
CEP 2011 Public Involvement Report II

Comments from
Stakeholders and the
Public

December 15, 2011

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Executive Summary

Complementing the 2011 Vermont Comprehensive Energy Plan, this document summarizes the written public comments received between the release of the CEP Public Review Draft (CEP) on September 13, 2011 and the close of the public comment period on November 4, 2011. It is not an exhaustive record of public comments, but it captures general trends and suggestions received to form a snapshot of public opinion across a variety of energy issues. It reflects the views of the comments received without filtering or fact-checking. All public comments received have been compiled; this summary is meant to help those interested in learning what those comments reflected without culling through the thousands of individual comments. In addition, the Department transcribes the five public hearings held after the release of the draft CEP; those transcripts are available at the Comprehensive Energy Plan website at <http://www.vtenergyplan.vermont.gov/publications#PublicHearings>.

Over 1,380 written comments were received via email, the Comprehensive Energy Plan website, and hard copy between July 15 and November 4.¹ Approximately 350 stakeholder groups, including municipal, business, and non-profit entities, submitted comments. Over 830 form-letter comments were signed and submitted by members of at least three different organizations. Over 200 comments were submitted by individual members of the general public.

Each category in this report contains a brief summary of public comments received. They are categorized according to areas of focus in the CEP outline. Included in the summary are also high level references to the respective sections of both Volume 1 and 2 of the CEP which correspond with the topic areas addressed by commenters. The CEP focuses on three broad areas of energy policy: electricity, thermal energy, and transportation and land use. Briefly, public input in these three areas was as follows:

¹ During the first public comment period, from March 2011 to July 15, 2011, prior to the release of the Public Review Draft, over 7,800 comments were submitted. Over 7000 of these first period comments were form-letters signed and submitted by members of at least two different organizations (many of these were personalized by the signers). Nearly 200 other comments were submitted by various municipal, business, and non-profit entities, including members of the general public, during this first comment period. The Public Involvement Report for the first public comment period is on the CEP website at <http://www.vtenergyplan.vermont.gov/>.
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Electricity

Commenters widely supported the CEP's recommendation for cost-effective energy efficiency to be the first energy resource to meet Vermont's future electricity requirement. While local, distributed renewable energy resource development was popular among commenters to address future capacity needs, and issues related to climate change, energy independence and the economy, some commenters argued that the goal of achieving 90% renewable energy in all three sectors – electricity, thermal energy, and transportation and land use - would increase ratepayer costs, compromise overall system reliability and negatively impact the environment. These commenters instead favored a more centralized approach using nuclear energy and Vermont Yankee, as a source of baseload power to meet future capacity demands.

There was strong debate about biomass electric generation. Many supported using Vermont forests to meet Vermont's power needs. Commenters argued that wood fired power plants would stimulate our economy with local, carbon neutral power. However many others challenged this concept of carbon neutrality. They argued that woody-biomass electric generation is inefficient, unsustainable, and harmful to human health, especially considering Vermont's limited forest reserve.

Natural gas was also commented upon as a supply source for Vermont, both for power and heat. Many disagreed with the CEP's recommendation to expand natural gas infrastructure for Combined Heat and Power (CHP) plants. They disagreed with the assertion that natural gas can be used as a reliable bridge fuel to aid in the transition to a renewable energy future with respect to the intermittency of renewables. Some also noted that natural gas is a fossil fuel and an emitter of GHGs which is contradictory to the CEP's goal of achieving 90% renewable energy by 2050. Other concerns highlighted included: the relationship between increased usage, limited availability, and price volatility; and the lack of regulations to ensure environmental protections. Other commenters did support the CEP's recommendation to utilize natural gas for electricity and heat. They argued that natural gas is efficient, affordable, emits less carbon than other fossil fuels, can be used flexibly to balance the intermittency of renewables, and is sourced in North America from apparently large reserves.

Thermal Energy

In recognition that Vermont's thermal sector is the second largest source of GHG emissions in the state, due to a reliance on fossil fuels, many commenters agreed that we need to increase us of local, renewable sources of thermal energy that are clean and efficient.

Commenters supported the CEP's recommendation to establish a stable funding source for thermal efficiency services, but not all commenters wanted to see study, as called for in the CEP, prior to funding decisions. Commenters also encouraged that the CEP better clarify how the state would structure state incentives to promote the most efficient projects such as solar hot water heating systems. Commenters called for the CEP to prioritize and incentivize more efficient thermal biomass applications as well, and some commenters expressed concern regarding the CEP's suggestion to reexamine efficiency standards on new wood-powered CHP plants. Nonetheless, commenters applauded the CEP's emphasis on sustainable forest management as an essential underpinning to development of the wood biomass sector, regardless of end use. They also urged for geothermal heat pump systems to be more thoroughly incorporated into the CEP as one of the most highly efficient resources, both for heating and cooling, and for the CEP to recommend geothermal heat pumps qualify to receive state incentives.

For natural gas executive summary, see the above Electric Supply and Demand sub-section of this Executive Summary.

Transportation & Land Use

Most commenters recognized transportation as a high cost for Vermonters and the leading cause of GHG emissions in Vermont and expressed the need to shift away from fossil fuels. Commenters pointed to Vermont's rural landscape and high vehicle miles traveled (VMT) and highlighted the need to make transportation and land use more efficient. As a whole, they supported the continuation and expansion of the transportation and efficiency incentive programs, and for the CEP to chart the path towards greatly enhanced adoption of non-fossil fuel vehicles over time.

Commenters stressed the importance of moving away from single occupancy vehicles (SOVs) and toward the expanded use of other options, including public transit, ride and car sharing, walking and biking, and telecommuting. Perhaps one of the most popular topics of comment revolved around the transition to a renewably electrified transportation sector. Many supported the CEP's focus in this regard, but many also expressed concern that renewables would be cost prohibitive, despite current favorable pricing versus gasoline, and unable to provide the needed capacity to meet the increased load demanded by electric vehicles.

Generally, land use comments advocated for encouraging compact development in village and town centers in order to prevent sprawl, decrease VMT, better support public transit, and increase efficiencies in distribution and other related energy services. While commenters

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supported the CEP for recognizing the relationship between land use, transportation and energy consumption, some also thought that the land-use section of the CEP could be expanded and more robust. And for some commenters the impact of Tropical Storm Irene was fresh in mind; they noted the potential conflict between compact development goals and the location of many of Vermont's village centers and downtowns, which are located near streams and rivers and are prone to flooding.

Plan Development and Public Process

Commenters stressed the importance of public input now and into the future. They commended the Department of Public Service (DPS) for creating multiple forums for public comment and discourse to discuss the CEP, and believed that more research and public dialog will be needed moving forward to determine how to best achieve the CEP goal without compromising public health, the environment, affordability, and reliability. In the wake of Tropical Storm Irene some commenters requested for the public comment period to be extended to adequately review and respond to the CEP in the midst of balancing competing priorities with immediate relief efforts. (In response, the DPS extended the comment period from October 10, 2011 to November 4, 2011 to accommodate these requests.) [See *Vol. II § 1.4*]

Some commenters felt the discussion in the CEP about municipalities and Regional Planning Commissions as partners in energy planning should be expanded. Further, commenters believed that linking state energy planning efforts with municipal and regional energy planning efforts was important, particularly with regard to implementation of the CEP. Lastly, commenters recommended that the CEP be accompanied by a list of policies that RPCs and municipalities could use to guide local energy plan development, and to better facilitate overall coordination between state and local plans. [See *Vol. II §§ 5.8.4.3.7, 5.10.6, 9.3.1, 9.5.2, 9.6.3.2.2, and 9.7.2-9.7.4*]

The CEP Goal: 90% Renewable Energy by 2050

Many commenters applauded the CEP's comprehensive scope and envisioned Vermont to be a national leader in energy planning. Commenters acknowledged that Vermont's transportation and thermal energy sectors are the leading causes of greenhouse gas (GHG) emissions in the state. Commenters urged that planning for these sectors and setting renewable energy targets for all of Vermont's energy sectors, including electricity, is a crucial first step in planning for our energy, environment, and economic related challenges now and into the future. However, there was mixed support regarding the overarching goal of the CEP to achieve 90% renewable in all of these sectors by 2050. A large group of commenters felt the goal's timeline was too long. Others felt that it was unattainable. Many commenters recommended developing better, short term steps and incremental goals to benchmark and assess the CEP's progress over time. [See *Vol. I, Commissioner's Preamble*, p.1]

While local, distributed renewable energy was a popular choice among commenters to meet Vermont's future capacity needs and challenges related to climate change, energy independence, and the economy, some other commenters felt the CEP goal would increase energy costs, compromise system reliability, and negatively impact the environment. [See *Vol. II § 3.3*] Despite these differences, however, there was relative consensus among commenters on the underlying values that should apply in energy policy, such as affordability, reliability, safety, and economic and environmental sustainability. Sustainability, in particular, was the subject of many comments. Commenters urged the CEP to consider the life-cycle costs of any particular energy source under consideration, and to factor the net-energy yield of any particular energy source as a sustainability indicator to inform future decision making. [See *Vol. II § 1.3.4*] Some commenters supported the Alternative Economic Progress Indicator (as discussed in the CEP) to better account for the economic and environmental, costs and benefits of our future energy choices. Also, regardless of the various positions with respect to the CEP goal, some commenters requested more economic analysis, such as estimated rate payer electricity costs and energy supply portfolios, as progress is made in the next twenty years. [See *Vol. III Appendix 4*]

Other feedback included the suggestion for the CEP goal to aim at reducing GHGs instead of setting renewable energy percentage targets, on the premise that production percentages do not necessarily correlate to GHG reductions, which they felt should be of paramount importance in the plan.

Education

Commenters supported the CEP's focus on education as a key driver to achieve the goals of the plan. But commenters also felt that energy education deserved greater emphasis in the CEP. Commenters called for the CEP to suggest implementing energy curriculum in schools, and to create a commission on energy education that would propose such strategies and measures. Other commenters suggested that education, training and applied research are critical components to energy planning, and that educating and training workers to sell, deploy and service energy efficiency and renewable energy installations/ facilities are key components to include in the CEP if the goals are to be realized and if early public adoption of the CEP's policies are to take hold. [See *Vol. I, The Leverage Points That Will Help Us Achieve Our Vision, p.4*; and *Vol II. § 1.6*]

Finance and Funding

A host of commenters suggested providing incentives for the most efficient technologies and applications with the greatest potential to displace fossil fuel use and reduce carbon emissions. Commenters advocated for a long-term, sustainable funding solution for small-scale renewable energy development, and continued and consistent funding for the Clean Energy Development Fund (CEDF) as key priorities to the CEP's success. Further, some commenters expressed concern that erratic funding can create market uncertainty and hamper investment in renewable energy. Increasing incentives for community-scale renewable energy systems and micro-grid development were also areas of focus in the comments. Others suggested that only the most cost-effective energy efficiency and renewable energy technologies should be incentivized, and that performance based incentives were preferable. Some commenters asked for enhanced incentives for Vermont-made energy. [See *Vol. II §§ 5.10.5 and 7.1.3*]

Still others recommended for financing and incentives to be based on avoided emissions, rather than targeting a particular energy source or technology. Further, some commenters recommended implementing a fossil fuel-based tax in order to generate the needed revenue to fund alternative energy solutions and to decrease GHG emissions. Some commenters also wanted the CEP to call for increased revenue for the Fuel Efficiency Fund by pursuing a more stringent carbon cap in the Regional Greenhouse Gas Initiative (RGGI) cap-and-trade program. Commenters asserted that without a carbon tax, cap and reward system, or other program that factors the environmental costs of fossil fuel consumption, dramatically decreasing our fossil fuel dependence to the extent envisioned in the CEP will not be easily achievable. [See *Vol. II §§ 9.5.1 and 9.6.4*]

Another comment thread included developing alternative funding mechanisms, such as a state pension fund investment or state supported green bank, to raise the needed capital to fund alternative energy investments. Finally, a number of commenters noted the need to unlock additional private capital sources and options, through PACE expansion, renewable energy lease arrangements, energy cooperatives, community investment programs, and other means. [See *Vol. II § 7.2.1.2*]

Electric Energy Efficiency

Commenters widely supported the CEP's recommendation for cost-effective energy efficiency to be the first energy resource to meet Vermont's future requirements. Many commenters called for the CEP to encourage greater funding for energy efficiency programs. Commenters suggested providing tax credits to finance energy audits for residential and commercial buildings, and student loan assistance/forgiveness for those in related training. Commenters also suggested that the CEP set even higher standards for new residential building efficiency. There were also comments in favor of time of sale energy disclosures in order to help expand efficiency in existing buildings. [See *Vol. II § 4*]

Commenters agreed with the CEP's recommendation that the Energy Efficiency Charge (EEC) on electric bills should not be used to cross-subsidize energy efficiency programs in other sectors. But others argued that the EEC should be reduced or eliminated altogether, particularly for commercial and industrial users, because it is costly and commenters believe it unevenly benefits certain customer classes over others. In contrast, another group of commenters called for significantly expanding the state's efforts in demand side management. Some agreed that electric efficiency and energy efficiency, in general, drive dollars into the local economy through employment, management, and procurement, and therefore should be high priorities in the CEP. [See *Vol. II § 4.5*]

An area of concern to many commenters was conservation; they felt that it should have been discussed more robustly in the CEP. For some, educating the public about energy conserving behaviors is a key factor to help Vermont move toward the CEP goal. Some commenters advocated on behalf of energy conservation through the expansion of systems devoted to production, distribution and preparation of local food as a key strategy. [See *Vol. II § 4.7.2.1*]

On the supply side, commenters called upon the CEP to examine the issue of line losses and other inefficiencies in the transmission system, and to continue to push to influence the decision-making process for regionally-financed transmission investments by ensuring that non-transmission alternatives (NTAs) such as demand response, energy efficiency and conservation, and local distributed energy are fully considered on equal footing with transmission solutions. Some commenters supported the CEP's proposal to increase the state's level of engagement with the regional transmission planning process. They felt that transmission costs represent a growing portion of Vermont's electric costs and thus it is important to play an active role in the proceedings that will impact those costs. In contrast, other commenters argued that from a purely economic perspective, developing and maintaining a reliable transmission and

distribution system was more important than promoting technology such as energy efficiency and smart meters. [See *Vol. II §§ 4.2-4.4*]

Smart Grid Rollout

Comments on the smart grid ranged from support to conditioned approval, to concern regarding smart meter technology. Some argued that smart grid technology should only be deployed to the extent that it provides a valuable and cost effective tool for managing demand and communicating between utilities and ratepayers. Some agreed with the CEP recommendation that opting out should be an available option for smart meter deployment. Others supported the CEP's assertion that Advanced Meter Infrastructure (AMI) has the potential to create new opportunities for ratepayers to understand their energy use better, and to be able to respond accordingly with efficiency or conservation measures. Also, some commenters believed that Vermont should begin planning now to take advantage of electric vehicle technology advancements, including the demonstration of the use of smart grid technology to control the timing of vehicle charging. [See *Vol. II § 4.7*]

Vermont's Electric Supply

Electric Supply Resources

Biomass

Both supporters and opponents of biomass, particularly wood-biomass electric generation, submitted comments. Opponents argued that particulate emissions from biomass combustion can be dangerous to the public's health, and argued that electric generation with biomass is inefficient; unsustainable with respect to Vermont's limited wood supply; and should be marginalized in favor of more efficient uses such as home heating and thermal-led CHP. Proponents argued that biomass, including grasses and crop-based biomass, offers a local and sustainable baseload supply for Vermont's energy needs, and that woody-biomass electric generation in particular could create jobs and provide a much needed economic stimulus to certain regions of the state.

Some criticized the suggestion to revisit efficiency standards on new biomass CHP plants in order to meet the legislative goal of 60 MW CHP. Sustainability issues and adverse environmental, wildlife and human health impacts were cited as reasons to keep the present efficiency standard. Commenters also expressed concern that wood prices for home heating would rise, and that Vermont could lose wood for home heating purposes as demands increase for biomass electric, CHP facilities, and other wood-based businesses. Rather, some commenters felt that Vermont should first and foremost reduce its energy consumption, and then prioritize the most efficient applications of home heating uses of wood. [See *Vol. II §§ 5.2 and 5.8*]

Another group of comments applauded the CEP's emphasis on sustainable forest management as an essential underpinning to development of the woody biomass sector, regardless of end use, in order to ensure that wildlife habitat, water, recreation and other benefits are not damaged. Related comments also called for new incentives to encourage sustainable forest practices, or incentives for leaving forests untouched. It was also argued that biomass facility permitting should require a strong statewide procurement standard using the Vermont Family Forest standard. Others suggested geographically defined forest plans to aid in the sustainable management of Vermont's limited forest reserves.

Hydro

Some commenters supported the CEP's recommendation for exploring a streamlined approach to permitting small scale hydro projects and improving where possible existing sites. They also advocated on behalf of using the criteria established by the Low Impact Hydropower Institute as a standard to guide the permitting process. Some commenters also advocated for the need to develop pumped energy storage capacity in Vermont, especially in transmission constrained areas, to balance the intermittency of solar and wind. Others expressed concern with the CEP's support for pumped storage hydro because of environmental impacts associated with pumped storage, recommending greater research to determine if pumped storage is appropriate for Vermont's resources. [See *Vol. II § 5.8.2*]

Other commenters disagreed with the legislature's decision to classify large-hydro facilities as renewable or asserted that large-hydro power should not be allowed to qualify for Renewable Energy Credits (REC). [See *Vol. II § 5.8.2.1.4*]

Solar: Photovoltaic Electric

As mentioned in the *Wind* section of this document, a letter was sent by over one hundred individuals expressing opposition to large wind development. Rather, they supported solar as a better alternative for Vermont's landscape, where environmental and other impacts are minimized, in their view, as compared with wind. However, while supporting solar, another group of commenters cautioned against converting/losing prime agricultural land to solar arrays. Further, they recommended siting systems where soil is poor or land is degraded and on existing structures, such as roof tops, to retain the working features of Vermont's agricultural landscape. Commenters also voiced support for solar with positive references to decreasing costs, increased efficiencies, and system longevity. [See *Vol. II § 5.8.3*]

Some also supported the CEP's recommendation to exempt residential PV systems that are under 10 kilowatts from the net metering cap. Others advocated for increasing the cap on net metered systems rather than exempting any particular source. Some commenters also thought the CEP should go further in stressing the opportunities for both residential, commercial and community PV, in order to develop widely distributed solar electric generation. To this end, commenters recommended increasing the incentive base for residential, commercial and community-led solar projects, and for making permitting easier. [See *Vol. II §§ 5.8.3.1-5.8.3.3*]

Wind Energy

The CEP received many comments regarding wind development. Many of these comments, including a letter sent by over one hundred individuals, expressed opposition to wind turbines on Vermont ridgelines. Concern focused on aesthetic, environmental, wildlife, and water quality impacts. Another concern focused on how project proposals are reviewed and permitted by the Public Service Board. Commenters suggested more detailed cost-benefit analysis of future proposals with finer analysis of ecological impacts. Some commenters also felt that the CEP list of impacts should be expanded to take better note of concerns such as noise, human health risks, impacts on wildlife and water resources, neighboring property values, tourism, and the cultural landscape. [See *Vol. II § 5.8.4*]

Another group of comments asked that the CEP recommend revisiting the development of wind on state land, while many others did not want to see any such development on state land. Numerous commenters stressed the need to consider the aesthetic impacts of large scale wind on public lands, including their impact on recreation and hiking, before permitting any future projects. Commenters also recommended completing the Agency of Natural Resources inventory and mapping project of natural resources, and to include cumulative impacts on habitat fragmentation by wind projects in the permitting process. Commenters also suggested creating habitat mitigation standards/regulations, and water monitoring requirements for high elevation sites. [See *Vol. II §§ 5.8.4.1 and 5.8.4.3*]

The CEP also received many comments from Vermonters supporting wind development in Vermont. Some suggested that Vermonters come to terms with the impacts on view sheds given the need for renewables with respect to climate change. Positive attention was also brought to the increased technological efficiencies of large wind turbines, from both an economic and capacity stand point. A second sub-group of commenters tempered their support for wind by advocating only for smaller scale wind developments. A concern expressed for *not* developing Vermont's wind capacity was exposure to regional markets, where fossil fuels still dominate. Other commenters suggested that Vermont incorporate additional capacity into the SPEED program for distributed wind, to designate more incentives for small-scale wind powered systems, and to support leasing property for wind development on farms that also produce food crops.

Natural Gas

Comments regarding natural gas broadly addressed the same issues and characteristics regardless of end use. Many commenters questioned increasing Vermont's use of natural gas.

Some asserted that calling for expansions in natural gas infrastructure used for electricity and heat contradicted the CEP goal of attaining 90% renewable energy in all sectors by 2050, because natural gas is a carbon emitting fossil fuel, albeit less than other fossil fuels. Further, some prioritized energy efficiency and the development of renewable energy in Vermont, urging that if natural gas is going to be used for electricity, it should be used in ways that require the use of excess heat, such as small CHP facilities designed for district heating and cooling. [See *Vol. II §§ 5.8.5 and 8.4*]

Another major concern addressed by commenters was hydraulic fracturing extraction. Although not in development here in Vermont, commenters expressed concern regarding the extraction method employed elsewhere, particularly citing the need for full disclosure of chemicals used in hydraulic-fracturing, protection of ground water, and consumer protections to ensure land owners receive full information about the potential environmental impacts of hydraulic fracturing. [See *Vol. II § 8.4.2*] Therefore, these commenters recommended for Vermont to establish its own stringent regulations, or to place a moratorium on natural gas extraction here until such guarantees are implemented.

Comments also cautioned against using natural gas a “bridge fuel”, instead they encouraged the CEP to consider the life-cycle emissions and net energy yield of natural gas, which they asserted reflects heavy inputs of fossil fuel and high outputs of carbon. These commenters also urged the CEP to consider the implications of inherently limited supplies, increased demand expectations, and dramatic cost increases, despite present price forecasts.

In contrast, other commenters supported the CEP’s recommendation to upgrade and expand natural gas infrastructure to bring the choice to more areas of the state, and agreed that that natural gas-fired peaking generation may have the potential to provide a firm and flexible complement to Vermont’s increasing supply of intermittent renewable sources of power.

Nuclear

The CEP received many comments regarding nuclear energy and Vermont Yankee. While some commented in support of closure of the facility, others supported the continued operation of Vermont Yankee. Further, these commenters voiced the concern that the CEP downplays one of the main reasons why Vermont enjoys its present energy position regionally, which these commenters attributed to large amounts of nuclear power from Vermont Yankee. In the event that Vermont Yankee continues to operate, commenters suggested that utilities re-initiate power purchase agreement discussions with the plant, and consider including Vermont Yankee as an electric provider. Still other commenters neither supported nuclear power in Vermont

nor the continued operation of Vermont Yankee based upon the concern that it generates radioactive waste for which no effective long-term storage solution exists. [See *Vol. II § 5.8.6*]

Energy Storage

Commenters expressed a need for Vermont to develop its energy storage capacity with respect to supporting intermittent, renewable sources of power. Commenters suggested that there is a significant need to develop energy storage in Vermont and urged greater attention to this area in coming years. [See *Vol. II § 5.9*]

Tools to Create Desired Electric Portfolio

Net Metering and PACE

Commenters supported the adoption of expanded and innovative financing tools, such as PACE, both for thermal and electric energy-efficiency measures, as well as for small-scale renewable energy systems. Further, commenters suggested for the CEP to adopt a recommendation for group net metering and commercial buildings to be eligible for PACE.

Commenters supported the CEP's recommendation to remove the net-metering percentage cap for distributed generation systems that are below 10 kilowatts. Others suggested increasing the cap, rather than excluding any particular source. A group of commenters also advocated for the State to adopt a policy that would allow excess power created by net metered systems to be compensated at market rates. [See *Vol. II §§ 5.7, 5.10.1, 5.10.5 and 7.2.1.2*]

Interconnection Standards

Many commenters called for more streamlined interconnection of any size renewable energy development and in general for easier interconnection for small-scale renewable energy systems. Some commenters also expressed support for statewide sharing of interconnection costs incurred by new in-state renewable generation. In contrast, other commenters advocated for developers, in general, to bear the costs of transmission that would bring renewable energy systems closer to load. Another group of commenters stressed the importance of maintaining system quality, safety, and reliability with respect to interconnection and any associated standard. [See *Vol. II §§ 5.10.1-5.10.2*]

RPS, Total Energy Standard, SPEED and Standard Offer

RPS & Total Energy Standard

For the most part, commenters supported the adoption of an RPS and especially a Total Energy Standard that would set renewable percentage requirements not just for electricity but for electric, thermal and transportation sectors collectively. One form letter signed by hundreds of Vermonters called for the goal of achieving 80% renewable electricity by 2025. Other commenters stressed the importance of establishing goals to reduce GHG emissions, instead of simply renewable percentage targets that do not guarantee reductions in GHG emission. If Vermont were to adopt an RPS, some commenters supported the CEP's recommendation to require that Renewable Energy Credits (RECs) be retired with the use of power. There were, however, commenters who disagreed with the concept of an RPS altogether, citing the unfavorable cost of compliance. [See *Vol. II §§ 5.10.3-5.10.4, and 5.10.7*]

SPEED and Standard Offer

A group of commenters argued that RECs from SPEED resources sold in RPS markets should be retired, rather than sold, which otherwise disincentivizes carbon emission reductions. The same form letter signed by hundreds of Vermonters (as mentioned in the paragraph above) advocated for expanding the Standard Offer Program to 300 MW in order to provide renewable manufacturers and installers a better degree of long-term certainty. However, other commenters cautioned against additional program subsidies for renewable generation such as the Standard Offer program, disagreeing with the CEP's recommendation that the program be expanded. [See *Vol. II §§ 5.10.3-5.10.4, and 5.10.7*]

Regulatory System Improvements

A number of comments wanted the voice of communities, municipalities, and regional planning commissions to be better heard in statewide energy generation and siting decisions. Commenters advocated for greater involvement of municipalities and RPCs in Section 248 proceedings. Commenters suggested collaborative, community-based stakeholder decision making that would require stakeholders to agree upon mutually trusted experts. While some applauded the inclusion of mediation in siting projects, others expressed concern that petitioner-funded mediation could cause unknown permitting timelines and project expenses that would potentially halt needed growth of in-state renewables. [See *Vol. II §§ 5.8.4.3.7 and 5.10.6*]

Some commenters argued that the “public good” should include factors such as: local products, workers, businesses and investments, livable wages, and the value of shared public assets (air, water, and land). Other commenters encouraged greater collaboration across regulatory agencies to maximize development of in-state renewable energy projects without compromising or delaying critical investments in energy infrastructure. Another recommendation was to improve costly and time-consuming permitting requirements for solar PV and hot water panel installations as applied to residences and businesses. Lastly, commenters suggested removing residential alternative energy systems from the assessed value of a home/property which otherwise acts as a financial disincentive for installment. [See *Vol. II §§ 5.8.3.1 -5.8.3.2, and 5.10.6*]

Thermal Energy Efficiency

Many commenters supported the CEP's recommendation to investigate stable funding sources for thermal efficiency services, and to be clear about how the state should structure state incentives to promote efficiency. Commenters also advocated for funding sources to be tied to the fuel source they are seeking to reduce without cross subsidizing efficiency measures in one sector for another. Comments also strongly supported the CEP's roadmap for a whole-building approach to all-fuels efficiency, and emphasized the need to substantially increase funding for thermal efficiency programs if Vermont is to meet its energy savings goals, and decrease its GHG emissions as a result of heating. Commenters provided additional feedback that the CEP should go further and recommend substantially increasing energy efficiency in affordable housing units for low income multi-family residences. [See *Vol. II § 7*]

Commenters also provided feedback that the CEP could have laid out a more comprehensive strategy on how to increase funding for thermal efficiency measures in order to match the level of progress recommended in the CEP. One strategy for financing that commenters offered was on bill financing with the requirement that utilities help finance thermal efficiency measures. Others argued that utilities should not be required to implement on-bill financing for thermal efficiency measures, but rather community lending and other financing mechanisms were preferred. Other ideas that were presented included: increasing the Fuel Gross Receipts Tax; increasing cap and trade in RGGI; adopting a carbon tax; and removing the exemption on fuel sales tax. [See *Vol. II §§ 7.1.3 and 7.2.1.2*]

As for energy code enforcement for residential and commercial buildings: commenters wished the CEP addressed this topic area, despite the ongoing study project mentioned. [See *Vol. II § 7.2.2.1*]

As for standards for thermal biomass applications, commenters called for the CEP to encourage increasing such standards as to ensure, for example, that wood pellets are required to meet high quality standards so that pellets will burn cleanly and efficiently.

Thermal Energy Supply

Solar Thermal

In general, comments reflected a desire for the CEP to place the highest priority on developing local energy sources for heating and to encourage the most efficient renewable technologies, such as solar hot water heating systems. Commenters also advocated on behalf of qualifying solar hot water heating systems for Renewable Energy Credits (RECs). [See *Vol. II § 8.1*]

Heat Pumps

Commenters suggested that geothermal heat pump systems be better incorporated into the CEP as a highly efficient, least cost resource for heating and cooling. Some suggested that heat pumps are the most efficient and lowest carbon solution for heating in Vermont, which could help to create jobs in the related areas of weatherization and renewable installations. Commenters asserted that because geothermal heat pumps are highly efficient, the cost of operation is very low, whether for heating or cooling.

Recommendations included: listing geothermal heat pumps as a “renewable energy” in order to qualify for certain incentives; creating installation standards and best practices to ensure the most efficient systems are installed and incorporating information about heat pump training into Vermont’s BPI building EE program. Commenters also suggested encouraging utilities to utilize on-bill financing for system upgrades or to correct heat pump inefficiencies with current systems; incorporating heat pump systems into PACE; and providing rebates for efficient heat pump systems for buildings that have completed thermal efficiency measures. [See *Vol. II § 8.2*]

Biomass for Thermal Energy

An area of relative consistency among the comments was for the CEP to prioritize more efficient thermal biomass applications. Biomass grass and corn were also recommended by some commenters as local, renewable biomass fuel source to be used for heating. Other commenters suggested the CEP support efforts to bring biodiesel to Vermont farms and markets, and to encourage the use of biodiesel to replace oil as a home heating supply. Another comment highlighted recent innovations, such as winter cover-cropping of oil seed plants, that could significantly increase the yield of plant oil-based feed stocks for biodiesel without reducing food production. [See *Vol. II § 8.3*]

Natural Gas

For summary of natural gas comments addressing electricity and heating applications, see the discussion above in *Vermont's Electric Supply: Electric Supply Resources*. [See Vol. II § 8.4]

Transportation and Land Use

Transportation

Public Transit, Ride & Car Sharing, Biking & Walking, and Telecommuting

Overall, the majority of comments recognized that transportation is Vermont's leading cause of GHG emissions, due to our rural landscape and high vehicle miles traveled (VMT). These comments thus stressed the importance of having the CEP place even greater emphasis on moving away from single occupancy vehicles (SOV). Some felt that the SOV commuter trip goal of 20% by 2030 could be more ambitious, such as increasing the goal to 40% or 50%, and including the reduction of VMT as a third goal. In general, there were multiple comments that called for increasing bus services between cities and towns with special focus on under serviced territories. Another suggestion included incentivizing car sharing and ride sharing opportunities, by setting aside more designated parking spaces for state employees, universities, and participants of Go Vermont and other ride/car sharing programs. A number of comments advocated for the recognition that a healthy future is one that enables safe modes of walking and biking, and recommended investing in walking and biking infrastructure using the standard of complete streets equipped with bike lanes and sidewalks. Increased telecommuting was a fourth option that comments focused on for ways to decrease Vermont's VMT. Some commenters also wished to see the CEP call for an anti-idling law with enforcement and fines. [See *Vol. II §§ 9.3.2 and 9.6.3*]

Commenters also supported the continuation and expansion of the transportation efficiency incentive programs, and for the CEP to chart the path towards greatly enhanced funding for these programs, over time. [See *Vol. II §§ 9.5.1 and 9.6.3*]

Other commenters believed that transportation fuel policies, including fuel content laws, should neither be inconsistent with national policies nor increase the costs of doing business for Vermont employees. [See *Vol. II §§ 9.2.1.1, 9.4 and 9.6.2*]

Rail: Passenger and Freight

Of the comments that were received regarding passenger and freight rail, one comment suggested investing in a campaign to market rail as a convenient option for visitors to the state; another emphasized that freight rail helps lighten the maintenance burden on Vermont's roads,

reduces carbon emissions, and provides an affordable way to get goods to Vermont, especially as fuel costs increase. [See *Vol. II §§ 9.2.1.1, 9.3.2.6 and 9.2.6.7*]

Biodiesel & Diesel Vehicles

Various comments were received regarding biodiesel and diesel vehicles. One common thread that surfaced was the shared concern over converting, and ultimately losing, food-based agricultural land to energy crops. With that said, there were commenters who advocated for creating incentives to switch from gas to biodiesel vehicles. [See *Vol. II §§ 5.3, 8.3.3.2 and 9.4.3.2*]

Ethanol/Gasoline Powered Vehicles, and Natural Gas Powered Vehicles

One comment argued that the CEP failed to address an alternative to peak oil: a scenario where oil supplies do not diminish, oil costs do not rise, and domestic reserves increase. Another comment advocated for petroleum as a vehicle fuel, citing advances in technology and efficiency, and criticized the CEP for not addressing these attributes. One comment urged the CEP to recommend incentives and assistance for natural gas vehicles, and referenced positive attributes, such as reduced GHG emissions, petroleum displacement, and cost savings, as compared with oil. [See *Vol. II §§ 1.1.3, 9.4.3 and 9.4.3.4*]

Plug-In Electric Vehicles

While many commenters supported the CEP's focus on plug-in vehicle (PEV) technology, developing its related infrastructure, and using renewable sources of generation to power electric vehicles, others questioned whether the intermittency of renewable could reliably provide the capacity needed to support such a transition. Others supported continued energy efficiency investments that targets both energy consumption and peak demand to help facilitate the transition to electric vehicles with renewable power. [See *Vol. II §§ 3.3.2.4 and 9.4.3.5.5*]

Other recommendations to aid in the electric vehicle transition included the need to craft thoughtfully considered siting and design guidelines for charging infrastructure which would also need to account for land use planning, consumer demographics, and recreational and tourism travel. Commenters supported the development of PEV infrastructure, such as charging stations in Vermont's downtowns and villages, and residential and commercial locations. [See *Vol. II §§ 5.3, 9.4.3.5.4 and 9.7.3*]

Some suggested consideration of a small surcharge on gasoline or a surcharge on electric bills to fund PEV infrastructure, though others objected to public funding. With respect to shifting to electric vehicles, commenters also suggested that planners consider how road maintenance costs would be funded as a result of a corresponding decline in motor vehicle fuels tax revenue. [See *Vol. II §§ 9.5.1 and 9.6.4*]

Land Use

Generally, land use comments advocated for encouraging compact development in village and town centers in order to prevent sprawl, decrease VMT, better support public transit, and increase efficiencies in distribution and other related energy services. Commenters advocated for including in the CEP the concept of energy efficiency mortgages as a tool to support a land use policy that focuses on increased density. Others suggested encouraging affordable housing projects, and revising and enforcing land use regulations through Act 250 permitting processes that encourage compact developments in order to save energy through more efficient land use practices. However, some comments objected to restricting one land use over another. [See *Vol. II §§ 7.2.1.2, 9.5.2 and 9.7.1*]

Commenters supported the CEP for recognizing the relationship between land use, transportation and energy consumption. Some also thought that the land-use section of the CEP should be more robust. Certain commenters felt that the CEP needed to more comprehensively address the roles and responsibilities of state agencies, regions and municipalities in directing and regulating land use and development, particularly as these relate to increased energy demand, distributed energy facility development, the impacts on local resources, roads, community character, facilities and services, neighboring properties and use, and tradeoffs associated with renewable energy resource development. [See *Vol. II §§ 5.3, 9.5.2, 9.6.3.2.2, 9.7.2 and 9.7.3*]

In the wake of Tropical Storm Irene and recent flooding events, some noted the potential conflict between compact development goals and the location of many of Vermont's village centers and downtowns near rivers and streams prone to flooding. For some commenters, this conflict surfaced the need to plan development out of these areas while addressing storm water requirements. A related comment suggested using LiDAR for flood plain mapping. Some also thought that energy use and climate change impacts should be evaluated as part of VTran's planning protocol. [See *Vol. II §§ 9.7.2 and 9.7.3*]