

**GREENHOUSE GAS EMISSIONS REDUCTION FUND**  
**Quarterly Progress Report Form**

*The second quarter grant report is due March 1, 2010.*

1. Program Title (*as displayed in your proposal*)

***Reducing Residential Energy Consumption through the New Hampshire Carbon Challenge***

2. Program Type (*as listed in your proposal*)

***1. Education, outreach and information programs that promote energy efficiency, conservation, and demand response.***

***2. Demand response programs to reduce New Hampshire's peak electric load.***

3. Summary of work completed during this reporting period **November 1, 2009 through January 31, 2010.**

## **Summary of Second Quarter Activities Relevant to New England Carbon Challenge GHGERF grant**

Over the next two years, the New England Carbon Challenge (a joint initiative of UNH and Clean Air-Cool Planet) in collaboration with New Hampshire Sustainable Energy Association and UNH Cooperative Extension will develop a suite of four new web-based tools that will assist NH households in using energy more efficiently and transitioning to sustainable energy systems. In addition, the New England Carbon Challenge will significantly expand its outreach activities to New Hampshire households and communities to encourage and enable households to make the substantial reductions in residential energy consumption that are called for in the New Hampshire Climate Action Plan.

This report summarizes our progress over the second quarter of the grant period (November 1, 2009 – January 31, 2010) and highlights major milestones achieved.

### **I. Summary of Progress Toward First Year Goals Established Under This Contract (Exhibit A)** **(07/15/09 – 07/15/10)**

1. Assemble a voluntary advisory group of residents and representatives that will provide guidance on the development of all web-based tools. (3 months from Governor and Council (G&C) approval)

***Status: 100% Complete***

2. Launch an Incentives and Vendors Index, a searchable web-based tool that will provide each homeowner with a customized report on rebates and incentives that are available, as well as a detailed list of energy efficiency and sustainable energy technology contractors who can make these energy improvements. NHCC will develop procedures to ensure that the index is kept current. (9 months from G&C approval)

***Status: 70% Complete (60% last quarter)***

3. Extend the capabilities of the New England Carbon Estimator so that households can see not only the resulting carbon reduction from the actions they have pledged to do, but also the carbon reduction from what they have completed. (12 months from G&C approval)

***Status: 40% Complete (15% last quarter)***

4. Send all Challenge takers a customized "next steps" guide that will link the actions they have indicated they wanted to take to available resources and incentives for energy efficiency and renewable energy projects. (12 months from G&C approval)

***Status: 25% Complete (0% last quarter)***

**II. Quarterly Technical Development Progress:** We have continued to focus our activities on the development of our first two web-based tools: the Incentive and Contractor Tool and the enhanced New England Carbon Estimator. These tools have a scheduled release date of April 2010 and July 2010, respectively.

Significant milestones for each of the tools include:

***Incentive and Vendor Tool:***

1. Coding of the Incentive and Contractor Tool. We completed writing the software code for this tool in the second quarter (aside from small modifications that need to be made as a result of beta testing prior to release). The next steps toward releasing this tool in April are to have the tool professionally designed, rigorously beta test the tool, and populate our database with energy-efficient and sustainable energy vendors and contractors. These three steps are the last 30% of completing and releasing the Incentives tool. **Software coding 100% completed; Overall tool development 70%**

2. Graphics Design: We have contracted with Brown and Company (<http://www.browndesign.com>) of Portsmouth, New Hampshire for the website design of the tools we are developing. We met with the Brown & Co. design team in January and have selected a design scheme for the new website, which we are calling My Energy Plan (<http://myenergyplan.net>). The name reflects the fact that all of the tools we are developing assist New Hampshire residents in creating a personalized energy plan to reduce their household fuel consumption. See Attachment A: Graphics Design Templates. **50% Completed**

3. Populating the Contractor Dataset Volunteers from UNH Cooperative Extension's Energy Answers attended the NHSEA Home Energy Conference on Nov 21 and assisted vendors, installers, and contractors with inputting their company information into the tool. Fifteen companies were added to our database at that event.

Several other companies have listed their businesses in the tool since November, but the number of companies in the database is still fairly small. We believe this is due to the fact that the Incentive and Contractor Tool is not yet on-line and thus the vendors and contractors cannot see how their information will be represented to perspective customers. It's a bit of a "black box" at the moment. We will continue to advertise and encourage contractors to input their information into the tool, but we may not see a precipitous growth in the number of companies in the database until the tool is released in April. **20% Completed**

***Enhanced New England Carbon Estimator:***

1. Enhanced Estimator Mock-up: We have developed a fully functional web mockup of the enhanced Estimator showing the sequence of steps and actions as the user progresses through the tool. New features include the ability to schedule actions over a two-year time horizon and

customizing the Estimator to a user's profile and offering suggested actions tailored to their household. (Thus, if a user indicates they are a renter we won't suggest that he/she replace their oil boiler) The number of potential actions has increased from 32 to 55 and a new section offering additional measures (such as eating a vegetarian diet, reducing airline travel, and getting a home energy audit) has been added. **100% Completed**

2. Residential advisory review of the mockup: Energy Answers volunteers participated in a review of the Estimator on Jan 24 and Jan 26, offering their input and suggestions for improvement. They gave the Estimator high marks in ease-of-use and liked the ability to schedule actions in a short-term energy plan and then share their plan with others through our web-based Energy Notebook (See Attachment B: Energy Notebook). Their recommendations were incorporated into the revised mockup. **100% Completed**

3. Coding of the Estimator: We began software programming in mid December. The coding of the enhanced estimator is significantly more complex than the original Carbon Estimator, owing to the now temporal and interdependent actions. In addition, the "back-end" of the Estimator (that which is not visible to the user) has been completely re-written, to permit much greater tracking and metrics reporting of how the tool is used once it is launched, and this functionality also adds to the software complexity. We are still on track to release the Estimator as scheduled this summer, but we don't anticipate being able to release it early, as we initially hoped. **30% Completed**

4. Graphics Design: As was mentioned previously, the graphics design of the enhanced estimator is underway. Brown & Co. have provided a design template for this tool and we are working with them to tailor this design to the new Estimator. See Attachment A: Graphics Design Templates. **50% Completed**

### **III Community Outreach Progress**

**My Energy Plan**: This winter we developed the cornerstone initiative of our outreach platform called My Energy Plan. Building on the capabilities of our new and enhanced web tools, which will be housed at our new website, MYENERGYPLAN.NET, this campaign binds together the efforts of individuals and communities – as competitors and collaborators on a continuum of escalating action – through the creation of region-wide residential carbon reduction goals. Christopher Skoglund (NH Department of Environmental Services) and Cameron Wake (UNH and Carbon Solutions New England) – both members of the NH Energy and Climate Collaborative – helped us create and verify these goals. They are based on the residential carbon reduction benchmarks articulated in the NH Climate Action Plan.

In accordance with this development, we created several new outreach elements to support the campaign and create a comprehensive vision for how all of our challenges are connected. The elements include: (1) quarterly challenge heats that will help us coordinate and integrate our growing roster of challenge communities with our new campaign goals (2) a new guide for challenge organizers that will help local volunteers efficiently and effectively implement carbon challenges (using My Energy Plan benchmarks) in their communities (3) a new carbon challenge newsletter that

will keep challenge takers up-to-date and informed on the progress of their communities (4) a webinar series that will introduce potential challenge communities to our program and (5) a focused promotional strategy that places special emphasis on web-based social media.

**Button Up NH:** The launch of Button Up NH was coordinated by Garry Dow – Community Outreach Coordinator – as part of his residential outreach responsibilities. Button Up is a highly successful home weatherization workshop developed in Vermont and adapted for New Hampshire in partnership with the Sustainable Energy Resource Group (SERG) of Vermont. The result was a pilot launch this winter of nine regional workshops coordinated by the New England Carbon Challenge. Each workshop was conducted by a trained energy auditor in collaboration with a local workshop organizer. Workshop locations included New London, Concord, Dover, Sanbornton, Lebanon, Rye, Grafton, Plymouth and Atkinson. In six weeks nine workshops attracted 250 attendees. See Attachment C.

**Partnerships:** In addition to our direct outreach work with individuals and communities, we strengthened our capacity to convene groups united by common cause to communicate across traditional borders. To this end we played a key role in bringing together several residentially focused programs this past quarter, including Build Green NH (a program of the New Hampshire Home Builders Association), New Hampshire Preservation Alliance, the NH Department of Historical Preservation, New Hampshire Sustainable Energy Association, and Energy Answers (a program of UNH Cooperative Extension). To better leverage our collective marketing and outreach potential, we developed a joint table display that Energy Answers volunteers will use to represent the residential energy sector at the New Hampshire Home Show in March. We coordinated submissions within and between newsletters, and we created a joint communications calendar to facilitate the diffusion of important information across a diversity of receptive audiences. We also reached out to the New Hampshire Oil Heat Council at their December members' meeting on the economic opportunities of green jobs, energy efficiency and renewable goods and services. We also proposed a creative collaboration that would use the New England Carbon Estimator™ to track unregulated fuel consumption.

**Challenge Updates:** Portsmouth, Keene and Concord all completed challenges last quarter. Portsmouth led the way. Concord and Keene followed close behind. In the interim we met with organizers from Nashua, Hollis, Hanover, Hopkinton, Newburyport and Rye. We also met with representatives from Colby-Sawyer College, St. Paul School, UNH Manchester and the Seacoast Science Center. Of these inquiries Nashua, Hanover, Newburyport, Rye and the Seacoast Science Center scheduled carbon challenges for the spring heat that begins April 1.

#### **IV Work to be Completed Next Quarter: (02/1/10 – 04/30/10)**

##### ***Incentive and Contractor Tool:***

1. Integrate the graphics design with the software code of this tool.
2. Beta test the Index tool with volunteer testers and make any necessary adjustments.

3. Madeline McElaney of NHSEA will attend the New England Sustainable Energy Association Conference in Boston March 9-11 and will connect with NH-based vendors and contractors and encourage them to list their businesses in the Contractor tool.
4. Release the tool on the MYENERGYPLAN.NET website in April.
5. Advertise the availability of this resource to vendors and contractors (to increase the number of records in the database) and then to the general public.

***Enhanced New England Carbon Estimator:***

1. Complete most of the coding of the enhanced Estimator.
2. Begin the process of incorporating the graphics design into the tool.
3. Develop a prototype for the Next Steps Guide, a companion electronic document that will be sent to all challenge takers providing resources, links, incentives, and any additional information that will help them move forward and take the energy reduction actions that they have indicated they want to take through the Carbon Estimator.

***Green Homes Tourist:***

1. Begin development of a survey of homeowners to determine interest in participating in the Green Homes Tourist program.

**V. Beyond the Contract: Additional Activities We are Undertaking**

***Development of an “Energy Notebook”:*** Although it was not part of our grant proposal, we will be developing a fifth web-based tool, a personalized “Energy Notebook”. The Notebook will complement our other web tools, housing the output and results from the other four tools. For example, the actions one selects to take from using the Carbon Estimator, financial incentives, contractor information and upcoming green home tours they have chosen to take will all be available from a single resource point. See Attachment B.

In addition to housing the results of other tools, we intend to add additional functionality to the Notebook. The Notebook can serve as an “Energy Facebook” page, allowing a person to be identified and recognized for taking specific steps to reduce their own energy consumption or facilitating energy reductions in their community. Thus, a person could be recognized for having a home energy audit, using renewable energy resources, volunteering on their Local Energy Committee, or assisting their neighbors in lowering their energy consumption (a “Green Neighbor”). Since the Energy Notebook can be shared with other people, we intend to implement blogging features so that

Notebook viewers can ask questions and/or comment on the page. Pictures and videos (“Check out my solar hot water installation!”) could add even greater functionality to the Notebook.

Although we want to make all of these features available through the Notebook, financial constraints require us to scale back the scope of its initial release. We intend to seek additional funding to expand the capabilities of the Notebook to include some of the features outlined above as well as those frequently requested by Energy Notebook users.

**NH Energy and Climate Speakers:** In January we launched the NH Energy and Climate Speakers – in partnership with the NH Energy and Climate Collaborative – to bring a diverse group of New Hampshire energy experts together under one tent. Bureau members include every member of the Collaborative, most of the members of the now defunct Carbon Coalition speaker bureau and several other experts who we invited to participate. Our membership includes climate scientists, policy makers, governmental employees, utility leaders, academics and other prominent energy experts in New Hampshire.

This quarter we placed four speakers. In February Gary Long – President of Public Service of New Hampshire – spoke at the Portsmouth Chamber of Commerce’s monthly breakfast. Next month Madeline McElaney – Program Coordinator of New Hampshire Sustainable Energy Association – will speak at the New Hampshire UCC Women's Spring Forum in Plymouth, NH. Dr. Cameron Wake – Professor at the University of New Hampshire – will speak to a group of students at Phillips Exeter Academy in Exeter, NH. And Christopher Skoglund – Energy and Transportation Analyst at the NH Department of Environmental Services – will speak at Tin Mountain Conservation Center in Albany, NH.

#### **VI Document Any Jobs Created:**

The grant provided for the hiring of a newly created position, a full-time community outreach coordinator, through Clean Air-Cool Planet in Portsmouth, NH. It’s important to note that this grant also preserved jobs that would have otherwise been lost as these jobs are contingent on having sufficient external funding. 1.8 full time equivalent (FTE) positions were preserved at UNH as a result of this grant. In all, this grant provides employment to 5 individuals at UNH, Clean Air-Cool Planet, and the New Hampshire Sustainable Energy Association.

#### **VII Budget Expenditures:**

Provided with invoices

#### **VIII Obstacles Encountered or Milestones Not Reached:**

No substantial obstacles. We are on track to release our first tool, the Incentive and Contractor Tool in April.

# My Energy Plan



## Welcome!

Are you interested in reducing your impact on the planet, by reducing the amount of energy you use in your everyday life? If so, we've put together a simple 10-step guide to help you achieve your goals.

Learn more about:

- Reducing your carbon footprint
- Increasing your home's energy efficiency
- Analyze your carbon footprint
- Learn about additional steps you can take

Armed with this knowledge, you can then take steps in the right direction to positively reduce your impact on the environment.

## Get Started

We've developed the following tools to help create your own personalized energy plan and to help put that plan into action.



[Incentive and Contractor Tool](#)

Copy about what this tool helps a user to do.



[Additional Tool Here](#)

Information about what this tool helps a user to do.



[New England Carbon Estimator](#)

Description about what this tool is and what it helps a user to do.



[New Tool Calculator Here](#)

Sentence about what this tool is.

**Attachment A: Graphics Design Templates  
Please Note: For Visualization  
Purposes Only and Subject to Change**

*This website is a collaborative effort of the following organizations:*

[New England Carbon Challenge](#) | [NH Sustainable Energy Association](#) | [University of New Hampshire](#) | [Clean Air-Cool Planet](#) | [UNH Cooperative Extension](#)

*Funding provided by the NH Public Utilities Commission through the Greenhouse Gas Emissions Reduction Fund*

Your Information

Review Contractors

Available Incentives

View Report

Next Steps

## WELCOME TO THE INCENTIVE AND CONTRACTOR INDEX!

Copy here about how to use the tool. Copy here about how to use the tool. Copy here about how to use the tool.

### LET'S START WITH THE BASICS:

I live in:   My electric provider is:

How would you describe your household?

How much do you anticipate spending within the next year to reduce your energy consumption?

### NOW SELECT THE PRODUCTS, SERVICES AND SYSTEMS YOU ARE INTERESTED IN:

#### EFFICIENCY PRODUCTS:



Appliances



Lighting



Air and/or Duct Sealing



Insulation



Windows and Doors



Roofing



HVAC Systems



Comprehensive Measures



Other

#### EFFICIENCY SERVICES:



Efficiency Services and Remediation



Home Energy Audit



Green Architects



Green Builders

#### RENEWABLE ENERGY SYSTEMS:



Solar Thermal



Solar Photovoltaics



Geothermal



Wind Turbines



Micro-Hydro



Wood



Biofuels

**Attachment A: Graphics Design Templates**  
**Please Note: For Visualization**  
**Purposes Only and Subject to Change**



- 1 Determine your Carbon Footprint
- 2 Lower your Carbon Footprint
- 3 View your Action Plan
- 4 Next Steps

AUTO | HEATING | ELECTRIC | RECYCLING | OTHER

### HEATING AND HOT WATER EMISSIONS:

How we heat our homes and hot water are frequently the largest sources of household carbon emissions. Fortunately, there are many ways to reduce these numbers.

Actions You Could Take	Your Selection	Status	CO <sub>2</sub> Saved Annually	Dollars Saved Annually	Cost to Implement
Turn my thermostat down <input type="text"/> degrees in winter.					
Weatherize my home by sealing around windows and doors.					
Wash laundry in cold water. I do <input type="text"/> loads of laundry per week. My washer: <input type="radio"/> is <input type="radio"/> is not <input type="radio"/> an ENERGY STAR.					



*This website is a collaborative effort of the following organizations:*

[New England Carbon Challenge](#) | [NH Sustainable Energy Association](#) | [University of New Hampshire](#) | [Clean Air and Planet](#) | [NH Green Building Council](#)

*Funding provided by the NH Public Utilities Commission through the Greenhouse Gas Emissions Reduction Fund. The public release of this site is Spring 2010.*

**Attachment A: Graphics Design Templates**  
**Please Note: For Visualization**  
**Purposes Only and Subject to Change**

# ENERGY NOTEBOOK

SAVING ENERGY STARTS AT HOME.



Mary Williams  
Temple, New Hampshire

## Energy Profile



## Comments

Kevin: Mary, who did your energy audit? We need one as well.

Amy: Us too. Thanks

Mary: The auditor was Green Homes Unlimited. Really happy with their work.

add a comment...

## Share

**Most Popular Services**

Facebook Twitter Save

Digg (0) Stumbleupon  
Delicious Mixx  
Newsvine Blogger  
WordPress Technorati  
Reddit TypePad  
MySpace LinkedIn

## Home Energy Reduction Actions In Progress

Replace my vehicle with a more fuel-efficient car	In 1 to 2 years
Limit "junk in the trunk" and unnecessary roof rack items	Completed!
Avoid idling my vehicle	I will do this now
Weatherize home by sealing around windows and doors	Completed!
Set your hot water heater to 120°F or below	Completed!
Put electronics ( <i>computers, TVs</i> ) on a UL-approved power strip	I will do this now
Replace my old refrigerator with a new Energy Star model	I will do it this year
Eat a vegetarian dinner three nights a week	Completed!
Get a professional home energy audit	I will do it this year

## Electricity Usage

New Hampshire  
Electric Co-op

## Sustainable Energy Installers I'm Tracking

COMPANY NAME	CONTACT
<a href="#">Dawn Solar</a>	<a href="#">William Poleatewich</a>
<a href="#">KW Management</a>	<a href="#">Mark Weissflog</a>
<a href="#">Seacoast Energy</a>	<a href="#">Jack Bingham</a>
<a href="#">groSolar</a>	<a href="#">Jeff Wolfe</a>

## Upcoming Green Homes Tours I will attend

Home	Location	Date
Johnson	<a href="#">Dover, NH</a>	June 5, 2010
Miller	<a href="#">Campton, NH</a>	June 12, 2010
Richardson	<a href="#">Benton, NH</a>	June 14, 2010

« [While Glaciers Retreat, SLCF Reduction Must Go Forward](#)  
[Melting Glaciers and Ice Sheets Take Center Stage at COP-15](#) »

Attachment C: Clean Air-Cool  
Planet Blog Post on BUNH

## Workshop Breathes New Life into Old Houses in New Hampshire



*By Garry Dow,  
Community Outreach Coordinator,  
Clean Air-Cool Planet*

“Houses breathe?” she asked. “Houses breathe,” I replied.

The old woman peered out over her wire rimmed glasses. “Really?”

“Really,” I said.

We were standing in the middle of the Tracy Memorial Library in New London, NH. The room was a jumble of competing voices and folding chairs, but she had the look of a woman trying to sort things out. A woman busy rearranging the furniture of her own mind. A crowd was in motion around us – the kind of social frenzy that preludes a public gathering – but the old woman stood perfectly still.

“Well then,” she said. “I’ve come to the right place.”

Nearly 30 people representing half a dozen towns from the Upper Valley came out on a cold and blustery Thursday evening last week to participate in the inaugural launch of Button Up NH – the highly successful home weatherization workshop pioneered in Vermont and now available in New Hampshire.

New London is the first of nine regional weatherization workshops sponsored by Button Up NH this winter. Others include Lebanon, Grafton, Plymouth, Sanbornton, Concord, Dover, Atkinson and Rye. These workshops are conducted by qualified home energy experts and include information on how simple household adjustments and modest investments can lead to significant energy savings over time.

The standing-room-only event was well attended and well received. The oversized crowd included professional energy auditors, the sustainability coordinator from nearby Colby-Sawyer College, a dozen or more curious homeowners, and a large contingent of local energy enthusiasts. Robert Walker of the Sustainable Energy Resource Group led the workshop, which was sponsored by the New London Energy Committee.

During the two hour session, Walker guided an eager audience through a dizzying terrain of home energy budgets, simple do-it-yourself weatherization measures, professional home energy audits, extensive professional energy retrofits, health and safety concerns, and technical and financial resources.

Weatherization, Walker said, is not complicated. Some projects require a professional, but at a fundamental level, weatherizing is about sealing holes (air barriers) and insulating spaces (thermal barriers) – in that order.

“To know *what* holes to seal and *what* spaces to insulate, however, you have to know how air moves through a building.”

In a typical house cold air is sucked in through the basement and expelled through the attic. Convection. At the same time, heat is being lost through barriers in the house where the temperature gradient between inside and outside is the steepest. Conduction.

Wrapping the building in a continuously sealed envelope buffered by insulation keeps cold air out and warm air in. This slows the movement of air through the home and minimizes the occurrence of warm air meeting cold. The result is a shorter exchange of air and a greater retention of heat.

“You want something like a quarter of the air in your house to turnover each hour,” Walker said. “If you button up too tight it can lead to problems with moisture and unhealthy air. So you always want to strike a balance between too little air flow and too much air flow.”

In one highlighted example, a family in Sunapee, NH invested \$6,578 (with \$3,450 in rebate returns) and now saves \$3,000 annually after a payback period of only 1.5 years.

The audience asked questions throughout the presentation. They ranged from the best kind of insulation to use for a specific weatherization job to the physics of heat loss and everything in between.

Eventually the workshop broke up and the crowd poured into the street. As the last of the cars disappeared over the ridge that divides the Connecticut and Merrimack River valleys, I found myself completely alone for the first time that evening.

Outside a neat line of old houses dotted the road. The sky was a star-studded black and the air was pure cold. It hurt just to breathe. In a building across the way, two large windows were lit by the warm glow of an unseen lamp. The face of the building looked remarkably human. Two yellow eyes staring out from beneath the brow of a covered porch. Not unlike our own Button Up logo.

“Houses breathe?” the old woman had asked. “Houses breathe,” I had replied.

Yes they do, I thought, and turned for home.

*All Button Up NH workshops are free and open to the public. For more information, please contact Garry Dow, Button Up NH Coordinator, at (603) 422-6464, ext. 115 or [gdow@cleanair-coolplanet.org](mailto:gdow@cleanair-coolplanet.org).*

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#### Possibly related posts: (automatically generated)

- [A Recipe for a Successful Weatherization Program](#)
- [Go Slow to Go Fast: Citizen-based Energy Action](#)
- [Buttoning up drafty old buildings with care](#)
- [Longfellow Sustainable Homes Workshops THIS WEEK!](#)

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Tags: [Button Up NH](#), [home weatherization](#), [older homes](#)

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#### Comment:

Name

E-mail (will not be published)

Website