AGENDA

1. Research Objectives

2. Evaluation Plan
   • Literature Review & Interviews
   • Engineering Review
   • EM&V Best Practices Comparison
   • Shelf Assortment Analysis
   • Sales Data Analysis

3. Evaluation Outputs
OVERVIEW OF RETAIL NON-LIGHTING PROGRAMS

Energy STAR Retail Products Program (ESRPP)
- Midstream incentives to retailers for the sale of each qualified unit.
- Nationally-coordinated program.
- Eversource and UI have participated since April 2018.

Online E-Commerce Program
- Online platform offering energy-efficient (EE) equipment.
- Customers receive instant rebates for purchasing EE equipment through platform.
- UI has launched and is considering additional measures.
- Eversource may launch early in the new year.

RESEARCH OBJECTIVES TO DRIVE DELIVERABLES

From the RFP

Research Objectives

Primary: Develop improved impact parameters for retail non-lighting programs.
Secondary: Recommend improvements to program design and implementation.

Research Questions
- What methods have been adopted in other states?
- Is it appropriate to adopt or adapt parameters from other states?
- What assumptions for gross savings and attribution should be adopted?
- What are recommended improvements to program design and implementation?
ENERGY STAR RETAIL PRODUCTS PROGRAM (ESRPP)

Context: Declining residential lighting savings leaves opportunity for new programs.

ESRPP Goal: The program influences retailer behavior and codes and standards to drive end users toward efficient purchases.

Context:
• UI not currently claiming savings
• Eversource claiming minimal savings
• Program specifications change annually and do not exactly match ES specs
• Challenge for program attribution

Evaluation Outcome:
→ Establish evidence for savings claims
→ Update gross savings metrics
→ Update measure-specific PSD impact parameters and approach
→ Estimate program-attributed sales

ONLINE E-COMMERCE PLATFORM

Context: Declining residential lighting savings leaves opportunity for new programs.

E-Commerce Goal: Program provides an additional path for residential savings.

Context:
• UI is currently claiming savings
• Eversource planning to launch in 2020
• Appliance and electronic measures in PSD not recent and/or lack regional focus

Evaluation Outcome:
→ Improve evidence for savings claims
→ Outline program best practices
→ Update measure-specific PSD impact parameters
### Overview of Evaluation Plan

#### Research Activities

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<tr>
<th>Activity</th>
<th>ESRPP</th>
<th>E-Commerce</th>
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<td>Literature review</td>
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<td>Peer utility interviews</td>
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<td>Retailer interview analysis</td>
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<td>Shelf assortment survey analysis</td>
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<td>Sales data analysis</td>
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<td>Engineering review of impact parameters</td>
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* ESRPP peer utility interviews will also include external collaborators.

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#### Diagram

- Literature Review
- Peer Utility Interviews
- Retailer Interviews
- Best Practices Comparison
- Engineering Review
- Shelf Assortment Analysis
- Sales Data Analysis
- Program Performance
- Final Report
### Literature Review

**Focus:**
- Research relevant studies to review impact approaches and program best practices.
- Incorporate findings from other ESRPP and E-commerce programs.
- Refine key questions for peer utility interviews.
- Document program metrics and evaluation approaches for best practices comparison.

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### Interviews

**Focus:**

**Retailer Interview Analysis**
- ESRPP retailer interview data provided by national ESRPP evaluation collaborative.

**Peer Utility Interviews**
- Assess impact approaches and investigate program design.
- Also talk with external ESRPP collaborators.

**Key Interview Topics:**
- Program structure, retailer involvement
- Program impacts, savings claims
- Cost-effectiveness inputs, regulatory treatment

**Outcome:** Key findings from literature review and interviews. Input to engineering analysis and EM&V best practices comparison.
ENGINEERING REVIEW OF IMPACT PARAMETERS IN CT PSD

Focus:

• Assess PSD gross impact approaches.
• Confirm engineering calculations.
• Determine if newer or more CT-appropriate input values exist.
• Adapt impact approaches that allow for more flexible updates based on changes in specifications.

  Example: Update parameters to reflect Energy Star 1.2 + 30%.

Outcome: updated unit energy savings, unit demand reduction values, and flexible approach, provide a basis for impact estimates

Potential outcome: updated incremental measure costs

RESEARCH ACTIVITIES

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Engineering review of impact parameters

EVALUATION APPROACH BEST PRACTICES COMPARISON

Context:

• National ESRPP - designed to increase the adoption of EE products over long-term
• Utility program has short-term energy and cost-effectiveness goals
• Other states – challenge to claim ESRPP savings as part of EE portfolio

Program evaluation needs:

• Defensible claims of any short-term savings
• Document progress toward long-term market transformation goals
• Benchmarking program impacts for future evaluation

RESEARCH DELIVERABLES

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EM&V best practices comparison
EVALUATION APPROACH BEST PRACTICES COMPARISON

Focus:

- Document short-term and long-term goals from national program.
- Outline program impact metrics that measure progress towards goals.
- Use CT RPP and other ESRPP program sponsors as case studies.
- Compare case studies across program metrics.
- Identify evaluation and program approaches that meet portfolio needs.

Outcome: program and evaluation industry best-practices that balance the trade offs between short- and long-term goals.

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SHELF ASSORTMENT SURVEY ANALYSIS

Context:

- Utilities collected quarterly shelf assortment data starting in Dec. 2018.
- Increased product assortment at retailer locations is a leading indicator of program impact.

Focus:

- Analyze utility-collected data to determine trends in assortment of qualified products.

Outcome: measure changes in assortment of qualified products

Input to EM&V best practices comparison
Focus:

- Rely on CT program sales data collected in ESRPP data portal.
- Use projected baseline approach with model averaging.¹,²
- Incorporate additional influencing factors.
  Examples: housing starts, employment, income information, and weather.
- Model baseline and actual sales of qualified products.
- Estimate program attributed sales.
  (difference between modeled baseline and actual)

Citations

THANK YOU