



Improving the consistency of energy efficiency data: A landscape of decision makers and policy needs

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Energy efficiency is widely recognized as a cost-effective way to save energy and reduce greenhouse gas emissions. Many states and utilities run programs called demand-side management (DSM) that encourage businesses and households to invest in energy efficiency.

DSM programs are increasing in number and size across the United States. They are implemented in every state,¹ and budgets for these programs have more than doubled in the last four years, topping \$8 billion in 2011.²

To most effectively save energy and curb greenhouse gas (GHG) emissions, DSM stakeholders (including utilities and third-party program providers, regional and national energy and environmental regulators, energy system planners, and private-sector financiers) need consistent information on the impact of DSM programs.

Across the U.S, DSM programs are routinely and thoroughly evaluated at the jurisdictional level. However, evaluation methods and reporting practices vary, limiting the contribution of those evaluations to energy and climate policy-making decisions.³

Harmonizing program evaluation and reporting — i.e., creating common definitions, methodologies, and/or reporting formats for DSM evaluation — could meet an array of policy needs, helping the United States identify more cost-effective and flexible mechanisms to reduce emissions.

HARMONIZING DATA IN THE NORTHEAST

The Northeast Energy Efficiency Partnership (NEEP) is working to make program data from the Northeast and Mid-Atlantic states more comparable and more accessible. This initiative was developed with the participation of the region's independent system operators (ISOs). The Regional Energy Efficiency Database (REED) will help program administrators draw lessons from each other's experience and design programs to maximize cost-effective energy savings. It will also help the ISOs integrate energy efficiency programs in grid planning — potentially making it easier for efficiency to displace GHG-emitting generation.

¹ N.C. Solar Center, N.C. State University, and the Interstate Renewable Energy Council. "Financial incentives for energy efficiency." DSIRE. www.dsireusa.org/summarytables/finee.cfm. (November 14, 2012)

² Consortium for Energy Efficiency, "State of the Efficiency Program Industry: Budgets, Expenditures, and Impacts 2011", March 14, 2012, <http://www.cee1.org/files/2011%20CEE%20Annual%20Industry%20Report.pdf>.

³ ACEEE, "A National Survey of State Policies and Practices for the Evaluation of Ratepayer-Funded Energy Efficiency Programs", February 16, 2012, <http://www.aceee.org/sites/default/files/publications/researchreports/u122.pdf>; The Cadmus Group, "Scoping Study to Evaluate Feasibility of National Databases for EM&V Documents and Measure Savings", June 2011, http://www1.eere.energy.gov/seeaction/pdfs/emvscoping__databasefeasibility.pdf.

Several initiatives and discussions are underway to address harmonization of DSM evaluation and reporting. These efforts are finding common definitions, identifying methodology components that could be harmonized at a practical level (and components that could not), discussing systematic data and reporting formats for outcomes, and exploring mechanisms to enable systematic sharing of data. A wide array of policy needs and decision makers are driving these efforts, and no one harmonization approach may best satisfy them all.

The table below provides a working summary of the current harmonization landscape for the energy efficiency and climate communities. It maps drivers, potential climate and energy benefits, ongoing initiatives, and what harmonization might look like for each driver. This landscape is intended to help identify common solutions across different policy needs and decision makers, and to help additional parties situate their policy needs in the current harmonization landscape.

DSM energy efficiency programs offer significant potential as current and future tools for GHG reductions as well as energy savings. While many of the drivers of harmonization are not directly climate-related, practical solutions will help policymakers incorporate data on program impact more effectively into decision-making processes — and will ultimately contribute to more cost-effective, well-designed climate mitigation strategies.

Table: Landscape of DSM evaluation and reporting harmonization

HARMONIZATION DRIVERS		HARMONIZATION BENEFITS		HARMONIZATION ACTION	
Policy need	Relevant decision-maker(s)	What would harmonization do?	Climate & energy gains from harmonization	What type and scale of harmonization is needed?	Progress so far
Inform evaluation, monitoring, and verification (EM&V) practices for new, existing, and expanded ratepayer-funded efficiency programs	State public utility regulators and program administrators developing energy efficiency programs	Enhance accessibility of effective evaluation methods for DSM design or improvement	Increase ease in initiating or continuing DSM programs Reduce administrative costs of starting programs	Systematic reporting of evaluation requirements and methods Identify and share best practices in evaluation, at different levels of funding and rigor Regional level may be sufficient	National Renewable Energy Lab Uniform Methods Project SEE Action options scoping for national EM&V database SEE Action webinars on issues and good practices in energy efficiency EM&V EPA Model Energy Efficiency Program Impact Evaluation Guide International Performance Measurement and Verification Protocol (IPMVP) California Energy Efficiency Evaluation Protocols North American Energy Standards Board DSM-EE M&V Standards

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Assess the aggregate effectiveness of ratepayer-funded efficiency programs	State public utility regulators, program administrators, government entities with broad purview over energy efficiency policy (e.g., DOE, CalEPA), non-government organizations assessing policy performance	Help identify best-performing programs (in terms of energy savings, emissions reductions, cost-effectiveness, etc.) in different regions and market conditions	<p>Enable informed selection of DSM programs that best suit a jurisdiction's circumstance</p> <p>Lower administrative costs of starting, expanding, or modifying DSM programs</p>	<p>General agreement on methods for calculating net savings</p> <p>Common reporting format</p> <p>Regional may be sufficient</p>	<p>Uniform Methods Project</p> <p>NEEP Regional Energy Efficiency Database (REED)</p>
Integrated resource planning	FERC ⁴ , ISOs/RTOs, state public utility regulators, utilities	Enable consistent/reliable approach for weighing energy efficiency along with supply-side resources	<p>Avoid unnecessary GHG emissions and ratepayer expenses associated with new generation capacity</p> <p>Increase reliance on energy efficiency as a resource in long-term grid planning</p>	<p>Gross and/or net savings estimates as part of overall demand forecast</p> <p>Regional, not necessarily national</p>	<p>NEEP Regional Energy Efficiency Database (REED)</p> <p>PJM Interconnection's EM&V manual for bidding energy efficiency as a resource in the market</p> <p>Northwest Power and Conservation Council Conservation Supply Curve and Regional Technical Forum (RTC)</p> <p>North American Energy Standards Board DSM-EE M&V Standards</p>

⁴ See [FERC Order 745](#).

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Data to support expansion of energy efficiency finance	Financial institutions, Federal Housing Financing Agency, state utility regulators, other state/local policymakers	Present clearer evidence on whether, and in what circumstances, energy efficiency investments pay for themselves through energy savings	<p>Allow utility programs to leverage private-sector finance</p> <p>Unlock lower-cost private finance</p> <p>Clarify prospects for novel energy efficiency financing policy such as property-assessed clean energy (PACE) programs and on-bill financing</p>	Common reporting format for costs and energy savings	SEE Action Financing Solutions Working Group
Establish equivalency of energy efficiency DSM measures for national air pollution quality and GHG regulations under Clean Air Act (CAA)⁵	U.S. EPA, state air regulators	Consistently account for emissions reductions through demand-side energy savings to assess equivalence to CAA regulations ⁶	<p>Enable EPA to allow states more flexibility in cost-effective policy mechanisms for implementing CAA GHG regulations</p> <p>May reduce mitigation costs</p> <p>Capture GHG emissions reductions as a co-benefit of reducing conventional pollutants</p>	National level	EPA roadmap for integrating energy efficiency into state implementation plans under CAA
Prepare for potential national Clean Energy Standard (CES) or Energy Efficiency Resource Standard (EERS)	U.S. DOE	Allow assessment of equivalence of state policies	Expand set of cost-effective tools states can use to implement a CES or EERS	<p>Consistent methods ideal; consistent reporting may be sufficient</p> <p>National level</p>	Uniform Methods Project

⁵ For more information on the CAA and state roles in implementing the CAA, see U.S. EPA's "[Understanding the Clean Air Act](#)" at www.epa.gov/air/peg/understand.html.

⁶ For example, demand-side energy efficiency could be considered in the context of Best Available Control Technology (BACT) or New Source Performance Standards (NSPS) for power plants.

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Prepare for potential interstate trading of energy efficiency certificates	DOE, states, program administrators, utilities	Consistently account for energy savings across states	<p>Enable trading of energy efficiency credits across state lines</p> <p>Enable achievement of targets at lower cost through trading</p> <p>If a CES or EERS is implemented, provide obligated parties an additional mechanism to meet the standards</p>	<p>Consistent methods</p> <p>National level</p>	<p>LBNL 2011 report addressing potential for tradable energy certificates modeled on tradable renewable energy certificates</p>

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