Using Program Logic Models to Guide Evaluation of Public Benefit Charge-Funded Clean Energy Programs

Methodologies and Sample Results from a Recent Massachusetts Technology Collaborative Evaluation

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ABSTRACT

Approximately 17 state-level, public benefit charge-funded clean energy programs across the country are in various stages of program design and maturation. These programs have many ambitious objectives that typically include: expanding renewable energy generating capacity, resulting in the displacement of fossil-fuel generation; developing sustainable markets for renewable energy based on voluntary purchases and private investment decisions; and increasing public support for renewable energy, manifested by consumer purchases, and citizen and corporate actions. Funding for measuring success and evaluating progress is not unlimited; administrators often seek maximum learning about their maturing programs on limited budgets. Staff time dedicated to evaluation is also scarce. This paper describes a methodology used to swiftly establish evaluation parameters, and the results from the ensuing evaluation, using a state-funded clean energy initiative as a sample case.

This evaluation showed that the short time spent initially to identify and map the key program activities to outputs and long-term outcomes (through a simplified program logic modeling approach), can yield significant benefit in terms of providing managers with needed information for program optimization and strategies for maximizing achievements towards strategic objectives. In addition, using this type of evaluation approach can help renewable energy program administrators: document progress toward key short-term and intermediate goals; verify prudent expenditures of public funds; and lay the groundwork for subsequent intermediate- and long-term evaluation activities.

Introduction

The 17 state-level, public benefit charge-funded, clean energy programs across the country are in various stages of program design and maturation. These programs have many ambitious objectives that typically include: expanding renewable energy generating capacity, resulting in avoidance of fossil-fuel generation; developing sustainable markets for renewable energy based on voluntary purchases and private investment decisions; and increasing public support for renewable energy, manifested by consumer purchases, and citizen and corporate actions. These programs are often innovative and long-term in nature. Program administrators want to maximize allocation of resources to the ratepayers and constituents of the fund. Funding for measuring success and evaluating progress is not unlimited; administrators often seek maximum learning about their maturing programs on limited budgets. Staff time dedicated to evaluation is also scarce. This paper describes a methodology used to swiftly establish

evaluation parameters, and the results from the ensuing evaluation, using a state-funded clean energy initiative as a sample case.

Background

The Massachusetts Technology Collaborative (MTC) administers the Commonwealth of Massachusetts' Renewable Energy Trust Fund (RET) to help build a sustainable, competitive market for renewable energy in the state. The RET was created by the Massachusetts Electric Restructuring Act of 1997. MTC's legislative mandate is to increase the supply of and demand for green power while expanding economic activity in the state's renewable energy industry. MTC has awarded over $150 million to nearly 400 projects across four major program areas: Clean Energy, Green Buildings and Infrastructure, Industry Support, and Policy.[1]

MTC contracted with GDS Associates, Inc. (GDS), in partnership with Dr. Lori Megdal of Megdal & Associates, and RKM Research and Communications, to evaluate seven initiatives within the Clean Energy Program area: (1) Pre-development Financing, (2) Massachusetts Green Power Partnership (MGPP), (3) Emerging Technology Demonstration, (4) Community Wind, (5) Planning and Siting, (6) Consumer Aggregation, and (7) Massachusetts Clean Energy Choice (MCEC). A summary of funding allocated, awarded and expended as of the study completion date is presented in Table 1, followed by a brief description of each initiative.

Table 1 – Summary of Initiative Funds Allocated, Awarded and Expended

Initiative Name	Funds Allocated	Funds Awarded	Funds Expended
1. Massachusetts Green Power Partnership	$33,455,880	$33,455,880	--
2. Community Wind Collaborative	$4,000,000	$1,077,256	$423,787
3. Massachusetts Clean Energy Choice	$3,275,000	$300,000	$201,719
4. Pre-Development Financing	$2,668,989	$1,466,763	$725,301
5. Emerging Technology Demonstration	$2,000,000	$1,999,086	$283,232
6. Consumer Aggregation	$1,384,300	$1,384,300	1,242,616
7. Planning and Siting	$1,320,831	$1,019,500	$590,390
Total (as of September 2004):	**$48,105,000**	**$40,702,785**	**$3,467,045**

Massachusetts Green Power Partnership – the Massachusetts Green Power Partnership (MGPP) was created to accelerate renewable energy development by helping project developers to secure financing. Through MGPP, MTC seeks both to aid compliance with the state's renewable portfolio standard (RPS) requirements and to encourage the emergence of a vibrant voluntary green electricity market.

Community Wind Collaborative – The Community Wind Collaborative aims to expand the installed capacity of renewable energy generating projects in Massachusetts while simultaneously increasing public acceptance of wind energy, by helping cities and towns develop or purchase the output of small-scale, community-owned wind projects. It is testing the hypothesis that small pockets of one or two turbines per community may be easier to site and will receive more public support than a few large wind farms. In order to lower the upfront cost and risk to a community of installing a wind turbine on publicly owned land, MTC provides a wide range of services using specialized consultants under contract to MTC. These consultants and MTC staff undertake outreach and educational activities, provide free technical assistance, prepare project feasibility studies, and install wind monitoring towers.

[1] The Renewable Energy Trust, February, 2005. *"Results & Strategies for a Clean Energy Future – Getting Results for Massachusetts"*

At the start of the Collaborative, the Trust held four meetings across the state to explain the purpose of the Collaborative and encourage participation. Since then, the Trust has worked with more than 40 communities.

Massachusetts Clean Energy Choice – The Clean Energy Choice Initiative starts with the premise that premiums paid for green electricity are akin to charitable contributions, since people who support green electricity do not do so to receive personal advantages but rather to benefit society as a whole. With this initiative, MTC seeks to test whether significant numbers of consumers, businesses, and institutions will make voluntary green electricity purchases if they are assured that their money will be used as they intend and will accomplish something worthwhile.

Pre-Development Financing Initiative – This initiative provides financial assistance to developers as they undertake the high-risk, early-stage activities required to develop new and relatively small scale renewable energy facilities.

Emerging Technology Demonstration – This initiative supports new, early-stage technologies that may hold significant potential for additional generation capacity in New England by providing funds to demonstrate and deploy innovative technologies in real-world settings and potential commercial applications.

Consumer Aggregation – This demand-side initiative sought to harness the collective buying power of community organizations, faith-based groups, not-for-profit energy service companies, and municipal governments to enable the purchase of electricity from renewable resources and to attract members, assessments of potential demand, discussions with potential suppliers, and establishment of marketing, purchasing, and administrative mechanisms associated with green electricity.

Planning and Siting – MTC supports stakeholder collaboratives that encourage open and constructive dialogue among constituencies that have an interest in the outcome of proposed projects. In this vein, MTC organized a multi-month stakeholder process as part of the permitting for the Cape Wind project.

Through these initiatives, the MTC is addressing barriers to the development of renewable energy generating facilities in the region, ultimately seeking to incentivize additional capacity and supply of renewable energy certificates available to suppliers and consumers in Massachusetts.

Scope of Evaluation

The initial plan of this fast-track evaluation of the seven initiatives was the development of initiative-specific program logic models (PLMs), indicators, and evaluation plans. The second phase of the work effort required compiling evaluation data through interviews with MTC staff and contractors, and telephone surveys with a subset of project awardees, initiative participants and other key stakeholders (please see Table 2). Secondary research was also performed to help inform PLM development and to assess progress on certain quantifiable program outputs and outcomes. All work was completed in 2 ½ months in late summer/early fall 2004. Results, some of which are highlighted in this paper, helped MTC document initiative impacts and have provided data for ongoing strategy and program optimization.

Table 2 – Overview of Evaluation Activities Performed

Initiative Name	Program Logic Model (PLM)	Staff Interviews	Participant Surveys	Nonparticipant/ Other Surveys
1. MA Green Power Partnership	√	on hold		
2. Community Wind	√	√	√	√ (residents)
3. MA Clean Energy Choice	√	none planned yet		
4. Pre-Development Financing	√	√	√	--
5. Emerging Technologies	√	√	√	√ (non awardees)
6. Consumer Aggregation	√	√	√	--
7. Planning & Siting (+Cape Wind)	√	√	√	√ (stakeholders)
Totals	**7**	**17**	**107**	

Methodology

All evaluation activities were guided first by development of simplified program logic models for each initiative. Based on these PLMs, outputs and short, intermediate and long-term outcome indicators were then developed and associated potential data collection approaches identified. Finally, evaluation plans were created and implemented to address those items that could be collected and analyzed within the evaluation project's specific time and budget constraints. In addition to the PLMs and evaluation plans developed for each initiative, a combination of primary and secondary research activities were conducted including: depth interviews with program staff and contractors; and telephone surveys with program participants, non-participants, and other key stakeholders. Following is a brief description of the methodologies used for this renewable energy programs evaluation project. For ease of presentation, activities are grouped into four evaluation project activity areas: (1) Program Theory and Logic Modeling; (2) Evaluation Plan Development; (3) Evaluation Plan Implementation; and (4) Data Analysis and Report Development.

1. Program Theory and Logic Modeling

For each of the initiatives identified in Table 2, draft and final PLMs were developed. This activity included three steps: (a) identification and review of program documents; (b) identification of key program logic model elements (inputs, activities, market actors, outputs, short, intermediate and long-term outcomes, and potential external influences); and (c) creation of logic diagrams and associated text including identification of potential measurement indicators and researchable questions for use during development of initiative-specific evaluation plans. Each of these items is discussed in more detail below. Active involvement of MTC staff was critical in up-front discussions regarding the program logic elements and in vetting preliminary drafts of the PLMs and evaluation plans.

A. Identification and review of program documents

At the beginning of this project, a detailed list of potentially relevant program documents was created and subsequently compiled and reviewed. Based on all information provided, initial summaries of each initiative were prepared. Results from this effort, in addition to their value for use in developing PLMs, were used to help prioritize evaluation activities given the limited timeline and budget for this project. Initiatives were divided into two categories: (1) those needing PLMs (all seven), and (2) those where primary data collection activities were required (five of the seven initiatives were prioritized for primary data collection, given they had participants to survey). This categorization allowed for a staging of the PLM efforts according to specific evaluation data collection needs.

B. Identification with MTC staff of key program logic model elements

Following development of the initiative summaries, an all-day meeting was held to discuss key elements of each program including: the "problem" each initiative is attempting to address; ultimate initiative goals; targeted participant market actors; MTC's approach/activities; anticipated outcomes and expectations; statutory goals targeted; and MTC staff issues/questions of interest. Revised initiative summaries documenting key PLM elements were then developed for each initiative for vetting by MTC program staff. Preliminary evaluation work plans were also developed for each initiative at this time.

C. Creation of PLM diagrams and identification of potential measurement indicators and vetting with program staff

For those initiatives where primary research was to be conducted, draft PLMs were developed and shared with MTC staff along with proposed evaluation plans (discussed in more detail in Item 2 below). Similar documents were subsequently developed and reviews conducted for the MA Green Power Partnership and MA Clean Energy Choice initiatives. Each PLM document provided: a high-level summary of key elements of the initiative; a PLM diagram showing key linkages between activities, outputs and outcomes (including identification of program inputs and potential external influences); a list of staff-identified researchable questions associated with the initiative and a table detailing measurement indicators and potential data sources and collection approaches for tracking specific outputs, short-, intermediate- and long-term outcomes, and assessing progress toward goals (which combined will provide feedback to program staff and insights for potential future program design recommendations); and a draft evaluation work plan for discussion and implementation over the ensuing weeks to collect information on key indicators and research questions (and initial recommendations for longer term evaluation activities). A series of workshop meetings and telephone conferences were then conducted to share results and obtain feedback leading to final PLM documents.

2. Evaluation Plan Development

For this activity area, draft and final evaluation plans were developed. To develop these plans, the list of measurement indicators and research issues included in the individual PLM documents were prioritized to focus on only those items that could be assessed in the timeframe allotted (mostly short-term indicators and staff's-identified research questions). Intermediate-and long-term progress and impact indicators were also identified in the evaluation plans, along with data sources and potential data collection approaches, including: review of program files and other relevant documents (for familiarization purposes and to obtain secondary data/progress items); depth interviews with program staff; telephone surveys with initiative participants; surveys with non-awardees and participating communities' residents; and interviews with other key stakeholders. In addition to primary data collection activities (*i.e.*, depth interviews/telephone surveys), each initiative-specific evaluation plan included identification of key secondary data collection requirements and potential sources for such data. A majority of these secondary research items came directly from the individual PLMs, to help assess and quantify outputs and early outcomes/progress resulting from specific program activities.

Preliminary evaluation recommendations were presented to staff as part of the PLM documents discussed above. Each draft plan was reviewed during workshops and/or through teleconferences, leading to development of final evaluation plans.

3. Evaluation Plan Implementation

For each of the initiatives targeted for evaluation, a number of implementation activities were performed including: development of draft and final survey instruments; compilation of required

interviewee lists (including contact names and phone numbers); scheduling and conducting of depth interviews/telephone surveys; and secondary research data request development, response compilation and review. A total of 11 individual survey instruments were developed. Wherever possible, questions were worded the same in each instrument within and across initiatives to allow for roll-up of results where appropriate. Table 3 identifies all of the different surveys conducted. Regarding secondary research, specific researchable items were identified in each evaluation plan. Typical items included: number, purpose, and dollar value of grants awarded and status of individual grants; number, type, and cost of surveys/studies completed, milestones met, tools created, etc.; number and characteristics of meetings, workshops held; and characteristics of attendees, studies/tools/service recipients and description of how the information or items are being used.

Table 3 – Summary of Surveys Conducted

Initiative	Target Audience for Interviews	Number Completed
MA Green Power Partnership	Awardees	On hold
	Financial Institutions/Potential Lenders	On hold
Community Wind Collaborative (CWC)	Staff Interviews	5
	Communities – Active	2
	Communities - Just Started	2
	Communities – Stalled	1
	Communities – Unsure	1
	Residents from Participating Communities	62
Pre-Development Financing	Staff Interviews	3
	Awardees	8
Emerging Technology Demonstration	Staff Interviews	1
	Awardees	4
	Non-Awardees	4
Consumer Aggregation	Staff Interviews	2
	Awardees	8
Planning and Siting (Including Cape Wind)	Staff Interviews	3
	Planning & Siting Contractors	7
	Cape Wind "For" Stakeholders	2
	Cape Wind "Against" Stakeholders	2
	Cape Wind "Undecided" Stakeholders	2
Overarching	MTC Senior Management	2
Subtotals	Staff (including Senior Management)	16
	Awardees/Participants/Stakeholders	39
	Non-Awardees/Residents	66
Grand Total		121

When developing sampling plans for the telephone surveys, a census approach was used. To avoid biases when conducting key stakeholder interviews, care was taken to ensure selection of a balanced sample of respondents (*e.g.*, for the Cape Wind stakeholder group, of the 6 surveys conducted, two each were with stakeholders supporting the project, opposed to the project and undecided). Similarly for the Community Wind Collaborative, the participant sample specified in the evaluation plan was selected to ensure that feedback could be received from communities representing various stages of project involvement (*i.e.,* two communities that were very active, two that had just started, one that was stalled, and one community that was uncertain and in need of more clarity). Finally, for the Community Wind's participating community residents' surveys, three separate geographic locations were selected to ensure that representative responses were obtained from across the state (north, south and west).

4. Data Analysis and Report Writing

Results from the PLMs and all secondary and primary data collection activities were compiled and organized into four major categories: (a) Impacts and Causality – including assessment of initiative progress (quantification of specific outputs/outcomes and documentation of progress toward key goals), identification of market barriers and the extent to which the initiative addresses them, and determination of what participants might have done without program support/intervention; (b) Process Issues – including satisfaction assessment of program services and respondents' perceptions of their helpfulness/value, effectiveness of MTC's role, and adequacy of program resources; (c) Other learning that may have occurred about the market as a result of and/or through participation in the initiative; and (d) Identification of key program strengths, weaknesses and suggestions for efficiency/effectiveness improvement. Responses for each initiative were kept together and all results were presented using these four categories. In addition, where appropriate, responses from individual stakeholder groups (*i.e.*, MTC staff, awardees/participants, non-awardees, and other stakeholders) were kept intact so that results could be tallied and shown by group and in total. Finally, throughout all data analysis activities, care was taken to identify opportunities to roll-up findings to show higher-level impacts and combined progress toward statutory goals and to identify ways that existing activities might be modified to better position them for achieving these goals. Following feedback received on a draft report, the final report was prepared.

Results

Using the Community Wind initiative as an example, this section of the paper illustrates the linkage between: PLM outputs and outcomes → associated measurement indicators → evaluation plan development → implementation → and targeted evaluation results.

Community Wind Initiative Program Logic Model (PLM)

Following is a sample PLM diagram for the Community Wind initiative. This and all PLM diagrams created for this evaluation project were simplified to meet the immediate evaluation needs within timeline limitations. As a result, multiple outputs or outcomes are shown in single boxes. This is particularly the case for longer-term outcomes. As programs mature and further evaluation efforts are conducted, the combined simplified intermediate and long-term outcomes should be expanded, or nested logic models prepared. This level of additional detail will be needed to fully test the logic model and its implied implementation theory (*i.e.*, the underlying mechanisms theorized to create one intermediate outcome or another, or a long-term outcome without program intervention).

In the diagram below, program activities, outputs and short, intermediate and long-term outcomes are shown along with general program inputs and potential external influences. Based on this diagram, individual measurement indicators for the different outcomes within each box were identified and used as a guide to help prioritize evaluation activities. Table 4 provides an example of how PLM-specific outputs and outcomes (Column 1), led to appropriate measurement indicators (Column 2), which led to potential evaluation/data collection approaches (Column 3). In this Table, sample outputs and some of the short/intermediate-term outcomes categories are presented.

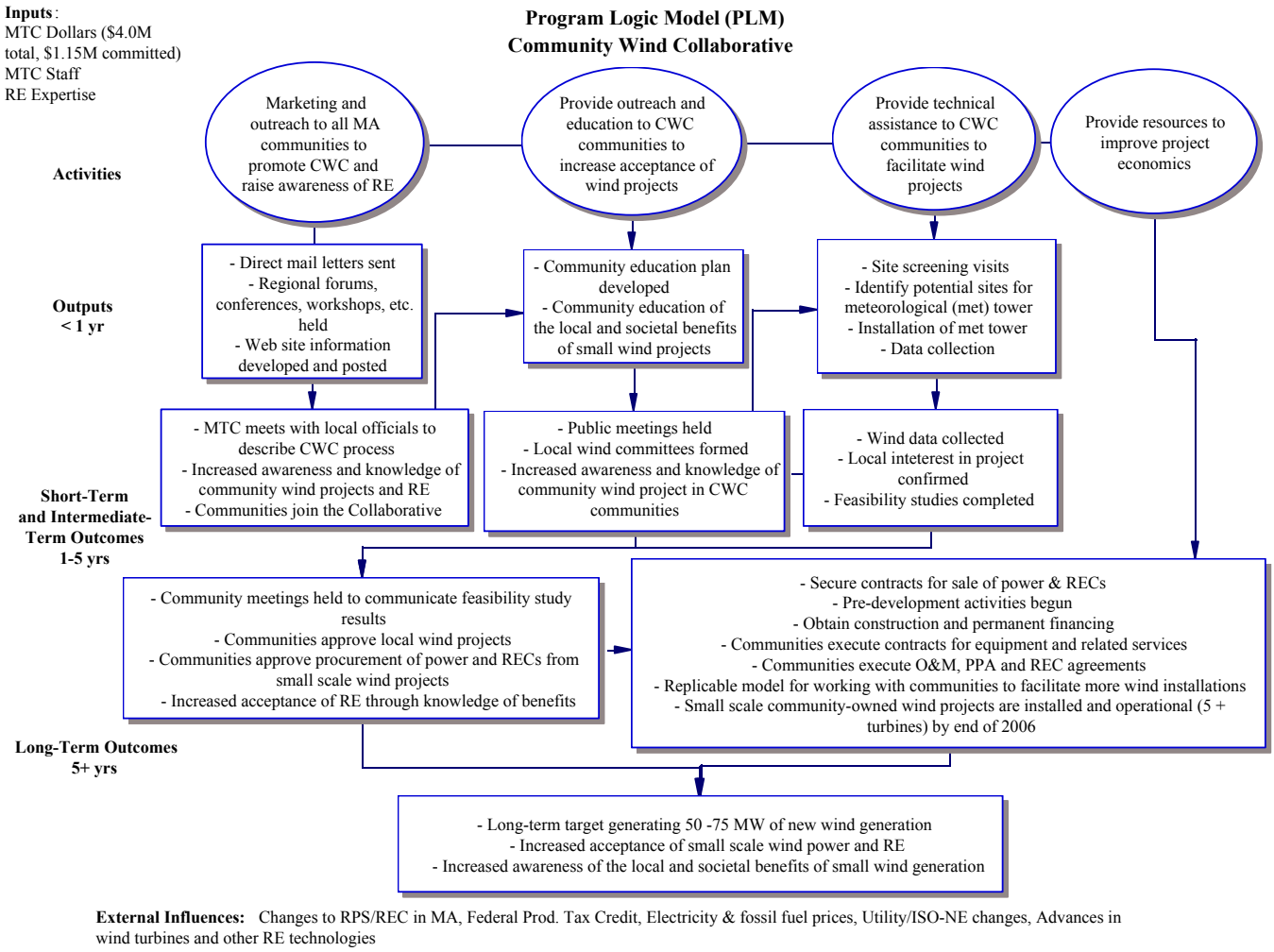

Table 4 – PLM Outputs/Outcomes, Associated Indicators and Potential Data Sources

Outputs / Outcomes	Indicators	Data Sources and Potential Collection Approaches
Outputs from Funding and Facilitation Activities (<1 year)		
Marketing and outreach materials developed and delivered (direct mail letters sent; regional forums, conferences, workshops, etc., held; web site information developed and posted)	- Number of letters sent and known responses - Number, location, and attendance of regional forums, conferences and workshops held and associated CWC sign-ups - Number of hits to web site and known responses - Cost of marketing campaign - Total number of active participants	- Review of MTC accounting system, and project database - Review of project files and related documents (including any "forum feedback forms")
Community education plans developed and meetings held regarding the local and societal benefits of small wind projects	- Number and content of education plans developed and related Informational materials created - Number of community meetings held - Information gained, perceptions changed, intentions/actions taken as result of meetings	- Review of project files/related documents (including ed plans, information materials, and meeting notes) - Project records - Interviews with participating communities/meeting attendees
Installation of met tower & initial data being collected	- Number/location of met tower installations - Amount and type of in-process data	- Review of project files/related documents - Interviews with MTC and RERL staff
Short-Term (1-2 years) and Intermediate-Term (3-5 years) Outcomes		
Formation of local wind committees, meetings held	- Number of committees formed and kick-off meetings held	- Review of project database - Review of project files/related documents

Outputs / Outcomes	Indicators	Data Sources and Potential Collection Approaches
and feasibility studies completed	- Number of feasibility studies completed by location, size of community and size of project	(including meeting notes and study results) - Survey of local wind committee members
One year of wind data collected from met tower installations	- Amount and quality of wind data collected	- Review of project database - Review of project files/related documents - Survey of MTC and RETL staff
Local interest in projects confirmed	- Increased interest in local wind projects	- Review of project files/related documents - Baseline data on local interest - Interviews with part./non-part communities

Based on these and other PLM-derived measurement indicators and staff-identified high priority research questions, an evaluation plan was developed for the Community Wind initiative to ensure collection of critical process and impact-related results within the short evaluation time frame available. Table 5 summarizes planned secondary and primary research activities for Community Wind. A similar approach was used to develop prioritized evaluation plans for implementation on the other initiatives.

Table 5 – Planned Secondary and Primary Research Activities

Target Audience (Research Objective)	Research Category and Associated Indicator / Question	Sample Size
Secondary Research Activities		
MTC Project Database, Accounting System, Project Files and Related Documents ***Research Objectives: To assess and quantify program activities and to gather available information from secondary data sources for determining impacts from certain MTC activities***	***Assessment and quantification of program activities:*** - Number of marketing letters sent and responses logged - Number of hits to web site and responses logged - Number, location, and/or attendance of: regional forums held and associated CWC sign-ups; community meetings held; initial meetings to discuss specific sites; site screening visits; meteorological tower installations; informational meetings held; public forums held; local wind committees formed and kick-off meetings held; feasibility studies completed (by size of project); feasibility study presentations held; referendums relating to a CWC project - Number, amount ($ and MW), and description of services purchased by project ***Impacts from CWC activities:*** - Total number of active participants - Amount and type of in-process data, Amount and quality of wind data collected - Amount (MW and MWh) and number of RECs contracted by project - Amount of financing obtained by project (leveraged funding)	N/A
Primary Data Collection Activities		
MTC Program Staff and RERL ***Research Objectives: To get staff/implementation contractor opinions regarding process issues, initiative impacts and MTC causality***	***Process Issues:*** - Strengths and weaknesses of the initiative and suggestions for improvement (What do they like about the program? Is the approach working? What don't they like about the program? Suggestions for improvements?) - Are there any bottlenecks or communication issues in the CWC process? - Prioritize a pre-determined list of barriers to wind development and gather opinions regarding CWC's effectiveness at addressing them - Are current MTC resources sufficient for addressing the major barriers to community wind development? - How can MTC handle the volume and prioritize interested communities? ***Impact & Causality Issues:*** - Identification of needed baseline data - Is the initiative effectively reaching individuals and impacting attitudes? - Is the initiative helping communities move to the next steps? If not, what would be needed to get them to do these things? - Determine the amount, type and quality of wind data being collected - Obtain feedback on the outcomes and value of public forums, community meetings, local committee meetings, presentations and site visits attended - Identify/assess level of involvement from communities that joined the CWC	***5-MTC Staff 1-RERL***

Target Audience (Research Objective)	Research Category and Associated Indicator / Question	Sample Size
Participating Community CWC representatives (subset of outreach recipients) ***Research Objectives: To gather opinions of MTC and associated outreach activities, to prioritize barriers to RE development, to assess impacts from involvement in CWC initiative***	***Process Issues:*** - Strengths and weaknesses of the initiative and suggestions for improvement (What do they like about the program? Is the approach working? What don't they like about the program? Suggestions for improvements?) - Satisfaction and specific attitudes concerning MTC's assistance and role regarding: developing education plans and related informational material; coordinating community meetings; facilitating initial project site meetings and site screening visits; facilitating meteorological tower installations; coordinating informational meetings and public forums to discuss CWC project; feasibility study development and related presentation to community; increasing interest in wind project; collection, analysis and interpretation of wind data collected; developing referendums for community buy-in - Are there any bottlenecks or communication issues in the CWC process? - Prioritize a pre-determined list of barriers to wind development and gather opinions regarding CWC's effectiveness at addressing them ***Impact & Causality Issues:*** - Identification of needed baseline data - Is the initiative having an impact about reaching individuals and attitudes? - Is the initiative helping communities move to the next steps? If not, what would be needed to get them to do these things? - Obtain feedback on the outcomes and value of public forums, community meetings, local committee meetings, presentations and site visits attended - Identify/assess level of involvement from communities that joined the CWC - Change in awareness of CWC and RE issues - Effectiveness and role of CWC in obtaining financing, purchasing equipment and related services, and executing O&M contracts	5-10 communities from pool of CWC outreach recipients that joined the Collaborative (2-very active and far along, 2 just started, 1 early involvement not much progress, and 1 where there is some confusion)
Participating Community Residents ***Research Objectives: To assess impacts of CWC program***	***Impacts and Causality Issues:*** - Change in awareness RE issues and CWC - Awareness, level of understanding and attitude toward CWC project	60 interviews, include 20 residents from 3 participating communities

Table 6 presents a sample of results from implementation of this Community Wind evaluation plan. Impact and causality-related findings are presented in the first row. Process-related findings are then presented in row two, followed by some recommendations in row three. Table 7 highlights some of the overarching findings from implementation and analysis of all evaluation plan results.[2]

Table 6 – Sample Community Wind Initiative Evaluation Findings

Finding Category	Sample Results
Impacts and Causality	- A number of barriers are being addressed, including: general local siting resistance (NIMBY), access to sound technical information, and risky/unproven nature of wind technologies. - Projects are moving ahead as a result of MTC-supported collaborative work (*i.e.*, nearly 85% of participating community respondents said that without MTC's support it would be highly unlikely that they would manage to complete a wind project in the next five to seven years. - Effectively increasing the level of awareness and understanding of wind energy in their communities (according to all participating community respondents, although one said "but they could do better" - High levels of awareness and wind energy favorability among residents of participating communities (*i.e.*, nearly one-third of residents interviewed in participating communities were familiar with the MTC's Community Wind Collaborative, with high levels of awareness of wind energy in general and extremely high favorability ratings for wind projects in the state and in their local communities)

[2] Albert, Scott and Megdal, Lori, 2004. "*Evaluation of Clean Energy Program/Green Power Initiatives for Massachusetts Technology Collaborative Renewable Energy Trust",* GDS Associates, Megdal & Associates and RKM Research and Communications, October.

Finding Category	Sample Results
Process	- High satisfaction ratings (Overall, respondents were quite satisfied with the MTC's Community Wind Collaborative - 4.3 on a 5-point scale with 5 being high) - High score with respect to the initiative's helpfulness in addressing key market barriers and moving projects ahead (4.4 rating on a 5-point scale with 5 being high).
Recommendations	- Provide greater emphasis and support for public information campaigns including materials and press releases with development updates that could be provided to the participating town for their use, low cost public service announcements (PSAs) on the radio, posters in libraries, churches, and material sent home with school children. - Improve the website to make it more user-friendly and help to demonstrate how the program works - Document subjects, agendas and results of all community meetings, public forums, workshops, and other CWC meetings on a going forward basis - Coordinate efforts by working with municipal electric companies. - To help "get some steel in the ground" it was suggested that the MTC might want to prioritize resources more effectively by focusing on those communities most likely to move ahead rapidly

Table 7 – Summary of Key Overarching Findings

Key Overarching Finding	Discussion
MTC's Initiatives designed to target key statutory goals	PLMs identified key linkages to MTC's statutory goals. All initiatives were found to either directly-target, support, or influence many of these goals. Other initiatives, beyond the scope of this evaluation, also address these goals in synergistic ways.
Initiatives are contributing toward achievement of these goals	Preponderance of evidence supports conclusion that the initiatives are contributing toward achievement of key goals and are helping to address critical market barriers.
Initiatives designed with a long-term market transformation focus but are still too early in their implementation to have yielded associated long-term results	PLMs identified that initiatives have been designed as long-term market transformation efforts to develop growth in the renewable energy market. Given this long-term perspective, initiatives not expected to reach long-term outcomes for at least five to ten years. Initiatives are relatively new, from under one year to no more than four years old. Intermediate and longer-term outcomes are better assessed in later evaluations.
Initiatives are effectively addressing some of the more critical market barriers	Research showed that many of the most critical barriers are being effectively addressed. This is a strong indicator that the initial work by these initiatives appears to be generally well targeted
MTC activities are helping to move projects further and faster toward development and operation than otherwise would have occurred	On average, over 80% of those interviewed on this topic credited MTC's initiatives for the gains they have made. This can be interpreted to mean that the vast majority of renewable energy projects with which MTC is working would either not be occurring, or would be occurring very slowly, without MTC assistance.
Overall participant helpfulness and satisfaction ratings are high	Very healthy ratings of the initiatives' helpfulness and satisfaction levels by participants, both at an 80% level. Indicative that the current initiatives are likely moving in the right direction and working well with market participants to begin changing the markets
Credible information is being developed and/or provided	High scores received on credibility of information being developed/provided and on efforts to leverage support from other market actors in the development process.

Conclusions

Given the extremely short timeframes and limited budgets for evaluation that are becoming typical for public benefit charge-funded initiatives, tendency is to skip the PLM effort and jump right into impact assessments. Results from this evaluation however, show that the short time spent up front to identify and map (through a simplified PLM approach) key program activities to their immediate outputs and anticipated short, intermediate and long-term outcomes can yield significant benefits to the program design and implementation organization. This evaluation has helped: identify and document progress toward key short-term and intermediate goals; verify the prudent expenditure of public funds; provide management with insights and suggestions for program improvements that will help maximize goal achievement in the future; and lay the groundwork for subsequent intermediate and longer-term evaluation activities.

References

The Renewable Energy Trust, 2005. *"Results & Strategies for a Clean Energy Future – Getting Results for Massachusetts"*, February.

Albert, Scott and Megdal, Lori, 2004. "*Evaluation of Clean Energy Program/Green Power Initiatives for Massachusetts Technology Collaborative Renewable Energy Trust"*, GDS Associates, Megdal & Associates and RKM Research and Communications, October.