Energy Efficiency Data and Reporting Webinar

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LBNL Cost of Saved Energy Project

Approach

- Collect & analyze reported annual EE program data

**LBNL DSM Program Database**

- Program Administrator CSE: 100+ administrators in 35 states
  - ~8,000 electric and gas program years 2009-2014
- Total Cost of Saved Energy: 50+ administrators in 20 states
  - ~3,000 program years

**Data Collected**

- Annual & lifetime savings, net & gross
- Budgets & expenditure details
- Measure lifetimes for programs
- Participation

**Standardization Is Critical**

- A common DSM lexicon and program typology
- LBNL EE Program Reporting Tool – due out soon
LBNL Efficiency Program Typology

Uses of the Cost of Saved Energy

- Load Forecasting
- Weighing Cost and Performance Among Efficiency Resources
- Assessing Market Dynamics and Trends
The average cost of saving electricity rose 2009-2013, going from 2.2 cents to 3 cents per kWh.

6% compound annual growth.

Cost of saving electricity rising slowest in the South (1% per year), fastest in the West (8.6% per year).
Residential Total CSE: Program Weighted Averages

- Low residential total CSE driven by **lighting programs** (60% of sector savings at $0.018/kWh)
- Behavioral feedback programs were $0.057/kWh – with 1-year lifetime for savings
- Many multi-measure programs – MF/SF retrofits and new homes– were $0.07-$0.11/kWh

Source: LBNL DSM Program Database
C&I Total CSE: Program Weighted Averages

- Average values for most C&I sector programs are $0.04-$0.06/kWh
- C&I programs garner more participant investment than residential programs, particularly in custom and prescriptive programs

Source: LBNL DSM Program Database
Total CSE and Relative Savings by State

- Greater savings moves states up the efficiency supply curve
- Coverage is percent of IOU retail sales in each state

Sources: LBNL DSM Program Database & Energy Information Agency Form 861; MA Energy Efficiency Advisory Council
# Uses of EE Data and the Cost of Saved Energy

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<tr>
<th>Program Administrators</th>
<th>Utility and Air Regulators</th>
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<tr>
<td>• Benchmark to local, regional and state values for similar markets</td>
<td>• Weigh cost and performance among efficiency resources</td>
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<td>• Identify opportunities for performance improvements and cost efficiencies</td>
<td>• Compare demand and supply resources</td>
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<th>System Operators and Resource Planners</th>
<th>Efficiency Industry Actors, Advocates and Other Stakeholders</th>
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<tr>
<td>• Make better load forecasts and thus enable better GT&amp;D planning</td>
<td>• Assess market dynamics, trends and opportunities</td>
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<td>• Aid in integrated resource planning</td>
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EE Program Spending, Savings and Cost of Saved Energy Data
Flexible and Consistent Reporting for EE Programs

Challenge

• EE reporting practices vary widely among program administrators and states
• Many studies of reporting practices for efficiency programs have identified issues of consistency, rigor, and completeness
• Difficult to determine whether a program administrator is achieving its energy efficiency goals

Solution

Spreadsheet-based reporting tool and technical brief

Approach taken

Literature review
Review & enhance existing work
Incorporate Customization
Final Product

Explains use and value of a common reporting platform:
• Reduced time for staff to assess reporting compliance
• Better comparability between demand-side and supply-side resources
• Improved benchmarking of programs over time and different geographic regions
• Diagnostic for identifying higher/lower performing programs
LBNL Energy Efficiency Reporting Tool

- Spreadsheet-based tool
- Flexible yet consistent
  - Screening questions tailor the requested data to what the state wants. For example:
    - If a state uses only gross savings, then tool does not as for net savings or NTGs
    - If a state wants comparisons over time, the tool asks users to enter historical data
- Merits for regulators (energy, air) and stakeholders within and beyond the state
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