

# RGGI Expansion of the CORE NH Energy Efficiency Programs

“RE-CORE”

August 19, 2009 – February 28, 2010  
Second Quarter Report



## New Hampshire Electric Utilities

Granite State Electric Company d/b/a National Grid  
New Hampshire Electric Cooperative, Inc.  
Public Service Company of New Hampshire  
Unitil Energy Systems, Inc.



# GREENHOUSE GAS EMISSIONS REDUCTION FUND

## Quarterly Progress Report

August 19, 2009 – February 28, 2010

1. **Program Title:** RGGI Expansion of the CORE Energy Efficiency Programs (RE-CORE)  
These programs have resulted in an annual Carbon Dioxide reduction of 4,606 metric tons through February 28, 2010, or a lifetime reduction of 61,610 metric tons.
  
2. **Program Type:** RE-CORE is a portfolio of programs for residential, low-income, and business customers. It is based on the CORE Energy Efficiency Programs approved by the New Hampshire Public Utilities Commission in Docket DE 08-120.
  - a. **Energy Star Lighting Program:** Increase spending for energy efficient residential lighting.
    - ✓ Achievement to Date: 27% Complete based on budget.
    - ✓ NGRID, NHEC, Unutil used these funds to provide rebates for customers purchasing 23,353 Energy Star lighting products.
  
  - b. **Energy Star Appliance / Products Program:** Develop the Energy Star Appliance Program to include a turn in/recycle component for room air conditioners and second refrigerators and freezers.
    - ✓ Achievement to Date: 17% Complete based on budget, which includes rebates for clothes washers and room air conditioners in addition to the following two programs.
    - ✓ Room AC Turn-in Event: A vendor has been contracted to work with retailers and staff turn-in events. Plan to have up to 4 dates/locations in May-June for customers to turn-in their old working room air conditioners.
    - ✓ Refrigerator/Freezer Pickup/Recycling: Between April 15th and June 30<sup>th</sup> and while funds are available, NH residents will be able to call 877.545.4113 to arrange to have their old, working refrigerators/freezers picked up free of charge to be recycled by JACO. Customers will receive a \$30 incentive check for participating. Expected savings of up to \$200 in energy costs are expected for customers removing older working refrigerators or freezers. A press release is scheduled for April. As a value added service, JACO will also pick up any older operating room air conditioners at the same time they pick up any refrigerators/freezers. (Note: This effort addresses a few of the top energy efficiency measures identified by the Technical Potential Study completed in January 2009.)
  
  - c. **Energy Star Homes (Green Building Certification):** Expand the Energy Star Homes Program to give homeowners the option of participating in the National Green Building Program developed by the National Association of Home Builders. The Program will certify homes as meeting the nationally recognized ANSI approved National Green Building Standard. The utilities are using the RGGI funds to pay for the NH Build Green verification while also providing a \$500 builder incentive for their efforts to do both the site work required and the paperwork.
    - ✓ Achievement to Date: 18% Complete based on budget.
    - ✓ 2 homes have been registered and have earned the Build Green certification.
    - ✓ An additional 10 homes are currently in process of being Build Green Certified.
    - ✓ In addition, 32 new affordable housing units were certified as Energy Star Homes.



- d. **HES (Fuel Neutral Multi-Family Program):** fuel neutral home weatherization services through the Home Energy Solutions Program for multi-family facilities larger than 4 units.
  - ✓ Achievement to Date: 4% Complete based on budget.
  - ✓ There have been 42 homes completed to date.
  - ✓ Currently there are five fuel neutral multi-family projects (total of 44 units) in progress. An additional 84 single and multi-family units are also being weatherized. These projects are in various stages of completion, working toward a June 30<sup>th</sup> deadline.
  
- e. **Home Energy Assistance Program:** Increase spending for weatherization in low income homes.
  - ✓ Achievement to Date: 57% Complete based on budget.
  - ✓ 345 low income homes or apartment units were completed by February 28, 2010.
  - ✓ 202 additional low income homes are in various stages of weatherization.
  
- f. **Small Business Retrofit:** Increase spending for small business energy efficiency projects.
  - ✓ Achievement to Date: 60% Complete based on budget.
  - ✓ 52 projects were completed by February 28, 2010.
  
- g. **Large Business Retrofit Program:** Increase spending in the Large Business Retrofit Program to support retro-commissioning projects as well as traditional energy saving measures.
  - ✓ Achievement to Date: 27% Complete based on budget.
  - ✓ 35 projects were completed by February 28, 2010.
  
- h. **New Equipment & Construction Program:** Increase spending for new equipment and new construction energy efficiency projects.
  - ✓ Achievement to Date: 47% Complete based on budget.
  - ✓ 12 projects were completed by February 28, 2010.
  
- i. **Education:** Advance educational training efforts in three areas: Energy Code Training, Building Operator Certification (BOC), and BPI Building Analyst training course development. A fourth will be a new self-directed educational component that will allow customers to better understand their energy usage by borrowing a watt-monitor from their local library.
  - ✓ Achievement to Date: 36% Complete based on budget.
  - ✓ **Energy Code Training:** A total of four energy code training sessions have been held in December 2009 and January 2010.
    - Residential Energy Code Training
      - (a) Dec 2: in Manchester 42 attendees
      - (b) Jan 14: in Plymouth 62 attendees
    - Commercial Energy Code Training
      - (a) Jan 12: in Plymouth 28 attendees
      - (b) Jan 13, in Manchester 63 attendees
  - ✓ **BOC Level 2:** Currently under review and the utilities are considering putting on a Commercial Energy Auditing Class instead of a BOC Level 2 class. This class will be held in Sep-Nov 2010.



- ✓ **Watt Meter:** In December, 760 kill-a-watt monitors were distributed from the State Library to 235 city and town libraries around the state as part of a “Cut the Carbon” kit. This program is designed for any resident of the state to be able check out a meter free of charge to help them identify how much power is consumed by a variety of appliances used in their home or office. This meter allows people to discover the true cost to operate a toaster, TV, computer, microwave, dehumidifier, primary or secondary refrigerator, etc. The meter also identifies any “phantom loads” or items that consume power even while turned off yet still energized. Armed with the information provided through the use of this meter, homeowners and renters should be able to identify opportunities to save energy and reduce electric bills. This program benefits all residential sectors including low income.  
Update: In addition to the public library, 19 small communities that do not have public libraries are being served by the NH State Library. As of February 28, 2010, 820 Cut the Carbon kits have been checked out by NH residents. A survey of librarians came back with 79 responses and many favorable comments. A customer survey goes out with each meter, and to date 61 surveys have been returned, with the following comments based on a 1-5 scoring method, with 5 being the best.
  - overall impression 4.4
  - ease of use of the watt meter 4.3
  - convenience 4.9
  - When asked if they found ways to save energy after using these meters, customers have said:
    - “I suspected my fridge was using more power than it should. The meter showed that to save energy, I should get a new one.”
    - “Absolutely, but just unplugging some high phantom-use appliances, we're saving a ton. Thank You!”
    - “Yes, will turn off coffee maker after it finishes brewing, was surprised that TV used only 70 watts.”
    - “Yes - kill the space heater quickly. More CFL lights.”
    - “Yes, by turning off power strip for computer system when not in use I can eliminate that phantom load. Likewise, unplugging an ultra-sonic humidifier eliminated another phantom load.”
    - “No. already doing most everything recommended to reduce energy consumption.”
    - “Yes, not leaving computer on, getting power strips for phantom power and looking into replacing appliances with energy star ones in future.”
  
- ✓ Newspaper ads promoting these meters are scheduled to be run in April to coincide with the 40<sup>th</sup> anniversary of Earth Day 2010.



- j. **PSNH Energy Rewards RFP:** Increase spending for new RFP energy efficiency projects.
    - ✓ Achievement to Date: 0% Complete based on budget.
    - ✓ Training held in December, customer projects submitted in January and February. Selection of the projects was completed in March and customers have until the end of April to sign the RFP Agreements to do the energy efficiency work.
  - k. **PSNH Energy Star Homes – Geothermal:** Increase spending for new geothermal homes.
    - ✓ Achievement to Date: 94% Complete based on budget.
    - ✓ Eight projects were completed through February 28, 2010.
  - l. **RGGI Funds for Revolving Loan Fund:**
    - ✓ Achievement to Date: 0% Complete based on budget.
    - ✓ Utility billing systems have been modified and are ready to handle on-bill financing. Several customers are on hold so they could use this financing mechanism to pay for their co-payment with the weatherization program.
    - ✓ PSNH’s loan tariff was approved by the NHPUC.
    - ✓ NHEC’s Board of Directors approved Section 5 of their non-jurisdictional terms and conditions regarding this new on-bill financing feature.
    - ✓ NGRID and Unitil are in the process of finalizing and approving their tariffs.
3. Summarize work to be completed next quarter: **March 1, 2010 – May 31, 2010.**
- a. Will be advertizing for the Cut the Carbon library meter loan program in April.
  - b. The Refrigerator/Freezer pickup/recycle program will begin on April 15<sup>th</sup>.
  - c. The Room Air Conditioner turn-in program will ramp up in May.
  - d. Plan to finance some weatherization projects with the new on-bill financing.
  - e. Continue wrapping up projects over the next two quarters.
4. Please document any jobs created.
- a. We are not aware of any new jobs created directly via these RGGI funds. However, using a preliminary number of 3.5 FTEs per \$1,000,000 spent on Energy Efficiency, the \$3.2M spent (RGGI funds plus matching funds) translates into **11.3 Full Time Equivalents (FTEs) or 23,467 hours worked** (using 2,080 hours/FTE).
    - ✓ Estimated FTEs =  $(\$1,617,157 + 1,606,292) \times (3.5 \text{ FTEs} / \$1,000,000 \text{ spent}) = 11.3 \text{ FTEs}$
    - ✓ or Estimated Hours Worked =  $11.3 \text{ FTEs} \times 2,080 \text{ hours/FTE} = 23,467 \text{ hours worked}$
  - b. The 3.5 FTEs / \$1M spent is a rough estimate of direct labor costs. This estimate does not include any numbers for indirect labor or induced labor.
5. Explain any obstacles encountered or any milestones not reached.
- a. not applicable.
6. If applicable, in a section labeled *Beyond the Contract* (or some other well defined title), please report other activities, partnerships, funding or other synergies that have occurred as a result of this funding.



- a. The New Hampshire Electric Utilities continue working with NH Homebuilders & Remodelers Association on the NH Build Green program. The Homebuilders are providing seminars and outreach while the utilities are focused on certification of homes.
  - b. RGGI funding has allowed the utilities to partner with the NH State Library on the Cut the Carbon Kill-A-Watt library loan program. The synergies associated with having a library loan out this new technology benefits consumers (they have free and easy access to the kill-a-watt meters) and it benefits the libraries as they may get new customers to serve. The libraries are also fully equipped to loan these out and the provide access to the meters to EVERY town in New Hampshire. Library visitors have been very receptive to this program.
7. If applicable, please include brochures, workshop announcements, or other materials developed to promote your grant activities. Attachments (and other documentation) are appreciated.
- a. Mr. Ruderman was given a “Cut the Carbon” package at the unloading event. If the NHPUC requires more kits, please let us know.
  - b. A copy of the brochure for the Commercial and Residential Energy Code Training was provided in the Q1 Report.
8. Budget vs. Actual Expenditures: (if you have included this with your invoicing, there is no need to repeat for the quarterly report.) *Using the budget you submitted for the final approved grant proposal, please add a column and provide actual expenditures as well as match dollars for this quarter. (Save this worksheet for future reporting as we will want to see your quarterly expenditures as the project continues.)*
- a. See the next 3 pages for a summary of:
    - ✓ the Statewide budgets/expenses
    - ✓ Annual energy and CO<sub>2</sub> savings
    - ✓ Lifetime energy CO<sub>2</sub> savings



Regional Greenhouse Gas Initiative  
RGGI Expansion - CORE Energy Efficiency Programs  
Q2 (August 19, 2009 - February 28, 2010 Reporting Period)

<b>Program</b>	<b>Total RGGI Budget</b>	<b>Q1-Q2 Actual Expenditures</b>	<b>Matching Funds (Customer Contributions)</b>
<b>CORE EE Programs (additional funds)</b>			
Energy Star Lighting	\$162,007	\$43,057	\$16,605
Energy Star Appliances / Products (Room AC Turn-in, 2nd Ref pickup)	\$250,443	\$43,714	\$82,932
Energy Star Homes (+ Build Green NH Certification)	\$251,509	\$45,732	\$55,904
HES (Fuel Neutral Multi-Family Weatherization)	\$1,055,071	\$47,446	\$74,299
HEA (approximate 50% increase in homes/units for each utility) <sup>1</sup>	\$1,100,702	\$625,564	\$349,809
Small Business Retrofit	\$481,414	\$286,874	\$176,787
Large Business Retrofit (more rebates + \$ for Retro-commissioning)	\$1,218,857	\$328,568	\$717,165
New Equipment & Construction	\$193,584	\$90,488	\$88,208
Education (Energy Code Training, BOC 2, Tech College BPI Training)	\$163,394	\$58,751	\$0
<b>Utility Specific Programs (additional funding)</b>			
Energy Rewards RFP	\$315,000	\$0	\$0
High Efficiency Heat Pump Program	\$0	\$0	\$0
Smart Start Program	\$0	\$0	\$0
ESHomes Geothermal	\$50,000	\$46,964	\$44,584
EE Website & Home Energy Audit	\$0	\$0	\$0
SmartStart - RGGI \$ for revolving loan fund	\$0	\$0	\$0
<b>Funds for Loan Fund Capital (RLF)</b>			
RGGI Funds for Revolving Loan Fund	\$1,775,000	\$0	\$0
<b>TOTAL (not including RGGI Funds for Revolving Loan Fund)</b>	<b>\$5,241,981</b>	<b>\$1,617,157</b>	<b>\$1,606,292</b>
Performance Incentive <sup>2</sup>	\$419,360		
<b>PROJECTED GRAND TOTAL (including performance incentive)</b>	<b>\$5,661,341</b>		

Note 1: Customer Contribution for HEA is actually other funding such as WAP, ARRA, Gas Utility EE Funding, etc.

Note 2: At Risk Performance Incentive, 0-12%, shown at 8% incentive level.



Regional Greenhouse Gas Initiative  
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 Q2 (August 19, 2009 - February 28, 2010 Reporting Period)

Method # 2, using MWH & MMBtu (million Btus)					
Reductions from	Enter Reductions in Units shown in next Column (Annual MMBtu savings)	Units	CO2 Emission Factors in lbs/unit	Estimated CO2 Emission Reductions in pounds (lbs.)	Estimated CO2 Emission Reductions in Metric Tons
Electricity	8,484	MWH	1,087	9,221,836	4,182.24
Natural Gas	1,790	MMBtu	117.1	209,661	95.08
Distillate Fuel Oil (#1, 2 & 4)	3,568	MMBtu	161.4	575,845	261.15
Residual Fuel Oil (#5 & 6)	0	MMBtu	173	0	0.00
Kerosene	506	MMBtu	159.5	0	0.00
LPG	0	MMBtu	139	0	0.00
Propane	1,076	MMBtu	139.2	149,717	67.90
Wood or Wood Pellet	366	MMBtu			
Other	0	MMBtu			
<b>TOTAL</b>					<b>4,606.38</b>
Electric Line Loss	1.08				
Source of CO2 Emission Factors in lbs/unit: <a href="http://www.eia.doe.gov/cneaf/electricity/epa/epata3.html">http://www.eia.doe.gov/cneaf/electricity/epa/epata3.html</a>					





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 Q2 (August 19, 2009 - February 28, 2010 Reporting Period)

Method # 2, using MWH & MMBtu (million Btus)

Reductions from	Enter Reductions in Units shown in next Column (Lifetime MMBtu savings)	Units	CO2 Emission Factors in lbs/unit	Estimated CO2 Emission Reductions in pounds (lbs.)	Estimated CO2 Emission Reductions in Metric Tons
Electricity	108,304	MWH	1,087	117,726,957	53,390.91
Natural Gas	31,655	MMBtu	117.1	3,706,763	1,681.07
Distillate Fuel Oil (#1, 2 & 4)	67,977	MMBtu	161.4	10,971,567	4,975.77
Residual Fuel Oil (#5 & 6)	0	MMBtu	173	0	0.00
Kerosene	10,561	MMBtu	159.5	0	0.00
LPG	0	MMBtu	139	0	0.00
Propane	24,755	MMBtu	139.2	3,445,854	1,562.75
Wood or Wood Pellet	6,032	MMBtu			
	0				
<b>TOTAL</b>					<b>61,610.49</b>

Electric Line Loss 1.08

Source of CO2 Emission Factors in lbs/unit: <http://www.eia.doe.gov/cneaf/electricity/epa/epata3.html>

