

**NEW HAMPSHIRE ELECTRIC AND GAS UTILITIES
BEFORE THE
NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION**

**2014 CORE New Hampshire
Energy Efficiency Programs**

Granite State Electric Company d/b/a Liberty Utilities
New Hampshire Electric Cooperative, Inc.
Public Service Company of New Hampshire
Unitil Energy Systems, Inc.
EnergyNorth Natural Gas, Inc. d/b/a Liberty Utilities
Northern Utilities, Inc.

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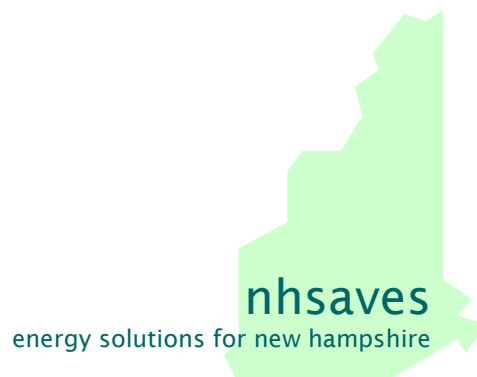


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I. INTRODUCTION

This filing is being made jointly by Granite State Electric Company d/b/a Liberty Utilities, New Hampshire Electric Cooperative, Inc., Public Service Company of New Hampshire and Unitil Energy Systems, Inc. (referred to throughout the remainder of this document as the “NH Electric Utilities”) and EnergyNorth Natural Gas, Inc. d/b/a Liberty Utilities and Northern Utilities, Inc. (referred to as the “NH Gas Utilities”) or collectively as the “NH CORE Utilities”.

A. Background

On September 17, 2012, in Docket DE 12-262, the NH CORE Utilities submitted a two-year plan entitled “2013-2014 CORE New Hampshire Energy Efficiency Programs” with the Commission for approval. On February 1, 2013, the Commission issued Order No. 25,462 approving the CORE Energy Efficiency Programs, as amended by the Settlement Agreement reached in the proceeding and as clarified within the Order with respect to the Home Performance with ENERGY STAR rebates for gas customers. In the Settlement Agreement the NH CORE Utilities agreed to provide an update for the 2014 program year on or by August 31, 2013. On August 30, 2013, the NH CORE Utilities requested that the Commission provide an extension to the August 31, 2013 filing deadline until September 13, 2013; and on September 3, 2013 the Commission approved the extension request. In accordance with the Settlement Agreement and as amended by the Commission’s September 3, 2013 secretarial letter, this filing includes the NH CORE Utilities proposed program changes for the program year 2014 and provides a brief update on several initiatives contained in the 2013-2014 CORE New Hampshire Energy Efficiency Programs filing. The sections contained in the original 2013-2014 CORE New Hampshire Energy Efficiency Programs plan that are not updated in this plan, remain in their original form as approved by the Commission.

This plan is separated into the following major categories and each category includes the proposed changes for 2014:

- Program Funding
- Program Budgets
- CORE Program Changes
- Utility-specific Program Changes
- Monitoring and Evaluation
- Performance Incentive
- Status of Initiatives Contained in the 2013-2014 CORE Programs Plan
- Attachments (All Attachments included in the 2013-2014 CORE Programs Plan updated for 2014, except Attachment B)

B. Program Funding

CORE Electric Energy Efficiency Program Funding

The CORE Electric Energy Efficiency Programs are funded through three main sources: 1) a portion of the System Benefits Charge which is applied to the electric bills of all customers receiving delivery service through one of the NH Electric Utilities; 2) a portion of the Regional Greenhouse Gas Initiative (RGGI) auction proceeds; and 3) proceeds obtained by the NH Electric Utilities from ISO-NE for participation in ISO-NE’s Forward Capacity Market. In addition, any unspent funds from prior program years are carried forward to future years, including interest at the prime rate.

Table I.1 below summarizes the original 2014 estimated program funding, the updated 2014 estimated program funding and the difference in program funding by source and utility for the CORE Electric Programs. The overall estimated level of funding for 2014 increased by \$145,000, which is primarily made up of a \$40,000 increase in System Benefits Charge funding due to a projected increase in kilowatt-hour sales from what was originally projected for 2014, a \$203,000 increase in Carryforward and Interest due to more recent information, a \$231,000 decrease in RGGI auction proceeds based on an up-to-date forecast of the 2014 RGGI funding as provided by the Commission's staff on July 31, 2013 and a \$134,000 increase in Forward Capacity Market proceeds due to the use of updated prices effective June 1, 2013 for multiple year commitments.

Table I.1 – CORE Electric Program Funding 2014

New Hampshire CORE Electric Energy Efficiency Programs					
Original 2014 Estimated Program Funding (\$000's)					
	LU-Electric	NHEC	PSNH	Unitil	Total
System Benefits Charge (SBC)	1,746.0	1,358.3	14,065.2	2,227.5	19,397.0
Carryforward & Interest	-	232.6	-	(1.3)	231.3
RGGI	511.3	417.2	4,382.1	689.7	6,000.2
ISO-NE Forward Capacity Market (FCM)	140.0	60.0	2,090.0	174.2	2,464.2
Total Energy Efficiency Funding	2,397.3	2,068.0	20,537.3	3,090.1	28,092.8
Updated 2014 Estimated Program Funding (\$000's)					
	LU-Electric	NHEC	PSNH	Unitil	Total
System Benefits Charge (SBC)	1,706.9	1,379.2	14,129.6	2,221.3	19,437.0
Carryforward & Interest (1)	27.6	249.2	1.7	155.9	434.4
RGGI	488.0	421.8	4,215.4	643.8	5,769.0
Estimated ISO-NE FCM Proceeds	128.6	60.0	2,235.0	174.2	2,597.8
Total Energy Efficiency Funding	2,351.0	2,110.2	20,581.7	3,195.2	28,238.2
2014 Estimated Program Funding Difference (\$000's)					
	LU-Electric	NHEC	PSNH	Unitil	Total
System Benefits Charge (SBC)	(39.2)	20.9	64.4	(6.2)	40.0
Carryforward & Interest	27.6	16.7	1.7	157.2	203.1
RGGI	(23.3)	4.6	(166.7)	(45.9)	(231.2)
Estimated ISO-NE FCM Proceeds	(11.4)	-	145.0	-	133.6
Total Energy Efficiency Funding	(46.3)	42.2	44.4	105.1	145.4

(1) On August 26, 2013, PSNH submitted a request to the Commission for approval to transfer \$1.09 million in 2012 carryover funds to the Smart Start Revolving Loan Fund (\$900k) and to the Residential Energy Efficiency Revolving Loan Fund (\$190k) during the 2013 program year.

CORE Gas Energy Efficiency Program Funding

The CORE Gas Energy Efficiency Programs are funded by the Local Distribution Adjustment Charge which is applied to the gas bills of all customers receiving service through one of the NH Gas Utilities. Similar to the electric programs, any unspent funds from prior program years are carried forward to future years, including interest at the prime rate.

Table I.2 below summarizes the original 2014 estimated program funding, the updated 2014 estimated program funding and the difference in program funding by source and utility for the CORE Gas Programs. The overall estimated level of funding for 2014 increased by \$449,000.

Table I.2 – CORE Gas Program Funding 2014

New Hampshire CORE Gas Energy Efficiency Programs			
Original 2014 Estimated Program Funding (\$000's)			
	LU-Gas	Unitil-Gas	Total
Local Distribution Adjustment Charge (LDAC)	5,307.1	1,322.9	6,630.0
Carryforward & Interest	-	6.0	6.0
Total Energy Efficiency Funding	5,307.1	1,328.9	6,636.1
Updated 2014 Estimated Program Funding (\$000's)			
	LU-Gas	Unitil-Gas	Total
Local Distribution Adjustment Charge (LDAC)	5,583.3	1,501.6	7,084.9
Carryforward & Interest	-	-	-
Total Energy Efficiency Funding	5,583.3	1,501.6	7,084.9
2014 Estimated Program Funding Difference (\$000's)			
	LU-Gas	Unitil-Gas	Total
Local Distribution Adjustment Charge (LDAC)	276.2	190.3	454.9
Carryforward & Interest	-	(6.0)	(6.0)
Total Energy Efficiency Funding	276.2	184.3	448.8

C. Program Budgets

CORE Electric Energy Efficiency Program Budgets

Table I.3 below summarizes the original 2014 electric program budget, the updated 2014 electric program budget and the difference in electric program budget by sector and utility for the CORE Electric Programs. The overall 2014 electric program budget increased by approximately \$247,000 from the original 2014 budget projection.

Table I.3 – CORE Electric Program Budget 2014

New Hampshire CORE Electric Energy Efficiency Programs					
Original 2014 Program Budgets (\$000's)					
	LU-Electric	NHEC	PSNH	Unitil	Total
Residential - Income Eligible (HEA Program)	\$329.5	\$287.2	\$2,819.8	\$456.0	\$3,892.5
Residential - Non Income Eligible	\$604.8	\$961.7	\$6,411.6	\$893.9	\$8,872.0
Commercial, Industrial & Municipal	\$1,262.3	\$665.9	\$9,567.0	\$1,364.4	\$12,859.6
Smart Start & FCM & Unitil Res Loan	\$25.0	\$0.0	\$235.0	\$128.8	\$388.8
Total Budget	\$2,221.6	\$1,914.8	\$19,033.4	\$2,843.1	\$26,012.9
Updated 2014 Program Budgets (\$000's)					
	LU-Electric	NHEC	PSNH	Unitil	Total
Residential - Income Eligible (HEA Program)	\$325.8	\$294.6	\$2,835.6	\$482.8	\$3,938.7
Residential - Non Income Eligible	\$602.0	\$984.3	\$6,389.8	\$973.7	\$8,949.8
Commercial, Industrial & Municipal	\$1,244.2	\$674.6	\$9,678.5	\$1,420.9	\$13,018.2
Smart Start & FCM & Unitil Res Loan	\$15.0	\$10.3	\$245.0	\$83.1	\$353.4
Total Budget	\$2,187.0	\$1,963.7	\$19,148.9	\$2,960.5	\$26,260.1
2014 Program Budget Difference (\$000's)					
	LU-Electric	NHEC	PSNH	Unitil	Total
Residential - Income Eligible (HEA Program)	-\$3.7	\$7.4	\$15.8	\$26.8	\$46.3
Residential - Non Income Eligible	-\$2.8	\$22.6	-\$21.8	\$79.8	\$77.7
Commercial, Industrial & Municipal	-\$18.1	\$8.7	\$111.5	\$56.5	\$158.6
Smart Start & FCM & Unitil Res Loan	-\$10.0	\$10.3	\$10.0	-\$45.7	-\$35.4
Total Budget	-\$34.6	\$48.9	\$115.5	\$117.4	\$247.1

CORE Gas Energy Efficiency Program Budgets

Table I.4 below summarizes the original 2014 gas program budget, the updated 2014 gas program budget and the difference in gas program budget by sector and utility for the CORE Gas Programs. The overall 2014 gas program budget increased \$415,000 from the original 2014 budget estimate. The main reasons for each utility's budget change are as follows:

LU-Gas

- Increased the Home Energy Assistance program budget to create level funding between 2013 and 2014.
- Increased the Residential Building Practices and Demonstration Program budget in anticipation of performing a Home Energy Reports pilot initiative.

Unitil-Gas

- Increased the residential budget (including the income eligible sector) by 13% to ensure there are sufficient funds to meet the increased demand for rebates through the Energy Star Appliance program (also known as Gas Networks). In addition, the income eligible sector budget was increased to include a carryover of unspent funds from the prior year.
- Increased the 2014 C&I budget by 13% to meet the demand for custom projects in the large C&I program.

Table I.4 – CORE Gas Program Budget 2014

New Hampshire CORE Gas Energy Efficiency Programs			
Original 2014 Program Budgets (\$000's)			
	LU-Gas	Unitil -Gas	Total
Residential - Income Eligible (HEA Program)	\$787.5	\$170.0	\$957.5
Residential - Non Income Eligible	\$1,701.0	\$557.0	\$2,258.0
Commercial & Industrial	\$2,425.5	\$495.7	\$2,921.2
Total Budget	\$4,914.0	\$1,222.7	\$6,136.7
Updated 2014 Program Budgets (\$000's)			
	LU-Gas	Unitil -Gas	Total
Residential - Income Eligible (HEA Program)	\$923.3	\$232.1	\$1,155.3
Residential - Non Income Eligible	\$1,821.0	\$587.0	\$2,408.0
Commercial & Industrial	\$2,425.5	\$562.5	\$2,988.0
Total Budget	\$5,169.8	\$1,381.5	\$6,551.3
2014 Program Budget Difference (\$000's)			
	LU-Gas	Unitil -Gas	Total
Residential - Income Eligible (HEA Program)	\$135.8	\$62.1	\$197.8
Residential - Non Income Eligible	\$120.0	\$30.0	\$150.0
Commercial & Industrial	\$0.0	\$66.8	\$66.8
Total Budget	\$255.8	\$158.8	\$414.6

II. CORE PROGRAM CHANGES

A. Residential Programs

1. **ENERGY STAR Appliance Program**

The NH CORE Utilities plan to add a Wi-Fi thermostat and associated incentive to the list of ENERGY STAR Hot Water and Heating System measures.

An Early Boiler Replacement (EBR) incentive will be offered by Liberty Utilities-Gas after the completion of the Early Boiler Replacement Pilot Program which was approved by the Commission as part of the 2013-2014 CORE New Hampshire Energy Efficiency Programs Plan. The pilot program is being conducted in 2013 to develop the logistics related to the operation of the program in 2014. A similar program, currently in operation in Massachusetts, has been successful. The benefit and cost structure of the Massachusetts program has been incorporated into the New Hampshire program design. An explanation of the pilot program, formerly titled “Early Retirement of Boilers Pilot” can be found on page 32 of the 2013-2014 CORE New Hampshire Energy Efficiency Programs Plan.

<u>Measure</u>	<u>Incentive</u>
Wi-Fi Thermostat	\$100
Early Boiler Replacement	Up to \$3,000 (Liberty Utilities-Gas)

The NH Electric Utilities modified savings and incentives for the ductless mini-split heat pumps in 2014 to bring them in line with standard practice in other northeast states. Specifically, the base case assumption has changed from a fossil fuel appliance to a standard efficiency mini-split heat pump. By rebating the higher efficiency mini-split heat pump, the utilities are incenting customers to use less electricity than they would with a lower efficiency model. In addition, the amount of the rebate has been reduced from \$900 and \$450 (depending on the efficiency of the equipment) to \$500 and \$300 in order reflect the incremental cost the utilities are seeing in the field and to allow for a greater number of units to be incented through the program.

2. **Residential Building Practices and Demonstration Program – NH Gas Utilities**

As described in the 2013-2014 CORE New Hampshire Energy Efficiency Programs Plan, the purpose of the Residential Building Practices and Demonstration Program is to explore and demonstrate new and/or underutilized energy efficiency practices and/or equipment that can enhance a home’s overall energy savings potential. This unique program allows either of the NH Gas Utilities to support new and/or advanced energy savings technologies installed by residential customers. In addition to the Early Boiler Replacement Pilot and the Wi-Fi Thermostats Pilot introduced previously, the NH Gas Utilities will investigate a Third Party Financing Pilot and a Home Energy Reports Pilot in 2014 as described below.

Early Boiler Replacement Pilot (formerly known as the Early Retirement of Boilers Pilot)

It is anticipated the Early Boiler Replacement Pilot Program as described in the 2013-2014 CORE New Hampshire Energy Efficiency Programs Plan will conclude in 2013. As

described in the ENERGY STAR Appliance Program section above, Liberty Utilities-Gas plans to add an early boiler replacement incentive starting in 2014.

WiFi Thermostats Pilot

Liberty Utilities recently completed an evaluation study of the WiFi Thermostats Pilot Program as described in the 2013-2014 CORE New Hampshire Energy Efficiency Programs Plan. The evaluation study was provided to the Commission's staff on August 21, 2013 and the utilities plan to discuss the results at the CORE Quarterly Meeting scheduled in September 2013. The results of this study indicate that the average impact was a reduction of 69 therms, or 8%, of the participants' baseline natural gas consumption. As a result, the NH CORE Utilities have proposed to add Wi-Fi Thermostats to the ENERGY STAR Appliance Program beginning in 2014.

Third Party Financing Pilot

The NH Gas Utilities are in the process of assessing the potential of offering low interest third party financing to support residential customers' participation in the CORE Energy Efficiency Programs. The primary goal of this pilot is to determine if lenders are interested in offering unsecured energy efficiency loans to customers and providing the administrative infrastructure for such financing. At this time, the NH Gas Utilities plan to collaborate with banks, credit unions or other financing institutions to develop the Third Party Financing Pilot Program. To the extent possible, the NH Gas Utilities will draw on the experience obtained from financing programs offered in other states in order to minimize program costs. In addition, if determined as relevant, the NH Gas Utilities may conduct participant surveys to assess customer motivation, behavior and satisfaction, and will utilize the results to improve future program offerings.

Home Energy Reports (HER) Pilot

The NH Gas Utilities will investigate a behavioral pilot program for the 2014/2015 winter heating season that includes delivery of paper reports to a randomly selected group of residential gas customers. The HER pilot program would be designed to engage residential customers into a long term conversation about how they can save energy and money on their utility bills. Notably, the HER pilot program would be similar to PSNH's existing pilot program; however, the program would be tailored exclusively for gas customers with a focus on the heating season. It is anticipated that the residential gas customer participants will be drawn from Liberty Utilities' service area.

The purpose of the HER pilot program would be to provide customers with personalized information regarding their gas usage, comparative energy use information, tips to save energy, and opportunities to participate in other energy efficiency programs. This unique program could help customers:

- 1) visualize how their gas consumption compares to similarly sized and equipped homes in their area,
- 2) understand how their gas usage changes over time and across seasons, and
- 3) develop goals and strategies to reduce their gas use.

The NH Gas Utilities would also consider the following as part of the pilot:

- Home Energy Reports Web Portal – the web portal would be accessible to all HER recipients. The portal would complement the paper reports and provide an even more in-depth picture of customers' energy use, as well as, self-service tools that allow customers to manage their report experience.

- Home Energy Reports Emails – a randomly selected group of residential gas customers would also be sent monthly reports to their email mailbox. These digital communications complement the paper reports and have been shown to improve program impact in other gas behavior programs around the country.
- Customer Engagement Survey – a survey would be conducted with a randomly selected group of residential gas customers to better understand how the home energy reports are improving awareness and increasing participation in gas energy efficiency programs. It will also help inform potential ways to enhance the program offering should it expand beyond the pilot phase.

The NH Gas Utilities will continue to consider other ideas in addition to the list above.

B. Income Qualified Weatherization

1. Home Energy Assistance Program

Recommendation Regarding the Per-Customer Program Spending Cap

Background

On July 26, 2013, the Commission issued Order No. 25,554 in DE 12-262, which approved, on a temporary basis, the NH Electric Utilities' request to make the following changes to the Home Energy Assistance (HEA) Program:

1. Increase the 2013 and 2014 HEA Program per-customer spending cap from \$5,000 to \$8,000.
2. Allow for expenditures above the \$8,000 cap for the replacement of space heating equipment and combined space/water heating equipment. The equipment installed will be ENERGY STAR certified whenever possible. In cases where ENERGY STAR certified equipment is unavailable or a cost effective substitution is unavailable (as in the case of manufactured homes), the equipment must meet the ENERGY STAR annual fuel utilization efficiency (AFUE) minimum requirements. *See* March 21, 2013 Assented-to Request to Amend Electric Utilities' Home Energy Assistance Program in Docket No. DE 10-188. Space heating equipment replacements will only be allowed if a home has also been weatherized.
3. Strive to limit the amount of funds spent on space and combined space/water heating equipment to 25% of each NH Electric Utility's HEA Program annual budget to ensure that most of the funds are used for weatherization services.

The Commission directed the NH Electric Utilities to work with interested parties to develop a recommendation regarding the appropriate per household spending cap once federal funding levels are finalized and monies received and to include a recommendation to the Commission within the CORE Programs Quarterly Report following the NH Office of Energy and Planning's (OEP) receipt of federal Weatherization Assistance Program funds. The NH Electric Utilities did not have the necessary information available to include a recommendation in the last Quarterly Report filed with the Commission. As a result, a recommendation is included below.

Update Regarding Federal Funding

Federal funding for the Weatherization Assistance Program (WAP) is secured via a grant to the OEP, which distributes the funds among the Community Action Agencies. For the year ending

March 31, 2014, the WAP allocation is \$1,186,108. Given the timing of the release of funds by the federal Department of Energy, monies are expected to be available to the Community Action Agencies to spend between October 2013 and the end of March 2014. The level of funding for the following year (year ending March 31, 2015) has not yet been determined and is not expected to be received by the OEP until the fall of 2014.

Recommendation

Given that a) WAP funding through March 2014 will be limited compared to historic levels, b) there will likely be a six month or more gap between April and October 2014 when little to no federal WAP funding will be available, and c) funding levels for the 2014-15 program year are expected to be comparable to if not lower than those received in the 2013-14 program year the NH Electric Utilities propose to retain the changes to the HEA Program as temporarily approved in Order No. 25,554, through the Program Year 2014.

C. Commercial, Industrial & Municipal Programs

1. Municipal Program

Background

On July 24, 2013, Senate Bill 123 (SB 123) was signed into law. This bill amended RSA 125-O:23, II-III (Multiple Pollutant Reduction Program) effective January 1, 2014, and requires that certain proceeds from the Regional Greenhouse Gas Initiative (RGGI) Program be allocated to municipal and local government energy efficiency projects. Specifically, the law states in part:

“All remaining proceeds received by the state from the sale of allowances shall be allocated by the commission as an additional source of funding to electric distribution companies for core energy efficiency programs which are approved by the commission and funded by SBC funds. Beginning January 1, 2014, the core utilities shall dedicate up to \$2,000,000 of these remaining RGGI proceeds annually for municipal and local government energy efficiency projects, including projects by local governments that have their own municipal utilities. Funding elements shall include, but not be limited to, funding for direct technical and project management assistance to identify and encourage comprehensive projects and incentives structured to assist municipal and local governments funding energy efficiency projects.”

In order to meet the requirements of this new law, the NH Electric Utilities first reached out to and solicited feedback from several municipalities of differing sizes throughout New Hampshire, the NH Energy Efficiency and Sustainable Energy (EESE) Board and the NH Local Energy Working Group. In particular, the NH Electric Utilities sought to more fully understand the unique barriers faced by the municipalities which may prohibit or lessen investment in energy efficiency projects and to identify specific technical assistance needs that could be met through a new CORE energy efficiency program. Based on the valuable input and feedback received, the NH Electric Utilities are proposing a first year program that:

- leverages the NH Electric Utilities’ existing commercial and industrial programs;
- incorporates a fuel blind component; and
- encompasses a flexible approach for technical assistance.

The primary focus in the first year is to expand on the successes achieved through the foundation of the existing CORE commercial and industrial programs, and to gain insight and experience that can be utilized in the program design in 2014 and in subsequent years. The NH Electric Utilities believe it is important to continue the collaborative process with stakeholders in order to facilitate leveraging of multiple resources and funding, and to identify best practices that can be incorporated into the program design.

Program Overview

In accordance with RSA 123-O:23, the new Municipal and Local Government Program is available to all municipal and local government customers of the NH Electric Utilities and to the five communities in New Hampshire that have their own municipal utilities (collectively these customers and five communities are referred to through the remainder of this document as “municipal customers”).

Municipal customers face barriers similar to other commercial and industrial customers, but they also have unique challenges. More frequent leadership changes, budgeting processes that require city/town representative approval and/or voter approval, and the level of local energy efficiency knowledge and project management expertise are all factors that can impact the ability of a municipality to cost-effectively implement energy efficiency projects. In addition, the technical assistance needs may vary widely from one city/town to another.

The program targets municipal customers with new construction projects, major renovation projects, failed equipment that needs replacement and those operating aging, inefficient equipment and systems. For new construction projects, the program offers prescriptive and custom rebates designed to cover the lesser of a one year payback or up to 75% of the incremental cost (100% for schools) of higher efficiency products. Incentives are also available for electric, oil and liquid propane heating, cooling and hot water systems.

For retrofit projects, the program offers prescriptive and custom rebates designed to cover the lesser of a one year payback or up to 35% of the equipment and installation cost up to the customer’s incentive cap. Retrofit services also include a turnkey solution tailored to the unique needs of municipal customers. As part of the turnkey services, the NH Electric Utilities offer lighting and refrigeration equipment upgrades delivered by vendors who perform initial assessments of existing buildings, recommend energy efficient improvements, and install the appropriate energy efficiency measures. Turnkey services include incentives of up to 50% of the installed cost of the energy efficiency measures up to the customer’s incentive cap. In addition, municipal customers may elect to use their own contractors to complete the energy efficiency projects.

Marketing & Education

In addition to the marketing activities being performed for the other CORE Commercial and Industrial Programs, the marketing of this program will focus on direct outreach to municipal customers to inform them about the program and how to participate.

Delivery

The NH CORE Utilities are responsible for the delivery of this program. Municipal customers will be served by each of the utilities’ account representatives who will explore efficiency opportunities with municipal representatives and guide them through the participation process. Technical assistance will be tailored to the individual needs of the

participating municipality, and existing resources such as completed energy audits will be utilized as much as possible.

Measures of Success & Market Transition Strategy

The NH Electric Utilities will monitor the success of the program during the first year. In addition, the NH Electric Utilities will continue to collaborate with and seek feedback from program stakeholders. Based on the program's success and the feedback from program participants and stakeholders, the NH Electric Utilities may incorporate program modifications in 2014 and in subsequent years. Program success will be defined by attaining the planned participation and energy saving goals, as well as, customer satisfaction with the program. Program evaluations will help shape any program changes needed over time to address market barriers.

III. UTILITY SPECIFIC PROGRAM CHANGES

Unitil Energy Systems, Inc.

This section provides information on programs specific to UES.

A. Combined Heat and Power (CHP) C&I Pilot Measure

Unitil received Commission approval as described in Order No. 25,555 to implement the CHP C&I pilot measure. As of this filing, Unitil is finalizing a Request for Proposal (RFP) for the Company's commercial customers interested in installing a CHP system. A team will review the RFP responses and will choose the best project that meets the requirements of the pilot measure. Since CHP systems often have longer manufacturing lead times and the interconnection process is often lengthy due to technical requirements, the installation and operation of this pilot measure equipment could occur in the fourth quarter of the 2014 program year. The Company plans to conduct an evaluation that spans at least the larger part of a heating season; therefore, the evaluation may not be concluded until 2015.

B. On-Bill Financing C&I

Unitil estimates that there is a sufficient balance of funds in the revolving loan fund for its commercial and industrial electric customers to carry through 2014, therefore Unitil is proposing to move the planned appropriation of \$50,000 from the C&I revolving loan fund to other C&I programs.

Public Service Company of New Hampshire

This section provides information on matters and programs specific to PSNH.

A. 2014 Budget Narrative

The following process and assumptions were used to develop PSNH's 2014 budget.

1. 2014 Energy Efficiency Program Funding

The total 2014 funding available to PSNH's energy efficiency programs was estimated based on the following:

- a) PSNH's System Benefits Charge (SBC) energy efficiency revenue is based on a forecast of 2014 MWh sales and an SBC energy efficiency rate of 1.8 mills per kilowatt-hour.

2014 Forecasted MWh Sales	SBC Rate (mills/kWh)	Total SBC Revenue (\$000's)
7,849,792	1.8	\$14,129.63

- b) The estimated 2014 RGGI proceeds of \$5.769 million was provided to the NH Electric Utilities by the Commission's staff on July 31, 2013.

Of this amount, as required by Senate Bill 123, which amends RSA 125-O:23, II-III effective January 1, 2014, up to \$2 million of the RGGI proceeds must be dedicated annually by the NH Electric Utilities for municipal and local government energy efficiency projects, including projects by local governments that have their own municipal utilities. As shown in the following table, the \$2 million was allocated to each NH Electric Utility based on each utility's proportional share of the total 2012 kWh sales, including the 2012 kWh sales of the NH municipal electric utilities. The kWh sales of the municipal electric utilities were assigned to PSNH and the NHEC based on their geographic location.

Utility	2012 kWh Sales	Allocated to:	Total Allocated kWh Sales	% Allocation	Municipal Allocation (\$000's)
LU-Electric	910,773,000		910,773,000	8.37%	\$167.34
NHEC	750,839,000		856,727,325	7.87%	\$157.41
PSNH	7,841,312,000		7,916,503,660	72.73%	\$1,454.51
Unitil	1,201,472,000		1,201,472,000	11.04%	\$220.75
Ashland	18,038,293	NHEC			
Littleton	72,000,000	PSNH			
New Hampton	3,191,660	PSNH			
Wolfeboro	66,928,312	NHEC			
Woodsville	20,921,720	NHEC			
Total	10,885,475,985		10,885,475,985	100.00%	\$2,000.00

The remaining RGGI funds of \$3.769 million was allocated to each NH Electric Utility based on each utility's proportional share of the total 2012 kWh sales delivered by each utility. As shown in the following table, the final RGGI funds allocated to each NH Electric Utility is the summation of the municipal program funds and the remaining RGGI funds.

Utility	2012 mWh Sales	Percent Allocation	Municipal Program Allocation (\$000's)	Remaining RGGI Funds (\$000's)	Final RGGI Funds Allocation (\$000's)
LU-Electric	910,773	8.51%	\$ 167.34	\$ 320.68	\$ 488.02
NHEC	750,839	7.01%	\$ 157.41	\$ 264.37	\$ 421.78
PSNH	7,841,312	73.25%	\$ 1,454.51	\$ 2,760.91	\$ 4,215.42
Unitil	1,201,472	11.22%	\$ 220.75	\$ 423.04	\$ 643.78
Total	10,704,396	100.00%	\$ 2,000.00	\$ 3,769.00	\$ 5,769.00

- c) The ISO-NE Forward Capacity Market (FCM) proceeds for the period January through December 2014 are estimated to be \$2.235 million.
- d) The total carryover and interest balance from the 2012 program year is \$1,091,700. PSNH has included \$1,720 of this amount in the estimate of total 2014 funding. PSNH has requested the Commission's approval to immediately transfer \$900,000 to the Smart Start Revolving Loan Fund (Rate SSP) and \$190,000 to the Residential Energy Efficiency Revolving Loan Fund (Rate LP). For additional information, please refer to the request submitted to the Commission on August 26, 2013.
- e) The total 2014 funding of \$20.581 million is the summation of the SBC revenue, the 2012 carryforward and interest, and the RGGI and FCM proceeds.

Source	Amount (\$000's)
SBC Revenues	\$14,129.63
Carryforward and Interest	\$1.72
RGGI	\$ 4,215.42
FCM	\$2,235.00
Total	\$20,581.77

2. Performance Incentive Budget

A portion of the total 2014 funding is reserved for the performance incentive. The first portion relates to the performance incentive associated with PSNH's Smart Start Program and is calculated based on 6% of the loans repaid¹. The second portion relates to the performance incentive associated with all of PSNH's other energy efficiency programs and is calculated based on the method approved by the Commission in its Order No. 25,569 issued on September 6, 2013. The performance incentive section of this document (Section V) describes the calculation of the performance incentive in greater detail, including the calculation of the performance incentive budget. Reference Attachment F, page 3 for the

¹ Docket DE 01-080, Order No. 23,851, November 29, 2001, Section III, page 19.

total 2014 planned performance incentive budget and the commercial/industrial/municipal sector and residential sector performance incentive budgets.

3. Total Program Budget and Allocation to the Residential and Commercial/Industrial Sectors

- a) The total program budget is equal to the total 2014 program funding less the performance incentive budget and the Smart Start Program expenses.
- b) The Residential Home Energy Assistance (HEA) Program is first allocated 15% of the total program budget.²
- c) The remaining budget amount (total program budget as defined in (a) above less the HEA Program budget) is allocated to the residential sector and the commercial/industrial sector based on the funding source.
 - a. The SBC, RGGI and carryforward and interest funds are allocated based on each sector's proportional share of the forecasted 2014 total kWh sales (Residential – 40.43%; Commercial/Industrial – 59.57%). Of the C&I funds, \$1.45 million was allocated to the C&I municipal program.
 - b. Seventy percent (70%) of the FCM funds are allocated to the Commercial/Industrial sector and thirty percent (30%) are allocated to the Residential sector. (As stated in Order No. 24,719 dated December 22, 2006, the Commission stated “We also believe that it is appropriate, as a preliminary matter, to contribute any payments received by utilities for Core program peak load reduction back to the Core programs.”)
- d) Of the Residential and Commercial/Industrial sector budgets, approximately 2% is allocated to marketing activities and approximately 5% is allocated to monitoring and evaluation activities.

4. Factors Influencing Budget Level

There are several factors that may impact the budget level, including:

- a) Any difference between the actual spending level achieved in the 2014 program year and the total actual energy efficiency funding exclusive of the actual performance incentive earned in 2014 may be allocated to future year program budgets.
- b) PSNH plans to monitor spending in each of the programs and propose adjustments as necessary (e.g. in response to customer demand) in accordance with the guidelines contained in the Introduction section (Section K) of the 2013-2014 CORE New Hampshire Energy Efficiency Programs Plan.
- c) PSNH will accrue interest³ monthly at the prime rate⁴ on the average net balance of the total of the SBC revenue and RGGI and FCM proceeds received less funds expended for programs and services.
- d) PSNH's SBC revenue is based on sales projections. Actual sales may differ resulting in proportionately more or less SBC revenue available for energy efficiency programs. In addition, RGGI and FCM proceeds are estimated and are subject to change. The budget will be adjusted to reflect actual sales and actual RGGI and FCM proceeds.

The 2014 budget is presented in Attachment H.

² As required by Senate Bill 123, which amends RSA 125-O:23,III effective January 1, 2014, at least 15 percent of the RGGI proceeds must be allocated to the low-income core energy efficiency program.

³ DE 96-150, Order 23,574, November 1, 2000, page 25.

⁴ <http://www.moneycafe.com/library/primerate.htm>

B. Residential Customer Engagement Pilot Program

In late March 2013, PSNH contracted Opower to assist with the implementation of PSNH's Residential Customer Engagement Pilot Program. A project implementation kick-off meeting was held in April 2013 and based on the most current project schedule; the first Home Energy Reports will be mailed to 25,000 randomly-selected pilot participants in early October 2013.

In the 2013–2014 CORE NH Energy Efficiency Programs Plan dated September 17, 2012 and updated on December 14, 2012, the initial project implementation date was forecasted to be in January 2013. Due to more extensive reviews of the responses to the Request for Proposal for Professional Services and contract negotiations, a vendor was not selected until late March. As a result, the program launch is now scheduled to occur in October 2013.

A Request for Quotes for Professional Evaluation Services was issued in April 2013 to select an independent program evaluator to perform an evaluation requirements review soon after the program implementation kick-off to ensure the necessary data is collected and is readily available to the evaluation vendor upon the close of the pilot program and to verify that the samples chosen by the vendor are representative of PSNH's residential customer population. Upon the close of the pilot program, the evaluation vendor will verify the electric kilowatt-hour savings, the change in participation levels in PSNH's other energy efficiency programs and will evaluate the participants' overall satisfaction with the pilot program. PSNH awarded the evaluation contract to Navigant Consulting in May 2013.

The pilot program is anticipated to conclude in September 2014. Based on this date, the final evaluation report from Opower will be completed in October 2014 and Navigant Consulting's independent program evaluation will be completed in November 2014.

IV. MONITORING & EVALUATION

A settlement agreement approved by the Commission on March 17, 2006 (Order No. 24,599 in DE 05-157) transferred responsibility for monitoring and evaluation efforts from the NH CORE Utilities to the Commission's Staff. Under that agreement, the Commission receives input and advice from the NH CORE Utilities on monitoring and evaluation activities.

In 2014, no changes are anticipated regarding the responsibilities of the parties. Funding for Monitoring and Evaluation is proposed to remain at approximately five percent of the annual program budgets.

From January to August 2013, the following Monitoring and Evaluation studies were completed:

- The Avoided Energy Supply Costs in New England: 2013 Report, July 12, 2013. The updated avoided energy and capacity costs were utilized by the NH CORE Utilities in their energy efficiency program benefit-cost analyses.
- The New Hampshire HVAC Load and Savings Research, April 5, 2013. This study conducted research on electric cooling loads and cooling equipment, additional opportunities for energy efficiency and the comprehensive electric impacts of the Home Performance with ENERGY STAR Program.
- Wi-Fi Programmable Thermostat Pilot Program Evaluation, July 2013. This report presents the findings and recommendations of Liberty Utilities' Wi-Fi Thermostat Pilot Program.

The following evaluations included in the 2013-2014 Plan are still being considered, including: PSNH's Customer Engagement Pilot first year results impact evaluation, and the Large Business Energy Solutions Program Impact Evaluation, which has been expanded to include C&I New Equipment & Construction projects. Evaluations for the Energy Star Appliance Program and the Energy Star Homes Programs are also planned for 2014.

NH also participates in the Regional Evaluation, Measurement & Verification Forum (EM&V Forum) administered by NEEP. Projects completed recently include the Regional Energy Efficiency Database (REED), Emerging Technologies (recently reviewed advanced powers strips in commercial environments), Incremental Cost Studies (including residential combined heat and hot water systems; ventilation fans; residential cellulose attic insulation; economizers; ductless minisplit heat pumps; prescriptive chillers; and variable frequency drives as well as findings from an examination of non-energy features of residential air conditioners), and Load Shape Studies (Commercial Lighting and C&I Unitary HVAC).

Research & Evaluation projects underway in 2013 include Load Shape research (finishing up variable frequency drives on HVAC units and prioritizing measures/end uses for Phase 4), Incremental Cost Research (Phase 3) for priority measures, and Emerging Technologies. Protocol Development Projects include Cost-Effectiveness Testing Guidance and Research, and a Clothes Dryer baseline study.

Reports and project details are available at <http://neep.org/emv-forum/index>

V. PERFORMANCE INCENTIVE

Background

On December 12, 2012, in Docket No. DE 12-262, a settlement agreement relating to the CORE Programs was presented to the Commission. The settlement agreement stated, in relevant part, that the Settling Parties and the Commission's Staff agreed that the performance incentive working group would develop a performance incentive proposal to address non-electric savings and ensure the performance incentives are appropriately aligned with CORE program goals for the Commission's review by June 30, 2013. To the extent that members of the working group could not agree on a proposal, any individually developed proposal(s) for a performance incentive would be submitted for Commission review by June 30, 2013. Any proposals, whether joint or individual, were to include proposed terms relative to the effective date of any changes recommended. This settlement agreement was approved by the Commission on February 1, 2013 in Order No. 25,462.

As part of the performance incentive working group, representatives of the NH CORE Utilities, Staff, the Department of Environmental Services and the Office of Energy and Planning met subsequent to Order No. 25,462 and engaged in numerous discussions relating to the performance incentive formula. As a result of those discussions, the NH CORE Utilities and Staff reached a compromise on a proposal for a performance incentive effective as of the 2014 program year and filed the proposal with the Commission for approval on July 1, 2013. On June 28, 2013, the Office of Consumer Advocate (OCA) indicated in a letter to the performance incentive working group that it did not oppose the performance incentive settlement proposal being presented to the Commission regarding the CORE program performance incentive to be used beginning in 2014. On July 19, 2013, the Office of Energy and Planning (OEP) and the Department of Environmental Services (DES) filed joint comments with the Commission indicating that neither DES or OEP wished to impede the work of the utilities or the Commission to move toward a more effective performance incentive for the utilities and did not object to the temporary implementation of the July 1, 2013 proposal, but urged the Commission to open a new docket or other process in the near future so that the issues may be resolved prior to the filing of the 2015-2016 CORE programs plan.

On September 6, 2013, the Commission issued Order No. 25,569 approving the proposed performance incentive formula for effect beginning with the 2014 program year. The NH CORE Utilities have utilized the new performance incentive formula to prepare their 2014 CORE Program Plan, including program budgets and goals, and have included the performance incentive formula in the following section entitled "Performance Incentive Formula".

Treatment of the Forward Capacity Market Expenses in the Calculation of the Performance Incentive

On July 1, 2013, the Commission's audit staff filed its final audit reports for the 2011 CORE Electric and Gas Efficiency Programs with the Commission. In the Final Audit Report for Unitil Energy Services, Inc., the audit staff indicated the following as Repeat Audit Issue #1, "*As was identified in the prior year audit report, UES should not be including of the Forward Capacity Market expenses for purposes [of] calculating the shareholder incentive.*" In the Final Audit Reports for PSNH, NHEC and Liberty Utilities, the audit staff indicated that the Forward Capacity Market expenses were properly not included in the performance incentive calculation. In addition, in the Final Audit Report for Unitil, the audit staff recommended that the utilities and the staff at the Commission expressly determine what costs are authorized for inclusion in the

actual costs for the performance incentive, given that there is no consensus on the accurate method to use.

The proceeds received from ISO-NE for the NH Electric Utilities participation in the Forward Capacity Market are utilized as a source of funding for the CORE Programs. In 2014, the estimated annual proceeds total \$2.6 million, or approximately 9.2% of the total annual energy efficiency funding for the CORE Programs, while the estimated annual expenses total \$233,000. These expenses are related directly to the CORE Energy Efficiency Programs and the CORE Electric Utilities participation in the Forward Capacity Market, and are similar to other expenses incurred to administer the CORE Programs. All other program expenses are included in the calculation of the performance incentive. As a result, the NH Electric Utilities have included the energy-efficiency-related expenses resulting from their participation in the Forward Capacity Market in the calculation of the 2014 performance incentive for each utility.

Performance Incentive Formula

Four factors influence the performance incentive (PI) for the electric programs: (1) the actual dollars spent; (2) the ratio of the actual electric lifetime savings achieved to the total actual lifetime energy savings achieved (includes both electric and non-electric measures); (3) the ratio of the actual benefit-to-cost ratio achieved to the predicted benefit-to-cost ratio; and (4) the ratio of the actual lifetime kilowatt-hour savings achieved to the predicted lifetime kilowatt-hour savings achieved.

The formula is as follows:

A. For the CORE programs offered by the NH Electric Utilities:

- i. The percentage of electric lifetime savings to the total lifetime energy savings achieved by each electric utility is calculated using the following formula:

$$\text{Electric Lifetime Savings \%} = \frac{\text{Electric Lifetime Savings}}{\text{Total Lifetime Energy Savings}}$$

Where:

Total Lifetime Energy Savings = Electric Lifetime Savings (in kWh) + (Lifetime MMBtu Savings x 293)

Electric Lifetime Savings = Actual lifetime kilowatt-hour savings achieved by all CORE programs offered by each electric utility

Lifetime MMBtu Savings = Actual lifetime MMBtu savings achieved by all CORE programs offered by each electric utility

- ii. If the Electric Lifetime Savings % \geq 55%, then the PI formula for both electric and non-electric measures is:

$$PI = [3.75\% \times \text{ACTUAL}] \times [(BC_{\text{ACT}} / BC_{\text{PRE}}) + (kWh_{\text{ACT}} / kWh_{\text{PRE}})]$$

Where:

PI = Performance Incentive in dollars

ACTUAL = Total dollars spent less the performance incentive

BC_{ACT} = Actual Benefit-to-Cost ratio achieved

BC_{PRE} = Predicted Benefit-to-Cost ratio

kWh_{ACT} = Actual Lifetime Kilowatt-hour savings achieved

kWh_{PRE} = Predicted Lifetime Kilowatt-hour savings

This formula is used to calculate the PI for the residential and the commercial/industrial sectors separately; the overall PI is determined by adding the sector PIs.

The residential and commercial/industrial sector PIs are each capped at 10% of actual expenditures. In addition, the kWh savings ratio component and the B/C ratio component are each capped at 5% of actual expenditures.

- iii. If the Electric Lifetime Savings % < 55%, then the PI formula for both electric and non-electric measures is of the form shown in A.ii. above with the 3.75% multiplier replaced by 3.0%.

The formula is used to calculate the PI for the residential and the commercial/industrial sectors separately; the overall PI is determined by adding the sector PIs.

The residential and commercial/industrial sector PIs are each capped at 8% of actual expenditures. In addition, the kWh savings ratio component and the B/C ratio component are each capped at 4% of actual expenditures.

B. For the CORE programs offered by the NH Gas Utilities:

The formula is:

$$PI = [4\% \times ACTUAL] \times [(BC_{ACT}/BC_{PRE}) + (MMBTU_{ACT}/MMBTU_{PRE})]$$

Where:

PI = Performance Incentive in dollars

ACTUAL = Total dollars spent less the performance incentive

BC_{ACT} = Actual Benefit-to-Cost ratio achieved

BC_{PRE} = Predicted Benefit-to-Cost ratio

MMBTU_{ACT} = Actual Lifetime MMBTU savings achieved

MMBTU_{PRE} = Predicted Lifetime MMBTU savings

The residential and commercial/industrial sector PIs are calculated separately and are independent of one another. The residential PI is capped at 12% of the actual residential expenditures. In addition, the commercial/industrial PI is capped at 12% of the actual commercial/industrial expenditures. The overall PI is determined by adding the sector PIs.

C. The following threshold conditions are applicable:

- i. For the programs offered by the NH Electric Utilities and NH Gas Utilities, the combined benefit-to-cost ratio for residential sector programs must be 1.0 or greater. If not, there is no incentive associated with the program cost effectiveness performance metric. The commercial/industrial component is calculated similarly.
- ii. For the programs offered by the NH Electric Utilities, the actual lifetime kWh savings for the residential sector programs must be 65% or greater than the predicted lifetime kWh savings. If not, there is no incentive associated with the kWh savings performance metric. The commercial/industrial component is calculated similarly.

- iii. For the programs offered by the NH Gas Utilities, the actual lifetime MMBtu savings for the residential sector programs must be 65% or greater than the predicted lifetime MMBtu savings. If not, there is no incentive associated with the MMBtu savings performance metric. The commercial/industrial component is calculated similarly.

Performance Incentive Budget

A portion of each utility's budget is set aside for the PI, as defined in the Energy Efficiency Working Group Report dated July 6, 1999 in DR 96-150 (page 21, part 3f).⁵

Each NH Electric Utility budgets for a 7.5% PI as follows:

Electric Utility PI Budget

$$PI = 7.5\% \times [BUDGET_{TOT} - PI]$$

$$PI = 0.069767 \times BUDGET_{TOT}$$

Each NH Gas Utility budgets for an 8.0% PI as follows:

Gas Utility PI Budget

$$PI = 8.0\% \times [BUDGET_{TOT} - PI]$$

$$PI = 0.074074 \times BUDGET_{TOT}$$

Where:

PI = Performance incentive in dollars

BUDGET_{TOT} = Total budget in dollars, including the performance incentive

Smart Start Program Performance Incentive

PSNH's Smart Start Program performance incentive is 6% of the loans repaid.

Benefit-to-Cost Ratio Avoided Costs and Assumptions

Refer to Attachment C for information on avoided costs and assumptions used to calculate the benefit-to-cost ratios.

Performance Incentive Calculations

Attachments D, DG, E, F, G and GG present each utility's calculations for cost effectiveness, performance incentive, planned benefit-to-cost ratios and planned energy savings for each program.

⁵ "For incentive calculation purposes only, planned energy efficiency budget is defined as the total program budget minus performance incentives..."

VI. STATUS OF INITIATIVES CONTAINED IN THE 2013/2014 CORE FILING

A. BetterBuildings Program / Home Performance with ENERGY STAR Program Collaboration

During 2012, Public Service Company of New Hampshire, Unil Energy Systems, Inc. and the New Hampshire Electric Cooperative each entered into collaboration agreements with the New Hampshire Community Development Finance Authority (CDFA). CDFFA is responsible for operating the BetterBuildings Program. In that role, the CDFFA received an \$8.5 million grant, through the New Hampshire Office of Energy and Planning (OEP), from the Department of Energy. Through these collaborative efforts, the utilities made commitments to use their best efforts to deliver an additional \$1.8 million in program services to residential customers throughout each utility's service territory through April 30, 2013, which was the duration of the Department of Energy grant period. The utilities are pleased to report that all of the funds were expended on program services by the close of the grant program on April 30, 2013. Over 450 New Hampshire homes received program services under this collaboration, which included audit and weatherization services and/or the replacement of appliances and lights to more efficient models. In addition, approximately forty percent of the participating customers received on-bill financing services for their portion of the project costs. The utilities appreciated the opportunity to collaborate with CDFFA and provide weatherization services to an additional 450 customers.

B. Status of Independent Study of Energy Policy Issues Report Recommendations with Implementation Dates Scheduled in 2013

- *Develop Shared IT Resources and Common Reporting Standards for the Home Energy Assistance Program.*

Plan:

The OEP and the NH CORE Utilities are working together to implement a common weatherization projects database and shared software for assessing energy savings potential, program administration and reporting. The goal is for OEP, the Community Action Agencies (CAAs) and the utility program administrators to have secured access to the system with functionality to support their specific needs.

Status: OEP, the CAAs and the utilities currently utilize the same shared software for modeling energy savings potential. This group reviewed existing program administration and reporting requirements to determine what is needed in a tracking system. In 2014, the group will look at modifying existing software and researching other systems to identify the most appropriate path forward that will meet each organization's needs.

- *Increase Maximum Length of an Energy Performance Contract.*

Report Recommendation:

With the passage of Senate Bill 252 (2012 Session) which was signed into law on June 7, 2012, state agencies and municipalities can enter into an energy performance contract (EPC) with a term lasting up to 20 years. CORE program account executives should prepare to assist local governments in understanding and taking advantage of this legislative change to take on more and larger energy projects.

Status: The NH CORE Utilities will update their account executives on this legislation as part of the roll-out of the new municipal C&I program.

- *Better Align and Coordinate Programs*

Status: With the 2013-2014 CORE Programs filing, the NH CORE Utilities made significant progress towards better alignment of programs. Differences between the programs offered by the gas utilities were eliminated in 2013 and customers have received services and incentives seamlessly from both the gas and electric programs.

In April 2013, all of the utility Account Executives received training on the full suite of electric and gas programs. As a result, the electric companies' Account Executives are now familiar with the gas programs and the gas companies' Account Executives are familiar with the electric programs. Future training sessions will be conducted as needed to ensure familiarity with both the electric and gas programs. Each utility's Account Executives provide a range of services in addition to energy efficiency and are the single point of contact between the utility and the customer within that utility's franchise. Rather than assigning a single Account Executive to customers with facilities in multiple franchise areas, as was suggested in the VEIC report, the assigned Account Executives coordinate with each other when working with cross-franchise customers in order to serve their needs.

The NH CORE Utilities recently issued an RFP and selected a web designer to make improvements to the NHSaves.com website. These improvements include the following objectives: 1) To fully integrate, describe, and support both electric and gas efficiency program offerings; 2) To better integrate the catalog.nhsaves.com web site and NHSaves.com site; and 3) To update the navigation, look and feel of the web site. The changes that will be made to the website in 2013 and 2014 will facilitate the coordination of program offerings both among utilities and between the gas and electric programs, as well as provide a more seamless experience for our customers.

- *Include Consideration for Multi-family Dwellings and Fuel Neutral Products/Programs*

Status: The NH CORE Utilities included multi-family dwellings in both the Home Performance with ENERGY STAR (HPwES) and ENERGY STAR Homes Programs in the 2013-2014 CORE Programs filing. In addition, the NH CORE Utilities included fuel neutral high efficiency heating, cooling, hot water and control system measures to both residential and business customers in 2013 and have proposed to continue to offer these measures in 2014.

C. Status of the Directives Contained in the Commission's Home Performance with ENERGY STAR Program Order No 25,402

On August 23, 2012, the Commission issued Order No. 25,402 (Order on Home Performance with ENERGY STAR Program (HPwES)). In its Order, the Commission provided conditional approval to continue the fuel neutral HPwES Program in 2012 and to include the program in the utilities' 2013-2014 CORE program filing. The Commission's conditional approval is subject to eight directives, which are summarized below along with an update on the status of the resolutions proposed for each directive.

- 1) Study the drivers of the increasing air conditioning load in both the residential and C&I customer classes and begin to develop cost-effective energy efficiency programs to reduce this load. Included in this analysis should be window unit air conditioners and their installation, as well as central air conditioning systems.

Resolution

Complete a market assessment study of air conditioning equipment in both the residential and C&I customers sectors that will focus on opportunities for program interventions to reduce the rate of increase of air conditioning energy and peak demand.

Status

The NH Electric Utilities, in conjunction with Commission Staff, contracted with The Cadmus Group to complete a market assessment study of air conditioning equipment in the residential and C&I sectors. On April 5, 2013, in compliance with the Commission's directive, the NH Electric Utilities filed a final report entitled "New Hampshire HVAC Load and Savings Research" with the Commission. This research studied the drivers of the increasing air conditioning load in both the residential and C&I sectors; recommended additional measures to reduce air conditioning electric loads and provided estimates of the ancillary electricity savings associated with various non-electric measures utilized in the HPwES Program. These ancillary savings are included in the calculation of kWh savings and benefits in this filing.

- 2) Further develop peak demand as a factor when calculating cost/benefit tests of proposed energy efficiency measures.

Resolution

This directive was interpreted to mean that attention should be focused on accurate quantification of the benefit of summer peak demand savings in cost/benefit tests of air conditioning measures and was included as a requirement of the market assessment study noted in directive #1.

Status

The benefit/cost model does incorporate peak demand as a factor when calculating the benefit/cost of all energy efficiency measures. Savings associated with cooling measures mostly occur in the summer peak period for both energy and peak demand reductions.

With respect to air conditioning impact on the ISO-NE "On Peak Hours", the Cadmus NH HVAC Load and Savings Research did find that air conditioning loads do contribute to the demand for electricity during on peak hours in NH. As part of their review, Cadmus

recommended that the NH Electric Utilities consider including the following cooling measures to enhance energy and peak demand reductions:

Residential Sector

- Utilize ductless heat pump air conditioners (in place of central or window air conditioners);
- Encourage highest efficiency equipment for new construction and planned equipment replacement opportunities;
- Encourage early replacement of existing inefficient equipment;
- Encourage the installation of web-enabled programmable thermostats with central controls for demand response actions during summer peak periods for homes with central air and heat pump cooling systems.

Business Sector:

- Promote building retro-commissioning to assess and upgrade HVAC equipment and controls;
- Promote installation of variable speed drives for data center computer room air conditioners and computer room air handler fans;
- Consider utilizing a remote interval data analysis tool to identify customers with the highest cooling loads and assess energy efficiency opportunities.

- 3) Include additional measures or programs that target peak demand in the 2013-2014 CORE program filing.

Resolution

The 2013-2014 CORE Programs Plan included incentives for new high efficiency central air conditioning and air source heat pumps in both the residential and C&I customer sectors.

Status

The 2014 CORE Update Plan also includes incentives for high efficiency ENERGY STAR central air conditioning and air source heat pumps in the residential and C&I customer sectors.

- 4) Include ancillary electric savings data from non-electric energy efficiency measures, as well as a description of the reliability and accuracy of the data in the form of a report in the 2013-2014 CORE program filing.

Resolution

The quantification of ancillary electric savings data from non-electric energy efficiency measures was included as a requirement of the market assessment study noted in directive #1.

Status

The NH Electric Utilities have incorporated the recommendations and results of the Cadmus "New Hampshire HVAC Load and Savings Research" into the 2014 plan for weatherization programs (HEA and HPwES). Specifically, the utilities included the following energy savings values: Boiler Circulator Pump Savings (9 annual kWh), Furnace Fan Savings (86 annual kWh), Furnace w/new ECM Motor (733 annual kWh), Central AC Savings (77 annual kWh), and Room AC Savings (23 annual kWh).

Cadmus performed simulation modeling and engineering analysis to develop savings

estimates for these impacts, utilizing secondary data from previous impact evaluations conducted in New Hampshire and for other similar weather regions. All calculations in this study were adjusted to develop results appropriate for the New Hampshire weather regions and customer base. Cadmus confirmed that the estimated savings results were consistent with those measured through metering studies of similar measures.

- 5) Perform outreach to electric space heating customers and give such customers priority.

Resolution

The NH Electric Utilities will continue to perform outreach to customers/landlords that are likely to utilize electricity to heat their homes/multi-family buildings and will give priority to electric heat customers via the Home Heating Index screening tool by allowing them to qualify for the program at a lower BTU/Square Foot threshold. In addition, the NH Electric Utilities agreed to conduct a targeted marketing campaign during the time period October 2012 – December 2014.

Status

The NH Electric Utilities continue to give priority to electric heat customers via the Home Heating Index screening tool by allowing them to qualify for the program at a lower BTU/Square Foot threshold. A targeted marketing campaign will be conducted in 2014.

- 6) Develop cost/benefit tools to measure energy savings in multi-family buildings and give priority to multi-unit buildings which utilize electricity for space heating.

Resolution

The NH CORE Utilities plan to implement a common statewide energy modeling software program in 2013 for residential programs that will have the capability to more easily calculate energy savings in multi-family buildings.

Status

Recognizing that the Home Heating Index is not an appropriate tool to screen multi-family buildings, the utilities will perform an assessment of electric or gas heated multi-family units whose owners are interested in participating in the Home Performance with ENERGY STAR Program. The utilities can use their existing HEA modeling tool, TREAT, for modeling these multi-family units. As other tracking and reporting software tools are evaluated, the utilities will assess the ability for the tools to incorporate both multi-family and single family buildings.

- 7) Include an alternative cost benefit analysis approach for electrically heated multi-family projects in the 2013-2014 CORE program filing.

Resolution

The NH Electric Utilities plan to conduct audits of electrically heated multi-family projects to determine the cost-effectiveness of these projects.

Status

The NH Electric Utilities will continue to conduct audits of electrically heated multi-family projects to determine the cost-effectiveness of these projects. The Home Heating Index (HHI) tool is not utilized for multi-family cost benefit analyses as it was designed to be utilized for single family home cost benefit analyses.

- 8) Convene a working group immediately, for the purpose of developing a performance incentive proposal for non-electric savings.

Status

A Performance Incentive Working Group met on several occasions and engaged in numerous discussions relating to the performance incentive mechanism in light of the Commission's directive. On July 1, 2013, the CORE Utilities and the Commission's Staff reached a compromise on a performance incentive proposal and filed the proposal with the Commission for approval. On September 6, 2013, the Commission issued Order No. 25,569 approving the proposed performance incentive formula for effect beginning with the 2014 program year.

ATTACHMENT A: Income Qualified Weatherization – Home Energy Assistance Program Production Schedule

2014 HEA Quarterly Production Schedule

Utility	Total Jobs	1st. Qtr.	2nd. Qtr.	3rd. Qtr.	4th. Qtr.
		13%	37%	33%	17%
LU-Electric	40	6	10	17	7
NHEC	34	6	9	11	8
PSNH	343	42	122	120	59
Unitil	92	7	59	18	8
LU-Gas	182	26	57	64	35
Northern Utilities	43	7	12	14	10
TOTAL Electric	509	61	200	166	82
TOTAL Gas	225	33	69	78	45
Cumulative TOTAL		94	363	607	734

2014 HEA Job Distribution By County and By Utility

BY COUNTY	LU-Electric	NHEC	PSNH	Unitil	LU-Gas	Northern Utilities	Grand Total
Belknap		6	38		22		66
Carroll		4	20				24
Cheshire	8		11				19
Coos		2	21		0		23
Grafton	12	11	12				35
Hillsborough	6		132		138		276
Merrimack		4	29	45	19		97
Rockingham	7	3	34	47	3	28	122
Strafford		0	34			15	49
Sullivan	7	4	12				23
Program Totals	40	34	343	92	182	43	734

Note: Quarterly numbers are benchmarks and not meant to be used to evaluate production on a monthly basis.

ATTACHMENT C: AVOIDED COSTS

Summary of Avoided Electric Costs

In accordance with Commission Order No. 23,850, in DE 01-057, dated November 29, 2001, the NH Electric Utilities have based their avoided costs on the *Avoided-Energy-Supply Costs in New England: 2013 Final Report* (“2013 AESC”). Use of common avoided costs by the utilities ensures that all New Hampshire customers will have access to the same programs and services.

The present value of avoided costs over the life of program measures was calculated using a discount rate of 3.25%¹ and a general inflation rate of 2.00%². The use of the 15% adder to represent non-quantified benefits – including environmental and other benefits as recommended by the Energy Efficiency Working Group, originally authorized by the NHPUC in DR 96-150, Order No. 23,574, dated November 1, 2000, has been discontinued because the 2013 AESC avoided costs include market-based price proxies for power plant emissions of NO_x, SO₂, Mercury and CO₂.

The 2013 AESC avoided costs also include a 9% generic retail adder to account for the expected differential between retail and wholesale market prices. In recognition of diversity among states and utilities in energy service procurement and retail pricing policies, the contractor provided the sponsors the option to remove the adder from the avoided cost data. The NH Electric Utilities have concluded that the 2013 AESC forecasted wholesale prices of energy and capacity represent a better approximation to the cost of energy service avoided by their retail customers than the prices which include a 9% increase to the wholesale prices.

¹ Prime rate as of June 1, 2013, in accordance with Energy Efficiency Working Group Report, Section 7, page 17. Prime rate data taken from <http://www.moneycafe.com/library/primerate.htm>

² Used the Gross Domestic Product: Implicit Price Deflator and calculated the difference between the January 1, 2012 and January 1, 2013 rates. See <http://research.stlouisfed.org/fred2/data/GDPDEF.txt>

Avoided Transmission and Distribution Costs

In accordance with Commission Order No. 23,850, in DE 01-057, dated November 29, 2001, the NH Electric Utilities have based their avoided transmission and distribution costs on the weighted average of NH utility costs and have escalated them for inflation and put them in 2013 dollars. Use of common avoided costs by the utilities ensures that all New Hampshire customers will have access to the same programs and services.

The following table also includes an adjustment to reduce the energy and capacity line loss multipliers by the estimated losses that are accounted for in the 2013 forecast of energy prices.

Marginal T&D Costs and Line Loss Factors (\$2012)								
	<u>MDC (\$/kW-yr)</u>		<u>MTC</u>	<u>Line Loss Multipliers</u>				
	<u>Res.(1)</u>	<u>C&I(2)</u>		<u>Transmission</u>	<u>Summer</u>	<u>Winter</u>	<u>On-Peak</u>	<u>Off-Peak</u>
			<u>(\$/kW-yr)</u>	<u>Capacity</u>	<u>Capacity</u>	<u>Capacity</u>	<u>Energy</u>	<u>Energy</u>
NHEC	\$163.05	\$163.05	\$109.43	1.0207	1.0818	1.0818	1.0818	1.0818
Liberty	\$118.71	\$86.39	\$49.63	1.1220	1.1500	1.1350	1.0630	1.0890
PSNH	\$38.11	\$38.11	\$2.30	1.0000	1.0820	1.0820	1.0820	1.0840
Unitil	\$76.47	\$76.47	\$30.37	1.0000	1.1217	1.1217	1.1217	1.0152
MWh Sales to Ultimate Customers in 2012								
NHEC	750,839	7.01%						
Liberty	910,773	8.51%						
PSNH	7,841,312	73.25%						
Unitil	<u>1,201,472</u>	<u>11.22%</u>						
Total	10,704,396	100.00%						
Weighted Average Marginal T&D Costs and Line Loss Factors (Energy Line Loss Multipliers have been reduced by estimated transmission losses.)								
	<u>MDC (\$/kW-yr)</u>		<u>MTC</u>	<u>Line Loss Multipliers</u>				
	<u>Res.(1)</u>	<u>C&I(2)</u>		<u>Transmission</u>	<u>Summer</u>	<u>Winter</u>	<u>On-Peak</u>	<u>Off-Peak</u>
			<u>(\$/kW-yr)</u>	<u>Capacity</u>	<u>Capacity</u>	<u>Capacity</u>	<u>Energy</u>	<u>Energy</u>
2013\$	\$59.20	\$56.39	\$17.33	1.012	1.076	1.075	1.061	1.053

Program Cost-Effectiveness - 2014 PLAN

Present Value												
	Total Resource Benefit/Cost Ratio	Benefit (\$000)	Utility Costs (\$000)	Customer Costs (\$000)	Shareholder Incentive (\$000)	Annual MWh Savings	Lifetime MWh Savings	Winter kW Savings	Summer kW Savings	Number of Customers Served	Annual MMBTU Savings	Lifetime MMBTU Savings
Residential Programs												
ENERGY STAR Homes	6.10	\$ 680.3	\$ 96.3	\$ 15.2		49	1,038	15	14	27	854	21,268
NH Home Performance with ENERGY STAR	2.56	\$ 710.9	\$ 174.6	\$ 102.7		19	232	538	180	74	983	20,571
ENERGY STAR Lighting	1.26	\$ 175.5	\$ 108.4	\$ 31.1		419	2,615	130	44	6,793	-	-
ENERGY STAR Appliances	2.27	\$ 1,004.8	\$ 222.7	\$ 220.0		267	2,833	40	33	1,656	1,491	24,691
Home Energy Assistance	1.64	\$ 533.0	\$ 325.8	\$ -		46	719	7	5	40	899	18,391
ISO NE FCM - Residential	0.00	\$ -	\$ 4.5	\$ -		-	-	-	-	-	-	-
Subtotal Residential	2.26	\$ 3,104.5	\$ 932.3	\$ 369.0	\$ 69.9	800	7,437	730	275	8,590	4,227	84,920
Commercial/Industrial Programs												
Large Business	1.41	\$ 1,973.9	\$ 693.6	\$ 703.0		1,607	21,519	206	297	85	675	9,349
Small Business	1.23	\$ 950.7	\$ 367.0	\$ 403.7		869	11,462	256	100	166	585	7,869
C&I Education	0.00	\$ -	\$ 16.3	\$ -		-	-	-	-	1	-	-
Municipal	2.09	\$ 594.5	\$ 167.3	\$ 117.7		357	4,826	92	48	24	444	9,640
ISO NE FCM - C&I	0.00	\$ -	\$ 10.5	\$ -		-	-	-	-	-	-	-
Subtotal C&I	1.37	\$ 3,519.1	\$ 1,254.7	\$ 1,224.4	\$ 94.1	2,834	37,807	554	445	275	1,704	26,859
Total	1.68	\$ 6,623.60	\$ 2,186.98	\$ 1,593.43	\$ 164.02	3,634	45,244	1,284	720	8,866	5,931	111,779

Annual kWh Savings	3,634,436	68%	kWh > 55%
Annual MMBTU Savings (in kWh)	1,738,214	32%	
Total Annual Energy Savings	5,372,650	100%	

Lifetime kWh Savings	45,244,204	58%	kWh > 55%
Lifetime MMBTU Savings (in kWh)	32,760,473	42%	
Total Lifetime Energy Savings	78,004,677	100%	

Present Value Benefits - 2014 PLAN

	Total Benefits (\$000)	CAPACITY				ENERGY				Non Electric Resource
		Summer Generation	Winter Generation	Transmission	Distribution	Winter Peak	Winter Off Peak	Summer Peak	Summer Off Peak	
Residential Programs										
ENERGY STAR Homes	\$680	\$33	\$0	\$5	\$17	\$19	\$26	\$9	\$12	\$559
Home Performance w/Energy Star	\$711	\$76	\$0	\$22	\$72	\$4	\$8	\$1	\$1	\$528
ENERGY STAR Lighting	\$176	\$17	\$0	\$5	\$15	\$41	\$55	\$18	\$24	\$0
ENERGY STAR Appliances	\$1,005	\$28	\$0	\$6	\$19	\$45	\$64	\$21	\$25	\$796
Home Energy Assistance	\$533	\$8	\$0	\$1	\$4	\$12	\$19	\$5	\$6	\$477
Subtotal Residential	\$3,105	\$162	\$0	\$38	\$128	\$122	\$172	\$55	\$68	\$2,360
Commercial/Industrial Programs										
Large Business	\$1,974	\$366	\$0	\$66	\$218	\$0	\$417	\$407	\$216	\$196
Small Business	\$924	\$123	\$0	\$22	\$73	\$0	\$195	\$248	\$95	\$114
C&I Education	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Municipal	\$595	\$61	\$0	\$11	\$36	\$0	\$84	\$101	\$43	\$48
Subtotal C&I	\$3,492	\$550	\$0	\$99	\$327	\$0	\$696	\$756	\$355	\$358
Total	\$6,597	\$713	\$0	\$137	\$455	\$122	\$868	\$810	\$423	\$2,718

Shareholder Incentive Calculation 2014

	<u>Planned</u>	<u>Actual</u>
Commercial/Industrial Incentive		
1. Benefit/Cost Ratio	1.43	
2. Threshold Benefit / Cost Ratio ¹	1.00	
3. Lifetime kWh Savings	37,807,486	
4. Threshold Lifetime kWh Savings (65%) ²	24,574,866	
5. Budget	\$1,254,687	
6. Benefit / Cost Percentage of Budget	3.75%	
7. Lifetime kWh Percentage of Budget	3.75%	
8. C/I Shareholder Incentive	\$94,102	
9. Cap (10%)	\$125,469	
Residential Incentive		
10. Benefit / Cost Ratio	2.39	
11. Threshold Benefit / Cost Ratio ¹	1.00	
12. Lifetime kWh Savings	7,436,718	
13. Threshold Lifetime kWh Savings (65%) ²	4,833,867	
14. Budget	\$932,295	
15. Benefit / Cost Percentage of Budget	3.75%	
16. Lifetime kWh Percentage of Budget	3.75%	
17. Residential Incentive	\$69,922	
18. Cap (10%)	\$93,229	
19. TOTAL INCENTIVE EARNED	\$ 164,024	

Notes

1. Actual Benefit / Cost Ratio for each sector must be greater than or equal to 1.0.
2. Actual Lifetime kWh Savings for each sector must be greater than or equal to 65% of projected savings.

2014 TRC BENEFIT COST TEST

Planned Versus Actual Benefit / Cost Ratio by Sector
 2014

	<u>Planned</u>	<u>Actual</u>
Commercial & Industrial:		
1. Benefits (Value) From Eligible Programs	\$ 3,519	
2. Implementation Expenses	\$ 1,255	
3. Customer Contribution	\$ 1,224	
4. Total Costs Excluding Shareholder Incentive	\$ 2,479	
5. Benefit/Cost Ratio - C&I Sector	1.42	
6. Benefit/Cost Ratio - C&I Sector including SI	1.37	
Residential:		
6. Benefits (Value) From Eligible Programs	\$ 3,105	
7. Implementation Expenses	\$ 932	
8. Customer Contribution	\$ 369	
9. Total Costs Excluding Shareholder Incentive	\$ 1,301	
10. Benefit/Cost Ratio - Residential Sector	2.39	
11. Benefit/Cost Ratio - Residential Sector including SI	2.26	

Actual Lifetime Energy Savings by Sector and Program 2014

	Lifetime kWh Savings	
	<u>Planned</u>	<u>Actual</u>
Commercial & Industrial:		
Large Business	21,519,008	
Small Business	11,462,209	
C&I Education	0	
Municipal	4,826,269	
Total Commercial & Industrial Included for Incentive Calculation	37,807,486	
Residential:		
ENERGY STAR Homes	1,038,066	
NH Home Performance with ENERGY STAR	231,888	
ENERGY STAR Lighting	2,615,391	
ENERGY STAR Appliances	2,832,541	
Home Energy Assistance	718,833	
Total Residential Included for Incentive Calculation	7,436,718	
Total	45,244,204	

Attachment DG: Total Resource Benefit Cost Analysis

January 1, 2014 - December 31, 2014 TRC BENEFIT COST TEST

Liberty Utilities Gas Energy Efficiency

New Hampshire Program Year Two

Summary of Benefit, Costs Program Year 2014 (January 1, 2014 - December 31, 2014)

Total Resource Cost Test

BCR Activity	TRC Benefit/ Cost	TRC Net Benefits	Total Benefits (\$000)	Total Costs (\$000)	PA Costs (\$000)	Participant Costs (\$000)	Annual MMBTU Savings	Lifetime MMBTU Savings	Participant Goal
Residential									
Home Energy Assistance	1.13	\$116	\$1,039	\$923	\$923	\$0	5,812	116,239	182
Home Performance with ENERGY STAR	2.43	\$1,803	\$3,068	\$1,265	\$767	\$498	17,160	343,209	522
ENERGY STAR Appliances	1.34	\$372	\$1,478	\$1,106	\$767	\$340	10,140	173,723	1,781
ENERGY STAR Homes	1.82	\$104	\$230	\$126	\$95	\$32	1,013	25,315	37
Building Practices and Demo	NA	(\$194)	\$0	\$194	\$194	\$1	-	-	-
Shareholder Incentive					\$220				
Subtotal: Residential	1.52	\$2,201	\$5,816	\$3,834	\$2,964	\$870	34,125	658,486	2,522
Commercial & Industrial									
Large Business	1.40	\$1,190	\$4,158	\$2,968	\$1,394	\$1,574	39,920	607,669	188
Small Business	1.18	\$411	\$2,686	\$2,275	\$999	\$1,276	19,897	355,930.9	549
Codes, Audit Training & Education	NA	(\$32)	\$0	\$32	\$32	\$0	-	-	-
Shareholder Incentive					\$194				
Subtotal: Commercial & Industrial	1.25	\$1,568	\$6,844	\$5,470	\$2,620	\$2,850	59,817	963,600	737
Grand Total	1.36	\$3,769	\$12,660	\$9,304	\$5,583	\$3,720	93,942	1,622,085	3,259

Attachment DG: Shareholder Incentive
Liberty Utilities Gas Energy Efficiency
Target Shareholder Incentive
Year Two- January 1, 2014 - December 31, 2014

Commercial & Industrial:

1. Target Benefit/Cost Ratio	1.25
2. Threshold Benefit/Cost Ratio	1.00
3. Target lifetime MMBTU	963,600
4. Threshold MMBTU	626,340
5. Budget	\$2,425,501
6. CE Percentage	4.00%
7. Lifetime MMBTU Percentage	4.00%
8. Target C/I Incentive	\$194,040
9. Cap	\$291,060

Residential:

10. Target Benefit/Cost Ratio	1.52
11. Threshold Benefit/Cost Ratio	1.00
12. Target lifetime MMBTU	658,486
13. Threshold MMBTU	428,016
14. Budget	\$2,744,250
15. CE Percentage	4.00%
16. Lifetime MMBTU Percentage	4.00%
17. Target Residential Incentive	\$219,540
18. Cap	\$329,310
19. TOTAL TARGET INCENTIVE	\$413,580

Line No. Notes:

- 1, 3, 5, 10, 12, and 14. See Attachment DG, page 1.
- 2, 6, 7, 11, 15, and 16. Report to the New Hampshire Public Utilities Commission on Ratepayer-Funded Energy Efficiency Issues in New Hampshire, Docket No. DR 96-150, page 21.
- 4. 65% of line 3.
- 8. 8% of line 5.
- 9. 12% of line 5.
- 13. 65% of line 12.
- 17. 8% of line 14.
- 18. 12% of line 14.
- 19. Line 8 plus line 17.

Attachment DG: Shareholder Incentive
Liberty Utilities Gas Energy Efficiency
Target Benefit-Cost Ratio by Sector
Year Two- January 1, 2014 - December 31, 2014

Commercial & Industrial:	<u>Planned</u>
1. Benefits (Value) From Eligible Programs	\$6,843,931
2. Implementation Expenses	\$2,393,187
3. Customer Contribution	\$2,850,048
4. Shareholder Incentive	\$194,040
5. Total Costs Including Shareholder Incentive	\$5,437,275
6. Benefit/Cost Ratio - C&I Sector	1.26
Residential:	
7. Benefits (Value) From Eligible Programs	\$5,815,570
8. Implementation Expenses	\$2,744,250
9. Customer Contribution	\$870,234
10. Shareholder Incentive	\$219,540
11. Total Costs Including Shareholder Incentive	\$3,834,024
12. Benefit/Cost Ratio - Residential Sector	1.52

Line No. Notes:

1 - 4 and 7-11. See Attachment DG, page 1.

5. Sum of lines 2-4.

6. Line 1 divided by line 5. The shareholder incentive mechanism described by the New Hampshire Energy Efficiency Working Group and approved by the Commission in Order No. 23,574 includes a circular calculation. A portion of the earned shareholder incentive is related to the benefit/cost ratio (BCR). However, the shareholder incentive is supposed to be included as an EE cost in determining the BCR. For the purpose of calculating the shareholder incentive, the Company has calculated the planned BCR including the shareholder incentive for one iteration and will compare the actual BCR including the shareholder incentive to the planned BCR including shareholder incentives when determining the earned incentive.

11. Sum of lines 7 - 10.

12. Line 7 divided by line 11. The shareholder incentive mechanism described by the New Hampshire Energy Efficiency Working Group and approved by the Commission in Order No. 23,574 includes a circular calculation. A portion of the earned shareholder incentive is related to the benefit/cost ratio. However, the shareholder incentive is supposed to be included as an EE cost in determining the benefit/cost ratio. For the purpose of calculating the shareholder incentive, the Company has calculated the planned benefit/cost ratio including the shareholder incentive for one iteration and will compare the actual benefit/cost ratio including the shareholder incentive to the planned benefit/cost ratio including shareholder incentives when determining the earned shareholder incentive.

Program Cost-Effectiveness - 2014 PLAN

	Total Resource Benefit/Cost Ratio	Present Value				Annual MWh Savings	Lifetime MWh Savings	Winter kW Savings	Summer kW Savings	Number of Customers Served	Annual MMBTU Savings	Lifetime MMBTU Savings
		Benefit (\$000)	Utility Costs (\$000)	Customer Costs (\$000)								
Residential Programs												
ENERGY STAR Homes	2.36	\$466	\$157	\$40	32	668	9	8	32	601	14,755	
Home Performance w/Energy Star	1.68	\$854	\$295	\$212	42	468	9	3	70	1,656	32,708	
ENERGY STAR Lighting	1.37	\$279	\$128	\$76	452	3,758	188	63	22,363	-	-	
ENERGY STAR Appliances	2.47	\$1,683	\$350	\$332	423	4,517	90	48	2,304	2,293	38,419	
Home Energy Assistance	1.04	\$305	\$295	\$0	50	776	15	4	34	808	10,402	
U-S: High Efficiency Heat Pump	3.21	\$255	\$54	\$26	154	3,846	42	1	6	-	-	
FCM Reporting		\$0	\$0	\$0	0	0	0	0	-	-	-	
Subtotal Residential	1.96	\$3,842	\$1,279	\$686	1,152	14,032	354	127	24,809	5,358	96,284	
Commercial/Industrial Programs												
Large Business Energy Solutions	2.64	\$877	\$127	\$205	918	11,934	200	91	18	-	-	
Small Business Energy Solutions	1.44	\$889	\$356	\$262	743	9,697	92	156	54	-	-	
Other (Education)		\$0	\$34	\$0	0	0	0	0	-	-	-	
Municipal Program	1.31	\$427	\$157	\$169	367	4,774	39	68	28	14	352	
FCM Reporting		\$0	\$0	\$0	0	0	0	0	-	-	-	
Subtotal C&I	1.67	\$2,193	\$675	\$635	2,028	26,405	331	314	100	14	352	
Smart Start		\$0	\$10	\$0	0	0	0	0	-	-	-	
Subtotal Other		\$0	\$10	\$0	0	0	0	0	0	-	-	
Total	1.84	\$6,034	\$1,964	\$1,322	3,181	40,438	685	441	24,909.0	5,372	96,635	

Annual kWh Savings	3,180,750	66.9%	kWh > 55%
Annual MMBTU Savings (in kWh)	1,574,426	33.1%	
Total Annual Energy Savings	4,755,175	100.0%	

Lifetime kWh Savings	40,437,679	58.8%	kWh > 55%
Lifetime MMBTU Savings (in kWh)	28,322,220	41.2%	
Total Lifetime Energy Savings	68,759,899	100.0%	

Present Value Benefits - 2014 PLAN

	CAPACITY						ENERGY				
	Total Benefits	Summer Generation	Winter Generation	Transmission	Distribution	DRIFE	Winter Peak	Winter Off Peak	Summer Peak	Summer Off Peak	Non Electric Resource
Residential Programs											
ENERGY STAR Homes	\$466,406	\$19,262	\$0	\$2,943	\$9,767	\$0	\$12,287	\$16,407	\$6,067	\$7,625	\$392,048
Home Performance w/Energy Star	\$853,975	\$2,407	\$0	\$482	\$1,599	\$0	\$8,011	\$14,623	\$2,454	\$2,140	\$822,259
ENERGY STAR Lighting	\$278,634	\$33,936	\$0	\$7,866	\$26,106	\$0	\$61,895	\$83,025	\$28,674	\$37,132	\$0
ENERGY STAR Appliances	\$1,663,895	\$40,938	\$0	\$8,318	\$27,607	\$0	\$72,514	\$108,448	\$30,331	\$36,333	\$1,339,407
Home Energy Assistance	\$304,865	\$4,285	\$0	\$786	\$2,610	\$0	\$14,500	\$26,309	\$3,090	\$3,529	\$249,755
High Efficiency Heat Pump	<u>\$255,044</u>	<u>\$2,417</u>	<u>\$0</u>	<u>\$363</u>	<u>\$1,204</u>	<u>\$0</u>	<u>\$80,398</u>	<u>\$165,977</u>	<u>\$2,226</u>	<u>\$2,458</u>	<u>\$0</u>
Subtotal Residential	\$3,822,819	\$103,245	\$0	\$20,759	\$68,893	\$0	\$249,606	\$414,789	\$72,842	\$89,216	\$2,803,469
Commercial/Industrial Programs											
Large Business Energy Solutions	\$876,803	\$107,679	\$0	\$19,480	\$64,648	\$0	\$237,223	\$352,883	\$55,362	\$39,530	\$0
Small Business Energy Retrofit	\$889,472	\$186,632	\$0	\$33,673	\$111,753	\$0	\$203,776	\$160,935	\$110,187	\$82,517	\$0
Municipal Program	\$426,631	\$80,638	\$0	\$14,588	\$48,413	\$0	\$105,120	\$81,309	\$50,391	\$37,844	\$8,329
Other (Education)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal C&I	\$2,192,907	\$374,949	\$0	\$67,740	\$224,813	\$0	\$546,118	\$595,126	\$215,939	\$159,891	\$8,329
Smart Start	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
Total	\$6,015,725	\$478,194	\$0	\$88,499	\$293,707	\$0	\$795,724	\$1,009,915	\$288,781	\$249,107	\$2,811,798

Member Incentive Calculation 2014

	<u>Planned</u>	<u>Actual</u>
Commercial/Industrial Incentive		
1. Benefit/Cost Ratio	1.61	0.00
2. Threshold Benefit / Cost Ratio ¹	1.00	
3. Lifetime kWh Savings	26,405,296	0
4. Threshold Lifetime kWh Savings (65%) ²	17,163,442	
5. Budget	\$674,561	\$0
6. Benefit / Cost Percentage of Budget	3.75%	
7. Lifetime kWh Percentage of Budget	3.75%	
8. Commercial/Industrial Incentive	\$50,592	
9. Cap (10%)	\$67,456	
Residential Incentive		
10. Benefit / Cost Ratio	1.86	0.00
11. Threshold Benefit / Cost Ratio ¹	1.00	
12. Lifetime kWh Savings	14,032,383	0
13. Threshold Lifetime kWh Savings (65%) ²	9,121,049	
14. Budget	\$1,278,858	\$0
15. Benefit / Cost Percentage of Budget	3.75%	
16. Lifetime kWh Percentage of Budget	3.75%	
17. Residential Incentive	\$95,914	
18. Cap (10%)	\$127,886	
19. TOTAL INCENTIVE EARNED	\$146,506	

Notes

1. Actual Benefit / Cost Ratio for each sector must be greater than or equal to 1.0.
2. Actual Lifetime kWh Savings for each sector must be greater than or equal to 65% of projected savings.

Planned Versus Actual Benefit / Cost Ratio by Sector
2014

	<u>Planned</u>	<u>Actual</u>
Commercial & Industrial:		
1. Benefits (Value) From Eligible Programs	\$ 2,192,907	\$ -
2. Implementation Expenses	\$ 674,561	\$ -
3. Customer Contribution	\$ 635,476	\$ -
4. Estimated Shareholder Incentive	\$ 50,592	-
5. Total Costs (including shareholder incentive)	\$ 1,360,629	\$ -
6. Benefit/Cost Ratio - C&I Sector	1.61	0.00
 Residential:		
7. Benefits (Value) From Eligible Programs	\$ 3,841,522	\$ -
8. Implementation Expenses	\$ 1,278,858	\$ -
9. Customer Contribution	\$ 686,075	\$ -
10. Estimated Shareholder Incentive	\$ 95,914	-
11. Total Costs (including shareholder incentive)	\$ 2,060,847	\$ -
12. Benefit/Cost Ratio - Residential Sector	1.86	0.00

Actual Lifetime Energy Savings by Sector and Program
 2014

	Lifetime kWh Savings	
	<u>Planned</u>	<u>Actual</u>
Commercial & Industrial:		
Large Business Energy Solutions	11,934,041	0
Small Business Energy Solutions	9,696,768	0
Other (Education)	0	0
Municipal Program	4,774,486	0
FCM Reporting	<u>0</u>	<u>0</u>
 Total Commercial & Industrial Included for Incentive Calculation	 26,405,296	 0
Residential:		
ENERGY STAR Homes	667,745	0
Home Performance w/Energy Star	468,010	0
ENERGY STAR Lighting	3,757,690	0
ENERGY STAR Appliances	4,516,778	0
Home Energy Assistance	775,937	0
U-S: High Efficiency Heat Pump	3,846,223	0
FCM Reporting	<u>0</u>	<u>0</u>
 Total Residential Included for Incentive Calculation	 14,032,383	 0

Program Cost-Effectiveness - 2014 PLAN

	Present Value										
	Total Resource Benefit/Cost Ratio	Benefit (\$000)	Utility Costs (\$000)	Customer Costs (\$000)	Annual MWh Savings	Lifetime MWh Savings	Winter kW Savings	Summer kW Savings	Number of Customers Served	Annual MMBTU Savings	Lifetime MMBTU Savings
Residential Programs											
ENERGY STAR Homes	5.21	\$5,999.2	\$962.9	\$187.8	515.6	10,656.0	161.0	140.9	329	8,313	206,888
Home Performance w/Energy Star	2.34	\$8,782.4	\$2,127.8	\$1,623.4	282.6	3,092.9	165.9	90.7	1,254	16,200	338,515
ENERGY STAR Lighting ¹	1.46	\$1,799.6	\$918.9	\$317.2	4,040.0	25,209.8	1,766.5	591.4	65,452	-	-
ENERGY STAR Appliances	2.61	\$8,972.8	\$1,851.1	\$1,581.6	3,040.0	31,957.3	570.9	410.5	16,652	12,067	188,374
Home Energy Assistance	1.35	\$3,839.0	\$2,835.6	\$0.0	394.1	4,779.7	50.5	43.3	343	6,858	141,114
U-S: EnergyStar Homes (Geothermal)	1.27	\$792.8	\$302.2	\$321.0	473.2	11,830.2	124.3	4.8	42	-	-
U-S: Customer Engagement Program	0.56	\$127.4	\$226.8	\$0.0	1,896.0	1,896.0	199.1	216.4	25,000	-	-
U-S: Other Residential Program											
FCM Reporting			\$60.0								
Subtotal Residential	2.28	\$30,313.3	\$9,285.4	\$4,031.0	10,641.6	89,422.0	3,038.2	1,498.2	109,073	43,439	874,892
Commercial/Industrial Programs											
Large Business Energy Solutions	2.03	\$22,427.1	\$5,030.6	\$6,040.9	17,966.6	239,223.2	2,528.3	3,132.1	363	3,213	80,129
Small Business Energy Solutions	1.96	\$9,149.8	\$2,397.3	\$2,268.6	6,148.6	79,998.4	769.2	1,311.4	1,120	3,397	72,016
Other (Education)		\$0.0	\$224.5	\$0.0	0.0	-	-	-	5	-	-
Municipal Program	1.81	\$5,369.9	\$1,454.5	\$1,517.4	3,474.8	44,373.5	1,443.1	800.7	383	2,276	48,011
C&I RFP Energy Rewards Program	2.47	\$2,393.1	\$551.0	\$417.5	2,456.2	28,086.3	321.1	477.2	14	-	-
CI Partnerships		\$0.0	\$20.6	\$0.0	0.0	-	-	-	6	-	-
U-S: Other		\$0.0	\$0.0	\$0.0	0.0	-	-	-	-	-	-
FCM Reporting			\$140.0	\$0.0	0.0	-	-	-	-	-	-
Subtotal C&I	1.96	\$39,340.0	\$9,818.5	\$10,244.4	30,046.3	391,681.5	5,061.7	5,721.3	1,891	8,886	200,156
Smart Start		\$0.0	\$45.0	\$0.0	0.0	-	-	0	-	-	-
Other		\$0.0	\$0.0	\$0.0	0.0	-	-	0	-	-	-
Subtotal Other		\$0.0	\$45.0	\$0.0	0.0	0.0	0.0	0.0	0	-	-
Total	2.08	\$69,653.3	\$19,149.0	\$14,275.4	40,687.9	481,103.4	8,099.9	7,219.5	110,964.3	52,325	1,075,047

Note 1: Plan includes 65,452 customers purchasing a total of 261,809 lighting products.

Annual kWh Savings	40,687,864	72.6%	kWh > 55%
Annual MMBTU Savings (in kWh)	15,335,473	27.4%	
Total Annual Energy Savings	56,023,337	100.0%	

Lifetime kWh Savings	481,103,445	60.4%	kWh > 55%
Lifetime MMBTU Savings (in kWh)	315,078,336	39.6%	
Total Lifetime Energy Savings	796,181,781	100.0%	

Present Value Benefits - 2014 PLAN

	CAPACITY					ENERGY					
	Total Benefits	Summer Generation	Winter Generation	Transmission	Distribution	DRIVE	Winter Peak	Winter Off Peak	Summer Peak	Summer Off Peak	Non Electric Resource
Residential Programs											
ENERGY STAR Homes	\$5,999,198	\$334,605	\$0	\$50,858	\$168,784	\$0	\$198,536	\$264,924	\$96,484	\$122,618	\$4,762,390
Home Performance w/Energy Star	\$8,782,449	\$33,622	\$0	\$8,868	\$29,432	\$0	\$52,536	\$94,120	\$14,734	\$14,698	\$8,534,438
ENERGY STAR Lighting	\$1,799,627	\$208,194	\$0	\$59,409	\$197,164	\$0	\$394,591	\$529,725	\$178,129	\$232,416	\$0
ENERGY STAR Appliances	\$8,972,797	\$366,163	\$0	\$73,207	\$242,955	\$0	\$504,502	\$731,369	\$235,993	\$274,799	\$6,543,808
Home Energy Assistance	\$3,839,035	\$48,002	\$0	\$8,884	\$29,483	\$0	\$77,358	\$112,032	\$36,167	\$42,306	\$3,484,802
U-S: EnergyStar Homes (Geothermal)	\$792,810	\$12,408	\$0	\$1,863	\$6,181	\$0	\$244,728	\$499,058	\$14,696	\$13,876	\$0
U-S: Customer Engagement Program	\$127,392	\$10,617	\$0	\$3,848	\$12,772	\$0	\$30,738	\$40,799	\$12,081	\$16,538	\$0
U-S: Other Residential Program	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
Subtotal Residential	\$30,313,308	\$1,013,611	\$0	\$206,937	\$686,771	\$0	\$1,502,990	\$2,272,026	\$588,284	\$717,251	\$23,325,439
Commercial/Industrial Programs											
Large Business Energy Solutions	\$22,427,087	\$3,865,243	\$0	\$691,121	\$2,293,662	\$0	\$3,757,898	\$4,073,837	\$3,203,015	\$2,641,780	\$1,900,530
Small Business Energy Retrofit	\$9,149,811	\$1,561,902	\$0	\$282,374	\$937,128	\$0	\$1,808,963	\$1,304,448	\$903,474	\$601,607	\$1,749,915
Municipal Program	\$5,369,940	\$923,610	\$0	\$168,706	\$559,895	\$0	\$999,388	\$722,344	\$498,093	\$331,812	\$1,166,092
Other (Education)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
U-S: C&I RFP Pilot	\$2,393,123	\$466,704	\$0	\$90,199	\$299,349	\$0	\$289,016	\$368,625	\$470,456	\$408,775	\$0
U-S: Partnership	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
Subtotal C&I	\$39,339,962	\$6,817,459	\$0	\$1,232,401	\$4,090,034	\$0	\$6,855,265	\$6,469,254	\$5,075,038	\$3,983,975	\$4,816,537
Smart Start	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
Total	\$69,653,270	\$7,831,070	\$0	\$1,439,337	\$4,776,805	\$0	\$8,358,255	\$8,741,280	\$5,663,322	\$4,701,225	\$28,141,976

Shareholder Incentive Calculation 2014

	<u>Planned</u>	<u>Actual</u>
Commercial/Industrial Incentive		
1. Benefit/Cost Ratio	1.89	0.00
2. Threshold Benefit / Cost Ratio ¹	1.00	
3. Lifetime kWh Savings	391,681,458	0
4. Threshold Lifetime kWh Savings (65%) ²	254,592,948	
5. Budget	\$9,818,533	\$0
6. Benefit / Cost Percentage of Budget	3.75%	
7. Lifetime kWh Percentage of Budget	3.75%	
8. C/I Shareholder Incentive	\$736,390	
9. Cap (10%)	\$981,853	
Residential Incentive		
10. Benefit / Cost Ratio	2.16	0.00
11. Threshold Benefit / Cost Ratio ¹	1.00	
12. Lifetime kWh Savings	89,421,987	0
13. Threshold Lifetime kWh Savings (65%) ²	58,124,291	
14. Budget	\$9,285,435	\$0
15. Benefit / Cost Percentage of Budget	3.75%	
16. Lifetime kWh Percentage of Budget	3.75%	
17. Residential Incentive	\$696,408	
18. Cap (10%)	\$928,544	
19. TOTAL INCENTIVE EARNED	\$1,432,798	

Notes

1. Actual Benefit / Cost Ratio for each sector must be greater than or equal to 1.0.
2. Actual Lifetime kWh Savings for each sector must be greater than or equal to 65% of projected savings.

Planned Versus Actual Benefit / Cost Ratio by Sector
2014

	<u>Planned</u>	<u>Actual</u>
Commercial & Industrial:		
1. Benefits (Value) From Eligible Programs	\$ 39,339,962	\$ -
2. Implementation Expenses	\$ 9,818,533	\$ -
3. Customer Contribution	\$ 10,244,381	\$ -
4. Estimated Shareholder Incentive	<u>\$ 736,390</u>	<u> </u>
5. Total Costs (including shareholder incentive)	\$ 20,799,304	\$ -
6. Benefit/Cost Ratio - C&I Sector	1.89	0.00
 Residential:		
7. Benefits (Value) From Eligible Programs	\$ 30,313,308	\$ -
8. Implementation Expenses	\$ 9,285,435	\$ -
9. Customer Contribution	\$ 4,031,036	\$ -
10. Estimated Shareholder Incentive	<u>\$ 696,408</u>	<u> </u>
11. Total Costs (including shareholder incentive)	\$ 14,012,879	\$ -
12. Benefit/Cost Ratio - Residential Sector	2.16	0.00

**Actual Lifetime Energy Savings by Sector and Program
2014**

	Lifetime kWh Savings	
	<u>Planned</u>	<u>Actual</u>
Commercial & Industrial:		
Large Business Energy Solutions	239,223,246	0
Small Business Energy Solutions	79,998,356	0
Other (Education)	0	0
Municipal Program	44,373,514	0
C&I RFP Energy Rewards Program	28,086,342	0
CI Partnerships	0	0
FCM Reporting	<u>0</u>	<u>0</u>
Total Commercial & Industrial Included for Incentive Calculation	391,681,458	0
Residential:		
ENERGY STAR Homes	10,656,034	0
Home Performance w/Energy Star	3,092,910	0
ENERGY STAR Lighting	25,209,816	0
ENERGY STAR Appliances	31,957,307	0
Home Energy Assistance	4,779,714	0
U-S: EnergyStar Homes (Geothermal)	11,830,206	0
U-S: Customer Engagement Program	1,896,000	0
U-S: Other Residential Program	0	0
FCM Reporting	<u>0</u>	<u>0</u>
Total Residential Included for Incentive Calculation	89,421,987	0

Program Cost-Effectiveness - 2014 PLAN

	Total Resource Benefit/Cost Ratio	Present Value Benefit (\$000)	Present Value Utility Costs ⁽¹⁾ (\$000)	Present Value Customer Costs (\$000)	Annual MWh Savings	Lifetime MWh Savings	Winter kW Savings	Summer kW Savings	Number of Customers Served	Annual MMBTU Savings	Lifetime MMBTU Savings
Residential Programs											
ENERGY STAR Homes	2.5	\$ 1,513	\$ 212	\$ 403	153	3,266	126	153	50	2,023	49,228
Home Performance with Energy Star	3.1	\$ 1,086	\$ 236	\$ 113	25	417	11	25	56	1,803	41,273
ENERGY STAR Lighting ⁽²⁾	1.0	\$ 344	\$ 244	\$ 99	554	5,188	217	554	32,339	-	-
ENERGY STAR Appliances ⁽²⁾	1.6	\$ 823	\$ 310	\$ 214	308	3,323	51	308	2,512	1,446	23,594
Home Energy Assistance	1.9	\$ 983	\$ 522	\$ -	73	856	13	73	92	1,848	36,614
Res K-12 Education & Code Training	0.0	\$ -	\$ 52	\$ -	-	-	-	-	-	-	-
Residential Financing	0.0	\$ -	\$ 65	\$ -	-	-	-	-	-	-	-
ISO-Related Expenses Res/LI	0.0	\$ -	\$ 7	\$ -	-	-	-	-	-	-	-
Subtotal Residential	1.9	\$ 4,749	\$ 1,647	\$ 829	1,113	13,050	418	1,113	35,049	7,119.9	150,709
Commercial/Industrial Programs											
Large C&I Business	1.5	\$ 2,386	\$ 784	\$ 771	2,202	30,549	362	2,202	25	-494	-7,407
Small C&I Business	1.6	\$ 1,338	\$ 495	\$ 319	1,083	14,076	185	1,083	74	-	-
Municipals	2.0	\$ 725	\$ 239	\$ 129	444	5,771	60	444	24	393	8,414
C&I Education, Codes & Audits	0.0	\$ -	\$ 19	\$ -	-	-	-	-	-	-	-
ISO-Related Expenses C&I	0.0	\$ -	\$ 11	\$ -	-	-	-	-	-	-	-
Subtotal C&I	1.6	\$ 4,448	\$ 1,548	\$ 1,219	3,729	50,396	607	3,729	123	-101	1,007
Total	1.8	\$ 9,197	\$ 3,195	\$ 2,048	4,842	63,445	1,025	4,842	35,172	7,019	151,716

(1) Utility Costs include direct program costs plus projected Shareholder Incentive.

(2) Target number of products purchased.

Annual kWh Savings	4,841,570	70.2%	kWh > 55%
Annual MMBTU Savings (in kWh)	2,057,021	29.8%	
Total Annual Energy Savings	6,898,591	100.0%	

Lifetime kWh Savings	63,445,354	58.8%	kWh > 55%
Lifetime MMBTU Savings (in kWh)	44,463,650	41.2%	
Total Lifetime Energy Savings	107,909,004	100.0%	

Present Value Benefits - 2014 PLAN

	Total Benefits	CAPACITY				ENERGY				Non Electric Resource
		Summer Generation	Winter Generation	Transmission	Distribution	Winter Peak	Winter Off Peak	Summer Peak	Summer Off Peak	
Residential Programs										
ENERGY STAR Homes	\$1,512,698	\$36,771	\$0	\$5,585	\$18,535	\$78,594	\$113,081	\$5,884	\$4,821	\$1,249,428
Home Performance w/Energy Star	\$1,086,146	\$6,907	\$0	\$1,302	\$4,322	\$8,738	\$12,767	\$1,813	\$1,160	\$1,049,137
ENERGY STAR Lighting	\$343,870	\$40,153	\$0	\$8,041	\$26,686	\$78,977	\$105,917	\$36,637	\$47,458	\$0
ENERGY STAR Appliances	\$822,822	\$49,761	\$0	\$10,640	\$35,312	\$41,158	\$42,513	\$44,893	\$35,526	\$563,020
Home Energy Assistance	\$983,473	\$9,388	\$0	\$2,032	\$6,744	\$14,405	\$16,978	\$6,429	\$6,175	\$921,323
Subtotal Residential	\$4,749,009	\$142,979	\$0	\$27,600	\$91,598	\$221,872	\$291,256	\$95,655	\$95,140	\$3,782,908
Commercial/Industrial Programs										
C&I Municipals	\$724,621	\$126,034	\$0	\$23,648	\$78,482	\$120,088	\$85,949	\$59,786	\$39,882	\$190,752
Large C&I	\$2,385,858	\$443,998	\$0	\$81,484	\$270,424	\$579,401	\$608,062	\$233,293	\$217,402	-\$48,206
Small C&I	\$1,337,637	\$326,969	\$0	\$61,338	\$203,566	\$293,392	\$208,661	\$146,292	\$97,419	\$0
Subtotal C&I	\$4,448,116	\$897,002	\$0	\$166,470	\$552,472	\$992,881	\$902,672	\$439,371	\$354,703	\$142,546
Total	\$9,197,125	\$1,039,981	\$0	\$194,070	\$644,070	\$1,214,752	\$1,193,928	\$535,027	\$449,844	\$3,925,453

2014 NH CORE EE Plan

September 13, 2013

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**Shareholder Incentive Calculation
 2014**

	<u>Planned</u>	<u>Actual</u>
Commercial/Industrial Incentive		
1. Benefit/Cost Ratio	1.6	0.0
2. Threshold Benefit / Cost Ratio ¹	1.0	
3. Lifetime kWh Savings	50,395,627	0
4. Threshold Lifetime kWh Savings (65%) ²	32,757,158	
5. Budget	\$1,548,053	\$0
6. Benefit / Cost Percentage of Budget	3.75%	
7. Lifetime kWh Percentage of Budget	3.75%	
8. C/I Shareholder Incentive	\$ 116,104	<input type="text"/>
9. Cap (10%)	\$ 154,805	
Residential Incentive		
10. Benefit / Cost Ratio	1.9	0.0
11. Threshold Benefit / Cost Ratio ¹	1.0	
12. Lifetime kWh Savings	13,049,727	0
13. Threshold Lifetime kWh Savings (65%) ²	8,482,323	
14. Budget	\$1,647,205	
15. Benefit / Cost Percentage of Budget	3.75%	
16. Lifetime kWh Percentage of Budget	3.75%	
17. Residential Incentive ³	\$ 118,665	<input type="text"/>
18. Cap (10%)	\$ 164,720	
19. TOTAL PLANNED / EARNED INCENTIVE	\$ 234,769	<input type="text"/>

Notes

- Actual Benefit / Cost Ratio for each sector must be greater than or equal to 1.0.
- Actual Lifetime kWh Savings for each sector must be greater than or equal to 65% of projected savings.
- Residential PI excludes the planned expenditures for Unitil's Revolving Loan Fund

**Planned Versus Actual Benefit / Cost Ratio by Sector
 2014**

	<u>Planned</u>	<u>Actual</u>
Commercial & Industrial:		
1. Benefits (Value) From Eligible Programs	\$ 4,448,116	\$ -
2. Implementation Expenses	\$ 1,431,949	\$ -
3. Customer Contribution	\$ 1,218,563	\$ -
4. Shareholder Incentive	\$ 116,104	\$ -
5. Total Costs	\$ 2,766,616	\$ -
6. Benefit/Cost Ratio - C&I Sector	1.6	0.0
Residential:		
6. Benefits (Value) From Eligible Programs	\$ 4,749,009	\$ -
7. Implementation Expenses	\$ 1,528,540	\$ -
8. Customer Contribution	\$ 828,991	\$ -
9. Shareholder Incentive	\$ 118,665	\$ -
10. Total Costs	\$ 2,476,196	\$ -
11. Benefit/Cost Ratio - Residential Sector	1.9	0.0

**Actual Lifetime Energy Savings by Sector and Program
 2014**

	Lifetime kWh Savings	
	<u>Planned</u>	<u>Actual</u>
Commercial & Industrial:		
Large C&I Business	30,549,034	0
Small C&I Business	14,075,640	0
Municipals	5,770,953	0
Total Commercial & Industrial Included for Incentive Calculation	50,395,627	0
Residential:		
Home Energy Assistance Program	855,658	0
Home Energy Solutions Program	417,410	0
ENERGY STAR Homes Program	3,265,778	0
ENERGY STAR Appliance Program	3,323,237	0
ENERGY STAR Lighting Program	5,187,643	0
Total Residential Included for Incentive Calculation	13,049,727	0

Attachment GG: Total Resource Benefit Cost Analysis

Unitil-Gas - Gas Energy Efficiency
New Hampshire Program Year Two

Summary of Benefits and Costs Program Year 2014 (January 1, 2014 - December 31, 2014)

Programs	TRC Benefit / Cost	TRC Net Benefits	Total Benefits (\$000)	Total Costs (\$000)	Utility Costs (\$000)	Participant Costs (\$000)	Annual MMBTU Savings	Lifetime MMBTU Savings	Participant
Residential									
ENERGY STAR Homes	1.0	\$ 1.9	\$ 175.9	\$ 173.9	\$ 87.3	\$ 86.6	792	17,537	13
Gas Home Perf w ENERGY STAR	1.2	\$ 30.9	\$ 162.8	\$ 131.8	\$ 87.3	\$ 44.6	849	17,928	19
Res Heating & Water Heating Equipment	1.0	\$ 4.2	\$ 643.7	\$ 639.5	\$ 436.4	\$ 203.1	3,964	75,533	410
Low Income Home Energy Assistance	1.3	\$ 82.5	\$ 334.7	\$ 252.2	\$ 252.2	\$ -	1,829	37,039	43
Residential Education	NA	\$ (7.0)	\$ -	\$ 7.0	\$ 7.0	\$ -	-	-	-
Residential Energy Code Training	NA	\$ (3.0)	\$ -	\$ 3.0	\$ 3.0	\$ -	-	-	-
Residential Loan Buydown	NA	\$ (17.0)	\$ -	\$ 17.0	\$ 17.0	\$ -	-	-	-
Subtotal Res & LI	1.1	\$ 92.5	\$ 1,317.0	\$ 1,224.5	\$ 890.2	\$ 334.3	7,434	148,037	485
Commercial & Industrial									
Large Business Energy Solutions	3.2	\$ 1,972.7	\$ 2,860.3	\$ 887.6	\$ 330.7	\$ 556.9	22,349	414,375	13
Small Business Energy Solutions	1.7	\$ 313.1	\$ 762.9	\$ 449.8	\$ 274.6	\$ 175.2	5,053	106,504	139
C&I Codes, Energy Audits, Education	NA	\$ (6.0)	\$ -	\$ 6.0	\$ 6.0	\$ -	-	-	-
Subtotal C&I	2.7	\$ 2,279.8	\$ 3,623.2	\$ 1,343.4	\$ 611.3	\$ 732.1	27,402	520,879	152
Total	1.9	\$ 2,372.3	\$ 4,940.2	\$ 2,567.9	\$ 1,501.6	\$ 1,066.3	34,836	668,916	637

Attachment GG: Shareholder Incentive

Unitil-Gas Energy Efficiency

Year 2 - January 1, 2014 - December 31, 2014

Target Shareholder Incentive

Commercial/Industrial Incentive

1. Target Benefit/Cost Ratio	2.70
2. Threshold Benefit/Cost Ratio	1.00
3. Target lifetime MMBTU	520,879
4. Threshold MMBTU	338,571
5. Budget	611,327
6. CE Percentage	4.00%
7. Lifetime MMBTU Percentage	4.00%

8. Target C/I Incentive	\$48,877
9. Cap	\$73,315

Residential Incentive

10. Target Benefit/Cost Ratio	1.08
11. Threshold Benefit/Cost Ratio	1.00
12. Target lifetime MMBTU	148,037
13. Threshold MMBTU	96,224
14. Budget	\$890,246
15. CE Percentage	4.00%
16. Lifetime MMBTU Percentage	4.00%

17. Target Residential Incentive	\$71,177
18. Cap	\$106,766

19. TOTAL TARGET INCENTIVE	\$120,054
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Line No. Notes:

- 1) Lns 1, 3, 5, 10, 12, and 14. See Attachment GG, page 1.
- 2) Lns 2, 6, 7, 11, 15, and 16. Report to the New Hampshire Public Utilities Commission on Ratepayer-Funded Energy Efficiency Issues in New Hampshire, Docket No. DR 96-150, page 21.
- 3) Ln 4 = 65% of Ln 3.
- 4) Ln 8 = 8% of Ln 5.
- 5) Ln 9 = 12% of Ln 5.
- 6) Ln 13 = 65% of Ln 12.
- 7) Ln 17 = 8% of Ln 14.
- 8) Ln 18 = 12% of Ln 14.
- 9) Ln 19 = Ln 8 plus Ln 17.

Attachment GG: Shareholder Incentive

Unitil-Gas Energy Efficiency

Year 2 - January 1, 2014 - December 31, 2014

Target Benefit-Cost Ratio by Sector

Commercial & Industrial:	<u>Planned</u>
1. Benefits (Value) From Eligible Programs	\$3,623,182
2. Implementation Expenses (incl Evaluation)	\$562,450
3. Customer Contribution	\$732,067
4. Shareholder Incentive	\$48,877
5. Total Costs Including Shareholder Incentive	\$1,343,394
6. Benefit/Cost Ratio - C&I Sector	2.70
Residential:	
7. Benefits (Value) From Eligible Programs	\$1,317,038
8. Implementation Expenses (incl Evaluation)	\$819,069
9. Customer Contribution	\$334,262
10. Shareholder Incentive	\$71,177
11. Total Costs Including Shareholder Incentive	\$1,224,509
12. Benefit/Cost Ratio - Residential Sector	1.08

Line No. Notes:

- 1) Lns 1 - 4 and Lns 7-10. See Attachment GG, page 1.
- 2) Ln 5 = Sum of Lns 2 - 4.
- 3) Ln 6 = Ln 1 ÷ Ln 5. The shareholder incentive mechanism described by the New Hampshire Energy Efficiency Working Group and approved by the Commission in Order No. 23,574 includes a circular calculation. A portion of the earned shareholder incentive is related to the benefit/cost ratio (BCR). However, the shareholder incentive is supposed to be included as an EE cost in determining the BCR. For the purpose of calculating the shareholder incentive, the Company has calculated the planned BCR including the shareholder incentive for one iteration and will compare the actual BCR including the shareholder incentive to the planned BCR including shareholder incentives when determining the earned incentive.
- 4) Ln 11 = Sum of Ln 8 - 10.
- 5) Ln 12 = Ln 7 ÷ Ln 11. See note 3) for further information.

NH CORE Energy Efficiency Program - 2014 Budget Details

RESIDENTIAL PROGRAMS		Internal Adm	External Adm	Cust Rebts/Services	Internal Impl.	Marketing	(see Note 1)	Total
							Evaluation	
	LU-Electric	\$7,706	\$9,632	\$62,608	\$8,669	\$2,890	\$4,816	\$96,320
	NHEC	\$6,057	\$6,416	\$94,360	\$41,631	\$1,150	\$7,874	\$157,488
	PSNH	\$15,740	\$0	\$794,342	\$75,256	\$29,443	\$48,146	\$962,928
	Unitil	\$14,084	\$279	\$127,706	\$41,232	\$1,950	\$9,750	\$195,000
ENERGY STAR Homes		\$43,586	\$16,327	\$1,079,016	\$166,788	\$35,433	\$70,586	\$1,411,735
	LU-Electric	\$8,669	\$10,836	\$70,434	\$9,752	\$3,251	\$5,418	\$108,360
	NHEC	\$4,921	\$5,213	\$69,718	\$31,710	\$10,000	\$6,398	\$127,960
	PSNH	\$15,019	\$0	\$602,579	\$71,812	\$183,500	\$45,943	\$918,853
	Unitil	\$16,816	\$3,382	\$89,320	\$79,232	\$25,000	\$11,250	\$225,000
ENERGY STAR Lighting		\$45,425	\$19,431	\$832,051	\$192,506	\$221,751	\$69,009	\$1,380,172
	LU-Electric	\$17,819	\$22,274	\$144,780	\$20,047	\$6,682	\$11,137	\$222,739
	NHEC	\$12,871	\$13,634	\$240,084	\$56,688	\$10,000	\$16,733	\$350,010
	PSNH	\$30,258	\$0	\$1,507,649	\$144,673	\$76,000	\$92,557	\$1,851,137
	Unitil	\$20,490	\$5,466	\$143,042	\$104,231	\$7,496	\$4,275	\$285,000
ENERGY STAR Appliances		\$81,439	\$41,374	\$2,035,555	\$325,639	\$100,178	\$124,702	\$2,708,886
	LU-Electric	\$13,966	\$17,458	\$113,476	\$15,712	\$5,237	\$8,729	\$174,579
	NHEC	\$11,357	\$12,030	\$196,471	\$59,519	\$1,150	\$14,765	\$295,292
	PSNH	\$34,781	\$0	\$1,795,372	\$166,298	\$25,000	\$106,392	\$2,127,844
	Unitil	\$13,898	\$1,882	\$125,608	\$57,404	\$7,042	\$10,833	\$216,667
NH Home Performance w/ENERGY Sta		\$74,002	\$31,370	\$2,230,928	\$298,933	\$38,429	\$140,720	\$2,814,382
	LU-Electric	\$26,064	\$32,580	\$211,768	\$29,322	\$9,774	\$16,290	\$325,797
	NHEC	\$11,328	\$12,000	\$235,658	\$19,840	\$1,000	\$14,728	\$294,554
	PSNH	\$46,350	\$0	\$2,420,854	\$221,612	\$5,000	\$141,780	\$2,835,595
	Unitil	\$34,934	\$2,500	\$297,995	\$118,367	\$4,828	\$24,138	\$482,762
Home Energy Assistance		\$118,675	\$47,080	\$3,166,275	\$389,140	\$20,602	\$196,936	\$3,938,708
	LU-Electric	\$0	\$0	\$0	\$4,500	\$0	\$0	\$4,500
	NHEC	\$2,650	\$2,807	\$27,000	\$16,652	\$1,000	\$3,445	\$53,554
	PSNH	\$8,648	\$0	\$450,127	\$101,349	\$2,500	\$26,454	\$589,079
	Unitil	\$1,203	\$25,834	\$0	\$97,074	\$0	\$0	\$124,111
Other Residential Programs		\$12,501	\$28,641	\$477,127	\$219,575	\$3,500	\$29,899	\$771,244
Total Residential Programs		\$375,628	\$184,223	\$9,820,952	\$1,592,582	\$419,892	\$631,851	\$13,025,127
COMMERCIAL, INDUSTRIAL AND MUNICIPAL PROGRAMS								
	LU-Electric	\$56,419	\$62,936	\$458,408	\$63,472	\$17,071	\$35,262	\$693,568
	NHEC	\$4,877	\$5,166	\$77,913	\$29,277	\$1,000	\$8,566	\$126,799
	PSNH	\$82,230	\$0	\$3,975,900	\$695,976	\$25,000	\$251,532	\$5,030,637
	Unitil	\$43,135	\$5,798	\$471,057	\$161,231	\$7,247	\$36,235	\$724,702
Large Business Energy Solutions		\$186,661	\$73,899	\$4,983,277	\$949,955	\$50,318	\$331,595	\$6,575,706
	LU-Electric	\$29,356	\$36,695	\$238,520	\$33,026	\$11,009	\$18,348	\$366,954
	NHEC	\$13,696	\$14,508	\$250,548	\$58,555	\$1,000	\$17,806	\$356,113
	PSNH	\$39,186	\$0	\$1,886,592	\$331,661	\$20,000	\$119,865	\$2,397,304
	Unitil	\$30,271	\$2,284	\$292,251	\$104,678	\$4,569	\$22,845	\$456,899
Small Business Energy Solutions		\$112,509	\$53,488	\$2,667,911	\$527,920	\$36,578	\$178,864	\$3,577,269
	LU-Electric	\$12,453	\$15,566	\$112,855	\$14,010	\$4,670	\$7,783	\$167,337
	NHEC	\$6,054	\$6,413	\$109,336	\$26,734	\$1,000	\$7,870	\$157,407
	PSNH	\$23,775	\$0	\$1,151,780	\$201,227	\$5,000	\$72,726	\$1,454,508
	Unitil	\$11,549	\$2,605	\$139,071	\$54,278	\$2,207	\$11,037	\$220,748
New Municipal Program		\$53,831	\$24,584	\$1,513,042	\$296,248	\$12,877	\$99,417	\$2,000,000
	LU-Electric	\$1,306	\$1,633	\$10,613	\$11,970	\$490	\$816	\$26,828
	NHEC	\$1,317	\$1,395	\$27,849	\$12,953	\$1,000	\$0	\$44,514
	PSNH	\$13,013	\$0	\$625,132	\$295,136	\$8,000	\$39,804	\$981,086
	Unitil	\$2,152	\$1,615	\$0	\$25,833	\$0	\$0	\$29,600
Other C&I Programs		\$17,788	\$4,643	\$663,594	\$345,892	\$9,490	\$40,621	\$1,082,028
Total Non-Residential Programs		\$316,959	\$132,030	\$8,314,783	\$1,823,767	\$96,386	\$551,080	\$13,235,003
TOTAL (Both Sectors)		\$692,587	\$316,253	\$18,135,734	\$3,416,348	\$516,277	\$1,182,930	\$26,260,130

Note 1: Evaluation amounts are based on 5% of total budgets. Actual program expenses will vary from numbers shown.

TOTAL PROGRAM FUNDING

New Hampshire CORE Energy Efficiency Goals - 2014

PROGRAMS		LU Electric		NHEC		PSNH		UNITIL		TOTALS
ENERGY STAR Homes										
Number of Homes / Lifetime kWh Savings	27	1,038,066	32	667,745	329	10,656,034	50	3,265,778	438	15,627,623
B/C Ratio / Planned Budget	6.10	\$96,320	2.36	\$157,488	5.21	\$962,928	2.46	\$195,000		\$1,411,735
/ Lifetime MMBTU Savings		21,268		14,755		206,888		49,228		292,139
ENERGY STAR Lighting										
Number of Units / Lifetime kWh Savings	6,793	2,615,391	22,363	3,757,690	65,452	25,209,816	32,339	5,187,643	126,947	36,770,539
B/C Ratio / Planned Budget	1.26	\$108,360	1.37	\$127,960	1.46	\$918,853	1.00	\$225,000		\$1,380,172
/ Lifetime MMBTU Savings		0		0		0		0		0
ENERGY STAR Appliances										
Number of Rebates / Lifetime kWh Savings	1,656	2,832,541	2,304	4,516,778	16,652	31,957,307	2,512	3,323,237	23,124	42,629,864
B/C Ratio / Planned Budget	2.27	\$222,739	2.47	\$350,010	2.61	\$1,851,137	1.57	\$285,000		\$2,708,886
/ Lifetime MMBTU Savings		24,691		38,419		188,374		23,594		275,077
Home Performance w/ENERGY STAR										
Number of Rebates / Lifetime kWh Savings	74	231,888	70	468,010	1,254	3,092,910	56	417,410	1,454	4,210,218
B/C Ratio / Planned Budget	2.56	\$174,579	1.68	\$295,292	2.34	\$2,127,844	3.11	\$216,667		\$2,814,382
/ Lifetime MMBTU Savings		20,571		32,708		338,515		41,273		433,068
Home Energy Assistance										
Number of Units / Lifetime kWh Savings	40	718,833	34	775,937	343	4,779,714	92	855,658	509	7,130,142
B/C Ratio / Planned Budget	1.64	\$325,797	1.04	\$294,554	1.35	\$2,835,595	1.88	\$482,762		\$3,938,708
/ Lifetime MMBTU Savings		18,391		10,402		141,114		36,614		206,521
Large Business Energy Solutions										
Number of Participants / Lifetime kWh Savings	85	21,519,008	18	11,934,041	363	239,223,246	25	30,549,034	491	303,225,329
B/C Ratio / Planned Budget	1.41	\$693,568	2.64	\$126,799	2.03	\$5,030,637	1.53	\$724,702		\$6,575,706
/ Lifetime MMBTU Savings		9,349		0		80,129		(7,407)		82,071
Small Business Energy Solutions										
Number of Participants / Lifetime kWh Savings	166	11,462,209	54	9,696,768	1,120	79,998,356	74	14,075,640	1,414	115,232,974
B/C Ratio / Planned Budget	1.23	\$366,954	1.44	\$356,113	1.96	\$2,397,304	1.64	\$456,899		\$3,577,269
/ Lifetime MMBTU Savings		7,869		0		72,016		0		79,885
Municipal Program										
Number of Participants / Lifetime kWh Savings	24	4,826,269	28	4,774,486	383	44,373,514	24	5,770,953	459	59,745,222
B/C Ratio / Planned Budget	2.09	\$167,337	1.31	\$157,407	1.81	\$1,454,508	1.97	\$220,748		\$1,999,999
/ Lifetime MMBTU Savings		9,640		352		48,011		8,414		66,416
Educational Programs										
B/C Ratio / Planned Budget		\$16,328		\$34,242		\$224,516		\$70,600	0	\$345,686
Company Specific Programs / ISO-NE FCM Work										
Number of Participants / Lifetime kWh Savings	0	0	6	3,846,223	25,063	41,812,548	0	0	25,069	45,658,771
B/C Ratio / Planned Budget		\$15,000		\$53,554		\$1,300,649	\$0	\$83,111		\$1,452,314
/ Lifetime MMBTU Savings				0		0				
Smart Start (NHEC/PSNH), Res. Financing (UES)										
Number of Participants / Planned Budget				\$10,272		\$45,000			0	\$55,272
Utility Performance Incentive										
B/C Ratio / Planned Budget		\$164,024		\$146,506		\$1,432,798		\$234,769		\$1,978,097
TOTAL PLANNED BUDGET		\$2,351,005		\$2,110,197		\$20,581,766		\$3,195,258		\$28,238,227

**SBC and RGGI Funding Allocation
2014 Budget**

Utility	Total Funds	Total SBC	Total RGGI Funds	RGGI Municipal	RGGI Non-Municipal	Total Funds Net of RGGI Municipal	SBC Allocation ¹	RGGI Non-Municipal Allocation ¹
LU-Electric	\$2,351	\$1,863	\$488	\$167	\$321	\$2,184	85.32%	14.68%
NHEC	\$2,110	\$1,688	\$422	\$157	\$264	\$1,953	86.46%	13.54%
PSNH	\$20,582	\$16,366	\$4,215	\$1,455	\$2,761	\$19,127	85.57%	14.43%
Unitil	\$3,195	\$2,551	\$644	\$221	\$423	\$2,975	85.78%	14.22%
Total	\$28,238	\$22,469	\$5,769	\$2,000	\$3,769	\$26,238		

¹ Allocation of SBC and RGGI funds after \$2M allocation to the Municipal Program which is 100% RGGI.

TOTAL PROGRAM FUNDING

New Hampshire CORE Energy Efficiency Goals - 2014

PROGRAMS		LU Electric		NHEC		PSNH		UNITIL		TOTALS
ENERGY STAR Homes										
Number of Homes / Lifetime kWh Savings	27	1,038,066	32	667,745	329	10,656,034	50	3,265,778	438	15,627,623
B/C Ratio / Planned Budget	6.10	\$96,320	2.36	\$157,488	5.21	\$962,928	2.46	\$195,000		\$1,411,735
/ Lifetime MMBTU Savings		21,268		14,755		206,888		49,228		292,139
ENERGY STAR Lighting										
Number of Units / Lifetime kWh Savings	6,793	2,615,391	22,363	3,757,690	65,452	25,209,816	32,339	5,187,643	126,947	36,770,539
B/C Ratio / Planned Budget	1.26	\$108,360	1.37	\$127,960	1.46	\$918,853	1.00	\$225,000		\$1,380,172
/ Lifetime MMBTU Savings		0		0		0		0		0
ENERGY STAR Appliances										
Number of Rebates / Lifetime kWh Savings	1,656	2,832,541	2,304	4,516,778	16,652	31,957,307	2,512	3,323,237	23,124	42,629,864
B/C Ratio / Planned Budget	2.27	\$222,739	2.47	\$350,010	2.61	\$1,851,137	1.57	\$285,000		\$2,708,886
/ Lifetime MMBTU Savings		24,691		38,419		188,374		23,594		275,077
Home Performance w/ENERGY STAR										
Number of Rebates / Lifetime kWh Savings	74	231,888	70	468,010	1,254	3,092,910	56	417,410	1,454	4,210,218
B/C Ratio / Planned Budget	2.56	\$174,579	1.68	\$295,292	2.34	\$2,127,844	3.11	\$216,667		\$2,814,382
/ Lifetime MMBTU Savings		20,571		32,708		338,515		41,273		433,068
Home Energy Assistance										
Number of Units / Lifetime kWh Savings	40	718,833	34	775,937	343	4,779,714	92	855,658	509	7,130,142
B/C Ratio / Planned Budget	1.64	\$325,797	1.04	\$294,554	1.35	\$2,835,595	1.88	\$482,762		\$3,938,708
/ Lifetime MMBTU Savings		18,391		10,402		141,114		36,614		206,521
Large Business Energy Solutions										
Number of Participants / Lifetime kWh Savings	85	21,519,008	18	11,934,041	363	239,223,246	25	30,549,034	491	303,225,329
B/C Ratio / Planned Budget	1.41	\$693,568	2.64	\$126,799	2.03	\$5,030,637	1.53	\$724,702		\$6,575,706
/ Lifetime MMBTU Savings		9,349		0		80,129		(7,407)		82,071
Small Business Energy Solutions										
Number of Participants / Lifetime kWh Savings	166	11,462,209	54	9,696,768	1,120	79,998,356	74	14,075,640	1,414	115,232,974
B/C Ratio / Planned Budget	1.23	\$366,954	1.44	\$356,113	1.96	\$2,397,304	1.64	\$456,899		\$3,577,269
/ Lifetime MMBTU Savings		7,869		0		72,016		0		79,885
Municipal Program										
Number of Participants / Lifetime kWh Savings	24	4,826,269	28	4,774,486	383	44,373,514	24	5,770,953	459	59,745,222
B/C Ratio / Planned Budget	2.09	\$167,337	1.31	\$157,407	1.81	\$1,454,508	1.97	\$220,748		\$1,999,999
/ Lifetime MMBTU Savings		9,640		352		48,011		8,414		66,416
Educational Programs										
B/C Ratio / Planned Budget		\$16,328		\$34,242		\$224,516		\$70,600	0	\$345,686
Company Specific Programs / ISO-NE FCM Work										
Number of Participants / Lifetime kWh Savings	0	0	6	3,846,223	25,063	41,812,548	0	0	25,069	45,658,771
B/C Ratio / Planned Budget		\$15,000		\$53,554		\$1,300,649	\$0	\$83,111		\$1,452,314
/ Lifetime MMBTU Savings				0		0				
Smart Start (NHEC/PSNH), Res. Financing (UES)										
Number of Participants / Planned Budget				\$10,272		\$45,000			0	\$55,272
Utility Performance Incentive										
B/C Ratio / Planned Budget		\$164,024		\$146,506		\$1,432,798		\$234,769		\$1,978,097
TOTAL PLANNED BUDGET		\$2,351,005		\$2,110,197		\$20,581,766		\$3,195,258		\$28,238,227

**SBC and RGGI Funding Allocation
2014 Budget**

Utility	Total Funds	Total SBC	Total RGGI Funds	RGGI Municipal	RGGI Non-Municipal	Total Funds Net of RGGI Municipal	SBC Allocation ¹	RGGI Non-Municipal Allocation ¹
LU-Electric	\$2,351	\$1,863	\$488	\$167	\$321	\$2,184	85.32%	14.68%
NHEC	\$2,110	\$1,688	\$422	\$157	\$264	\$1,953	86.46%	13.54%
PSNH	\$20,582	\$16,366	\$4,215	\$1,455	\$2,761	\$19,127	85.57%	14.43%
Unitil	\$3,195	\$2,551	\$644	\$221	\$423	\$2,975	85.78%	14.22%
Total	\$28,238	\$22,469	\$5,769	\$2,000	\$3,769	\$26,238		

¹ Allocation of SBC and RGGI funds after \$2M allocation to the Municipal Program which is 100% RGGI.

SBC FUNDING
Includes SBC, FCM, Carryforward and Interest

New Hampshire CORE Energy Efficiency Goals - 2014

PROGRAMS	LU Electric		NHEC		PSNH		UNITIL		TOTALS	
ENERGY STAR Homes										
Number of Homes / Lifetime kWh Savings	23	885,630	28	577,338	282	9,117,906	43	2,801,300	375	13,382,174
B/C Ratio / Planned Budget	6.10	\$82,175	2.36	\$136,165	5.21	\$823,936	2.46	\$167,266		\$1,209,542
/ Lifetime MMBTU Savings		18,145		12,758		177,025		42,227		250,154
ENERGY STAR Lighting										
Number of Units / Lifetime kWh Savings	5,796	2,231,331	19,335	3,248,928	56,005	21,570,946	27,739	4,449,826	108,875	31,501,032
B/C Ratio / Planned Budget	1.26	\$92,447	1.37	\$110,635	1.46	\$786,222	1.00	\$192,999		\$1,182,304
/ Lifetime MMBTU Savings		0		0		0		0		0
ENERGY STAR Appliances										
Number of Rebates / Lifetime kWh Savings	1,413	2,416,594	1,992	3,905,241	14,249	27,344,483	2,155	2,850,587	19,808	36,516,905
B/C Ratio / Planned Budget	2.27	\$190,031	2.47	\$302,621	2.61	\$1,583,937	1.57	\$244,466		\$2,321,055
/ Lifetime MMBTU Savings		21,065		33,217		161,183		20,238		235,704
Home Performance w/ENERGY STAR										
Number of Rebates / Lifetime kWh Savings	63	197,836	61	404,645	1,073	2,646,469	48	358,044	1,245	3,606,994
B/C Ratio / Planned Budget	2.56	\$148,943	1.68	\$255,312	2.34	\$1,820,704	3.11	\$185,851		\$2,410,810
/ Lifetime MMBTU Savings		17,550		28,280		289,653		35,403		370,886
Home Energy Assistance										
Number of Units / Lifetime kWh Savings	34	613,275	29	670,881	293	4,089,794	79	733,961	436	6,107,911
B/C Ratio / Planned Budget	1.64	\$277,955	1.04	\$254,674	1.35	\$2,426,296	1.88	\$414,100		\$3,373,025
/ Lifetime MMBTU Savings		15,690		8,993		120,745		31,407		176,835
Large Business Energy Solutions										
Number of Participants / Lifetime kWh Savings	72	18,359,029	16	10,318,265	311	204,692,963	21	26,204,172	420	259,574,429
B/C Ratio / Planned Budget	1.41	\$591,720	2.64	\$109,631	2.03	\$4,304,498	1.53	\$621,631		\$5,627,481
/ Lifetime MMBTU Savings		7,977		0		68,563		(6,354)		70,186
Small Business Energy Solutions										
Number of Participants / Lifetime kWh Savings	142	9,779,030	47	8,383,901	958	68,451,126	63	12,073,720	1,210	98,687,778
B/C Ratio / Planned Budget	1.23	\$313,068	1.44	\$307,898	1.96	\$2,051,269	1.64	\$391,916		\$3,064,151
/ Lifetime MMBTU Savings		6,714		0		61,621		0		68,335
New Municipal Program										
Number of Participants / Lifetime kWh Savings	0	0	0	0	0	0	0	0	0	0
B/C Ratio / Planned Budget	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0		\$0
/ Lifetime MMBTU Savings		0		0		0		0		0
Educational Programs										
B/C Ratio / Planned Budget		\$13,930		\$29,606		\$192,109		\$60,559	0	\$296,203
Company Specific Programs / ISO-NE FCM Work										
Number of Participants / Lifetime kWh Savings			5	3,325,474	21,445	35,777,185			21,450	39,102,660
B/C Ratio / Planned Budget		\$12,797		\$46,303		\$1,112,909		\$71,290		\$1,243,300
/ Lifetime MMBTU Savings				0		0				
Smart Start (NHEC/PSNH), Res. Financing (UES)										
Number of Participants / Planned Budget				\$8,881		\$38,505		\$0	0	\$47,386
										\$0
Utility Performance Incentive¹										
B/C Ratio / Planned Budget		\$129,230		\$116,463		\$1,132,641		\$187,178		\$1,565,512
TOTAL PLANNED BUDGET		\$1,852,298		\$1,678,191		\$16,273,024		\$2,537,257		\$22,340,769

¹ Performance incentive is applied to RGGI municipal program, and the remaining performance incentive balance is allocated between SBC and RGGI non-municipal using the allocation percentages on page 3.

SBC FUNDING
Includes SBC, FCM, Carryforward and Interest

New Hampshire CORE Energy Efficiency Goals - 2014

PROGRAMS	LU Electric		NHEC		PSNH		UNITIL		TOTALS	
ENERGY STAR Homes										
Number of Homes / Lifetime kWh Savings	23	885,630	28	577,338	282	9,117,906	43	2,801,300	375	13,382,174
B/C Ratio / Planned Budget	6.10	\$82,175	2.36	\$136,165	5.21	\$823,936	2.46	\$167,266		\$1,209,542
/ Lifetime MMBTU Savings		18,145		12,758		177,025		42,227		250,154
ENERGY STAR Lighting										
Number of Units / Lifetime kWh Savings	5,796	2,231,331	19,335	3,248,928	56,005	21,570,946	27,739	4,449,826	108,875	31,501,032
B/C Ratio / Planned Budget	1.26	\$92,447	1.37	\$110,635	1.46	\$786,222	1.00	\$192,999		\$1,182,304
/ Lifetime MMBTU Savings		0		0		0		0		0
ENERGY STAR Appliances										
Number of Rebates / Lifetime kWh Savings	1,413	2,416,594	1,992	3,905,241	14,249	27,344,483	2,155	2,850,587	19,808	36,516,905
B/C Ratio / Planned Budget	2.27	\$190,031	2.47	\$302,621	2.61	\$1,583,937	1.57	\$244,466		\$2,321,055
/ Lifetime MMBTU Savings		21,065		33,217		161,183		20,238		235,704
Home Performance w/ENERGY STAR										
Number of Rebates / Lifetime kWh Savings	63	197,836	61	404,645	1,073	2,646,469	48	358,044	1,245	3,606,994
B/C Ratio / Planned Budget	2.56	\$148,943	1.68	\$255,312	2.34	\$1,820,704	3.11	\$185,851		\$2,410,810
/ Lifetime MMBTU Savings		17,550		28,280		289,653		35,403		370,886
Home Energy Assistance										
Number of Units / Lifetime kWh Savings	34	613,275	29	670,881	293	4,089,794	79	733,961	436	6,107,911
B/C Ratio / Planned Budget	1.64	\$277,955	1.04	\$254,674	1.35	\$2,426,296	1.88	\$414,100		\$3,373,025
/ Lifetime MMBTU Savings		15,690		8,993		120,745		31,407		176,835
Large Business Energy Solutions										
Number of Participants / Lifetime kWh Savings	72	18,359,029	16	10,318,265	311	204,692,963	21	26,204,172	420	259,574,429
B/C Ratio / Planned Budget	1.41	\$591,720	2.64	\$109,631	2.03	\$4,304,498	1.53	\$621,631		\$5,627,481
/ Lifetime MMBTU Savings		7,977		0		68,563		(6,354)		70,186
Small Business Energy Solutions										
Number of Participants / Lifetime kWh Savings	142	9,779,030	47	8,383,901	958	68,451,126	63	12,073,720	1,210	98,687,778
B/C Ratio / Planned Budget	1.23	\$313,068	1.44	\$307,898	1.96	\$2,051,269	1.64	\$391,916		\$3,064,151
/ Lifetime MMBTU Savings		6,714		0		61,621		0		68,335
New Municipal Program										
Number of Participants / Lifetime kWh Savings	0	0	0	0	0	0	0	0	0	0
B/C Ratio / Planned Budget	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0		\$0
/ Lifetime MMBTU Savings		0		0		0		0		0
Educational Programs										
B/C Ratio / Planned Budget		\$13,930		\$29,606		\$192,109		\$60,559	0	\$296,203
Company Specific Programs / ISO-NE FCM Work										
Number of Participants / Lifetime kWh Savings			5	3,325,474	21,445	35,777,185			21,450	39,102,660
B/C Ratio / Planned Budget		\$12,797		\$46,303		\$1,112,909		\$71,290		\$1,243,300
/ Lifetime MMBTU Savings				0		0				
Smart Start (NHEC/PSNH), Res. Financing (UES)										
Number of Participants / Planned Budget				\$8,881		\$38,505		\$0	0	\$47,386
										\$0
Utility Performance Incentive¹										
B/C Ratio / Planned Budget		\$129,230		\$116,463		\$1,132,641		\$187,178		\$1,565,512
TOTAL PLANNED BUDGET		\$1,852,298		\$1,678,191		\$16,273,024		\$2,537,257		\$22,340,769

¹ Performance incentive is applied to RGGI municipal program, and the remaining performance incentive balance is allocated between SBC and RGGI non-municipal using the allocation percentages on page 3.

RGGI FUNDING

New Hampshire CORE Energy Efficiency Goals - 2014

PROGRAMS	LU Electric	NHEC	PSNH	UNITIL	TOTALS					
ENERGY STAR Homes										
Number of Homes / Lifetime kWh Savings	4	152,436	4	90,407	48	1,538,127	7	464,478	63	2,245,449
B/C Ratio / Planned Budget	6.10	\$14,144	2.36	\$21,323	5.21	\$138,992	2.46	\$27,734		\$202,193
/ Lifetime MMBTU Savings		3,123		1,998		29,863		7,001		41,985
ENERGY STAR Lighting										
Number of Units / Lifetime kWh Savings	998	384,059	3,028	508,762	9,448	3,638,869	4,599	737,817	18,072	5,269,508
B/C Ratio / Planned Budget	1.26	\$15,912	1.37	\$17,325	1.46	\$132,630	1.00	\$32,001		\$197,868
/ Lifetime MMBTU Savings		0		0		0		0		0
ENERGY STAR Appliances										
Number of Rebates / Lifetime kWh Savings	243	415,947	312	611,537	2,404	4,612,825	357	472,650	3,316	6,112,959
B/C Ratio / Planned Budget	2.27	\$32,708	2.47	\$47,389	2.61	\$267,199	1.57	\$40,534		\$387,831
/ Lifetime MMBTU Savings		3,626		5,202		27,191		3,356		39,373
Home Performance w/ENERGY STAR										
Number of Rebates / Lifetime kWh Savings	11	34,052	9	63,365	181	446,441	8	59,367	209	603,224
B/C Ratio / Planned Budget	2.56	\$25,636	1.68	\$39,980	2.34	\$307,140	3.11	\$30,816		\$403,572
/ Lifetime MMBTU Savings		3,021		4,428		48,862		5,870		62,182
Home Energy Assistance										
Number of Units / Lifetime kWh Savings	6	105,558	5	105,056	50	689,920	13	121,697	73	1,022,230
B/C Ratio / Planned Budget	1.64	\$47,842	1.04	\$39,880	1.35	\$409,299	1.88	\$68,661		\$565,683
/ Lifetime MMBTU Savings		2,701		1,408		20,369		5,208		29,685
Large Business Energy Solutions										
Number of Participants / Lifetime kWh Savings	12	3,159,979	2	1,615,776	52	34,530,283	4	4,344,862	71	43,650,901
B/C Ratio / Planned Budget	1.41	\$101,848	2.64	\$17,168	2.03	\$726,139	1.53	\$103,071		\$948,226
/ Lifetime MMBTU Savings		1,373		0		11,566		-1,053		11,886
Small Business Energy Solutions										
Number of Participants / Lifetime kWh Savings	24	1,683,179	7	1,312,867	162	11,547,230	11	2,001,920	204	16,545,196
B/C Ratio / Planned Budget	1.23	\$53,886	1.44	\$48,215	1.96	\$346,035	1.64	\$64,983		\$513,118
/ Lifetime MMBTU Savings		1,156		0		10,395		0		11,551
New Municipal Program										
Number of Participants / Lifetime kWh Savings	24	4,826,269	28	4,774,486	383	44,373,514	24	5,770,953	459	59,745,222
B/C Ratio / Planned Budget	2.09	\$167,337	1.31	\$157,407	1.81	\$1,454,508	1.97	\$220,748		\$1,999,999
/ Lifetime MMBTU Savings		9,640		352		48,011		8,414		66,416
Educational Programs										
B/C Ratio / Planned Budget		\$2,398		\$4,636		\$32,407		\$10,041		\$49,482
Company Specific Programs / ISO-NE FCM Work										
Number of Participants / Lifetime kWh Savings			1	520,749	3,618	6,035,363	0	0	3,618	6,556,112
B/C Ratio / Planned Budget		\$2,203		\$7,251		\$187,740		\$11,821		\$209,014
/ Lifetime MMBTU Savings				0		0		0		
Smart Start (NHEC/PSNH), Res. Financing (UES)										
Number of Participants / Planned Budget		\$0		\$1,391		\$6,495		\$0		\$7,886
										\$0
Utility Performance Incentive¹										
B/C Ratio / Planned Budget		\$34,794		\$30,043		\$300,157		\$47,592		\$412,585
TOTAL PLANNED BUDGET		\$498,707		\$432,007		\$4,308,742		\$658,001		\$5,897,457

1 Performance incentive is applied to RGGI municipal program, and the remaining performance incentive balance is allocated between SBC and RGGI non-municipal using the allocation percentages on page 3.

NH CORE Energy Efficiency Program - 2014 Budget Details

Liberty Utilities - Gas

<u>Residential</u>	External		Cust Rebts/		Marketing	Evaluation	Total
	Internal Adm	Adm	Services	Internal Impl.			
ENERGY STAR Homes	\$7,560	\$9,450	\$61,425	\$8,505	\$2,835	\$4,725	\$94,500
ENERGY STAR Lighting							
ENERGY STAR Appliances	\$61,320	\$76,650	\$498,225	\$68,985	\$22,995	\$38,325	\$766,500
Home Performance with ENERGY STAR	\$61,320	\$76,650	\$498,225	\$68,985	\$22,995	\$38,325	\$766,500
Home Energy Assistance Education	\$63,000	\$96,154	\$653,846	\$70,875	\$0	\$39,375	\$923,250
Energy Code Training Building Practices & Demo	\$15,480	\$19,350	\$125,775	\$17,415	\$5,805	\$9,675	\$193,500
Total - Residential	\$208,680	\$278,254	\$1,837,496	\$234,765	\$54,630	\$130,425	\$2,744,250
Commercial & Industrial							
Large Business Energy Solutions	\$111,557	\$139,446	\$906,397	\$125,501	\$41,834	\$69,723	\$1,394,458
Small Business Energy Solutions	\$79,898	\$99,873	\$649,174	\$89,886	\$29,962	\$49,936	\$998,729
Codes, Audit Training & Education	\$0	\$16,157	\$0	\$16,157	\$0	\$0	\$32,314
Total - C&I	\$191,455	\$255,476	\$1,555,571	\$231,544	\$71,796	\$119,659	\$2,425,501
Grand Total	\$400,135	\$533,730	\$3,393,067	\$466,309	\$126,426	\$250,084	\$5,169,751

Unitil - Gas

<u>Residential</u>	External		Cust Rebts/		Marketing	Evaluation	Total
	Internal Adm	Adm	Services	Internal Impl.			
Residential Lost Opportunity	\$6,230	\$600	\$46,133	\$21,837	\$800	\$4,400	\$80,000
Residential Retrofit 1-4	\$5,342	\$483	\$48,728	\$19,647	\$800	\$5,000	\$80,000
Residential Heating & Water Heating	\$20,455	\$18,415	\$275,000	\$61,130	\$5,000	\$20,000	\$400,000
Residential Education	\$224	\$560	\$0	\$6,216	\$0	\$0	\$7,000
Residential Energy Code Training	\$0	\$300	\$0	\$2,700	\$0	\$0	\$3,000
Residential Loan Buydown	\$272	\$85	\$14,450	\$2,193	\$0	\$0	\$17,000
Low-Income Retrofit 1-4	\$14,078	\$1,816	\$146,940	\$55,311	\$2,321	\$11,603	\$232,069
Total - Residential	\$46,602	\$22,259	\$531,251	\$169,033	\$8,921	\$41,003	\$819,069
Commercial & Industrial							
Large Business: New	\$5,385	\$252	\$62,452	\$17,477	\$901	\$3,603	\$90,069
Large Business: Retrofit	\$13,279	\$1,367	\$137,921	\$49,597	\$2,674	\$9,092	\$213,931
Total Large Business	\$18,664	\$1,619	\$200,373	\$67,074	\$3,575	\$12,695	\$304,000
Small Business: New	\$13,287	\$831	\$137,573	\$43,899	\$5,000	\$11,061	\$211,650
Small Business: Retrofit	\$2,700	\$92	\$24,997	\$10,563	\$408	\$2,040	\$40,800
Total Small Business	\$15,987	\$923	\$162,569	\$54,462	\$5,408	\$13,101	\$252,450
Codes Audits & Education	\$192	\$480	\$0	\$5,328	\$0	\$0	\$6,000
Total - C&I	\$34,843	\$3,022	\$362,943	\$126,864	\$8,983	\$25,796	\$562,450
Grand Total	\$81,445	\$25,281	\$894,193	\$295,897	\$17,904	\$66,799	\$1,381,519

New Hampshire Gas Energy Efficiency Goals - 2014

PROGRAMS	Unitil - Gas		Liberty Utilities - Gas		TOTALS	
ENERGY STAR Homes						
Number of Homes / Lifetime MMBTU Savings	13	75,533	37	25,315	50	100,848
B/C Ratio / Planned Budget	1.0	\$80,000	1.82	\$94,500		\$174,500
Home Performance w/ ENERGY STAR						
Number of Units / Lifetime MMBTU Savings	19	17,537	522	343,209	541	360,746
B/C Ratio / Planned Budget	1.2	\$80,000	2.43	\$766,500		\$846,500
ENERGY STAR Appliances						
Number of Rebates / Lifetime MMBTU Savings	410	17,928	1,781	173,723	2,191	191,651
B/C Ratio / Planned Budget	1.0	\$400,000	1.34	\$766,500		\$1,166,500
Residential Codes and Education						
B/C Ratio / Planned Budget		\$10,000	0.00	\$0		\$10,000
Low Income Retrofit 1-4						
Number of Units / Lifetime MMBTU Savings	43	37,039	182	116,239	225	153,278
B/C Ratio / Planned Budget	1.3	\$232,069	1.13	\$923,250		\$1,155,319
Large Business Energy Solutions						
Number of Participants / Lifetime MMBTU Savings	13	387,175	188	607,669	201	994,844
B/C Ratio / Planned Budget	3.2	\$304,000	1.40	\$1,394,458		\$1,698,458
Small Business Energy Solutions						
Number of Participants / Lifetime MMBTU Savings	139	133,704	549	353,931	688	487,635
B/C Ratio / Planned Budget	1.7	\$252,450	1.18	\$998,729		\$1,251,179
Codes Audits & Education						
B/C Ratio / Planned Budget		\$6,000		\$32,314		38,314
Company Specific Programs						
B/C Ratio / Planned Budget		\$17,000		\$193,500		210,500
Company TOTAL						
Number of Participants / Lifetime MMBTU Savings	637	668,916	3,259	1,620,086	3,896	2,289,002
B/C Ratio / Planned Budget		\$1,381,519		\$5,169,751		\$6,551,270
Utility Performance Incentive						
B/C Ratio / Planned Budget		\$120,054		\$413,580		\$533,634
TOTAL PLANNED BUDGET		\$1,501,573		\$5,583,331		\$7,084,904

Liberty Utilities Electric Home Energy Assistance Program

Measure*	Quantity				Annual Savings per Unit (kWh)				Measure Life				Installation or Realization Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings			
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012		2013 Plan	2014 Plan	2012		2013 Plan	2014 Plan	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012		2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan
					2012 Plan	Actual	2013 Plan	2014 Plan	2012 Plan	Actual	2013 Plan	2014 Plan	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan
AMP Baseload	54	30			206.0	206.0			13.0	13.0			100%		144,612.0	80,340.0			0.0	0.0			0.0	0.0		
Electric Weatherization	2	50			595.0	595.0			20.0	20.0			100%		23,800.0	595,000.0			0.0	0.0			0.0	0.0		
CFLs	312	354			63.0	63.0			8.0	8.0			100%		157,248.0	178,416.0			0.0	0.0			0.0	0.0		
Fixtures	49	128			126.0	126.0			20.0	20.0			100%		123,480.0	322,560.0			0.0	0.0			0.0	0.0		
Replacement Refrigerator	33	7			1016.0	1016.0			19.0	19.0			100%		637,032.0	135,128.0			0.0	0.0			0.0	0.0		
DHWater Measure (elec)	25	18			419.0	419.0			15.0	15.0			100%		157,125.0	113,130.0			0.0	0.0			0.0	0.0		
DHWater Measure (OIL)	13	11			0.0	0.0			15.0	15.0			100%		-	-			7.4	0.0			1,440.0	0.0		
Tstats	8	191			288.0	288.0			10.0	10.0			100%		23,040.0	550,080.0			0.0	0.0			0.0	0.0		
AMP Oil Wx	27	19			143.0	143.0			15.0	20.0			100%		57,915.0	54,340.0			35.0	35.0			14,175.0	13,300.0		
Refrigerator removal	0	16			0.0	134.7			0.0	5.0			100%		-	10,775.0			0.0	0.0			0.0	0.0		
Freezer replacement	0	3			0.0	726.0			0.0	19.0			100%		-	41,382.0			0.0	0.0			0.0	0.0		
Weatherization Package (Electric Heat)			1.1	3.0			2,799.0	2,799.0			19.8	19.8	86.20%				52,258.2	143,161.0			0.0	0.0			0.0	0.0
Weatherization Package (Kerosene Heat)			16.1	13			0.0	0.0			20.6	20.6	86.20%				0.0	0.0			14.7	19.5			4,192.7	4,498.6
Weatherization Package (Liquid Propane Heat)			4.8	8			0.0	0.0			21.4	21.4	86.20%				0.0	0.0			12.9	19.1			1,151.2	2,809.5
Weatherization Package (Natural Gas Heat)			16.6	0			0.0	0.0			19.4	19.4	86.20%				0.0	0.0			6.9	22.0			1,921.2	0.0
Weatherization Package (Wood Heat)			2.7	2			0.0	0.0			20.9	20.9	86.20%				0.0	0.0			21.6	30.3			1,044.1	1,093.3
Weatherization Package (Oil Heat)			13.4	17			0.0	0.0			20.0	20.0	86.20%				0.0	0.0			19.8	29.7			4,584.0	8,839.0
Weatherization Package (Other)			0.0	0			0.0	0.0			0.0	0.0	86.20%				0.0	0.0							0.0	0.0
Electric Svgs on Fossil Heated Homes			53.7	40			1,059.0	1,059.0			14.3	14.3	86.20%				700,802.9	525,972.2			0.0	0.0			0.0	0.0
Ancillary Savings: Boiler Circulator Pump Savings				46				9.0				20.0	86.20%													
Ancillary Savings: Furnace Fan Savings				12				86.0				20.0	86.20%													
Ancillary Savings: Furnace w/new ECM Motor				1				733.0				20.0	86.20%													
Ancillary Savings: Central AC				1				77.0				20.0	86.20%													
Ancillary Savings: Room AC (per unit)				44				23.0				20.0	86.20%													
Heating System Replacements																										
Mobile Home Furnaces, Kerosene				4.0				0.0				17.0	100.0%													225.1
Furnaces, LP				2.0				0.0				18.0	100.0%													303.8
Boilers, Oil				5.0				0.0				25.0	100.0%													621.3

Liberty Utilities Electric Home Performance with ENERGY STAR®

Measure*	Quantity				Annual Savings per Unit (kWh)		Measure Life				Installation or Realization Rate		Total Lifetime Savings (kWh)		Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings				
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	
	EnergyWise SF Elec	16	4					12	12			100%	100.0%			0.00	0.00			0.00	0.00		
EnergyWise SF Non Elec	82	43					8	8			100%	100.0%			0.00	0.00			0.00	0.00			
EW Multi Electric CFL	826	1,300					5	5			100%	100.0%			0.00	0.00			0.00	0.00			
EW Multi Electric DHWs	47	0.0					15	15			100%	100.0%			0.00	0.00			0.00	0.00			
EW Multi Electric Heat Fixtures	463	784					20	20			100%	100.0%			0.00	0.00			0.00	0.00			
EW Multi Electric Heat REFRIG	35	0.0					13	13			100%	100.0%			0.00	0.00			0.00	0.00			
Lighting only projects (6 CFLs, possible ref. voucher)			0.0	0.0	138.0	138.0			7.4	7.4		100.0%	0.0	-			0.0	0.0			0.0	0.0	
Weatherization for > 30% Electric Heat (MultiFamily)			0.0	0.0	1,000.0	1,000.0			13.7	13.7		100.0%	0.0	-			0.0	0.0			0.0	0.0	
Baseload SF			4.6	5.0	138.0	138.0			5.0	7.0		100.0%	3,173.0	4,815.2			0.0	0.0			0.0	0.0	
Baseload MF			36.1	17.1	138.0	138.0			5.0	7.0		100.0%	24,906.3	16,424.5			0.0	0.0			0.0	0.0	
Light Fixtures			0.0	10.0	373.8	23.0			8.0	20.0		100.0%	0.0	4,600.0			0.0	0.0			0.0	0.0	
Refrigerator			0.0	4.0	-	586.2			0.0	7.0		100.0%	0.0	16,412.8			0.0	0.0			0.0	0.0	
Hot Water Savings Measures			0.0	1.0	-	80.4			14.0	4.0		100.0%	0.0	321.7			0.0	0.0			0.0	0.0	
Fuel Neutral, SF, Electric, CFLs			32.8	37.0	138.0	138.0			5.0	8.0		100.0%	22,647.0	40,839.1			0.0	0.0			0.0	0.0	
Fuel Neutral Pilot (Oil)-SF- 52%			26.4	29.3	-	0.0			21.0	21.0		100.0%	0.0	-			28.6	28.6			15,814.5	17,542.2	
Fuel Neutral Pilot (LP) - SF - 20%			3.1	4.5	-	0.0			20.9	20.5		100.0%	0.0	-			22.5	22.52			1,451.5	2,077.1	
Fuel Neutral Pilot (Gas) - SF - 3%			0.1	0.0	-	0.0			18.6	18.6		100.0%	0.0	-			15.5	15.5			38.0	0.0	
Fuel Neutral Pilot (Wood) - SF- 18%			1.8	2.0	-	0.0			21.1	20.5		100.0%	0.0	-			19.0	19.0			723.6	779.9	
Fuel Neutral Pilot (Kerosene) - SF - 2%			0.3	0.3	-	0.0			22.1	21.0		100.0%	0.0	-			32.7	32.7			213.6	171.7	
Fuel Neutral Pilot (Electric) - SF - 5%			1.1	1.0	6,552.2	6,552.2			18.0	18.0		100.0%	131,827.7	118,105.9			0.0	0.0			0.0	0.0	
Heating System Replacements (Oil Boilers?)			1.4	0.0	-	0.0			20.0	20.0		100.0%	0.0	-			11.4	11.4			324.5	0.0	
Ancillary Savings: Boiler Circulator Pump Savings				29.1		9.0				20.0		100.0%		5,231.4								0.0	0.0
Ancillary Savings: Furnace Fan Savings				7.3		86.0				20.0		100.0%		12,497.3								0.0	0.0
Ancillary Savings: Furnace w/new ECM Motor				0.4		733.0				20.0		100.0%		5,325.9								0.0	0.0
Ancillary Savings: Central AC				0.4		77.0				20.0		100.0%		559.5								0.0	0.0
Ancillary Savings: Room AC (per unit)				14.7		23.0				20.0		100.0%		6,754.2								0.0	0.0

Liberty Utilities Electric ENERGY STAR® Homes Program

Liberty Utilities Electric
 NHPUC Docket No. DE 12-262
 Attachment I (2014 Plan)
 ENERGY STAR® Homes Program

Measure*	Quantity				Total Lifetime Savings (kWh)		Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings			
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan
RNC ES Homes (Heating) All Fuel Types	25	10					5.0	588.7			3,118.8	147,175.0		
RNC ES Homes (Cooling), all units	25	10					0.0	0.0			0.0	0.0		
RNC ES Homes (Water Heating) All Fuel Types	25	10					1.3	50.8			502.5	7,620.0		
Indoor Fixture	50	0			0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0
Screw In Bulb	300	386	233.5	266.4	26,842.4	30,624.7	0.0		0.0	0.0	0.0		0.0	0.0
Interior HW Fixtures			70.0	26.6	87,225.2	33,171.9			0.0	0.0			0.0	0.0
Exterior Fixtures			0.0		-	0.0			0.0	0.0			0.0	0.0
Clothes Washer	17	8	3.5	4.0	10,041.8	7,286.4	1.2	0.7	0.7	0.74	220	61.6	28.4	32.5
Dishwasher	3	11	14.0	18.7	4,622.6	5,856.1	0.0	0.5	0.4	0.19	0.0	110.0	56.0	35.2
Refrigerator	25	10	18.7	21.0	23,757.2	28,728.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Room AC			0.0	0.0	-	0.0			0.0	0.0			0.0	0.0
Central AC			0.0	0.0	-	0.0			0.0	0.0			0.0	0.0
Thermostat			17.5	20.0	-	0.0			0.0	0.0			0.0	0.0
Oil Heated Home (5%)			1.2	2.0	15,169.8	25,990.9			29.0	50.00			846.1	2,500.0
Gas Heated Home (55%)			12.8	0.0	154,561.4	0.0			23.7	25.00			7,609.7	0.0
LP Heated Home (35%)			8.2	17.0	103,365.9	215,050.0			44.0	44.00			8,988.3	18,700.0
Elec Baseboard Heated Home (5%)			1.2	2.0	89,795.8	366,150.0			0.0	0.0			0.0	0.0
ASHP Heated Home			0.0	5.6	-	325,207.8			0.0	0.0			0.0	0.0

Liberty Utilities Electric ENERGY STAR® Lighting Program

Measure*	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service & Realization Rate		Total Lifetime Savings (kWh)			
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Plan
Catalog CFLs	51	608	350.8	330.0	40	42	23.0	23.0	5	5	5	5	80.3%	62.3%	8,191	102,857	25,128	23,638
Catalog Interior Fixtures (Lamps and HW Fixtures)	29	25	46.2	44.0	107	56	62.3	62.3	8	8	8	8	96.4%	96.4%	23,953	10,919	22,166	21,130
Catalog Exterior Fixtures	29	15	23.1	21.0	107	14	62.3	62.3	5	5	5	5	100.0%	100.0%	15,530	1,000	7,186	6,538
Catalog Torchieres	15	-	13.8	13.0	120	-	69.4	69.4	8	8	8	8	93.5%	93.5%	13,464	-	7,183	6,744
Catalog LED Fixtures	0	3	4.6	4.0	0	0	27.7	27.7	20	20	20	20	95.0%	95.0%	0	2	2,426	2,103
Catalog LED Bulbs	0	16	23.1	21.0	0	22	27.7	27.7	20	20	20	20	95.0%	95.0%	0	6,600	12,132	11,040
Retail LED Bulbs	0	-	0.0	986.3	-	-	27.7	27.7	5	5	20	20	80.3%	95.0%	0	-	0	518,445
Retail CFLs	14,210	6,082	942.8	637.0	39	42	23.0	23.0	5	5	5	5	80.3%	62.3%	2,225,073	1,030,596	67,530	45,628
Retail CFL Multi-packs	0	-	26,310.0	24,686.0	-	-	23.0	23.0	8	8	5	5	96.4%	62.3%	0	-	188,457.16	1,768,244
Retail Interior Fixtures (Lamps and HW Fixtures)	73	126	263.1	247.0	106	56	62.3	62.3	8	8	8	8	96.4%	96.4%	59,619	54,595	126,345	118,614
Retail Exterior Fixtures	73	11	17.5	16.0	106	14	62.3	62.3	5	5	5	5	100.0%	100.0%	38,654	727	5,461	4,982
Retail Torchieres	15	-	4.4	4.0	104	-	69.4	69.4	8	8	8	8	93.5%	93.5%	11,714	-	2,275	2,075
Retail LED Fixtures	0	-	87.7	164.0	0	-	27.7	27.7	8	8	20	20	100.0%	95.0%	0	-	46,102	86,210

Measure*	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service / Realization Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings			
	2012		2013		2012		2013		2012		2013		2012		2013		2012		2013		2012		2013			
	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual		
Clothes Washer Tier 1 Electric DHW	19	33			126	126			11	11			100%	100%	26,334	45,738			0.00	0.00			0.0	0.0		
Clothes Washer Tier 1 Gas DHW	7	0			0	0			11	11			100%	100%	0	-			0.00	0.00			0.0	0.0		
Clothes Washer Tier 1 Oil DHW	24	41			0	0			11	11			100%	100%	0	-			0.26	0.00			68.6	0.0		
Clothes Washer Tier 1 Electric Dryer	49	71			63	63			11	11			100%	100%	33,957	49,203			0.00	0.00			0.0	0.0		
Clothes Washer Tier 1 Other Dryer	2	3			0	0			11	11			100%	100%	0	-			0.00	0.00			0.0	0.0		
Clothes Washer Tier 2 Electric DHW	12	42			141	141			11	11			100%	100%	18,612	65,142			0.00	0.00			0.0	0.0		
Clothes Washer Tier 2 Gas DHW	4	6			0	0			11	11			100%	100%	0	-			0.00	0.00			0.0	0.0		
Clothes Washer Tier 2 Oil DHW	15	28			0	0			11	11			100%	100%	0	-			0.29	0.00			47.9	0.0		
Clothes Washer Tier 2 Electric Dryer	31	72			84	84			11	11			100%	100%	28,644	66,528			0.00	0.00			0.0	0.0		
Clothes Washer Tier 2 Other Dryer	1	4			0	0			11	11			100%	100%	0	-			0.00	0.00			0.0	0.0		
Clothes Washer Tier 3 Electric DHW	84	231	323.1	664.0	200	200	260.7	165.6	11	11	11	11	100%	100%	184,800	508,200	926,429.4	1,209,542.4	0.00	0.00	0.7	0.1	0.0	0.0		
Clothes Washer Tier 3 Gas DHW	30	88			0	0			11	11			100%	100%	0	-			0.00	0.00			0.0	0.0		
Clothes Washer Tier 3 Oil DHW	105	377			0	0			11	11			100%	100%	0	-			0.42	0.00			485.1	0.0		
Clothes Washer Tier 3 Electric Dryer	210	661			115	115			11	11			100%	100%	265,650	836,165			0.00	0.00			0.0	0.0		
Clothes Washer Tier 3 Other Dryer	7	35			0	0			11	11			100%	100%	0	-			0.00	0.00			0.0	0.0		
Energy Star Room A/C	85	142	105.6	180.0	20	20	16.2	16.2	9	9	9	9	100%	100%	15,300	25,560	15,358.4	26,173.5	0.00	0.00	0.00	0.00	0.0	0.0		
Energy Star Refrigerator	300	366	161.5	515.8	107	107	107.0	114.0	12	12	12	12	100%	100%	385,200	469,944	207,418.2	705,655.4	0.00	0.00	0.00	0.00	0.0	0.0		
Energy Star Room Air Purifiers	25	5	3.7	9.0	58	58	390.6	390.6	9	9	9	9	100%	100%	13,050	2,610	13,105.9	31,640.9	0.00	0.00	0.00	0.00	0.0	0.0		
Energy Star Dehumidifiers	0	0			0	0			0	12			100%	100%	0	-	0.0	0.0	0.00	0.00	0.00	0.00	0.0	0.0		
Energy Star Water Coolers	0	0			0	0			0	10			100%	100%	0	-	0.0	0.0	0.00	0.00	0.00	0.00	0.0	0.0		
Smartstrip Power Strip	85	26	8.1	19.0	57	57	75.0	79.0	5	5	5	5	100%	100%	24,225	7,410	3,030.7	7,505.0	0.00	0.00	0.00	0.00	0.0	0.0		
2nd Refrigerator Pickup/Turnin	80	26	12.4	61.0	413	413	835.0	835.0	8	8	8	8	100%	100%	264,320	85,904	83,007.1	407,480.0	0.00	0.00	0.00	0.00	0.0	0.0		
2nd Freezer Pickup/Turnin	0	0	6.2	27.0	0	0	663.0	663.0	8	8	8	8	100%	100%	0	-	32,954.3	143,208.0	0.00	0.00	0.00	0.00	0.0	0.0		
Room AC Pickup/Turnin	0	0	0.6	2.0	0	0	18.0	16.2	5	5	5	5	100%	100%	0	-	55.9	161.6	0.00	0.00	0.00	0.00	0.0	0.0		
Fuel Neutral Heating, Hot Water and Controls																										
Energy Star Central AC (385 Hours ON in NH)			3.3	5.0			110.3	110.3			14	14		100.00%		5,071.4	7,720.4			0.00	0.00			0.0	0.0	
Energy Star Mini Split Heat Pump (SEER >=19, HSPF>=10), Cooling			5.9	10.0			122.9	104.9			12	12		100.00%		8,716.9	12,592.7			0.00	0.00			0.0	0.0	
Energy Star Mini Split Heat Pump (SEER >=19, HSPF>=10), Heating				10.0			-2,158.1	751.0			12	12		100.00%		0.0	90,120.5			2.45	2.5			0.0	294.0	
Energy Star Mini Split Heat Pump (SEER >=14.5, HSPF>=8.2), Cooling			4.3	7.0			-2,158.1	34.4			12	12		100.00%		-110,459.3	2,887.6			0.00	0.00			0.0	0.0	
Energy Star Mini Split Heat Pump (SEER >=19, HSPF>=8.2), Heating			1.6	7.0			-2,158.1	142.2			12	12		100.00%		-42,643.2	11,946.0			0.00	0.00			0.0	0.0	
ES Furnace w/ECM (LP), AFUE >=95%			7.9	23.0			168.0	168.0			18	18		100.00%		23,836.7	69,552.0			4.50	4.5			638.5	1,863.0	
ES Furnace w/ECM (LP), AFUE >=96%			3.9	7.0			168.0	168.0			18	18		100.00%		11,918.3	21,168.0			5.50	5.5			390.2	693.0	
ES Furnace w/ECM (LP), AFUE >=97%			1.3	2.0			168.0	168.0			18	18		100.00%		3,972.8	6,048.0			5.90	5.9			139.5	212.4	
ES Furnace w/ECM (Oil), AFUE >=85%			3.9	13.0			168.0	168.0			18	18		100.00%		11,918.3	39,312.0			18.00	18.0			1,277.0	4,212.0	
ES Furnace w/ECM (Oil), AFUE >=90%			1.3	0.7			168.0	168.0			18	18		100.00%		3,972.8	2,237.8			20.70	20.7			489.5	275.7	
ES Boiler (LP), AFUE>=90%			7.9	12.0			0.0	0.0			20	20		100.00%		0.0	0.0			10.40	10.4			1,639.6	2,496.0	
ES Boiler (LP), AFUE>=96%			2.6	3.0			0.0	0.0			20	20		100.00%		0.0	0.0			13.10	13.1			688.4	786.0	
ES Boiler (Oil), AFUE>=85%			49.9	20.0			0.0	0.0			20	20		100.00%		0.0	0.0			5.38	5.4			5,371.7	2,152.0	
ES Boiler (Oil), AFUE>=90%			6.6	10.0			0.0	0.0			20	20		100.00%		0.0	0.0			10.75	10.8			1,412.3	2,150.0	
Boil: LP, Combo condensing boiler w/ On-Demand DWH 90%			0.7	1.0			0.0	0.0			20	20		100.00%		0.0	0.0			17.80	17.8			233.8	356.0	
Boil: Oil, Combo condensing boiler w/ On-Demand DWH 90%			0.7	1.0			0.0	0.0			20	20		100.00%		0.0	0.0			17.80	17.8			233.8	356.0	
Water Heater: LP Tankless, EF>=0.82 (1/1/09 Criteria)			15.8	12.0			0.0	0.0			20	20		100.00%		0.0	0.0			9.70	9.7			3,058.4	2,328.0	
DHW: LP, Indirect Water Heater (attached to LP Energy Star FHW boiler)			0.7	0.5			0.0	0.0			20	20		100.00%		0.0	0.0			0.00	0.0			0.0	0.0	
DHW: Oil, Indirect Water Heater (attached to oil Energy Star FHW boiler)			0.7	0.5			0.0	0.0			20	20		100.00%		0.0	0.0			0.00	0.0			0.0	0.0	
DHW: LP, Stand Alone Storage Water Heater (EF>=0.67)			0.7	1.0			0.0	0.0			13	13		100.00%		0.0	0.0			0.00	0.0			0.0	0.0	
DHW: Heat Pump Water Heater 50 Gallon Electric, EF>=2.3 (ES=EF>=2.0)			0.7	1.0			1,775.0	1,775.0			10	10		100.00%		11,659.5	17,750.0			0.00	0.0			0.0	0.0	
DHW: Heat Pump Water Heater 80 Gallon Electric, EF>=2.3 (ES=EF>=2.0)			0.7	0.5			2,672.0	2,672.0			10	10		100.00%		17,551.7	13,360.0			0.00	0.0			0.0	0.0	
BRC: Gas, Boiler Reset Controls							0.0	0.0			15	15		100.00%		0.0	0.0			9.60	9.6			0.0	0.0	
BRC: LP, Boiler Reset Controls			5.9	0.5			0.0	0.0			15	15		100.00%		0.0	0.0			0.00	9.6			0.0	72.0	
BRC: Oil, Boiler Reset Controls			7.9	0.5			0.0	0.0			15	15		100.00%		0.0	0.0			0.00	9.6			0.0	72.0	
TSTAT: LP, 7-Day Programmable Thermostats			0.7	10.0			14.4	14.4			15	15		100.00%		141.9	2,159.7			7.70	3.2			75.9	480.0	
TSTAT: Oil, 7-Day Programmable Thermostats			0.7	10.0			14.4	14.4			15	15		100.00%		141.9	2,159.7			7.70	3.2			75.9	480.0	
TSTAT: LP, WiFi Enabled 7-Day Programmable Thermostats			0.7	5.0			14.4	14.4			15	15		100.00%		141.9	1,079.9			3.20	6.6			31.5	495.0	
TSTAT: Oil, WiFi Enabled 7-Day Programmable Thermostats			0.7	5.0			14.4	14.4			15	15		100.00%		141.9	1,079.9			3.20	6.6			31.5	495.0	

Liberty Utilities Large Business Energy Solutions Program

Measure*	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service or		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings			
	2012		2013		2012		2013		2012		2013		2012		2013		2012		2013		2012		2013			
	2012 Plan	Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan
Large New Equipment and Construction																										
D2 CAIR	N/A	2			N/A	8,533			15	15			100.00%		1,576,230	255,979			0.0	0.0			0.0	0.0		
D2 Cool Choice	N/A	3			N/A	2,869			13	12			100.00%		516,573	99,325			0.0	0.0			0.0	0.0		
D2 Custom	N/A	5			N/A	48,107			16	18			100.00%		4,773,069	4,227,023			0.0	0.0			0.0	0.0		
D2 Lights	N/A	8			N/A	62,282			15	15			100.00%		1,657,955	7,335,516			0.0	0.0			0.0	0.0		
D2 VSD	N/A	5			N/A	60,466			15	15			100.00%		580,901	4,534,977			0.0	0.0			0.0	0.0		
D2 MotorUp	N/A	1			N/A	0			15	15			100.00%		0	0			0.0	0.0			0.0	0.0		
NEW EQUIPMENT TRACK																										
Cooling			3.4	1.5			34,776.7	13,186.0			15	15	92.5%	92.5%			1,631,571	274,434			0.0	0.0			0.0	0.0
Heating			0.3	0.0			53,278.3	0.0			15	15	92.5%	92.5%			245,792	0			0.0	0.0			0.0	0.0
Lighting			1.0	3.5			66,783.4	46,059.0			15	15	92.5%	92.5%			923,279	2,204,787			0.0	0.0			0.0	0.0
Lighting LED			0.0	0.0			-	0.0			15	15	92.5%	92.5%			0	0			0.0	0.0			0.0	0.0
Lighting (Occ Sensors Only)			0.3	0.0			24,628.0	0.0			10	10	92.5%	92.5%			66,008	0			0.0	0.0			0.0	0.0
Other			0.6	3.4			131,370.3	45,117.0			15	15	92.5%	92.5%			1,180,151	2,121,321			0.0	0.0			0.0	0.0
Process			2.4	0.8			54,812.6	7,099.0			15	15	92.5%	92.5%			1,858,531	73,874			0.0	0.0			0.0	0.0
Lighting - Parking Lot Lights																					0.0	0.0			0.0	0.0
RETROFIT TRACK																										
EI HVAC	N/A	0			N/A	0			13	13			100.00%		0	0			0.0	0.0			0.0	0.0		
EI CAIR	N/A	0			N/A	0			13	13			100.00%		515,304	0			0.0	0.0			0.0	0.0		
EI Custom	N/A	5			N/A	201,744			13	13			100.00%		6,600,339	12,946,939			0.0	0.0			0.0	0.0		
EI Light	N/A	22			N/A	76,111			13	13			100.00%		31,625,265	21,767,857			0.0	0.0			0.0	0.0		
EI VSD	N/A	1			N/A	346,953			13	13			100.00%		795,621	4,510,384			0.0	0.0			0.0	0.0		
Cooling			2.6	0.0			65,104	0.0		12.4	13	13	94.0%	94.0%			1,979,233	0			0.0	0.0			0.0	0.0
Heating			1.3	0.0			17,369	0.0		13.1	20	20	94.0%	94.0%			425,376	0			0.0	0.0			0.0	0.0
Lighting			11.6	29.3			52,212	26,433.0		12.9	13	13	94.0%	94.0%			7,361,638	9,453,409			0.0	0.0			0.0	0.0
Lighting - LED			1.2	0.0			88,342	0.0		13.0	13	13	94.0%	94.0%			1,334,371	0			0.0	0.0			0.0	0.0
Lighting - Occ Sensors only			2.3	0.0			30,253	0.0		9.1	9	9	94.0%	94.0%			624,809	0			0.0	0.0			0.0	0.0
Other			0.8	8.1			27,788	74,672.0		13.0	14	13	94.0%	94.0%			300,662	7,391,184			0.0	0.0			0.0	0.0
Lighting - Parking Lot Lights			1.2	0.0			51,130	0.0		13.0	13	13	94.0%	94.0%			731,208	0			0.0	0.0			0.0	0.0
Process			7.0	0.0			65,380	0.0		11.8	12	12	94.0%	94.0%			5,033,707	0			0.0	0.0			0.0	0.0
Other			0.0	0.0			27,788	0.0		0.0	14	14	94.0%	94.0%			0	0			0.0	0.0			0.0	0.0
Fuel Neutral Heating, Hot Water and Controls																										
Energy Star Central Air Conditioner			0.000	0.0			0.0	0.0			14	14	100%				0.0	0.0			0.0	0.0			0.0	0.0
Energy Star Mini Split Heat Pump			0.3	0.0			(2,035.25)	0.0			12	12	100%				-7,102.9	0.0			0.0	0.0			0.0	0.0
Energy Star Mini Split Heat Pump (for homes w/LP heat)			0.1	0.0			0.000	0.0			12	12	100%				0.0	0.0			0.0	0.0			0.0	0.0
Energy Star Mini Split Heat Pump (for homes w/Oil heat)			0.0	0.0			0.0	0.0			12	12	100%				0.0	0.0			171.9	0.0			48.0	0.0
ENERGY STAR Qualified Freestanding Water Heater >= 0.67 EF			0.0	4.8			0.0	0.0			13	13	100.0%				0.0	0.0			0.0	3.0			0.0	186.6
Furnace, Oil (forced hot air) >= 85% AFUE w/ECM (up to 150 MBH)			0.0	4.8			0.0	0.0			18	18	100.0%				0.0	0.0			0.0	16.1			0.0	1,384.1
Furnace, Oil (forced hot air) >= 95% AFUE w/ECM (up to 150 MBH)			0.0	4.6			0.0	0.0			18	18	100.0%				0.0	0.0			0.0	16.1				
Furnace, LP (forced hot air) >= 97% AFUE w/ECM (up to 150 MBH)			0.0	4.8			0.0	0.0			18	18	100.0%				0.0	0.0			0.0	18.5			0.0	1,590.4
Boilers, LP >= 90% thermal efficiency (1000 to 1700 MBH), Condensing			0.9	0.0			0.0	0.0			25	25	100.0%				0.0	0.0			142.6	142.6			3,110.4	0.0
Boilers, LP >= 90% thermal efficiency (1701 to 2000 MBH), Condensing			1.4	0.0			0.0	0.0			25	25	100.0%				0.0	0.0			249.0	249.0			8,871.0	0.0
7-Day Programmable Thermostats (Gas)			0.0	4.8			0.0	0.0			15	15	100.0%				0.0	0.0			7.7	7.7			0.0	551.6
Boiler Reset Controls, LP, After Market, 1 shift operation			0.0	4.8			0.0	0.0			15	15	100.0%				0.0	0.0			19.3	19.3			4.2	0.0
Boiler Reset Controls, Oil, After Market, 1 shift operation			0.0	0.0			0.0	0.0			15	15	100.0%				0.0	0.0			19.3	19.8			4.2	0.0
Boiler Reset Controls, LP, After Market, >1 shift operation			0.0	4.8			0.0	0.0			15	15	100.0%				0.0	0.0			35.5	35.5			7.7	0.0
Boiler Reset Controls, Oil, After Market, >1 shift operation			0.0	0.0			0.0	0.0			15	15	100.0%				0.0	0.0			35.5	35.5			7.7	0.0
Steam Traps, Oil (greater than 10 steam traps requires pre-approval)			0.0	4.8			0.0	0.0			3	3	100.0%				0.0	0.0			25.7	25.7			1.1	368.2
Unit LP Heaters >= 90% thermal efficiency (up to 300 MBH), Condensing			0.0	0.0			0.0	0.0			18	18	100.0%				0.0	0.0			30.0	30.0			1.6	0.0
Unit Oil Heaters >= 82% thermal efficiency (up to 300 MBH)			0.0	0.0			0.0	0.0			18	18	100.0%				0.0	0.0			30.0	30.0			1.6	0.0
Low Intensity LP Infrared Heaters (all sizes, EFF=>90%)			0.0	0.0			0.0	0.0			17	17	100.0%				0.0	0.0			48.3	48.3			4.8	0.0
Low Intensity Oil Infrared Heaters (all sizes, EFF=>85%)			0.0	0.0			0.0	0.0			17	17	100.0%				0.0	0.0			48.3	48.3			2.4	0.0

Liberty Utilities Small Business Energy Solutions Program

Measure*	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service or Installation Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings			
	2012		2013		2012		2013		2012		2013		2012	2013	2012		2013		2012		2013		2012		2013	
	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual
Small Business Energy Solutions	1	75			692,223	7,742			11	12			100.00%		7,614,457	7,083,530			0.0	0.0			0.0	0.0		
D2 CAIR																										
D2 Cool Choice																										
D2 Custom																										
D2 Lights																										
D2 VSD																										
Vendor Miser																										
NEW EQUIPMENT TRACK																										
Cooling			1.2	0.5			32,168	3,557			15.0	15.0		92.5%		537,929.2	26,848.2			0.0	0.0			0.0	0.0	
Heating			0.1	0.0			49,286	0			15.0	15.0		92.5%		81,043.9	0.0			0.0	0.0			0.0	0.0	
Lighting			0.4	21.5			61,774	3,557			15.0	15.0		92.5%		304,403.6	1,061,097.6			0.0	0.0			0.0	0.0	
Lighting LED				0.0			0	0			15.0	15.0		92.5%		0.0	0.0			0.0	0.0			0.0	0.0	
Lighting (Occ Sensors Only)			0.1	0.0			22,784	0			10.0	10.0		92.5%		21,765.3	0.0			0.0	0.0			0.0	0.0	
Other			0.2	2.0			121,518	3,557			15.0	15.0		92.5%		389,096.6	98,706.8			0.0	0.0			0.0	0.0	
Process			0.9	0.5			50,702	3,557			15.0	15.0		92.5%		612,761.6	26,231.3			0.0	0.0			0.0	0.0	
RETROFIT TRACK																										
Cooling			0.0	0.0			0	0			12.9	13.0		100.00%		0.0	0.0			0.0	0.0			0.0	0.0	
Lighting - New Construction			15.7	0.0			13,788	0			15.9	15.9		100.00%		3,432,068.4	0.0			0.0	0.0			0.0	0.0	
Lighting - Retrofit			18.3	101.1			19,981	7,665			12.8	13.0		100.00%		4,692,832.2	10,074,946.5			0.0	0.0			0.0	0.0	
Lighting - Direct Install			21.0	0.0			14,489	0			12.9	12.9		100.00%		3,906,001.7	0.0			0.0	0.0			0.0	0.0	
Lighting - Catalog Sales			72.9	0.0			46	0			6.0	6.0		100.00%		20,256.0	0.0			0.0	0.0			0.0	0.0	
Smart Strips			8.8	0.0			75	0			5.0	5.0		100.00%		3,305.0	0.0			0.0	0.0			0.0	0.0	
Process			0.0	1.8			0	7,665			0.0	13.0		100.00%		0.0	174,378.8			0.0	0.0			0.0	0.0	
Other			0.0	0.0			0	0			0.0	13.0		100.00%		0.0	0.0			0.0	0.0			0.0	0.0	
Fuel Neutral Heating, Hot Water and Controls																										
Energy Star Central Air Conditioner			2.3	0.0			110	0			14.0	14.0		100.0%		3,510.5	0.0			0.0	0.0			0.0	0.0	
Energy Star Mini Split Heat Pump			8.8	0.0			-2,035	0			12.0	12.0		100.0%		-215,933.7	0.0			0.0	0.0			0.0	0.0	
Energy Star Mini Split Heat Pump (w/LP heat)			2.5	0.0			0	0			12.0	12.0		100.0%		0.0	0.0			15.4	15.4			468	0.0	
Energy Star Mini Split Heat Pump (w/Oil heat)			6.3	0.0			0	0			12.0	12.0		100.0%		0.0	0.0			17.1	17.1			1,296	0.0	
ENERGY STAR Qualified Freestanding Water Heater >= 0.67 EF			0.0	5.5			0	0			13.0	13.0		100.0%		0.0	0.0			3.0	3.0			0.0	215.5	
On Demand Tankless Water Heater, LP, >= .82 EF w/Electronic Ignition			2.5	0.0			0	0			20.0	20.0		100.0%		0.0	0.0			7.1	7.1			0.0	360.0	
On Demand Tankless Water Heater, LP, >= .95 EF w/Electronic Ignition			1.5	0.0			0	0			20.0	20.0		100.0%		0.0	0.0			9.9	9.6			0.0	300.0	
Furnace, Gas (forced hot air) >= 95% AFUE w/ECM (up to 150 MBH)			0.0	5.4			0	0			18.0	18.0		100.0%		0.0	0.0			16.1	16.1			0.0	1,557.7	
Furnace, Oil (forced hot air) >= 85% AFUE w/ECM (up to 150 MBH)			0.0	5.5			0	0			18.0	18.0		100.0%		0.0	0.0			16.1	16.1			0.0	1,598.9	
Furnace, Gas (forced hot air) >= 97% AFUE w/ECM (up to 150 MBH)			0.0	5.5			0	0			18.0	18.0		100.0%		0.0	0.0			18.5	18.5			0.0	1,837.2	
Boilers, LP >= 90% AFUE (up to 300 MBH), Condensing			1.3	0.0			0	0			25.0	25.0		100.0%		0.0	0.0			22.8	22.8			0.0	719.9	
Boilers, Oil >= 85% AFUE (up to 300 MBH)			2.5	0.0			0	0			25.0	25.0		100.0%		0.0	0.0			22.8	22.8			0.0	1,439.9	
Boilers, LP >= 90% thermal efficiency (301 to 499 MBH), Condensing			1.3	0.0			0	0			25.0	25.0		100.0%		0.0	0.0			42.0	42.3			0.0	1,325.0	
Boilers, Oil >= 85% thermal efficiency (301 to 499 MBH)			2.5	0.0			0	0			25.0	25.0		100.0%		0.0	0.0			42.4	42.3			0.0	2,675.0	
7-Day Programmable Thermostats (Gas)			0.0	5.5			0	0			15.0	15.0		100.0%		0.0	0.0			7.7	7.7			0.0	637.2	
Boiler Reset Controls, Gas, After Market, 1 shift operation			0.0	5.5			0	0			15.0	15.0		100.0%		0.0	0.0			19.3	19.3			0.0	1,597.2	
Boiler Reset Controls, Oil, After Market, 1 shift operation			1.3	0.0			0	0			15.0	15.0		100.0%		0.0	0.0			19.3	19.3			0.0	365.7	
Boiler Reset Controls, Gas, After Market, >1 shift operation			1.3	0.0			0	0			15.0	15.0		100.0%		0.0	0.0			35.5	35.5			0.0	672.6	
Steam Traps, Gas (greater than 10 steam traps requires pre-approval)			0.0	5.5			0	0			3.0	3.0		100.0%		0.0	0.0			25.7	25.7			0.0	425.4	

Liberty Utilities Municipal Energy Efficiency Program (per SB123)

Measure*	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service or		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings					
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013	2014 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan		
Municipal																												
NEW EQUIPMENT TRACK																												
Cooling				0.5				11,684.0				15.0		100.0%				87,630				0.0				0.0		
Lighting				1.5				40,812.0				15.0		100.0%				918,270				0.0				0.0		
Other				1.1				39,978.0				15.0		100.0%				680,865				0.0				0.0		
Process				0.0				6,290.0				15.0		100.0%				0				0.0				0.0		
RETROFIT TRACK																												
Lighting				6.0				40,812.0				12.8		100.0%				3,139,504				0.0				0.0		
Other				0.0				39,978.0				13.0		100.0%				0				0.0				0.0		
Fuel Neutral Heating, Hot Water and Controls																												
On Demand Tankless Water Heater, Gas, >=.82 EF w/Electronic Ignition				5.2				0.0				15.0		100.0%				0.0				7.1				558.7		
On Demand Tankless Water Heater, Gas, >=.95 EF w/Electronic Ignition				5.2				0.0				15.0		100.0%				0.0				9.6				754.6		
Boilers (up to 300 MBH), Condensing (for homes with LP heat)				5.6								25.0		100.0%				0.0				22.8				3,185.2		
Boilers (up to 300 MBH) (for homes with oil heat)				5.6								25.0		100.0%				0.0				22.8				3,185.2		
Boiler Reset Controls, LP, After Market, 1 shift operation				5.2				0.0				15.0		100.0%				0.0				19.3				1,518.7		
Technical Assessments				1.0				0.0				1.0		100.0%				0.0				0.0				0.0		

Liberty Utilities Gas Home Energy Assistance Program

Measure	Quantity	Annual Savings per Unit (mmbtu)				Measure Life				Installation or Realization Rate			Total Lifetime Savings (mmbtu)			
	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan
Low Income	181.6	13.6	13.5	17.2	32.0	20.0	20.0	20.0	20.0	100.0%	100.0%	100.0%	102,544.0	62,832.0	89,172.0	116,239.3

Liberty Utilities Gas Home Performance with ENERGY STAR®

Measure	Quantity				Annual Savings per Unit (mmbtu)				Measure Life				Installation or Realization Rate		Total Lifetime Savings (mmbtu)			
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013 & 2014	2012 Plan	2012 Actual	2013 Plan	2014 Plan
Single Family (1-4 Units)	1,408.0	1,186.0	24.0	50.6	19.1	14.1	33.6	32.9	20.0	20.0	20.0	20.0	100%	100%	538,017.9	334,452.0	16,120.0	33,290.7
Multi-Family (5+ Units)	-	-	544.0	471.0	19.1	-	32.9	32.9	20.0	20.0	20.0	20.0	100%	100%	-	-	358,060.0	309,918.0

Liberty Utilities Gas ENERGY STAR® Homes Program

Measure	Quantity				Annual Savings per Unit (mmbtu)				Measure Life				In-Service / Realization Rate		Total Lifetime Savings (mmbtu)			
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013 & 2014	2012 Plan	2012 Actual	2013 Plan	2014 Plan
Energy Star Homes	34.0	12.0	37.0	37.2	27.2	27.2	26.9	27.2	25.0	25.0	25.0	25.0	100%	100%	23,120.0	8,160.0	24,875.0	25,314.5

Liberty Utilities Gas ENERGY STAR® Appliance Program

Measure	Quantity				Annual Savings per Unit (mmbtu)				Measure Life				In-Service / Realization Rate			Total Lifetime Savings (mmbtu)			
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan
High Efficiency Gas Steam Boiler																			
Tankless Water Heaters (EF 0.82)	85.0	67.0	90.0	45.0	9.7	9.7	8.0	9.7	20.0	20.0	20.0	20.0	100%	100%	100%	16,490.0	12,998.0	14,400.0	8,730.0
Indirect Water Heater (attached to gas Energy Star FHW boiler)	170.0	108.0	175.0	70.0	8.0	8.0	3.7	8.0	20.0	20.0	20.0	20.0	100%	100%	100%	27,200.0	17,280.0	12,960.0	11,200.0
Stand Alone Storage Water Heater (EF 0.67)	3.0	4.0	62.0	3.0	3.7	3.7	3.7	3.7	13.0	13.0	13.0	13.0	100%	100%	100%	144.3	192.4	2,982.2	144.3
Combo condensing boiler w/ On-Demand DWH 90%	35.0	151.0	40.0	55.0	21.1	21.1	17.8	17.8	20.0	20.0	20.0	20.0	100%	100%	100%	14,770.0	63,722.0	14,240.0	19,580.0
Furnace (forced hot air) 92% AFUE	0.0	0.0			0.0	0.0			0.0	18.0			100%			0.0	0.0		
Furnace (forced hot air) 92% AFUE w/ECM	0.0	1.0			0.0	11.8			0.0	18.0			100%			0.0	212.4		
Furnace (forced hot air) 94% AFUE w/ECM	180.0	150.0			18.0	14.2			18.0	18.0			100%			58,320.0	38,340.0		
Furnace (forced hot air) 95% AFUE w/ECM		36.0	192.0	265.0		18.0	4.5	4.5		18.0	18.0	18.0	100%	100%	100%		11,664.0	15,552.0	21,465.0
Furnace (forced hot air) 96% AFUE w/ECM	21.0	154.0	30.0		20.7	20.7	5.9		18.0	18.0	18.0		100%	100%		7,824.6	57,380.4	3,186.0	
Furnace 97+AFUE (<150) w/ECM Motor			17.0	42.4			18.5	5.9			18.0	18.0		100%	100%			5,670.0	4,501.7
Boiler (forced hot water) 85% AFUE	0.0	50.0			0.0	7.2			0.0	20.0			100%			0.0	7,200.0		
Boiler (forced hot water) 95% AFUE	10.0	124.0	12.0	52.0	21.3	21.3	13.1	13.1	20.0	20.0	20.0	20.0	100%	100%	100%	4,260.0	52,824.0	3,144.0	13,624.0
Boiler (forced hot water) 90% AFUE	190.0	132.0	99.0	75.0	13.7	14.2	10.4	10.4	20.0	20.0	20.0	20.0	100%	100%	100%	52,060.0	37,488.0	20,600.0	15,600.0
Early Retirement Steam Boiler (Retire >=82% AFUE)				4.0								10			100%				1,756.0
Early Retirement Steam - EE: 82% + AFUE				4.0								20			100%				280.0
Early Retirement FHW - Retirement:90 AFUE (65%-90%)				16.0								10			100%				3,776.0
Early Retirement FHW - EE 90 AFUE (80%-90%)				16.0								20			100%				3,328.0
Boiler Reset Controls	7.0	10.0	18.0	8.0	7.9	7.9	4.5	4.5	15.0	15.0	15.0	15.0	100%	100%	100%	829.5	1,185.0	1,215.0	540.0
Tankless Water Heater (EF 0.95)	12.0	32.0			10.3	10.3			20.0	20.0			100%	100%	100%	2,472.0	6,592.0		
Condensing Gas Water Heater (EF 0.94)	1.0	0.0		4.0	25.0	0.0			8.5	15.0	15.0	15.0	100%		100%	375.0	0.0		510.0
Tankless Water Heater (EF 0.94)		33.0	30.0	35.0		7.8	10.1	10.3		20.0	20.0	20.0	100%	100%	100%		5,148.0	6,060.0	7,210.0
7-Day Programmable Thermostats	600.0	437.0	1,410.0	910.0	7.7	7.5	3.2	3.2	15.0	10.0	15.0	15.0	100%	100%	100%	69,300.0	32,775.0	67,680.0	43,680.0
Heat Recovery Ventilator				5.0								20.0			100%				770.0
WiFiThermostats (Heating only)			81.0	100.0			6.6	6.6			15.0	15.0		100%	100%			8,025.0	9,900.0
WiFiThermostats (Cooling & Heating)			322.0	72.0			6.6	6.6			15.0	15.0		100%	100%			31,875.0	7,128.0

Liberty Utilities Gas Large Business Energy Solutions Program

Measure	Quantity				Annual Savings per Unit (mmbtu)				Measure Life				Installation or Realization Rate		Total Lifetime Savings (mmbtu)			
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013 & 2014	2012 Plan	2012 Actual	2013 Plan	2014 Plan
CEEP	0	0			0.0	0.0			15.0	15			100%		-	-		
Large Business Retrofit	180	85	25.0	10.000	266.2	319.0	414.4	3041.4000	15.0	15	15.0	14.5800	100%	100%	718,740.0	413,324.7	155,400.0	443,436.1
Large Business New Equipment Custom	6	130	4.0	4.000	634.1	110.05	634.3	785.5060	18.0	19	18.0	19.4280	100%	100%	68,486.4	278,958.7	45,666.0	61,043.3
Furnace 95+ AFUE (<150) w/ECM Motor			9.0	10.000			16.1	4.3000			18.0	18.0000		100%			2,610.0	774.0
Furnace 97+ AFUE (<150) w/ECM Motor			1.0	3.000			21.0	5.9000			18.0	18.0000		100%			378.0	318.6
Infrared			12.0	12.000			48.3	48.3000			17.0	17.0000		100%			9,860.0	9,853.2
Water Heater - Tankless, On-Demand >=.82								7.1000				20.0000						-
Water Heater - Tankless, On-Demand >=.94								9.4000				20.0000						-
Indirect Water Heaters (Combined appliance efficiency rating >=85% (EF=.82)			12.0	12.000			20.7	20.7000			15.0	15.0000		100%			3,720.0	3,726.0
Water Heater - Tankless, On-Demand >=.82								25.0000				15.0000						-
Water Heater - Tankless, On-Demand >=.94								3.0000				13.0000						-
Water Heater - Integrated w/Condensing Boiler >= 90% AFUE								24.6000				20.0000						-
Condensing Boiler >= 90% AFUE (Up to 300 MBH)								22.8000				25.0000						-
Condensing Boiler >= 95% AFUE (Up to 300 MBH)								29.3000				25.0000						-
Condensing boiler 301-499 mbh			7.0	8.342			56.1	56.1000			25.0	25.0000		100%			9,825.0	11,699.3
Condensing boiler 500-999 mbh			2.0	2.000			103.0	103.0000			25.0	25.0000		100%			5,150.0	5,150.0
Condensing boiler 1000-1700 mbh			2.9	3.000			189.3	189.2000			25.0	25.0000		100%			13,525.0	14,190.0
Condensing boiler 1701+ mbh			3.0	4.000			331.3	331.2000			25.0	25.0000		100%			24,850.0	33,120.0
Condensing Unit Heaters			6.0	0.000			41.0	40.9000			18.0	18.0000		100%			4,428.0	-
Fryers			2.0	2.000			58.5	58.6000			12.0	12.0000		100%			1,404.0	1,406.4
High Efficiency Gas Steamer (Energy Star >=38% efficiency)			1.0	1.000			107.0	106.6000			12.0	12.0000		100%			1,284.0	1,279.2
High Efficiency Gas Convection Oven (>=40% efficiency)			1.0	1.000			31.0	30.6000			12.0	12.0000		100%			372.0	367.2
High Efficiency Gas Combination Oven (>=40% efficiency)			1.0	1.000			110.0	110.3000			12.0	12.0000		100%			1,320.0	1,323.6
High Efficiency Gas Conveyer Oven (>=40% efficiency)			1.0	1.000			85.0	84.5000			12.0	12.0000		100%			1,020.0	1,014.0
High Efficiency Gas Rack Oven (>=50% efficiency)			1.0	1.000			211.0	211.3000			12.0	12.0000		100%			2,532.0	2,535.6
High Efficiency Gas Griddle			1.0	1.000			19.0	18.5000			12.0	12.0000		100%			228.0	222.0
Pre Rinse Spray Valve			30.0	34.000			32.6	12.6000			5.0	5.0000		100%			4,888.2	2,142.0
Boiler Reset Controls (retrofit only)			8.0	16.000			17.8	35.5000			15.0	15.0000		100%			2,130.0	8,520.0
Steam Traps			33.0	42.000			20.2	25.7000			3.0	3.0000		100%			1,998.9	3,238.2
Thermostat			15.0	20.000			1.9	7.7000			15.0	15.0000		100%			427.5	2,310.0

Liberty Utilities Gas Small Business Energy Solutions Program

Measure	Quantity				Savings per Unit	Measure Life				In-Service & Realization Rate		Total Lifetime Savings (mmbtu)			
	2012 Plan	2012 Actual	2013 Plan	2014 Plan		2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013 & 2014	2012 Plan	2012 Actual	2013 Plan
Small Business Custom	27.0	915.0				15	8			100%		131,342	311,066		
Furnace (forced hot air) 92% AFUE	0.0	0.0				18	18			100%		0	0		
Furnace 92+ AFUE (<150) w/ECM Motor	0.0	0.0				18	18			100%		0	0		
Furnace 94+ AFUE (<150) w/ECM Motor	0.0	0.0				18	18			100%		0	0		
Furnace 95+ AFUE (<150) w/ECM Motor	0.0	2.0		50	4.3	18	18		18	100%	100%	0	745		3,870.0
Furnace 96+ AFUE (<150) w/ECM Motor	0.0	6.0				18	13			100%		0	1,604		
Furnace 97+ AFUE (<150) w/ECM Motor				16	5.9				18		100%				1,715.0
Small Business Retrofit Custom			25.0	29	115.4			15	21		100%			121,620	71,228.1
Small New Equipment Custom			7.0	12	280.0			18	18		100%			79,902	60,481.5
Infrared	70.0	22.0	22.0	25	48.3	17	17	17	17	100%	100%	88,536	27,826	27,826	20,527.5
On demand, Tankless Water Heater >=.82,	15.0	3.0	12.0	18	7.1	20	20	20	20	100%	100%	2,130	426	1,704	2,556.0
On demand, Tankless Water Heater >=.94,				12	9.4				20		100%				2,256.0
Indirect Water Heaters (Combined appliance efficiency rating >=85% (EF=.82)	57.0	49.0	45.0	55	20.7	15	20	15	15	100%	100%	25,992	29,792	20,520	17,077.5
Condensing Stand Alone >95% TE, >75000 btu	10.0	1.0	5.0	12	25.0	15	15	15	15	100%	100%	3,750	375	1,875	4,500.0
Integrated water heater/condensing boiler (0.9 EF, 0.9 AFUE)	7.0	0.0	8.0	12	24.6	20	0	20	20	100%	100%	3,438	0	3,930	5,904.0
Boiler >=95% AFUE, <= 300 mbh	7.0	0.0	5.0	11	29.3	25	0	25	25	100%	100%	3,868	0	2,763	8,057.5
Condensing boiler <= 300 mbh	48.0	56.0	55.0	65	22.8	25	25	25	25	100%	100%	26,520	45,220	30,388	37,050.0
Condensing boiler 301-499 mbh	48.0	2.0	21.0	22	56.1	25	25	25	25	100%	100%	50,760	3,915	22,208	30,855.0
Condensing boiler 500-999 mbh	14.0	19.0	11.0	13	103.0	25	25	25	25	100%	100%	26,985	69,683	21,203	33,475.0
Condensing boiler 1000-1700 mbh	9.0	2.0	0.0	0	189.2	25	25	25	25	100%	100%	32,085	13,205	0	0.0
Condensing boiler 1701+ mbh	4.0	0.0	0.0	0	331.2	25	0	25	25	100%	100%	24,900	0	0	0.0
Condensing Unit Heaters	0.0	0.0	5.0	10	40.9	18	0	18	18	100%	100%	0	0	3,683	7,362.0
Hydronic boiler <= 300mbh	0.0	2.0	0.0	0	0.0	25	25	25	25	100%	100%	0	840	0	0.0
Hydronic boiler 301-499 mbh	0.0	0.0	0.0	0	0.0	25	0	25	25	100%	100%	0	0	0	0.0
Hydronic boiler 500-999 mbh	0.0	0.0	0.0	0	0.0	25	0	25	25	100%	100%	0	0	0	0.0
Hydronic boiler 1000-1700 mbh	0.0	0.0	0.0	0	0.0	25	0	25	25	100%	100%	0	0	0	0.0
Hydronic boiler 1701+ mbh	0.0	3.0	0.0	0	0.0	25	25	25	25	100%	100%	0	11,250	0	0.0
Fryers	12.0	8.0	9.0	15	58.6	12	12	12	12	100%	100%	8,438	5,626	6,329	10,548.0
High Efficiency Gas Steamer (Energy Star >=38% efficiency)	3.0	0.0	2.0	5	106.6	10	0	12	12	100%	100%	4,608	0	3,686	6,396.0
High Efficiency Gas Convection Oven (>=40% efficiency)	3.0	11.0	2.0	5	30.6	12	12	12	12	100%	100%	893	3,274	595	1,836.0
High Efficiency Gas Combination Oven (>=40% efficiency)	3.0	0.0	3.0	3	110.3	12	0	12	12	100%	100%	1,451	0	1,451	3,970.8
High Efficiency Gas Conveyer Oven (>=40% efficiency)	3.0	1.0	2.0	3	84.5	12	12	12	12	100%	100%	3,042	1,014	2,028	3,042.0
High Efficiency Gas Rack Oven (>=50% efficiency)	1.0	1.0	1.0	3	211.3	12	12	12	12	100%	100%	2,536	2,536	2,536	7,606.8
High Efficiency Gas Griddle	1.0	1.0	1.0	3	18.5	12	12	12	12	100%	100%	222	222	222	666.0
Pre Rinse Spray Valve	15.0	1.0	52.0	100	12.6	5	5	5	5	100%	100%	2,520	168	8,736	6,300.0
Boiler Reset Controls (retrofit only)	4.0	0.0	3.0	8	35.5	20	0	15	15	100%	100%	2,840	0	1,598	4,260.0
Steam Traps	30.0	385.0	8.0	12	25.7	1	3	3	3	100%	100%	759	53,573	617	925.2
Thermostat	30.0	9.0	9.0	30	7.7	15	10	15	15	100%	100%	1,125	693	338	3,465.0

NHEC Home Energy Assistance Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				Installation or Realization Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				NEB Realization Rate	Total Lifetime MMBTU Savings						
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013	2012		2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	
	Electric Savings for Fossil Heated Homes			57				1,747			10.79					956,047														
Baseload (Lighting)				34			427					5.00		88.80%																
Baseload (Refrigerators)				17			776					19.00		88.80%																
Baseload (HW Measures)				24			241					7.00		88.80%																
Weatherization - Electric Heat				8			2,799					22.19		88.80%																
Weatherization - Kerosene Heated			23	4						13.85	13.85			88.80%									25	22		98%		6,912	1,176	
Weatherization - Wood Heated				3								9.99		88.80%										47		98%			1,388	
Weatherization - Oil Heated			34	19						10.99	12.88			88.80%									17	32		98%		5,799	7,797	
Heating System Replacements												15.00		88.80%	100.00%															
Average Home	61	59			1,360	1,688			12.0	10.0				88.80%		884,022	884,377								22.87	21	13			
AS: Boiler Circulator Pump Savings				19								20.0		88.80%																
AS: Room AC (per unit)				26								23		88.80%																
Heating System Replacements																														
- Mobile Home Furnaces, Kerosene				3										100.00%										3.31		98%			166	
- Furnaces, LP				2										100.00%										8.44		98%			298	
- Boilers, Oil				3										100.00%										5		98%			366	

Planning Assumptions

1. The 2014 plan is based on actual completions through July 2013. Program changes made in 2013 resulted in an increase in the average incentive per home, causing a reduction in the number of homes planned for 2014 as compared to the estimate made in 2013.
2. Added Ancillary Energy Savings from Cadmus Report.
3. Added Heating System Replacements for 2014.

NHEC Home Performance with Energy Star Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				Installation or Realization Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings			
	2012		2013	2014	2012		2013	2014	2012		2013	2014	2012		2012		2012		2012		2012		2012		2012	
	2012 Plan	Actual	Plan	Plan	Plan	Actual	Plan	Plan	Plan	Actual	Plan	Plan	2012	2014	2012 Plan	Actual	2013 Plan	2014 Plan	2012 Plan	Actual	2013 Plan	2014 Plan	2012 Plan	Actual	2013 Plan	2014 Plan
Weatherization: Electric Heat			9				4,388	4,388			10.9	10.9	100.00%	100.00%			421,887									
Weatherization: LP Heat			11	10							22.3	18.8	100.00%	100.00%											5,358	4,260
Weatherization: Oil Heat			45	45							20.6	19.7	100.00%	100.00%											26,537	24,078
Weatherization: Kerosene			3	5							19.6	19.5	100.00%	100.00%											1,081	2,074
Weatherization: Wood Heat			4	5							18.9	22.1	100.00%	100.00%											1,200	2,533
Baseload (Lighting)				70				294				6.0														
Electric Baseload: Single Family			17	70			369	128			7.8	8.3	100.00%	100.00%			48,173									
Average Electric Home	59.0	19			5,787	2,324			11	16.0					3,721,620											
AS: Boiler Circulator Pump Savings				45				9.0					20.0													8,100
AS: Furnace Fan Savings				5				86.0					20.0													8,600
AS: Room AC (per unit)				52				23.0					20.0													23,920

Planning Assumptions

1. For CFL savings, we assumed EISA was fully in place for 2012 and our contractors installed 6 CFLs per home audited/weatherized (2.7 hrs/day x 365 days/year x (49.9-18.4)/1,000) x 6 = 186.3 kWh/year.
2. Added Ancillary Energy Savings from Cadmus Report.

NHEC Energy Star Homes Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service / Realization Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings				
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013/2014	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	
	ES CFL Lights	343	55	38	29	39.09	39	23	23	5.00	5.00	5.00	5.00	80%	80%/100%	53,835		3,524	3,334								
ES Light Fixture (Interior)	57	437	90	68	105.86	105.86	62	62	20.00	20.00	20.00	20.00	100%	100%	120,677		112,683	84,686									
ES Clothes Washer	40	16	26	19	223	223	261	166	11.00	11.00	11.00	11.00	100%	100%	98,120		73,778	34,610				0.74					
ES Dishwasher	57	18	36	27	33	33	33	31	10.00	10.00	10.00	10.00	100%	100%	18,810		11,745	8,478				0.19					
ES Refrigerator	49	76	36	27	107	107	106	114	12.00	12.00	12.00	12.00	100%	100%	62,916		45,273	36,936									
ES Central AC	34	5	2	2	263	214	198	110	14.00	14.00	14.00	14.00	100%	100%	125,188		5,930	3,088									
Oil Heated Homes		1											100%	100%				0									
Liquid Propane Heated Homes	34	64	29	26	506	136	757	757	25.00	25.00	25.00	25.00	100%	100%	430,100		543,640	491,966			66	66			47,242	42,751	
GSHP Heated Homes	23		14	6	0				25.00		25.00	25.00	100%	100%													
ES Thermostats									12	12																	

Planning Assumptions

1. Goal reduced in response to continued sluggish new home construction in NHEC service territory.

NHEC Energy Star Lighting Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service & Realization Rate		Total Lifetime Savings (kWh)			
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Plan
Catalog Sales: CFLs	908	1,286	1,676	1,118	39.55		23	23	5	5.00	5.00	5.00	80%	62%	144,189		120,043	80,082
Retail Sales: CFLs	4,499	2,173	1,676	1,883	39.09		23	23	5	5.00	5.00	5.00	80%	62%	706,129		120,043	134,878
Retail Sales: Multipacks	33,152	23,595	21,304	19,903	39.09		23	23	5	5.00	5.00	5.00	80%	62%	5,203,285		1,525,975	1,425,640
Retail Sales: Interior Fixture	395	608	568	492	105.86		62	62	8	8.00	8.00	8.00	96%	96%	322,467		272,812	236,268
Retail Sales: Exterior Fixture	118	22	57	0	105.86		62	62	5	5.00	5.00	5.00	100%	100%	62,456		17,688	0
Retail Sales: Torchieres		3	36	0			69	69		8.00	8.00	8.00	94%	94%			18,537	0
Retail Sales: LED Fixtures	395	1,366	284	224	47.03		28	28	20	20.00	20.00	20.00	95%	95%	352,989		149,317	117,751
Retail Sales: LED Bulbs			2,841	3,354			28	28		1.00	20.00	20.00	95%	95%			1,493,174	1,763,107

Planning Assumptions

1. Assumed the Energy Independence and Security Act of 2007 was fully in place in Jan2012 (e.g., Used 72W halogen as base rather than 100W incandescent)
 This reduces the kWh savings for all CFLs - the largest rebated product - by nearly 1/3.
2. Realization Rates for CFLs were modified from 80.3% to 62.3%, per KEMA Impact Evaluation, June 22, 2012.
3. Average hours on per energy efficient lights were ALL modified to 2 hours/day (from 3.4, or 41% reduction), per KEMA Impact Evaluation, June 22, 2012.
3. Assumed an increase in LED bulbs and fixture purchases in 2013-2014.

NHEC Energy Star Appliance Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service / Realization Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings			
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan
Energy Star Clothes Washer	823	785	858	712	223.00		261	166	11	11.00	11.00	11.00	100%	100%	2,018,828		2,461,138	1,296,979			0.74	0.74			6,964	5,777
Energy Star Room A/C	191	344	200	415	16.16		16	16	9	9.00	9.00	9.00	100%	100%	27,773		29,024	34,015								
Smartstrip Power Strip	57	61	60		75.04		75	75	5	5.00	5.00	5.00	100%	100%	21,386		22,469	26,332								
Energy Star Refrigerator	574	843	599	692	107.00		107	107	12	12.00	12.00	12.00	100%	100%	737,016		768,871	888,528								
2nd Refrigerator/Freezer Pickup	249	212	200	79	413.00		835	835	8	8.00	8.00	8.00	100%	100%	822,696		1,333,348	527,720								
2nd Freezer Pickup			60	4			663	663			8.00	8.00	100%	100%			317,608	21,216								
Energy Star Room Air Purifiers	19	11	20	4	268.00		391	391	9		9.00	9.00	100%	100%	45,828		70,173	14,063								
Energy Star Central Air Conditioner			5				110	110			14.00	14.00	100%	100%			7,144									
Energy Star Mini Split Heat Pump, SEER 14.5, HSPF 8.2 cooling				57				34.370			12.00	100%	100%				23,509									
Energy Star Mini Split Heat Pump, SEER 14.5, HSPF 8.2 heating				57				142.210			12.00	100%	100%				97,272				4.90					3,352
Energy Star Mini Split Heat Pump, SEER 19, HSPF 10 cooling			4	57			123	104.930			8.00	12.00	100%	100%		3,932	71,772							0		
Energy Star Mini Split Heat Pump, SEER 19, HSPF 10 heating			4	57			-2,158	751.000			8.00	12.00	100%	100%		-69,060	513,684			17.14	4.90			548	3,352	
Furn: LP, Furnace, FHA, AFUE >=95% w/ECM			11	11			168	168			18.00	18.00	100%	100%		33,579	32,041				4.50				858	
Furn: LP, Furnace, FHA, AFUE >=96% w/ECM			6	5			168	168			18.00	18.00	100%	100%		16,789	16,020			4.50	5.55			450	529	
Furn: LP, Furnace, FHA, AFUE >=97% w/ECM			2	5			168	168			18.00	18.00	100%	100%		5,596	16,020			5.55	5.90			185	563	
Furn: Oil, Furnace, FHA, AFUE >=85% w/ECM			6	5			168	168			18.00	18.00	100%	100%		16,789	16,020			5.90	18.00			590	1,716	
Furn: Oil, Furnace, FHA, AFUE >=90 w/ECM			2	5			168	168			18.00	18.00	100%	100%		5,596	16,020			18.00	20.70			600	1,974	
Boil: LP Boiler, FHW, AFUE >= 90%			11	5							20.00	20.00	100%	100%						20.70	10.40			4,597	1,102	
Boil: LP Boiler, FHW, AFUE >=96%			4	11							20.00	20.00	100%	100%						10.40	13.10			770	2,776	
Boil: Oil Boiler, FHW, AFUE >=85%			70	21							20.00	20.00	100%	100%						13.10	5.38			18,425	2,279	
Boil: Oil Boiler, FHW, AFUE >=90%			9	11							20.00	20.00	100%	100%						5.38	10.75			995	2,279	
Boil: LP, Combo condensing boiler w/ On-Demand DWH 90%			1	11							20.00	20.00	100%	100%						10.75	17.80			199	3,772	
Boil: Oil, Combo condensing boiler w/ On-Demand DWH 90%			1	11							20.00	20.00	100%	100%						17.80	17.80			329	3,772	
DHW: LP, Tankless Water Heaters (EF>= 0.82)			22	5							20.00	20.00	100%	100%						17.80	9.70			7,906	1,028	
DHW: LP, Indirect Water Heater (attached to LP Energy Star FHW boiler)			1	11							20.00	20.00	100%	100%						9.70	8.00			180	1,695	
DHW: Oil, Indirect Water Heater (attached to oil Energy Star FHW boiler)			1	21							20.00	20.00	100%	100%						8.00	8.00			148	3,391	
DHW: LP, Stand Alone Storage Water Heater (EF>=0.67)			1	5							13.00	13.00	100%	100%						8.00	3.70			96	255	
DHW: Energy Star Heat Pump 50 Gal Water Heater, EF>=2.3 (ES=EF>=2.0)			1	32			1,775	1,775			10.00	10.00	100%	100%		16,425	564,208			3.70				34		
DHW: Energy Star Heat Pump 80 Gal Water Heater, EF>=2.3 (ES=EF>=2.0)			1	11			2,672	2,672			10.00	10.00	100%	100%		24,725	283,110									
BRC: Gas, Boiler Reset Controls			0	5							15.00	15.00	100%	100%												
BRC: LP, Boiler Reset Controls			8	5							15.00	15.00	100%	100%								9.60				763
BRC: Oil, Boiler Reset Controls			11	5							15.00	15.00	100%	100%						9.60	9.60			1,599	763	
TSTAT: LP, 7-Day Programmable Thermostats			1	5			14	14			15.00	15.00	100%	100%		200	1,144			9.60	3.20			133	254	
TSTAT: Oil, 7-Day Programmable Thermostats			1	5			14	14			15.00	15.00	100%	100%		200	1,144			7.70	3.20			107	254	
TSTAT: LP, WiFi Enabled 7-Day Programmable Thermostats			1				14	14			15.00	15.00	100%	100%		200				7.70	6.60			107		
TSTAT: Oil, WiFi Enabled 7-Day Programmable Thermostats			1				14	14			15.00	15.00	100%	100%		200				6.60	6.60			92		

Planning Assumptions

1. Clothes Washer Annual kWh Savings updated based on mix of Electric Water Heating customer and per EnergyStar.gov Savings Calculator.
2. Room Air Purifier Annual kWh Savings updated per EnergyStar.gov Savings Calculator.
3. Central air conditioner and Mini Split Heat Pump Annual kWh savings added per EnergyStar.gov calculator, and conservatively assumed 50% of heat provided by heat pump, 50% provided by existing fossil system.
4. All Heating, Hot Water, Programmable Thermostats and Boiler Reset Control energy savings provided by U.S. Department of Energy during ARRA Program and adjusted with recent Gas Networks data if available.

NHEC Large Business Energy Solutions Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service or Realization Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings			
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan
	Snowmaking-Retrofit	1	3	1	2	321,194		333,129	333,129	13.0	13.0	13.0	13.0	94.0%	89.0%	3,716,215		4,519,386	7,708,605							
Lighting-Retrofit	17	19	6	13	21,720		44,921	29,141	13.0	13.0	13.0	13.0	94.0%	89.0%	4,272,107		3,656,535	4,383,098								
VFD-Retrofit			2	1			38,743	38,743			13.0	13.0	94.0%	89.0%			1,051,212	448,257								
Refrigeration-Retrofit			1				19,371	19,371			13.0	13.0	94.0%	89.0%			262,796									
Motors-Retrofit				2				5,870			13.0	13.0	94.0%	89.0%				135,832								
HVAC-Retrofit											13.0	13.0	94.0%	89.0%												
Process	5				20,677				13.0		13.0	13.0	94.0%		1,196,164											

NHEC Small Business Energy Solutions Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service or Installation Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings				
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	
Lighting-Retrofit	28	53	58	46	11,042	8,278	12,623	13,604	13.0	13.0	13.0	13.0	92.90%	100%	3,967,037		10,780,416	8,135,192									
Refrigeration-Retrofit	2		6	5	20,357	2,669	13,242	19,101	13.0	13.0	13.0	13.0	92.90%	100%	522,401		1,002,768	1,241,565									
VFD-Retrofit	1				20,677								92.90%	100%													
Lighting-New Construction			9				42,705						92.5%	100.0%			5,587,285										
HVAC-New Construction			4	3			6,925	6,925					92.5%	100.0%			411,843	311,634									
Refrigeration-New Construction		2	2				46,695						92.5%	100.0%			1,666,177										

NHEC Municipal Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service or Installation Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings				
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	
	Municipal Lighting				17				18,860				13		100%				4,168,060								
Parking Lot Lights				4				13,038				13		100%				677,976									
Boilers (up to 300 MBH)				1							25		100%									25.20				630	

NHEC Company Specific Programs
 A. High Efficiency Heat Pump Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service or Realization Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings			
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan
A. GSHP (Heating)	20		14	6	18,232		33,057	24,272	25		25	25	100.00%	100.00%	9,116,000		11,682,515	3,640,800								
A. GSHP (Cooling)	20		14	6	286		96	53	25		25	25	100.00%	100.00%	143,000		34,024	7,992								
A. GSHP (Hot Water)	20		14	6	1,811		1,389	1,316	25		25	25	100.00%	100.00%	905,500		490,935	197,390								
A. ASHP (Heating)											25	25	100.00%	100.00%												
A. ASHP (Cooling)											25	25	100.00%	100.00%												
A. ASHP (Hot Water)											25	25	100.00%	100.00%												

Planning Assumptions

A. Energy Star Homes - Geothermal & Air Source Heat Pump

1. GSHP = Ground Source (Geothermal) Heat Pump; ASHP = Air Source Heat Pump; Split System Heat Pump (ex. Mitsubishi "Mr. Slim")
2. Home Energy Raters incorporating a new Heat Pump COP calculation for the rated home to more accurately account for pumping power requirements. This reduced savings by 8% from 2011.
3. The User Defined Reference Home for New Hampshire continues to be updated to reflect code changes. Revisions will include a change to the efficiency of the reference heating system efficiency, resulting in a 5% reduction in savings.
4. Planning for additional homes to have Air Source Heat Pumps installed in 2012 due to their cold climate heating improvements. (Some may choose to go through the ENERGY STAR Homes program.)

PSNH Home Energy Assistance Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				Installation or Realization Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings					
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013	2012		2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan
																2012 Plan	Actual	2013 Plan	2014 Plan									
Electric Savings for Fossil Heated Homes	740.0	720	643.9	334.8	1,117.0	1,114.6	1,059.0	1,214.7	13.4	12.06	14.31	11.75	86.20%	86.20%	9,511,864	8,342,157	8,408,970	4,120,384										
Weatherization - Electric Heat	20.0	1	13.1	8.6	3,187.0	1,516.6	2,799.0	3,931.6	17.4	20.03	19.78	12.74	86.20%	86.20%	957,672	26,183	627,049	370,607										
Weatherization - Kerosene Heated	111.0	166	193.2	83.7					20.9	13.02	20.62	20.31	86.20%	86.20%	0	0	0	0	15.00	17.27	17.00	19.47	29,967	32,123	58,362	28,536		
Weatherization - LP Heated	59.2	35	57.9	40.2					19.3	12.09	21.39	19.70	86.20%	86.20%	0	0	0	0	15.00	15.22	15.00	19.05	14,796	5,508	16,024	12,997		
Weatherization - NG Heated	229.4	114	199.6	63.6					17.2	13.11	19.43	20.46	86.20%	86.20%	0	0	0	0	15.00	15.07	8.00	8.00	51,017	19,257	26,744	8,975		
Weatherization - Wood Heated	14.8	22	32.2	16.7					20.3	13.70	20.95	21.10	86.20%	86.20%	0	0	0	0	15.00	47.08	25.00	30.27	3,885	12,500	14,534	9,217		
Weatherization - Oil Heated	325.6	131	161.0	130.6					18.9	13.03	19.99	21.13	86.20%	86.20%	0	0	0	0	15.00	19.42	23.00	29.69	79,610	28,506	63,810	70,613		
Weatherization - Other													86.20%	86.20%	0	0	0	0					0	0	0	0		
Weatherization - Baseload									13.0	1.00			86.20%	86.20%	0	0	0	0					0	0	0	0		
AS = Ancillary Energy Savings from Wxn																												
AS: Boiler Circulator Pump Savings				267.8				9.0				20.00	86.20%															
AS: Furnace Fan Savings				67.0				86.0				20.00	86.20%															
AS: Furnace w/new ECM Motor				3.3				733.0				20.00	86.20%															
AS: Central AC				3.3				77.0				20.00	86.20%															
AS: Room AC (per unit)				255.0				23.0				20.00	86.20%															
AS: Other (tbd)													86.20%															
Heating System Replacements																												
- Mobile Home Furnaces, Kerosene				84.3				0.0				17.00	100.00%		0	0	0	0					3.31	0	0	0	4,746	
- Furnaces, LP				23.6				0.0				18.00	100.00%		0	0	0	0					8.44	0	0	0	3,587	
- Boilers, Oil				19.7				0.0				25.00	100.00%		0	0	0	0					4.97	0	0	0	2,443	

Planning Assumptions

1. MMBTU savings for 2013 only include savings resulting from SBC funded weatherization, projected to be 19-30 MMBTUs per home with a max incentive of \$8,000 (WAP collaboration funding is expected to pay for other additional MMBTU Savings). For gas heated homes, it is expected that the gas companies will pay for most of the weatherization project and will claim associated MMBTU savings.
2. Added Ancillary Energy Savings (AS) from the Cadmus Evaluation (NH HVAC Load and Savings Research, 4-5-2013)
3. Added Heating System Replacements for 2014.

PSNH Home Performance with ENERGY STAR®

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				Installation or Realization Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings					
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013	2012		2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan
																2012 Plan	Actual	2013 Plan	2014 Plan									
HES - ELECTRIC																												
Weatherization-Baseload: Electric Heat/Lighting		0								11.0			100.00%	100.00%	0	0	0	0							0	0	0	0
Weatherization-Baseload: LP Heat/Lighting													100.00%	100.00%	0	0	0	0							0	0	0	0
Weatherization-Baseload: Oil Heat/Lighting													100.00%	100.00%	0	0	0	0							0	0	0	0
Weatherization-Baseload: Electric Savings													100.00%	100.00%	0	0	0	0							0	0	0	0
Weatherization-HVAC: Electric/Wood Heat		0								22.1			100.00%	100.00%	0	0	0	0							0	0	0	0
Weatherization-HVAC: LP Heat													100.00%	100.00%	0	0	0	0							0	0	0	0
Weatherization-HVAC: Oil Heat													100.00%	100.00%	0	0	0	0							0	0	0	0
Weatherization-HVAC: Elec w/LP Backup													100.00%	100.00%	0	0	0	0							0	0	0	0
Electric Baseload: Single Family	51.3	172	64.4	77.2	186.3	282.0	294.0	138.0	5.0	8.0	7.9	7.0	100.00%	100.00%	47,774	386,901	149,169	74,317							0	0	0	0
Electric Baseload: Multi-Family	402.7	284	505.5	273.2	186.3	539.9	294.0	138.0	5.0	13.0	7.9	7.0	100.00%	100.00%	375,001	1,995,063	1,170,908	263,070							0	0	0	0
FUEL-NEUTRAL PILOT ELECTRIC SAVINGS																												
Pilot Wxn - Electric Heat Savings	562.2				186.3				5.0				100.00%	100.00%	523,563	0	0	0							0	0	0	0
Fuel Neutral Pilot (Kerosene)													100.00%	100.00%	0	0	0	0							0	0	0	0
Fuel Neutral Pilot (LP)													100.00%	100.00%	0	0	0	0							0	0	0	0
Fuel Neutral Pilot (Gas)													100.00%	100.00%	0	0	0	0							0	0	0	0
Fuel Neutral Pilot (Oil)													100.00%	100.00%	0	0	0	0							0	0	0	0
Fuel Neutral Pilot (Wood)													100.00%	100.00%	0	0	0	0							0	0	0	0
Fuel Neutral Pilot (ElecBaseload)	5.62185				6,533.8				14.6				100.00%	100.00%	536,291	0	0	0							0	0	0	0
FUEL NEUTRAL HPwES																												
Light Fixtures				115.1				23.0				20.0	100.00%	100.00%	0	0	0	52,941										
Refrigerator				86.3				586.2				7.0	100.00%	100.00%	0	0	0	354,248										
Hot Water Saving Measures				115.1				80.4				4.0	100.00%	100.00%	0	0	0	37,031										
SF, Electric, CFLs		439	459.7	587.3		293.006	378.0	138.0		8.1314	8.1	8.0	100.00%	100.00%	0	1,045,935	1,410,809	648,254						0	0	0	0	
Wxn Oil Heated Homes	314.8235	344	369.6	463.4		0.0		0	20.2	21.00	21.0	21.0	100.00%	100.00%	0	0	0	0	22.30	27.99	28.56	29.00	141,535	202,219	221,439	281,936		
Wxn LP Heated Homes	112.437	39	43.2	70.5		0.0		0	20.4	20.73	20.9	20.5	100.00%	100.00%	0	0	0	0	22.30	28.14	22.52	23.00	51,150	23,046	20,324	33,230		
Wxn Gas Heated Homes	16.86554	1	1.8	2.3		0.0		0	16.9	14.43	18.6	18.7	100.00%	100.00%	0	0	0	0	22.30	21.78	15.51	15.51	6,343	305	532	680		
Wxn Wood Heated Homes	101.1933	22	25.3	37.0		0.0		0	20.6	21.16	21.1	20.5	100.00%	100.00%	0	0	0	0	22.30	77.15	19.02	28.00	46,576	35,642	10,133	21,238		
Wxn Kerosene Heated Homes	11.2437	2	4.1	2.3		0.0		0	16.9	22.07	22.1	21.0	100.00%	100.00%	0	0	0	0	22.30	22.07	32.70	29.00	4,240	971	2,991	1,431		
Wxn Electrically Heated Homes		13	15.6	11.7		6,020.2	6,552.2	6,552.2		15.68	18.0	18.0	100.00%	100.00%	0	1,227,305	1,845,888	1,387,306						0	0	0	0	
AS = Ancillary Energy Savings																												
AS: Boiler Circulator Pump Savings				495.0				9.0				20.0	100.00%	100.00%	0	0	0	89,098										
AS: Furnace Fan Savings				34.5				86.0				20.0	100.00%	100.00%	0	0	0	59,399										
AS: Furnace w/new ECM Motor				1.7				733.0				20.0	100.00%	100.00%	0	0	0	25,313										
AS: Central AC				1.7				77.0				20.0	100.00%	100.00%	0	0	0	2,659										
AS: Room AC (per unit)				215.8				23.0				20.0	100.00%	100.00%	0	0	0	99,276										
AS: Other (tbd)				0.0																								

Planning Assumptions

- For CFL savings, we assumed EISA was fully in place for 2012 and our contractors installed 6 CFLs per home audited/weatherized (2.0 hrs/day x 365 days/year x (49.9-18.4)/1,000) x 6 = 186.3 kWhs/year.
- Added Ancillary Energy Savings (AS) from the Cadmus Evaluation (NH HVAC Load and Savings Research, 4-5-2013)

PSNH ENERGY STAR® Homes Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service / Realization Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings			
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan
	ES CFL Lights	3,844	1,106	3,121	3,293	39.1	39.1	23.0	23.0	5	5	5	5	80.30%	100.00%	603,270	173,589	358,877	378,599					0	0	0
ES Light Fixture (Interior)	1,153	879	312	329	105.9	105.9	62.3	62.3	20	20	20	20	100.00%	100.00%	2,441,232	1,860,971	388,727	410,089					0	0	0	0
ES Light Fixture (Exterior)		0	0	0	105.9	105.9	62.3	62.3	5	5	5	5	100.00%	100.00%	0	0	0	0					0	0	0	0
ES Clothes Washer	57.7	71.0	46.8	33	223.0	223.0	223.0	165.6	11	11	11	11	100.00%	100.00%	141,416	174,164	114,851	59,983	0.14	0.95	0.7376	0.7376	91	739	380	267
ES Dishwasher	230.6	330.0	218.5	214	33.0	33.0	33.0	31.4	10	10	10	10	100.00%	100.00%	76,105	108,900	72,103	67,208	0.40	0.40	0.1888	0.18880	922	1,320	413	404
ES Refrigerator	307.5	387.0	249.7	296	106.0	106.0	106.0	114.0	12	12	12	12	100.00%	100.00%	391,127	492,264	317,629	405,419					0	0	0	0
ES Room AC		0.0	0.0	0	16.2	16.2	16.2	16.2	9	9	9	9	100.00%	100.00%	0	0	0	0					0	0	0	0
ES Central AC		0.0	0.0	0	263.0	263.2	263.0	110.3	14	14	14	14	100.00%	100.00%	0	0	0	0					0	0	0	0
ES Thermostats	288.3	321.0	234.1	247	0.0	0.0	0.0	0.0	12	12	12	12	100.00%	100.00%	0	0	0	0					0	0	0	0
Oil Heated Homes	19.2	4.0	15.6	3	519.8	-171.0	519.8	519.8	25	25	25	25	100.00%	100.00%	249,747	-17,100	202,817	42,793	28.99	60.03	46.00	50.00	13,928	6,003	17,948	4,116
Natural Gas Heated Homes	211.4	124.0	46.8	63	481.5	480.1	481.5	481.5	25	25	25	25	100.00%	100.00%	2,544,603	1,488,350	563,577	753,094	23.71	57.33	25.80	25.00	125,306	177,715	30,199	39,103
Liquid Propane Heated Homes	134.5	134.0	171.7	148	506.0	652.1	506.0	506.0	25	25	25	25	100.00%	100.00%	1,701,754	2,184,451	2,171,679	1,874,472	40.55	48.30	37.20	44.00	136,376	161,814	159,657	162,998
Electric Baseboard Heated Home	19.2	0.0	15.6	0	3,077.0	3,077.0	7,323.0	7,323.0	25	25	25	25	100.00%	100.00%	1,478,345	0	2,857,206	0					0	0	0	0
ASHP Heated Home		143.0	62.4	115	1,600.0	3,049.6	2,313.0	2,313.0	25	25	25	25	100.00%	100.00%	0	10,902,399	3,609,841	6,664,377					0	0	0	0
Wood Heated Homes		0.0				0.0			25	25	25	25	100.00%	100.00%	0	0	0	0		0.00			0	0	0	0
GSHP Heated Homes		0.0				0.0			25	25	25	25	100.00%	100.00%	0	0	0	0					0	0	0	0
GSHP/NG Heated Homes		0.0				0.0			25	25	25	25	100.00%	100.00%	0	0	0	0					0	0	0	0

Planning Assumptions

1. Planned participation - 329 homes. Planning for some multi-family homes heated & cooled with Air Source Heat PumpsSHP homes in 2014.
2. Annual kWh Savings reduced due to the new standards from the Energy Independence & Securities Act of 2007 that reduces base bulb wattage between 2012-2014.

PSNH ENERGY STAR® Lighting Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service & Realization Rate		Total Lifetime Savings (kWh)			
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Plan
Catalog Sales: CFLs	3,851	12,559	2,859	3,171	39.6	39.55	23.00	23.00	5	5	5	5	80.30%	62.30%	611,473	1,994,355	204,772	227,131
Catalog Sales: Interior Fixtures	1,685	735	376	417	107.1	107.10	62.27	62.27	8	8	8	8	96.40%	96.40%	1,392,163	607,092	180,636	200,359
Catalog Sales: Exterior Fixtures	194	138	188	209	107.1	107.10	62.27	62.27	5	5	5	5	100.00%	100.00%	104,145	73,901	58,557	64,950
Catalog Sales: Torchieres	39	52	113	125	120.0	119.98	69.35	69.35	8	8	8	8	93.50%	93.50%	34,906	46,666	58,538	64,929
Catalog Sales: LED Fixtures	65	75	38	42	47.0	47.03	27.67	27.67	20	20	20	20	95.00%	95.00%	57,931	67,023	19,773	21,932
Catalog Sales: LEDs	648	0	188	209	47.0	47.03	27.67	27.67	20	20	20	20	95.00%	95.00%	579,313	0	98,867	109,662
Retail Sales: # CFLs (1-2 packs)	3,355	11,130	7,683		39.1	50.63	23.00	23.00	5	5	5	5	80.30%	62.30%	526,541	2,262,625	550,324	0
Retail Sales: # CFLs (3-6 packs)	210,036	187,063	214,407	6,144	39.1	50.63	23.00	23.00	5	5	5	5	80.30%	62.30%	32,966,010	38,028,167	15,357,877	440,066
Retail Sales: # CFL (> 6 packs)	0	0		237,818	39.1	50.63	23.00	23.00	5	5	5	5	80.30%	62.30%	0	0	0	17,034,795
Retail Sales: Interior Fixture	583	2,408	2,144	2,378	105.9	105.86	62.27	62.27	8	8	8	8	96.40%	96.40%	476,296	1,965,823	1,029,624	1,142,048
Retail Sales: Exterior Fixture	117	75	143	159	105.9	105.86	62.27	62.27	5	5	5	5	100.00%	100.00%	61,761	39,696	44,503	49,362
Retail Sales: Torchieres	29	0	36	40	104.4	104.37	69.35	69.35	8	8	8	8	93.50%	93.50%	22,775	0	18,537	20,561
Retail Sales: LED Fixtures	583	4,550	715	1,585	47.0	47.03	27.67	27.67	20	20	20	20	95.00%	95.00%	521,382	4,066,081	375,694	833,431
Retail Sales: # LEDs (102 packs)	1,167	6,867	7,147	9,513	47.0	47.03	27.67	27.67	20	20	20	20	95.00%	95.00%	1,042,885	6,136,654	3,756,939	5,000,588

Planning Assumptions

1. Assumed the Energy Independence and Security Act of 2007 was fully in place in Jan2012 (e.g., Used 72W halogen as base rather than 100W incandescent)
This reduces the kWh savings for all CFLs - the largest rebated product - by nearly 1/3.
2. Realization Rates for CFLs were modified from 80.3% to 62.3%, per KEMA Impact Evaluation, June 22, 2012.
3. Average hours on per energy efficient lights were ALL modified to 2 hours/day (from 3.4, or 41% reduction), per KEMA Impact Evaluation, June 22, 2012.
3. Assumed an increase in LED bulbs and fixture purchases in 2013-2014.

PSNH ENERGY STAR® Appliance Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service / Realization Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings							
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan				
	Energy Star Clothes Washer	4,824.2	6,470.0	7,809.0	6,816.0	223.01	223.00	260.68	165.60	11	11	11	11	100.00%	100.00%	11,834,033	15,870,981	22,392,048	12,416,011							0.14	0.74	0.5360	10,238	63,359
Energy Star Room A/C	3,308.0	2,902.0	2,552.9	1,817.6	16.16	16.16	16.16	16.16	9	9	9	9	100.00%	100.00%	481,014	421,974	371,217	264,294												
Smartstrip Power Strip	1,102.7	469.0	195.2	196.9	75.04	75.04	75.04	79.00	5	5	5	5	100.00%	100.00%	413,746	175,978	73,252	77,778												
Energy Star Refrigerator	3,445.9	5,875.0	3,904.5	5,301.3	106.00	106.00	107.00	114.00	12	12	12	12	100.00%	100.00%	4,383,133	7,473,000	5,013,355	7,252,216												
2nd Refrigerator Pickup	964.8	0.0	300.3	605.9	413.00	413.00	835.00	835.00	8	8	8	8	100.00%	100.00%	3,187,831	0	2,006,303	4,047,185												
2nd Freezer Pickup		222.0	150.2	302.9	413.00	450.00	663.00	663.00	8	8	8	8	100.00%	100.00%		799,200	796,514	1,606,757												
Energy Star Freezers					67.00	67.00	114.00	41.00	11	11	12	12	100.00%	100.00%																
Energy Star Dishwasher (CEE Tier 2)					60.00	60.00	60.00	60.00	10	10	10	10	100.00%	100.00%											0.19	0.19	0.19	0	0	0
Energy Star Dishwasher (w/Oil DHW)					33.00	33.00	33.00	35.00	10	10	10	10	100.00%	100.00%										0.19	0.19	0.19	0	0	0	
Energy Star Dehumidifiers					213.00	213.00	213.00	162.00	12	12	12	12	100.00%	100.00%																
Energy Star Room Air Purifiers	137.8	103.0	90.1	90.9	268.00	268.00	390.63	390.63	9	9	9	9	100.00%	100.00%	332,456	248,436	316,772	319,502												
Room AC Pickup/Turn-in		3.0	15.0	15.1	18.00	18.00	16.16	16.16	5	5	5	5	100.00%	100.00%		270	1,213	1,224												
Energy Star Set-top Boxes & Cable Boxes					413.00	450.00	663.00	663.00	10	10	10	10	100.00%	100.00%																
Energy Star Water Coolers					361.00	361.00	361.00	361.00		10	10	10	100.00%	100.00%																
Energy Star Central Air Conditioner			43.1	30.1	263.23	263.23	110.29	110.29	14	14	14	14	100.00%	100.00%			66,525	46,496												
Energy Star Mini Split Heat Pump			77.6				122.87				12	12	100.00%				0													
Energy Star Mini Split Heat Pump (for homes w/Gas heat)							-2,158.12				12	12	100.00%				0								15.43	15.43				
Energy Star Mini Split Heat Pump (for homes w/Oil heat)			57.6				-2,158.12				12	12	100.00%				0								17.14	17.14				
Energy Star Mini Split Heat Pump (for homes w/LP heat)			20.0				-2,158.12				12	12	100.00%				0								15.43	15.43				
Energy Star Mini Split Heat Pump (SEER>=14.5, HSPF>=8.2, Cooling)				135.5				34.38			12	12		100.00%																
Energy Star Mini Split Heat Pump (SEER>=14.5, HSPF>=8.2, Heating)				135.5				142.21			12	12		100.00%																
Energy Star Mini Split Heat Pump (SEER>=19, HSPF>=10, Cooling)				376.4				104.94			12	12		100.00%																
Energy Star Mini Split Heat Pump (SEER>=19, HSPF>=10, Heating)				376.4				751.00			12	12		100.00%																
Furn: LP, Furnace, FHA, AFUE >=95% w/ECM			103.4	30.1			168.00	168.00			18	18	100.00%	100.00%			312,684	91,059							4.50	4.50		8,375	2,439	
Furn: LP, Furnace, FHA, AFUE >=96% w/ECM			51.7				168.00	168.00			18	18	100.00%	100.00%			156,342								5.55	5.55		5,165	0	
Furn: LP, Furnace, FHA, AFUE >=97% w/ECM			17.2	15.1			168.00	168.00			18	18	100.00%	100.00%			52,114	45,529							5.90	5.90		1,830	1,599	
Furn: Oil, Furnace, FHA, AFUE >=85% w/ECM			51.7				168.00	168.00			18	18	100.00%	100.00%			156,342								18.00	18.00		16,751	0	
Furn: Oil, Furnace, FHA, AFUE >=90 w/ECM			17.2				168.00	168.00			18	18	100.00%	100.00%			52,114								20.70	20.70		6,421	0	
Boil: LP Boiler, FHW, AFUE >= 90%			103.4	45.2							20	20	100.00%	100.00%											10.40	10.40		21,507	9,395	
Boil: LP Boiler, FHW, AFUE >=96%			34.5	45.2							20	20	100.00%	100.00%											13.10	13.10		9,030	11,834	
Boil: Oil Boiler, FHW, AFUE >=85%			654.9	210.8							20	20	100.00%	100.00%											5.38	5.38		70,425	22,668	
Boil: Oil Boiler, FHW, AFUE >=90%			86.2								20	20	100.00%	100.00%											10.75	10.75		18,533	0	
Boil: LP, Combo condensing boiler w/ On-Demand DWH 90%			8.6								20	20	100.00%	100.00%											17.80	17.80		3,068	0	
Boil: Oil, Combo condensing boiler w/ On-Demand DWH 90%			8.6	15.1							20	20	100.00%	100.00%											17.80	17.80		3,068	5,360	
DHW: LP, Tankless Water Heaters (EF>= 0.82)			206.8	150.6							20	20	100.00%	100.00%											9.70	9.70		40,120	29,209	
DHW: LP, Indirect Water Heater (attached to LP Energy Star FHW boiler)			8.6	30.1							20	20	100.00%	100.00%											8.00	8.00		1,379	4,818	
DHW: Oil, Indirect Water Heater (attached to oil Energy Star FHW boiler)			8.6	150.6							20	20	100.00%	100.00%											8.00	8.00		1,379	24,090	
DHW: LP, Stand Alone Storage Water Heater (EF>=0.67)			8.6								13	13	100.00%	100.00%											3.70	3.70		414	0	
DHW: Energy Star Heat Pump 50 Gal Water Heater, EF>=2.3 (ES=EF>=2.0)			8.6	90.3			1,775.00	1,775.00			10	10	100.00%	100.00%			152,947	1,603,466												
DHW: Energy Star Heat Pump 80 Gal Water Heater, EF>=2.3 (ES=EF>=2.0)			8.6				2,672.00	2,672.00			10	10	100.00%	100.00%			230,239													
BRC: LP, Boiler Reset Controls			77.6								15	15	100.00%	100.00%			0								9.60	9.60		11,167	0	
BRC: Oil, Boiler Reset Controls			103.4	30.1							15	15	100.00%	100.00%			0	0							9.60	9.60		14,890	4,336	
TSTAT: LP, 7-Day Programmable Thermostats			8.6				14.40	14.40			15	15	100.00%	100.00%			1,861								7.70	3.20		995	0	
TSTAT: Oil, 7-Day Programmable Thermostats			8.6	90.3			14.40	14.40			15	15	100.00%	100.00%			1,861	19,510							7.70	3.20		995	4,336	
TSTAT: LP, WiFi Enabled 7-Day Programmable Thermostats			8.6	30.1			14.40	14.40			15	15	100.00%	100.00%			1,861	6,503							6.60	6.60		853	2,981	
TSTAT: Oil, WiFi Enabled 7-Day Programmable Thermostats			8.6	30.1			14.40	14.40			15	15	100.00%	100.00%			1,861	6,503							6.60	6.60		853	2,981	

Planning Assumptions

- Annual kWh Savings for Clothes Washers, Dehumidifiers, and Freezers updated using new EnergyStar.gov Savings Calculator values, 8-24-2013.
- Other Annual kWh Savings have been updated per recent studies in NH, New England or with NEEP.
- Central air conditioner and Mini Split Heat Pump Annual kWh savings added per EnergyStar.gov calculator, and conservatively assumed 50% of heat provided by heat pump, 50% provided by existing fossil system.
- For the higher efficiency "cold climate" ductless minisplit (SEER>=19.0, HSPF>=10), assumed it would provide an extra 20% heating over Energy Star Unit.
- All Heating, Hot Water, Programmable Thermostats and Boiler Reset Control energy savings provided by U.S. Department of Energy during ARRA Program and adjusted with recent Gas Networks data if available.

PSNH Large Business Energy Solutions Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service or Realization Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings				
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	
NEW EQUIPMENT TRACK																											
Cooling	43.6	42.0	44.2	34.1	53,315	15,502	34,777	29,101	15.8	15.6	15.0	15.0	92.5%	92.5%	34,000,960	9,392,427	21,310,899	13,775,376					0	0	0	0	
Heating	0.0	7.0	4.3	13.7	48,790	296,783	53,278	92,704	15.0	15.0	15.0	15.0	92.5%	92.5%	0	28,825,077	3,210,435	17,602,467					0	0	0	0	
Lighting	21.8	23.0	13.0	19.3	59,615	99,335	66,783	71,501	15.0	15.0	15.0	15.0	92.5%	92.5%	18,001,360	31,700,337	12,059,476	19,161,696					0	0	0	0	
Lighting (LED)	0.0	0.0	0.0	17.8			0	45,442	15.0	15.0	15.0	15.0	92.5%	92.5%	0	0	0	11,228,596					0	0	0	0	
Lighting (Occ Sensors Only)	0.0	14.0	3.8	10.1		22,996	24,628	15,758	15.0	10.0	10.0	10.0	92.5%	92.5%	0	2,985,114	862,163	1,476,646					0	0	0	0	
Other	0.0	5.0	8.5	0.0		44,940	131,370	131,253	15.0	17.4	15.0	15.0	92.5%	92.5%	0	3,617,925	15,414,643	0					0	0	0	0	
Process	29.0	26.0	31.9	2.4	78,123	93,636	54,813	109,625	15.9	14.1	15.0	15.0	92.5%	92.5%	33,346,145	31,790,747	24,275,347	3,652,850					0	0	0	0	
Lighting - Parking Lot Lights	-	5.0		23.9		188,373	0	68,414	15.0	15.0	15.0	15.0	92.5%	92.5%	0	13,068,363	0	22,667,049					0	0	0	0	
RETROFIT TRACK																											
Cooling	15.4	9.0	18.6	28.3	74,299	73,149.1	65,104	74,037	12.8	13.0	12.6	12.6	94.0%	94.0%	13,727,948	8,054,006	14,293,887	24,774,236					0	0	0	0	
Heating	-	9.0	9.4	10.1		145,354.2	17,369	52,796	13.0	10.8	20.1	13.4	94.0%	94.0%	0	13,311,178	3,072,035	6,712,134					0	0	0	0	
Lighting	46.5	55.0	83.6	74.1	91,962	53,499.4	52,212	58,442	12.7	13.0	13.0	13.0	94.0%	94.0%	51,032,269	35,956,959	53,165,257	52,766,721					0	0	0	0	
Lighting - LED	4.0	46.0	8.9	23.6	72,862	76,229.4	88,342	84,062	13.0	13.0	13.0	13.0	94.0%	94.0%	3,564,700	42,850,078	9,636,735	24,255,070					0	0	0	0	
Lighting - Occ Sensors only	5.9	12.0	16.9	18.6	28,951	20,380.8	30,253	30,130	9.0	9.0	9.4	9.4	94.0%	94.0%	1,435,386	2,069,054	4,512,326	4,945,904					0	0	0	0	
Other		2.0	6.1	-		19,241.0	27,788	10,632		13.2	13.6	13.6	94.0%	94.0%	0	477,435	2,171,361	0					0	0	0	0	
Lighting - Parking Lot Lights		5.0	8.5	16.9		46,155.2	51,130	47,681		13.0	13.0	13.0	94.0%	94.0%	0	2,820,083	5,280,733	9,867,577					0	0	0	0	
Process	29.5	38.0	50.5	50.7	85,195	44,759.6	65,380	47,153	13.4	12.2	11.7	11.7	94.0%	94.0%	31,725,299	19,458,153	36,353,093	26,320,722					0	0	0	0	
Fuel Neutral Heating, Hot Water and Controls																											
Energy Star Cental Air Conditioner			0.0				110.29	110.29			14.0	14.0	100.0%	100%				0	0								
Energy Star Mini Split Heat Pump			4.1				122.87				12.0	12.0	100.0%					0	0								
Energy Star Mini Split Heat Pump (for homes w/Gas heat)							-2,158.12				12.0	12.0	100.0%					0	0	15.43	15.43						
Energy Star Mini Split Heat Pump (for homes w/LP heat)			0.8				-2,158.12				12.0	12.0	100.0%					0	0	15.43	15.43						
Energy Star Mini Split Heat Pump (for homes w/Oil heat)			3.3				-2,158.12				12.0	12.0	100.0%					0	0	17.14	17.14						
Energy Star Mini Split Heat Pump (SEER>=14.5, HSPF>=8.2, Cooling)				0.4				34.38				12.0		100%				0	155								
Energy Star Mini Split Heat Pump (SEER>=14.5, HSPF>=8.2, Heating)				0.4				142.21				12.0		100%				0	640								
Energy Star Mini Split Heat Pump (SEER>=19, HSPF>=10, Cooling)				1.5				104.94				12.0		100%				0	1,889								
Energy Star Mini Split Heat Pump (SEER>=19, HSPF>=10, Heating)				1.5				751.00				12.0		100%				0	13,517			4.90		0	88		
Boilers, LP >= 90% thermal efficiency (301 to 499 MBH), Condensing			1.0	0.469							25	25		100.0%						42.30	42.30	0	0	1,089	496		
Boilers, Oil >= 85% thermal efficiency (500 to 999 MBH)			2.1	0.937							25	25		100.0%						77.10	77.10	0	0	3,970	1,807		
Boilers, LP >= 90% thermal efficiency (1000 to 1700 MBH), Condensing			0.2	0.094							25	25		100.0%						142.60	142.60	0	0	734	334		
Boilers, Oil >= 85% thermal efficiency (1000 to 1700 MBH)			12.4	5.625							25	25		100.0%						142.60	142.60	0	0	44,062	20,052		
Boilers, Oil >= 85% thermal efficiency (1701 to 2000 MBH)			20.2	9.187							25	25		100.0%						249.00	249.00			125,665	57,189		
Boiler Reset Controls, Oil, After Market, 1 shift operation			1.2	0.562							15	15		100.0%						19.30	19.30			358	163		

Planning Assumptions

- The Energy Star Mini Split Heat Pump has been separated into a Energy Star Model (SEER=>14.5, HSPF=>8.7) and a higher efficiency cold climate heat pump (SEER=>19.0, HSPF=>10.0). The energy savings have also been modified to be the difference between a standard efficiency unit vs. Energy Star model vs. a higher efficiency cold climate model.

PSNH Small Business Energy Solutions Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service or Installation Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings				
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	
Lighting - New Equipment & Construction			143.5	79.6			13,788	13,847		12.8	15.9	14.5	92.90%	100%	0	0	31,432,153	15,946,149									
Lighting - Retrofit	448.0	496.0	167.8	116.9	17,000	18,873.4	19,982	19,948	13.1	14.1	12.8	13.1	92.90%	100%	92,827,671	122,899,442	42,978,806	30,508,520									
Lighting - Direct Install			192.1	177.6			14,489	14,777		12.8	12.9	12.4	92.90%	100%	0	0	35,772,621	32,614,190									
Lighting - Catalog Sales	534.0	213.0	667.7	460.5	440	60.1	46.31	46	5.4	6.0	6.0	6.0	92.90%	100%	1,178,700	0	185,501	127,929									
SmartStrips	65	0.0	80.7	55.7	113.00		75.0	75	5	5.0	5.0	5.0	92.90%	100%	34,118	0	30,280	20,882									
Fuel Neutral Heating, Hot Water and Controls																											
Energy Star Central Air Conditioner			32.3				110.29	110.29			14.0	14.0	100.0%	100%			49,810	0									
Energy Star Mini Split Heat Pump			125.4				122.87				12.0		100.0%	100%			184,973	0									
Energy Star Mini Split Heat Pump (for homes w/Gas heat)							-2,158.12				12.0		100.0%	100%			0	0	15.43	15.43			0	0			
Energy Star Mini Split Heat Pump (for homes w/LP heat)			35.8				-2,158.12				12.0		100.0%	100%			-928,235	0	15.43	15.43			6,637	0			
Energy Star Mini Split Heat Pump (for homes w/Oil heat)			89.6				-2,158.12				12.0		100.0%	100%			-2,320,588	0	17.14	17.14			18,430	0			
Energy Star Mini Split Heat Pump (SEER>=14.5, HSPF>=8.2, Cooling)				34.4				34.38				12.0		100%											14,211	0	
Energy Star Mini Split Heat Pump (SEER>=14.5, HSPF>=8.2, Heating)				34.4				142.21				12.0		100%											58,790	0	
Energy Star Mini Split Heat Pump (SEER>=19, HSPF>=10, Cooling)				68.9				104.94				12.0		100%											86,763	0	
Energy Star Mini Split Heat Pump (SEER>=19, HSPF>=10, Heating)				68.9				751.00				12.0		100%											4.90	4,053	
Indirect Water Heater (attached to Gas Energy Star FHW boiler)											14	14	100.0%	100%					20.70	20.70	0	0	0	0			
Indirect Water Heater (attached to LP Energy Star FHW boiler)			0.0	4.6							14	14	100.0%	100%					20.70	20.70	0	0	0	0	1,331		
Indirect Water Heater (attached to Oil Energy Star FHW boiler)			0.0	23.0							14	14	100.0%	100%					20.70	20.70	0	0	0	0	6,656		
On Demand Tankless Water Heater, LP, >=.82 EF w/Electronic Ignition			35.8	11.5							20	20	100.0%	100%					7.10	7.10	0	0	5,090	1,631			
On Demand Tankless Water Heater, LP, >=.95 EF w/Electronic Ignition			21.5								20	20	100.0%	100%					9.59	9.59	0	0	4,125	0			
Furnace, LP (forced hot air) >= 95% AFUE w/ECM (up to 150 MBH)				6.9							18	18	100.0%	100%					16.10	16.10	0	0	0	1,997			
Boilers, LP >= 90% AFUE (up to 300 MBH), Condensing			17.9								25	25	100.0%	100%					22.80	22.80	0	0	10,215	0			
Boilers, Oil >= 85% AFUE (up to 300 MBH)			35.8	32.2							25	25	100.0%	100%					22.80	22.80	0	0	20,430	18,327			
Boilers, LP >= 90% thermal efficiency (301 to 499 MBH), Condensing			17.9	11.5							25	25	100.0%	100%					42.30	42.30	0	0	18,952	12,143			
Boilers, Oil >= 85% thermal efficiency (301 to 499 MBH)			35.8	23.0							25	25	100.0%	100%					42.30	42.30	0	0	37,904	24,287			
7-Day Programmable Thermostats (LP)				4.6							15	15	100.0%	100%					7.70	7.70	0	0	0	531			
7-Day Programmable Thermostats (Oil)				9.2							15	15	100.0%	100%					7.70	7.70	0	0	0	1,061			
Boiler Reset Controls, LP, After Market, 1 shift operation			17.9								15	15	100.0%	100%					19.30	19.30	0	0	5,188	0			
Boiler Reset Controls, Oil, After Market, 1 shift operation			17.9								15	15	100.0%	100%					19.30	19.30	0	0	5,188	0			

Planning Assumptions

- The Energy Star Mini Split Heat Pump has been separated into a Energy Star Model (SEER=>14.5, HSPF=>8.7) and a higher efficiency cold climate heat pump (SEER=>19.0, HSPF=>10.0). The energy savings have also been modified to be the difference between a standard efficiency unit vs. Energy Star model vs. a higher efficiency cold climate model.
- Used average energy savings from the Gas Networks, and expanded for oil and LP.

PSNH Municipal Energy Efficiency Program (per SB123)

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service or Installation Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings				
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	
Lighting - New Equipment & Construction			143.5	35.0			13,788	11,448		12.8	15.9	14.7	92.90%	100%	0	0	31,432,153	5,907,616									
Lighting - Retrofit	448.0	496.0	167.8	61.0	17,000	18,873.4	19,982	22,028	13.1	14.1	12.8	12.8	92.90%	100%	92,827,671	122,899,442	42,978,806	17,188,909									
Lighting - Direct Install			192.1	135.7			14,489	12,436		12.8	12.9	12.3	92.90%	100%	0	0	35,772,621	20,761,366									
Lighting - Catalog Sales	534.0	213.0	667.7		440	60.1	46.31	46	5.4	6.0	6.0	6.0	92.90%	100%	1,178,700	0	185,501	0									
SmartStrips	65	0.0	80.7		113.00		75.0	75	5	5.0	5.0	5.0	92.90%	100%	34,118	0	30,280	0									
Fuel Neutral Heating, Hot Water and Controls																											
Energy Star Central Air Conditioner			32.3				110.29	110.29			14.0	14.0	100.0%	100%			49,810	0									
Energy Star Mini Split Heat Pump			125.4				122.87				12.0		100.0%				0	0									
Energy Star Mini Split Heat Pump (for homes w/Gas heat)							-2,158.12				12.0		100.0%				0	0	15.43	15.43			0	0			
Energy Star Mini Split Heat Pump (for homes w/LP heat)			35.8				-2,158.12				12.0		100.0%				0	0	15.43	15.43			0	0			
Energy Star Mini Split Heat Pump (for homes w/Oil heat)			89.6				-2,158.12				12.0		100.0%				0	0	17.14	17.14			0	0			
Energy Star Mini Split Heat Pump (SEER>=14.5, HSPF>=8.2, Cooling)				22.8				34.38				12.0		100%									0	0			
Energy Star Mini Split Heat Pump (SEER>=14.5, HSPF>=8.2, Heating)				22.8				142.21				12.0		100%									0	0			
Energy Star Mini Split Heat Pump (SEER>=19, HSPF>=10, Cooling)				45.5				104.94				12.0		100%									0	0			
Energy Star Mini Split Heat Pump (SEER>=19, HSPF>=10, Heating)				45.5				751.00				12.0		100%									0	0	4.90	2,677	
Indirect Water Heater (attached to Gas Energy Star FHW boiler)											14	14	100.0%	100%					20.70	20.70			0	0	0	0	
Indirect Water Heater (attached to LP Energy Star FHW boiler)			0.0	3.0							14	14	100.0%	100%					20.70	20.70			0	0	0	879	
Indirect Water Heater (attached to Oil Energy Star FHW boiler)			0.0	15.2							14	14	100.0%	100%					20.70	22.80			0	0	0	4,842	
On Demand Tankless Water Heater, LP, >=.82 EF w/Electronic Ignition			35.8	7.6							20	20	100.0%	100%					7.10	7.10			0	0	5,090	1,077	
On Demand Tankless Water Heater, LP, >=.95 EF w/Electronic Ignition			21.5								20	20	100.0%	100%					9.59	9.59			0	0	4,125	0	
Furnace, LP (forced hot air) >= 95% AFUE w/ECM (up to 150 MBH)				4.6							18	18	100.0%	100%					16.10	16.10			0	0	0	1,319	
Boilers, LP >= 90% AFUE (up to 300 MBH), Condensing			17.9								25	25	100.0%	100%					22.80	22.80			0	0	10,215	0	
Boilers, Oil >= 85% AFUE (up to 300 MBH)			35.8	21.2							25	25	100.0%	100%					22.80	22.80			0	0	20,430	12,105	
Boilers, LP >= 90% thermal efficiency (301 to 499 MBH), Condensing			17.9	7.6							25	25	100.0%	100%					42.30	42.30			0	0	18,952	8,020	
Boilers, Oil >= 85% thermal efficiency (301 to 499 MBH)			35.8	15.2							25	25	100.0%	100%					42.30	42.30			0	0	37,904	16,041	
7-Day Programmable Thermostats (LP)				3.0							15	15	100.0%	100%					7.70	7.70			0	0	0	350	
7-Day Programmable Thermostats (Oil)				6.1							15	15	100.0%	100%					7.70	7.70			0	0	0	701	
Boiler Reset Controls, LP, After Market, 1 shift operation			17.9								15	15	100.0%	100%					19.30	19.30			0	0	5,188	0	
Boiler Reset Controls, Oil, After Market, 1 shift operation			17.9								15	15	100.0%	100%					19.30	19.30			0	0	5,188	0	

Planning Assumptions

- The Energy Star Mini Split Heat Pump has been separated into a Energy Star Model (SEER=>14.5, HSPF=>8.7) and a higher efficiency cold climate heat pump (SEER=>19.0, HSPF=>10.0). The energy savings have also been modified to be the difference between a standard efficiency unit vs. Energy Star model vs. a higher efficiency cold climate model.
- Used average energy savings from the Gas Networks, and expanded for oil and LP.

ENERGY STAR® Homes - Heat Pump Program, C&I RFP Program, Customer Engagement Program

PSNH Company Specific Programs

- A. Energy Star Homes - Geothermal & Air Source Heat Pump Program
- B. C&I RFP Program
- C. Customer Engagement Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service or Realization Rate			Total Lifetime Savings (kWh)			
	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012 Plan	2012 Actual	2013 Plan	2014 Plan	2012	2013	2014	2012 Plan	2012 Actual	2013 Plan	2014 Plan
A. GSHP (Heating)	51.7		54	33	21,499		15,303	11,583	25	25	25	25	100.00%	100.00%	27,772,064	0	20,642,251	9,611,083	
A. GSHP (Cooling)	51.7		54	33	158		81	90	25	25	25	25	100.00%	100.00%	204,351	0	108,924	74,678	
A. GSHP (Hot Water)	51.7		54	33	1,155		1,538	1,373	25	25	25	25	100.00%	100.00%	1,491,453	0	2,074,868	1,139,257	
A. GSHP (Lights & Appliances)	51.7		54	33	-177		-238	-159	25	25	25	25	100.00%	100.00%	-228,068	0	-321,282	-131,931	
A. GSHP (HVAC: All-in-1)		59				15,134			25	25	25	25	100.00%	100.00%	0	22,322,650	0	0	
A. ASHP (Heating)	14.5		15	9	9,671		17,244	4,790	25	25	25	25	100.00%	100.00%	3,513,613	0	6,542,007	1,089,279	
A. ASHP (Cooling)	14.5		15	9	71.19		468	130	25	25	25	25	100.00%	100.00%	25,865	0	177,549	29,633	
A. ASHP (Hot Water)	14.5		15	9	519.55		0	0	25	25	25	25	100.00%	100.00%	188,763	0	0	0	
A. ASHP (Lights & Appliances)	14.5		15	9	-79.45		288	80	25	25	25	25	100.00%	100.00%	-28,866	0	109,261	18,208	
A. ASHP (HVAC: All-in-1)		0				18,344			25	25	25	25	100.00%	100.00%	0	0	0	0	
A. Split Sys HP (Heating)			0	0			9,671	9,671	25	25	25	25	100.00%	100.00%	0	0	0	0	
A. Split Sys HP (Cooling)			0	0			71	71	25	25	25	25	100.00%	100.00%	0	0	0	0	
A. Split Sys HP (Hot Water)			0	0			520	520	25	25	25	25	100.00%	100.00%	0	0	0	0	
A. Split Sys HP (Lights & Appliances)			0	0			-79	-79	25	25	25	25	100.00%	100.00%	0	0	0	0	
B. C&I RFP: Lighting	2.5	2	2.2	1.3	392,000	34,717	392,000	392,000	13.0	13	13.0	13.0	100.00%	100.00%	12,623,686	902,642	11,152,478	6,432,278	
B. C&I RFP: Process	5.2	5	6.1	5.3	212,000	231,053	212,000	212,000	11.5	13	11.5	11.5	100.00%	100.00%	12,663,160	15,018,432	14,916,470	12,904,784	
B. C&I RFP: Cooling	2.4	0	4.2	3.6	197,000	0	197,000	197,000	10.5	10	10.5	10.5	100.00%	100.00%	4,897,976	0	8,654,300	7,487,151	
B. C&I RFP: Lighting (Occ Sensors Only)		1	1.0	4.1		7,148	30,767	30,767		9	10	10.0	100.00%	100.00%	0	64,332	307,670	1,262,129	
B. C&I RFP: Lighting (Parking Lot Lights)		2	1.0	0.0		102,506	30,767	74,513		13	10	10.0	100.00%	100.00%	0	2,665,156	307,670	0	
B. C&I RFP: Heating		0	0.0	0.0		74,513		0		10			100.00%	100.00%	0	0	0	0	
C. Customer Engagement			25,000	25,000			108	76			1.0	1.0		100.00%			2,700,000	1,896,000	

Planning Assumptions

A. Energy Star Homes - Geothermal & Air Source Heat Pump

1. GSHP = Ground Source (Geothermal) Heat Pump; ASHP = Air Source Heat Pump; Split System Heat Pump.
2. Home Energy Raters incorporating a new Heat Pump COP calculation for the rated home to more accurately account for pumping power requirements. This reduced savings by 8% from 2011.
3. The User Defined Reference Home for New Hampshire continues to be updated to reflect code changes. Revisions will include a change to the efficiency of the reference heating system efficiency, resulting in a 5% reduction in savings.
4. Planning for additional homes to have Air Source Heat Pumps installed in 2013 due to their cold climate heating improvements. (Some may choose to go through the ENERGY STAR Homes program.)
5. For 2014, the cost of the HERS Rating (approximately \$1,200) has been added to the builder/customer incentive to make it easier for builders to participate.

B. C&I RFP Program

1. PSNH estimated smaller Lighting and Cooling projects and larger Process projects in 2012 than were done in 2010.

C. Customer Engagement Program: Energy savings were estimated by the contractor in their proposal.

Unitil ENERGY STAR® Homes Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service / Realization Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings			
	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update
E-STAR Homes - CFLs	299	18	541	904	39	39	23	23	7	7	5	5	100%	100%	81,836	4,914	62,204	103,945	0	0	0	0	0	0	0	0
E-STAR Homes - Fixtures	0	40	38	151	0	106	62	28	20	20	20	20	100%	100%	-	84,800	46,871	83,370	0	0	0	0	0	0	0	0
E-STAR Homes - Dishwashers (elec HW)	30	4	47	42	74	74	33	26	10	10	11	10	100%	100%	22,313	2,960	17,077	10,834	0	0	0	0.15	0	0	0	0
E-STAR Homes - Dishwashers (non-elec HW)	9	0	0	0	33	0	0	0	10	10	11	10	100%	100%	2,877	0	0	0	1.9	0	0	0	627	0	0	0
E-STAR Homes - Refrigerators	39	3	35	18	107	107	107	114	12	12	12	12	100%	100%	49,909	3,852	45,304	24,049	0	0	0	0	0	0	0	0
E-STAR Homes - Clotheswashers	0	1	16	18	223	223	261	37	11	11	12	11	100%	100%	-	2,453	51,508	7,155	0	0	0	0.67	0	2	0	0
E-STAR Homes - Thermostats	0	5	16	38	0	0	0	0	10	10	15	15	100%	100%	-	0	0	0	0	0	6	0	0	1,581	0	
E-STAR Homes - Heating (Elec)	35	0	3	1	1,200	0	1,925	14,880	25	25	25	25	100%	100%	1,046,098	0	158,483	372,000	0	0	0	0	0	0	0	0
E-STAR Homes - Heating (Oil)	0	0	0	0	0	0	0	0	25	25	25	25	100%	100%	-	0	0	0	0	0	0	0	0	0	0	1
E-STAR Homes - Heating (Nat Gas)	0	0	11	0	0	0	0	0	25	25	25	25	100%	100%	-	0	0	0	0	0	30.0	0	0	0	8,118	0
E-STAR Homes - Heating (Propane)	0	3	28	38	0	706	1,136	247	25	25	25	25	100%	100%	-	52,950	801,647	232,174	0	56.8	62.7	50.35	0	4,261	44,232	47,405
E-STAR Homes - Geothermal/GSHP	4	2	5	3	12,500	29,275	79,041	29,523	25	25	25	25	100%	100%	1,250,000	1,463,750	9,296,216	2,221,593	0	59.7	0	0	0	2,985	0	0
E-STAR Homes - Cooling	9	3	28	19	131	42	227	177	25	25	25	25	100%	100%	28,550	3,150	160,188	83,323	0	0	0	0	0	0	0	0
E-STAR Homes - Water Heating (Elec)	35	0	3	1	0	0	3,012	693	15	15	15	15	100%	100%	0	0	148,785	10,395	0	0	0	0	0	0	0	0
E-STAR Homes - Water Heating (Oil)	0	0	0	0	0	0	0	0	15	15	15	15	100%	100%	0	0	0	0	0	0	0	0	0	0	0	0
E-STAR Homes - Water Heating (Nat Gas)	0	0	11	0	0	0	0	0	15	15	15	15	100%	100%	0	0	0	0	0	0	4	0	0	0	649	0
E-STAR Homes - Water Heating (Propane)	0	5	28	38	0	959	0	0	15	15	15	15	100%	100%	0	71,925	0	0	0	2	4	2.89	0	140	1,715	1,633
E-STAR Homes - Water Heating (Geothermal)	0	0	0	3	0	0	0	2,541																		

Unitil Home Performance with ENERGY STAR®

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				Installation or Realization Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings			
	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update
	CFLs	349	191	225	266	51	52	23	23	8	8	7	7	100%	100%	141,643	80,142	36,200	6,128	0	0	0	0	0	0	0
Exterior Fixtures	0	3	0	0	0	53	0	0	0	20	0	0	100%	100%	0	3,160	0	0	0	0	0	0	0	0	0	0
Refrigerator	0	1	0	0	0	646	0	0	0	7	0	0	100%	100%	0	4,522	0	0	0	0	0	0	0	0	0	0
Weatherization, Electric	0	0	0	0	0	0	0	0	20	20	20	20	100%	100%	0	0	0	0	0	0	0	0	0	0	0	0
Weatherization, Non-Electric	0	0	0	0	0	0	0	0	20	20	20	20	100%	100%	0	0	0	0	0	0	0	0	0	0	0	0
Air Sealing, Electric	6	19	5	6	3,062	11,535	829	829	15	15	15	15	100%	100%	266,785	3,287,607	58,227	4,627	0	0	0	0	0	0	0	0
Insulation, Electric	6	19	9	6	3,533	4,213	1,629	1,629	25	25	25	25	100%	100%	513,061	2,001,136	381,618	9,098	0	0	0	0	0	0	0	0
Insulation, Gas	0	4	0	0	0	0	0	0	25	25	25	25	100%	100%	0	0	0	0	0	20	0	0	0	1,972	0	0
Air Sealing, Gas	0	4	0	0	0	42	0	0	15	15	15	15	100%	100%	0	2,513	0	0	0	10	0	0	0	628	0	0
Air Sealing, Oil	52	24	28	33	0	193	0	0	15	15	15	15	100%	100%	0	69,519	0	-	10	8	5	5	8,195	2,897	2,176	2,577
Insulation, Oil	52	24	28	33	0	0	0	9	25	25	25	25	100%	100%	0	0	0	300	12	22	24	24	15,760	13,398	16,516	19,564
Air Sealing, Propane	0	6	9	17	0	50	0	0	15	15	15	15	100%	100%	0	4,508	0	-	0	8	12	12	0	751	1,756	3,119
Insulation, Propane	0	6	9	17	0	0	0	86	25	25	25	25	100%	100%	0	0	0	1432	0	26	38	38	0	3,930	9,010	16,009
Air Sealing, Wood	0	0	0	0	0	0	0	0	15	15	15	15	100%	100%	0	0	0	0	0	0	0	0	0	0	0	0
Insulation, Wood	0	0	0	0	0	0	0	0	25	25	25	25	100%	100%	0	0	0	0	0	0	0	0	0	0	0	0
Baseload (CFLs only)	10	0	5	11	305	0	138	138	8	8	7	7	100%	100%	24,996	0	4,525	1,531	0	0	0	0	0	0	0	0
Thermostats, Non-Electric	5	10	0	0	0	0	0	0	10	10	15	15	100%	100%	0	0	0	0	4	4	0	0	199	406	0	0
Thermostats, Electric	23	2	0	0	1,113	157	0	0	10	10	15	15	100%	100%	258,700	3,140	0	0	0	0	0	0	0	0	0	0
DWH ISMs	16	8	0	0	0	0	0	0	7	7	7	7	100%	100%	0	0	0	0	2	1	0	0	240	35	0	0
High Efficiency Furnace	0	0	0	0	0	0	0	0	0	0	0	18	100%	100%	0	0	0	0	0	0	0	0	0	0	0	0
Room AC ancillary savings	0	0	0	24	0	0	0	50	0	0	0	9	100%	100%	0	0	0	1,194	0	0	0	0	0	0	0	0
Central AC ancillary savings	0	0	0	13	0	0	0	77	0	0	0	15	100%	100%	0	0	0	983	0	0	0	0	0	0	0	0

Unitil ENERGY STAR® Lighting Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service & Realization Rate		Total Lifetime Savings (kWh)			
	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	Update	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Update
Retail Sales: # CFLs	12,261	31,442	19,564	26,518	39	39	23	23	5	5	5	5	80.3%	62.3%	1,924,460	4,935,970	1,401,358	1,899,882
Retail Sales: # CFLs Multi-Packs	41,800	0	0	0	39	39	23	23	5	6	5	5	80.3%	62.3%	6,560,660	0	0	0
Retail Sales: Interior Fixture	284	351	292	259	106	106	62	62	8	8	8	8	96.4%	96.4%	232,140	286,662	140,224	124,377
Retail Sales: Exterior Fixture	0	24	29	6	106	106	62	62	5	5	5	5	100.0%	100.0%	0	12,708	9,091	1,868
Retail Sales: Torchieres	0	1	0	0	104	104	69	0	8	8	8	8	93.5%	93.5%	0	781	0	0
Retail Sales: LED Fixtures	0	0	0	194	0	0	0	28	0	0	0	20	95.0%	95.0%	0	0	0	101,992
Retail Sales: # LEDs	28	651	292	5,821	47	47	28	28	20	20	20	20	95.0%	95.0%	25,478	581,343	153,497	3,060,274
Markdown Bulbs	0	9,294	20,400	0	0	0	23	0	7	7	5	5	80.3%	62.3%	0	0	1,461,240	0
Markdown LEDs	0	0	280	0	0	0	28	0	20	20	20	20	95.0%	95.0%	0	0	147,188	0
Markdown LED fixtures	0	0	120	0	0	0	28	0	20	20	20	20	95.0%	95.0%	0	0	63,081	0

Planning Assumptions

1. Assumed the Energy Independence and Security Act of 2007 was fully in place in Jan2012 (e.g., Used 72W halogen as base rather than 100W incandescent)
This reduces the kWh savings for all CFLs - the largest rebated product - by nearly 1/3.
2. Realization Rates for CFLs were modified from 80.3% to 62.3%, per KEMA Impact Evaluation, June 22, 2012.
3. Average hours on per energy efficient lights were ALL modified to 2 hours/day (from 3.4, or 41% reduction), per KEMA Impact Evaluation, June 22, 2012.
3. Assumed an increase in LED bulbs and fixture purchases in 2013-2014.

August 2014 assumptions

Based on past year of experience, eliminating markdowns or upstream sales

Unitil ENERGY STAR® Appliance Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service / Realization Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings			
	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update
Energy Star Clothes Washer	1,051	955	884	883.8	223	223	261	166	11	11	11	11	100%	100%	2,577,804	2,342,615	2,535,680	1,609,852	0.1	0.1	0.7	0.5	1,663	1,512	7,175	5,152
Energy Star Room A/C	162	442	393	707.0	16	16	16	16	9	9	9	9	100%	100%	23,508	63,648	57,148	103,081	0	0	0	0	0	0	0	0
2nd Refrigerator Pickup	162	40	20	35.4	413	413	835	835	8	8	8	8	100%	100%	534,157	132,160	131,268	236,140	0	0	0	0	0	0	0	0
Smartstrip Power Strip	65	46	98	17.7	75	75	79	79	5	5	5	5	100%	100%	24,250	17,250	38,810	6,982	0	0	0	0	0	0	0	0
Energy Star Refrigerator	162	863	590	681.8	107	107	107	114	12	12	12	12	100%	100%	207,584	1,108,092	756,951	932,642	0	0	0	0	0	0	0	0
Energy Star Room Air Purifiers	16	16	20	25.3	238	238	391	390	9	9	9	9	100%	100%	34,630	34,272	69,086	88,651	0	0	0	0	0	0	0	0
2nd Freezer Pickup	0	0	0	8	0	0	663	663	8	8	8	8	100%	100%	0	0	0	40,178	0	0	0	0	0	0	0	0
Room AC Pickup/Turn-in	0	0	0	0	0	0	16	16	5	5	5	5	100%	100%	0	0	0	0	0	0	0	0	0	0	0	0
Energy Star Freezers	0	0	0	0	0	0	114	114	11	11	12	12	100%	100%	0	0	0	0	0	0	0	0	0	0	0	0
Energy Star Central AC (385 Hours ON in NH)	0	0	4	0	0	0	110	110	0	0	14	14	100%	100%	0	0	5,886	0	0	0	0	0	0	0	0	0
Energy Star Mini Split Heat Pump	0	0	7	0	0	0	123	123	0	0	12	12	100%	100%	0	0	10,118	0	0	0	0	0	0	0	0	0
Mini Split HP SEER 14.5, EER 12 HSPF 8.2 (Heating)	0	0	0	3	0	0	-2,158	142	0	0	12	12	100%	100%	0	0	0	4,309	0	0	0	0	0	0	0	0
Mini Split HP SEER 14.5, EER 12 HSPF 8.2 (Cooling)	0	0	0	3	0	0	0	34	0	0	12	12	100%	100%	0	0	0	1,042	0	0	0	0	0	0	0	0
Mini Split HP SEER 19, EER 12.83 HSPF 10 (Heating)	0	0	0	8	0	0	-2,158	751	0	0	12	12	100%	100%	0	0	0	68,267	0	0	4.9	0	0	0	0	445
Mini Split HP SEER 19, EER 12.83 HSPF 10 (Cooling)	0	0	0	8	0	0	0	105	0	0	12	12	100%	100%	0	0	0	9,539	0	0	0	0	0	0	0	0
DHW: LP, Tankless Water Heaters (EF>= 0.82)	0	0	18	3	0	0	0	0	0	0	20	20	100%	100%	0	0	0	0	0	0	0	9.7	0	0	3,550	490
DHW: LP, Indirect Water Heater (attached to LP Energy Star FHW boiler)	0	0	1	18	0	0	0	0	0	0	20	20	100%	100%	0	0	0	0	0	0	0	8.0	0	0	122	2,828
DHW: Oil, Indirect Water Heater (attached to oil Energy Star FHW boiler)	0	0	1	18	0	0	0	0	0	0	20	20	100%	100%	0	0	0	0	0	0	0	8.0	0	0	122	2,828
DHW: LP, Stand Alone Storage Water Heater (EF>=0.67)	0	0	1	5	0	0	0	0	0	0	13	13	100%	100%	0	0	0	0	0	0	0	3.7	0	0	37	243
DHW: Heat Pump Water Heater 50 Gallon Electric, EF>=2.3 (ES=EF>=2.0)	0	0	1	5	0	0	1,775	1,775	0	0	10	10	100%	100%	0	0	13,533	89,638	0	0	0	0.0	0	0	0	0
DHW: Heat Pump Water Heater 80 Gallon Electric, EF>=2.3 (ES=EF>=2.0)	0	0	1	3	0	0	2,672	2,672	0	0	10	10	100%	100%	0	0	20,373	67,469	0	0	0	0.0	0	0	0	0
Boil: LP, Combo condensing boiler w/ On-Demand DWH 90%	0	0	1	0	0	0	0	0	0	0	20	20	100%	100%	0	0	0	0	0	0	0	17.8	0	0	271	0
Boil: Oil, Combo condensing boiler w/ On-Demand DWH 90%	0	0	1	0	0	0	0	0	0	0	20	20	100%	100%	0	0	0	0	0	0	0	17.8	0	0	271	0
Furn: LP, Furnace, FHA, AFUE >=95% w/ECM	0	0	9	10	0	0	168.00	168.00	0	0	18	18	100%	100%	0	0	27,668	30,543	0	0	0	4.5	0	0	741	818
Furn: LP, Furnace, FHA, AFUE >=96% w/ECM	0	0	5	10	0	0	168	168	0	0	18	18	100%	100%	0	0	13,834	30,543	0	0	0	5.6	0	0	457	1,009
Furn: LP, Furnace, FHA, AFUE >=97% w/ECM	0	0	2	0	0	0	168	168	0	0	18	18	100%	100%	0	0	4,611	0	0	0	0	5.9	0	0	162	0
Furn: Oil, Furnace, FHA, AFUE >=85% w/ECM	0	0	5	0	0	0	168	168	0	0	18	18	100%	100%	0	0	13,834	0	0	0	0	18.0	0	0	1,482	0
Furn: Oil, Furnace, FHA, AFUE >=90 w/ECM	0	0	2	0	0	0	168	168	0	0	18	18	100%	100%	0	0	4,611	0	0	0	0	20.7	0	0	568	0
Boiler, LP, FHW, AFUE >= 90%	0	0	9	18	0	0	0	0	0	0	20	20	100%	100%	0	0	0	0	0	0	0	10.4	0	0	1,903	3,676
Boiler, LP, FHW, AFUE >=96%	0	0	3	3	0	0	0	0	0	0	20	20	100%	100%	0	0	0	0	0	0	0	13.1	0	0	799	662
Boiler, Oil, FHW, AFUE >=85%	0	0	58	18	0	0	0	0	0	0	20	20	100%	100%	0	0	0	0	0	0	0	5.4	0	0	6,232	1,901
Boiler, Oil, FHW, AFUE >=90%	0	0	8	10	0	0	0	0	0	0	20	20	100%	100%	0	0	0	0	0	0	0	10.8	0	0	1,640	2,172
TSTAT: LP, 7-Day Programmable Thermostats	0	0	1	10	0	0	14	14	0	0	15	15	100%	100%	0	0	165	2,181	0	0	0	3.2	0	0	88	485
TSTAT: Oil, 7-Day Programmable Thermostats	0	0	1	10	0	0	14	14	0	0	15	15	100%	100%	0	0	165	2,181	0	0	0	3.2	0	0	88	485
TSTAT: LP, WiFi Enabled 7-Day Programmable Thermostats	0	0	1	0	0	0	14	14	0	0	15	15	100%	100%	0	0	165	0	0	0	0	6.6	0	0	75	0
TSTAT: Oil, WiFi Enabled 7-Day Programmable Thermostats	0	0	1	0	0	0	14	14	0	0	15	15	100%	100%	0	0	165	0	0	0	0	6.6	0	0	75	0
BRC: LP, Boiler Reset Controls	0	0	7	3	0	0	0	0	0	0	15	15	100%	100%	0	0	0	0	0	0	0	4.5	0	0	463	170
BRC: Oil, Boiler Reset Controls	0	0	9	3	0	0	0	0	0	0	15	15	100%	100%	0	0	0	0	0	0	0	4.5	0	0	618	170

Planning Assumptions

1. Clothes Washer Annual kWh Savings updated based on mix of Electric Water Heating customer and per EnergyStar.gov Savings Calculator.
2. Room Air Purifier Annual kWh Savings updated per EnergyStar.gov Savings Calculator.
3. Central air conditioner and Mini Split Heat Pump Annual kWh savings added per EnergyStar.gov calculator, and conservatively assumed 50% of heat provided by heat pump, 50% provided by existing fossil system.
4. All Heating, Hot Water, Programmable Thermostats and Boiler Reset Control energy savings provided by U.S. Department of Energy during ARRA Program and adjusted with recent Gas Networks data if available.

Unitil Home Energy Assistance Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				Installation or Realization Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings				
	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	
	CFLs	437	247	245	583	51	65	23	23	8	8	7	7	91.2%	91.2%	161,787	127,650	36,026	85,603	0	0	0	0	0	0	0	0
Refrigerator	58	89	74	67	781	792	821	821	19	19	12	12	91.2%	91.2%	787,648	1,339,779	661,092	597,679	0	0	0	0	0	0	0	0	
Wx Electric, MF	0	9	7	0	0	1,428	1,474	1,474	20	20	20	20	91.2%	91.2%	0	262,301	197,895	0	0	0	0	0	0	0	0	0	
Wx Oil, MF	0	6	6	9	0	0	0	66	20	22	20	20	91.2%	91.2%	0	0	0	10,943	0	31	29	29	0	3701	3,381	4,759	
Wx Propane, MF	0	5	1	8	0	0	0	66	20	20	20	20	91.2%	91.2%	0	0	0	9,727	0	27	44	44	0	2505	1,283	6,421	
Wx Kerosene, MF	0	13	0	0	0	0	0	0	0	22	0	0	91.2%	91.2%	0	0	0	0	0	22	0	0	0	5725	0	0	
DHW MF Non-Elec	0	5	0	0	0	0	0	0	7	7	7	7	91.2%	91.2%	0	0	0	0	0	1	0	0	0	44	0	0	
DHW MF Elec	0	18	15	17	0	148	120	120	7	7	7	7	91.2%	91.2%	0	18,662	11,280	13,154	0	0	0	0	0	0	0	0	
Wx Electric	7	11	7	2	2,355	247	45	1,474	25	23	20	20	91.2%	91.2%	390,550	57,802	5,600	54,309	0	0	0	0	0	0	0	0	
Wx Gas	8	3	0	0	0	0	0	0	25	22	20	20	91.2%	91.2%	0	0	0	0	22	45	0	0	4,391	2,762	0	0	
Wx Oil	32	8	21	20	0	0	66	66	25	22	20	20	91.2%	91.2%	0	0	24,852	24,354	29	48	38	38	22,888	7,579	15,741	14,067	
Wx Propane	25	3	7	11	0	0	115	66	20	21	20	20	91.2%	91.2%	0	0	14,467	13,395	33	23	19	19	16,704	1,354	2,566	3,783	
Wx Kero	0	6	0	0	0	0	0	0	0	19	0	0	91.2%	91.2%	0	0	0	0	0	29	0	0	0	3,040	0	0	
Wx Wood	0	2	0	0	0	0	0	0	0	19	0	0	91.2%	91.2%	0	0	0	0	0	7	0	0	0	261	0	0	
DHW Elec	0	10	3	1	0	96	96	140	7	7	7	7	91.2%	91.2%	0	6,741	2,106	903	0	0	0	0	0	0	0	0	
DHW Non-Elec	0	8	5	10	0	0	0	0	7	7	7	7	91.2%	91.2%	0	0	0	0	0	1	1	1	0	55	25	45	
DWH Gas	7	0	0	0	0	0	0	0	7	7	7	7	91.2%	91.2%	0	0	0	0	11	7	0	0	540	0	0	0	
DHW Oil	26	0	0	10	0	0	0	0	7	7	7	7	91.2%	91.2%	0	0	0	0	2	1	0	0	423	0	0	0	
Thermostats Elec	0	0	0	0	0	0	0	0	10	15	15	15	91.2%	91.2%	0	0	0	0	0	21	0	0	0	0	0	0	0
Thermostats Non-Elec	0	12	0	0	0	0	0	0	10	15	15	15	91.2%	91.2%	0	0	0	0	0	13	0	0	0	2,110	0	0	0
Interior Fixtures	0	4	0	0	0	422	0	0	20	20	20	20	91.2%	91.2%	0	33,720	0	0	0	0	0	0	0	0	0	0	0
Doors	0	2	0	0	0	4	0	0	0	20	20	20	91.2%	91.2%	0	160	0	0	0	3	0	0	0	101	0	0	0
Oil Furnaces	0	0	0	7	0	0	0	168	0	0	0	18	91.2%	91.2%	0	0	0	20,472	0	0	0	18	0	0	0	2,045	
Oil Boilers	0	0	0	7	0	0	0	168	0	0	0	20	91.2%	91.2%	0	0	0	23,520	0	0	0	18	0	0	0	2,349	
AC Ancillary Savings	0	0	0	51	0	0	0	39	0	0	0	9	91.2%	91.2%	0	0	0	17,726	0	0	0	0	0	1	0	0	

Unitil C&I Municipal Program

Measure	Quantity	Annual Savings per Unit (kWh)	Measure Life	Realization Rate	Total Lifetime Savings (kWh)	Annual Savings per Unit (MMBTU)	Total Lifetime MMBTU Savings
	2014 Update	2014 Update	2014 Update	2014 Update	2014 Update	2014 Update	2014 Update
Lighting	15	30,435	13	100%	5,740,979	0	0
Central AC (Energy Star>=14.5 SEER), 3 ton	1	110	14	100%	1,868	0	0
Mini Split HP SEER 14.5, EER 12 HSPF 8.2 (Heating)	1	142	12	100%	2,064	0	0
Mini Split HP SEER 14.5, EER 12 HSPF 8.2 (Cooling)	1	34	12	100%	499	0	0
Mini Split HP SEER 19, EER 12.83 HSPF 10 (Heating)	2	751	12	100%	21,797	4.9	142
Mini Split HP SEER 19, EER 12.83 HSPF 10 (Cooling)	2	105	12	100%	3,046	0	0
Boilers (301 to 499 MBH) Oil	6	0	25	100%	0	42	6,398
Indirect Water Heater (attached to Oil Energy Star FHW boiler)	6	0	15	100%	0	21	1,879

Unitil Large Business Energy Solutions Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service or Realization Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings				
	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	
NEW EQUIPMENT TRACK																											
Large C&I (Rolled-Up average)	14	0	0	0	43,798	0	0	0	15	15	15	15	100%	100%	9,197,573	0	0	0	0	0	0	0	0	0	0	0	0
Lighting	0	8	6	2	0	7,654	58,349	55,995	15	15	15	15	100%	100%	0	4,082	4,846,325	1,629,455	0	0	0	0	0	0	0	0	0
HVAC	0	2	6	1	0	7,177	27,693	27,693	15	23	15	15	100%	100%	0	624	2,683,415	402,933	0	0	0	0	0	0	0	0	0
Non-Lighting (Rolled Up)	0	0	6	2	0	0	48,577	75,529	15	15	15	15	100%	100%	0	0	4,707,148	2,469,798	0	0	0	0	0	0	0	0	0
ComprAir	0	2	0	0	0	85,289	0	0	15	15	15	15	100%	100%	0	11,372	0	0	0	0	0	0	0	0	0	0	0
Motors	0	2	0	0	0	61,269	0	0	20	20	20	20	100%	100%	0	6,127	0	0	0	0	0	0	0	0	0	0	0
VFDs	0	0	0	3	0	0	0	117,966	15	15	15	15	100%	100%	0	0	0	4,724,538	0	0	0	0	0	0	0	0	0
RETROFIT TRACK																											
Non Lighting (Rolled Up Average)	10	0	4	3	56,335	0	82,048	68,952	13	13	13	13	89%	89%	6,778,689	0	3,920,115	2,130,058	0	0	0	0	0	0	0	0	0
Lighting	16	19	10	4	118,930	4,259	117,843	143,306	13	13	13	13	89%	89%	21,465,850	936,335	13,794,384	6,831,168	0	0	0	0	0	0	0	0	0
Freezer/Cooler LEDs	0	1	1	2	0	42,856	83,273	83,273	13	13	13	13	89%	89%	0	495,844	994,662	2,100,362	0	0	0	0	0	0	0	0	0
LEDs	0	0	2	2	0	0	77,951	86,473	13	13	13	13	89%	89%	0	0	2,234,629	2,181,074	0	0	0	0	0	0	0	0	0
Compressed Air	0	1	0	0	0	149,796	0	0	13	13	13	13	89%	89%	0	1,733,140	0	0	0	0	0	0	0	0	0	0	0
VFDs	0	4	3	5	0	35,645	95,100	48,606	13	13	13	13	89%	89%	0	1,649,633	3,180,608	2,868,094	0	0	0	0	0	0	0	0	0
CFL Bulbs	0	0	0	0	0	0	0	0	5	5	5	5	89%	89%	0	0	0	0	0	0	0	0	0	0	0	0	0
Motors	0	1	0	0	0	26,280	0	0	20	20	20	20	89%	89%	0	467,784	0	0	0	0	0	0	0	0	0	0	0
Occupancy Sensors	0	2	0	0	0	93,266	0	0	9	9	9	9	89%	89%	0	1,494,121	0	0	0	0	0	0	0	0	0	0	0
Custom / CHP	0	6	0	1	0	13,158	0	346,458	13	13	13	15	89%	89%	0	913,456	0	4,625,214	0	0	0	-494	0	0	0	0	-6,595
Fuel Neutral Heating, Hot Water and Controls																											
Oil: Air Source Heat Pump Split Systems (Energy Sta	0	0	0.8	0	0	0	0	0	0	0	12	12	100%	100%	0	0	0	0	0	0	17	0	0	0	156	0	
Boilers (301 to 499 MBH), Condensing	0	0	1.5	0	0	0	0	0	0	0	25	25	100%	100%	0	0	0	0	0	0	42	0	0	0	1,600	0	
Boilers (1000 to 1700 MBH)	0	0	2.3	0	0	0	0	0	0	0	25	25	100%	100%	0	0	0	0	0	0	143	0	0	0	8,089	0	
Boilers (1701 to 2000 MBH)	0	0	3.8	0	0	0	0	0	0	0	25	25	100%	100%	0	0	0	0	0	0	249	0	0	0	23,541	0	

Unitil Small Business Energy Solutions Program

Measure	Quantity				Annual Savings per Unit (kWh)				Measure Life				In-Service or Installation Rate		Total Lifetime Savings (kWh)				Annual Savings per Unit (MMBTU)				Total Lifetime MMBTU Savings			
	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update
Lighting (New Construction)	0	0	5	0	0	0	13,788	0	13	13	13	13	112%	97%	0	0	812,990	0	0	0	0	0	0	0	0	0
Lighting (Retrofit)	46	61	33	0	18,520	193	20,343	0	13	13	13	13	112%	97%	12,512,118	171,205	8,581,033	0	0	0	0	0	0	0	0	0
Lighting Total				54				15,533				13	112%	97%	0	0	0	10,509,393				0				0
Lighting CFLs	0	1	0	0	0	990	0	0	0	5	0	0	112%	97%	0	5,544	0	0	0	0	0	0	0	0	0	0
Refrigerator/Freezer LEDs	0	0	1	1	0		46,807	14,281	13	13	13	13	112%	97%	0	0	674,724	133,124	0	0	0	0	0	0	0	0
Retro Non-Lighting	6	5	6	18	37,041	26,117	11,433	12,449	13	13	13	13	100%	120%	2,792,883	1,697,579	1,157,504	3,432,508	0	0	0	0	0	0	0	0
Air Compressors	0	0	0	0	0	0	0	0	13	13	13	13	100%	97%	0	0	0	0	0	0	0	0	0	0	0	0
Occupancy Sensors	0	0	0	0	0	0	0	0	9	9	9	9	100%	97%	0	0	0	0	0	0	0	0	0	0	0	0
Unitary AC	0	0	0	0	0	0	0	0	15	15	15	15	100%	97%	0	0	0	0	0	0	0	0	0	0	0	0
Unitary HP	0	0	0	0	0	0	0	0	15	15	15	15	100%	97%	0	0	0	0	0	0	0	0	0	0	0	0
Fuel Neutral Heating, Hot Water and Controls																										
Central Air Conditioner (Energy Star >= 14.5 SEER), 3 ton	0	0	2	1	0	0	110	110	0	0	14	14	100%	100%	0	0	3,773	1,140	0	0	0	0	0	0	0	0
LP: Air Source Heat Pump Split Systems (Energy Star >= 14.5 SEER)	0	0	3	0	0	0	0	0	0	0	12	12	100%	100%	0	0	0	0	0	0	0	0	0	0	503	0
Oil: Air Source Heat Pump Split Systems (Energy Star >= 14.5 SEER)	0	0	7	0	0	0	0	0	0	0	12	12	100%	100%	0	0	0	0	0	0	0	0	0	0	1,396	0
Mini Split HP SEER 14.5, EER 12 HSPF 8.2 (Heating)	0	0	3	1	0	0	0	142	0	0	12	12	100%	100%	0	0	0	1,263	0	0	0	0	0	0	0	0
Mini Split HP SEER 14.5, EER 12 HSPF 8.2 (Cooling)	0	0	7	1	0	0	0	34	0	0	12	12	100%	100%	0	0	0	305	0	0	0	0	0	0	0	0
On Demand Tankless Water Heater, EF >=0.82 EF w/Electronic Igniti	0	0	3	0	0	0	0	0	0	0	20	20	100%	100%	0	0	0	0	0	0	0	7.1	0	0	386	0
On Demand Tankless Water Heater >=.95 EF w/Electronic Ignition	0	0	16	0	0	0	0	0	0	0	20	20	100%	100%	0	0	0	0	0	0	0	9.6	0	0	3,124	0
Boilers (up to 300 MBH), Condensing	0	0	1	0	0	0	0	0	0	0	25	25	100%	100%	0	0	0	0	0	0	0	22.8	0	0	774	0

Unitil Gas Home Performance with ENERGY STAR®

Measure	Quantity				Annual Savings per Unit (MMBTU)				Measure Life				Installation or Realization Rate		Total Annual MMBTU Savings				Total Lifetime MMBTU Savings			
	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update
Weatherization (per home)	0	0	0	0	0	0	0.0	0.0	20	20	0	0	100%	100%	0	0	0	0	0	0	0	0
Air Sealing	36	25	24	19	10.5	10.2	9.0	11.6	15	15	15	15	100%	100%	377	255	218	225	5,662	3,820	3,265	3377
Insulation	36	25	24	19	29.4	29.7	42.8	27.9	25	25	25	25	100%	100%	1,057	742	1,034	541	26,427	18,554	25,850	13524
Thermostats	0	5	5	10	0	4.7	7.7	5.75	15	15	15	15	100%	100%	0	23	37	56	0	349	561	837
DWH ISMs	0	2	5	4	0	8.1	7.0	7.01	7	7	7	7	100%	100%	0	16	34	27	0	114	237	190

Unitil Gas ENERGY STAR Appliances

Measure	Quantity				Annual Savings per Unit (MMBTU)				Measure Life				Installation or Realization Rate		Total Annual MMBTU Savings				Total Lifetime MMBTU Savings			
	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update
Boiler Reset Controls	4	1	0	8	7.9	7.9	4.5	4.5	15	15	15	15	100%	100%	32	8	0	36	474	119	0	540
Boiler (forced hot water) 85% AFUE	0	44	0	0	7.2	7.2	0.0	0.0	20	20	0	0	100%	100%	0	317	0	0	0	6,336	0	0
Boiler (forced hot water) 90% AFUE	32	26	46	20	13.7	13.7	10.4	10.4	20	20	20	20	100%	100%	438	356	479	208	8,768	7,124	9,588	4,160
Boiler (forced hot water) >= 96% AFUE	8	39	12	72	21.3	21.3	13.1	13.1	20	20	20	20	100%	100%	170	831	151	943	3,408	16,614	3,019	18,864
Furnace (forced hot air) 92% AFUE	0	0	0	0	21.1	21.1	0.0	0.0	0	0	0	0	100%	100%	0	0	0	0	0	0	0	0
Furnace (forced hot air) 92% AFUE w/ ECM	0	8	0	0	11.8	11.8	0.0	0.0	18	18	0	0	100%	100%	0	94	0	0	0	1,699	0	0
Furnace (forced hot air) 94% AFUE w/ ECM	0	13	0	0	14.2	14.2	0.0	0.0	18	18	0	0	100%	100%	0	184	0	0	0	3,313	0	0
Furnace (forced hot air) 95% AFUE w/ECM	237	10	17	52	18.0	18.0	4.5	4.5	18	18	18	18	100%	100%	4,266	180	78	234	76,788	3,240	1,400	4,212
Furnace (forced hot air) 96% AFUE w/ ECM	40	24	0	0	20.7	20.7	0.0	0.0	18	18	18	18	100%	100%	828	497	0	0	14,904	8,942	0	0
Furnace (forced hot air) >= 97% AFUE	0	0	17	4	0.0	0.0	5.9	5.9	18	18	18	18	100%	100%	0	0	102	24	0	0	1,836	425
Integrated water heater/condensing boiler	0	41	29	24	21.1	21.1	17.8	17.8	20	20	20	20	100%	100%	0	865	513	427	0	17,302	10,256	8,544
Condensing Gas Water Heater (TE 95)	8	0	0	0	25.0	25.0	25.0	25.0	15	15	15	15	100%	100%	200	0	0	0	3,000	0	0	0
Heat Recovery Ventilator	0	1	0	0	7.7	7.7	7.7	7.7	20	20	20	20	100%	100%	0	8	0	0	0	154	0	0
High Efficiency Stand Alone Water Heater (0.62 EF)	0	0	0	0	0.0	0.0	0.0	0.0	0	0	0	0	100%	100%	0	0	0	0	0	0	0	0
High Efficiency Stand Alone Water Heater (0.67 EF)	0	0	0	12	0.0	0.0	3.7	3.7	13	13	13	13	100%	100%	0	0	0	44	0	0	0	566
Tankless Water Heaters (EF 0.82)	12	44	40	48	9.7	9.7	9.7	9.7	20	20	20	20	100%	100%	116	427	391	466	2,328	8,536	7,825	9,312
Tankless Water Heaters (EF 0.94)	4	13	9	60	10.3	10.3	10.1	10.3	20	20	20	20	100%	100%	41	134	87	618	824	2,678	1,746	12,360
Indirect Water Heater (attached to gas Energy Star FHW boiler)	12	46	40	48	8.0	8.0	8.0	8.0	20	20	20	20	100%	100%	96	368	323	384	1,920	7,360	6,453	7,680
Energy Star Programmable Thermostats	40	63	69	100	7.7	7.7	3.2	3.2	15	15	15	15	100%	100%	308	485	221	320	4,620	7,277	3,319	4,800
Wi-Fi Thermostats (controls gas heat only)	0	2	9	44	6.6	6.6	6.6	6.6	15	15	15	15	100%	100%	0	13	57	290	0	198	856	4,356

Unitil Gas ENERGY STAR® Homes Program

Unitil Gas
ENERGY STAR® Homes
Attachment LG (2014 Plan)

Measure	Quantity				Annual Savings per Unit (MMBTU)				Measure Life				Installation or Realization Rate		Total Annual MMBTU Savings				Total Lifetime MMBTU Savings			
	2012 Plan	2012 Actual	2013 Plan	2014 Plan Update	2012 Plan	2012 Actual	2013 Plan	2014 Plan Update	2012 Plan	2012 Actual	2013 Plan	2014 Plan Update	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Plan Update	2012 Plan	2012 Actual	2013 Plan	2014 Plan Update
ES Homes (Heating)	31	36	16	13	22.5	26.2	34.4	45.0	25	25	25	25	100%	100%	708	942	536	587	17,697	23,560	13,398	14,677
ES Homes (Cooling)	0	26	0	7	0.0	0.0	0.0	0.0	25	25	25	25	100%	100%	0	0	0	0	0	0	0.0	0
ES Homes (Water Heating)	31	36	16	13	2.5	7.2	3.1	11.7	15	15	15	15	100%	100%	79	258	49	153	1,180	3,870	732	2,298
Dishwashers	31	7	16	8	1.9	1.9	0.4	1.5	10	10	10	10	100%	100%	60	13	6	13	598	133	62	127
Clotheswashers	0	0	5	4	0.0	0.0	0.2	10.1	14	14	11	11	100%	100%	0	0	1	42	0	0	10	465
Thermostats	55	7	0	0	7.7	0.0	0.0	0.0	10	10	10	10	100%	100%	424	0	0	0	4,239	0	0	0

Unitil Gas Home Energy Assistance Program

Measure	Quantity				Annual Savings per Unit (MMBTU)				Measure Life				Installation or Realization Rate		Total Annual MMBTU Savings				Total Lifetime MMBTU Savings			
	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update
Weatherization (per home)	0	0	0	0	0.0	0.0	0.0	0.0	20	20	20	20	100%	100%	0	0	0	0	0	0	0	0
Air Sealing SF	30	14	9	30	19.2	7.2	23.2	13.1	15	15	15	15	100%	100%	578	101	209	392	8,668	1,512	3,141	5,883
Insulation SF	30	17	9	30	19.5	13.6	29.5	29.5	25	25	25	25	100%	100%	586	231	266	884	14,649	5,782	6,654	22,103
Air Sealing MF	0	7	21	13	0.0	11.2	6.2	6.2	15	15	15	15	100%	100%	0	79	130	79	0	1,179	1,943	1,186
Insulation MF	0	4	21	13	0.0	19.6	8.8	8.8	25	25	25	25	100%	100%	0	78	185	113	0	1,960	4,627	2,823
DHW ISMs (aerators & pipewrap) SF	0	0	9	30	0.0	0	3.0	3.0	4	4	4	7	100%	100%	0	0	27	88	0	0	106	618
DHW ISMs (aerators & pipewrap) MF	0	11	21	13	0.0	6.2	3.2	3.2	4	4	4	7	100%	100%	0	68	68	41	0	271	270	288
Heating System Replacement	0	0	1	4	0.0	0	10.4	30.0	20	20	20	20	100%	100%	0	0	14	135	0	0	281	2,695
Thermostats	0	4	21	13	0.0	5.5	7.5	8.0	15	10	15	15	100%	100%	0	22	158	103	0	222	2,366	1,540
Controls	0	0	0	0	0.0	0	0.0	0.0	15	15	15	15	100%	100%	0	0	0	0	0	0	0	0
Water Heater Stand Alone	0	0	0	0	0.0	0	0.0	0.0	13	13	13	13	100%	100%	0	0	0	0	0	0	0	0
Windows	0	2	0	0	0.0	10.7	0.0	0.0	25	25	25	25	100%	100%	0	21	0	0	0	536	0	0

Unitil Gas Small Business Energy Solutions

Measure	Quantity				Annual Savings per Unit (MMBTU)				Measure Life				Installation or Realization Rate		Total Annual MMBTU Savings				Total Lifetime MMBTU Savings			
	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update
RETROFIT TRACK																						
Furnace 95+ AFUE (<150) w/ECM Motor	0	0	3	0	0.0	0.0	16.1	16.1	0	0	18	18	100%	100%	0	0	48	0	0	0	865	0
Condensing boiler <= 300 mbh	0	0	9	0	0.0	0.0	22.8	22.8	0	0	25	25	100%	100%	0	0	204	0	0	0	5,105	0
Infrared	0	0	18	0	0.0	0.0	48.3	48.3	0	0	17	17	100%	100%	0	0	865	0	0	0	14,708	0
Fryers	0	0	6	0	0.0	0.0	58.6	58.6	0	0	12	12	100%	100%	0	0	350	0	0	0	4,199	0
Boiler >=96% AFUE, <= 300 mbh	0	0	3	0	0.0	0.0	29.3	29.3	0	0	25	25	100%	100%	0	0	87	0	0	0	2,187	0
On demand, Tankless Water Heater >=.82,	0	0	3	0	0.0	0.0	7.1	7.1	0	0	20	20	100%	100%	0	0	21	0	0	0	424	0
High Efficiency Gas Convection Oven (>=44% efficiency)	0	0	6	0	0.0	0.0	30.6	30.6	0	0	12	12	100%	100%	0	0	183	0	0	0	2,192	0
Boiler Reset Controls	0	0	1	0	0.0	0.0	35.5	35.5	0	0	15	15	100%	100%	0	0	38	0	0	0	572	0
Custom Heating / Water Heating Equipment	0	0	0	1	0.0	0.0	0.0	306.9	0	0	0	15	100%	100%	0	0	0	283	0	0	0	4,244
Custom SCI Weatherization	0	0	3	4	0.0	0.0	141.1	141.1	0	0	25	25	100%	100%	0	0	421	520	0	0	10,530	13,006
NEW EQUIPMENT TRACK (Gas Networks)																						
On demand, Tankless Water Heater >=.94	0	0	0	7	0.0	0.0	0.0	9.4	0	0	0	20	100%	100%	0	0	0	66	0	0	0	1,316
Indirect Water Heaters (Combined appliance efficiency rating >=85% (EF=.	0	0	9	7	0.0	0.0	20.7	20.7	0	0	15	15	100%	100%	0	0	184	145	0	0	2,766	2,174
Condensing Boiler >=96% AFUE, <= 300 mbh	0	0	13	27	0.0	0.0	29.3	29.3	0	0	25	25	100%	100%	0	0	392	791	0	0	9,789	19,778
Condensing boiler 301-499 mbh	0	0	9	27	0.0	0.0	56.1	56.1	0	0	25	25	100%	100%	0	0	500	1515	0	0	12,495	37,868
Condensing boiler <= 300 MBH 90% AFUE	0	0	22	12	0.0	0.0	22.8	22.8	0	0	25	25	100%	100%	0	0	508	274	0	0	12,695	6,840
Boiler Reset Controls	0	0	3	5	0.0	0.0	35.5	35.5	0	0	15	15	100%	100%	0	0	95	178	0	0	1,423	2,663
High Efficiency Gas Convection Oven (>=44% efficiency)	0	0	0	7	0.0	0.0	0.0	30.6	0	0	0	12	100%	100%	0	0	0	214	0	0	0	2,570
Infrared Heaters	0	0	0	13	0.0	0.0	0.0	48.3	0	0	0	17	100%	100%	0	0	0	628	0	0	0	10,674
Thermostats	0	0	9	4	0.0	0.0	7.7	7.7	0	0	15	15	100%	100%	0	0	69	30	0	0	1,029	450
Fryer	0	0	0	7	0.0	0.0	0.0	58.6	0	0	0	12	100%	100%	0	0	0	410	0	0	0	4,922

Unitil Gas Large Business Energy Solutions

Measure	Quantity				Annual Savings per Unit (MMBTU)				Measure Life				Installation or Realization Rate		Total Annual MMBTU Savings				Total Lifetime MMBTU Savings			
	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012	2013	2012 Plan	2012 Actual	2013 Plan	2014 Update	2012 Plan	2012 Actual	2013 Plan	2014 Update
RETROFIT TRACK																						
C&I Retrofit Custom	10	2	2	5.0	622.2	8,061.6	4,469.8	4,132.0	18	15	18	18	100%	100%	6,222.2	16,123.2	8,981.0	20,551.4	111,999	241,847	161,659	369,925
Multi-Family Rolled Up	6	0	0	0	636.7	0.0	0.0	0.0	18	18	18	18	100%	100%	3,820.4	0.0	0.0	0.0	68,767	0	0	0
Multi-Family Windows	0	0	0	0	0.0	0.0	0.0	0.0	25	25	25	25	100%	100%	0.0	0.0	0.0	0.0	0	0	0	0
Multi-Family Reset Controls	0	10	0	0	0.0	35.5	0.0	0.0	20	20	20	20	100%	100%	0.0	355.0	0.0	0.0	0	7,100	0	0
Multi-Family Condensing Boiler	0	20	0	0	0.0	42.3	0.0	0.0	20	20	25	25	100%	100%	0.0	846.0	0.0	0.0	0	16,920	0	0
Multi-Family Water Heater - Indirect	0	3	0	0	0.0	30.4	0.0	0.0	15	15	15	15	100%	100%	0.0	91.2	0.0	0.0	0	1,368	0	0
NEW EQUIPMENT TRACK																						
Furnace 94+ AFUE w/ECM Motor	0	0	0	0	0.0	0.0	0.0	0.0	18	18	18	18	100%	100%	0	0	0	0	0	0	0	0
Furnace 95+ AFUE w/ECM Motor	4	0	0	0	18.0	0.0	0.0	4.3	18	18	18	18	100%	100%	72	0	0	0	1,296	0	0	0
Furnace 96+ AFUE w/ECM Motor	0	1	0	0	0	20.7	0.0	0.0	18	18	18	18	100%	100%	0	21	0	0	0	373	0	0
Furnace 97+ AFUE w/ECM Motor	0	0	1	0	0.0	0.0	18.5	5.9	18	18	18	18	100%	100%	0	0	21	0	0	0	375	0
Condensing boiler <= 300 mbh	0	10	6	0	0	22.1	22.8	22.8	25	25	25	25	100%	100%	0	221	128	0	0	5,525	3,207	0
Condensing boiler 301-499 mbh	9	14	12	0	42.3	42.3	56.1	56.1	25	25	25	25	100%	100%	381	592	663	0	9,518	14,805	16,570	0
Condensing boiler 500-999 mbh	9	7	9	0	77.1	77.1	103.0	103.0	25	25	25	25	100%	100%	694	540	927	0	17,348	13,493	23,179	0
Condensing boiler 1000-1700 mbh	0	4	3	4	0	142.6	189.2	189.2	25	25	25	25	100%	100%	0	570	532	757	0	14,260	13,305	18,920
Condensing boiler 1701+ mbh	0	0	0	3	0	249.0	331.2	331.2	25	25	25	25	100%	100%	0	0	0	994	0	0	0	24,840
Boiler >=96% AFUE, <= 300 mbh	0	0	3	0	0	22.1	29.3	29.3	0	25	25	25	100%	100%	0	0	82	0	0	0	2,061	0
Infrared	4	0	0	0	74.4	74.4	48.3	48.3	17	17	17	17	100%	100%	298	0	0	0	5,059	0	0	0
On demand, Tankless Water Heater >=.82,	0	0	0	1	7.1	7.1	7.1	7.1	20	20	20	20	100%	100%	0	0	0	7	0	0	0	142
On demand, Tankless Water Heater >=.94,	13	0	0	1	9.6	9.6	9.6	9.6	0	20	20	20	100%	100%	125	0	0	9	0	0	0	180
Indirect Water Heaters (Combined appliance efficiency rating >=85% (EF=.82)	9	5	8	0	30.4	30.4	20.7	20.7	15	15	15	15	100%	100%	274	152	175	0	4,104	2,280	2,620	0
Condensing Stand Alone >95% TE, >75000 btu	9	0	0	0	25.0	25.0	25.0	25.0	15	15	15	15	100%	100%	225	0	0	0	3,375	0	0	0
WATER HEATER TANK 0.67 EF	0	2	2	0	3.0	3.0	3.0	3.0	10	10	13	13	100%	100%	0	6	5	0	0	60	66	0
Integrated water heater/condensing boiler (0.9 EF, 0.9 AFUE)	9	6	5	0	24.6	24.6	24.6	24.6	20	25	20	20	100%	100%	221	148	111	0	4,428	3,690	2,214	0
Condensing Unit Heaters	18	0	0	0	40.9	40.9	40.9	40.9	18	18	18	18	100%	100%	736	0	0	0	13,252	0	0	0
Boiler Reset Controls	0	2	0	0	0.0	35.5	0.0	0.0	20	20	20	20	100%	100%	0	71	0	0	0	1,420	0	0
Fryers	9	2	7	0	58.6	58.6	58.6	58.6	12	12	12	12	100%	100%	527	117	429	0	6,329	1,406	5,143	0
High Efficiency Gas Steamer (Energy Star >=38% efficiency)	0	0	0	0	106.6	106.6	106.6	106.6	12	12	12	12	100%	100%	0	0	0	0	0	0	0	0
High Efficiency Gas Convection Oven (>=44% efficiency)	0	0	0	1	24.8	24.8	30.6	30.6	12	12	12	12	100%	100%	0	0	0	31	0	0	0	367
High Efficiency Gas Combination Oven (>=44% efficiency)	3	0	1	0	110.3	110.3	110.3	110.3	12	12	12	12	100%	100%	331	0	124	0	3,971	0	1,489	0
High Efficiency Gas Conveyor Oven (>=44% efficiency)	0	0	0	0	84.5	84.5	84.5	84.5	12	12	12	12	100%	100%	0	0	0	0	0	0	0	0
High Efficiency Gas Rack Oven (>=50% efficiency)	0	0	0	0	211.3	211.3	211.3	211.3	12	12	12	12	100%	100%	0	0	0	0	0	0	0	0
High Efficiency Gas Griddle	0	0	0	0	18.5	18.5	18.5	18.5	12	12	12	12	100%	100%	0	0	0	0	0	0	0	0
Steam Traps	0	38	0	0	25.7	25.7	0.0	0.0	3	3	3	3	100%	100%	0	977	0	0	0	2,930	0	0
Pre Rinse Spray Valve	0	0	0	0	33.6	33.6	12.6	12.6	0	0	5	5	100%	100%	0	0	0	0	0	0	0	0
Thermostats	53	0	0	0	7.7	0.0	0.0	7.7	0	0	0	0	100%	100%	408	0	0	0	0	0	0	0
Hydronic Boiler (301-499 mbh)	0	0	0	0	0.0	0.0	0.0	0.0	0	0	0	0	100%	100%	0	0	0	0	0	0	0	0
Custom Projects	0	0	0	0	0.0	0.0	0.0	0.0	0	0	0	0	100%	100%	0	0	0	0	0	0	0	0

ATTACHMENT M: OVERALL STATEWIDE BUDGETS AND GOALS FOR ELECTRIC AND GAS PROGRAMS

NH CORE ELECTRIC ENERGY EFFICIENCY PROGRAMS	EXPENSES (\$)	SAVINGS (Lifetime kWh)	NUMBER OF CUSTOMERS
RESIDENTIAL			
ENERGY STAR Homes	\$1,411,735	15,627,623	438
ENERGY STAR Lighting	\$1,380,172	36,770,539	126,947
ENERGY STAR Appliances	\$2,708,886	42,629,864	23,124
NH Home Performance w/ENERGY STAR	\$2,814,382	4,210,218	1,454
Home Energy Assistance	\$3,938,708	7,130,142	501
Other Residential Programs	<u>\$771,244</u>	<u>17,572,429</u>	<u>25,048</u>
TOTAL RESIDENTIAL	\$13,025,127	123,940,815	177,513
COMMERCIAL & INDUSTRIAL			
Large Business Energy Solutions	\$6,587,381	303,225,329	491
Small Business Energy Solutions	\$3,577,269	115,232,974	1,414
Municipal Program	\$1,988,325	59,745,222	459
Other C&I Programs	<u>\$1,082,028</u>	<u>28,086,342</u>	<u>20</u>
TOTAL COMMERCIAL & INDUSTRIAL	\$13,235,002	506,289,867	2,384
TOTAL	\$26,260,130	630,230,682	179,897

NH CORE GAS ENERGY EFFICIENCY PROGRAMS	EXPENSES (\$)	SAVINGS (Lifetime MMBTU)	NUMBER OF CUSTOMERS
RESIDENTIAL			
ENERGY STAR Homes	\$174,500	100,848	50
ENERGY STAR Lighting	\$0	0	0
ENERGY STAR Appliances	\$1,166,500	191,651	2,191
NH Home Performance w/ENERGY STAR	\$846,500	360,746	541
Home Energy Assistance	\$1,155,319	153,278	225
Other Residential Programs	<u>\$10,000</u>	<u>0</u>	<u>0</u>
TOTAL RESIDENTIAL	\$3,352,819	806,523	3,007
COMMERCIAL & INDUSTRIAL			
Large Business Energy Solutions	\$1,698,458	994,844	201
Small Business Energy Solutions	\$1,251,179	487,635	688
Other C&I Programs	<u>\$248,814</u>	<u>0</u>	<u>0</u>
TOTAL COMMERCIAL & INDUSTRIAL	\$3,198,451	1,482,479	889
TOTAL	\$6,551,270	2,289,002	3,896