

# Final Report

## On the New Hampshire Independent Energy Study

Pursuant to Senate Bill 323 (2010 Session)



Adopted on  
November 16, 2012

By the  
Energy Efficiency and  
Sustainable Energy  
(EESSE) Board

RSA 125-0:5-a

[www.puc.nh.gov/EESSE.htm](http://www.puc.nh.gov/EESSE.htm)

Submitted on  
November 30, 2012

STATE OF NEW HAMPSHIRE



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Prepared for:

- Governor John Lynch
Senate President Peter Bragdon
Speaker of the House William O’Brien
Senator Robert Odell, Chair, Energy and Natural Resources Committee
Representative James Garrity, Chair, House Science, Technology and Energy Committee
The Public Utilities Commission

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Submitted on November 30, 2012

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### Introduction

In 2010, the New Hampshire Legislature passed Senate Bill 323 (SB323), which required the Public Utilities Commission (PUC), in consultation with the Energy Efficiency and Sustainable Energy (EESE) Board, to contract for a comprehensive, independent energy policy study, related to energy efficiency and sustainable energy, for the State of New Hampshire. The *Independent Study of Energy Policy Issues* (“Independent Energy Study”) was completed by Vermont Energy Investment Corporation (VEIC) and submitted to the Legislature in November 2011, as required under SB323.

Additionally, the bill charged the EESE Board with the task of providing its recommendations to the legislature after completing a review of the Independent Energy Study. The EESE Board has completed an extensive review process of the Independent Energy Study. This review has benefited from the deep knowledge and

expertise of EESE Board members and other stakeholders, and has taken into account the continuing changes in the energy landscape over the past year. This report provides the EESE Board’s recommendations and concludes the energy policy review process begun by SB323 in 2010.

The challenge of implementing the resulting recommendations is now before us. As this report notes, some of the key challenges and opportunities fall to the legislature for deliberation and action, but many also need to be addressed, and in many cases are being addressed, in ongoing regulatory, program administration and stakeholder processes.

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***In 2008, NH spent over \$6 billion on energy. This outflow of dollars is nearly 7 percent of annual Gross State Product.***

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### New Hampshire Can Enhance the Economic Impacts of Its Energy Use

In addressing energy policy for the state of New Hampshire, it is important to recognize the critical role energy plays in the state’s economy. In 2008, New Hampshire citizens, businesses, and industries spent over \$6 billion on energy; two-thirds of these expenditures left the state entirely to pay for imported fuels. This outflow of dollars is a significant drain on the state economy equal to nearly 7 percent of annual Gross State Product. As stated in the Independent Energy Study:

*“Energy is the lifeblood of the economy, and all citizens in New Hampshire depend on energy to carry out their work and conduct their lives. As a northern New England state with cold winters,*

*warm summers, and a rural and semi-rural landscape in most locations, the state’s residents and visitors need space heat in the winter, cooling in the summer, and electricity and transportation fuels year round. As such, 10 to 50 percent of the income of many NH households goes to paying energy bills, and energy is a significant expense for businesses, industries, and government as well.” (Executive Summary Page 1)*

It is also clear that residents and business owners could benefit significantly from increased investment in energy efficiency and sustainable energy measures. Energy efficiency investments are typically cheaper than the cost of supply over time, regardless of source, even as new energy resources are developed domestically and abroad<sup>1</sup>.

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Renewable energy sources, while sometimes less cost-effective than traditional fossil fuels, are more likely to be sourced in state and therefore retain greater economic benefit within the state's economy. Reduced energy demand, coupled with increased renewable capacity and generation, will increase the resiliency and diversity of NH's energy supply and buffer the negative impacts of a fluctuating energy market.

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***As a result of its fragmented policy landscape and the more favorable regulatory climate in nearby states, NH risks continuing to cede significant economic development, job creation, innovation and cost-saving opportunities to its neighbors.***

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Some of these investments, particularly those in energy efficiency, would be immediately cost-effective<sup>2</sup> but are not able to be undertaken by consumers due to limitations in information, know-how or up-front financial capital, all of which create barriers to effective markets for energy efficiency products and services. Other investments, including many renewable energy technologies, may not be immediately cost-effective relative to imported fuels, but can offer valuable diversity and environmental benefits and would protect against future price increases for imported fuels while supporting local businesses. Prudent increases in energy efficiency and local production of energy resources would contribute to sustainable economic development and job creation and would enhance New Hampshire's future prosperity. The long-term health of the New Hampshire

environment is also directly influenced by energy production and consumption. Energy is the primary source of air emissions in the state and a significant factor in land use, water use and waste production, as well as a key driver of global climate change. Energy efficiency and renewable energy technologies provide significant economic and environmental benefits.

New Hampshire has been supportive of energy efficiency and sustainable energy in a variety of ways, including laws, regulations and programs that seek to encourage and promote energy efficiency and sustainable energy initiatives. Many of those initiatives have been very successful and cost-effective. However, the state has pursued these



efforts in a manner that has tended to change course, and to deal with one single fuel, such as electricity, or one narrow issue, such as the siting of wind turbines, at a time. For example, when compared to other New England states, New Hampshire has ranked last in four of the six years that the American Council for an Energy-Efficient Economy has released a state energy efficiency scorecard. As a result of its fragmented policy landscape and the more favorable regulatory climate in nearby states, New Hampshire risks continuing to cede significant economic development, job creation, innovation, and cost-saving opportunities to its neighbors.

## It is Essential that a Comprehensive Energy Policy be Articulated

Global energy demand is expected to rise into the 21<sup>st</sup> century, as the global population increases and developing nations advance their standard of living. As energy demand grows, so too will the price of energy and the cost that the New Hampshire economy bears to import that energy. It is essential for the long term economic vitality and prosperity of the state that a comprehensive and



consistent overarching energy policy in support of cost-effective energy efficiency and sustainable energy development be articulated. This policy should be used as the framework to guide future decision-making by the state and other government entities and by the broader universe of producers, consumers, suppliers, distributors and service providers that participate in the state's energy markets.

Energy policy is a long-term, multi-faceted challenge involving a variety of markets and market participants, a wide cross-section of stakeholders, and a broad range of issues. Clarity and consistency in market rules and in the design and implementation of programs over time is essential in order to achieve maximum benefits to the state and its consumers. Stable and consistent state energy policy will benefit the private sector as businesses and corporations strive to develop business plans and investment decisions. A more stable

energy-policy landscape will provide the state the ability to attract the in-state and out-of-state capital investment that is needed to support residential, commercial, municipal and industrial energy-efficiency and renewable-energy projects. This report provides a number of specific suggestions regarding development of a forward-looking state energy policy and its implementation in the coming decades.

While many, if not most, of the EESE Board recommendations can be implemented at least partially within the current statutory and regulatory framework, the state should pursue the establishment of a coherent and consistent overarching energy policy in order to maximize benefits for the state economy as a whole as well as individual energy market investors and consumers. This will improve our state's competitive advantage and make up ground that we are losing to our regional counterparts.

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***Increased energy efficiency, when combined with an increase in renewable energy, will increase the resiliency and security of New Hampshire's energy supply.***

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### The EESE Board Extensively Reviewed the Independent Energy Study

The Independent Energy Study was conducted by VEIC over a period of nearly a year, with regular direct communication between the VEIC team and the EESE Board, including a designated Study Coordination Team consisting of members of the EESE Board or their designees and representatives of the PUC. The Independent Energy Study, submitted to the PUC and the Legislature, pursuant to Senate Bill 323, offers a comprehensive assessment of energy programs as well as policy options and opportunities for New Hampshire. The Independent Energy Study consists of fourteen separate chapters containing more than 300 total recommendations. Some of the recommendations are general overarching policy recommendations, but many are very detailed and specific, dealing with individual technologies, fuels or programs. The VEIC team presented its findings and recommendations on at least two occasions to the full EESE Board. The Study was presented in written form as a complete report. A fifteen page Executive Summary



was also provided. Two additional detailed presentations on the report were made by the VEIC team leaders, one to a joint meeting of the Senate Energy and Environment and the House Science and Technology committees, and a second one to the broader public at the annual energy conference of the Business and Industry Association. The Study Coordination Team, and the EESE Board as a whole, provided guidance to VEIC throughout the process.

In its initial review of the Independent Energy Study, the EESE Board determined that considerable effort would be required to sort through the full study in order to assess the relative importance of each recommendation, consider the required timeline and potential costs of implementation, and determine the feasibility and appropriateness of adopting the recommendation. The EESE Board established a Study Review Team subcommittee to coordinate this effort. The Review Team initiated its efforts in December of 2011, proceeding with a series of many publicly noticed meetings and chapter team work sessions over the following months. The Review Team kept the EESE Board apprised of its progress and began formally presenting draft material in April of 2012. The meetings of the EESE Board from April through October have focused largely on the review and discussion of this work effort. In sum, many hundreds of hours of effort by EESE Board members have been invested in this process.

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## Key Themes Emerged from Review of the Study: Need for Consistency and Coordination, Market Transformation, and Targeted Resources

Several key themes emerged from the EESE Board review and evaluation of the Independent Energy Study. These themes both respond to issues that negatively impact New Hampshire's energy landscape and set a broad course for New Hampshire in order to achieve a strong energy future. These key themes are highlighted because they underlie most of the detailed recommendations of VEIC's Study and the EESE Board's assessment here.



### ***1. Need for a Clear, Coordinated and Consistent Policy and Program Landscape***

Notwithstanding some strengths, the current New Hampshire energy program and policy environment is fragmented and subject to frequent modifications. This has led to an aura of uncertainty and reduced efficacy in program design and delivery. Legislative leadership in articulating a clear energy policy direction can, as noted, make a positive difference. Better coordination at the regulatory and program implementation levels can also help.

One example is the number and variety of loan and rebate program offerings for energy efficiency. Consumers would benefit from a more comprehensive and consistent approach providing coordinated promotion and enrollment and long-term sustainability. Another example occurs when limited resources are re-directed in response to short term priorities, such as the reallocation of energy efficiency funds to meet shortfalls in the Electric-Assistance-Program funding. Short-term changes in resource allocation

disrupt program planning and execution and undermine long-term goals.

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***State energy policy should support and expand collaborative efforts and create a more stable and sustained regulatory and programmatic landscape.***

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Significant improvements can be achieved through collaboration and cooperation. In some areas, such as the utility CORE energy efficiency programs and the NH Energy Code Collaborative, stakeholder initiatives already exist that are working to implement appropriate recommendations from the Independent Energy Study. State energy policy should support and expand these collaborative efforts and work to create a more stable and sustained regulatory and administrative framework for continued evolution.

Yet another example is that while there are a number of Commissions, agencies, divisions, and Boards within state government that each have a share of the responsibility for guiding energy efficiency

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and sustainable energy policy in New Hampshire, there is no single entity with lead responsibility, as well as the necessary resources and authority to make sure New Hampshire citizens gain the greatest possible benefit from energy efficiency and sustainable energy. A lead entity, with the responsibility, authority and the resources for assessing and developing specific goals to achieve state energy policy objectives and for monitoring and evaluating results over time would significantly enhance the consistency and sustainability of the state's energy policy objectives.

### ***2. Need for a Market Development and Market Transformation Focus***

Energy programs should encourage high-functioning markets that provide consumers and businesses with more options and better choices to achieve long-term energy priorities of efficiency, sustainability, and lower costs. Program design should foster responsiveness to changes in the marketplace to ensure that investments encourage adoption of new technologies and optimize strategic use of public dollars.

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***The goal is to foster markets that provide consumers and businesses with more options and better choices that achieve the long term energy priorities of efficiency, lower costs, and reduced uncertainty for all.***

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The long-term objective of New Hampshire's energy policy should be to achieve fully functioning and efficient markets for energy efficiency and sustainable energy resources wherever possible. Where

successful, the need for subsidies will decline or even disappear, in favor of a level playing field of rules, regulations and codes that support *continuous market improvement and innovation*.

In some markets and sectors this may of course be unrealistic, such as the low-income sector, due to the consistent lack of resources to invest in energy efficiency measures. However, the concept of market efficiency and effectiveness should be a consistent key factor in policy and program design<sup>3</sup>. The goal is not for government to create permanent subsidies, but to foster the development of functioning market structures that provide consumers and businesses with more options and better choices that achieve the long term energy priorities of efficiency, sustainability, lower costs, and reduced uncertainty for all.

### ***3. Need for Targeted Resources***

The state has achieved significant positive results in energy efficiency and renewable energy development with limited financial resources, supplemented recently by federal ARRA<sup>4</sup> funding, and through positive collaboration and a commitment to cost-effectiveness. The federal Low-Income Weatherization Program and the CORE utility programs are good examples of sustained and effective programs with strong results. However, these initiatives and others have been hampered by financial constraints that result in reduced achievement of savings and the inability to meet demand or to implement all cost-effective measures. As noted, the concern with financial constraints is particularly acute given the tailing off of federal ARRA funding that had been directed to energy efficiency. For example, cost-effective Low-Income Weatherization efforts



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were cutback significantly in 2012 as ARRA funding concluded, severely curtailing both programs and the trained workforce that had been meeting a previously unmet need. Clearly, careful and judicious increases in funding and staff support in specific program areas would provide significant added benefits to the state and its consumers.



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## Three Priority Recommendations Will Support New Hampshire's Long-Term Growth and Prosperity

The following three recommendations form an umbrella of key priorities under which all New Hampshire energy programs and policies could be developed and aligned. However, while the detailed recommendations, which are highlighted in the attached *Summary Matrix on New Hampshire's Independent Energy Study*, would be strengthened through the implementation of these key priorities, New Hampshire can still make some advances in the areas of energy efficiency and sustainable energy in the meantime in the absence of more sweeping efforts.

### ***1. Clearly Articulate a Comprehensive Energy Policy***

Clear articulation of a comprehensive energy policy in support of cost-effective energy efficiency and renewable resource development would be of significant long-term benefit to the state<sup>5</sup>. Such a policy statement would set the tone and direction for state and private initiatives in the coming decades and help alter the trajectory of state energy production and consumption from one largely dependent on imported fuels and external influences to one reflecting greater progress towards maximum efficiency and self-sufficiency, with the goal of reducing overall energy bills and increasing the resilience of the New Hampshire economy to future global energy price shocks.

One key feature of such a policy statement would be to define a flexible and analytically-grounded process, including stakeholder engagement, for the development and assessment of specific energy policy goals, and a corresponding process for measuring and reporting on the state's progress towards those goals. Moreover, the state should assign responsibility and resources for the oversight of this goal setting and evaluation process to an appropriate statewide entity<sup>6</sup>. While this overall recommendation can partially be achieved

through administrative and regulatory action under the current legislative framework, or through Executive Order, the ability of the state to make significant and coordinated progress will depend on legislative as well as executive-branch leadership.

### ***2. Develop and Establish an Energy Efficiency Resource Standard (EERS)***

The state should develop an Energy Efficiency Resource Standard (EERS)<sup>7</sup> as a means to promote cost-effective energy efficiency as the first priority energy resource of choice for New Hampshire. In addition to setting a clear target for energy efficiency programs, the standard can help determine what the necessary level of spending is, a factor that can be used to determine rates and investments for utilities. Development of such a standard does not require the establishment of an overarching energy policy and should, as was done during the creation of the Renewable Portfolio Standard, incorporate a broad stakeholder effort.

While there are a variety of approaches for implementing EERS, the key requirements are the identification of a) an entity and b) a process to set energy efficiency goals and targets. The goals and targets would be selected based on a quantitative assessment of the:

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- costs to achieve a level of savings;
- benefits including direct bill savings;
- benefits from in-state economic development;
- market barriers;
- program options for various consumer segments; and
- trade-offs among the various factors including current and future rates to customers.



When justified, increases in energy efficiency program resource commitments and funding would be authorized.

In addition, the EERS would include a mechanism for coordinating and evaluating the progress towards targets and the achievement of goals through time. The utility CORE programs under the oversight of the PUC, with some modifications, could serve as a foundation for implementation of EERS relatively quickly and efficiently.

The transition to an EERS could potentially be undertaken by the PUC under its current regulatory authority if it were structured as a percentage of load growth. However enabling legislation would be a significantly more powerful tool that would confirm legislative support and provide a continuing legislative framework for EERS implementation over time. Significantly, the

long-term objective of an EERS is the facilitation of the market transformations necessary to create the context for personal, business and government decisions that achieve cost-effective energy efficiency implementation.

### *3. Maintain and Strengthen the Renewable Portfolio Standard*

The Renewable Portfolio Standard (RPS) is a key and appropriate policy supporting renewable resource development, one that the state should seek to sustain and continue to improve through incremental changes in the underlying statutory and regulatory framework<sup>8</sup>.

The RPS is a long-term program requiring consistent and stable rules to be in place to the greatest degree possible over an extended period. The RPS is also a statewide program operating within a large regional marketplace for electric energy and what happens in others states does influence results in New Hampshire<sup>9</sup>. Therefore, an effective RPS will require continued assessment and careful refinement of the compliance standards and



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alternative compliance payment levels over time in response to changing market conditions. The responsibility for determining and administering these adjustments should be clearly delegated to a regulatory process that will make those decisions after due deliberations relying on quantitative analysis and effective stakeholder representation.

In addition, efforts to prioritize the development of in-state resources under the RPS program such as those thermal energy

measures included in Senate Bill 218<sup>10</sup>, which was passed in the 2012 legislative session and is now law, should be expanded to the extent feasible. Finally, state policy should affirm that the RPS is a long-term market structure with stable rules and requirements that will apply after 2025, in order to support the long-term financing necessary for renewable resource development.

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## Recommendations for Near-Term Action

While the recommendations mentioned above will have an impact on the New Hampshire energy policy landscape that is significant in their scope and scale, they will take time to develop and additional time for their sustained existence to translate into confidence by market actors. There are several discrete recommendations that are more modest, but which provide excellent near term opportunities for implementation. These include:

### ***1. Improve Evaluation, Monitoring and Verification Practices***

The Independent Energy Study contains six recommendations within Chapter 3 and one in Chapter 1 related to evaluation, monitoring and verification (EM&V) of energy efficiency programs and results. These recommendations should be further reviewed by utilities and stakeholders to identify those necessary to strengthen the EM&V process.

### ***2. Maintain Momentum of Low-Income Weatherization Program***

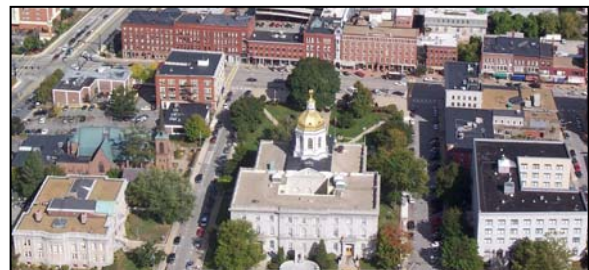
The Federal ARRA funding and Greenhouse Gas Emission Reduction Fund recently increased the capacity of the state to address a significant portion of the state's longstanding need for additional low-income weatherization resources. With the end of both funding streams, the momentum, in terms of programs developed and a workforce developed will quickly be lost. Going forward, opportunities to maintain programs should be pursued as new funding streams emerge and are considered (Chapter 6).

### ***3. Develop Shared Information-Technology Resources and Common Reporting Standards***

Complete the implementation of shared IT resources and common reporting standards to the extent possible consistent with funding agency requirements. The development of shared resources for assessing energy savings potential, program administration, and reporting will strengthen program management by increasing the ability to track and evaluate program performance through IT reporting systems (Chapter 6).

### ***4. Coordinate Existing Energy Project Loan Programs***

Improve the coordination of existing energy loan programs as the ARRA-funded programs begin winding down by continuing to pursue collaborative efforts among program administrators. The loan programs should evolve over time towards a consolidated, coordinated implementation approach, to facilitate market transformation and make things simpler for customers. Such a coordinated approach ought to be operated in conjunction with, and in support of, the utility CORE programs (Chapter 10).



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### ***5. Secure the Resources to Complete a State Development Plan***

Secure the resources necessary to complete a comprehensive state development plan mandated by RSA 9-A. The Plan is similar in format to a Master Plan, but with a view from the State level. The plan is intended to provide a basis for identifying critical issues facing the state, determining state priorities, allocating limited state resources, and taking into account the plans of various state, regional, and local governmental units (Chapter 11).

### ***6. Utilize the Extended Maximum Performance Contract Terms***

Given the passage of Senate Bill 252<sup>11</sup> (2012 Session) that extended the maximum length of performance-contract terms for state agencies, the state should move quickly to identify opportunities for energy efficiency projects, as well as on site renewable energy generation, whose costs can be included in a performance contract or master lease agreement, or realized through demand response funds (Chapter 13).

## Overview of Remaining Recommendations

In several areas, it has been determined that many excellent recommendations from the Independent Energy Study are already being considered and in some cases implemented in the context of existing regulatory, programmatic or stakeholder initiatives. Specifically, all of the recommendations from Chapter 4 relative to Residential Energy Efficiency are being considered in the ongoing stakeholder process associated with the CORE energy-efficiency programs. Similarly, the recommendations in Chapter 12 relative to Energy Codes are being addressed in the New Hampshire Energy Code Compliance Collaborative process. Many of the recommendations in Chapter 13 relative to Government Leading by Example fall under the purview of the Interagency Energy Efficiency Committee.

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***The objective of the EESE Board recommendations is for the state to take full advantage of its numerous opportunities to direct the state's energy demand, supply and consumption and, therefore, take greater control of our energy and economic future.***

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A number of specific recommendations have not been highlighted in this narrative but are nevertheless felt to be excellent recommendations that should be pursued. A

summary of all of the recommendations, including those not referenced in this narrative, is provided in the *Summary Matrix on New Hampshire's Independent Energy Study* at the end of this Report. The Matrix identifies the Chapters of the Independent Energy Study in which the policy issue was raised and lists the recommendations resulting from the EESE Board review. Additional columns indicate whether the priority is short, medium or long term, and identifies the potential lead entity or agency that could assume the responsibility of implementing the recommendation.

The details of these recommendations are discussed in the Chapter Syntheses, which were prepared by the EESE Board's Chapter Review Teams and are available for viewing and download on the EESE Board webpage on the PUC website. There are thirteen Syntheses in all with eleven developed for the content Chapters and two additional documents developed for the opening and closing Chapters of the Study. The Syntheses not only summarize the contents of the Independent Energy Study, but they also include background information and comments on specific recommendations as well as amendments and revisions to the recommendations where the EESE Board felt necessary.

## *The Role of the EESE Board*

In the context of this Report on the Independent Energy Study, it is an appropriate time to review the EESE Board's statutory charter. The Board was created in 2008 by RSA 125-O:5-a with a central charge "to promote and coordinate energy efficiency, demand response, and sustainable energy programs in the state," and with ten more specific but wide-ranging statutory responsibilities.

As noted in the Office of Legislative Budget Assistant's (LBA) Audit Report of the NH PUC<sup>12</sup>:

*"Statute enumerates numerous EESE Board responsibilities, however, the Board did not have sole authority in many areas and the Legislature did not appropriate funds for it. As a result, while the EESE Board has been a clearinghouse for information sharing and exploration of relevant energy issues, it has not fulfilled all of the duties outlined in its enabling statute."*

The LBA Audit concludes, "Legislature may wish to reconsider whether the EESE Board's purpose, objectives, and functions can be accomplished with the limited authority and resources available to it." The Auditee Response in the LBA Audit Report notes that both the EESE Board's founding Chair and current Acting Chair concurred with the above statement and proposed that the EESE Board would respond to that statement in this Report.

Furthermore, in the 2012 legislative session, the language of Chapter 281 of the NH Laws of 2012 (HB 1490) included a provision that repealed, effective January 1, 2013, the EESE Board charge of "Providing recommendations at least annually to the public utilities commission on the

administration and allocation of energy efficiency and renewable energy funds under the commission's jurisdiction."

Finally, the recommendations above and in the Recommendations Matrix include provisions intended to clarify the roles and responsibilities for the various entities involved in state energy policy development and implementation. The EESE Board is one of those entities, and as the LBA Audit noted, there is a need for clarification of responsibilities and an appropriate matching of resources to those responsibilities. In the context of the development of an overarching energy policy, the roles, responsibilities and resources of the EESE Board should be clearly articulated.

The EESE Board has played a valuable and important role in the development and furtherance of energy policy goals for the state of New Hampshire, but also believes that there is room for improvement. Specifically, there are several key features we believe are essential to the successful development and implementation of energy policy initiatives moving forward, including:

1. A capacity for analytically grounded planning and analysis leading to quantitatively sound assessment of options and alternatives needs to be provided for. The EESE Board could be charged to direct this process, or it could be delegated to some other appropriate statewide entity, but resources will be required in order to effectively conduct this process;
2. A stakeholder engagement process leading to broad public awareness and acceptance should be maintained. The



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EESE Board has been an effective sounding board and stakeholder forum particularly for broader energy policy issues, but a clarification of this responsibility and designation of appropriate resources would be valuable;

3. An independence from undue influence by any one of the variety of affected interests is critical to the open discussion of energy policy and programs, while at

the same time those interests must all be involved in the discussion. The EESE Board, as a non-decision-making advisory Board, effectively fulfills this role; and

4. Clarity in the delegation of authority and responsibility to ensure that decision-making is insulated from short-term influences including those of a political nature.

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Incorporating the above features could be accomplished in a variety of ways. All of these could be included in the delegation of lead agency responsibility discussed in our first overall recommendation above in this report. In this case, the lead agency delegation could be to an EESE Board with an expanded role and responsibilities. Or the features could be configured separately, into a planning function, an independent decision-making function and a stakeholder engagement / advisory function. Of these

three, the stakeholder engagement function is probably the closest to the role the EESE Board has most effectively been serving.

However these roles and responsibilities are structured under a new energy policy framework, by far the most important consideration is that they be funded and staffed appropriately. Such funding could be linked to the program funding streams being deployed to energy efficiency and renewable energy.

### Conclusion

The Independent Energy Study suggested numerous changes to the state's statutory, regulatory, and programmatic landscape to take advantage of opportunities to control and shape our energy and economic future. Those most worthy of further discussion and implementation, some which have been further developed, have been carried into the synthesis reports developed for 11 chapters of the study. Realizing the benefits of these changes will require action by individuals and public, private and non-profit entities.

While some of this action may require top-down coordination, there are numerous opportunities for action that can and will be driven from the bottom-up. The Matrix that lists the EESE Board's priorities can be used to navigate the most highly prioritized recommendations and understand the parties that have been linked to implementation.

In turn the individual chapter Syntheses

provide the context to understand the particular details of the recommendations, while the full Independent Study supports and supplements that context with its in-depth background and extensive library of recommendations.

Energy is both a resource that is critical to the strength of the economy, as well as a considerable drain on the economy as New Hampshire has no fossil fuel resources of its own. As such, the State is almost wholly dependent upon imported resources (~90 percent of total supply) to heat, power and move our economy. However, there are numerous opportunities to manage the state's energy demand, supply and consumption and, therefore, take greater control of our energy and economic future. The objective of the EESE Board recommendations is for the state to take full advantage of these opportunities.



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## Endnotes

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- 1 - For example, tar sands in Canada and shale gas in the US.
- 2 - According to a study of energy efficiency opportunities in New Hampshire, if all households in the state were improved to the level of energy efficiency that is cost-effective (as defined for regulated energy efficiency programs), residents would save \$309 million per year and savings in commercial and industrial buildings would be another \$220 million per year. Those savings would circulate in the local economy rather than flow elsewhere. While the investment to achieve such savings is estimated at nearly \$2 billion, the savings would offset the investment in less than four years. Source: *Additional Opportunities for Energy Efficiency in New Hampshire, Final Report to the New Hampshire Public Utilities Commission*, GDS Associates, Inc., 2009.
- 3 - The RPS program is a good example of a program that uses market forces to encourage development of renewable resources by establishing specific long-term goals and implementing a market-based mechanism (tradable Renewable Energy Certificates) to achieve those goals.
- 4 - The Federal American Recovery and Reinvestment Act (ARRA) of 2009.
- 5 - This recommendation is also discussed in the Chapter 1 Synthesis document.
- 6 - This recommendation is described in more detail in the Chapter 13 Synthesis document.
- 7 - This recommendation is also discussed in the Chapter 3 Synthesis document.
- 8 - This recommendation is described in more detail in the Chapter 7 Synthesis document.
- 9 - For example, RPS compliance for 2011 resulted in an unexpected increase in Alternative Compliance Payments to NH for Tier 3 (pre-existing resources) as those projects were able to sell credits at higher prices in other states.
- 10 - NH Senate Bill 218 (2012 Session), An act relative to electric renewable portfolio standards, <http://www.gencourt.state.nh.us/legislation/2012/SB0218.pdf>
- 11 - NH Senate Bill 252 (2012 Session), An ACT increasing the maximum term for energy performance contracts, <http://www.gencourt.state.nh.us/legislation/2012/SB0252.pdf>
- 12 - On page 51 of the Performance Audit of the Public Utilities Commission filed by the LBA in April 2012. <http://www.puc.nh.gov/EESE%20Board/LBA%20Audit/LBA%20Performance%20Audit%20Report%20April%202012.PDF>

## Summary Matrix on New Hampshire's Independent Energy Study

Energy Efficiency & Sustainable Energy Board Summary Matrix on New Hampshire's Independent Energy Study (Pursuant to SB323) November 30, 2012				
Chapter/ Action	Timing of Priority			POTENTIAL Lead Entity
	Early	Med.	Late	
<b>Chapter 1</b>				
Enact a single, comprehensive, policy statement	x	x		<b>1) Development:</b> TBD  <b>2) Establishment:</b> NH Legislature  <b>3) Implementation:</b> Public, private and non-profit sectors
Support market transformation goals in program design and implementation.	x	x	x	<b>1) Implementation:</b> Energy efficiency stakeholders state-wide
<b>Chapter 3 - Utility EE Programs - Portfolio Level Review and Assessment</b>				
Develop an Energy Efficiency Resource Standard (EERS)	x			<b>1) Development:</b> Stakeholder process including utilities, Public Utilities Commission, the Office of Energy & Planning, etc.  <b>2) Establishment:</b> NH Legislature w/ Public Utilities Commission
Consider a Least Cost Procurement (LCP) Requirement	x			<b>1) Development:</b> TBD  <b>2) Establishment:</b> NH Legislature w/ NH Public Utilities Commission  <b>3) Implementation:</b> NH Public Utilities Commission & NH Utilities
Increase Resources Necessary to Achieve Energy Efficiency Targets		x		<b>1) Development:</b> NH Utilities and CORE Stakeholders  <b>2) Establishment:</b> NH Public Utilities Commission  <b>3) Implementation:</b> NH Public Utilities Commission & NH Utilities
Consider Mechanisms to Increase Efficiency of Unregulated/Delivered Fuels		x		<b>Implementation:</b> Energy Efficiency & Sustainable Energy Board through the development a working group.

## Summary Matrix on New Hampshire's Independent Energy Study

Chapter/ Action	Timing of Priority			POTENTIAL Lead Entity
	Early	Med.	Late	
<b>Chapter 3 - Utility EE Programs - Portfolio Level Review and Assessment (Cont'd)</b>				
Conduct a Portfolio-Level Review of Energy-Efficiency Activities in New Hampshire		x		<b>1) Development:</b> NH Utilities and CORE Stakeholders  <b>2) Implementation:</b> NH Utilities and CORE Stakeholders
Explore Improvements in Evaluation, Monitoring and Verification (EM&V) Practices		x		<b>1) Development:</b> NH Utilities and CORE Stakeholders  <b>2) Implementation:</b> NH Utilities and CORE Stakeholders
Implement an Energy Efficiency Resource Standard (EERS)			x	<b>1) Implementation:</b> NH Public Utilities Commission & NH Utilities
Re-Evaluate Remaining VEIC Study Recommendations			x	<b>1) Implementation:</b> Energy Efficiency & Sustainable Energy Board
<b>Chapter 4 - Residential Energy Efficiency CORE Programs Review and Assessment</b>				
Integrate the Chapter Recommendations into the CORE Docket Proceedings	x			<b>1) Development:</b> NH Utilities & CORE Stakeholders  <b>2) Establishment:</b> NH Public Utilities Commission
Items to be Considered during CORE Proceedings	x			<b>3) Implementation:</b> NH Public Utilities Commission & NH Utilities
<b>Chapter 5 - C&amp;I Energy Efficiency CORE Programs Review and Assessment</b>				
Better Alignment and Coordination among Utility Efficiency Programs	x			<b>1) Development:</b> NH Utilities & CORE Stakeholders  <b>2) Establishment:</b> NH Public Utilities Commission  <b>3) Implementation:</b> NH Utilities
Maintain the Number of Efficiency-Project Site Inspections	x			<b>Implementation:</b> NH Utilities

## Summary Matrix on New Hampshire's Independent Energy Study

Chapter/ Action	Timing of Priority			POTENTIAL Lead Entity
	Early	Med.	Late	
<b>Chapter 5 - C&amp;I Energy Efficiency CORE Programs Review and Assessment (Cont'd)</b>				
Increase Resources Necessary to Achieve Energy Efficiency Targets		x	x	<b>1) Development:</b> NH Utilities and CORE Stakeholders  <b>2) Establishment:</b> NH Public Utilities Commission  <b>3) Implementation:</b> NH Public Utilities Commission & NH Utilities
Explore the Potential for Municipal Lease-Purchase Agreements		x		<b>1) Implementation:</b> Local Energy Working Group
Set Higher CORE Program Performance Goals		x	x	<b>1) Development:</b> NH Utilities and CORE Stakeholders  <b>2) Establishment:</b> NH Public Utilities Commission  <b>3) Implementation:</b> NH Public Utilities Commission & NH Utilities
<b>Chapter 6 - Low-Income Weatherization Programs Review and Assessment</b>				
Increase Low-Income Weatherization Funding	x			<b>1) Development:</b> NH Utilities and CORE Stakeholders (CORE Program); and the Office of Energy & Planning and Community Action Agencies (LIHEAP)  <b>2) Establishment:</b> NH Public Utilities Commission (CORE Program); and the Office of Energy & Planning (LIHEAP)  <b>3) Implementation:</b> NH Public Utilities Commission & NH Utilities (CORE Program); Community Action Agencies (LIHEAP)
Develop Shared IT Resources and Common Reporting Standards	x			<b>1) Development:</b> Office of Energy & Planning and Utilities  <b>2) Implementation:</b> Office of Energy & Planning, Utilities and Community Action Agencies
Continue to Coordinate Quality Assurance Inspections through Single Entity		x		<b>1) Development:</b> NH Utilities (EAP & RGGI CORE Funds); and the Office of Energy & Planning (LIHEAP)  <b>2) Implementation:</b> NH Utilities (EAP & RGGI CORE Funds); the Office of Energy & Planning (LIHEAP)

## Summary Matrix on New Hampshire's Independent Energy Study

Chapter/ Action	Timing of Priority			POTENTIAL Lead Entity
	Early	Med.	Late	
<b>Chapter 6 - Low-Income Weatherization Programs Review and Assessment (Cont'd)</b>				
Review Low-Income Weatherization Project Prioritization Criteria	x			<b>1) Development:</b> NH Utilities and Public Utilities Commission (EAP & RGGI CORE Funds); and the Office of Energy & Planning and Community Action Agencies (LIHEAP)  <b>2) Establishment:</b> NH Public Utilities Commission (EAP & RGGI CORE Funds); and the Office of Energy & Planning (LIHEAP)  <b>3) Implementation:</b> NH Utilities (EAP & RGGI CORE Funds); Community Action Agencies (LIHEAP)
<b>Chapter 7 - Sustainable Energy Programs Review and Assessment</b>				
Enact an Overarching Sustainable Energy Policy	x			<b>1) Development:</b> TBD  <b>2) Establishment:</b> NH Legislature  <b>3) Implementation:</b> Public, private and non-profit sectors.
Strengthen the Financial Support for Renewable Projects and the Development of Market Infrastructure	x			
• Explore Opportunities to Support In-State Renewable Projects	x			<b>1) Development:</b> TBD  <b>2) Establishment:</b> NH Legislature & NH Public Utilities Commission  <b>3) Implementation:</b> NH Public Utilities Commission & Stakeholders
• Clarify the Future Timing of the NH Renewable Portfolio Standard	x			<b>1) Implementation:</b> NH Legislature
• Periodically Review the Alternative Compliance Payments and Adjust Accordingly	x			<b>1) Establishment:</b> NH Legislature & NH Public Utilities Commission  <b>2) Implementation:</b> NH Public Utilities Commission & Stakeholders
• Establish a Stable Funding Stream for Renewable Projects in the State	x			<b>1) Development:</b> TBD  <b>2) Establishment:</b> NH Legislature  <b>3) Implementation:</b> NH Public Utilities Commission & Stakeholders

## Summary Matrix on New Hampshire's Independent Energy Study

Chapter/ Action	Timing of Priority			POTENTIAL Lead Entity
	Early	Med.	Late	
<b>Chapter 7 - Sustainable Energy Programs Review and Assessment (Cont'd)</b>				
Improve Opportunities for Utility Investment in Distributed Renewable Generation		x		<b>1) Establishment:</b> NH Public Utilities Commission  <b>2) Implementation:</b> NH Public Utilities Commission & Stakeholders
Explore Opportunities to Improve Net-Metering and/or Develop other Alternative Renewable Incentives		x		<b>1) Implementation:</b> Energy Efficiency & Sustainable Energy Board
Facilitate the Development of Long-Term Renewable Energy Certificates Contracts		x		<b>1) Implementation:</b> Energy Efficiency & Sustainable Energy Board
<b>Chapter 8 - Smart-Grid Deployment Review and Assessment</b>				
Continue Participation by the State of NH in the ISO-NE Demand-Response Program and Expand If Possible	x			<b>1) Implementation:</b> Department of Administrative Services
Early Education and Outreach of Decision Makers and Stakeholders	x			<b>1) Development:</b> Education & Outreach Working Group of the Energy Efficiency & Sustainable Energy Board  <b>2) Implementation:</b> NH Utilities & Key Stakeholders and Interest Groups
Provide Meaningful Feedback to Engage Consumers in Energy-Use Reduction		x	x	<b>1) Development:</b> NH Utilities in consultation with Energy Efficiency & Sustainable Energy Board Education & Outreach Working Group  <b>2) Implementation:</b> NH Utilities
Leverage Smart Grid to Reduce Peak Consumption(1)		x	x	<b>1) Implementation:</b> NH Utilities
• Offer Demand Response to All Rate Payers		x	x	
• Offer Automated Demand Response		x	x	
Leverage Smart Grid to Reduce Peak Consumption(2)		x	x	<b>1) Implementation:</b> NH Utilities
• Offer dynamic pricing as market based demand response		x	x	
• Educate customers about dynamic pricing		x	x	



## Summary Matrix on New Hampshire's Independent Energy Study

Chapter/ Action	Timing of Priority			POTENTIAL Lead Entity
	Early	Med.	Late	
<b>Chapter 8 - Smart-Grid Deployment Review and Assessment (Cont'd)</b>				
Consider the Larger System During Evaluation, Not Each Project in Isolation		x	x	<b>1) Implementation:</b> NH Utilities
Protect Sensitive Information		x	x	<b>1) Development:</b> NH Utilities & NH Public Utilities Commission  <b>2) Implementation:</b> NH Utilities
• Ensure Customers are Aware of Data about Them		x	x	
• Protect Ratepayers' Control of Data about Them		x	x	
<b>Chapter 9 - Utility Performance Incentives</b>				
Integrate the Chapter Recommendations into CORE Performance-Incentive Review Subgroup Work Plan	x			<b>1) Implementation:</b> CORE Performance-Incentive Review Subgroup  <b>2) Periodic Review:</b> Energy Efficiency & Sustainable Energy Board
Periodically Review the Performance Incentives and Adjust Accordingly		x	x	<b>1) Review:</b> CORE Performance-Incentive Review Subgroup  <b>2) Development:</b> NH Public Utilities Commission NH Utilities & Stakeholders  <b>3) Implementation:</b> NH Public Utilities Commission
Review the Goal Setting Process		x	x	<b>1) Review:</b> CORE Performance-Incentive Review Subgroup  <b>2) Development:</b> NH Public Utilities Commission, NH Utilities & Stakeholders  <b>3) Implementation:</b> NH Public Utilities Commission
Incorporate Market-Transformation Metrics to Support Development of Market Infrastructure		x	x	<b>1) Review:</b> CORE Performance-Incentive Review Subgroup  <b>2) Development:</b> NH Public Utilities Commission, NH Utilities & Stakeholders  <b>3) Implementation:</b> NH Public Utilities Commission

## Summary Matrix on New Hampshire's Independent Energy Study

Chapter/ Action	Timing of Priority			POTENTIAL Lead Entity
	Early	Med.	Late	
<b>Chapter 9 - Utility Performance Incentives (Cont'd)</b>				
Consider Relationship of EM&V, Goal Setting and Performance Incentives		x	x	<b>1) Review:</b> CORE Program Management Team  <b>2) Development:</b> NH Public Utilities Commission, NH Utilities & Energy Efficiency Program Stakeholders  <b>3) Implementation:</b> NH Public Utilities Commission
Consider Areas of Disagreement		x	x	<b>1) Review:</b> CORE Program Management Team and Energy Efficiency Program Stakeholders
<b>Chapter 10 - Energy Finance Programs</b>				
Coordination of Existing Loan Programs	x			<b>1) Review:</b> CORE Program and existing loan program administrators  <b>2) Development:</b> NH Public Utilities Commission, CORE Program and existing loan program administrators  <b>3) Implementation:</b> CORE Program and existing loan program administrators
Implementation of Property Assessed Clean Energy (PACE) Program	x			<b>1) Preliminary Review and Framework Development:</b> Energy Efficiency & Sustainable Energy Board
Consider the Role and Need for a Single, Statewide Financing Entity		x	x	A lead entity to undertake discussions on the development and implementation of these measures has not been identified.
Improve Coordination and Standardization of Commercial Audit Procedures and Requirements		x	x	A lead entity to undertake discussions on the development and implementation of these measures has not been identified.
Tailor Financial Materials for Each Sector		x	x	
Explore Options for Significantly Increasing Capital Funding		x	x	
Explore Potential of Qualified Energy Conservation Bonds (QECBs)		x	x	A lead entity to undertake discussions on the development and implementation of these measures has not been identified.
Better Utilize Energy Performance Contracting		x	x	

## Summary Matrix on New Hampshire's Independent Energy Study

Chapter/ Action	Timing of Priority			POTENTIAL Lead Entity
	Early	Med.	Late	
<b>Chapter 11 - Community Planning and Municipal Engagement</b>				
Secure the Resources Necessary to Complete a Statewide Plan	x			<b>1) Implementation:</b> NH Office of Energy & Planning
Broaden Planning Policies to Better Account for Energy		x	x	<b>1) Development:</b> TBD <b>2) Establishment:</b> NH Legislature
Periodically Re-Evaluate Remaining VEIC Study Recommendations		x	x	<b>1) Implementation:</b> Energy Efficiency & Sustainable Energy Board
<b>Chapter 12 - The Importance of Building Energy Codes and Code Enforcement</b>				
Consider Adoption of the Newest Building Energy Code as Soon as it Becomes Available	x			<b>1) Review and recommendation:</b> NH Building Code Review Board <b>2) Establishment:</b> NH Legislature <b>3) Implementation:</b> Energy Code Collaborative or subsequent network
Refer the Chapter Recommendations to the NH Energy Code Collaborative		x	x	<b>1) Implementation:</b> Energy Code Collaborative or subsequent network
Encourage the Adoption and Achievement of Stretch Codes		x	x	<b>1) Development:</b> NH Building Code Review Board <b>2) Establishment:</b> NH Legislature; and/or NH Public Utilities Commission <b>3) Implementation:</b> NH Public Utilities Commission; and the Energy Code Collaborative or/subsequent network

## Summary Matrix on New Hampshire's Independent Energy Study

Chapter/ Action	Timing of Priority			POTENTIAL Lead Entity
	Early	Med.	Late	
<b>Chapter 13 - State Government Leading by Example</b>				
Achieve Full Implementation of Executive Order 2011-1	x			<b>1) Implementation:</b> Department of Administrative Services in coordination with the Office of Energy & Planning and the Department of Environmental Services in coordination with the Interagency Energy Efficiency Committee
Educate and Inform the Public Regarding the Benefits of State Energy Projects	x			<b>1) Implementation:</b> Department of Administrative Services in coordination with the Office of Energy & Planning and the Department of Environmental Services in coordination with the Interagency Energy Efficiency Committee
Leverage State Government's Purchasing Power	x			<b>1) Implementation:</b> Department of Administrative Services and the Office of Energy & Planning in coordination with the Interagency Energy Efficiency Committee and in partnership with the Local Government Center, Business and Industry Association and others as appropriate
[Utilize] Extend[ed] Maximum Performance Contract Terms.	x			<b>1) Implementation:</b> Department of Administrative Services in coordination with the Office of Energy & Planning and the Department of Environmental Services and the Interagency Energy Efficiency Committee
Promote Residential Efficiency to State Workers		x	x	<b>1) Implementation:</b> Coordinated through the Interagency Energy Efficiency Committee
Create a Home for Energy Efficiency & Sustainable Energy Implementation Support and Oversight in State Government		x	x	<b>1) Development:</b> Energy Efficiency & Sustainable Energy Board and relevant stakeholders <b>2) Establishment:</b> Governor and/or Legislature depending on final plan
Strengthen Infrastructure Maintenance Efforts		x	x	<b>1) Development:</b> Department of Administrative Services in coordination with the Interagency Energy Efficiency Committee <b>2) Administration:</b> Department of Administrative Services in coordination with the Interagency Energy Efficiency Committee
Update Energy Management Database		x	x	<b>1) Development:</b> Department of Administrative Services in coordination with the Interagency Energy Efficiency Committee <b>2) Administration:</b> Department of Administrative Services
Improve Project Planning and Approval Time		x	x	<b>1) Implementation:</b> Department of Administrative Services

## Summary Matrix on New Hampshire's Independent Energy Study

Chapter/ Action	Timing of Priority			POTENTIAL Lead Entity
	Early	Med.	Late	
<b>Chapter 13 - State Government Leading by Example (Cont'd)</b>				
Increase Resources Necessary to Achieve Greater Energy Cost Reductions		x	x	
• Increased Staffing Resources		x	x	<b>1) Development:</b> Department of Administrative Services in coordination with the Office of Energy & Planning and the Department of Environmental Services and the Interagency Energy Efficiency Committee  <b>2) Establishment:</b> Fiscal Committee and Legislature  <b>3) Administration:</b> Department of Administrative Services
• Increased Funding through Capital Budget Allocation		x	x	
• Increased Funding through Expanded State Energy Efficiency Fund		x	x	
Encourage Strong Programs to Continue		x	x	<b>1) Implementation:</b> Department of Transportation
Improve Fuel Efficiency and Reduce Petroleum Use in the State's Vehicle Fleet		x	x	<b>1) Consideration:</b> Department of Administrative Services in coordination with the Office of Energy & Planning and the Department of Environmental Services and the Interagency Energy Efficiency Committee and the Fleet Policy Working Group  <b>2) Administration:</b> All state agencies