The Ten Percent Challenge:
A Participatory Community Scale Climate Campaign

David Hill, Vermont Energy Investment Corporation
Jennifer Green, Vermont Energy Investment Corporation
Tom Buckley, Burlington Electric Department
Debra Sachs, Chittenden County Regional Planning Commission

ABSTRACT

This paper describes the development and launch of a local climate initiative underway in Burlington Vermont. The initiative includes a participatory climate campaign and monitoring and reporting activities. A case study of these activities is used as a departure point for a more general discussion of the relationships, similarities, and distinguishing features of monitoring and reporting activities undertaken to support entity based greenhouse gas reporting, and greenhouse gas registries. Not surprisingly, we find there is the potential for significant cooperation and synergies between the monitoring and reporting activities for local initiatives, entity based emissions accounting, and greenhouse gas registries. At the same time, we hope to make it clear that there are also significant differences in the specific needs, activities and methods likely to be developed and adopted by each. All three activities can support and facilitate emissions reductions. This paper does not advocate for a particular set of activities, but rather aims to help develop and refine common language and understandings that can be used by the planners and implementers for all three types of activities.

Introduction

On April 15th, 2002 Burlington Vermont launched the Ten Percent Challenge campaign. The Ten Percent Challenge (TPC) is a voluntary, community based, participatory campaign that enlists, empowers, documents, and reports upon climate actions taken by a broad range of participants in Burlington and elsewhere in Vermont. Through on-line and paper-form emissions calculators, the TPC provides a common platform across which energy efficiency, renewable energy, solid waste, and transportation actions to reduce carbon dioxide emissions are encouraged and tracked.

Of the five strategies identified in Burlington's Climate Action Plan, the TPC is the most publicly visible, the easiest to join, and the most transferable to other communities. This paper reviews the development, structure, and initial kick-off activities of the TPC Campaign and provides information and guidance for others seeking to implement local climate action plans, particularly if they choose to establish a participatory campaign. The design and early implementation experience from the TPC also raises a number of questions and issues with respect to what role, if any, local climate initiatives might play in encouraging or facilitating the formal registration of emissions reductions for trading or credit under mandatory or voluntary emissions reduction programs.

The remainder of this paper is presented in three sections. The first section provides a brief overview of three related but distinct strategies. These three are local climate initiatives, entity based greenhouse gas reporting, and greenhouse gas registries.

The second section focuses on a case study for a local climate initiative, the Alliance for Climate Action in Burlington Vermont. Special attention is given to the Ten Percent Challenge and to the Monitoring and Reporting Activities. Both are in the early stages of implementation, yet provide some guidance and reference framework for other initiatives.

The discussion of the TPC and Burlington's plans for Monitoring and Reporting sets the stage for the paper's third and final section, which examines issues and questions on the functional relationships between local initiatives, greenhouse gas registry programs, and entity based reporting.

Three Strategies to Motivate Emissions Reductions

Local Climate Initiatives

Although climate change is a global environmental issue, local communities and states play an important role in developing and implementing programs and strategies to reduce greenhouse gas emissions. In an earlier paper (Hill et al. 2000) we used the image of a child with a finger in the dike as analogy for discussing the importance of local climate initiatives. It remains an apt comparison. First of all, the child with a finger in the dike is not able, by him or herself, to halt, or even significantly diminish, the threat against which they are taking action. Second, the child at the dike demonstrates a willingness to take concrete, specific actions. Third, this direct action can serve as an alarm, and as a potential catalyst to bring increasing resources and attention to the situation. Finally, the demonstration of action and even small positive impacts can encourage others to take similar steps.

The International Council for Local Environmental Initiatives (ICLEI) has played a leading role in coordinating and encouraging the development of local climate initiatives under their Cities for Climate Protection Campaign (CCP). They have identified several reasons why local governments are often particularly well suited to be active in this area. First of all, local governments continue to directly influence and control many activities that produce emissions. These include investments in public transportation, land use planning, building codes, solid waste and recycling. Actions to reduce greenhouse gas emissions also often generate indirect community benefits, such as improved community livability, financial savings, and local economic stimulus. There are now more than one hundred United States municipalities participating in the Cities for Climate Protection Campaign. Internationally, more than 500 municipalities, accounting for nearly 8 percent of global greenhouse gas emissions are members (ICLEI 2002).

The CCP defines 5 milestones to guide the development of local climate initiatives (ICLEI 2002). These milestones are:

1. Conduct an energy and emissions inventory and forecast,
2. Establish an emissions target,
3. Develop and obtain approval for the Local Action Plan,
4. Implement policies and measures, and
5. Monitor and verify results.

Burlington, along with many other communities, has progressed through the first three milestones, and is now embarked on activities under milestones four and five. We have previously reported on the status of monitoring and reporting (M&R) activities for a group of nine communities participating in the CCP program (Hill et al. 2000). At that time we found that defining the objectives, responsibilities, resources and plans for monitoring and reporting was a significant challenge for most local initiatives. Factors making M&R difficult included, a lack of adequate resources, and technical issues such as boundary definitions, which are often exacerbated by a lack of common procedures and tools. In Burlington we are in the process of defining a two tiered approach to M&R activities that includes top-down estimation of total community emissions as well as bottom-up reporting on participation in the TPC. Combining these two methods will permit us to provide regular feedback to the community on activity in the TPC, as well as on overall emissions.

Entity Based Reporting

This is a second strategy to encourage and facilitate greenhouse gas emissions reductions. It is most typically conducted by corporate or other individual organizational entities rather than at the community level. A combination of factors typically motivates entity based reporting. Typically these include reducing regulatory risk (such as potential future regulatory compliance costs), reducing non-regulatory risk (energy costs), the demonstration of corporate environmental citizenship, and improved management of energy and material flows. Creating verifiable emissions reduction credits and emission baselines, for future use under emissions regulations or trading programs is often an important objective.

There are unique needs and issues associated with entity based reporting in comparison to local climate initiatives. First of all entity based reporting is likely to require greater verification efforts. Entity based reporting is also more likely to require regulatory and/or financial additionality, under which it must be demonstrated that emissions reductions goes beyond baseline levels. The baseline levels of emissions can include actions necessary to comply with regulatory requirements, or that would be undertaken as prudent financial decisions. Generally, entity based reporting is likely to require participants to adopt a significantly more detailed approach than that required for participants in a local climate initiative.

Protocols and accounting standards for entity based reporting have been developed by a multi-stakeholder partnership of businesses, non-governmental organizations, and governments, that was jointly convened by the World Business Council for Sustainable Development and the World Resources Institute (WBCSD & WRI, 2002). One outcome of this collaboration is "The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard". This document provides important guidance for entities wishing to report on emissions reductions and baseline emissions in a manner that is consistent with other parties. Parties following this protocol will improve the chances that they are reporting at a sufficient level detail to permit the future use of their reported emissions reductions under emissions trading programs or other regulatory schemes.

Additional work on framing issues for entity based reporting has been conducted by the Pew Center on Global Climate Change. Their contributions include individual reports covering corporate emissions inventories (Loreti, Wescot & Isenberg 2000), emissions

verification (Loreti, Foster & Obbagy 2001), and emerging greenhouse gas markets (Rosenzweig, Varilek & Janssen 2002).

Greenhouse Gas Registries

Greenhouse gas registries are the third related strategy. Most typically they are developed and implemented by a third party administrative body. They provide regulatory recognition for actions taken to reduce emissions. Registries may be developed at the state, regional or national level. Currently, most registry activity is taking place at the state and regional level. New Jersey's Open Market Emissions Trading (OMET) Program, adopted June of 2000, includes a voluntary mechanism for generation and banking of greenhouse gas credits (New Jersey Department of Environmental Protection 2000). Other states that have developed or are considering the development of greenhouse gas registries include Massachusetts, New Hampshire, Maine, Texas, California, and Wisconsin. The New England Governors and Eastern Canadian Premiers have also adopted a regional action plan that includes a registry (NESCAUM 2002). At the federal level, the U.S. Department of Energy has operated the Voluntary Reporting of Greenhouse Gases Program since 1994. The development of greenhouse gas registries is closely related to, and a logical extension of, entity based reporting. By serving as a formal mechanism and repository for emissions reduction reporting, registries increase the likelihood that actions taken early by individual entities will be recognized and receive credit in the eventual case of regulation. Registries also provide a critical piece of infrastructure to enable the future development and enactment of policy mechanisms such as an emission cap and trading program.

The Northeast States for Coordinated Air Use Management (NESCAUM) has developed an issue paper on Greenhouse Gas Information Programs as part of their Greenhouse Gas Early Action Demonstration Project (NESCAUM 2002). This paper further addresses the differences and similarities between current and proposed statewide registry programs.

All three of the strategies described above, local climate initiatives, entity based reporting, and greenhouse gas registries, help to facilitate and motivate voluntary, bottom – up, emissions reductions. They are particularly important given that the Bush administration's new national climate policy is keyed to reductions in "greenhouse gas emissions intensity". Because it ties emissions policy objectives to emissions per unit of economic output, the Bush policy is projected to result in the growth of actual emissions between now and 2012 at nearly the same rate as the present (Pew Center on Global Climate Change 2002).

Case Study: The Alliance for Climate Action in Burlington Vermont

The Alliance for Climate Action (ACA) is a multi-party alliance dedicated to the development and implementation of a climate action plan at the community scale. The ACA is comprised of local, regional and state-level professionals committed to working to reverse the growth of greenhouse gas emissions in Vermont. Currently, the ACA's main activities are focused on Burlington, but we anticipate the geographic scope will expand to include other areas of the state over time.

In May of 2000, the City Council of Burlington adopted a Climate Action Plan aimed at reversing the steady growth of greenhouse gas emissions (Burlington Climate Protection Task Force 2000). Five strategies were recommended in Burlington's Climate Action Plan, Table 1.

Successfully implementing all five strategies is projected to reduce emissions to approximately 90% of 1997 emission levels. In addition, the ACA is committed to working on further emissions reduction strategies and implementation to help the City reach the target of reducing emissions below 1990 levels. Two key components of the ACA work plan for attaining these goals are the Ten Percent Challenge, and Monitoring and Reporting Activities.

Table 1. Action Plan Strategies

Strategy	Goal: Annual CO2 Reductions by 2005
1. Implement action plans for municipal buildings and operations.	**6,000 tons** (Energy efficiency 4,000 tons; solid waste 2,000 tons)
2. Support the full implementation of planned (2000 – 2005) efficiency programs to maximize the capture of lost opportunity efficiency potentials.	**20,000 tons** (Residential 6,000 tons; commercial and industrial 14,000 tons)
3. Develop and lead a public education campaign. Demonstrate civic commitment to climate protection activities. Implement a ten percent challenge (TPC) program.	**70,000 tons** (Transportation: 20,000+tons and buildings: 50,000+ tons)
4. Support biomass-fueled community energy plans and other alternative fuel supply options.	**35,000 tons** for Phase I (50,000 tons at full build-out).
5. Implement transportation demand management projects and support climate friendly transportation policy at the local, state, and federal levels.	**25,000 tons** (TDM projects: 9,000-15,000 tons; transportation policies: 10,000 tons)
TOTAL GOAL	**156,000 tons**

The Ten Percent Challenge Campaign

The Ten Percent Challenge is a voluntary, community-wide, participatory campaign to assist and encourage businesses and residents in the greater Burlington region to reduce greenhouse gas emissions by 10% annually. With the help of a user-friendly web-site, the TPC aims to educate the public on global climate change, empower them with information on their own emissions history, and encourage individuals to reduce emissions. Unlike other action plan strategies that focus on government initiatives or larger scale efforts, this local-level campaign appeals directly to the citizen base, encouraging everyone to do a small part that ultimately contributes to the region's overall reduction goal. Also, while providing the community a source for information and resources on the serious nature of climate issues, the TPC avoids a "doomsday" approach to motivation, focusing on fun and the positive benefits to involvement.

Aware that a successful Campaign was only as good as the publicity received, the Alliance for Climate Action devised a well-structured and far-reaching marketing plan to advertise the Campaign. Overseen by the Communications and Outreach committee and drafted by Earthlogic Media Technologies, Inc. (an independent marketing firm) the marketing plan includes eleven marketing strategies covering outreach, participant recognition, media, sponsorship participation, and the mobilization of political support.

Marketing channels include the TPC web site, direct mailing, printed materials, public service announcements (including radio, public transit, and television), and outreach and promotion through ongoing activities and public interactions of ACA members.

Ten Percent Challenge Calculators

The Ten Percent Challenge has two emissions Calculators (one for business, one for residents). Available on the web, or in paper format, these calculators enable individuals to determine current emissions, and calculate an individual TPC goal. The Alliance understands that TPC success depends on appealing to the unique needs and interests of both business owners and Burlington-area residents. For example, the Alliance knew that staff, time and resource constraints could deter businesses from getting involved. Therefore, using the calculator needs to be relatively fast and easy and businesses would need to see a clear link between Campaign participation and positive recognition, financial savings, and/or improved employee morale. Similarly, strong residential participation requires an easy-to-access and use calculator requiring minimum effort and the knowledge that involvement would have positive environmental impacts.

The residential calculator provides participants with information on a variety of emissions reductions measures covering opportunities in energy efficiency, renewable energy, transportation, and solid waste. Each measure is associated with an average emissions reduction estimate. Participants can interactively select, and review the results for, an individual mix of the emissions reduction measures they consider most attractive or suitable for their household. The residential calculator is simple to use and requires relatively few user inputs. It seeks to encourage broad participation through ease of use, rather than to characterize individual emissions and emissions reductions with a high level of detail. This trade-off, providing an easy to use tool, at the expense of greater detail on each emissions reduction measure, is consistent with the overall objectives of the TPC.

The structure and content of the business calculator are somewhat different from the residential calculator. Like the residential calculator, the business calculator helps participants estimate their current annual emissions through a simple inventory of energy use, solid waste, and transportation practices. It also informs participants of a number of potential emissions reduction measures and provides contact information for organizations and services (efficiency programs, the solid waste district, etc) that can help to identify and implement actions that are most appropriate for a given business. The business calculator does not estimate emissions reductions for a specific measure, or allow businesses to sum up the reductions from a selected set of measures. This is because the variability and range of savings in the commercial sector are much greater than in the residential sector, and therefore it does not make sense to apply the same type of average emissions reduction approach that is used in the residential calculator. The business calculator is an information tool that helps to facilitate measure implementation, but it will not serve as a specific calculator of the emissions reductions generated by business participants. Therefore, the TPC monitoring and reporting plan includes more direct follow up with business participants to gather information on planned and completed emissions reductions.

Recognition and Kickoff Event

Because positive recognition is a key motivator for both business and residential involvement, the TPC campaign includes recognition pins and stickers to identify individual participants, and their stage of participation. Current plans are to provide stickers to participants who sign up for the challenge, followed by a recognition pin once a participant has attained and reported they have achieved their reduction target. It is important to note that recognition from the TPC is based upon the particpants' self-certification and reporting of attainment. Also, once underway, the TPC may include prizes or contests targeted to encourage and publicize participation by community organizations, individuals, businesses or business associations.

On April 15, 2002 the Alliance for Climate Action hosted a 10% Challenge Kick-off to officially introduce area residents and businesses to the Campaign. Free of charge and open to the public, this event drew over 150 attendees including business leaders, government officials, elementary school classes, and Burlington-area residents. Political participation included Vermont's Lt. Governor Doug Racine, staff from U.S. Senators Leahy's and Jefford's offices, representatives from the U.S. Department of Energy and Environmental Protection Agency, and a number members of the Vermont State Legislature. In addition more than a half-dozen exhibitors (including Vermont Gas Systems, Inc., Burlington Electric Department, Chittenden County Solid Waste District, Efficiency Vermont, and the Renewable Energy Resource Center) displayed information on services and programs that can help businesses and households identify and implement emissions reduction measures. Magic Hat Brewery and The B Side (two local businesses able to save money and boost profits through energy efficiency) gave testimonials on their energy efficiency success encouraging businesses to take the Challenge. To provide levity, Climo-Dino, the campaign icon who debuted on Earth Day 2000 in Burlington presented a humorous skit on humans and climate change, and Ben and Jerry's provided free samples of "One Sweet Whirled", their new ice cream flavor created to promote climate change awareness.

Once underway, the TPC will include prizes or contests targeted to encourage and publicize participation by community organizations, individuals, businesses or business associations. Awards ceremony and recognition events will reward businesses and households that have met their Challenge goals. In addition to events that encourage participation through recognition, the TPC will recruit participants through any myriad of other activities, including a speaker series on climate change and the environment. Over the year, "solid waste", "alternative transportation" and "energy efficiency" days will be held where local resource groups will have the opportunity to highlight their services. Equally important, the Challenge will tap into existing community events such as "Curb Your Car Day" and "Burlington Kids' Day" to host information tables and solicit community involvement.

Monitoring and Reporting for the ACA

The ACA plans to work closely with State and other stakeholders to design, develop, and demonstrate a monitoring and reporting system to support local climate protection activities. The ACA's M&R plans for encompass four major goals:

1. Track and report on participation and the emissions actions pledged and taken through the TPC,
2. Monitor and report on activities related to the other four climate action strategies,
3. Monitor and report on overall progress towards the community's climate action goals, and
4. Develop and demonstrate an M&R system that may be adapted and used by other local climate initiatives.

To accomplish these goals the M&R system developed by the ACA will need to synthesize a diverse set of activities and reporting agents. The M&R will include both a bottom – up activity based reporting on participation and actions reported through the TPC, and a top down approach to regularly estimating and updating the community wide emissions. The top down estimation involves periodic updating of the energy consumption and solid waste data that were used in developing the emissions inventory contained in the Action Plan.

By reporting twice a year we will be able to keep the community informed of progress, or lack thereof, and also to make the data collection, analysis, and presentation processes more routine and therefore, hopefully, less time consuming. The benefits of establishing this M&R system will include:

- Increased Motivation: The regular accurate reporting and accounting of progress towards community goals will help encourage actions by individuals, institutions and businesses. Providing recognition and positive feedback for action takers helps to spur them on. Regular reporting also demonstrates to decision makers that the climate protection activities they undertake will be recognized by the community;
- Accuracy & Credibility: The design, implementation and management of a monitoring and reporting system for community-based climate protection activities are complex tasks requiring a dedicated effort. To ensure full coverage, while avoiding "double counting" the system will need to reconcile data from multiple sources, and account for a diversity of climate protection activities and reporting agents. By developing and implementing a standard set of methods and data resources the M&R system will improve the consistency, accuracy and credibility of emissions estimates in the state.
- Coordination: The development of monitoring and reporting systems will encourage collaborative efforts and the coordination of climate protection activities. It may also, through close linkages with entity-based reporting or registry activities at the state or regional level, provide interested participants with the opportunity to register and eventually exchange or receive regulatory credit for GHG emissions reductions. Additional coordination benefits may include the dissemination of promising emissions reductions strategies between communities, the exchange of emissions credits to take advantage of least cost reduction opportunities, and the transfer and modification of successful reporting and monitoring systems. Ultimately, coordinated efforts can result in lower costs and greater impacts.

During the development of the M&R system the ACA will plan for integration with entity based reporting and registry programs wherever appropriate. Primarily this will entail

informing interested participants of the potential benefits, and resources that are available to help them with more detailed levels of reporting and registration. The ACA will also try to assist interested parties with specific recommendations for the next steps in these processes. In serving this role, the M&R conducted by the ACA will not seek to replace or duplicate the more detailed levels of monitoring, verification, and reporting that are often required for entity based reporting and greenhouse gas registries.

Harmonizing Strategies

As discussed above there are many similarities, but also significant differences, between the local climate initiatives, entity based reporting, and greenhouse gas registries. Without explicit communication on how to coordinate and harmonize these activities there is a risk of duplicating efforts, under serving and/or confusing participants, and inadvertently omitting key activities. At the same time, harmonizing and coordinating amongst the three can produce more efficient and effective outcomes for all.

Since all three of these strategies are in the relatively early stages of development and implementation, the structure of the functional relationships between them is emerging, and is often still unclear. This paper does not advocate for a particular point of view or strategy, all three strategies are important. Our intent is to help develop and refine common language and understanding that can be used by planners, implementers, and participants in all three strategies. In this light, Table 2 summarizes distinguishing features of the three types of strategies.

The items listed in Table 2 also underscore the importance of carefully assessing the interests and needs of potential participants, during promotion, recruitment and intake. The implementers of all three strategies should aim to help potential participants identify and enroll in the most appropriate type of program. For example, a business seeking to implement and bank emissions reductions credits through a registry program will not have *all* of its needs met by participating in the type of local climate initiative described here. Other businesses may be very poorly suited for participation in entity based reporting or registry activities because they lack the resources or interest to report on emissions reductions at the level of detail consistent with the emerging protocols and standards. At the same time, this type of business may welcome the chance to join a local climate initiative. It is likely, that in many cases, the simultaneous participation in more than one strategy may be the best alternative.

Table 2. Comparative Strategy Features

Feature:	Strategy:		
	Local Climate Initiatives	**Entity Based Reporting**	**Greenhouse Gas Registry**
Verification	Least likely to include verification	Optional	Usually required, often with 3rd party certification
Emissions Baselines, and Additionality Requirements	Projected future emissions for community - No projected emission baselines for participants	May require regulatory and financial additionality.	
Estimate Community Scale emissions Trends	Reporting on community/macro scale – Use top down methods	Focus on individual project or entity wide emissions	Serves as an official "repository" for individual emissions reductions and credits for early actions - May also generate aggregate reports
Offsets	Likely to focus on direct and indirect emissions	Includes offsets, direct and indirect emissions	
GHGs Covered	Likely to focus on CO2 from energy and possibly CH4.	Generally will cover all six GHG listed by the IPCC.	
Public Recognition	Strong component, particularly of participatory campaigns	Maybe	Primarily for regulatory and potential trading recognition of actions in future markets/regulation
Ease of Use	Most likely to emphasize user friendliness	Likely to require greater effort and level of prior knowledge from participants	
Target Participants	Tends to address the broadest potential participant base	Most suitable for larger emissions sources	

Looking forward, it seems clear that climate policy, supporting strategies and programs will continue to grow in importance and impact. Many further changes and important decision points are assured. As the final version of this paper was being completed, the Department of Energy issued a notice seeking comments on ways to improve the federal Voluntary Reporting of Greenhouse Gases Program (Federal Register 2002). The three strategies described in this paper have evolved out of an extremely complex, dynamic and uncertain environment. They have grown to serve closely related but specific niches. With this type of close relationship, they can both compliment and inhibit each other's successful implementation. Policy makers, planners, regulators, program implementers, and participants will all benefit from an improved common understanding of the relationships between these strategies, as they seek further emissions reductions.

References

Burlington Climate Protection Task Force. 2000. "The Climate Action Plan: A Plan to Save Energy and Reduce Greenhouse Gas Emissions." Burlington, Vermont. www.burlingtonelectric.com/special/climate/climatemain.htm

Department of Energy. 2002. "Voluntary Reporting of Greenhouse Gas Emissions, Reductions, and Carbon Sequestration: Notice of Inquiry and Request for Comment". Federal Register Volume 67, No. 87, May, 2002. Washington, D.C.

Hill, David G., Tom Buckley, Mark Eldridge, Debra Sachs, and Abby Young. 2000. "Implementing and Monitoring Community-Based Climate Action Plans." *2000 ACEEE Summer Study on Energy Efficiency in Buildings*. Washington, D.C.: American Council for an Energy Efficient Economy.

Loreti, Christopher P., William F. Wescott, and Michael A. Isenberg. 2000. "An Overview of Greenhouse Gas Emissions Inventory Issues", Prepared for the Pew Center on Global Climate Change.

Loreti, Christopher P., Scot A. Foster, and Jane E. Obbagy. 2001. "An Overview of Greenhouse Gas Emissions Verification Issues", Prepared for the Pew Center on Global Climate Change.

New Jersey Department of Environmental Protection. 2000. Open Market Emissions Trading Program Rule, New Jersey Administrative Code 7:27-30.

Northeast States for Coordinated Air Use Management (NESCAUM). 2002. State GHG Emissions Information Programs ("Registry") Issue Paper.

Pew Center on Global Climate Change. 2002. "Pew Center Analysis of President Bush's February 14th Climate Change Plan". Arlington, Va. www.pewclimate.org/policy/response_bushpolicy.cfm

Rosenzweig, Richard, Matthew Varilek, and Josef Janssen. 2002. "The Emerging International Greenhouse Gas Market", Prepared for the Pew Center on Global Climate Change.

The International Council for Local Environmental Initiatives (ICLEI). 2002. Cities for Climate Protection Campaign, www.iclei.org/co2/background.htm.

World Business Council for Sustainable Development and World Resources Institute. 2001. "The Greenhouse Gas Protocol: A Corporate Reporting and Accounting Standard." Switzerland, World Business Council for Sustainable Development.