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**Colby College
Waterville, Maine
Spring 2008, Climate Action Plans**

BACKGROUND

Campus Profile

Founded in 1813, Colby College is one of the oldest private liberal arts colleges in the nation. A four-year residential college, Colby has 1,871 students who study under 159 full- and 69 part-time faculty members. The school is a national leader in adopting sustainable practices and has been recognized by the Environmental Protection Agency and State of Maine for its commitment to environmental stewardship both in academic programs and in practices adopted on campus. The college is currently pursuing a multifaceted approach to campus greening (see: www.colby.edu/green/); and eEfforts to extend successful initiatives to the local community have been promoted by Colby's Environmental Studies Program, the Goldfarb Center for Public Affairs and Civic Engagement and, most recently, by the Science, Technology and Society Program. Increasingly, Colby students are participating in internship projects with government, business and other organizations that emphasize sustainability and resource conservation.

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GOALS AND ACCOMPLISHMENTS

Goals

This project was conceived when the success of sustainability efforts on the Colby campus was noted by local citizens who wondered if these efforts could be extended to the City of Waterville (population ~15,000). A plan to extend campus sustainability initiatives to Waterville city government using a summer student intern emerged from discussions with interested community members. Enthusiastic support for the project was garnered from Michael Roy, Waterville City Manager and a Colby graduate. Community member Jerry Tipper served as the communication link between the City of Waterville and Colby's Environmental Studies Program. Tom Tietenberg, Professor of Economics and Environmental Studies, agreed to mentor the project intern, and Kate O'Halloran, then-Assistant Director of the Goldfarb

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Center for Public Affairs and Civic Engagement, facilitated project logistical support. Stephen Erario, who is a double major in environmental studies and Science, Technology and Society, was hired in summer 2007 as the first Colby intern to help design and implement the Waterville Sustainability Project.

The broad goals of the project were to assess Waterville's environmental impacts and to outline an action plan that the city could use to enhance its sustainability. Eventually, the goals of the project were more precisely defined as:

- Inventory energy use and greenhouse gas (GHG) emissions for all municipal operations and the community at large (residential commercial, and industrial sectors).
- Encourage the city council to establish GHG emission reduction targets for Waterville.
- Design a plan of action to enable the city to meet the established emission targets.
- Identify nonenergy areas where environmental sustainability could be improved.
- Establish the Waterville Sustainability Committee (WSC), which was charged with establishing target indicators, monitoring progress relative to these indicators and making recommendations for action to appropriate city officials and committees to maintain project momentum.
- Demonstrate the utility of employing college interns as catalysts for municipal sustainability enhancements.

The major goal for the second year of the project was to maintain project momentum by supporting the mission of the WSC, which focuses on the promotion of energy conservation strategies, advocacy for alternative energy use by residents, businesses and municipal operations, and maximizing opportunities for resource conservation. Specific plans to conserve resources and reduce energy costs and associated GHG emissions included:

- Evaluate solid waste, recycling and composting practices and making any appropriate recommendations.
- Standardize the process of community and municipal energy use assessments.
- Communicate the lessons learned to citizen and municipal energy action groups.
- Explore regional opportunities for coordinated and cooperative energy use and resource conservation.
- Communicate project status and achievements to Waterville residents.
- Provide educational resources to the public to facilitate energy conservation and community GHG reductions.

Accomplishments

Project accomplishments include the establishment of a comprehensive, community-wide, GHG-emissions inventory and the creation of a Waterville climate action plan to help reduce these emissions. The inventory and action plan were constructed using the Clean Air and Climate Protection software, with the technical support of Local Governments for Sustainability (ICLEI), an international association of local governments, as well as national and regional local-government organizations that have made a commitment to sustainable development.

When City Mayor Paul LePage signed the U.S. Mayors Climate Protection Agreement on July 3, 2007, Waterville became a "Cool City" and committed to achieving a 7 percent GHG emission reduction from 1990 emissions levels by 2012. This set of project outcomes was followed by the establishment of the WSC, a task force composed of citizens and city officials designed to pursue project recommendations and plan for expanding citizen engagement. First convened in November 2007, the WSC's progress through June 2008 has been impressive.

Working with the project intern, the WSC established a mission statement, set objectives and began planning future work. The intern also led committee discussions to help frame opportunities to enhance city sustainability. Specific energy conservation strategies proposed included: energy efficiency (e.g., retrofitting fluorescent lights), energy conservation (e.g., turning off equipment when not in use) and fuel switching (e.g., moving from petroleum-based fuels to biofuels.) Other topics considered by the WSC included education strategies, green purchasing, water quality enhancements, appropriate use of land and open space, waste reduction, transportation enhancements and eliminating environmental hazards. Similar discussions were also held with different city departments to frame appropriate ways to analyze energy use and introduce potential reduction strategies.

The WSC also advocated for the adoption of the Maine Governor's Carbon Challenge (GCC), a carbon-reduction agreement by the City Council. The agreement commits the city to a 5 percent reduction from 2006 GHG emissions levels by 2010 and a 10 percent reduction by 2020. Using resources from Maine Partners for Cool Communities (MPCC), the WSC revised an existing building energy policy for adoption for all city facilities.

Because of his knowledge, experience and commitment to the Waterville Sustainability project, the original intern was rehired for summer 2008 to continue the project momentum. Intern projects that summer included advising city officials on the energy efficiency retrofit of city hall, helping establish new WSC action subcommittees and helping organize an energy expo to further raise community awareness. In addition, two additional Colby interns were hired to expand the Waterville project to include two nearby municipalities. These interns also created a wiki-based website to help centralize Maine-specific sustainability resources and track the progress of Maine municipalities in achieving environmental sustainability.

Challenges and Responses

Energy and climate change are relatively recent areas of concern for local governments. Consequently, there is a lack of consolidated resources and expertise on municipal climate action. Initially, there was considerable advice about how to start the process in Waterville, but the guidance offered was often contradictory. This confusion made addressing project challenges a learning process guided more by intuition than by a standard protocol. Some of the challenges encountered and subsequent responses implemented included:

Challenge

- How to educate an inexperienced intern.

Response

- Investigate what other communities are doing to address issues of environmental sustainability.
- Evaluate efficacy of different approaches advocated by support organizations.
- Network with state and local government officials and nonprofit-organization leaders who are engaged in climate change work.

Challenge

- Lack of a defined pathway for the intern's work.

Response

- Assess related past achievements by the municipality.
- Evaluate political goals and realities of the city.
- Define project scope and the most efficient use of limited time.

Challenge

- Lack of available time for municipal and state agency employees.

Response

- Become well informed about project components from publicly available resources.
- Efficiently frame information requests to minimize employee time demands.
- Provide sufficient time for busy municipal employees to respond to information requests.
- Target municipal employees concerned about energy conservation or climate change impacts and use them as project resources.
- Motivate and encourage employees to feel that their contributions are helpful and appreciated.

Challenge

- Slow movement of government bureaucracy.

Response

- Befriend municipal employees and elected officials to help identify the most efficient path forward.
- Identify needed data and request this information as soon as possible.

ENGAGEMENT AND SUPPORT

Leaders and Supporters

More than one hundred people contributed in a variety of ways to the success of the Waterville Sustainability Project. The key leaders and supporters were:

- Michael Roy (class of 1974), City Manager of Waterville, who made the project a priority and remains the leading advocate for a more sustainable Waterville
- Ann Beverage, Water City Planner, who served as inspiration and a city mentor to the intern throughout the process
- Henry Beck (class of 2009), Waterville City Councilor and Waterville Sustainability Committee Chair, who leads the WSC's efforts and tactfully navigates the political landscape
- Steve Erario, Colby student who served as the project intern for two summers, coordinated the Waterville Sustainability Project and wrote the report, "A Sustainable Waterville"
- Professor Tom Tietenberg, who offered sound advice, consistent support and ceaseless optimism for the intern
- Kate O'Halloran, former Assistant Director, Goldfarb Center for Public Affairs and Civic Engagement, who provided project support including use of a car as needed
- Joan Saxe, Coordinator, Maine Partners for Cool Communities, who has ably lead the Maine climate action movement and helped make Waterville a Cool Community
- Melissa Stults, ICLEI, who provided technical assistance for use of the Clean Air and Climate Protection software to complete the comprehensive ghg inventory
- David Kyle, Program Manager, Efficiency Maine Business Program, who identified grant opportunities for Waterville and helped define the project goals
- Julie Churchill, Assistant Director, Maine Department of Environmental Protection Office of Innovation, who helped Waterville join the Governor's Carbon Challenge and who worked collaboratively to disseminate the lessons of the project

Funding and Resources

The Waterville Sustainability Project was funded by an anonymous donor, who has catalyzed significant climate actions not only in Waterville, but also across central Maine. Project funding for year one included \$4,500 for salary, food, housing, gasoline costs, inventory tools and other miscellaneous

expenses. Based on the successful outcomes from the project's first year, the anonymous donor provided an additional \$15,000 to continue the Waterville study and expand the project to include two additional municipalities (Winslow and Fairfield). With Professor Tom Tietenberg retiring after year one, Professor Russ Cole assumed the advisory role for project interns for year two: Steve Erario, Kerry Whittaker and Rob Dillon.

Logistical support for the project was provided by the Environmental Studies Program and the Goldfarb Center for Public Affairs and Civic Engagement. The City of Waterville (first year) and Colby College (second year) provided workspace, phone, email and technical support. At the beginning of the project, MPCC presented case studies of successful municipal energy reduction initiatives to City Council. It also provided technical support and resources for the project. ICLEI provided the Clean Air and Climate Protection software, and advised the intern on methodologies for its use in developing the emissions inventory. Many state and local agencies, particularly the Maine Department of Environmental Protection, provided advice, technical support and data necessary to complete the emissions inventory and produce the city action plan

Community Outreach and Education

After eight months of work, the WSC is being reorganized and expanded by establishing four subcommittees—Education and Public Relations; Transportation and Land Use; Recycling, Composting, and Solid Waste; and Energy Conservation and Alternatives—to help increase citizen input and accelerate project progress. Project findings for the first year were presented in the “A Sustainable Waterville” report and disseminated through presentations to community members, city officials and the local Rotary Club. In addition, the WSC sponsored educational events and presented exhibits documenting project goals and outcomes at several locations (e.g., Waterville Public Library and Colby College campus). Building on the success of these events, during the second summer the WSC and Waterville Main Street (a downtown revitalization organization) cosponsored an energy expo to further educate area residents on the importance of sustainable energy practices and resource conservation. Government agencies, businesses, and nonprofits continue to collaborate to identify ways community members can save money and move toward more sustainable energy and resource practices. Press regarding the accomplishments of the Waterville Sustainability Project has been generated by Maine Partners for Cool Communities, the Governor's Carbon Challenge Program, the Colby Echo and local newspapers. In addition, the city website summarizes the goals and accomplishments of the Waterville Sustainability Project, as well as providing related resources for residents and business owners.

The achievements and lessons of the Waterville Sustainability Project continue to be disseminated beyond central Maine by project interns through networking, discussions and lectures, websites and direct consulting with government- and community-based energy and climate action groups. Project interns also worked with the GCC program to develop an inventory tool that takes energy use and waste inputs, calculates GHG emissions and displays these data on the annual reporting form to help facilitate sustainability efforts by other communities.

Campus Climate Action: Your School's Carbon Footprint

For many years, Colby has made a strong commitment to campus sustainability initiatives. For example, since 1998 the college has used cogenerated electricity, which now accounts for 9 percent of the electricity we use annually; and we have purchased 100 percent renewable electricity since 2005. In addition, Colby has reduced emissions from 1990 levels by 27 percent on a per-square-foot basis, far exceeding the 9 percent reduction stipulated in Maine Governor's Carbon Challenge and achieving this result two years before the 2010 deadline. President [first name] Adams has signed the American Colleges and University Presidents Climate Commitment, and our Environmental Advisory Group is working on a

plan to meet the goals of this commitment. To support Colby's goal of achieving carbon neutrality, we maintain a detailed GHG inventory. The Waterville Sustainability Project illustrates Colby's goal of fostering environmental stewardship and raising awareness about the critical issues of climate change and resource conservation both on and off campus.

National Wildlife Federation's Campus Ecology® Program

The collection of case studies featured on the National Wildlife Federation's Campus Ecology website provided an effective and efficient resource to learn about successful campus greening efforts across the country. In addition, program staff members were helpful resources when we were writing the summaries of our greening initiatives.

CLOSING COMMENT

Towns and cities across Maine are reaping the benefits of sustainable practices and resource conservation strategies through reduced energy costs, improved air quality, safer and more productive workplace environments, reduced GHG emissions and more. The Waterville Sustainability Project was successful in initiating community action and provided a useful model to help guide similar efforts in other communities. The project interns, their Colby mentors, and Waterville municipal employees learned a tremendous amount in the first year of this project. However, some lessons intended to improve effectiveness and efficiency of future work are provided below.

Develop numbers-based, energy-use recommendations first and climate change inventorying second. Municipalities are generally more interested in saving money than in reducing GHG emissions to help mitigate climate change. Fortunately, the faster a municipality increases energy efficiency and saves money on energy purchases, the sooner the municipality will reduce GHG emissions. In addition, assessing energy use across municipal operations will generate much of the data necessary for a GHG emissions inventory. Analysis of energy use can also provide recommendations for municipalities to save money. Providing detailed costs and payback periods for potential energy efficient building retrofits encourages a municipality to implement recommendations sooner than it would if this information was not available.

Establish quantitative targets that are frequently monitored. Targets that require more frequent monitoring (e.g., energy benchmarking programs) can encourage data collection and analysis to become institutionalized and help a municipality to identify areas of energy inefficiency quickly and accurately.

Engage all key decision makers. Ensuring key elected officials, municipal employees and community leaders contribute their thoughts to developing a future action plan helps gain buy-in and generates three main benefits. First, it ensures that the broadest range of municipal operations and community life are considered when developing a plan of action. Second, it improves the efficiency and effectiveness of implementing solutions. Third, it enhances chances of developing a sustainable and consistent approach to addressing issues of sustainability and resource conservation.

Form an energy committee before the delivery of the final action plan. This step helps accelerate the implementation process and improves the sustainability and consistency of efforts to address efficient energy use and resource conservation.

Communicate successes broadly. In a typical community, municipal emissions account for 1–3 percent of total city GHG emissions. Perhaps the largest impact a government can make on community GHG emissions is to make changes in its own operations to demonstrate to businesses and citizens that they can

reduce their own energy use and GHG emissions. By doing so, the government can impact the other 97–99 percent of GHG emissions in the community.

Collaborate with other municipalities. Many of the efforts undertaken by one municipality can be easily replicated by another. For example, the design of an effective sustainability committee can be tailored to fit the needs of other communities. Increased collaboration among municipalities means more time can be spent assessing a municipality's particular situation, rather than investigating approaches to gather relevant information.

Waterville as a model community for climate action. Similarities in demographics, government structures and energy and resource use patterns among many Maine communities make the Waterville Sustainability Project a useful model for other municipalities to follow. Moreover, Mainers and Maine municipalities are notorious for their reliance on word-of-mouth recommendations to adopt new products and processes. Providing a municipal model of a successful sustainability project can help catalyze the climate action in many communities. Enthusiastic city officials and citizens will help spread the word.