

# State Energy Efficient Appliance Rebate Program Program Plan Narrative – New Hampshire

## Executive Summary

### **Program Summary.**

Briefly describe your overall program approach, including goals, objectives, and estimated benefits for your State or Territory.

### **Program Approach:**

The Department of Energy's (DOE) guidance on the SEEARP program is clear that the key goals of the program are to attain the greatest possible energy savings, stimulate economic activity and job creation, encourage recycling of the appliances to the greatest extent possible keep administrative costs low of the programs and use the funds to complement existing residential energy efficiency programs. Using these goals as a foundation, the Office of Energy and Planning (OEP) met with a number of stakeholder interest groups such as retailers, nonprofits, government agencies, electric utilities, renewable energy installers, HVAC distributors/wholesalers, and low-income advocates, among others. Through this process, OEP has decided to focus the SEEARP program on water heaters, furnaces and boiler systems.

### **Goals and Objectives:**

The following goals were the foundation in creating a program that would work for NH residents:

- Ensure the greatest level of energy savings
- Seed efforts for market transformation:
  - Increase the diversity of fuel sources for residential uses

- Increase the installation of more energy efficient products within an appliance category
- Create a manageable program that is easy for consumers to understand and access
- Ensure expectations of residents are met

To meet these goals, the NH SEEARP program intends to offer rebates on efficient hot water heaters, boilers and furnaces through two programs. Residential solar thermal systems would be rebated through the Sustainable Energy Division at the Public Utilities Commission (PUC) and fossil fuel based heating systems would be rebated through the Home Performance with EnergySTAR (HPwES) program offered by the electric utilities.

**Estimate Benefits:**

By focusing the program on hot water heaters, boilers, and furnaces, we anticipate the following benefits:

- NH expects to realize a greater level of energy reduction under this program than if it chose to rebate white good appliances such as refrigerators, dishwashers and clothes washers.
- There will be an increased economic impact beyond the retailers/manufacturers because the appliances NH selected require, in many cases, professional installation services.
- The percent of appliances recycled will be very high for the SEEARP program due to the high market value of the scrap steel and copper.
- The program will incent the development of clean energy jobs and help stabilize the NH economy. Some of these more efficient systems have a very low market penetration.
- By creating a program that will run past a one weekend sales blitz, the program will in

effect minimize concerns about consumer oversubscription, product availability and the ability to process rebates in a timely manner due to volume of rebate requests.

- By offering rebates on heating systems, there will be a unique opportunity to solicit the participants about the weatherization efforts of the other programs (ie. HPwES) and improvements they can take to further weatherize their residence.
- Complements existing programs by allowing System Benefits Charges to continue offering rebates on white good appliances while expanding HPwES rebates beyond the participants of the program.

Outline your specific program objectives in Table 1. All savings numbers should be calculated using the Program Planning Excel Spreadsheet tool.

| <b>Table 1. Program Objectives</b>            |                |
|---|----------------|
| Program Objective                             | Target Value** |
| Total Number of Rebates Paid                  | 2,713          |
| Total Number of Appliances Replaced           | 2,363          |
| Total Number of Appliances Recycled           | 2,121          |
| Total Annual Energy Savings (kWh)             | 437,220***     |
| Total Annual Energy Savings (Therms)          | 99,899         |
| Total Annual Water Savings (gallons)          | -              |
| Total Annual CO <sub>2</sub> Reductions (lbs) | 1,243,709****  |
| Jobs Created*                                 | 14             |

**\*\* Please note that the above objectives do not account for total annual energy savings attributed to oil home heating systems. This is significant under the NH proposed program, given that upwards of 55% of the homes in NH heat with #2 oil. Total Expected Annual BTU savings for the NH program is 30,536,134,177.**

**\*\*\* Total Annual Energy Savings for kWh do not include electricity savings from furnace systems with ECM motors installed.**

**\*\*\*\* Total Annual CO2 Reductions do not include CO2 reductions from Solar Thermal indirect backup systems and boiler reset controls.**

*\* DOE is waiting for specific OMB guidance on how to quantify jobs created for reporting purposes. In the meantime, the general guidance is that every \$92,000 expended leads to one "job created."*

Enter a comprehensive timeline with key milestones for your program in Table 2. When will key decisions be made? When will the program be announced? How long will it last? Please add your own milestones as needed.

| <b>Table 2. Program Timeline and Milestones</b> |                    |
|---|--------------------|
| <b>Program Milestones</b>                       | <b>Target Date</b> |
| Receive Governor and Council Approval           | January 2010       |
| Enter into MOA with Third Party Providers       | January 2010       |
| Begin offering Rebates                          | March 2010         |
| Monitor available funds                         | On-Going           |
| Adjust programs funding based on participation  | January 2011       |
| Issue final round of rebates and close program  | December 2011      |

## I. Program Overview

Please populate the Program Planning Excel Spreadsheet before completing this section. All data in the tables below should correspond with the data in the Excel spreadsheet. Please include an estimate of the total number of appliances that will be recycled through your program, where applicable.

| Products to be Rebated                 | Rebate Level (\$) | Targeted Quantity | Total Cost       | Targeted # of Products Recycled |
|--|-------------------|-------------------|------------------|---------------------------------|
| DHW- Gas Condensing                    | \$300             | 51                | \$15,300         | 45                              |
| DHW- Gas Storage (1/1/09 criteria)     | \$100             | 250               | \$25,000         | 225                             |
| DHW- Gas Storage (9/1/10 criteria)     | \$100             | 100               | \$10,000         | 90                              |
| DHW- Gas Tankless                      | \$300             | 150               | \$45,000         | 135                             |
| DHW- Solar (electric backup)           | \$750             | 180               | \$135,000        | 162                             |
| DHW- Solar (gas backup)                | \$750             | 100               | \$75,000         | 90                              |
| Oil Furnaces- (AFUE $\geq$ 85%)        | \$300             | 75                | \$22,500         | 67                              |
| Gas Furnaces- (AFUE $\geq$ 90%)        | \$300             | 275               | \$82,500         | 247                             |
| Oil Boilers- (AFUE $\geq$ 85%)         | \$500             | 275               | \$137,500        | 247                             |
| Gas Boilers- (AFUE $\geq$ 85%)         | \$500             | 275               | \$137,500        | 247                             |
| Oil Furnaces- (AFUE $\geq$ 85% w/ ECM) | \$400             | 50                | \$20,000         | 45                              |
| Gas Furnaces- (AFUE $\geq$ 90% w/ ECM) | \$400             | 50                | \$20,000         | 45                              |
| Oil Boilers- (AFUE $\geq$ 90%)         | \$1,000           | 77                | \$77,000         | 67                              |
| Gas Boilers- (AFUE $\geq$ 90%)         | \$1,000           | 75                | \$75,000         | 67                              |
| Boiler Reset Controls                  | \$100             | 350               | \$35,000         | N/A                             |
| DHW- Solar (indirect backup)           | \$750             | 380               | \$285,000        | 342                             |
| <b>Total Rebates</b>                   |                   | <b>2,713</b>      | <b>1,197,300</b> | <b>2,121</b>                    |

## II. Explanation of Covered Products

**If all of the State’s proposed products are from the recommended list included in the FOA, then no additional explanation is needed. You can skip to the next section.** If other ENERGY STAR qualified products or cold-climate products are proposed, then you must provide a justification for each product. Data for these additional products must also be included in the Program Planning Excel Spreadsheet.

**Justification for ENERGY STAR or cold-climate appliances not on the recommended list.**

For each product selected, explain why it will provide significant benefits in your State/Territory, the annual per-unit energy savings, estimated annual sales of product in your State (market share), and price difference between the proposed product and the standard efficiency alternative. Include any other explanation you feel justifies the inclusion of this product in your program.

**Product:** Solar Thermal Systems utilizing SRCC OG100 collectors and SRCC OG 300 systems

**Annual per-unit Energy Savings:** Electric backup: 8,287,748 BTUs/year

Gas backup: 13,027,000 BTUs/year

Indirect oil boiler backup: Estimate that total oil

consumption in a 2,000 sq. ft. home is 740 gallons oil. 150 gallons of oil is used for hot water production in summer, leaving 590 gallons of oil for winter heating use.

**Summer:** 90% x 150 gallons of oil/year = 135 **gallons of oil/year**, or 135 gallons of oil/year x 139,000 = **18,765,000 BTUs/year.**

**Winter:** 30% x 590 gallons of oil/year = 177 **gallons of oil/year**, or 177 gallons of oil/year x 139,000 = **24,603,000 BTUs/year.**

**Total Annual Savings:** 18,765,000 + 24,603,000 = **43,368,000 BTUs/year.**

**Estimated Sales or Market Share in your State:** +95% of solar thermal installations  
≤ 5% of DHW installations

**Price Difference:** \$0 - \$2,000 less than EnergySTAR price (dependent on site conditions)

**Explanation on how this product benefits your State:**

OEP requests a waiver to allow the NH SEEARP program to offer the residential solar thermal rebate to all systems eligible for the federal tax credits (FTC). In the IRS notice 2009-41, section 3(b), qualified solar heating property is defined as:

“Qualified solar water heating property expenditures are expenditures for property which heats water for use in a qualifying dwelling unit if at least half of the energy used by the property for such purpose is derived from the sun, and which is certified for performance by the non-profit Solar

Rating Certification Corporation or a comparable entity endorsed by the government of the State in which such property is installed.”

Utilizing this definition, solar thermal systems with either SRCC OG100 or SRCC OG300 are eligible for the FTC. This definition is inconsistent with EnergySTAR certification requirements which require SRCC OG300 rated systems. We propose the following qualifications for the SEEARP residential hot water heater program in NH:

- 1) SRCC rating (OG100 or OG300)
- 2) Solar Fraction  $\geq .5$
- 3) Warranties: Solar collector  $\geq 10$  years, storage tanks  $\geq 6$  years, controls  $\geq 2$  years and parts  $\geq 1$  year.

As an example, here are a number of solar thermal systems that are typically paired together in NH installations, none of which would be eligible for the SEEARP rebate if it were to be restricted solely to EnergySTAR certified solar thermal systems:

- 1) Apricus Collector (OG100 but not OG300) with a SolarStor tank (OG300) that is backed up by indirect boiler hookup (not EnergySTAR certified).
- 2) Velux collector (OG100 and OG300) with a Marathon tank (not OG300 nor EnergySTAR certified).
- 3) Thermomax evacuated tube collector (OG100 but not OG300) with a Stiebel Eletron tank (OG300).
- 4) Sunda Seido 1 (OG100 but not OG300) with a Marathon tank (not OG300 nor EnergySTAR).

We request this waiver for the following reasons:

- **Inconsistency between EnergySTAR and FTC:** In almost every case, the IRS imposes

a stricter requirement for energy efficiency compared to EnergySTAR certification.. For example, boilers rated with an AFUE  $\geq 85\%$  can receive EnergySTAR certification of boilers but they must have an AFUE  $\geq 90\%$  to be eligible for the FTC. Another example, water heaters rated with an EF  $\geq 0.62$  can receive EnergySTAR certification but they must have an EF  $\geq 0.82$  to be eligible for the FTC. This is not the case for residential solar thermal systems. While all EnergySTAR labeled products are eligible for the FTC, not all FTC eligible residential solar thermal systems are eligible for EnergySTAR certification. The reason is that EnergySTAR requires OG300 certification while FTC allows both SRCC OG100 and SRCC OG300 rated products.

- **Minimize Consumer Confusion:** By applying the same requirements as the IRS, DOE would alleviate confusion in the marketplace about whether a solar thermal system is eligible for state rebate, FTC or SEEARP program.
- **Gain in Energy Efficiency:** Solar thermal systems are among some of the most energy efficient appliances that DOE is recommending under the SEEARP program and solar thermal systems are one solution to wean the country from fossil fuel use for heating. By allowing NH to offer rebates to all SRCC certified collectors, DOE would arguable be permitting one of the most energy efficient SEEARP programs in the country that would realize far more energy savings compared to traditional rebate programs on white good products.
- **Low number of EnergySTAR installations:** The percentage of EnergySTAR certified solar thermal systems installed in New Hampshire is indisputably low, well below 1%. This is most likely due to the low market saturation of EnergySTAR certified solar thermal systems and the relative newness of the EnergySTAR certification on the

systems, having only been in place since January 2009. As a result, the solar thermal industry has been using SRCC as the leader in certifying performance and quality of the systems they install. This is evident by both the Internal Revenue Service and DOE requiring that solar thermal systems be SRCC certified. If EnergySTAR certification is required for NH's solar thermal rebate program, it would excessively delay the roll out of a program that will save millions, if not billions of BTU's per year.

- **Limited access to Evacuated Tube Systems:** According to your most recent list of EnergySTAR labeled solar thermal systems, only one evacuated tube product is available. Many of the systems install in NH utilize SRCC certified evacuated tube collectors because: 1) Evacuated tubes are more energy efficient in colder climates where the delta between outside air temperature and the glycol fluid is greater. 2) Evacuated tube systems allow for greater flexibility in orienting the system to solar south. Unlike flat plate collectors, evacuated tubes can be installed on a rack system and do not need to be mounted flush to the roof. In NH where there is a high percentage of old housing stock, it is imperative to have the flexibility evacuated tubes offer with a rack design to ensure the system is oriented to the ideal solar exposure. By limiting the solar thermal rebate to EnergySTAR certified systems, DOE would excessively constrain the industry from installing highly efficient solar thermal systems that work within our colder climate.
- **High Oil Use in New Hampshire:** In New Hampshire, upwards of 55% of the homes use #2 oil to heat their homes and the majority of these boilers and furnaces utilize indirect hot water heaters for domestic hot water. SRCC OG300 certification is available to systems that utilize indirect heat backup systems connected to boilers, however EnergySTAR certification is limited only to electric and gas backup. By restricting the

rebate solely to EnergySTAR certified solar thermal systems, DOE would excessively restrict the majority of New Hampshire residents from accessing one of the most energy efficient appliances encouraged by DOE to be selected in the SEEARP program.

- **Increased Price of EnergySTAR:** As noted above, many of the domestic hot water systems in NH utilize the boiler to indirectly heat water the storage tank. A majority of the installations in NH are being installed into such systems. Because EnergySTAR certification is limited to gas and electric backup, customers who heat their home with oil and are interested in getting the SEEARP rebate as proposed by DOE would be required to convert their indirect boiler over to most likely an electric backup system. On average, this would equate to an additional \$2,000 above a non-EnergySTAR compliant solar thermal system that is eligible for other state and federal incentives. As a result, it would not be economical or practical for them to install an EnergySTAR labeled product simply so they could receive an additional \$500 through the SEEARP program.
- **Comparable Rating to EnergySTAR:** Whether the system is EnergySTAR certified, OG300 certified or OG100 certified, the efficiency of the solar thermal system will only be as good as the professional who installs the system. By issuing a waiver to NH under its proposed plan, DOE would be encouraging an appliance that is equally as efficient as an EnergySTAR rated system and there would be no additional risk to the effectiveness of the system.

**Justification for ENERGY STAR or cold-climate appliances not on the recommended list.**

For each product selected, explain why it will provide significant benefits in your State/Territory, the annual per-unit energy savings, estimated annual sales of product in your State (market share), and price difference between the proposed product and the standard efficiency alternative. Include any other explanation you feel justifies the inclusion of this product in your program.

**Product:** Indoor Boiler/Furnace Reset Control such as:

Intellicon-HW+ ([http://www.intelldynellc.com/02\\_pgHW.htm](http://www.intelldynellc.com/02_pgHW.htm))

Beckett Heat Manager (<http://www.becketthm.com/>)

**Annual per-unit Energy Savings:** 10% x 740 gallons of oil/year = **74 gallons of oil/year**, or 74 gallons of oil/year x 139,000 = **10,286,000 BTUs/year**. (Estimates are that this equipment will save 10-20%<sup>1</sup> of fuel oil consumption. For the New Hampshire estimate, we conservatively estimated 10%.)

**Estimated Sales or Market Share in your State:** Although we don't know what the specific market saturation of indoor boiler/furnace reset controls are in NH, we believe it is very small. If we assume that 80% of the homes in New Hampshire heated with oil/kerosene are oil boilers WITHOUT indoor reset controls, then the potential market is 219,993 homes out of an estimated 500,671 occupied housing units (80% x 274,991). If we include homes heated with natural gas and liquid petroleum gas, the number increases to 347,352 homes.

| Selected Housing Characteristics    | Estimate       | Percent | Estimated % w/o reset controls | Estimated Market for indoor boiler/furnace reset controls |
|-------------------------------------|----------------|---------|--------------------------------|---|
| Utility gas                         | 96,701         | 19.3%   | 80%                            | 77,361  |
| Bottled, tank, or LP gas            | 62,498         | 12.5%   | 80%                            | 49,998  |
| Electricity                         | 38,449         | 7.7%    |                                | 0   |
| Fuel oil, kerosene, etc.            | 274,991        | 54.9%   | 80%                            | 219,993   |
| Coal or coke                        | 860            | 0.2%    |                                | 0   |
| Wood                                | 22,202         | 4.4%    |                                | 0   |
| Solar energy                        | 30             | 0.0%    |                                | 0   |
| Other fuel                          | 3,240          | 0.6%    |                                | 0   |
| No fuel used                        | 1,700          | 0.3%    |                                | 0   |
| <b>Occupied housing units in NH</b> | <b>500,671</b> |         |                                | <b>347,352</b>  |

<http://factfinder.census.gov>

**Price Difference: Estimate = \$545** assuming the price difference is the total installed cost of

<sup>1</sup> Lab studies: [http://enconcorp.com/ecs/index.php?option=com\\_weblinks&catid=24&Itemid=86](http://enconcorp.com/ecs/index.php?option=com_weblinks&catid=24&Itemid=86),  
[http://www.enconcorp.com/dmdocuments/NYSERDA%20draft%20final%20report%201-22-07%20\(3\).pdf](http://www.enconcorp.com/dmdocuments/NYSERDA%20draft%20final%20report%201-22-07%20(3).pdf)  
 Residential: <http://www.enconcorp.com/ecs/literature/Alexander%20Wolfe%20Report%20305%20W%2052.pdf>  
 ACEEE: [http://www.aceee.org/emertech/2006\\_BoilerControls.pdf](http://www.aceee.org/emertech/2006_BoilerControls.pdf)

the product<sup>2</sup>. The price might be lower if installed as part of an annual tune-up or inspection.

**Explanation on how this product benefits your State:**

Although this technology is already familiar with business customers, it is relatively unknown to residential customers. Providing an incentive on indoor boiler/furnace reset controls will:

- raise awareness of this technology with residential customers, and
- help fuel dealers promote this technology to their customers.

Since the majority of homes in New Hampshire are heated with oil (54.9%), gas (19.3%) or LP gas (12.5%), this technology would benefit the majority of New Hampshire residents. If the rebates are exhausted, hopefully the momentum will continue and homeowners will seek out this technology on their own.

Cost (\$545) / Benefit (74 gallons oil saved x \$2.361 = \$174.71) = **3.1 year simple payback.**

**III. Integrating SEEARP Rebates with Existing State or Utility Incentives**

States must design their SEEARP rebates to complement existing State or utility incentives available to local residents. In addition, States must ensure that the ARRA funds supplement and do not supplant current efforts. In the table below, please note for each product you propose to rebate whether there are any current (or planned) State rebates or tax credits, or any utility rebate programs. Please base this on what is planned for 2010-2011.

| <b>Table 4. Overlap with Existing Incentives</b> |  |  |
|--|--|--|
| <b>Products to be Rebated</b>                    | <b>Other State Rebate or Tax Incentive Available? (Yes / No)</b> | <b>Utility Rebates Available? (Yes / No)</b> |
| Solar Thermal Systems (all backup types)         | Yes  | No   |
| Fossil Fuel boilers, furnaces and water heaters  | No   | Yes  |

For those products where there will be other rebates or incentives available, please list each of the individual programs in the table below. Complete one table for each applicable product.

<sup>2</sup> Estimated from phones call from local oil dealers (Crawford, Vogel, Wenzel Oil Co. in Sep2009)

You do not need to list utility programs offered for products you will not be rebating. Include the name of the sponsoring organization (i.e., the utility or other program sponsor), the efficiency level being used (such as ENERGY STAR), the rebate amount, when the program will be in operation, and budgeted number of rebates if known. Then explain how the State's proposed rebate level is designed to complement these other efforts. Some possible explanations are noted below. You can copy the table as many times as needed.

| <b>Product 1: Solar Thermal Systems (all backup types)</b>                         |   |                                      |                        |                              |
|--|---|--------------------------------------|------------------------|------------------------------|
| Program Sponsor  | Efficiency Level  | Rebate Amount                        | When Available         | Budgeted Quantity Of Rebates |
| Public Utilities Division  | SF $\geq$ 0.5   | \$1,250 (planned)                    | Beginning Feb/Mar 2010 | ~\$800,000                   |
| Federal Internal Revenue Service   | SRCC certified  | 30% of total cost of system (no cap) | Until Dec 2016         | Unknown                      |
| <b>How does State's Proposal Complement these Programs? (Check all that apply)</b> |   |                                      |                        |                              |
| <input checked="" type="checkbox"/>  | Layering on top of existing rebates to increase total incentive payment to consumers. |                                      |                        |                              |
| <input type="checkbox"/>   | Directing State rebate to products at a different or higher efficiency level.         |                                      |                        |                              |
| <input type="checkbox"/>   | Extending the availability (i.e., the quantity) of existing planned rebates.          |                                      |                        |                              |
| <input type="checkbox"/>   | Other (Please Explain)  |                                      |                        |                              |

| <b>Product 2: Boilers, Furnaces and Hot Water Heaters</b> |                          |               |                |                                |
|---|--------------------------|---------------|----------------|--------------------------------|
| Program Sponsor   | Efficiency Level         | Rebate Amount | When Available | Budgeted Quantity Of Rebates   |
| DHW- Gas Condensing                                       | EnergySTAR certification | \$50          | Ongoing        | ~ \$200,000 for FY2010 program |
| DHW- Gas Storage (1/1/09 criteria)                        | EnergySTAR certification | \$50          | Ongoing        |                                |
| DHW- Gas Storage (9/1/10 criteria)                        | EnergySTAR certification | \$50          | Ongoing        |                                |
| DHW- Tankless   | EnergySTAR certification | \$300         | Ongoing        |                                |
| Oil Furnace   | AFUE $\geq$ 85%          | \$300         | Ongoing        |                                |
| Gas Furnace   | AFUE $\geq$ 90%          | \$300         | Ongoing        |                                |
| Oil Furnace (with ECM)                                    | AFUE $\geq$ 85%          | \$400         | Ongoing        |                                |
| Gas Furnace (with ECM)                                    | AFUE $\geq$ 90%          | \$400         | Ongoing        |                                |
| Oil Boilers   | AFUE $\geq$ 85%          | \$500         | Ongoing        |                                |

|  |   |  |                |         |
|--|---|--|----------------|---------|
| Gas Boilers  | AFUE $\geq$ 85%   | \$500                                    | Ongoing        |         |
| Oil Boilers  | AFUE $\geq$ 90%   | \$1,000                                  | Ongoing        |         |
| Gas Boilers  | AFUE $\geq$ 90%   | \$1,000                                  | Ongoing        |         |
| Boiler Reset Control   | n/a   | \$100                                    | Ongoing        |         |
| Federal Internal Revenue Service   | Varies  | 30% of cost of supplies (cap at \$1,500) | Until Dec 2010 | Unknown |
| <b>How does State's Proposal Complement these Programs? (Check all that apply)</b> |   |  |                |         |
|  | Layering on top of existing rebates to increase total incentive payment to consumers. |  |                |         |
|  | Directing State rebate to products at a different or higher efficiency level.         |  |                |         |
| X  | Extending the availability (i.e., the quantity) of existing planned rebates.          |  |                |         |
|  | Other (Please Explain)  |  |                |         |

#### IV. Program Implementation Strategy

##### A. Program Delivery – Roles and Responsibilities

Explain who will manage and deliver the State's program. Outline the role of the State and any subcontracted delivery agents, such as third party program implementers, local utilities, recyclers, retailers, etc. Explain your plan for quality assurance for data collected. If using utilities to deliver program, explain how the State will ensure that all residents can participate in the program.

##### Solar Thermal Hot Water Systems (~\$500K):

The New Hampshire Public Utilities Commission (PUC), through its Sustainable Energy Division, is currently developing a rebate program for residential installations of solar thermal hot water heaters. The program will be funded through the Renewable Energy Fund which receives its funding from the Alternative Compliance Payments purchased to meet the Renewable Portfolio Standard requirements. In 2009, the Renewable Energy Fund accumulated \$4.5 million. Through the RPS funded program, the PUC anticipates offering a rebate of \$1,250 on qualifying solar thermal systems.

Under the SEEARP program, OEP intends to enter into a Memorandum of Agreement with the PUC that will expand their residential solar thermal system rebate program. The SEEARP program plans to offer an additional rebate of \$750 on top of the rebates made available through the Renewable Energy Fund. When these rebates are added to the available Federal Tax Credits, we estimate that consumers will be able to receive rebates upwards of 50% off the cost of installing solar thermal systems in NH. This would clearly create a market transforming program to spur future growth of renewable energy development within the State.

**Home Performance with Energy Star (HPwES): (~\$700K)**

The Electric Utilities have partnered with EnergySTAR to offer the HPwES Program to New Hampshire residents. Using SEEARP funding, OEP plans to expand the HPwES program to allow all residents, not just HPwES participants, to access rebates for upgrading their boiler, furnaces and hot water heaters to a more energy efficient model.

Last week when we submitted a program summary of the NH SEEARP program, DOE requested further information why we intend to rebate \$1,000 to boiler systems that are rated with an AFUE  $\geq$  90%. As noted in the guidance from DOE, EnergySTAR rated boilers must have an AFUE  $\geq$  85% and the “average” premium price is \$532 for oil boilers and \$838 for gas boilers. The premium price increases as the AFUE efficiency rating increases on the boiler. Therefore, it is very common for a boiler with an AFUE  $\geq$  90% to have an average premium price of \$1,000 and the SEEARP rebate is meant to offset this premium price.

New Hampshire has five municipal utilities that traditionally have not participated in regulated electric utility programs. In speaking with the electric utilities, they have verbally committed to offering the SEEARP program to these municipal utility ratepayers. OEP assures DOE that the MOA with the regulated electric utilities will include provisions requiring the SEEARP program be made available to these residents.

**Quality Assurance:**

The SEEARP program would implement a goal to conduct quality assurance on 5% of the systems installed under the SEEARP program.

OEP has a close relationship with both partners and will be assisting them in developing the application process for the rebates, as well as overseeing how the partners intend to inform the public about the remaining availability of SEEARP funds. In addition, OEP has generated a listserv to inform the public about updates to ARRA funded programs. This listserv will be one portal used to send e-mails to the public to inform them about the status of funding levels for the SEEARP program.

**B. Program Partners**

List other parties the State will collaborate with to deliver its program, including retailers, contractors, local utilities, nonprofit groups, outreach partners, neighboring States, etc. Please describe any Recommendations for Proposals if issued by the State and criteria for selection. Please describe any new networks created.

- Electric Utilities (Public Service of New Hampshire, Unitil, National Grid, NH Electric Co-op)

- Public Utilities Commission- Sustainable Energy Division
- HARDI (Heating, Air-conditioning, Refrigeration Distributors International)
- Wholesalers and Distributors (FW Webb, etc...)
- HVAC Service Technicians
- Solar Thermal System Installers

### **C. Rebate Processing**

Explain how rebates will be paid to consumers in a timely fashion. Examples include mail-in rebate applications and instant rebates provided by participating retailers at the point of sale. For mail-in rebates, please specify the method of payment (e.g., direct deposit, check, etc.). Note who will process the rebate payments and how quickly consumers will receive rebates. Explain how the State will handle customer inquiries about their rebates and remedy any problems. If rebates will be paid in conjunction with utility rebates, then explain how the commingled funds will be tracked. Also describe how the State will ensure it can handle a high volume of rebate requests in a timely fashion and track the remaining budget to avoid oversubscription.

#### **Solar Thermal Program:**

The rebate will be made available on a first-come first-serve basis. The rebate program will be run similarly to the rebates the PUC offers on residential renewable energy electric generation systems, whereby there is a two stage application process. First applicants must submit an application to request funding and outline details about the system being installed, including design criteria (solar orientation, etc...). Upon approval, the PUC would notify the applicant and the funding would be reserved for the applicant. The applicant can then proceed with the project, knowing that funding has been appropriated to their project. Upon completion of the installation, the applicant would submit a second application requesting the rebate be issued. Within 30-45 days, the PUC will issue a check to reimburse the applicant for both the SEEARP rebate as well as the state REF rebate. Through this process, the program will ensure consumer expectations

are met without oversubscribing the program and disappointing consumers.

**HPwES Program:**

The rebate will be a mail-in rebate made available to, issued with a check, between the applicant to the electric utility. The electric utilities will process a check and issue it within 30-45 days.

As the program is part of the HPwES Program, one of the requirements to use the HPwES branding is to create a means to handle customer inquiries and complaints. The SEEARP funding will piggy back on top of the existing HPwES infrastructure to provide customer support services. To minimize consumer confusion, all EnergySTAR rated furnaces, boilers and water heaters will be eligible. Utilizing the electric utilities well recognized brand name

“NHSaves.com” the utilities will develop a website devoted to the SEEARP program. This website will include information on eligible products, the ability to print out the mail-in rebate, and a “thermometer gauge” to inform the public about how much funding remains in the program. This thermometer gauge will indicate both how much funding has been expended as well as how much funding is in process. By including this second indicator, it will serve to inform the public while preventing oversubscription of the program. The program will be marketed through electric ratepayer bills as well as through wholesalers, distributors and HVAC service technicians. There will be no concern of commingling with this program as the SEEARP funding will go only to non-participants of the HPwES program. HPwES participants will receive rebates on any heating system replacement through funds from the ratepayer’s System Benefits Charge. Finally, we do not foresee any concerns with ability to process the rebates because the sales for heating systems are not a weekend sales blitz and the participation of the program will be spread out across the 2 year performance period for SEEARP.

**D. Program Eligibility Rules**

Outline the specific eligibility rules the State will utilize for its program. This should include a definition of eligible applicants, including who can apply, number of rebates per household, residency requirements, etc.

- Reside in the State of New Hampshire
- Available to tenant occupied buildings with landlord approval
- One rebate available per appliance category per household
- Not available to second home owners
- Program not available to business, non-profit and government organizations

**E. Product Replacement**

Outline the various steps the State will take to target its program toward the replacement of existing appliances. Some examples include eligibility criteria, rebate structure, and recycling efforts.

Heating systems have a high market value to recycle the product due to the value in the scrap steel and copper components. As a result, upwards of 90% of the systems are recycled within the state. The rebate applications will encourage recycling by asking consumers to list the location the system was recycled. However due to the already high rate of recycling of replaced heating systems, the state will take no formal steps to require recycling.

**F. Product Recycling**

Specify for which products, if any, the State will be requiring recycling. As noted in the FOA, this is most appropriate for refrigerant-containing appliances such as refrigerators, freezers, and room air conditioners.

No products will be required to be recycling because of the existing market value for replaced heating systems to be recycled.

If you are requiring recycling, please outline your basic approach. (You may also include a more complete recycling plan as an optional attachment to your application.) Who will administer the recycling component? How will the products be collected? Who will handle the actual decommissioning, and how will recycling be verified or reported?

N/A

Spell out the applicable recycling laws in your State. The State environmental management departments and recycling and landfill permits agencies are good sources for this info.

New Hampshire has no specific regulations on the disposal of hot water heaters, furnaces and boilers. Certainly it requires that the systems be cleaned of all oil or gas. If the system were old enough to have asbestos, then it would have to comply with state asbestos removal that would require professional removal. This number is relatively low. In addition, there is a high market value for the scrap steel and copper in these systems and because of this, more than 90% of these systems are currently recycled.

### **G. Marketing and Outreach**

Outline steps the State will take to promote the rebate program, including informing residents of the start date, eligibility rules, funds remaining for rebates; and, if used, the application process. List outreach tools the State will use, (e.g., press releases), Web sites, e-newsletters, e-lists, Public Service Announcements (PSAs), advertisements, print materials, earned media (interviews, articles written). Does the State intended to become an ENERGY STAR partner and use ENERGY STAR materials?

The following steps will be taken to market the program to residents in New Hampshire:

- Media outlets
- Recovery Website, include monthly e-mails to Listserv
- NHSaves.com website, including thermometer gauge on expenditure of the program
- PUC website
- 1-2 page coverage in the NHSaves catalog
- Partnership with HARDI and their wholesaler/distributor members
- HVAC Service Technicians
- Renewable Energy Installers
- Attendance at Energy Efficiency Conferences

Explain how the State will keep consumers informed regarding the status of available funding for rebates and product types to meet consumer expectations. What disclaimers will you include in program materials and rebate applications? Will you rely on a first-come first-served policy for processing rebate payments? Will you announce to the public when funds are nearly depleted? Please be specific.

The program will be available on a first-come first-serve basis and it will be available as long as funds exist. This message will be clearly communicated in all information sent out by OEP, PUC and electric utilities. One of the reasons we selected hot water heaters, boilers, and furnaces is because there would not be a sales blitz weekend with these systems and that they would be installed over a period of time. This will be crucial in meeting consumer's

expectations about the program. As discussed above, the solar thermal program will be a two stage application process, whereby applicants who are successful in the first stage will have funding reserved for their project. On the utility program, the NHSaves.com website will list a thermometer gauge showing the available funding. This will be updated on a monthly basis. In addition to both of these measures, we will work through the ARRA listserv developed by OEP to inform the public of the status of the SEEARP funding. This will help to minimize any concerns of oversubscription and maintain active communication with the public on the SEEARP program.

## **V. Oversight and Reporting**

### **A. Oversight**

Each State is responsible for overseeing the successful implementation of its program, even if the actual delivery is being subcontracted to another organization. Please summarize what oversight mechanisms the State will put in place for quality assurance and to minimize fraud.

On a monthly basis, partners will be required to submit invoice statements prior to receiving reimbursement of SEEARP funding from OEP. Invoicing will be cross-checked to ensure the rebates are only being provided to eligible products and will track the recycling component of the program. In addition to the monthly invoicing, partners will be required to submit reports that will comply with the ARRA requirements to be determined by DOE. To ensure quality reporting, OEP has hired a Compliance and Procurement Officer whose sole job is to oversee OEP's ARRA programs, including the SEEARP program. As a second layer of quality control, all ARRA reports will be filed monthly by OEP to the NH State Office of Economic Stimulus. They in turn will review the documents to ensure the reports comply with the latest Federal requirements.

## **B. Progress Reporting**

As outlined in the FOA, States are required to submit a progress report for all activities on a quarterly basis. **DOE will issue clarification shortly on any additional reporting requirements with specific Excel tools for ease of reporting.** States should plan staffing accordingly to accommodate monthly tracking of the metrics listed below, as well as potential Recovery Act reporting.

This reporting does not replace any additional reporting required under The American Recovery and Reinvestment Act of 2009, Pub. L. 111-5. Additional monitoring and reporting guidance will be forthcoming. Please refer to your FOA for detailed information.

### **Notes on Metrics:**

#### *Total # of State Rebates Paid*

Although reporting will be quarterly, the State must track rebates paid monthly for each category of appliances selected.

#### *Total # of other State/Utility Rebates Paid*

Based on the listing of other State and utility programs in the State, as supplied in Section III., above, the State must report the rebates actually paid to consumers by other State or utility programs.

#### *Total # of Appliances Recycled*

Based on management of recycling as detailed in section F of the Program Implementation Strategy, explain how the State will collect information on appliances recycled by type over the reporting period.

#### *Number of Jobs Created*

For all project types, the number of jobs that are created or retained during the reporting period should be reported; each job should only be reported once. This number must be based on actual employees. If actual jobs cannot be verified, the state may propose its own methodology for estimating jobs; this methodology must be approved in advance.

#### *Estimated Energy Saved and CO<sub>2</sub> emissions avoided*

States are expected to provide the interim estimated benefits due to the rebates provided. This primarily takes the form of annual energy savings and CO<sub>2</sub> abatement due to activity in the period. For example, if 1000 rebates were delivered in the quarter, report the expected annual savings due to the appliances sold. The reporting framework will include an estimate calculation of kWh, BTU saved and CO<sub>2</sub> for each specific appliance. The State may report this value or values based on its own methodology, with justification and approval.

## VI. Applicant Contact Information

### State Program Contact One (Business Officer) (The person who is responsible for the day-to-day management, including progress reporting.):

Name and Title: Eric Steltzer, Energy Policy Analyst  
Agency: NH Office of Energy and Planning  
Email: eric.steltzer@nh.gov  
Phone: 603-271-1759

### State Program Contact Two:

Name and Title: Joanne Morin, Director  
Agency: NH Office of Energy and Planning  
Email: joanne.morin@nh.gov  
Phone: 603-271-2705

### State Single Point of Contact to Comply with Executive Order 12372 (FOA, page 13):

Name and Title: Meghan McPherson, Grants Manager  
Agency: NH Office of Energy and Planning  
Email: meghan.mcpherson@nh.gov  
Telephone: 603-271-1098

### Website URL where the State application will post public communications:

[www.nh.gov/oep/recovery](http://www.nh.gov/oep/recovery)

### Contact Information for each sub awardee (expand as needed):

| Company  | Contact Person | Email  | Telephone Number | Website URL   |
|--|----------------|--|------------------|---|
| PUC- Sustainable Energy Division                           | Jack Ruderman  | <a href="mailto:Jack.ruderman@puc.nh.gov">Jack.ruderman@puc.nh.gov</a> | 603-271-6012     | <a href="http://www.puc.nh.gov/Sustainable%20Energy/SustainableEnergy.htm">http://www.puc.nh.gov/Sustainable%20Energy/SustainableEnergy.htm</a> |
| Electric Utilities- Public Service of New Hampshire (lead) | Tom Belair     | <a href="mailto:belair@psnh.com">belair@psnh.com</a>                   | 603-634-2720     | <a href="http://www.nhsaves.com">www.nhsaves.com</a>  |