Net Impacts Scoping Paper

Key Findings

NEEP EM&V Forum
Annual Meeting

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Topics Addressed

- Defining net energy savings
- Audiences for energy efficiency programs
- Pros and cons for measuring net savings
- Current and evolving policy needs
- Consistency in net savings approaches
- Net impacts in other fields of evaluation

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Defining Net Energy Savings

- Many possible “corrections” to gross energy savings:
  - Realization, installation, persistence rates
  - Leakage, measure life, hours of use
  - Free ridership, spillover, rebound
- Those that happened and are physically measureable: adjusted gross savings
- Free ridership, spillover, and rebound based on the counterfactual that never happened: net savings

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Key Audiences for Net Savings Estimates

Audience	Established or Emerging	Use of Net Savings Estimate
Program administrators, planners	Established	• Assess if program achieved savings goals • Identify strong program designs • Know when to discontinue program
Energy efficiency regulators	Established	• Assess if program achieved savings or policy goals • Adjust payments based on achievement • Determine if funds spent cost effectively
Air regulators	Emerging	• Disagreement over whether will require adjusted gross or net savings • Will use savings to estimate greenhouse gas reductions

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Reasons to Measure Net Savings

- Establishes, quantifies savings caused by the program (attribution)
- Assesses program designs and whether they should be replicated, expanded, revised, or discontinued
- Ensures that ratepayer or taxpayer funds are being spent responsibly and cost-effectively
- Uncovers fraudulent program implementation practices
- Complies with regulatory requirements to report estimates of net savings along with gross savings

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Reasons Not to Measure Net Savings

- Focus on program level free ridership is often too narrow
- Methods may not accurately capture net savings
- Expenditures required are often out of balance with the quality and importance of the estimates

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Do Approaches Meet Current Energy Policy Needs?

Meet Current Needs

- Provide critical info on program performance
  - Informs decisions about future program design, funding, payments
- Ensure ratepayer / taxpayer funds being spent wisely
  - Greatest return on investment in terms of energy savings

Do Not Meet Needs

- Yield uncertain estimates of net savings
  - Decisions about program design, funding, payments based on “inaccurate” data
- Focus on net savings and free ridership is too narrow
  - Fails to recognize broader context in which programs operate

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Evolving Policy Needs

- Related to diversifying audiences
- Expanded energy savings goals
- Increased attention to non-energy benefits
  - Energy independence
  - Jobs creation
  - Many others, but especially…
- Reduced greenhouse gas emissions
- ARRA; RGGI; similar local, state policies

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Evolving Policy Needs Take Away Message

- Things are changing fast
- Programs need to adopt new design & implementation approaches to meet evolving goals
- Program evaluation will also need to change as a result
- But nature of changes is unknown so community not sure what direction to take

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Energy Savings and Air Regulation Community

- No current policy on translating energy savings into emissions reductions
  - EPA developing one
  - Until then, needs of the air regulation community vis-à-vis energy savings unclear
- Some believe efficiency and air regulation communities should take work together to plan how to estimate emissions reduction

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Topics of Discussion Regarding Greenhouse Gas Emissions

- Adjusted gross savings or net savings
  - Additionality, measurability, and provability
- Measurement of baseline
  - Baseline should not include savings from efficiency, codes and standards programs
- Linking energy savings to power plants
  - Emissions vary across plants by time of day and time of year depending on which plants are operating

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Attribution in Face of Multiple Programs and Policies

- Attribution involves determining the impacts *caused* by a program or portfolio
- Greater attention is now being paid to isolating the impact of *this* program from the impacts of all other programs and influences on the same or similar actions
- Commonly named problem, but few solutions offered in the literature or by interviewees

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Current Lack of Consistency in Net Savings Approaches

- Net savings definitions, measurement vary across jurisdictions, programs, years
  - No policy driver to bring about consistency
  - Variations reflect differences in programs, populations, data availability
- Creates challenges for some audiences
  - Comparability of approaches and results over time and across programs and jurisdictions
  - Interpretation of results

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Support for Consistent Definitions and Methods

- Wide support for developing consistent regional definition of net savings
- More debate regarding consistent methods for measuring net savings and challenges to achieving consistency

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Varying Opinions on Consistent Net Savings Methods

Perceived Advantages	Perceived Disadvantages	Perceived Challenges
• Comparability of savings estimates • Facilitate evaluation and reporting efforts that cross jurisdictions	• Method often depends on context • Budgets may limit ability to adopt methods • Might stifle creativity • Not a high priority compared to other pressing issues	• No policy driver to stimulate development • Agreement on details would be difficult • Must be a standard that makes sense, not consistency for its own sake

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Net Impacts in other Fields of Evaluation

- Measuring net program impacts is considered "best practice"
  - Not always carried out
  - Performance measurement – data tracking
- Big programs with large budgets and intense scrutiny more likely to undergo net impact evaluation, usually at the end
- Attribution is a concern in many fields, especially community development, public health, education, some environmental programs

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