

**New Hampshire's Independent Energy Study Synthesis**  
**Chapter 3 – Utility EE Programs – Portfolio Level Review and Assessment**  
**November 30, 2012**

**Summary of Chapter Intent**

Chapter 3 of the New Hampshire Independent Energy Study presents a high level overview and assessment of the electric and gas efficiency programs offered by the state's utilities. The chapter includes a total of 28 recommendations and sub-recommendations. The focus is on funding of the programs, the energy savings achieved, and an examination of how New Hampshire compares to its New England neighbors and other efficiency programs across the country. The chapter also includes recommendations on program evaluation, monitoring of results, and consistency of reporting.

Key recommendations from this chapter included: increasing the funding for electric efficiency programs; implementing an efficiency charge for unregulated heating fuels (e.g. oil, propane, kerosene, etc.); adopting an Energy Efficiency Resource Standard (EERS); conducting a portfolio level review of energy efficiency activities in New Hampshire; and applying consistent statewide standards for monitoring and verification (M&V) of programs and results.

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**Findings**

**Top Priorities for Early Action**

***Develop an Energy Efficiency Resource Standard***

The state should develop and adopt an Energy Efficiency Resource Standard (EERS) (Recommendation 3.2)<sup>1</sup>. Nationwide 26 states have such standards including all of the other New England states. An EERS establishes the state's policy on energy efficiency, providing the overall guidance for setting goals for energy efficiency efforts in the state. For example, Massachusetts has an annual goal to save 2.5% of their annual electric energy retail sales.

The EERS will require action on the part of both the legislature and the NH Public Utilities Commission and thus will likely take time to accomplish. However, inasmuch **an effective EERS would provide the overall policy guidance for energy efficiency in the state, the EESE Board believes that adoption of a New Hampshire EERS is a top priority.**

In the fall of 2011, the state's Office of Energy and Planning received a federal grant to hire a consultant to assess "...the economic feasibility of increasing investment in energy efficiency through the adoption of an Energy Efficiency Resource Standard..." The consultant will begin work in the fall of 2012. **The EESE Board stands ready to collaborate with OEP and its consultant to support mutual interests in adoption of an EERS and associated policy mechanisms to achieve the EERS goals.**

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<sup>1</sup> A description included in the background distinguishes an EERS policy from least-cost energy procurement and all-cost effect efficiency.

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### Development:

Stakeholder process including utilities, Public Utilities Commission, the Office of Energy & Planning, etc.

### Establishment:

NH Legislature w/ NH Public Utilities Commission

### Implementation:

NH Public Utilities Commission

### ***Consider a Least Cost Procurement Requirement***

In support of this, the State should consider a Least Cost Procurement (LCP) requirement that directs utilities to buy cheaper energy efficiency, before more expensive generation is deployed, as a least-cost strategy for meeting customer energy needs<sup>2</sup>. A LCP requirement would direct utilities to acquire the most cost-effective energy resource to meet expected demand, be it traditional energy supply or demand-side management. Since energy efficiency is such a low-cost resource, an LCP tends to result in the incorporation of energy efficiency as a utility system resource. ***Under a LCP approach, the budget available for utility-administered energy efficiency programs would not be limited by the System Benefits Charge, but would also be determined by what is deemed achievable and cost effective for the utility to invest in.*** Least cost procurement legislation in New Hampshire would, especially if integrated with utility revenue decoupling, likely stimulate a major increase in energy efficiency investments, while also maintaining profitability for energy delivery companies.

#### 1) Development:

TBD

#### 2) Establishment:

NH Legislature w/ Public Utilities Commission

#### 3) Implementation:

Public Utilities Commission

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## **Top Priorities for Medium-Term Action**

### ***Increase Resources Necessary to Achieve Energy Efficiency Targets***

Once the EERS is established, increased funding decisions will flow from an assessment of what resources are required to meet efficiency goals (Recommendation 3.1). Even before an EERS is established, increased funding for energy efficiency through other means should still be explored. This discussion should include consideration of:

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<sup>2</sup> A focus on LCP should not preclude a balanced consideration of supply diversity and reserve that may be needed to ensure the reliability of the grid.

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- Increasing the SBC charge to allow increased investment in energy efficiency which will provide net benefits that far exceed the upfront dollar investment; and
- Extending the SBC mechanism to also cover natural gas, thereby systematizing funding for the natural gas efficiency programs.

1) Development:

NH Utilities and CORE Stakeholders

2) Establishment:

Public Utilities Commission

3) Implementation:

Public Utilities Commission & NH Utilities

#### *Consider Mechanisms to Increase Efficiency of Unregulated/Delivered Fuels*

As an EERS is being developed, the state should also consider potential mechanisms for securing funding for unregulated fuels efficiency programs (Recommendation 3.4). This includes:

- Exploring existing and theoretical mechanisms and models to fund unregulated fuels programs (e.g., adopt a charge similar to the SBC for unregulated fuels); and
- Determining the best means to utilize those funds (e.g., integrate unregulated fuel programs with CORE Programs, once adopted).

1) Implementation:

Energy Efficiency & Sustainable Energy Board through the development a working group.

#### *Conduct a Portfolio-Level Review of Energy-Efficiency Activities in New Hampshire*

As work on the EERS is underway, utilities and stakeholders should conduct a portfolio-level review of energy-efficiency activities in New Hampshire looking to identify improvements that can be made in the short run without the overall clarity provided by the EERS as well as those measures that would be best supported once the larger policy is in place. **The EESE Board recommends periodic updates as to progress on these matters.**

1) Development:

NH Utilities and CORE Stakeholders

2) Implementation:

NH Utilities and CORE Stakeholders

***Explore Improvements in Evaluation, Monitoring and Verification (EM&V) 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 programs and results. These recommendations should be further reviewed by utilities and stakeholders to identify those necessary to strengthen the EM&V process. **The EESE Board recommends periodic updates as to progress on these matters.**

1) Development:

NH Utilities and CORE Stakeholders

2) Implementation:

NH Utilities and CORE Stakeholders

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**Top Priorities for Longer-Term Action**

***Implement the Energy Efficiency Resource Standard (EERS)***

Once an Energy Efficiency Resource Standard (EERS) is adopted and the appropriate resources are identified and established the EERS should be implemented (Recommendation 3.3).

1) Implementation:

NH Public Utilities Commission & NH Utilities

***Re-Evaluate Remaining Independent Energy Study Recommendations***

The remaining recommendations should be re-evaluated as progress toward adoption of an EERS is made, or deferred.

1) Implementation:

Energy Efficiency & Sustainable Energy Board

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**Background**

The CORE Energy Efficiency Program is a set of common products and services offered to consumers by the State’s gas and electric utilities. The electric portion is funded primarily through the System Benefits Charge paid by electric customers in accordance with statute. The gas programs are funded through the Local Distribution Adjustment Charge for gas customers, as established in PUC proceedings. Utilities manage the overall program via a CORE Program Management Team<sup>3</sup>.

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<sup>3</sup> LBA (2012). State of New Hampshire Public Utilities Commission and its Administratively Attached Agencies - Performance Audit, Office of the Legislative Budget Assistant, <http://www.puc.nh.gov/EESE%20Board/LBA%20Audit/LBA%20Performance%20Audit%20Report%20April%202012.PDF>.

### ***New Hampshire's Electricity System***

Four regulated utilities serve more than 98% of New Hampshire's 690,000 electric customers: Liberty Utilities<sup>4</sup> (6%), the New Hampshire Electric Cooperative (11%), Public Service of New Hampshire (70%), and Unitil Energy Services (11%). Since 2002 these utilities have offered a common portfolio of energy efficiency (EE) programs called the CORE Programs. The programs provide information, incentives, and financing to assist business, residential, and low-income customers improve energy efficiency in new and existing homes, commercial & industrial equipment, lighting, appliances, and a variety of training and educational programs. Five municipal utilities provide electric service to just under 2% of the state, and currently they are not offering efficiency programs.

### ***New Hampshire's Natural-Gas System***

Two utilities provide natural gas service to 120,000 customers or approximately 18% of the state. Gas service is essentially limited to the I-93 corridor from the Massachusetts border to Laconia and along the state's eastern border/seacoast communities from the Massachusetts line to Rochester. Liberty Utilities services the I-93 corridor and Unitil serves the seacoast area. The gas efficiency programs are designed to help business, residential, and low-income customers save gas in new or existing facilities and when purchasing new equipment or upgrading existing equipment.

### ***Energy-Efficiency Services in New Hampshire***

While originally conceived as separate electric and gas programs, over the past several years, the programs have been increasingly coordinated to provide customers with comprehensive electric and gas efficiency services. In addition, there are now several pilot programs designed to extend services to all customers regardless of the type of fuel used. These programs are now annually saving between 0.6 and 0.8% of annual sales for both electricity and natural gas. Annual electric energy savings are approximately 70,000 MWhs or 800 million kWhs over the lifetime of the efficiency measures installed each year. The annual savings are equivalent to powering all of Concord's homes and businesses for 8 weeks. Annual gas savings range between 1 to 2 million Therms or 16 to 26 million Therms over the lifetime of the measures installed each year. These annual savings are equivalent to the seasonal heating needs of more than 2,900 homes.

The primary source of funding for New Hampshire's current EE programs comes from a charge on electric and gas utility bills. Electric customers pay a System Benefits Charge (SBC) which raised \$19.0 million in 2010 or \$14.47 per capita based on New Hampshire's population of 1.3 million. Gas customers pay an energy efficiency charge included in the Local Delivery Adjustment Charge (LDAC) which generated \$5.6 million. On a per capita basis, funding for electric efficiency programs in the six New England states averaged \$31.13

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<sup>4</sup> Formerly National Grid.

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and ranged between \$10.78 and \$54.81 – with four other states at higher funding levels than New Hampshire. On the gas side, funding averaged \$4.50 and ranged between \$0.32 and \$11.50 with New Hampshire having the third highest funding level.

One measure of the effectiveness of an efficiency program is the cost per unit of energy saved. For the CORE Programs, energy savings cost approximately 2.3 cents per lifetime kWh. This compares to the current average price of 13.2 cents to purchase a kWh<sup>5</sup>. For the gas programs, the average cost to save a lifetime therm was 21 cents in 2010 as compared to the current average price of natural gas of \$1.05 per therm.

#### *Energy “Supply” Policy Options*

A state has a number of options in terms of policies to support expanded energy efficiency. These include:

- Efficiency First
- Least-Cost Procurement (LCP)
- All Cost-Effective Efficiency
- Energy- Efficiency Resource Standard (EERS)

While it may be the goal to increase energy efficiency in the state, there may be competition for funding and services to serve the renewable energy market. A policy of “efficiency first” will focus the state’s investments on energy efficiency, which typically has shorter paybacks, that are followed by appropriately sized sustainable energy projects.

Least-cost procurement is a technology-neutral policy that conducts planning by evaluating the least cost approach to meeting the forecasted demand and requiring that utilities adopt the lowest reasonable cost strategy for meeting customer energy needs while providing for the reliability and diversity of energy sources, the protection of the safety and health of the citizens, the physical environment, the future supplies of nonrenewable resources and consideration of the financial stability of the utilities<sup>6</sup>.

This can include through fossil-fired and renewable generation to increase the available supply as well as through energy efficiency and conservation programs to reduce demand.

For a least-cost, integrated-resource planning (IRP), a utility is required to report its load and resource forecast for a specified period and utilize the least-cost resource mix, including both supply (generation & gas) and demand-side (efficiency) options. New Hampshire utilities are required to submit a least-cost integrated-resource plan (IRP) at least biennially<sup>7</sup>. Since energy efficiency is such a low-cost resource, proper utilization of IRP tends to result in the incorporation of energy efficiency as a utility system resource<sup>8</sup>.

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5 Fuel price information from <http://www.nh.gov/oep/>

6 RSA 378:37, Least Cost Energy Planning - Submission of Plans to the Commission, 1990. <http://www.gencourt.state.nh.us/rsa/html/XXXIV/378/378-38.htm>.

7 Ibid.

8 ACEEE (2012). *Utility Initiatives: Integrated Resource Planning*, American Council for an Energy-Efficient Economy, <http://www.aceee.org/policy-brief/utility-initiatives-integrated-resource-planning> (Accessed July 23, 2012).

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However, by mandating LCP that requires ongoing acquisition of all energy efficiency that is “lower cost than supply” utilities would be directed to pursue all cost-effective energy efficiency, up to the cost of supply. Under a LCP approach, the budget available for utility-administered energy efficiency programs would not be limited by the System Benefits Charge (SBC), but would also be determined by what is deemed achievable and cost effective for the utility to invest in. Least cost procurement legislation in New Hampshire would likely stimulate a major increase in energy-efficiency investments, while also maintaining profitability for energy delivery companies<sup>9</sup>. Therefore, in effect, a LCP requirement would result in utilities pursuing all cost effective energy efficiency, up to the cost of supply.

An EERS by contrast focuses on expanding energy efficiency. An EERS can work by either setting specific efficiency targets for the state over multiple years, or establishing a clear mandate for setting such targets on a recurring basis and directing state regulators to ensure that the process occurs. By establishing targets, an EERS may require that utilities exceed the available supply of cost-effective energy efficiency investments, but it may also set targets that fall short.

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<sup>9</sup> Independent Energy Study, Enact a Least Cost Procurement (LCP) requirement, Chapter 14, pp. 14-7