

GREENHOUSE GAS EMISSIONS REDUCTION FUND

**Final Progress Report Form
July 15, 2009 - June 30, 2011**

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 **July 15, 2009 through June 30, 2011.**



FINAL REPORT

THE NEW ENGLAND CARBON CHALLENGE GHGERF GRANT

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, has developed a suite of new web-based tools that can assist NH households in using energy more efficiently and transitioning to sustainable energy systems. In addition, the New England Carbon Challenge significantly expanded its outreach activities to New Hampshire households and communities, enabling households to make substantial reductions in residential energy consumption that are called for in the New Hampshire Climate Action Plan.

This report summarizes our progress over the two year grant period (July 15, 2009 – June 30, 2011) and highlights major milestones achieved. We have also identified lessons learned from our work over the last two years and conclude with some next steps for sustaining the My Energy Plan web platform into the future.

I. Summary of Progress Toward Goals Established Under This Contract (Exhibit A) (07/15/09 – 06/30/11)

FIRST YEAR GOALS:

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: 100% Complete

The Incentives and Vendor Index was renamed and released as the Energy Project Connector

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: 100% Complete

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

Status: 100% Complete

SECOND YEAR GOALS:

5. Create the Green Homes Tourist Program. NHCC and New Hampshire Sustainable Energy Association will develop and distribute a survey to determine interest/participation in the program, as well as design the web-based tool that will connect owners of energy efficient houses with potential buyers of energy systems. (20 months from G&C approval)

Status: 100% Complete

6. Develop a residential "Home Energy Planner" in close partnership with Carbon Solutions New England and Clean Air-Cool Planet. The Planner will be a web-based tool to assist households in planning their energy efficiency and sustainable energy projects over a one to ten year time horizon and evaluate the projected costs and benefits. (24 months from G&C approval)

Status: 100% Complete (60% last quarter). The goals of the Home Energy Planner were achieved through an enhancement of the Personal Energy Planner (see Section II, Quarterly Technical Progress below) Since we had already developed an additional web-based tool, the Energy Notebook, not called for in our original proposal, we were concerned about developing a fifth stand-alone tool, More is not better when it comes to web-resources.

ONGOING GOALS:

7. Advertise and market all web-based tools.

Status: We continue to implement our marketing plan for My Energy Plan (MEP). See MEP Promotion in Section IV Community Outreach Progress below.

8. Offer web-based seminars to Local Energy Committees on all web-based tools developed under this contract.

Status: We conducted direct surveys with over 43 energy committee members (phone calls & emails) throughout the state in Winter/Spring 2011 to educate them on MEP resources and to learn about their needs for community outreach to residents. Sixteen members were interested in learning more about hosting a Challenge in their community. An informational webinar was held in May. Unfortunately, since this grant has expired, we had to let go our community outreach coordinator. We do not currently have the resources or personnel to provide New Hampshire communities with the same level of support and assistance.

9. Have a dedicated community coordinator who will provide direct assistance to communities in implementing the NH Carbon Challenge through public presentations, guidance on best practices, and reports on the community's progress.

Status: AJ Dowling was our Community Outreach Coordinator from May 2010-June 2011.

II. Final Quarterly Technical Development Progress:

We concentrated our technical efforts in May and June 2011 on the development and release of an enhancement to the Personal Energy Planner (PEP), which was completed on June 20, 2011. This enhancement allows households to add selected actions to their energy plan over a three year time horizon. Previously, all actions promoted in the Personal Energy Planner had to be scheduled over a two-year period. Some of the actions in PEP require a significant financial outlay by the homeowner (such as purchasing a new vehicle or appliance or getting a home energy audit) and we recognize that these actions may only be possible over the longer term. Home energy reduction is an ongoing "work in progress". Few households have the financial resources to implement all the steps they would like to take immediately to reduce their energy consumption and carbon footprint. Lengthening the Personal Energy Planner timeframe to 3 years enables households to have a flexible energy "to do" list of actions they intend to take over the next few years.

We have also implemented an e-mail reminder system that automatically sends an e-mail to registered users (those for whom we have an e-mail address) three months and six months after they last visited My Energy Plan. The e-mail suggests they revisit My Energy Plan to update their energy plan with actions they have now taken since their last login as well as adding new actions that might now be feasible. We selected the three month and six month intervals as reasonable time periods for a quick, friendly reminder that wouldn't run the risk of being annoying or perceived as spam.

We also made a number of constructive changes and updates to the Personal Energy Planner, Energy Project Connector, and Green Homes Tourist. Some of these changes had been requested by users, while others were identified by us only after the tools had been released and were in use.

III Metrics

We have been tracking a set of website metrics through Google Analytics since April 15 2010 with the release of the My Energy Plan website and the Energy Project Connector tool. Matt Magnusson of Carbon Solutions New England has full access to our Google Analytics account.

Our internal metrics system provides additional information that cannot be determined through Google Analytics, such as the number of registered users for My Energy Plan and the number of households that have created an energy plan. Our enhanced system also tracks the sequence of steps a user takes when they visit our website, noting the pages they visit, the website from which they came to My Energy Plan, and the length of time on each page. These "breadcrumbs" are invaluable to our planning as it helps us understand how people are coming to our website, how a typical user interacts with our tools, and potential stumbling blocks that need to be addressed.

My Energy Plan™ (myenergyplan.net) Metrics Summary (May 1 – June 30 2011 and Cumulative)

Website Usage	This Quarter*	Cumulative
Unique visitors	1189	9511
Total visits to website	2348	18494
Number of NH towns/cities visiting website	75	141
Registered MEP users	48	2688

*** May through June 2011 only**

Personal Energy Planner	This Quarter	Cumulative
Households that have created an energy plan	90	3771
Energy dollars saved from pledged actions from all energy plans	\$56,035	\$2.8 million
CO2 pounds saved from pledged actions from all energy plans	407,716	\$24.2 million

Energy Project Connector	This Quarter	Cumulative
Queries to the EPC for contractors/vendors	356	3579
Queries to the EPC for incentives	85	1365
Companies listed in EPC database	7	128

Green Homes Tourist	This Quarter	Cumulative
Queries to the GHT Database	497	895
Homes listed in GHT Database	9	19

IV Final Quarterly Community Outreach Efforts

We concentrated our efforts in the final two months of this reporting period in developing additional resources for households and communities, reaching out to our partners and collaborators in the state to include My Energy Plan resources in their outreach efforts, and creating a mass mailing to libraries, municipalities, community action centers, and district health centers throughout New Hampshire.

We did some editing to our Guide for Community Organizers (<http://myenergyplan.net/documents/GuideOrganizers2011.pdf>) to include notes and lessons learned from recently concluded challenges in Temple and Rindge, NH. Promotional materials (bookmarks, cards, and posters) were created and are now available on our website. We created short "how-to" videos on using the My Energy Plan tools and a longer videotaped webinar on hosting a My Energy Plan challenge for prospective organizers. We also contracted with Bill Rogers of the Coruway Film Institute to produce three short, light-hearted, professional quality videos on the Personal Energy Planner, Green Homes Tourist, and the Energy Project Connector for distribution on cable access channels and the MEP website.

We met with Kate Peters and Madeline McElaney of NH Better Buildings to discuss utilization of MEP resources and customization for the NH Better Buildings program (Our Green Homes Tourist database can now be searched by homes that have participated in the NHBB program). We also met with organizations in the Upper Valley region notably SERG, Habitat for Humanity, NH Charitable Foundation, COVER, and the Upper Valley Lake Sunapee Regional Planning Commission, regarding their integrated use of MEP as an education and tracking tool.

In addition, we now have a commitment from Dottie Grover of the NH Coalition for Community Media (NHCCM) to distribute MEP resources and/or promo videos through public access channels in NH. We will be working with Dottie to run recently developed MEP videos (created by the Coruway Film Institute) on potentially 38 cable access channels throughout the state. Dottie indicated the videos would likely to be aired multiple times a day.

Finally, we assembled a promotional package of MEP materials and mailed a package to libraries, municipalities in all NH municipalities and community action centers, and regional health centers throughout the state. The mailing included an 11x17 full color poster; 8 ½ x 11 full color poster; MEP postcards for distribution, and a letter requesting recipients hang posters in public locations around towns and include a link to the MEP website and embed our MEP tracking widget, if possible. Mailings were sent to: 232 NH libraries; 163 NH municipalities; 14 Community Action Centers & 12 NH Department of Health and Human Services district offices. We have seen a discernable impact from this mailing, as several organizations contacted us about obtaining a customized widget for their website, we received emails from users noting they had learned about MEP from the poster hanging in their town office and several new registered users indicated on their registration form that they had learned of MEP through their library or town office.

V Lessons Learned from This Project:

The New Hampshire Carbon Challenge was created in 2006 on a shoestring budget with no public funding. This two-year grant award enabled us to expand on our initial efforts helping households in NH reduce their energy consumption and greenhouse gas emissions. We now have in place a collection of web-based and printed tools and resources that can assist households in NH in meeting their energy reduction goals, regardless of what their energy goals may be. We also have created resources for communities to use to achieve their municipal, school, or business energy reduction targets. The My Energy Plan platform can serve New Hampshire residents for many years to come and evolve to serve the increasing needs of NH homeowners around reducing

energy consumption and increasing energy security. The My Energy Plan platform is also an established base of tools that can be customized to serve other audiences such as the commercial/municipal sector.

We've learned a great deal in the last two years and offer these observations:

1. Web-based systems like My Energy Plan are necessary, but not sufficient

Through this proposal we have developed a new suite of home energy reduction tools that address many of the information needs of residents who want to reduce their energy usage. We can help households map out an energy plan identifying simple to moderate actions to take in their home. We can help consumers find businesses near them to implement their energy project and the financial resources to defray the cost. We can showcase homes near them that use energy efficiently or have renewable energy systems in place and facilitate direct communications between our users and these homeowners. The information resources that we provide are valuable tools and necessary building blocks toward a sustainable energy economy. Without a firm grasp on why we need to use energy differently, how to use energy differently, and who can help implement these changes, there will be no shift in energy usage.

While our daily logs of system usage and e-mail correspondence demonstrate our tools are being used, our user base is growing, and homeowners are contacting businesses to get their energy projects done, we recognize that the scale on which this is happening is still too small to bring about the substantial reductions in energy consumption and greenhouse gas emissions that are called for in the New Hampshire Climate Action Plan. Cultural shifts only occur slowly and are subject to a host of fickle drivers such as fuel prices, economic conditions, and media reports. Still, our fundamental challenge remains that our user base is dominated by "early adopters" and those for whom energy reduction is a primary concern. How do we broaden the appeal and include households that aren't even thinking about energy reduction? We need to expand the base which will only happen with a unified, coordinated effort of multiple stakeholders in residential energy efficiency and renewable energy.

2. Local community organizers need ready-made, easily launched residential outreach programs like My Energy Plan

Community organizers who want to lead a structured effort to encourage households to participate in My Energy Plan are most often enthusiastic, motivated, community-minded individuals for whom climate change and energy reduction are primary concerns. They have made the commitment to use energy efficiently in their own homes and are eager to help their neighbors make similar reductions. They appreciate the "off-the-shelf" resources that we provide and benefit from the strategies, approaches, and lessons learned from previously held challenges that are now available from our *Guide for Community Organizers*.

Our ability to aggregate households together and provide regular feedback on a community's progress in meeting their energy reduction goals has been cited frequently as a strength of the My Energy Plan system and sets us apart from other online carbon calculators. But person-to-person technical support is also critical to communities moving forward and helps organizers be more effective in their outreach efforts. Efforts such as UNH Cooperative Extension's Energy Answers and the PAREI model hold promise for offering such peer support.

3. Managing expectations of community organizers is a challenge

Because climate change and energy reduction are core values of almost all organizers, it can be difficult to moderate their expectations about a successful outreach campaign. Most organizers underestimate the time required to organize and carry out a structured challenge and they

overestimate participation rates. We address this issue in our early meetings with community leaders. Since the most productive campaigns tap into a community's existing networks, we encourage organizers to structure their challenges using the networks and organizations whose members are interested in energy reduction and will provide volunteers to assist in the challenge. If a community doesn't have the volunteer structure to reach the audiences they are trying to reach, it can be difficult to get traction. One person can't carry the whole effort for their community.

4. My Energy Plan is cost-effective to New Hampshire

Significant financial resources were needed to build the My Energy Plan web system, but now that the infrastructure is in place, the cost to maintain the system is a fraction of the initial investment. New Hampshire residents are using our tools daily to create their energy plans, businesses are adding themselves to the Energy Project Connector, and homeowners are listing their homes in Green Homes Tourist with little or no assistance from My Energy Plan staff members. Some financial resources are needed to maintain the website, update key databases that change frequently (such as the incentives database), respond to user inquiries, and market and promote the website, but these resources pale in comparison to the initial investment. We estimate the cost to maintain the My Energy Plan website is \$29,000 a year, a 93% reduction in the average yearly cost to create the system over the last two years. Maintenance of the existing system can be accomplished by a part-time coordinator and an hourly systems programmer. This won't allow for expansion or new development but it should provide for a continuation of the existing system. Based on our metrics tabulations over the past year, we conservatively estimate that pledged energy savings by NH households using My Energy Plan resources over the next year will be greater than \$353,415 per year.

VII Next Steps for My Energy Plan

We have continued our efforts this fall to promote My Energy Plan to organizations and communities in New Hampshire and throughout the northeast, despite the loss of 3 of our 4 staff members. The Plymouth Area Renewable Energy Initiative (PAREI) will be adding more records to Green Homes Tourist for homes that have benefitted from PAREI's solar installations. An estimated 100 to 200 homes will be added to GHT in the next few months. We will also reach out to SUNREI and SEAREI to explore showcasing homes in their region through GHT.

We are also pursuing funding for a new slate of Button Up, New Hampshire weatherization workshops and to make the workshop content available through videos on the web and on cable access channels. If our proposal is selected, we will also be piloting a new volunteer program (led by PAREI) of energy advocates who will provide one-on-one assistance to residents seeking to implement their home energy projects.

As was mentioned previously, the New Hampshire Coalition for Community Media is interested in running short promotional videos on My Energy Plan on cable access channels throughout the state. We believe this is an outstanding way to reach residents that may never have thought about home energy reduction or may be uncertain as to how to begin. We will pursue similar opportunities with organizations whose members are likely receptive to energy reduction and saving money, but are not the "early adopters".

We are also pursuing collaborations with other states that have expressed interest in using the My Energy Plan resources in their outreach efforts. Our tools can be fully customized for residents in other states with actions, resources, and datasets specific to those states. These modifications can be implemented at a fraction of the cost to build a brand new system. We are currently in discussion with two organizations in New York State and another company near Houston, Texas.

We will have more information about our customization services for other states and communities on our website very soon.

VIII 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 provided employment to 5 individuals at UNH, Clean Air-Cool Planet, and the New Hampshire Sustainable Energy Association.

IX Budget Expenditures:

Provided with invoices