



RAP

Energy solutions
for a changing world

Working Group on Building Energy Disclosure

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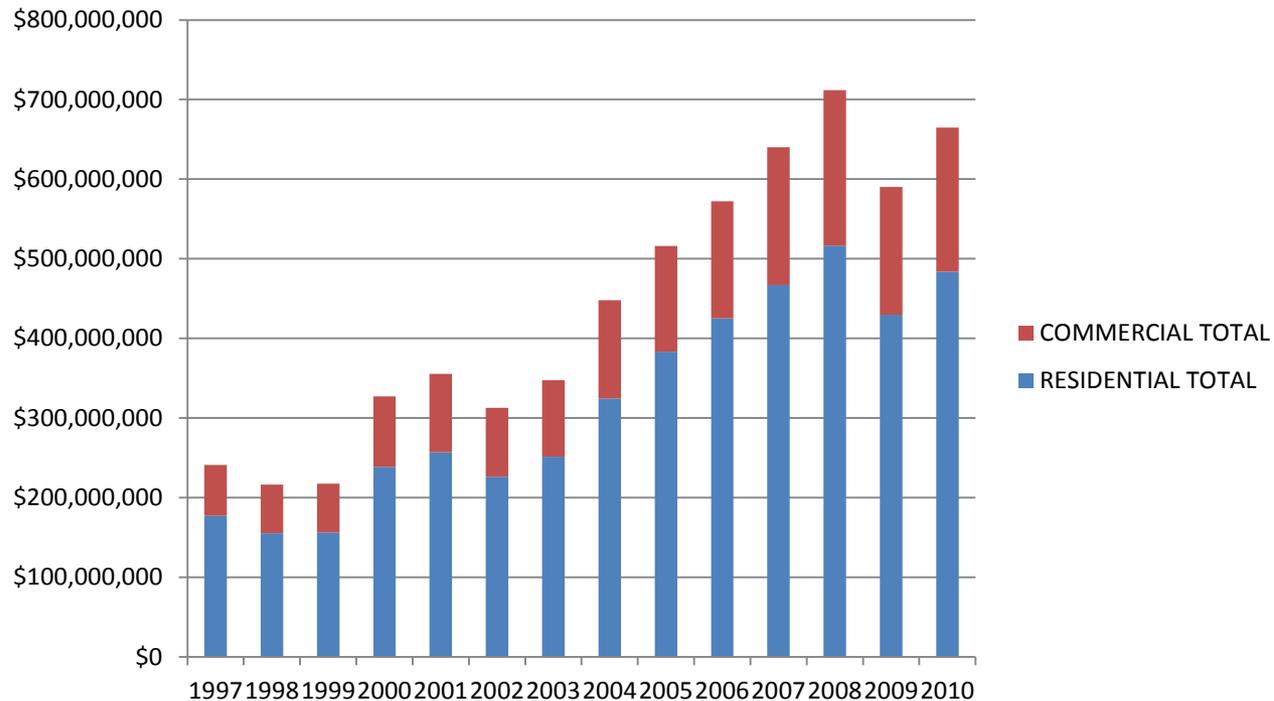
The Regulatory Assistance Project

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Scale of the Challenge

Vermont Fuel Bills for Residential and Commercial Buildings, 1997-2010 *



* Does not include natural gas; uses projections for 3rd quarter of 2010 for gross receipts tax numbers

Sources: EIA, VT Tax Department

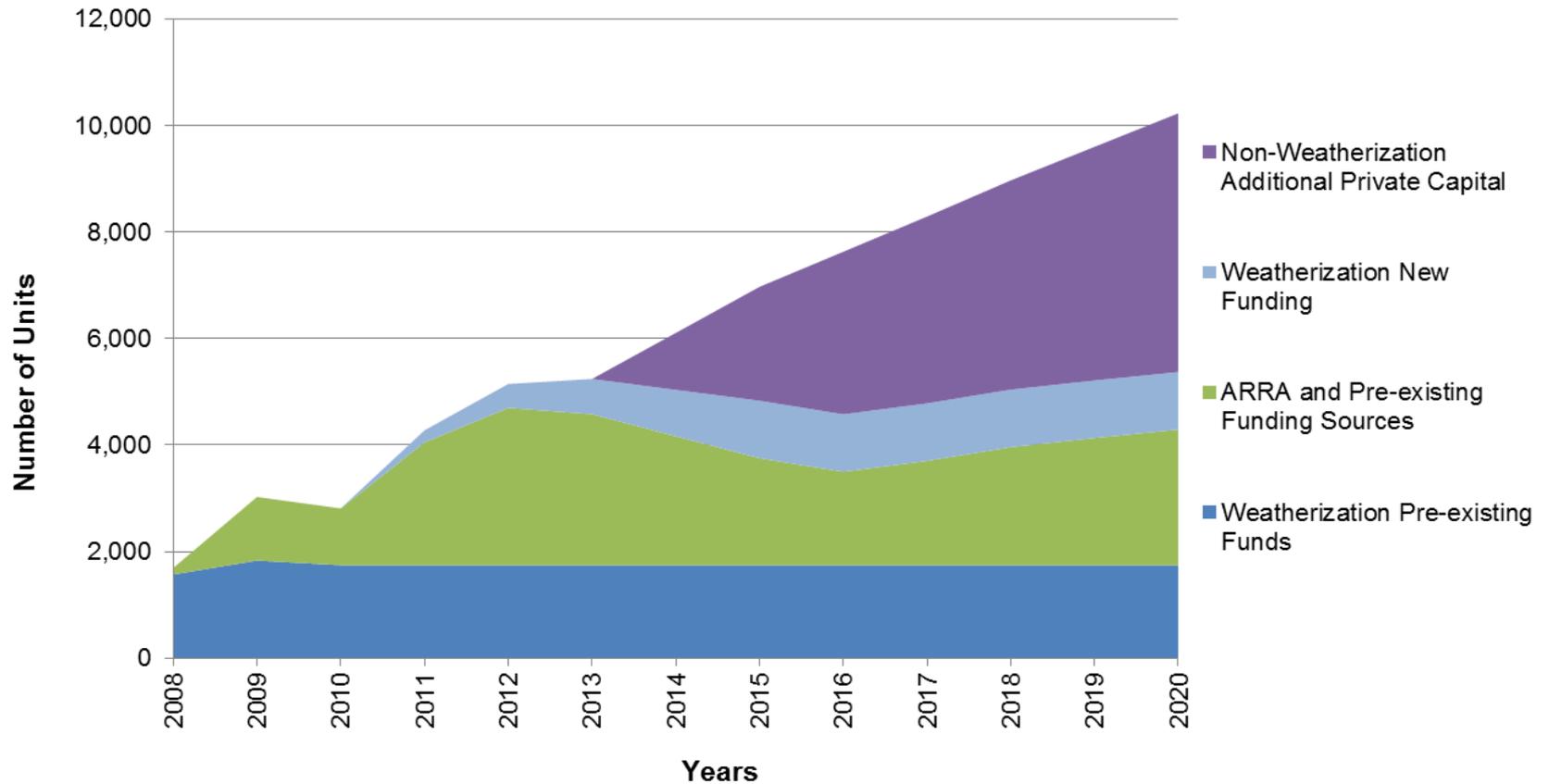
Act 92 Goals

(Vermont Energy Efficiency and Affordability Act)

- To substantially improve the energy fitness of at least 20% of the state's housing stock by 2017, and 25% of the state's housing stock by 2020;
- To reduce annual fuel needs and fuel bills by an average of 25% in the housing units served;
- To reduce fossil fuel consumption across all buildings by an additional one-half percent each year, leading to a total reduction of 6% annually by 2017 and 10% annually by 2025;
- To save families and businesses a total of \$1.5 billion on fuel bills over the lifetimes of the improvements installed between 2008 and 2017;
- To increase weatherization services to low-income Vermonters by expanding the number of units weatherized, or the scope of services provided, or both, as revenue becomes available in the weatherization assistance trust fund.

Source: 10 VSA § 581

Required Levels of Activity to meet Act 92 Goals



Core Recommendations from the “Affordable Heat” Report

- Develop effective outreach initiatives for driving demand for home energy retrofits by leveraging entities with direct relationships to the customers, including **town energy committees** and **fuel dealers**;
- Initiate a **time-of-sale efficiency review and disclosure** for residential and commercial buildings, coupled with technical and financial assistance for efficiency upgrades;
- Steadily increase the number of units served by the low-income **Weatherization Assistance Program** by approximately 7.5% every year to improve efficiency, fuel costs, and life safety in existing low-income housing;

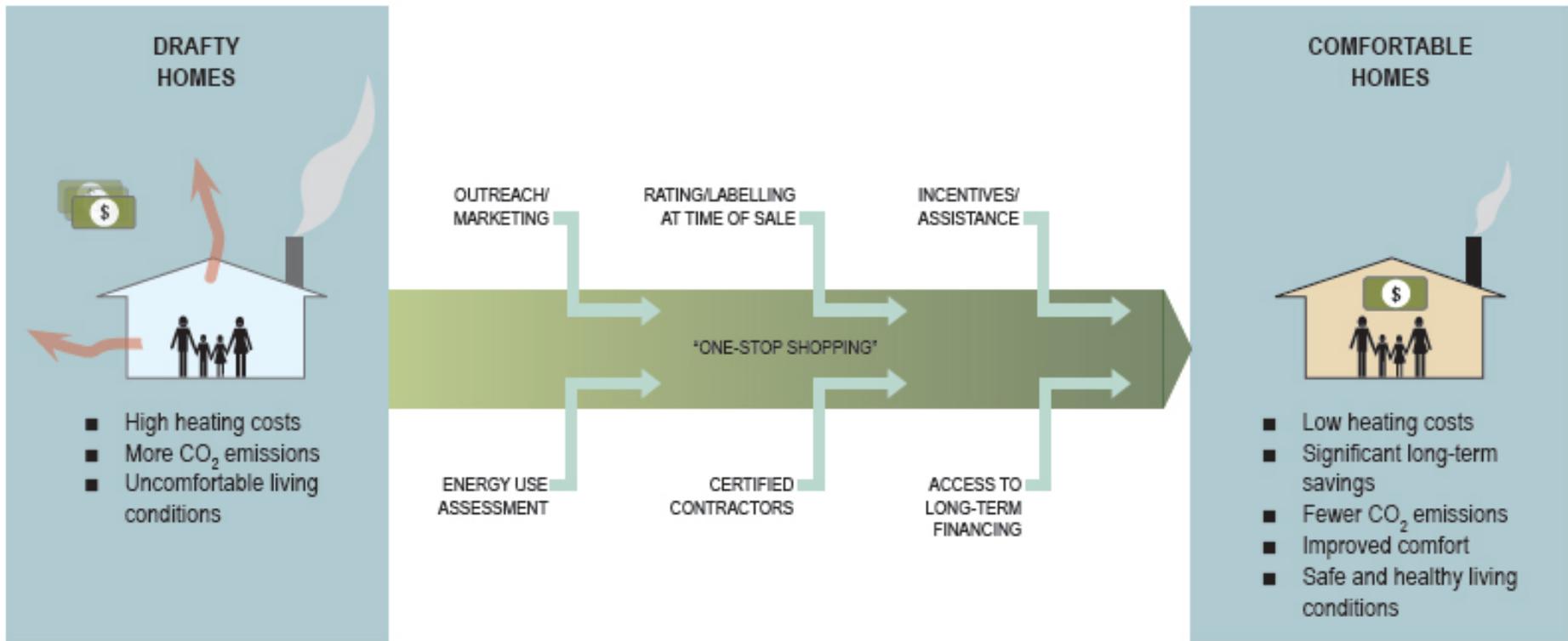
Core Recommendations from the “Affordable Heat” Report

- Continue to focus on multi-family housing units through the **Vermont Fuel Efficiency Partnership** program;
- Continue efforts on the **market-based service** of outreach, financial and technical assistance for other existing housing and commercial buildings on a “**whole-buildings**” basis, through the State’s efficiency contractor, Efficiency Vermont, and through Vermont Gas Systems and Burlington Electric Department ;

Core Recommendations from the “Affordable Heat” Report

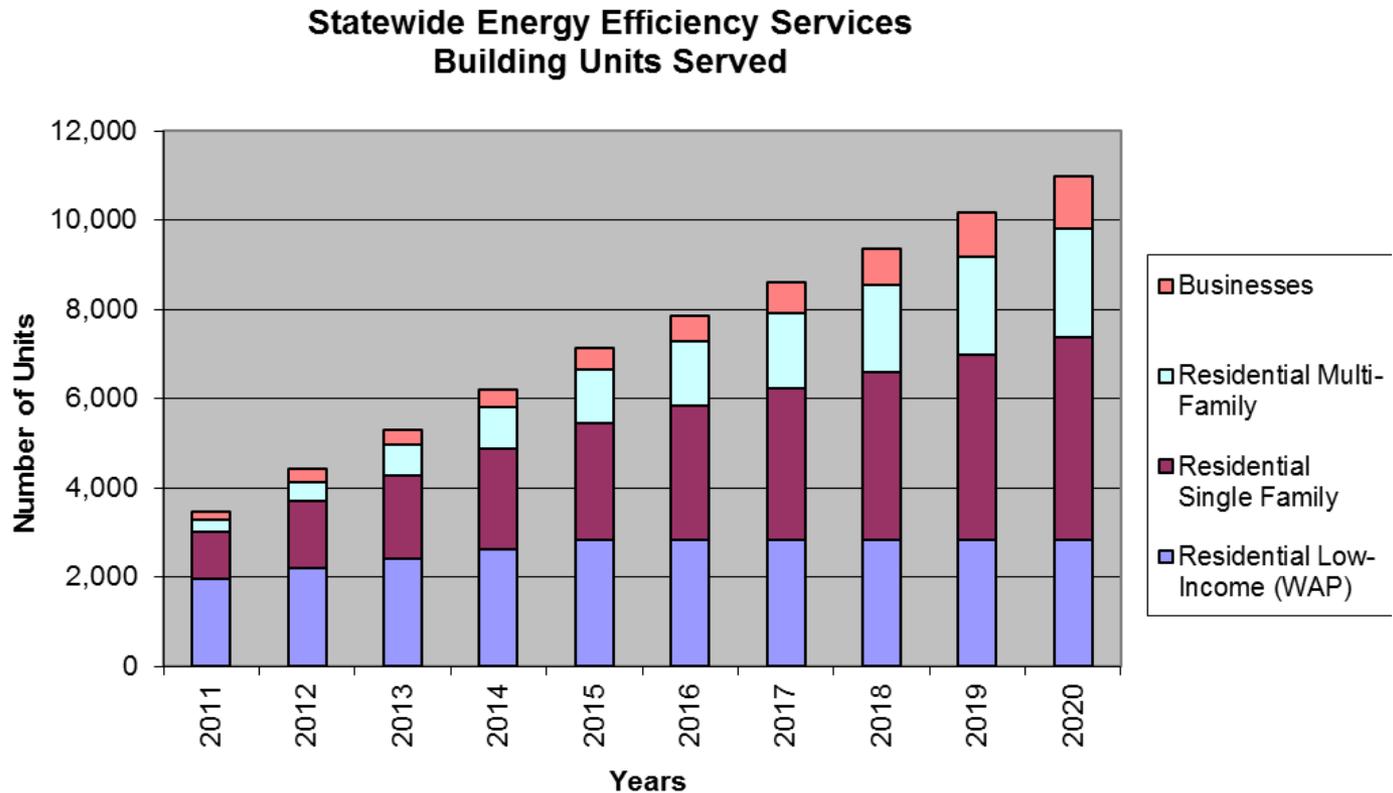
- Establish an easy-to-access loan program for high-quality upgrades by home and building owners, with capital provided by a **consortium of banks and private lenders**, possibly supported by the state agencies with lending expertise in the buildings sector; and
- Establish responsibility for a statewide entity such as the **Department of Public Service** to coordinate whole-building efficiency services programs among diverse providers and to meet state goals.

Proposed “Seamless Path”



Required Increases in Retrofit Activity

Proposed increases in level of activity required to meet Act 92 goals

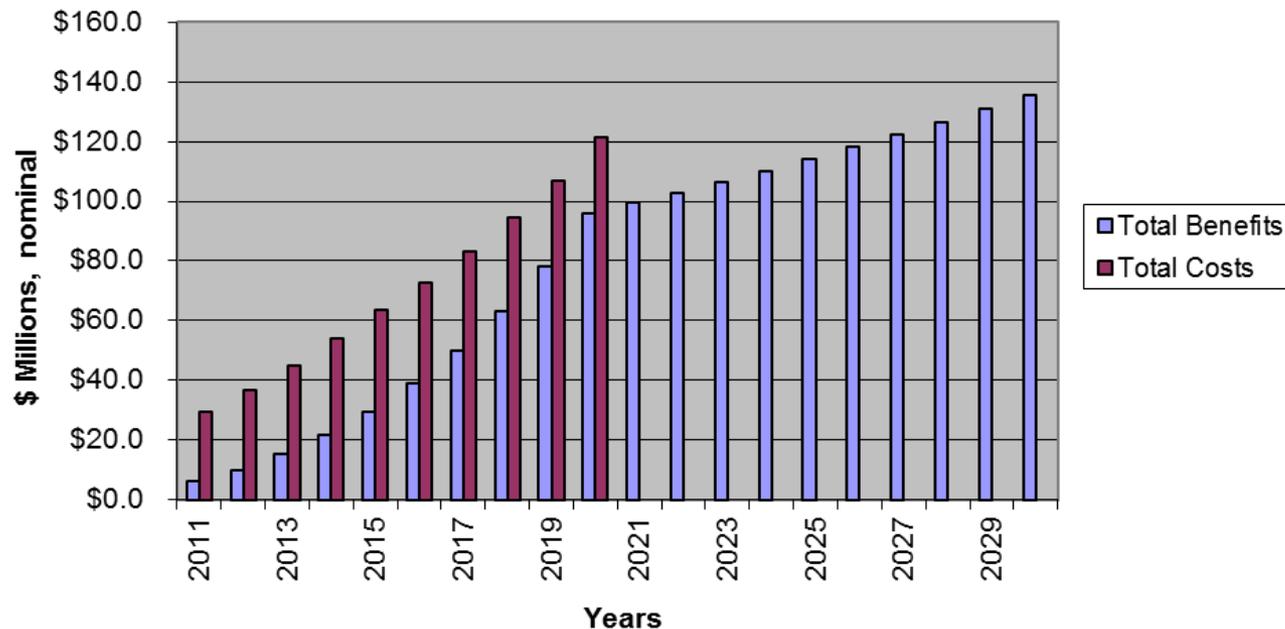


Existing residential programs need to grow to over 6000 units by 2020; low-income weatherization needs to increase to serving over 2,800 units in 2020

Projected Benefit-Cost Ratio

Projected benefit-cost ratios from proposed levels of activity

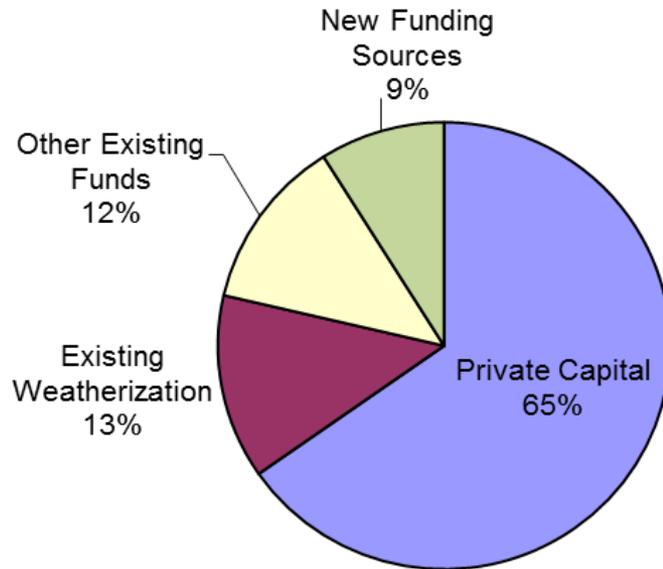
**State Energy Efficiency Services:
Total Benefits and Total Costs, 2011-2028**



The recommended services will return **\$2.26** for every public and private dollar invested in the first decade alone (\$1.55 as calculated on a net present value basis)

Funding Sources Required

Comprehensive Efficiency Services* Investment Shares Ten-Year Totals, 2011-2020



(Figures in millions)

Private Capital: \$461.7
Existing Weatherization: \$94.4
Other Existing Funds: \$87.9
New Funding Sources: \$63.3

*Note: Excludes Natural Gas Programs

Major Conclusions

- ARRA funds have built up significant capacity, which needs to be sustained and built upon;
- Updating of building codes, requirement for a compliance plan, and the introduction of new Energy Star rating will significantly contribute towards making new construction more efficient;
- Low-income weatherization will require a sustained funding stream;
- Other enabling mechanisms such as outreach initiatives, time-of-sale review and disclosure, etc. will be critical in leveraging market-based retrofits.

Current US Rating and Policy Disclosure Summary

Jurisdiction	Benchmarking (Building Type and Size)		Disclosure					
	Non-residential	Multi-family	On public web site	To local government	To tenants	To transactional counterparties		
						Sale	Lease	Financing
Austin	10k SF+	-	-	✓	-	✓	-	-
California*	1k SF+	-	-	✓	-	✓	✓	✓
District of Columbia	50k SF+	50k SF+	✓	✓	-	-	-	-
New York City	50k SF+	50k SF+	✓	✓	-	-	-	-
San Francisco	10k SF+	-	✓	✓	✓	-	-	-
Seattle	10k SF+	5+ units	-	✓	✓	✓	✓	✓
Washington	10k SF+	-	-	-	-	✓	✓	✓

*Requirements subject to change by the California Energy Commission

Source: Institute for Market Transformation, 2011

Job Impacts of Energy Efficiency Investments in Modeled in New England

Table ES2. Summary of New England Economic Impacts

	Electric	Natural Gas	Unregulated Fuels
Total Efficiency Program Costs (\$Billions)	16.8	4.1	6.3
Increase in GSP (\$Billions)	99.4	30.6	53.1
Maximum annual GSP Increase (\$Billions)	5.6	1.8	2.9
Percent of GSP Increase Resulting from Efficiency Spending	12%	11%	9%
Percent of GSP Increase Resulting from Energy Savings	88%	89%	91%
Dollars of GSP Increase per \$1 of Program Spending	5.9	7.4	8.5
Increase in Employment (Job Years)	767,011	207,924	417,061
Maximum annual Employment Increase (Jobs)	43,193	12,907	24,036
Percent of Employment Increase from Efficiency Spending	16%	15%	12%
Percent of Employment Increase from Energy Savings	84%	85%	88%
Job-Years per \$Million of Program Spending	46	50	66

¹ 2008 is the dollar year basis for all figures unless otherwise indicated.

Source: Environment Northeast, Energy Efficiency: Engine of Economic Growth, 2009

About RAP

The Regulatory Assistance Project (RAP) is a global, non-profit team of experts that focuses on the long-term economic and environmental sustainability of the power and natural gas sectors. RAP has deep expertise in regulatory and market policies that:

- Promote economic efficiency
- Protect the environment
- Ensure system reliability
- Allocate system benefits fairly among all consumers

Learn more about RAP at www.raonline.org

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