

US EPA ARCHIVE DOCUMENT

## Project Summary

**Project Title:** Maine Department of Environmental Protection Demonstration Project:  
Using Voluntary Carbon Markets to Achieve Greenhouse Gas Emission Reductions

**Project Applicant:** Maine Department of Environmental Protection,  
Office of Innovation & Assistance

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**Total Project Cost:** Total Budget: \$ 197,000  
Requested from EPA: \$175,000  
Leveraged, Non-Federally Funded: \$ 22,000

**Project Period:** October 1, 2009 to September 30, 2013

**Project Abstract:** Climate change is the most pressing environmental challenge of our times, and may also prove to be the most pressing humanitarian and economic challenge. Seventy Maine businesses, institutions, and non-profits have voluntarily entered into agreements with the Maine Department of Environmental Protection to reduce their greenhouse gas emissions through our innovative Governor's Carbon Challenge program. The DEP seeks funding from EPA to help it advance the implementation of this performance based environmental leadership program by the development and implementation of incentives to increase the number of participants and greenhouse gas reductions achieved. This funding will allow us to take the following unprecedented and innovative actions: 1) train DEP staff to verify Carbon Challenge members emissions reductions using accepted protocol, and 2) provide the participants with the opportunity to sell their carbon reductions into one or more credible carbon trading markets. The ability to trade in the carbon markets will provide an additional financial incentive and interest in the program that we expect will double participation in the Carbon Challenge, as well as increase GHG reductions by at least 15%. This trading program will also serve as a model for creation of similar programs in other states. The lessons learned will contribute to the creation of an economy-wide federal cap and trade program.

**Statutory Authority and Flexibility:** 38 M.R.S.A. § 575(2), establishing the Environmental Leader/Governor's Carbon Challenge program. There is no regulatory flexibility needed to implement this project.

**State Agency Support:** David P. Littell, Commissioner, Maine Department of Environmental Protection, is aware of and fully endorses this proposal.

## Budget Summary

**State:** Maine

**Agency:** Department of Environmental Protection

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Using Voluntary Carbon Markets to Achieve Greenhouse Gas Emissions Reductions

<b>Funding Categories</b>	<b>Total Project Costs</b>	<b>Proposed State Leverage Funds</b>	<b>EPA Funding</b>
<b>Personnel (incl. fringe and overhead)</b>	<b>\$ 110,000</b>	<b>\$ 20,000</b>	<b>\$ 90,000</b>
<b>Travel</b>	<b>\$ 5,000</b>		<b>\$ 5,000</b>
<b>Capital Equipment</b>			
<b>Supplies</b>	<b>\$ 2,000</b>	<b>\$ 2,000</b>	
<b>Contractual</b>	<b>\$ 80,000</b>		<b>\$ 80,000</b>
<b>Other</b>			
<b>Total</b>	<b>\$ 197,000</b>	<b>\$ 22,000</b>	<b>\$ 175,000</b>

## Pre-Proposal Narrative

**a. Issue Statement:** Climate Change is the most pressing environmental, humanitarian, and economic challenge of our time. EPA's October letter announcing the 2009 State Innovation Grant Competition notes its interest in advancing implementation of performance-based environmental leadership programs, particularly including the development of incentives and supporting innovations to reduce greenhouse gas emissions. This project would advance all three of these objectives.

The U.S. government has to date declined to adopt or to become a party to mandatory cap and trade programs designed to reduce emissions of greenhouse gases (GHG). While the U.S. now appears poised to support federal action on climate at both the Presidential and Congressional levels, it is still too early to ascertain the details of any such action, or a timetable for implementation. Achieving the aggressive emission reductions necessary to stabilize the climate by mid-century will take "all hands on deck" at the local, state and federal levels in the U.S. and globally, through both regulatory and market approaches to the problem. Maine has helped to lead the way by encouraging businesses, institutions and municipalities to reduce their greenhouse gas emissions voluntarily through participation in the Governor's Carbon Challenge, an innovative non-regulatory program that has helped achieve significant GHG reductions.

The Maine Department of Environmental Protection's Office of Innovation and Assistance proposes to significantly expand its voluntary Governor's Carbon Challenge program by providing three new services to program participants: 1) the ability for DEP trained staff to verify the carbon reductions achieved by program participants under accepted standards and protocol, 2) provide access for program participants, either individually or in aggregate, to emerging credible voluntary carbon markets, and 3) assist program participants with trading

We believe that this project will make Maine a laboratory for the larger federal climate effort. The lessons learned from and the results of this innovative project -- particularly with regard to the intersection of business/institutions/municipalities and the voluntary carbon markets -- can be used to help inform federal action, particularly on cap-and-trade programs that will rely on a market mechanism.

**b. Background.** Maine has been one of several states in the nation to acknowledge the seriousness of the climate threat and to implement actions to reduce greenhouse gas emissions. In 2003, Maine became the first to establish in statute the goals established in the 2001 Agreement among the New England Governors and Eastern Canadian Premiers to reduce greenhouse gases, ultimately by 75% to 80% from 2003 levels.

Maine's 2003 Climate Act directed the Maine Department of Environmental Protection (ME DEP) to develop at least fifty agreements with businesses, institutions, municipalities and non-profit organizations to voluntarily reduce their greenhouse gas emissions. The ME DEP has reached out to prospective participants through personal contact, the internet, workshops, and other means. As a result of these efforts, seventy participants, representing 140 businesses, municipalities and institutions, have joined the

Governor's Carbon Challenge and have committed to reduce their greenhouse gas emissions. Participants are required to establish an emissions baseline and measure and report their energy usage annually; the ME DEP has developed a computer model that converts these annual energy consumption numbers into annual carbon emissions.

It has become clear that we will need to provide further incentives to attract additional participants into the program. Based on discussions with current participants in the GCC Program we expect that we would be able to attract significantly more participants and achieve significantly greater voluntary GHG reductions if we could provide participants the ability to verify their carbon reductions and provide them access to the emerging voluntary carbon market. Direct comments have included "ability to sell carbon reductions into the voluntary markets increases the program's attractiveness". We have the leadership, staff technical strength and enthusiasm to assist them to do so.

We have also explored how we would go about this project and its feasibility. We have conducted preliminary research to ascertain whether carbon reduction verification training programs are available to ME DEP staff. We have contacted potential trainers to evaluate their willingness to hold trainings in the New England region. We have worked with individuals with expertise in the emerging voluntary carbon markets to determine how we would select and access credible trading markets. We have contacted other states to determine their interest in working with us. In short, we have determined through this preliminary research that this project not only is feasible, but that others find it extremely needed as well as exciting.

Two questions that must be asked are how this project fits with the Northeast's Regional Greenhouse Gas Initiative (RGGI) and with potential federal cap and trade legislation. First, while RGGI is a nationally precedential and groundbreaking program in which Maine is proud to participate, its emissions cap is limited to the region's electric generation facilities. There are many additional opportunities for greenhouse gas emission reductions from other sectors that can and should be pursued.

Second, it is still far too early to know whether and when a federal cap and trade program would take effect, or the details of such a program. There are clear benefits to the early establishment of credible, quality, voluntary trading programs now, including capturing many sources that contribute to GHG emissions but that are not and may not be regulated through a mandatory cap and trade program. Mandatory programs may not be established for quite some time in the U.S., potentially many years. The lessons we learn from establishment of rigorous voluntary trading programs will be valuable when mandatory markets are ultimately established. Establishment of successful voluntary programs can help build support for and speed the creation of mandatory cap and trade programs. Finally, this project strongly aligns itself with 3 of EPA's Strategic goals including Goal 1- Clean air and Global Climate Change, Goal 4- Healthy Communities and Ecosystems and Goal 5- Compliance and Environmental Stewardship.

Program Guidelines and Eligibility Requirements. The underlying statutory authority for the Environmental Policy and State Innovation Grant draws from all of the existing program authorities, including the Clean Air Act. In addition, EPA's 2006-2011 *Strategic Plan* Objective 5.2 requires that the agency's efforts "improve environmental performance through pollution prevention and innovation" and promotes "environmental policy innovation." This project is in line with these objectives and EPA's Threshold Criteria, as described below:

#1: This demonstration project will test the proposition whether development of a voluntary carbon trading program will increase participation in the Governor's Carbon Challenge, and the emission reductions achieved by program participants. It also involves the training of DEP staff to verify carbon reductions. If established, Maine would become the *first state in the nation* to establish such a voluntary carbon trading program as part of its approach toward meeting GHG reduction goals. By testing this market-based approach, Maine can learn and share the results of this project nationally in hopes of further encouraging other states to incentivize GHG reductions through voluntary market-based methods as demonstrated.

#2: The project's general focus is pollution prevention in the area of climate change. We will track and measure reductions in metric tonnes. In addition, we will measure the number of new recruits into the Governor's Carbon Challenge, and the number of facilities wishing to participate in the voluntary carbon trading market. This will allow us to measure how economic incentives drive participation in an innovative voluntary program.

#3: This pre-proposal is in substantial compliance with EPA requirements including the pre-proposal submission requirements set forth in Section IV of the Request for Initial proposal number EPA-OPEI-NCEI-09-01. In addition we have provided non-mandatory information including a logic model, letter of support, and resumes of staff, which further demonstrates our experience and qualifications under this project as described.

**c. Project Objectives.** The objective of this project is to provide Maine businesses, institutions, and non-profits easy access, either individually or in aggregate, to credible voluntary carbon trading programs through the Governor's Carbon Challenge. By training ME DEP staff to verify carbon reductions using accepted protocol, and by giving program participants easy access to voluntary carbon markets, we will demonstrate whether providing a market-based price for carbon reductions incentivizes entities to reduce greenhouse gas emissions above and beyond that which they are already doing. Through implementing this project, we will be able to demonstrate a broad strategic innovation in Maine that could be applied regionally and nationally.

**d. Methodology or Technical Approach.** To achieve the project objectives, ME DEP proposes the following methodology, specific innovation changes in the regulatory process and management, activities, milestones, and schedule:

1. Discuss and encourage specific innovative ideas in the creation of this program with management, policy-makers and opinion leaders knowledgeable in carbon markets (November 2009 to February 2010):
  - a. Survey current Carbon Challenge participant list;
  - b. Survey non-participant business and trade groups and municipalities;
  - c. Meet with selected participants and non-participants to engage stakeholders; and,
2. Evaluate types of emission reductions (ER) being made currently by Carbon Challenge participants to determine whether these ER methodologies are currently recognized by a credible standard that ultimately may be relied upon for this trading program (November 2009 to February 2010). We will retain an ER methodologies expert to:
  - a. Conduct a survey of Carbon Challenge participants to evaluate the types of ERs being implemented, utilizing a written survey instrument and one-on-one interviews;
  - b. Identify approved methodologies that participants can use to measure baseline emissions and historic and future reductions; and,
  - c. Assess the need for new methodologies.
3. Retain outside expertise to conduct research to determine (February 2010-November 2010):
  - a. Which of the many competing voluntary carbon market standards should be selected and utilized;
  - b. How ME DEP staff will be trained to become third party validators and verifiers of emissions reductions by Carbon Challenge participants;
  - c. How to aggregate participant emission reductions; and,
  - d. Which registry should be used to track emission reductions.
4. Based on the results of the above research (December 2010-September 2013):
  - a. Develop new ER methodologies for Carbon Challenge participants;
  - b. Train ME DEP staff to become third party validators and verifiers of carbon reductions;
  - c. Select a voluntary carbon trading program that is credible and accessible to Carbon Challenge participants individually or in aggregate;



- d. Implement new trading elements into the Governor's Carbon Challenge Program, including: development of guidance documents and educational information describing the program; holding workshops, conferences and trainings to attract new participants;
- e. Provide outreach to EPA and other state partners and collaborators to allow a broad replication of this market both regionally and nationally.

Selection Criteria. Maine DEP is proposing an innovative and precedential program that will test whether small and medium-sized businesses, municipalities and institutions will respond voluntarily to the price signals provided through carbon trading markets by reducing their carbon emissions. This voluntary market approach will provide valuable lessons as the nation grapples with mechanisms to successfully tackle climate change. This advances EPA's goal to implement voluntary performance-based environmental leadership programs (Governor's Carbon Challenge) through implementation of financial incentives.

Maine DEP has operated the Governor's Carbon Challenge since 2003, and has records of number of participants and emission reductions achieved. We will be able to measure the results of this project through two metrics: 1) number of new participants and 2) carbon reductions (metric tonnes) achieved per participant and in total pre- and post-project.

This program will be replicable by other states and will provide valuable lessons as the nation moves forward with development of climate legislation, regulatory approaches, and other actions, including voluntary market-based approaches.

Collaborations and Partnerships. Maine DEP Office of Innovation and Assistance will be the lead agency on this project, but will work closely with many other entities in Maine working on climate change, including: members of the Maine Global Warming Action Coalition (MGWAC), existing and prospective Carbon Challenge Participants, other state agencies, municipalities that participate in Cool Communities and ICLEI, and colleges and universities that have committed to reduce their carbon footprints through the American College & University President Climate Commitment (ACUPCC). We also will work thorough EPA's regional and national Innovation leadership to ensure this project is transferable as broadly as possible within the States Innovation network.

Public Involvement. The workplan contains several activities designed to involve the public in this project, including through surveys, meetings with individuals and trade groups, municipalities, and the like. In addition, Maine DEP Office of Innovation and Assistance has developed a brochure for the Carbon Challenge and hosts a website with a link to the Governor's Carbon Challenge, which lists participants and links to Case Studies describing successful efforts to reduce greenhouse gas emissions. Our following website <http://www.maine.gov/dep/innovation/gcc/> will be updated to provide information on this project.



**e. Outcomes and measures.** The major outcome of this innovative project will be to demonstrate response to market mechanisms and their impact on reducing greenhouse gas emissions in Maine. Achieved goals will be measured in metric tonnes utilizing the Governor's Carbon Challenge baseline data and guidelines. In addition, we will measure the increased numbers of participants in the GCC program due to the added economic incentive of participating in a carbon trading market. An added anticipated outcome will be increased attention paid to, excitement surrounding and participation in the Governor's Carbon Challenge, with the primary air and climate benefit being increased emission reductions from existing and new members. A voluntary trading program will enable participants in the Governors' Carbon Challenge to quantify their emission reductions and sell them to entities seeking to purchase carbon offsets to meet their own reduction needs and/or goals. As a result of this we expect significant additional GHG emission reductions from what otherwise would have occurred absent development of a voluntary carbon trading program in Maine. The emission reductions achieved through conservation, efficiency, renewable energy and potentially carbon sequestration will be quantified in metric tonnes of carbon reduced. It is also expected we will be able to provide case studies of the economic savings achieved through these measures, which savings will be quantified in total dollars.

The ability to trade in the carbon markets will provide an additional financial incentive that we expect will double participation in the Carbon Challenge as well as increase GHG reductions by participants by at least 15%.

Specific outcomes of this project for DEP are to:

1. Gain an understanding of the kinds of carbon reductions Maine entities are currently making and are most likely to make if they could participate in the carbon market;
2. Gain a better understanding of the carbon market and how to become a participant in it;
3. Gain the knowledge to identify, measure, aggregate, and sell emission reductions in ways that benefit Maine people and that can be replicated in other states; and,
4. Play a leadership role among state agencies, the energy community, and people in the carbon arena educating them about the substantial benefits that the carbon market can bring.

Through this program, the Governor's Carbon Challenge Participants will:

1. Gain an understanding of the opportunities presented by carbon trading programs and how to participate in them;
2. Gain access to such programs;
3. Realize revenues generated from the sale of credible, quality emission reductions; and,
4. Publicize the economic and environmental benefits of energy conservation, efficiency, renewable energy and carbon sequestration, as well as the sale of associated carbon reductions to colleagues who may not currently be GCC participants.

Through this program, state public policymakers and opinion leaders will:

1. Gain an increased understanding of the value and legitimacy of emission reduction programs, which increases chances that these programs will receive support from other sectors and sources; and,
2. Support public policies that remove existing financial and other barriers to carbon reductions.

Environmental Outputs: It is expected this project will also have the following major project outputs to be achieved during the project period:

1. Notices to Stakeholders involved in evaluating and adding value to the voluntary market implementation will be notified of meetings, review of draft forms and trading methodologies;
2. Meetings throughout the project are expected to take place at several steps and levels including updates to management and policy developers, stakeholders and project staff meetings with EPA Innovation staff;
3. Methodologies for recruiting members into the Governor's Carbon Challenge including promoting the project elements such as ER trading;
4. Training manuals and forms will be developed to assist Governor's Carbon Challenge members in reporting and trading their ERs;
5. The number of participants trained in measuring ERs coupled with trading methodologies;
6. The number of participants trained; and
7. New or improved elements to the Governor's Carbon Challenge and Voluntary trading.

Additional environmental outputs. This project will benefit not only ME DEP, participants in the Governor's Carbon Challenge, and policymakers and opinion leaders, but also the public at large. The environmental benefits include reducing emissions that contribute to climate change as well as the emissions of other pollutants that are contributing to poor air quality for Maine's residents and the Region. The economic benefits include enhancement of participants' financial bottom line. This project aligns very closely with EPA's Strategic Plan for Clean Air and Global Climate Change, which is focused on protecting and improving the air so that it is healthy to breathe and the risks to human health and the environment are reduced.

**4. Past Performance-Programmatic Capability and Reporting Environmental Results-** ME DEP Department of Environmental Protection (ME DEP) was awarded the 2004 State Innovation Grant to conduct an auto body ERP. ME DEP began an Auto Body ERP in October 2004 and concluded the project in March 2007. We focused the ERP on the air quality non-attainment areas in Southern ME DEP (York, Cumberland and Sagadahoc counties). ME DEP also was awarded the 2007 State Innovation Grant to conduct a joint Pilot Stormwater ERP with the State of Massachusetts, which we have consistently reported out on a quarterly basis to date; this project is slated to be completed in 2010. The ME DEP has been awarded pollution prevention grants annually to undertake significant pollution prevention projects that have included source reductions in various

business sectors including toxic and hazardous waste reductions, greenhouse gas reductions, and have provided structured incentives through an established Environmental Leader program. In addition, ME DEP has been awarded two EPA Source Reduction grants in the past funding period and the current funding period to reduce specific pollutants, with the first being municipal carbon emissions; and the current project targeting public pools and chemical usage.

The following is a selected list of federally funded agreements similar in size, scope and relevance to the proposed project that ME DEP has performed within the last three (3-5) years: FY04-06 EPA Network Implementation Grant (\$1.1Million) EPA's State Innovation Grant FY04-06 (199K), EPA's Pollution Prevention (FY07 annually \$80,000), Performance Partnership Agreement FY07 7,167,975, EPA's State Innovation Grant FY07-11 \$ 300,000, TSCA (PBT) Grant FY 03 (500K), EPA Source Reduction Grant ) FY07-08 \$20,000, EPA Source Reduction Grant ) FY08-09 \$23,000., Department of Defense and State MOA 1.6 million FY 06-07, Coastal Zone Management 543,320 FY07, and FY04-06 EPA Network Implementation Grant (\$1.1Million).