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

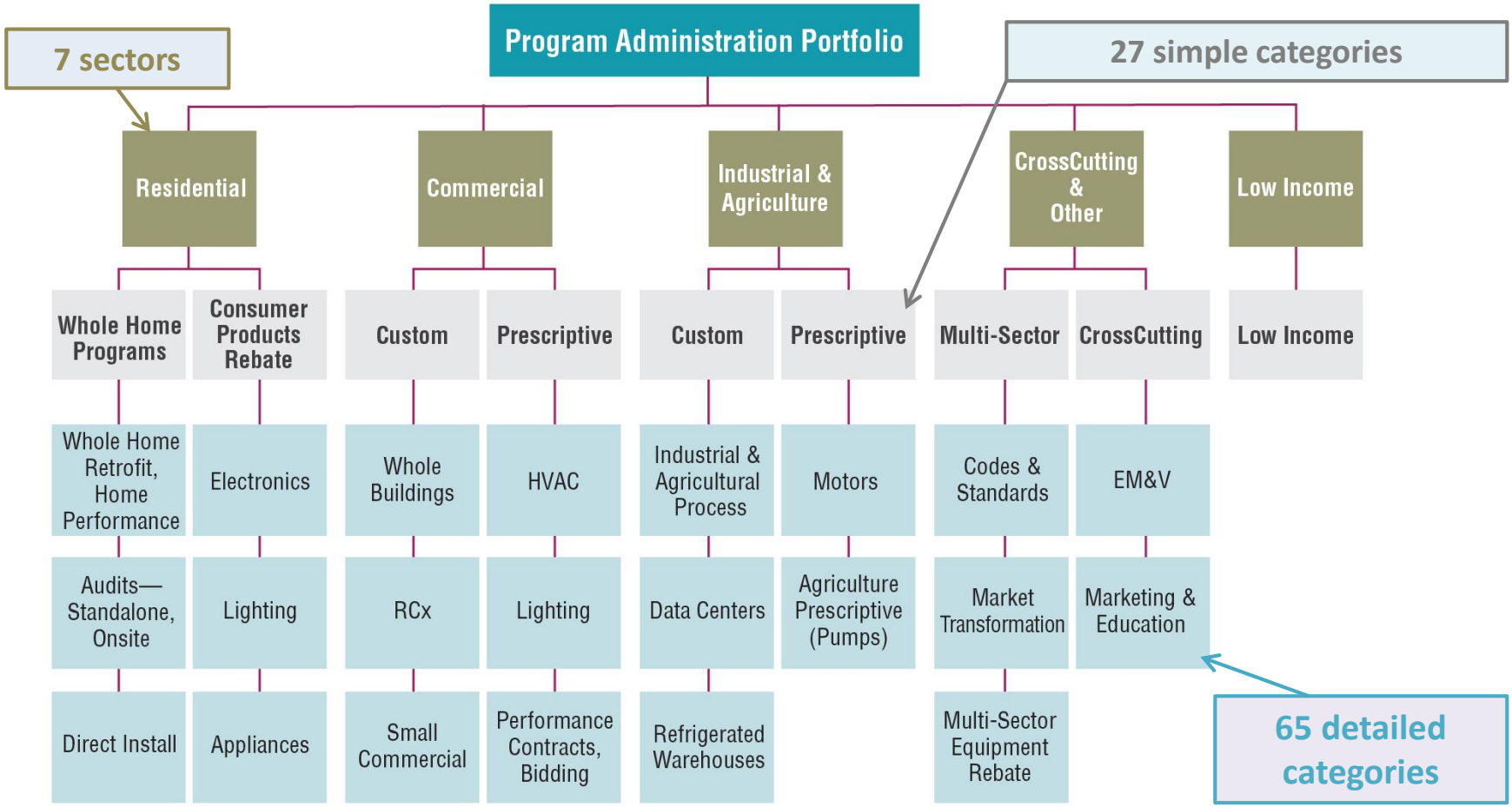
Data Collected

- 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

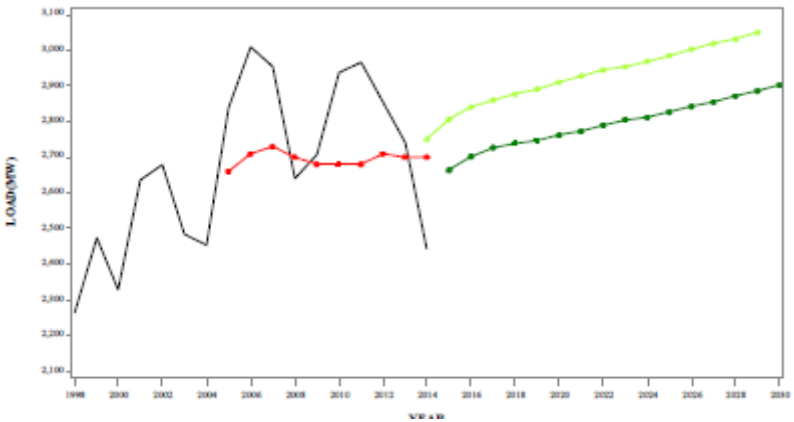


See LBNL Policy Brief: Energy Efficiency Program Typology and Data Metrics: Enabling Multi-State Analyses Through the Use of Common Terminology – at http://emp.lbl.gov

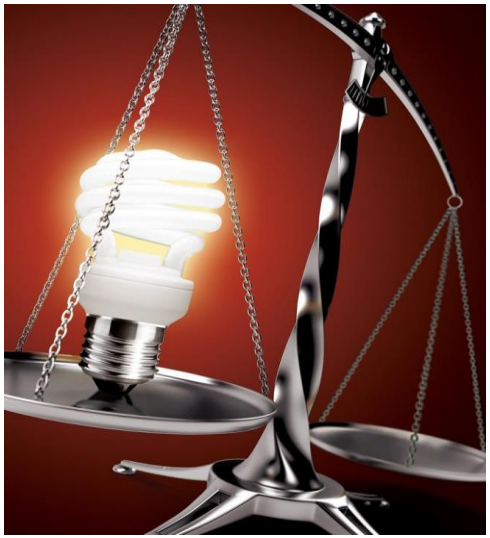
Program Type Categorization Level

Portfolio	Sector
Simplified	Detailed

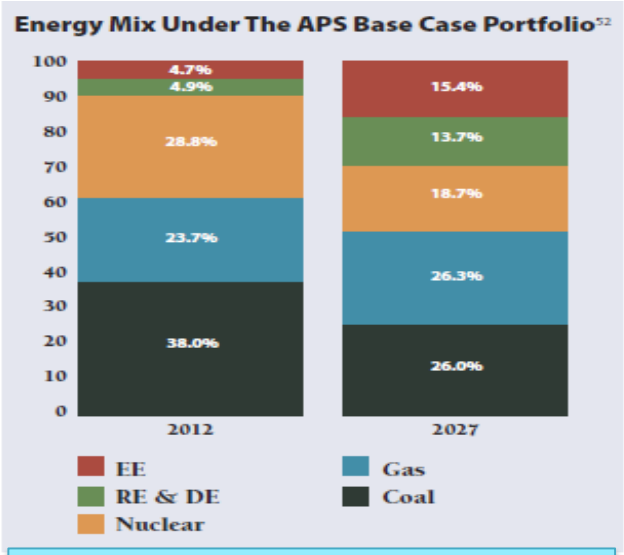
Uses of the Cost of Saved Energy



Load Forecasting



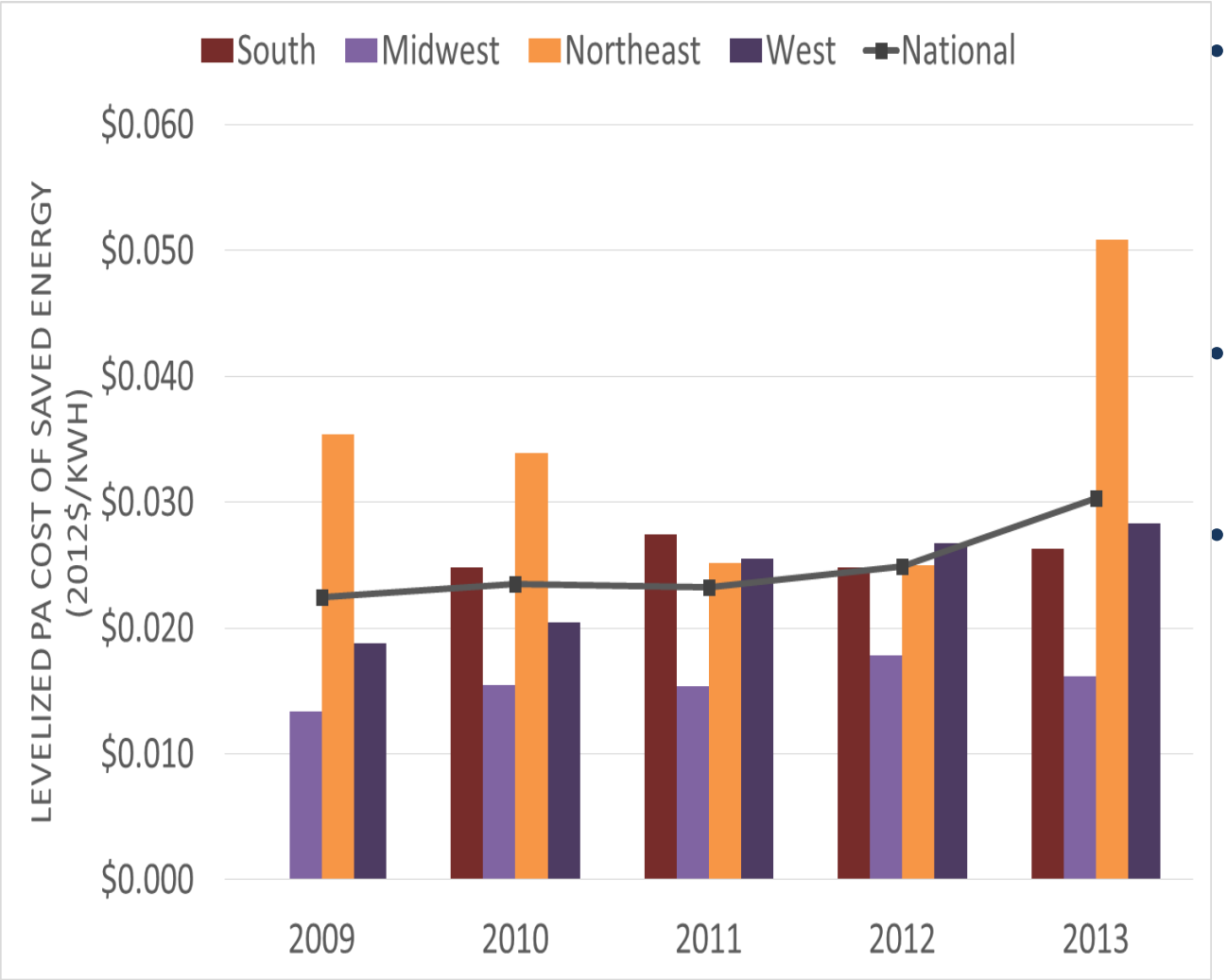
Weighing Cost and Performance Among Efficiency Resources



Integrated Resource Planning

Assessing Market Dynamics and Trends

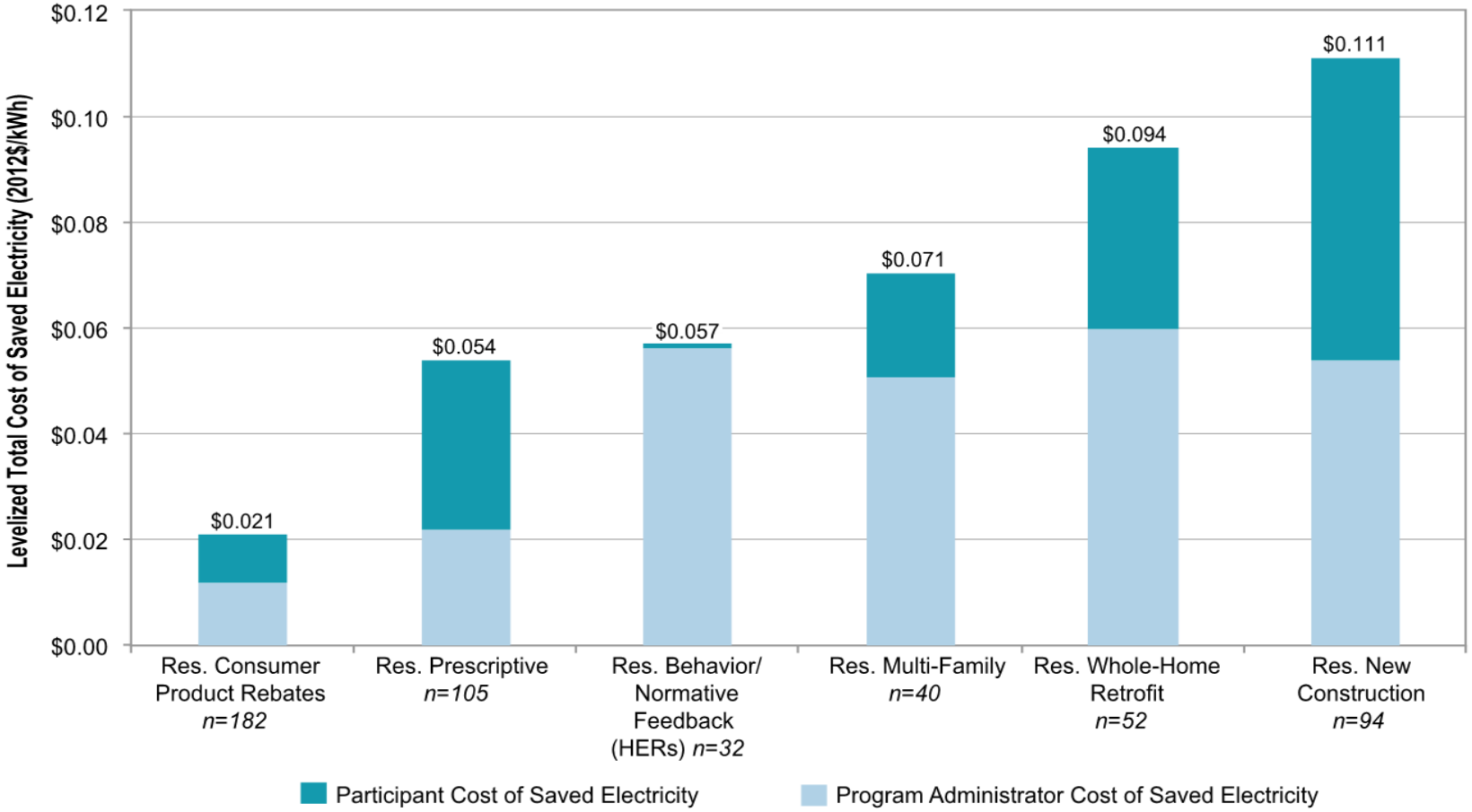
Program Administrator CSE: National and Regional Trends



- 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

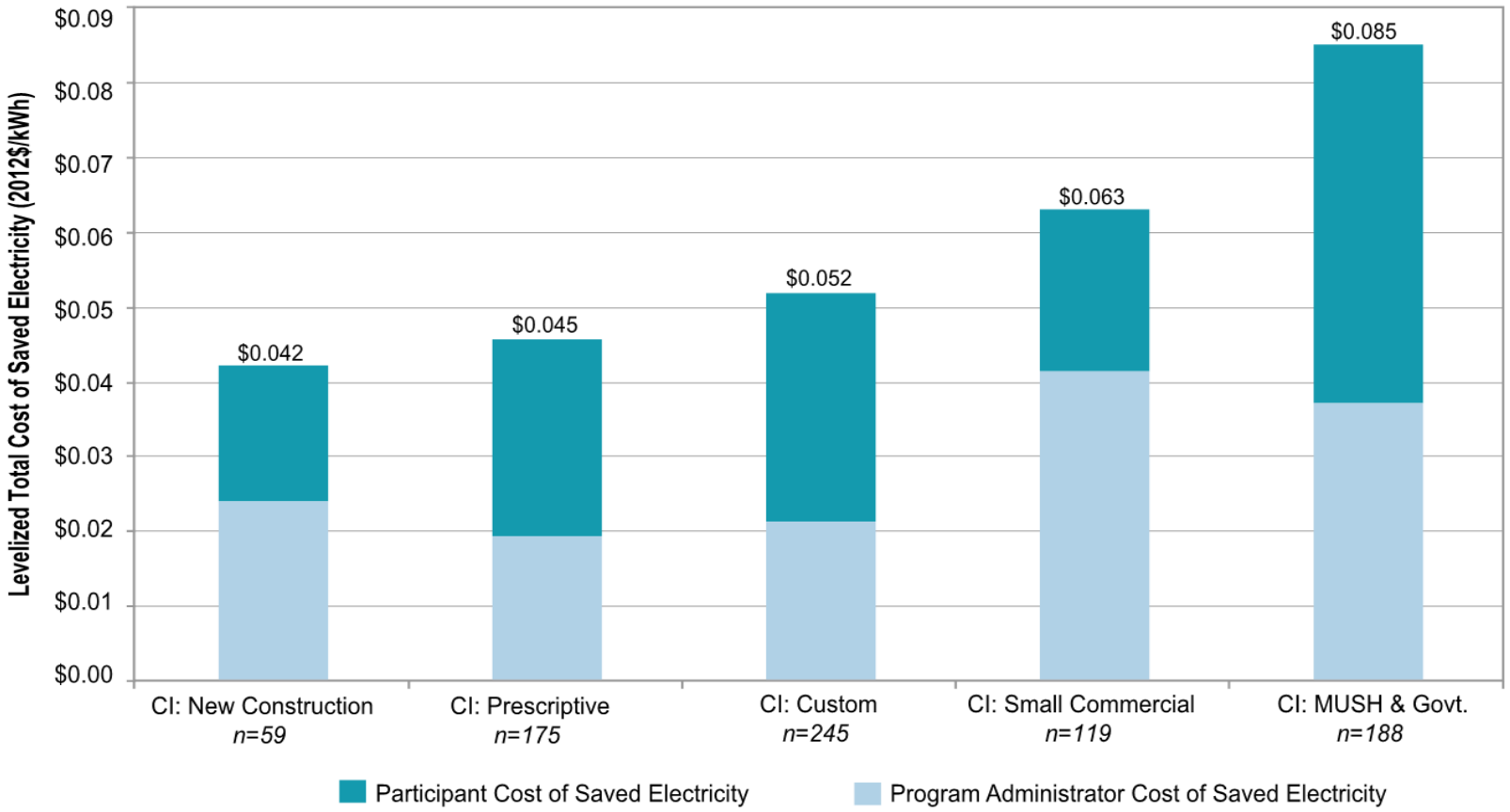
- Low residential total CSE driven by **lighting programs (**60% of sector savings at **$0.018/kWh)**
- Behavioral feedback programs were $0.057/kWh – with 1-year lifetime for savings
- Many multi-measure programs – MF/SF retrofits and new homes– were $0.07-$0.11/kWh



Source: LBNL DSM Program Database

C&I Total CSE: Program Weighted Averages

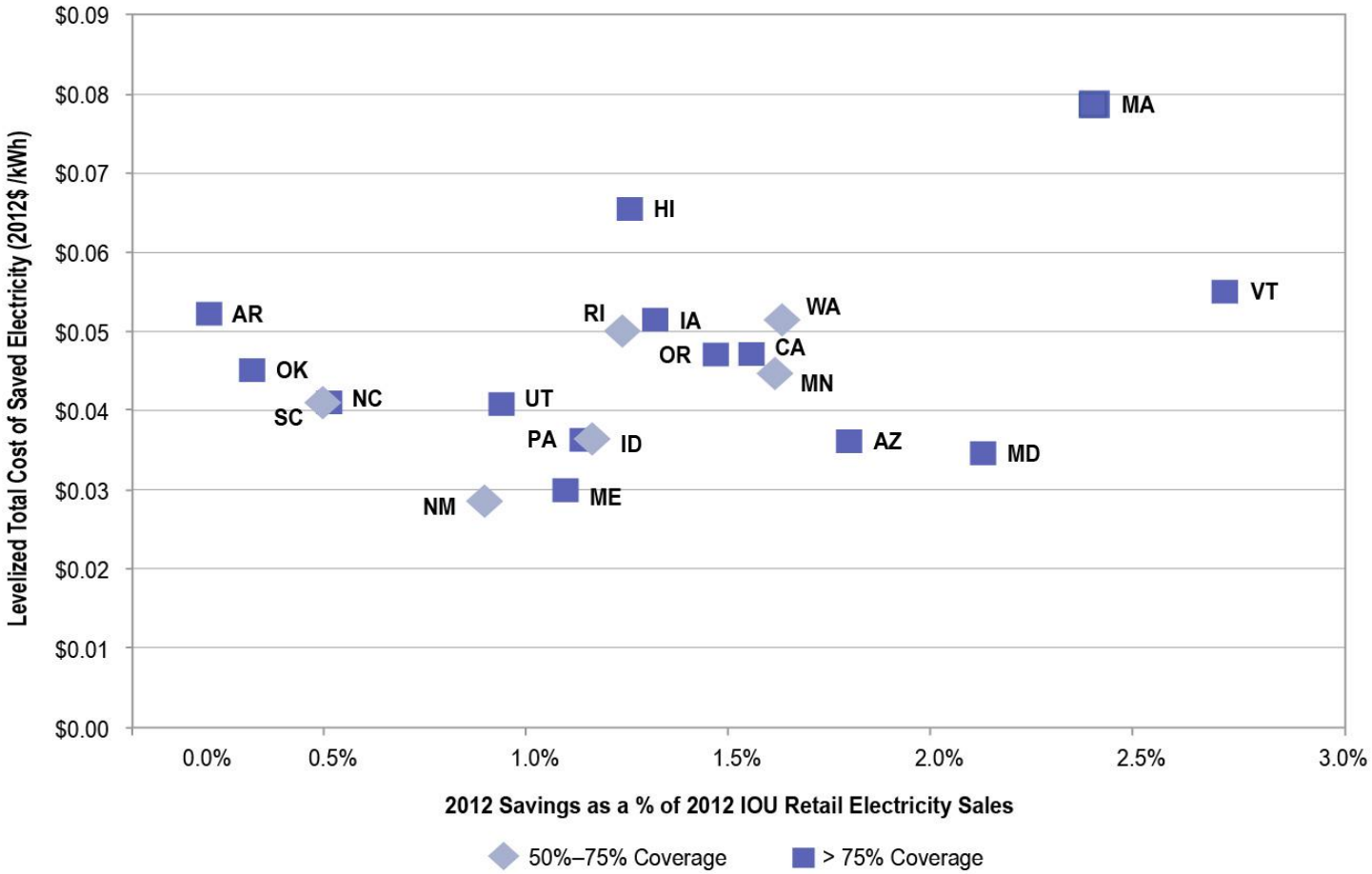
- Average values for **most C&I sector programs are $0.04-$0.06/kWh**
- C&I programs garner **more participant investment** than residential programs, particularly in **custom and prescriptive programs**



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

EE Program Spending, Savings and Cost of Saved Energy Data

Program Administrators

- Benchmark to local, regional and state values for similar markets
- Identify opportunities for performance improvements and cost efficiencies

Utility and Air Regulators

- Weigh cost and performance among efficiency resources
- Compare demand and supply resources

System Operators and Resource Planners

- Make better load forecasts and thus enable better GT&D planning
- Aid in integrated resource planning

Efficiency Industry Actors, Advocates and Other Stakeholders

- Assess market dynamics, trends and opportunities

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

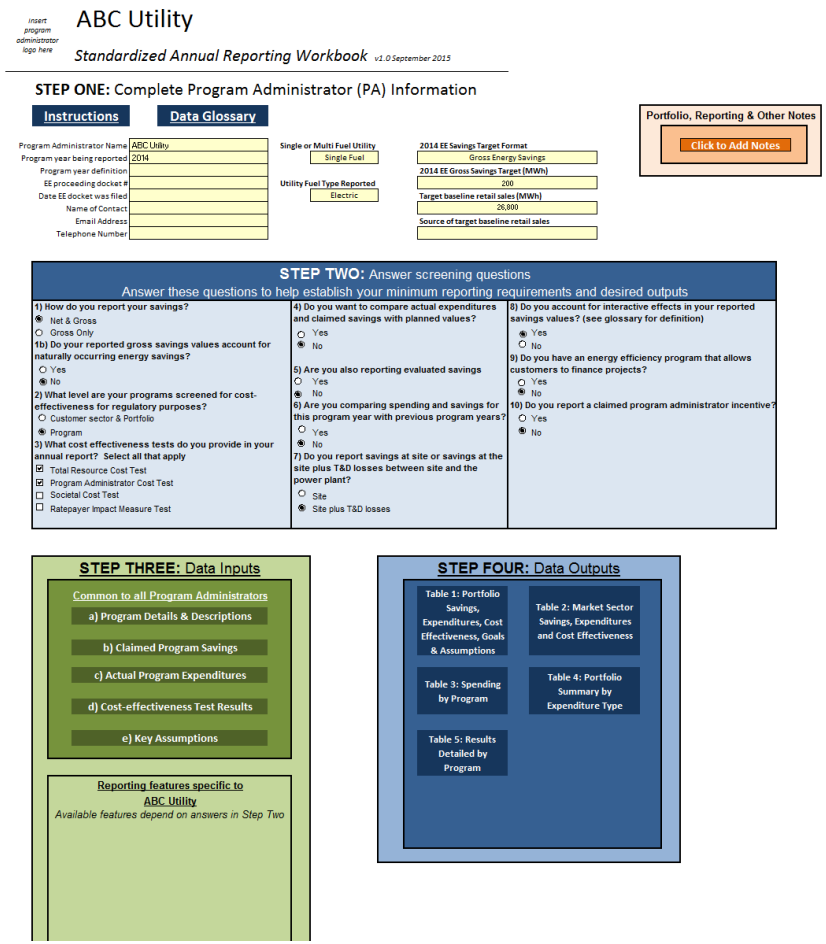
Literature review
↓
Review & enhance existing work
↓
Incorporate Customization
↓
Final Product

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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