

THE STATE OF NEW HAMPSHIRE

BO

CHAIRMAN  
Thomas B. Getz

COMMISSIONER  
Clifton C. Below

EXECUTIVE DIRECTOR  
AND SECRETARY  
Debra A. Howland



Tel. (603) 271-2431

FAX No. 271-3878

TDD Access: Relay NH  
1-800-735-2964

Website:  
www.puc.nh.gov

**PUBLIC UTILITIES COMMISSION**  
21 S. Fruit St., Suite 10  
Concord, N.H. 03301-2429

G+C 7/15/09  
Item# 32I  
Approved ✓  
Req # 101583 dg  
Work Obj # 350882 ✓

July 1, 2009

His Excellency, Governor John H. Lynch  
and the Honorable Council  
State House  
Concord, NH 03301

**REQUESTED ACTION**

Authorize the Public Utilities Commission to award grant funds in the amount of \$139,945 to the University of New Hampshire, Vendor #176895, to track the environmental and economic results of projects funded by the Greenhouse Gas Emissions Reduction Fund, from Governor and Council approval through June 30, 2010. Funding is 100% Greenhouse Gas Emissions Reduction Fund.

Funding is available in account, Grants to Schools – State, as follows:

02-81-81-811010-5453 Greenhouse Gas 125-O:23

FY 2010

010-081-5453-073-0583 Grants to Schools

\$139,945

**EXPLANATION**

The Public Utilities Commission (PUC) is charged with administering the Greenhouse Gas Emissions Reduction Fund (GHGERF) created by RSA 125-O:23 to support energy efficiency, conservation and demand response programs aimed at reducing greenhouse gas emissions generated within New Hampshire. On February 23, 2009, the PUC issued the first of a series of Requests for Proposals (RFP) for programs to be funded by GHGERF grants. In response to the February RFP, the Commission received 84 proposals requesting a total of more than \$50 million in grant funds. The University of

July 1, 2009

Page 2

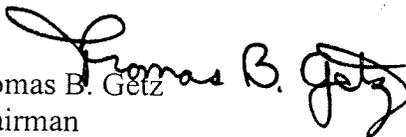
New Hampshire proposal and eight others have been chosen for funding at this time. Attachment A provides additional information on the grant review and award process.

With these grant funds, Carbon Solutions New England (CSNE) of the University of New Hampshire will track, analyze and report on the results of projects funded by the GHGERF. CSNE will independently verify project outcomes and will create a database to track energy savings, greenhouse gas emissions reductions, costs and economic benefits. CSNE will also estimate the state-wide energy efficiency potential and the impacts on the state economy of different types of projects.

Funds currently available in the GHGERF account, consisting solely of proceeds from quarterly auctions of carbon emission allowances, are approximately \$6.7 million. The combined total of the nine awards for this round is \$5,363,742. Along with \$1.2 million transferred to the Stay Warm NH program administered by the Office of Energy and Planning in February, 2009 by legislative mandate, upon G&G approval of these nine awards, total grant expenditures to date will be \$6,563,742. A second round of grant awards is anticipated in the near future.

In the event that GHGERF funds become no longer available, General Funds will not be requested to support this program.

Respectfully submitted,

  
Thomas B. Getz  
Chairman

## ATTACHMENT A – GRANT REVIEW PROCESS

The PUC issued a Request for Proposals on February 23, 2009. The RFP was developed in consultation with the state's Energy Efficiency and Sustainable Energy Board, created by the legislature in 2008 "to promote and coordinate energy efficiency, demand response, and sustainable energy programs in the state."

The RFP was circulated electronically to a list of more than 300 individuals and organizations known to have an interest in energy policy and programs, including members of the Energy Efficiency and Sustainable Energy Board (EESE Board); posted on the PUC and Office of Energy and Planning websites; advertised in the Union Leader on February 28, April 1 and April 2; and announced via press release to major media outlets in the state.

The PUC formed a grant review committee to evaluate each of the 84 proposals that were submitted. The team consisted of four members of the PUC - Chairman Thomas Getz, Commissioners Clifton Below and Graham Morrison, and Jack Ruderman, Director, Sustainable Energy Division – plus Eric Steltzer of the Office of Energy and Planning, and Richard Ober of the New Hampshire Charitable Foundation. Mr. Ober also serves as the Chair of the EESE Board.

The proposals were broken down into eight separate categories<sup>1</sup> in order to allow for an "apples to apples" comparison. The proposals were then individually evaluated by the review committee using a list of thirteen criteria specified in the PUC administrative rules for the Greenhouse Gas Emissions Reduction Fund (Chapter 2600). The committee then met as a group on a regular basis to identify the strongest proposals within each category, and to assign an overall letter grade to each proposal based on the consensus of the group.

An initial group of nine proposals has been selected from the job development, monitoring and measurement, outreach and education, and revolving loan fund categories at this time. These "foundational" proposals were selected as a first step because they provide the foundation for other energy efficiency programs or projects or will assist in evaluating the benefits of such programs or projects. The committee is continuing to meet and anticipates selecting a second group of fifteen or more additional proposals for presentation to Governor and Council at future meetings.

---

<sup>1</sup> The eight categories are: job development, monitoring and measurement, multi-objective, outreach and education, revolving loan fund, public entity, commercial entity, and non-profit/educational entity.



**COOPERATIVE PROJECT AGREEMENT**

between the

STATE OF NEW HAMPSHIRE, **NH Public Utilities Commission**

and the

**University of New Hampshire** of the UNIVERSITY SYSTEM OF NEW HAMPSHIRE

- A. This Cooperative Project Agreement (hereinafter "Project Agreement") is entered into by the State of New Hampshire, **Public Utilities Commission**, (hereinafter "State"), and the University System of New Hampshire, acting through **University of New Hampshire**, (hereinafter "Campus"), for the purpose of undertaking a project of mutual interest. This Cooperative Project shall be carried out under the terms and conditions of the Master Agreement for Cooperative Projects between the State of New Hampshire and the University System of New Hampshire dated November 13, 2002, except as may be modified herein.
- B. This Project Agreement and all obligations of the parties hereunder shall become effective on the date the Governor and Executive Council of the State of New Hampshire approve this Project Agreement ("Effective date") and shall end on **6/30/10**. If the provision of services by Campus precedes the Effective date, all services performed by Campus shall be performed at the sole risk of Campus and in the event that this Project Agreement does not become effective, State shall be under no obligation to pay Campus for costs incurred or services performed; however, if this Project Agreement becomes effective, all costs incurred prior to the Effective date that would otherwise be allowable shall be paid under the terms of this Project Agreement.
- C. The work to be performed under the terms of this Project Agreement is described in the proposal identified below and attached to this document as Exhibit A, the content of which is incorporated herein as a part of this Project Agreement.

**Project Title: Tracking Progress: Analyzing Greenhouse Gas Emission Reductions and Economic Impact of GHGERF Projects**

- D. The Following Individuals are designated as Project Administrators. These Project Administrators shall be responsible for the business aspects of this Project Agreement and all invoices, payments, project amendments and related correspondence shall be directed to the individuals so designated.

**State Project Administrator**

Name: ChristiAne G. Mason  
Address: NH Public Utilities Commission  
21 South Fruit Street, Suite 10  
Concord, NH 03301  
Phone: 271-2431

**Campus Project Administrator**

Name: Dianne Hall  
Address: University of New Hampshire  
Office of Sponsored Research  
Service Building, 51 College Rd.  
Durham, NH 03824  
Phone: 862.1942

- E. The Following Individuals are designated as Project Directors. These Project Directors shall be responsible for the technical leadership and conduct of the project. All progress reports, completion reports and related correspondence shall be directed to the individuals so designated.

**State Project Director**

Name: Jack Ruderman  
Address: NH Public Utilities Commission  
21 South Fruit Street, Suite 10  
Concord, NH 03301  
Phone: 271-2431

**Campus Project Director**

Name: Cameron Wake  
Address: University of New Hampshire  
Complex Systems Research Center  
Morse Hall, College Rd.  
Durham, NH 03824  
Phone: 862.2329

F. Total State funds in the amount of **\$139,945** have been allotted and are available for payment of allowable costs incurred under this Project Agreement. State will not reimburse Campus for costs exceeding the amount specified in this paragraph.

Check if applicable

Campus will cost-share \_\_\_\_\_ % of total costs during the term of this Project Agreement.

Federal funds paid to Campus under this Project Agreement are from Grant/Contract/Cooperative Agreement No. \_\_\_\_\_ from under CFDA# \_\_\_\_\_. Federal regulations required to be passed through to Campus as part of this Project Agreement, and in accordance with the Master Agreement for Cooperative Projects between the State of New Hampshire and the University System of New Hampshire dated November 13, 2002, are attached to this document as Exhibit B, the content of which is incorporated herein as a part of this Project Agreement.

G. Check if applicable

Article(s) \_\_\_\_\_ of the Master Agreement for Cooperative Projects between the State of New Hampshire and the University System of New Hampshire dated November 13, 2002 is/are hereby amended to read:

H.  State has chosen **not to take** possession of equipment purchased under this Project Agreement.  
 State has chosen **to take** possession of equipment purchased under this Project Agreement and will issue instructions for the disposition of such equipment within 90 days of the Project Agreement's end-date. Any expenses incurred by Campus in carrying out State's requested disposition will be fully reimbursed by State.

This Project Agreement and the Master Agreement constitute the entire agreement between State and Campus regarding this Cooperative Project, and supersede and replace any previously existing arrangements, oral or written; all changes herein must be made by written amendment and executed for the parties by their authorized officials.

IN WITNESS WHEREOF, the University System of New Hampshire, acting through the **University of New Hampshire** and the State of New Hampshire, **Public Utilities Commission** have executed this Project Agreement.

**By An Authorized Official of:  
University of New Hampshire**

Name: Kathryn B. Cataneo

Title: Executive Director of Sponsored Research

Signature and Date:

Kathryn B. Cataneo 6/24/09

**By An Authorized Official of: the New  
Hampshire Office of the Attorney General**

Name: Glenn A. Parlow

Title: Assistant Attorney General

Signature and Date:

Glenn A. Parlow 6/28/2009

**By An Authorized Official of:  
Public Utilities Commission**

Name: Thomas B. Getz

Title: Chairman

Signature and Date:

Thomas B. Getz 6/26/09

**By An Authorized Official of: the New  
Hampshire Governor & Executive Council**

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Signature and Date: \_\_\_\_\_

## EXHIBIT A

- A. **Project Title:** Tracking Progress: Analyzing Greenhouse Gas Emission Reductions and Economic Impact of GHGERF Projects
- B. **Project Period:** Governor and Council Approval - June 30, 2010
- C. **Objectives:** Evaluate the effectiveness – in terms of greenhouse gas emissions and economic benefits – of all projects funded by GHGERF.
- D. **Scope of Work:** For every project funded by the GHGERF, Carbon Solutions New England (hereafter Campus CSNE) will: (1) track the energy savings, greenhouse gas emissions reductions, costs, and economic benefits in a secure online database; (2) independently verify the results; (3) provide baseline information (with semi-annual reporting) to determine the effectiveness of different types of projects funded by GHGERF and (4) “scale up” project-specific results to estimate the state wide energy efficiency potential and broader impacts on state greenhouse gas emissions and state economy (including costs/benefits/job creation) of different types of projects.

In addition, Campus CSNE will develop, host, and maintain a database-driven information system with a web-based access component to provide the results of our analysis of all of the energy efficiency projects funded through GHGERF. This system will serve as a centralized aggregation of project information and also provide easy access to the results of our detailed analysis. Types of data recorded in the database system will include proposed and actual energy savings, greenhouse gas emissions reductions, implementation costs, cost savings, estimates of jobs created, project type, and project location of all funded projects.

Initial efforts will focus on recording all GHGERF funded projects into a central non-public database that maps funded projects to discrete, standardized data types, as well as evaluating the proposed energy savings, emission reductions, and costs/benefits. This will provide a tool for the State to summarize the potential impact of all funded projects. This system will serve as the first stage in a system to track the effectiveness and efficiency of funded projects in terms of energy savings, carbon reductions, and economic costs and benefits (including job creation benefits).

Campus CSNE will next develop and utilize an energy efficiency Evaluation, Measurement, and Verification (EM&V) protocol in close collaboration with the State. This protocol will include, for each individual project, a review and analysis of all energy use and expenditures on an annual basis both before and after the project. Separate residential, commercial, and industrial building models will be developed to normalize energy consumption to allow for meaningful comparisons and to verify results provided by each project. This data will also be normalized for heating and cooling degree days and across demand requirements (such as square footage and variability in commercial production). The database system and the normalization models will be documented and public available via the project website.

Campus CSNE will collaborate with the State in an ongoing manner to guide the data handling and analysis of the funded projects. Campus CSNE will also hold update meetings as necessary with the State to keep the agency informed of the empirical progress of the program and to provide the opportunity for changes and refinements to the data collection, data monitoring, and IT systems.

Campus will gather information from the regional effort driven by the Northeast Energy Efficiency Partnerships (NEEP; <http://www.neep.org/>) to standardize EM&V of state energy efficiency programs. NEEP is currently planning to develop these standards in a collaborative fashion during the summer and fall of 2009. Campus CSNE will learn about these standards through discussion with NEEP staff and representatives and refine the data collection methods of GHGERF funded projects to maintain compatibility with these standards. This will provide the opportunity for "apples to apples" comparison of New Hampshire's project results with other Northeastern state energy efficiency programs.

Campus CSNE will analyze and evaluate the carbon reductions and economic costs/benefits of each individual projects. Carbon emission reduction will be calculated by analyzing the before and after energy performance of buildings based on both thermal and electrical energy use and expenditures (provided to Campus CSNE by the projects funded by the GHGERF) using standard methods we developed for our analysis for the NH Climate Change Policy Task Force. Implementation costs will also be obtained from each of the projects, as well as overall project expenditures (from the State). The economic benefits of reduced energy costs will then be directly calculated. Where appropriate, an economic multiplier will be used to estimate the broader economic impacts of cost savings and estimates of green jobs created. All economic costs/benefits analysis will follow the methods we developed for our analysis for the NH Climate Change Policy Task Force. The actual dollar and carbon savings of the projects as well as other economic benefits will be determined on a semi-annual basis. This information will be summarized in report form and entered into the secure online database This "real world" empirical data will be essential in informing future NH public policy initiatives related to energy efficiency expenditures in the future.

Annually, the Campus CSNE team will scale up the progress of individual projects to estimate the impact of the different categories of energy efficiency initiatives at the state level. This will involve developing several scenarios based on the rate of implementation of energy efficiency projects across the state. This will help to inform the potential carbon dioxide reductions, implementation costs, cost savings, and employment impacts from these categories of projects within the State out to 2025. This information will be presented and discussed in a report provided to the State and presented on the project website. These analyses will build directly upon the analysis we have already completed for the NH Climate Change Policy Task Force.

All assumptions used in our modeling and analysis will be documented and available via the project website for comment and revisions to future modeling runs. We are committed to transparent analysis so that our assumptions are clearly spelled out. Results of the analysis will also be presented on-line in table format, carbon dioxide emission reduction "wedge" graphs, and graphs of emissions reductions versus economic benefits. In addition to the scheduled reporting of aggregated project data, Campus CSNE staff will be accessible to address ad-hoc data requests and analysis requested by the State.

At all times in the collection, analysis, and presentation of project data, strict project privacy standards will be observed. These standards will be developed in collaboration with the NHPUC.

#### **E. Deliverables Schedule:**

July-Aug, 2009

Create a non-public database of funded GHGREF projects:

- a. Meet with State staff to discuss objectives and methods of proposed Campus CSNE analysis and dissemination

- b. Input details of GHGERF funded projects including projected energy savings, greenhouse gas emission reductions, costs/benefits and other key project metrics listed in funded proposals
- c. Evaluate projected energy savings, greenhouse gas emission reductions, costs/benefits
- d. Collect by an interview process with grant recipients data on past energy use at project site (at least one year; preferably three years) for funded projects and input into the database
- e. Submit a summary report to the State

Develop project web site for internal (i.e., PUC, EESE Board) and external use.

Develop an Evaluation, Measurement & Verification (EM&V) protocol and other supporting procedures:

- a. Collect information on existing EM&V protocols (e.g., NH CORE Program and NEEP) to guide development of GHGERF protocols. The methodology will seek to be compatible with existing reporting to allow for meaningful comparisons.
- b. Develop additional protocols/procedures (e.g., data request protocol; privacy [confidentiality] policy for project-specific data).

Sept 2009

Convene a workshop at the State to review draft protocol, information system design, and consider additional data features.

Establish meeting schedule with State to discuss updates/changes/deletions to data collection process

Sept 2009

Finalize EM&V protocols with standards documentation. Submit semi-annual report (and presentation if desired). Integrate protocols and standards into GHGREF request for proposals as necessary.

December 2009

Begin discussions with State regarding development of version 2.0 of database with web-based access that utilizes the new EM&V protocol

June 2009 – June 2010

On-going evaluation and analysis function.

- a. Independent analysis by Campus CSNE to verify numbers submitted in RFP process documents.
- b. Utility data and other data collection, and input into EM&V system
- c. Semi-annual reporting of aggregated project performance Includes specific report outputs to track NH Carbon Task Force action items
- d. Respond to Ad-hoc State and authorized party data requests
- e. Update project website to allow the public to view aggregated results of estimated costs/benefits of different types of energy efficiency projects
- f. "scale up" project-specific results to estimate the state wide energy efficiency potential and broader impacts on state greenhouse gas emissions and the state economy (including costs/benefits/job creation) of different types of projects
- g. Engage UNH undergraduate and graduate students in research and analysis on project.

- Submit year-end report
- Submit proposal for Year 2 funding

**DELIVERABLES**

1. The grantee agrees to prepare and submit quarterly reports to the PUC, in a form and manner prescribed by the PUC, beginning 90 days from the date of Governor and Council approval of this grant agreement and continuing throughout the life of the grant. Reports shall include a detailed summary of all work completed, including an account of milestones achieved, and a description of any obstacles encountered as well as any planned milestones that were not achieved. Within thirty (30) days of the conclusion of the grant award, in lieu of a quarterly report Grantee shall submit a final report providing a detailed summary of the results of the grant project, obstacles encountered, and any work from the Scope of Services that was not completed.

In consideration of the satisfactory performance of the services described in Exhibit A, as determined by the State, the State agrees to pay University of New Hampshire an amount not to exceed \$139,945.

All obligations of the State, including the continuance of any payments, are contingent on the availability of and continued appropriation of funds for the services to be provided. Payments hereunder are contingent upon the availability of funds derived from the Greenhouse Gas Emissions Reduction Fund pursuant to RSA 125-O:23.

**F. Budget and Invoicing Instructions:**

Campus will submit invoices to State on regular Campus invoice forms no more frequently than monthly and no less frequently than quarterly. Invoices will be based on actual project expenses incurred during the invoicing period, and shall show current and cumulative expenses by major cost categories. Invoices will be reviewed and measured against the scope of services and approved by the Director of the Sustainable Energy Division or his designee. State will pay Campus within 30 days of receipt of each invoice. Campus will submit its final invoice not later than 75 days after the Project Period end date.

Budget Items	Sponsor	Cost Share	Total
1. Salaries & Wages	\$ 60,504	\$ 0	\$ 60,504
2. Employee Fringe Benefits	\$ 23,316	\$ 0	\$ 23,316
3. Travel	\$ 3,000	\$ 0	\$ 3,000
4. Supplies and Services	\$ 12,950	\$ 0	\$ 12,950
5. Equipment	\$ 0	\$ 0	\$ 0
6. Facilities & Admin Costs	\$ 36,282	\$ 0	\$ 36,282
Subtotals	\$139,945	\$ 0	\$139,945
Total Project Costs			\$ 139,945