



REGIONAL EVALUATION,
MEASUREMENT & VERIFICATION FORUM

Regional EM&V Forum

Proposed 2010 Projects and Budget - Overview

Presented to the Connecticut
Energy Conservation Management Board

October 21, 2009



Introduction

Launched in 2008, the Regional Evaluation, Measurement and Verification Forum's (EM&V Forum) purpose is to support the development and use of consistent protocols to evaluate, measure, verify, and report the savings, costs, and emission impacts of energy efficiency across a region that covers more than ten states. Specifically, the Forum's goals are to:

1. Increase the credibility of energy efficiency and other demand resources as states invest more dollars into cost-effective demand resources as a top strategy to meet energy, environmental and economic goals. The Forum aims to increase credibility of energy and demand savings by providing: a) greater consistency of savings values for similar measures and programs; b) increased transparency and accessibility of EM&V protocols and inputs; and c) a direct link between energy and air regulator estimates of savings, cost and emission impacts.
2. Reduce evaluation and other research costs by leveraging funds across a range of interested parties through collaborative research and analysis that spends research and evaluation budgets more efficiently.
3. Increase the participation in demand-side resource markets by having one set of regionally accepted protocols across the Northeast and mid-Atlantic region to measure, verify, track and report impacts which will minimize confusion for and reduce barriers for the growing market of demand-side resource providers.
4. Improve state, regional and local demand-side resource and energy planning, implementation and evaluation by having readily available and consistent inputs, protocols and reporting format and tools.
5. Inform the development of any national EM&V protocols for energy efficiency and other demand resources.

The Forum conducts **Protocol Development** projects to develop common EM&V protocols/guidelines that support the calculation of energy efficiency and other demand-side resource impacts, including energy and demand savings, costs, and emissions, and the tracking and reporting of such impacts to support state and regional energy and environmental policy goals. The Forum conducts coordinated **Research and Evaluation** projects to inform the development and use of common EM&V protocols and savings assumptions, provide cost efficiencies for states' EM&V activities, and help ensure consistent, robust results in assessing the accuracy of demand-side resource impacts. Finally, the Forum undertakes a range **Education and Information Access** activities to ensure that Forum products are publicly available, easily assessable and understood, through developing strategies to disseminate Forum results, recommendations and products; providing technical support for the use of Forum products; protecting confidential information; and holding an Annual Forum Public Meeting.

The proposed 2010 Forum agenda is developed/informed by the following process:



- 1) NEEP develops an initial list of possible projects informed by: a) Forum Three-Year Plan; b) areas of interest identified informally throughout the year by Forum participants; c) input from Project Committee co-chairs;
- 2) NEEP conducts a survey of list of projects with Forum participants to prioritize projects of greatest interest by each state;
- 3) Based on survey results, NEEP develops a proposed project agenda and developed estimated budgets (based on feedback from Project Committee co-chairs and outreach to evaluation experts) and circulates to the Project Committees for further discussion, changes and refinement;
- 4) NEEP conducts additional outreach to each Forum state to solicit further feedback and interest in the project areas, which also helps to further shape project scope/needs based on that feedback;
- 5) Through the above process, a recommended agenda goes to Steering Committee for adoption;
- 6) Once the Steering Committee adopts the project agenda, NEEP then convenes project subcommittees which play the critical role of informing the full development of project scopes;
- 7) RFPs are not issued until funding commitments are made by interested states. NEEP's working assumption and experience to date is that interested states will actively inform the project scopes and RFPs for projects they plan to fund.
- 8) NEEP typically invoices states for project costs as costs are incurred.



PROTOCOL DEVELOPMENT PROJECTS

[#PD1. Establish Guidelines and Common Approaches to Calculate/Address Net Savings](#)

Purpose: This project goal is develop greater consistency in how states in the region address and assess net savings, focusing on free-ridership, spillover, and net-to-gross ratios. The project will build from findings and recommendations from 2009 projects. The project will consist of two parts - Phase 1 will involve facilitating policy discussion on issues/options for addressing net savings. Phase 2 will develop methods/approaches to addressing and/or calculating net savings for various types of measures, and associated materials

Estimated Budget: \$250,000

[#PD2: Develop Common EM&V Approaches/Methods for Emerging Technologies/Programs](#)

Purpose: The project goal is to create greater consistency in, and understanding and application of the types of methods used to calculate energy and demand savings to meet differing policy and/or market goals. The project will develop common approaches/methods for calculating electric and gas energy efficiency savings for emerging technologies and program designs (where “emerging” is defined as technologies that are in the early stages of being included in energy efficiency programs for which there is limited experience and research available to inform planning and impact reporting e.g., LEDs, ductless mini-splits, consumer electronics, on-demand water heating, super-insulation (innovative home performance measures).

Estimated Budget: \$200,000

[#PD3: Develop Guidelines for Incorporating EE into System Planning](#)

Purpose: The project purpose is to develop guidelines for incorporating energy efficiency impacts into system planning in order to build greater consistency in how electric utilities/distribution companies and system planners forecast efficiency as part of their load forecasting efforts. This will assist regional ISO/RTO comparisons and will support power pool interchange planning.

Estimated Budget: \$85,000

[#PD4: NAESB M&V Standards Development for Energy Efficiency](#)

Purpose: With the completion of developing M&V standards for wholesale and retail demand response, the North American Energy Standards Board (NAESB) is now turning to developing wholesale EE M&V standards and retail EE M&V model best practices (MBPs). The purpose of this project is to ensure that the Northeast and mid-Atlantic regions are adequately represented at the NAESB meetings, and that the Forum, given its geographic scope and reach, can effectively influence NAESB’s recommended standards/MBPs.

Estimated Budget: \$50,000 to be funded with 2009 carryover budget

RESEARCH & EVALUATION PROJECTS

[RE1: Develop Common Incremental Cost Assumptions](#)

Purpose: Develop common, up-to-date, documented electric and gas efficient measure incremental cost assumptions for priority sectors/measures identified by project subcommittee. Project will include conducting primary research to develop incremental cost



assumptions and recommend future research to fill gaps as necessary.

Estimated Budget: \$320,000

#RE2: Loadshape Study Project Phase 2 (Continued/Expanded from 2009)

Purpose: The goal of the Forum's loadshape studies is to make loadshape data - impact of electric energy efficiency programs during identified periods of time (e.g. hourly, seasonal and annual consumption data used to analyze coincidence factors and other usage patterns) available to Forum participants for use in implementing energy efficiency programs, participation in capacity markets (ISO New England FCM), and meeting air/environmental regulatory needs. The EM&V Forum Loadshape studies are conceived as a multi-phase, multi-year effort, and this project is intended to extend 2009 loadshape research.

Estimated Budget: \$300,000 for 2010, in addition to \$484,000 from 2009 budget

#RE3: Estimate EE Impact on Advancing Energy Building Codes

Purpose/Background: The purpose of this project is to develop common strategies and approaches for evaluating savings associated with improved codes and standards and, still more challenging, approaches to estimating savings from efficiency program administrators' activities to advance codes and standards, building from California experience and recent Massachusetts study.

Estimated Budget: \$100,000 for 2010, combined with \$40,000 from 2009. Currently in discussion with US EPA on potential funding

#RE4: Measure Persistence Study - Phase 2

Purpose: The purpose of this 2010 project is to expand or conduct additional lighting measure persistence research to support claimed savings for a measure category that represents the majority of savings in state efficiency program portfolios. This data will help to develop statistically significant results to support savings estimates report to state regulators and to support M&V plans submitted in wholesale capacity markets.

Estimated Budget: \$250,000

#RE5: Natural Gas EE Research & Evaluation

Purpose: To conduct residential and/or C&I gas program research or evaluation energy and demand savings impact research to meet shared program information needs in order to assist Forum participants in updating gas program results in a timely and cost-effective way.

Project will cover one or more priority end-uses TBD and studied across the region (e.g., on-demand water heating impact estimation, early retirement of furnaces, gas/solar thermal DHW, building envelope impacts). Forum participants have noted that opportunities for gas program evaluation have been somewhat constrained in recent years.

Estimated Budget: \$200,000



FORUM OPERATIONS, and EDUCATION & INFORMATION ACCESS PROJECTS

Forum Base Costs include a range of Forum operational, management and education, information and communications activities. For 2010 these will include:

1. Facilitate Forum Steering Committee, Project Committees, and subcommittees;
2. Manage third party contracts for over ten projects;
3. Update and maintain EM&V library of studies/research and other EM&V resources;
4. Maintain and improve EM&V Forum website;
5. Hold Annual Forum Public Meeting;
6. Conduct Forum communications and outreach to Forum participants through monthly updates and quarterly newsletters;
7. Monitor and participate in state, regional (ISO-NE, PJM), and national M&V meetings/efforts (NAPEE, NAESB M&V projects);
8. Conduct outreach to states (e.g., presentations, attend state evaluation meetings, submit comments in proceedings) regarding state adoption of Forum products approved by Steering Committee;
9. Plan and develop 2011 Forum agenda and budget with outreach to Forum participants, subscribers, grant funders, and other stakeholders; and
10. Maintain Forum operational policies, including ensuring access to Forum materials and protecting confidential information



2010 Regional EM&V Forum Cost Allocation - (October 20, 2009 DRAFT)

Minimum Funding on Base Costs at 7%

(Note: this table does not reflect 2009 projects continuing in 2010, and associated carry over budgets).

STATE	Base Cost Allocation		Project Cost Allocation	A. PROTOCOL DEVELOPMENT PROJECTS				B. R&E PROJECTS					Total Project Costs *	TOTAL 2010 COSTS (Base + Projects)
	7% Minimum			Regional		Sub Region	Regional			Sub Regional/Group				
	% Allocation	Base Costs: Forum Admin, Operations & Info Access	Based on MWh/MMBtu Factor	PD1: Common Net Savings Methods	PD2: Common EMV Methods - Emerging Tech	PD3: Guidelines for Incorporate EE into System Planning	PD5: Common Savings Assump. - Mid Atlantic Part 2	RE1: Common Incremental Cost Assump.	RE2: Loadshape Study Part 2	RE3: Estimate EE Impact on Advancing Codes**	RE4: Measure Persist. Study - Part 2	RE5: Natural Gas EE R&E		
NY	21.1%	\$80,204	32.6%	\$81,450	\$65,160	\$27,693		\$104,257	\$97,741	\$0	\$132,392	\$67,084	\$575,777	\$655,981
NJ	12.0%	\$45,670	18.6%	\$46,380	\$37,104	\$15,769		\$59,366	\$55,656	\$0		\$38,199	\$252,474	\$298,144
MD	9.5%	\$36,035	14.6%	\$36,595	\$29,276	\$12,442	\$55,096	\$46,841	\$43,913	\$0		\$30,140	\$254,303	\$290,337
MA	8.4%	\$31,891	13.0%	\$32,386	\$25,909	\$11,011		\$41,454	\$38,864	\$0	\$52,642	\$26,674	\$228,940	\$260,831
CT	7.0%	\$26,600	7.4%	\$18,390	\$14,712	\$6,253		\$23,539	\$22,068	\$0	\$29,892	\$15,146	\$130,001	\$156,601
ME	7.0%	\$26,600	2.9%	\$7,167	\$5,734	\$2,437		\$9,174	\$8,600	\$0	\$11,650		\$44,761	\$71,361
DE	7.0%	\$26,600	2.7%	\$6,746	\$5,396	\$2,293	\$10,156	\$8,634	\$8,095	\$0		\$5,556	\$46,876	\$73,476
NH	7.0%	\$26,600	2.6%	\$6,475	\$5,180	\$2,201		\$8,288	\$7,770	\$0	\$10,524	\$5,333	\$45,771	\$72,371
DC	7.0%	\$26,600	2.6%	\$6,475	\$5,180	\$2,201	\$9,748	\$8,288	\$7,770	\$0		\$5,333	\$44,994	\$71,594
RI	7.0%	\$26,600	1.8%	\$4,555	\$3,644	\$1,549		\$5,830	\$5,466	\$0	\$7,404	\$3,752	\$32,199	\$58,799
VT	7.0%	\$26,600	1.4%	\$3,382	\$2,705	\$1,150		\$4,328	\$4,058	\$0	\$5,496	\$2,785	\$23,904	\$50,504
Grants**		\$160,000								\$100,000				\$260,000
Other		\$25,000												\$25,000
Totals	100%	\$565,000	100%	\$250,000	\$200,000	\$85,000	\$75,000	\$320,000	\$300,000	\$100,000	\$250,000	\$200,000	\$1,680,000	\$2,345,000
%		24%		11%	9%	4%	3%	14%	13%	4%	11%	9%	72%	100%

* A contingency of \$180,000 from 2009 undesignated carry over funds is available to supplement the 2010 project budget if needed. Project Costs include a 2.8% fiscal management fee.

** US EPA has expressed interest in supporting funding Project RE3 for roughly \$100,000. These discussions are underway.