximum Achievable Potential by End-Use - Incremental Annual Natural Gas Savings - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	39,146	38,321	38,155	38,079	38,033	3,405	3,281	3,189	3,159	3,071	3,072	2,901	41,965	41,116	40,871	40,717	40,623	5,948	5,805	4,837
HVAC	3,902	3,902	3,902	3,902	3,902	0	0	0	0	0	891	1,589	1,589	1,589	1,589	1,976	1,277	1,277	1,277	1,277
Indirect Boiler	6,844	6,844	6,844	6,844	6,844	2,338	3,012	3,012	3,012	3,012	3,549	2,875	2,875	2,875	2,875	0	0	0	0	0
Process Heat	3,204	3,204	3,204	3,204	3,204	0	0	0	0	0	441	441	441	441	3,204	2,763	2,763	2,763	2,763	0
Process Other	25	25	25	25	25	0	0	0	0	0	25	25	25	25	25	0	0	0	0	0
Space Heat - Gas Boiler	137,865	131,165	134,219	131,986	122,105	60,793	65,041	60,425	59,599	58,786	14,664	17,508	16,845	16,345	16,135	41,847	34,524	34,318	34,214	32,487
Space Heat - Gas Furnace	103,008	97,690	100,826	99,339	98,328	48,523	46,543	42,723	42,055	41,374	10,980	16,244	15,652	15,201	14,687	19,665	13,245	12,871	19,958	19,026
Water Heat	3,387	3,003	2,935	2,793	2,686	1,157	1,018	946	885	960	831	1,036	995	1,008	1,038	969	667	641	580	366
Total	297,381	284,154	290,110	286,173	275,127	116,216	118,895	110,296	108,710	107,204	34,453	42,619	80,387	78,600	80,424	107,936	93,098	57,818	64,597	57,992

MMBtu	Maximum Achievable Potential by End-Use - Incremental Annual Natural Gas Savings - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	39,452	38,620	38,453	38,376	38,330	3,432	3,306	3,214	3,184	3,095	3,096	2,923	42,293	41,437	41,190	41,035	40,940	5,994	5,850	4,875
HVAC	3,933	3,933	3,933	3,933	3,933	0	0	0	0	0	898	1,602	1,602	1,602	1,602	1,991	1,287	1,287	1,287	1,287
Indirect Boiler	6,898	6,898	6,898	6,898	6,898	2,356	3,036	3,036	3,036	3,036	3,577	2,897	2,897	2,897	2,897	0	0	0	0	0
Process Heat	3,229	3,229	3,229	3,229	3,229	0	0	0	0	0	444	444	444	444	3,229	2,784	2,784	2,784	2,784	0
Process Other	25	25	25	25	25	0	0	0	0	0	25	25	25	25	25	0	0	0	0	0
Space Heat - Gas Boiler	138,942	132,190	135,267	133,018	123,059	61,268	65,549	60,897	60,064	59,245	14,779	17,645	16,976	16,473	16,261	42,173	34,793	34,586	34,481	32,740
Space Heat - Gas Furnace	103,812	98,453	101,614	100,115	99,096	48,902	46,906	43,057	42,383	41,697	11,066	16,371	15,774	15,320	14,802	19,818	13,348	12,972	20,114	19,175
Water Heat	3,413	3,026	2,958	2,815	2,707	1,166	1,026	954	892	968	837	1,044	1,003	1,016	1,046	977	672	646	585	369
Total	299,704	286,373	292,377	288,409	277,277	117,124	119,824	111,158	109,559	108,041	34,722	42,952	81,015	79,214	81,053	108,779	93,826	58,270	65,102	58,445

Appendix D.3

VGS Non-residential Achievable Potential - Savings and Costs

MMBtu	Maximum Achievable Potential by End-Use - Cumulative Annual Natural Gas Savings - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	39,146	77,467	115,622	153,701	191,734	195,139	198,419	201,609	204,768	207,839	210,911	213,812	216,631	219,426	222,142	224,780	227,369	229,912	232,436	234,084
HVAC	3,902	7,804	11,706	15,608	19,510	19,510	19,510	19,510	19,510	19,510	19,510	19,510	19,510	19,510	19,510	19,510	19,510	19,510	19,510	19,510
Indirect Boiler	6,844	13,689	20,533	27,378	34,222	34,222	34,222	34,222	34,222	34,222	34,222	34,222	34,222	34,222	34,222	34,222	34,222	34,222	34,222	34,222
Process Heat	3,204	6,407	9,611	12,814	16,018	16,018	16,018	16,018	16,018	16,018	16,018	16,018	16,018	16,018	16,018	16,018	16,018	16,018	16,018	16,018
Process Other	25	50	76	101	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126
Space Heat - Gas Boiler	137,865	269,030	399,624	527,985	646,464	656,723	668,102	678,540	688,175	697,011	705,215	712,631	719,411	725,701	731,456	736,767	741,861	746,774	751,590	755,055
Space Heat - Gas Furnace	103,008	200,697	298,486	394,787	490,078	503,364	514,837	525,562	535,633	545,032	553,895	562,057	569,645	576,790	583,430	589,587	595,349	600,753	606,006	610,349
Water Heat	3,387	6,390	9,325	12,118	14,805	15,743	16,546	17,279	17,950	18,564	19,132	19,647	20,123	20,567	20,980	21,362	21,721	22,058	22,380	22,669
Total	297,381	581,535	864,982	1,144,492	1,412,956	1,440,846	1,467,781	1,492,865	1,516,402	1,538,323	1,559,029	1,578,023	1,595,686	1,612,360	1,627,884	1,642,373	1,656,176	1,669,373	1,682,288	1,692,034

MMBtu	Maximum Achievable Potential by End-Use - Cumulative Annual Natural Gas Savings - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	39,452	78,072	116,525	154,901	193,232	196,663	199,969	203,184	206,368	209,463	212,559	215,483	218,323	221,140	223,877	226,536	229,146	231,708	234,252	235,913
HVAC	3,933	7,865	11,798	15,730	19,663	19,663	19,663	19,663	19,663	19,663	19,663	19,663	19,663	19,663	19,663	19,663	19,663	19,663	19,663	19,663
Indirect Boiler	6,898	13,796	20,694	27,592	34,490	34,490	34,490	34,490	34,490	34,490	34,490	34,490	34,490	34,490	34,490	34,490	34,490	34,490	34,490	34,490
Process Heat	3,229	6,457	9,686	12,914	16,143	16,143	16,143	16,143	16,143	16,143	16,143	16,143	16,143	16,143	16,143	16,143	16,143	16,143	16,143	16,143
Process Other	25	51	76	102	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127
Space Heat - Gas Boiler	138,942	271,132	402,746	532,110	651,515	661,854	673,321	683,841	693,551	702,457	710,724	718,198	725,032	731,371	737,171	742,523	747,656	752,608	757,462	760,954
Space Heat - Gas Furnace	103,812	202,265	300,818	397,872	493,907	507,297	518,860	529,668	539,817	549,290	558,222	566,448	574,096	581,296	587,988	594,194	600,000	605,447	610,740	615,118
Water Heat	3,413	6,440	9,398	12,213	14,920	15,866	16,676	17,414	18,090	18,709	19,281	19,801	20,280	20,728	21,144	21,529	21,891	22,230	22,555	22,847
Total	299,704	586,078	871,740	1,153,433	1,423,995	1,452,102	1,479,248	1,504,528	1,528,249	1,550,341	1,571,209	1,590,352	1,608,153	1,624,957	1,640,601	1,655,204	1,669,115	1,682,415	1,695,431	1,705,253

Appendix D.3

VGS Non-residential Achievable Potential - Savings and Costs

\$	Maximum Achievable Potential by End-Use - Annual Incentive Costs - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	\$729,830	\$714,437	\$711,346	\$709,931	\$709,077	\$63,485	\$61,161	\$59,460	\$58,900	\$57,261	\$57,279	\$54,080	\$782,380	\$766,548	\$761,978	\$759,114	\$757,359	\$110,886	\$108,225	\$90,175
HVAC	\$84,040	\$84,040	\$84,040	\$84,040	\$84,040	\$0	\$0	\$0	\$0	\$0	\$16,463	\$21,877	\$21,877	\$21,877	\$21,877	\$29,553	\$24,139	\$24,139	\$24,139	\$24,139
Indirect Boiler	\$98,030	\$98,030	\$98,030	\$98,030	\$98,030	\$22,145	\$24,154	\$24,154	\$24,154	\$24,154	\$33,869	\$31,860	\$31,860	\$31,860	\$31,860	\$0	\$0	\$0	\$0	\$0
Process Heat	\$51,180	\$51,180	\$51,180	\$51,180	\$51,180	\$0	\$0	\$0	\$0	\$0	\$4,066	\$4,066	\$4,066	\$4,066	\$51,180	\$47,114	\$47,114	\$47,114	\$47,114	\$0
Process Other	\$1,186	\$1,186	\$1,186	\$1,186	\$1,186	\$0	\$0	\$0	\$0	\$0	\$1,186	\$1,186	\$1,186	\$1,186	\$1,186	\$0	\$0	\$0	\$0	\$0
Space Heat - Gas Boiler	\$4,751,552	\$4,481,972	\$4,492,307	\$4,404,448	\$3,848,164	\$1,775,892	\$1,736,054	\$1,669,403	\$1,636,526	\$1,603,888	\$443,082	\$398,186	\$371,369	\$350,921	\$363,505	\$1,385,468	\$1,350,193	\$1,339,274	\$1,332,509	\$1,250,182
Space Heat - Gas Furnace	\$3,528,203	\$3,396,486	\$3,424,059	\$3,388,172	\$3,363,950	\$1,307,705	\$1,259,592	\$1,215,935	\$1,199,985	\$1,183,487	\$263,709	\$268,693	\$254,276	\$243,450	\$231,416	\$567,989	\$534,676	\$525,427	\$850,217	\$826,448
Water Heat	\$151,071	\$129,006	\$125,258	\$117,180	\$111,057	\$53,251	\$45,640	\$41,611	\$38,159	\$48,829	\$45,100	\$48,291	\$46,185	\$52,057	\$37,161	\$36,040	\$28,216	\$26,984	\$19,419	\$16,873
Total	\$9,395,091	\$8,956,336	\$8,987,405	\$8,854,166	\$8,266,684	\$3,222,477	\$3,126,601	\$3,010,562	\$2,957,723	\$2,917,618	\$864,753	\$828,238	\$1,513,198	\$1,471,965	\$1,500,164	\$2,825,278	\$2,741,695	\$2,073,824	\$2,381,623	\$2,207,817

\$	Maximum Achievable Potential by End-Use - Annual Incentive Costs - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	\$729,830	\$714,437	\$711,346	\$709,931	\$709,077	\$63,485	\$61,161	\$59,460	\$58,900	\$57,261	\$57,279	\$54,080	\$782,380	\$766,548	\$761,978	\$759,114	\$757,359	\$110,886	\$108,225	\$90,175
HVAC	\$84,040	\$84,040	\$84,040	\$84,040	\$84,040	\$0	\$0	\$0	\$0	\$0	\$16,463	\$21,877	\$21,877	\$21,877	\$21,877	\$29,553	\$24,139	\$24,139	\$24,139	\$24,139
Indirect Boiler	\$98,030	\$98,030	\$98,030	\$98,030	\$98,030	\$22,145	\$24,154	\$24,154	\$24,154	\$24,154	\$33,869	\$31,860	\$31,860	\$31,860	\$31,860	\$0	\$0	\$0	\$0	\$0
Process Heat	\$51,180	\$51,180	\$51,180	\$51,180	\$51,180	\$0	\$0	\$0	\$0	\$0	\$4,066	\$4,066	\$4,066	\$4,066	\$51,180	\$47,114	\$47,114	\$47,114	\$47,114	\$0
Process Other	\$1,186	\$1,186	\$1,186	\$1,186	\$1,186	\$0	\$0	\$0	\$0	\$0	\$1,186	\$1,186	\$1,186	\$1,186	\$1,186	\$0	\$0	\$0	\$0	\$0
Space Heat - Gas Boiler	\$4,751,552	\$4,481,972	\$4,492,307	\$4,404,448	\$3,848,164	\$1,775,892	\$1,736,054	\$1,669,403	\$1,636,526	\$1,603,888	\$443,082	\$398,186	\$371,369	\$350,921	\$363,505	\$1,385,468	\$1,350,193	\$1,339,274	\$1,332,509	\$1,250,182
Space Heat - Gas Furnace	\$3,528,203	\$3,396,486	\$3,424,059	\$3,388,172	\$3,363,950	\$1,307,705	\$1,259,592	\$1,215,935	\$1,199,985	\$1,183,487	\$263,709	\$268,693	\$254,276	\$243,450	\$231,416	\$567,989	\$534,676	\$525,427	\$850,217	\$826,448
Water Heat	\$151,071	\$129,006	\$125,258	\$117,180	\$111,057	\$53,251	\$45,640	\$41,611	\$38,159	\$48,829	\$45,100	\$48,291	\$46,185	\$52,057	\$37,161	\$36,040	\$28,216	\$26,984	\$19,419	\$16,873
Total	\$9,395,091	\$8,956,336	\$8,987,405	\$8,854,166	\$8,266,684	\$3,222,477	\$3,126,601	\$3,010,562	\$2,957,723	\$2,917,618	\$864,753	\$828,238	\$1,513,198	\$1,471,965	\$1,500,164	\$2,825,278	\$2,741,695	\$2,073,824	\$2,381,623	\$2,207,817



Appendix D.3

VGS Non-residential Achievable Potential - Savings and Costs

\$	Maximum Achievable Potential by End-Use - Annual Admin Costs - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	\$499,147	\$482,169	\$478,759	\$477,199	\$476,257	\$70,023	\$67,460	\$65,583	\$64,966	\$63,158	\$63,178	\$59,649	\$557,108	\$539,647	\$534,606	\$531,447	\$529,511	\$122,306	\$119,370	\$99,461
HVAC	\$45,756	\$45,756	\$45,756	\$45,756	\$45,756	\$0	\$0	\$0	\$0	\$0	\$10,447	\$18,639	\$18,639	\$18,639	\$18,639	\$23,171	\$14,980	\$14,980	\$14,980	\$14,980
Indirect Boiler	\$80,260	\$80,260	\$80,260	\$80,260	\$80,260	\$27,415	\$35,321	\$35,321	\$35,321	\$35,321	\$41,615	\$33,710	\$33,710	\$33,710	\$33,710	\$0	\$0	\$0	\$0	\$0
Process Heat	\$37,565	\$37,565	\$37,565	\$37,565	\$37,565	\$0	\$0	\$0	\$0	\$0	\$5,169	\$5,169	\$5,169	\$5,169	\$37,565	\$32,397	\$32,397	\$32,397	\$32,397	\$0
Process Other	\$296	\$296	\$296	\$296	\$296	\$0	\$0	\$0	\$0	\$0	\$296	\$296	\$296	\$296	\$296	\$0	\$0	\$0	\$0	\$0
Space Heat - Gas Boiler	\$1,613,222	\$1,522,356	\$1,569,748	\$1,554,460	\$1,455,975	\$741,925	\$794,578	\$743,090	\$737,134	\$729,818	\$216,151	\$249,156	\$242,663	\$238,988	\$237,301	\$539,442	\$453,063	\$450,208	\$449,002	\$412,666
Space Heat - Gas Furnace	\$1,224,311	\$1,146,556	\$1,190,416	\$1,179,716	\$1,172,600	\$591,234	\$573,888	\$530,749	\$525,826	\$519,340	\$166,104	\$227,076	\$221,130	\$217,785	\$212,424	\$271,528	\$196,968	\$193,270	\$276,739	\$247,136
Water Heat	\$37,594	\$32,639	\$32,689	\$31,752	\$31,060	\$13,313	\$12,256	\$11,687	\$11,281	\$12,370	\$11,225	\$13,658	\$13,285	\$13,624	\$14,229	\$13,258	\$9,769	\$9,553	\$8,933	\$5,320
Total	\$3,538,152	\$3,347,598	\$3,435,491	\$3,407,004	\$3,299,770	\$1,443,910	\$1,483,503	\$1,386,431	\$1,374,527	\$1,360,007	\$514,185	\$607,352	\$1,091,999	\$1,067,857	\$1,088,770	\$1,411,243	\$1,236,687	\$822,713	\$901,420	\$779,563

\$	Maximum Achievable Potential by End-Use - Annual Admin Costs - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	\$499,147	\$482,169	\$478,759	\$477,199	\$476,257	\$70,023	\$67,460	\$65,583	\$64,966	\$63,158	\$63,178	\$59,649	\$557,108	\$539,647	\$534,606	\$531,447	\$529,511	\$122,306	\$119,370	\$99,461
HVAC	\$45,756	\$45,756	\$45,756	\$45,756	\$45,756	\$0	\$0	\$0	\$0	\$0	\$10,447	\$18,639	\$18,639	\$18,639	\$18,639	\$23,171	\$14,980	\$14,980	\$14,980	\$14,980
Indirect Boiler	\$80,260	\$80,260	\$80,260	\$80,260	\$80,260	\$27,415	\$35,321	\$35,321	\$35,321	\$35,321	\$41,615	\$33,710	\$33,710	\$33,710	\$33,710	\$0	\$0	\$0	\$0	\$0
Process Heat	\$37,565	\$37,565	\$37,565	\$37,565	\$37,565	\$0	\$0	\$0	\$0	\$0	\$5,169	\$5,169	\$5,169	\$5,169	\$37,565	\$32,397	\$32,397	\$32,397	\$32,397	\$0
Process Other	\$296	\$296	\$296	\$296	\$296	\$0	\$0	\$0	\$0	\$0	\$296	\$296	\$296	\$296	\$296	\$0	\$0	\$0	\$0	\$0
Space Heat - Gas Boiler	\$1,613,222	\$1,522,356	\$1,569,748	\$1,554,460	\$1,455,975	\$741,925	\$794,578	\$743,090	\$737,134	\$729,818	\$216,151	\$249,156	\$242,663	\$238,988	\$237,301	\$539,442	\$453,063	\$450,208	\$449,002	\$412,666
Space Heat - Gas Furnace	\$1,224,311	\$1,146,556	\$1,190,416	\$1,179,716	\$1,172,600	\$591,234	\$573,888	\$530,749	\$525,826	\$519,340	\$166,104	\$227,076	\$221,130	\$217,785	\$212,424	\$271,528	\$196,968	\$193,270	\$276,739	\$247,136
Water Heat	\$37,594	\$32,639	\$32,689	\$31,752	\$31,060	\$13,313	\$12,256	\$11,687	\$11,281	\$12,370	\$11,225	\$13,658	\$13,285	\$13,624	\$14,229	\$13,258	\$9,769	\$9,553	\$8,933	\$5,320
Total	\$3,538,152	\$3,347,598	\$3,435,491	\$3,407,004	\$3,299,770	\$1,443,910	\$1,483,503	\$1,386,431	\$1,374,527	\$1,360,007	\$514,185	\$607,352	\$1,091,999	\$1,067,857	\$1,088,770	\$1,411,243	\$1,236,687	\$822,713	\$901,420	\$779,563

Appendix D.3

VGS Non-residential Achievable Potential - Savings and Costs

MMBtu	Realistic Achievable Potential by End-Use - Incremental Annual Natural Gas Savings - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	6,397	6,469	6,576	6,688	6,800	6,915	7,000	7,086	7,188	7,265	7,373	7,403	15,870	15,683	15,776	15,896	16,031	16,168	16,234	15,554
HVAC	742	742	742	742	742	742	742	742	742	742	912	1,045	1,045	1,045	1,045	1,288	1,288	1,288	1,288	1,288
Indirect Boiler	1,302	1,302	1,302	1,302	1,302	1,747	1,876	1,876	1,876	1,876	2,423	2,423	2,423	2,423	2,423	2,423	2,423	2,423	2,423	2,423
Process Heat	610	610	610	610	610	610	610	610	610	610	693	693	693	693	1,219	1,219	1,219	1,219	1,219	1,219
Process Other	5	5	5	5	5	5	5	5	5	5	10	10	10	10	10	10	10	10	10	10
Space Heat - Gas Boiler	21,297	21,507	22,680	22,947	21,562	31,110	32,287	32,424	32,549	32,620	33,729	34,827	34,770	34,759	34,731	39,990	39,834	39,786	39,809	38,777
Space Heat - Gas Furnace	16,131	16,274	17,280	17,534	17,784	24,263	24,219	24,404	24,574	24,693	25,514	26,514	26,515	26,552	26,517	28,062	27,898	27,798	29,125	28,418
Water Heat	448	466	503	521	536	617	610	617	622	649	689	732	730	741	785	833	819	814	811	782
Total	46,931	47,376	49,699	50,349	49,341	66,010	67,349	67,764	68,165	68,459	71,343	73,646	82,055	81,905	82,504	89,720	89,521	89,506	90,918	88,471

MMBtu	Realistic Achievable Potential by End-Use - Incremental Annual Natural Gas Savings - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	6,447	6,520	6,628	6,740	6,853	6,969	7,055	7,142	7,244	7,322	7,431	7,461	15,994	15,805	15,899	16,020	16,157	16,294	16,361	15,676
HVAC	748	748	748	748	748	748	748	748	748	748	919	1,053	1,053	1,053	1,053	1,298	1,298	1,298	1,298	1,298
Indirect Boiler	1,313	1,313	1,313	1,313	1,313	1,761	1,890	1,890	1,890	1,890	2,441	2,441	2,441	2,441	2,441	2,441	2,441	2,441	2,441	2,441
Process Heat	614	614	614	614	614	614	614	614	614	614	699	699	699	699	1,229	1,229	1,229	1,229	1,229	1,229
Process Other	5	5	5	5	5	5	5	5	5	5	10	10	10	10	10	10	10	10	10	10
Space Heat - Gas Boiler	21,463	21,675	22,857	23,126	21,730	31,353	32,539	32,677	32,803	32,874	33,993	35,099	35,042	35,030	35,002	40,302	40,145	40,097	40,120	39,080
Space Heat - Gas Furnace	16,257	16,401	17,415	17,671	17,923	24,453	24,408	24,595	24,766	24,886	25,713	26,722	26,722	26,759	26,724	28,281	28,116	28,015	29,352	28,640
Water Heat	451	470	507	525	540	621	615	622	627	654	694	738	736	747	791	840	825	820	817	788
Total	47,298	47,746	50,087	50,742	49,726	66,525	67,875	68,293	68,698	68,994	71,900	74,222	82,697	82,545	83,149	90,421	90,221	90,205	91,629	89,162

Appendix D.3

VGS Non-residential Achievable Potential - Savings and Costs

MMBtu	Realistic Achievable Potential by End-Use - Cumulative Annual Natural Gas Savings - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	6,397	12,866	19,443	26,131	32,931	39,846	46,846	53,932	61,120	68,385	75,758	83,161	92,634	101,847	111,046	120,254	129,486	138,738	147,972	156,440
HVAC	742	1,485	2,227	2,970	3,712	4,455	5,197	5,940	6,682	7,425	8,167	8,910	9,652	10,395	11,137	11,880	12,622	13,365	14,107	14,850
Indirect Boiler	1,302	2,605	3,907	5,210	6,512	7,814	9,117	10,419	11,722	13,024	14,326	15,629	16,931	18,234	19,536	20,838	22,141	23,443	24,746	26,048
Process Heat	610	1,219	1,829	2,438	3,048	3,657	4,267	4,877	5,486	6,096	6,705	7,315	7,925	8,534	9,144	9,753	10,363	10,972	11,582	12,192
Process Other	5	10	14	19	24	29	34	38	43	48	53	58	62	67	72	77	82	86	91	96
Space Heat - Gas Boiler	21,297	42,804	64,888	87,240	108,207	130,471	153,333	176,300	199,357	222,451	245,940	269,275	292,524	315,724	338,811	362,008	385,130	408,226	431,352	453,472
Space Heat - Gas Furnace	16,131	32,405	49,186	66,222	83,507	101,604	119,642	137,843	156,192	174,636	193,414	212,128	230,822	249,528	268,180	286,889	305,488	324,002	342,550	360,409
Water Heat	448	913	1,417	1,938	2,473	3,051	3,621	4,198	4,779	5,361	5,956	6,544	7,129	7,716	8,310	8,941	9,556	10,165	10,769	11,344
Total	46,931	94,307	142,912	192,167	240,414	290,927	342,058	393,548	445,382	497,425	550,320	603,018	657,678	712,044	766,236	820,641	874,867	928,997	983,170	1,034,850

MMBtu	Realistic Achievable Potential by End-Use - Cumulative Annual Natural Gas Savings - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	6,447	12,967	19,595	26,335	33,188	40,157	47,212	54,354	61,598	68,919	76,350	83,810	93,357	102,643	111,914	121,194	130,497	139,822	149,128	157,662
HVAC	748	1,497	2,245	2,993	3,741	4,490	5,238	5,986	6,735	7,483	8,231	8,980	9,728	10,476	11,224	11,973	12,721	13,469	14,218	14,966
Indirect Boiler	1,313	2,625	3,938	5,250	6,563	7,875	9,188	10,501	11,813	13,126	14,438	15,751	17,063	18,376	19,689	21,001	22,314	23,626	24,939	26,251
Process Heat	614	1,229	1,843	2,457	3,072	3,686	4,300	4,915	5,529	6,143	6,758	7,372	7,986	8,601	9,215	9,829	10,444	11,058	11,673	12,287
Process Other	5	10	15	19	24	29	34	39	44	48	53	58	63	68	73	77	82	87	92	97
Space Heat - Gas Boiler	21,463	43,138	65,395	87,922	109,052	131,490	154,531	177,678	200,915	224,189	247,862	271,379	294,809	318,190	341,458	364,836	388,138	411,415	434,722	457,014
Space Heat - Gas Furnace	16,257	32,658	49,571	66,739	84,160	102,398	120,577	138,920	157,412	176,000	194,925	213,785	232,625	251,477	270,275	289,131	307,875	326,533	345,226	363,225
Water Heat	451	921	1,428	1,953	2,493	3,074	3,650	4,231	4,816	5,403	6,002	6,595	7,184	7,776	8,375	9,010	9,631	10,245	10,853	11,433
Total	47,298	95,044	144,028	193,668	242,293	293,200	344,730	396,623	448,861	501,311	554,619	607,729	662,816	717,607	772,223	827,052	881,702	936,255	990,851	1,042,935



Appendix D.3

VGS Non-residential Achievable Potential - Savings and Costs

\$	Realistic Achievable Potential by End-Use - Annual Incentive Costs - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	\$119,263	\$120,613	\$122,610	\$124,684	\$126,777	\$128,928	\$130,505	\$132,116	\$134,008	\$135,443	\$137,462	\$138,013	\$295,871	\$292,388	\$294,116	\$296,354	\$298,886	\$301,422	\$302,667	\$289,986
HVAC	\$15,992	\$15,992	\$15,992	\$15,992	\$15,992	\$15,992	\$15,992	\$15,992	\$15,992	\$15,992	\$19,124	\$20,154	\$20,154	\$20,154	\$20,154	\$24,748	\$24,748	\$24,748	\$24,748	\$24,748
Indirect Boiler	\$18,654	\$18,654	\$18,654	\$18,654	\$18,654	\$22,867	\$23,250	\$23,250	\$23,250	\$23,250	\$29,312	\$29,312	\$29,312	\$29,312	\$29,312	\$29,312	\$29,312	\$29,312	\$29,312	\$29,312
Process Heat	\$9,739	\$9,739	\$9,739	\$9,739	\$9,739	\$9,739	\$9,739	\$9,739	\$9,739	\$9,739	\$10,512	\$10,512	\$10,512	\$10,512	\$19,477	\$19,477	\$19,477	\$19,477	\$19,477	\$19,477
Process Other	\$226	\$226	\$226	\$226	\$226	\$226	\$226	\$226	\$226	\$226	\$451	\$451	\$451	\$451	\$451	\$451	\$451	\$451	\$451	\$451
Space Heat - Gas Boiler	\$716,385	\$725,348	\$754,350	\$766,088	\$679,802	\$996,584	\$1,002,582	\$1,008,721	\$1,014,213	\$1,017,511	\$1,040,366	\$1,040,316	\$1,039,080	\$1,039,415	\$1,042,697	\$1,234,608	\$1,231,031	\$1,229,891	\$1,231,171	\$1,197,061
Space Heat - Gas Furnace	\$574,377	\$578,207	\$595,183	\$601,930	\$608,620	\$795,421	\$794,867	\$799,924	\$804,683	\$808,106	\$824,477	\$827,389	\$827,964	\$829,499	\$829,274	\$901,846	\$898,668	\$896,815	\$956,693	\$939,073
Water Heat	\$17,808	\$18,713	\$20,729	\$21,622	\$22,345	\$24,849	\$24,429	\$24,663	\$24,803	\$27,452	\$27,974	\$28,801	\$28,674	\$30,457	\$30,429	\$31,652	\$31,236	\$31,076	\$31,019	\$29,783
Total	\$1,472,442	\$1,487,490	\$1,537,480	\$1,558,933	\$1,482,154	\$1,994,606	\$2,001,589	\$2,014,628	\$2,026,912	\$2,037,718	\$2,089,679	\$2,094,949	\$2,252,019	\$2,252,189	\$2,265,911	\$2,538,448	\$2,533,809	\$2,533,192	\$2,595,538	\$2,529,892

\$	Realistic Achievable Potential by End-Use - Annual Incentive Costs - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	\$119,263	\$120,613	\$122,610	\$124,684	\$126,777	\$128,928	\$130,505	\$132,116	\$134,008	\$135,443	\$137,462	\$138,013	\$295,871	\$292,388	\$294,116	\$296,354	\$298,886	\$301,422	\$302,667	\$289,986
HVAC	\$15,992	\$15,992	\$15,992	\$15,992	\$15,992	\$15,992	\$15,992	\$15,992	\$15,992	\$15,992	\$19,124	\$20,154	\$20,154	\$20,154	\$20,154	\$24,748	\$24,748	\$24,748	\$24,748	\$24,748
Indirect Boiler	\$18,654	\$18,654	\$18,654	\$18,654	\$18,654	\$22,867	\$23,250	\$23,250	\$23,250	\$23,250	\$29,312	\$29,312	\$29,312	\$29,312	\$29,312	\$29,312	\$29,312	\$29,312	\$29,312	\$29,312
Process Heat	\$9,739	\$9,739	\$9,739	\$9,739	\$9,739	\$9,739	\$9,739	\$9,739	\$9,739	\$9,739	\$10,512	\$10,512	\$10,512	\$10,512	\$19,477	\$19,477	\$19,477	\$19,477	\$19,477	\$19,477
Process Other	\$226	\$226	\$226	\$226	\$226	\$226	\$226	\$226	\$226	\$226	\$451	\$451	\$451	\$451	\$451	\$451	\$451	\$451	\$451	\$451
Space Heat - Gas Boiler	\$716,385	\$725,348	\$754,350	\$766,088	\$679,802	\$996,584	\$1,002,582	\$1,008,721	\$1,014,213	\$1,017,511	\$1,040,366	\$1,040,316	\$1,039,080	\$1,039,415	\$1,042,697	\$1,234,608	\$1,231,031	\$1,229,891	\$1,231,171	\$1,197,061
Space Heat - Gas Furnace	\$574,377	\$578,207	\$595,183	\$601,930	\$608,620	\$795,421	\$794,867	\$799,924	\$804,683	\$808,106	\$824,477	\$827,389	\$827,964	\$829,499	\$829,274	\$901,846	\$898,668	\$896,815	\$956,693	\$939,073
Water Heat	\$17,808	\$18,713	\$20,729	\$21,622	\$22,345	\$24,849	\$24,429	\$24,663	\$24,803	\$27,452	\$27,974	\$28,801	\$28,674	\$30,457	\$30,429	\$31,652	\$31,236	\$31,076	\$31,019	\$29,783
Total	\$1,472,442	\$1,487,490	\$1,537,480	\$1,558,933	\$1,482,154	\$1,994,606	\$2,001,589	\$2,014,628	\$2,026,912	\$2,037,718	\$2,089,679	\$2,094,949	\$2,252,019	\$2,252,189	\$2,265,911	\$2,538,448	\$2,533,809	\$2,533,192	\$2,595,538	\$2,529,892

Appendix D.3

VGS Non-residential Achievable Potential - Savings and Costs

\$	Realistic Achievable Potential by End-Use - Annual Admin Costs - UPDATE																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	\$77,830	\$79,319	\$81,522	\$83,810	\$86,118	\$88,491	\$90,230	\$92,007	\$94,093	\$95,677	\$97,904	\$98,512	\$218,911	\$215,070	\$216,976	\$219,444	\$222,236	\$225,034	\$226,407	\$212,420
HVAC	\$8,707	\$8,707	\$8,707	\$8,707	\$8,707	\$8,707	\$8,707	\$8,707	\$8,707	\$8,707	\$10,695	\$12,253	\$12,253	\$12,253	\$12,253	\$15,104	\$15,104	\$15,104	\$15,104	\$15,104
Indirect Boiler	\$15,272	\$15,272	\$15,272	\$15,272	\$15,272	\$20,489	\$21,993	\$21,993	\$21,993	\$21,993	\$28,408	\$28,408	\$28,408	\$28,408	\$28,408	\$28,408	\$28,408	\$28,408	\$28,408	\$28,408
Process Heat	\$7,148	\$7,148	\$7,148	\$7,148	\$7,148	\$7,148	\$7,148	\$7,148	\$7,148	\$7,148	\$8,132	\$8,132	\$8,132	\$8,132	\$14,296	\$14,296	\$14,296	\$14,296	\$14,296	\$14,296
Process Other	\$56	\$56	\$56	\$56	\$56	\$56	\$56	\$56	\$56	\$56	\$113	\$113	\$113	\$113	\$113	\$113	\$113	\$113	\$113	\$113
Space Heat - Gas Boiler	\$249,670	\$250,854	\$265,663	\$270,510	\$257,968	\$372,741	\$388,338	\$391,944	\$395,926	\$398,932	\$420,665	\$433,818	\$434,941	\$437,183	\$438,564	\$506,713	\$504,406	\$504,139	\$505,116	\$481,311
Space Heat - Gas Furnace	\$190,405	\$191,147	\$203,965	\$208,374	\$212,789	\$290,629	\$292,468	\$296,177	\$300,233	\$303,329	\$319,283	\$331,245	\$332,760	\$335,282	\$336,361	\$359,228	\$357,917	\$357,875	\$374,499	\$353,078
Water Heat	\$5,070	\$5,148	\$5,611	\$5,888	\$6,149	\$7,132	\$7,225	\$7,407	\$7,605	\$8,046	\$8,831	\$9,387	\$9,470	\$9,760	\$10,492	\$11,118	\$11,017	\$11,079	\$11,164	\$10,001
Total	\$554,160	\$557,651	\$587,944	\$599,765	\$594,208	\$795,394	\$816,166	\$825,439	\$835,763	\$843,889	\$894,029	\$921,867	\$1,044,987	\$1,046,200	\$1,057,463	\$1,154,423	\$1,153,496	\$1,156,047	\$1,175,106	\$1,114,730

\$	Realistic Achievable Potential by End-Use - Annual Admin Costs - REPORT																			
End-Use	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Cooking	\$77,830	\$79,319	\$81,522	\$83,810	\$86,118	\$88,491	\$90,230	\$92,007	\$94,093	\$95,677	\$97,904	\$98,512	\$218,911	\$215,070	\$216,976	\$219,444	\$222,236	\$225,034	\$226,407	\$212,420
HVAC	\$8,707	\$8,707	\$8,707	\$8,707	\$8,707	\$8,707	\$8,707	\$8,707	\$8,707	\$8,707	\$10,695	\$12,253	\$12,253	\$12,253	\$12,253	\$15,104	\$15,104	\$15,104	\$15,104	\$15,104
Indirect Boiler	\$15,272	\$15,272	\$15,272	\$15,272	\$15,272	\$20,489	\$21,993	\$21,993	\$21,993	\$21,993	\$28,408	\$28,408	\$28,408	\$28,408	\$28,408	\$28,408	\$28,408	\$28,408	\$28,408	\$28,408
Process Heat	\$7,148	\$7,148	\$7,148	\$7,148	\$7,148	\$7,148	\$7,148	\$7,148	\$7,148	\$7,148	\$8,132	\$8,132	\$8,132	\$8,132	\$14,296	\$14,296	\$14,296	\$14,296	\$14,296	\$14,296
Process Other	\$56	\$56	\$56	\$56	\$56	\$56	\$56	\$56	\$56	\$56	\$113	\$113	\$113	\$113	\$113	\$113	\$113	\$113	\$113	\$113
Space Heat - Gas Boiler	\$249,670	\$250,854	\$265,663	\$270,510	\$257,968	\$372,741	\$388,338	\$391,944	\$395,926	\$398,932	\$420,665	\$433,818	\$434,941	\$437,183	\$438,564	\$506,713	\$504,406	\$504,139	\$505,116	\$481,311
Space Heat - Gas Furnace	\$190,405	\$191,147	\$203,965	\$208,374	\$212,789	\$290,629	\$292,468	\$296,177	\$300,233	\$303,329	\$319,283	\$331,245	\$332,760	\$335,282	\$336,361	\$359,228	\$357,917	\$357,875	\$374,499	\$353,078
Water Heat	\$5,070	\$5,148	\$5,611	\$5,888	\$6,149	\$7,132	\$7,225	\$7,407	\$7,605	\$8,046	\$8,831	\$9,387	\$9,470	\$9,760	\$10,492	\$11,118	\$11,017	\$11,079	\$11,164	\$10,001
Total	\$554,160	\$557,651	\$587,944	\$599,765	\$594,208	\$795,394	\$816,166	\$825,439	\$835,763	\$843,889	\$894,029	\$921,867	\$1,044,987	\$1,046,200	\$1,057,463	\$1,154,423	\$1,153,496	\$1,156,047	\$1,175,106	\$1,114,730

## APPENDIX E • Avoided Costs



2018	Avoided Cost Inputs (Nominal Dollars) ; does not include line losses or NEB adder											
Year	Electric Energy Avoided Costs: <i>Includes Base + DRIPE</i>				Capacity Avoided Costs: <i>Base + DRIPE</i>		Avoided T&D	Natural Gas: <i>Base + DRIPE</i>				
	Winter Peak Energy	Winter Off- Peak Energy	Summer Peak Energy	Summer Off- Peak Energy	Winter Generation Capacity	Summer Generation Capacity	Costs: <i>Base</i>	NG DHW	NG FLAT	NG HEATING	NG SHELL	NG CCHP
							T&D					
	(\$/kWh)	(\$/kWh)	(\$/kWh)	(\$/kWh)	(\$/kW-YR)	(\$/kW-YR)	(\$/kW-YR)					
2018	0.048	0.041	0.032	0.024	0.000	77.377	161.85	6.55	6.13	11.60	12.91	4.13
2019	0.053	0.046	0.038	0.030	0.000	52.871	164.89	7.47	7.02	12.79	14.16	4.99
2020	0.059	0.050	0.048	0.035	0.000	55.098	167.99	8.18	7.71	13.63	15.03	5.51
2021	0.065	0.056	0.053	0.040	0.000	138.548	171.15	8.96	8.47	14.59	16.03	6.13
2022	0.068	0.059	0.056	0.043	0.000	133.006	173.22	9.21	8.70	15.03	16.52	6.25
2023	0.074	0.063	0.062	0.048	0.000	127.330	175.31	9.88	9.35	15.87	17.40	6.75
2024	0.079	0.067	0.066	0.053	0.000	135.098	177.41	10.39	9.85	16.52	18.07	7.16
2025	0.083	0.072	0.073	0.057	0.000	151.697	180.75	10.75	10.20	17.02	18.61	7.42
2026	0.084	0.073	0.076	0.059	0.000	169.188	182.91	10.84	10.27	17.28	18.92	7.43
2027	0.087	0.075	0.078	0.061	0.000	186.727	185.09	11.02	10.43	17.61	19.29	7.52
2028	0.090	0.078	0.085	0.065	0.000	205.218	187.29	11.31	10.71	18.06	19.78	7.72
2029	0.094	0.082	0.090	0.068	0.000	225.474	189.50	11.61	11.00	18.52	20.28	7.92
2030	0.098	0.087	0.094	0.072	0.000	252.279	191.73	11.85	11.22	18.92	20.72	8.07
2031	0.100	0.090	0.104	0.075	0.000	267.262	193.98	12.06	11.41	19.31	21.16	8.17
2032	0.104	0.093	0.110	0.079	0.000	272.287	196.24	12.28	11.62	19.68	21.56	8.33
2033	0.108	0.097	0.117	0.083	0.000	277.406	198.52	12.51	11.84	20.05	21.97	8.48
2034	0.112	0.102	0.125	0.087	0.000	282.621	200.82	12.75	12.06	20.42	22.38	8.64
2035	0.116	0.106	0.133	0.091	0.000	287.934	203.14	12.99	12.29	20.81	22.80	8.81
2036	0.120	0.110	0.142	0.096	0.000	293.348	205.47	13.23	12.52	21.20	23.23	8.97
2037	0.124	0.115	0.151	0.100	0.000	298.862	207.81	13.48	12.76	21.60	23.66	9.14
2038	0.129	0.120	0.160	0.105	0.000	304.481	210.17	13.74	13.00	22.00	24.11	9.31
2039	0.134	0.125	0.171	0.111	0.000	310.205	212.55	13.99	13.24	22.42	24.56	9.49
2040	0.138	0.130	0.182	0.116	0.000	316.037	213.34	14.26	13.49	22.84	25.02	9.67
2041	0.143	0.136	0.194	0.122	0.000	321.979	217.35	14.53	13.74	23.27	25.50	9.85
2042	0.149	0.142	0.206	0.128	0.000	328.032	221.44	14.80	14.00	23.71	25.97	10.03
2043	0.154	0.147	0.219	0.134	0.000	334.199	225.60	15.08	14.27	24.15	26.46	10.22
2044	0.160	0.154	0.233	0.141	0.000	340.482	229.84	15.36	14.53	24.60	26.96	10.41
2045	0.165	0.160	0.248	0.148	0.000	346.883	234.16	15.65	14.81	25.07	27.47	10.61
2046	0.171	0.167	0.265	0.155	0.000	353.404	238.56	15.94	15.09	25.54	27.98	10.81
2047	0.177	0.174	0.282	0.163	0.000	360.048	243.05	16.24	15.37	26.02	28.51	11.01
2048	0.184	0.182	0.300	0.171	0.000	366.817	247.62	16.55	15.66	26.51	29.05	11.22
2049	0.191	0.189	0.319	0.180	0.000	373.713	252.27	16.86	15.95	27.01	29.59	11.43
2050	0.197	0.197	0.340	0.189	0.000	380.739	257.02	17.18	16.25	27.51	30.15	11.64
2051	0.205	0.206	0.361	0.198	0.000	387.897	261.85	17.50	16.56	28.03	30.71	11.86
2052	0.212	0.214	0.385	0.208	0.000	395.190	266.77	17.83	16.87	28.56	31.29	12.09
2053	0.220	0.223	0.410	0.218	0.000	402.619	271.79	18.16	17.19	29.10	31.88	12.31
2054	0.228	0.233	0.436	0.229	0.000	410.188	276.89	18.50	17.51	29.64	32.48	12.55
2055	0.236	0.243	0.464	0.241	0.000	417.900	282.10	18.85	17.84	30.20	33.09	12.78
2056	0.244	0.253	0.494	0.253	0.000	425.756	287.40	19.21	18.17	30.77	33.71	13.02
2057	0.253	0.264	0.526	0.265	0.000	433.761	292.81	19.57	18.52	31.35	34.35	13.27
2058	0.262	0.275	0.560	0.279	0.000	441.915	298.31	19.94	18.86	31.94	34.99	13.52
2059	0.272	0.287	0.596	0.292	0.000	450.223	303.92	20.31	19.22	32.54	35.65	13.77
2060	0.282	0.299	0.634	0.307	0.000	458.688	309.63	20.69	19.58	33.15	36.32	14.03
2061	0.292	0.311	0.675	0.322	0.000	467.311	315.45	21.08	19.95	33.77	37.00	14.29
2062	0.302	0.325	0.719	0.338	0.000	476.096	321.39	21.48	20.32	34.41	37.70	14.56
2063	0.313	0.338	0.765	0.355	0.000	485.047	327.43	21.88	20.71	35.05	38.41	14.83
2064	0.325	0.353	0.814	0.373	0.000	494.166	333.58	22.29	21.09	35.71	39.13	15.11
2065	0.337	0.368	0.867	0.391	0.000	503.456	339.85	22.71	21.49	36.38	39.87	15.40
2066	0.349	0.383	0.922	0.411	0.000	512.921	346.24	23.14	21.90	37.07	40.61	15.69
2067	0.361	0.400	0.982	0.431	0.000	522.564	352.75	23.57	22.31	37.76	41.38	15.98

2018	Avoided Cost Inputs (Nominal Dollars) ; does not include line losses or NEB adder						
Retail Fuel Prices: Base							
Residential Distillate Fuel Oil	Residential LPG	Commercial Distillate Fuel Oil	Commercial LPG	Kerosene	Wood	Wood Pellets	Avoided Water Retail Rate
(\$/MMBTU)	(\$/MMBTU)	(\$/MMBTU)	(\$/MMBTU)	(\$/MMBTU)	(\$/MMBTU)	(\$/MMBTU)	(\$/gallon)
13.32	13.16	12.35	13.16	14.53	6.97	7.93	0.01
15.43	15.09	14.34	15.09	16.83	7.25	8.25	0.02
17.57	16.98	16.36	16.98	19.17	7.53	8.56	0.02
19.75	18.93	18.42	18.93	21.54	7.82	8.89	0.02
21.99	20.85	20.56	20.85	23.99	8.12	9.24	0.02
24.22	22.72	22.64	22.72	26.42	8.42	9.58	0.02
25.04	23.27	23.38	23.27	27.32	8.73	9.93	0.02
26.06	24.08	24.37	24.08	28.43	9.03	10.28	0.02
27.27	25.10	25.53	25.10	29.75	9.31	10.59	0.02
28.40	25.92	26.61	25.92	30.98	9.64	10.96	0.02
29.37	26.70	27.52	26.70	32.04	9.91	11.28	0.02
30.53	27.60	28.62	27.60	33.30	10.23	11.64	0.02
31.53	28.41	29.59	28.41	34.39	10.53	11.98	0.02
33.19	29.91	31.15	29.91	36.20	10.86	12.36	0.02
34.65	31.06	32.53	31.06	37.79	11.21	12.76	0.02
36.17	32.26	33.97	32.26	39.46	11.57	13.17	0.02
37.76	33.51	35.48	33.51	41.19	11.94	13.59	0.02
39.42	34.80	37.05	34.80	43.00	12.33	14.03	0.02
41.15	36.15	38.70	36.15	44.89	12.72	14.48	0.02
42.96	37.55	40.41	37.55	46.87	13.13	14.94	0.02
44.85	39.00	42.20	39.00	48.93	13.55	15.42	0.02
46.82	40.50	44.07	40.50	51.08	13.99	15.91	0.02
48.88	42.07	46.03	42.07	53.32	14.44	16.43	0.02
51.03	43.70	48.07	43.70	55.67	14.90	16.95	0.02
53.27	45.38	50.20	45.38	58.11	15.38	17.50	0.02
55.61	47.14	52.43	47.14	60.67	15.87	18.06	0.02
58.06	48.96	54.75	48.96	63.34	16.38	18.64	0.02
60.61	50.85	57.18	50.85	66.12	16.91	19.24	0.02
63.28	52.82	59.72	52.82	69.03	17.45	19.86	0.03
66.06	54.86	62.36	54.86	72.06	18.01	20.49	0.03
68.96	56.98	65.13	56.98	75.23	18.59	21.15	0.03
71.99	59.18	68.02	59.18	78.54	19.19	21.83	0.03
75.16	61.47	71.03	61.47	81.99	19.80	22.53	0.03
78.46	63.84	74.19	63.84	85.59	20.44	23.25	0.03
81.91	66.31	77.47	66.31	89.36	21.09	24.00	0.03
85.51	68.87	80.91	68.87	93.28	21.77	24.77	0.03
89.27	71.54	84.50	71.54	97.39	22.47	25.57	0.03
93.20	74.30	88.25	74.30	101.67	23.19	26.39	0.03
97.30	77.17	92.16	77.17	106.14	23.94	27.23	0.03
101.57	80.16	96.25	80.16	110.80	24.71	28.11	0.03
106.04	83.25	100.51	83.25	115.67	25.50	29.01	0.03
110.70	86.47	104.97	86.47	120.76	26.32	29.94	0.03
115.57	89.81	109.63	89.81	126.07	27.16	30.90	0.03
120.65	93.28	114.49	93.28	131.61	28.03	31.90	0.03
125.95	96.89	119.56	96.89	137.40	28.93	32.92	0.03
131.49	100.63	124.87	100.63	143.44	29.86	33.98	0.03
137.27	104.52	130.40	104.52	149.74	30.82	35.07	0.04
143.30	108.56	136.19	108.56	156.33	31.81	36.19	0.04
149.60	112.76	142.22	112.76	163.20	32.83	37.36	0.04
156.18	117.12	148.53	117.12	170.37	33.89	38.56	0.04

2018	Avoided Cost Inputs (Nominal Dollars) ; does not include line losses or NEB adder										
Electric Energy Externalities				Fuel Externalities							
Winter Peak Energy	Winter Off-Peak Energy	Summer Peak Energy	Summer Off-Peak Energy	Residential NG	Residential Distillate Fuel Oil	Residential LPG	Commercial Distillate Fuel Oil	Commercial LPG	Kerosene	Wood	Wood Pellets
(\$/kWh)	(\$/kWh)	(\$/kWh)	(\$/kWh)	(\$/MMBTU)	(\$/MMBTU)	(\$/MMBTU)	(\$/MMBTU)	(\$/MMBTU)	(\$/MMBTU)	(\$/MMBTU)	(\$/MMBTU)
0.048	0.048	0.052	0.049	6.10	8.30	7.19	8.29	7.19	8.25	0.00	0.00
0.049	0.048	0.052	0.050	6.21	8.45	7.33	8.44	7.33	8.40	0.00	0.00
0.049	0.048	0.052	0.050	6.33	8.61	7.47	8.60	7.47	8.56	0.00	0.00
0.048	0.048	0.051	0.049	6.45	8.77	7.61	8.76	7.61	8.72	0.00	0.00
0.048	0.047	0.051	0.049	6.57	8.94	7.75	8.93	7.75	8.89	0.00	0.00
0.047	0.047	0.050	0.048	6.69	9.11	7.90	9.09	7.90	9.05	0.00	0.00
0.047	0.046	0.050	0.048	6.82	9.28	8.04	9.26	8.04	9.22	0.00	0.00
0.046	0.045	0.049	0.047	6.95	9.45	8.20	9.44	8.20	9.40	0.00	0.00
0.045	0.045	0.048	0.046	7.08	9.63	8.35	9.62	8.35	9.57	0.00	0.00
0.045	0.044	0.048	0.046	7.21	9.81	8.51	9.80	8.51	9.75	0.00	0.00
0.044	0.044	0.047	0.045	7.35	9.99	8.67	9.98	8.67	9.94	0.00	0.00
0.043	0.043	0.046	0.044	7.48	10.18	8.83	10.17	8.83	10.12	0.00	0.00
0.044	0.044	0.047	0.045	7.62	10.37	9.00	10.36	9.00	10.31	0.00	0.00
0.045	0.044	0.048	0.046	7.77	10.57	9.16	10.56	9.16	10.51	0.00	0.00
0.046	0.045	0.049	0.047	7.91	10.77	9.34	10.75	9.34	10.71	0.00	0.00
0.047	0.046	0.050	0.048	8.06	10.97	9.51	10.96	9.51	10.91	0.00	0.00
0.048	0.047	0.051	0.049	8.21	11.18	9.69	11.16	9.69	11.11	0.00	0.00
0.048	0.048	0.052	0.049	8.37	11.39	9.87	11.37	9.87	11.32	0.00	0.00
0.049	0.049	0.053	0.050	8.53	11.60	10.06	11.59	10.06	11.53	0.00	0.00
0.050	0.050	0.054	0.051	8.69	11.82	10.25	11.80	10.25	11.75	0.00	0.00
0.051	0.051	0.055	0.052	8.85	12.04	10.44	12.02	10.44	11.97	0.00	0.00
0.052	0.052	0.056	0.053	9.02	12.27	10.64	12.25	10.64	12.20	0.00	0.00
0.053	0.053	0.057	0.054	9.19	12.50	10.84	12.48	10.84	12.43	0.00	0.00
0.054	0.054	0.058	0.055	9.36	12.73	11.04	12.72	11.04	12.66	0.00	0.00
0.055	0.055	0.059	0.056	9.53	12.97	11.25	12.96	11.25	12.90	0.00	0.00
0.056	0.056	0.060	0.057	9.71	13.22	11.46	13.20	11.46	13.14	0.00	0.00
0.057	0.057	0.061	0.059	9.90	13.46	11.68	13.45	11.68	13.39	0.00	0.00
0.058	0.058	0.062	0.060	10.08	13.72	11.90	13.70	11.90	13.64	0.00	0.00
0.059	0.059	0.063	0.061	10.27	13.97	12.12	13.96	12.12	13.89	0.00	0.00
0.061	0.060	0.065	0.062	10.46	14.24	12.35	14.22	12.35	14.16	0.00	0.00
0.062	0.061	0.066	0.063	10.66	14.50	12.58	14.49	12.58	14.42	0.00	0.00
0.063	0.062	0.067	0.064	10.86	14.78	12.82	14.76	12.82	14.69	0.00	0.00
0.064	0.063	0.068	0.065	11.07	15.06	13.06	15.04	13.06	14.97	0.00	0.00
0.065	0.065	0.070	0.067	11.27	15.34	13.30	15.32	13.30	15.25	0.00	0.00
0.067	0.066	0.071	0.068	11.49	15.63	13.55	15.61	13.55	15.54	0.00	0.00
0.068	0.067	0.072	0.069	11.70	15.92	13.81	15.90	13.81	15.83	0.00	0.00
0.069	0.068	0.074	0.070	11.92	16.22	14.07	16.20	14.07	16.13	0.00	0.00
0.070	0.070	0.075	0.072	12.15	16.52	14.33	16.50	14.33	16.43	0.00	0.00
0.072	0.071	0.076	0.073	12.37	16.84	14.60	16.81	14.60	16.74	0.00	0.00
0.073	0.072	0.078	0.075	12.61	17.15	14.87	17.13	14.87	17.05	0.00	0.00
0.074	0.074	0.079	0.076	12.84	17.47	15.15	17.45	15.15	17.37	0.00	0.00
0.076	0.075	0.081	0.077	13.09	17.80	15.44	17.78	15.44	17.70	0.00	0.00
0.077	0.076	0.082	0.079	13.33	18.14	15.73	18.12	15.73	18.03	0.00	0.00
0.079	0.078	0.084	0.080	13.58	18.48	16.02	18.46	16.02	18.37	0.00	0.00
0.080	0.079	0.085	0.082	13.84	18.83	16.33	18.80	16.33	18.72	0.00	0.00
0.082	0.081	0.087	0.083	14.10	19.18	16.63	19.16	16.63	19.07	0.00	0.00
0.083	0.082	0.089	0.085	14.36	19.54	16.95	19.52	16.95	19.43	0.00	0.00
0.085	0.084	0.090	0.087	14.63	19.91	17.26	19.88	17.26	19.79	0.00	0.00
0.086	0.085	0.092	0.088	14.91	20.28	17.59	20.26	17.59	20.17	0.00	0.00
0.088	0.087	0.094	0.090	15.19	20.66	17.92	20.64	17.92	20.55	0.00	0.00



Global Assumptions													
	Real Discount Rate	Nominal Discount Rate	Inflation Rate	NEB Electric Adder	NEB Fuel Adder	Line Loss Energy				LL Demand			Reserve Margin Requir.
						LL Win On Pk	LL Win Off Pk	LL Sum On Pk	LL Sum Off Pk	LL Winter Peak	LL Summer Peak	LL T&D Factor	
EVT	3.00%	4.94%	1.88%	15.00%	15.00%	11.8%	9.8%	11.9%	9.5%	3.1%	3.0%	8.9%	0.00%
BED	3.00%	4.94%	1.88%	15.00%	15.00%	3.8%	3.0%	4.3%	3.4%	-2.8%	-2.5%	3.1%	0.00%
VGS	3.00%	4.94%	1.88%	15.00%	15.00%	11.8%	9.8%	11.9%	9.5%	3.1%	3.0%	8.9%	0.00%
USED													
EVT	3.00%	4.94%	1.88%	15.00%	15.00%	14.8%	12.3%	15.0%	11.9%	3.1%	3.0%	8.9%	0.00%

# VERMONT DEPARTMENT OF PUBLIC SERVICE

## Energy Efficiency Potential Study

*prepared by*



**GDS Associates, Inc.**

ENGINEERS & CONSULTANTS

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