CT R1973 RETAIL NON-LIGHTING EVALUATION

Evaluation Plan & Activities

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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**

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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.

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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?

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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

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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

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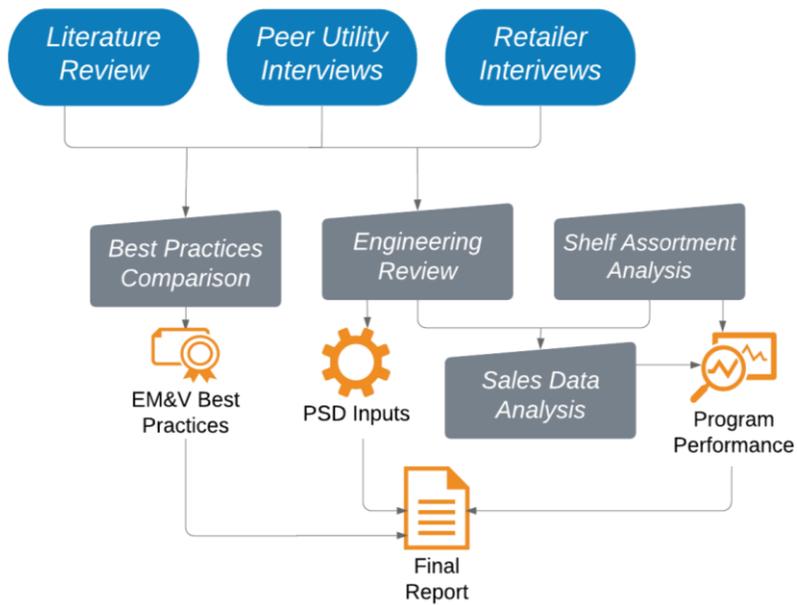6

OVERVIEW OF EVALUATION PLAN

RESEARCH ACTIVITIES	ESRPP	E-Commerce
Literature review	✓	✓
Peer utility interviews	✓*	✓
Retailer interview analysis	✓	
EM&V best practices comparison	✓	
Shelf assortment survey analysis	✓	
Sales data analysis	✓	
Engineering review of impact parameters	✓	✓

* ESRPP peer utility interviews will also include external collaborators.

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OVERVIEW OF EVALUATION PLAN

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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.

RESEARCH ACTIVITIES	ESRPP	E-Commerce
Literature review	✓	✓

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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

RESEARCH ACTIVITIES	ESRPP	E-Commerce
Peer utility interviews	✓*	✓
Retailer interview analysis	✓	

Outcome: Key findings from literature review and interviews.
↳ Input to engineering analysis and EM&V best practices comparison.

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ENGINEERING REVIEW OF IMPACT PARAMETERS IN CT PSD

Focus:

RESEARCH ACTIVITIES	ESRPP	E-Commerce
Engineering review of impact parameters	✓	✓

- 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

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EVALUATION APPROACH BEST PRACTICES COMPARISON

Context:

RESEARCH DELIVERABLES	ESRPP	E-Commerce
EM&V best practices comparison	✓	

- 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

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EVALUATION APPROACH BEST PRACTICES COMPARISON

Focus:

RESEARCH DELIVERABLES	ESRPP	E-Commerce
EM&V best practices comparison	✓	

- 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:

RESEARCH ACTIVITIES	ESRPP	E-Commerce
Shelf assortment survey analysis	✓	

- 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

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SALES DATA ANALYSIS

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)

RESEARCH ACTIVITIES	ESRPP	E-Commerce
Sales data analysis	✓	

Citations
[1] Close, Brett. "Con Edison Retail Products Platform (RPP) Evaluation." Prepared for Con Edison, (2018) pp. 13-15.
[2] Close, Brett. "Pacific Gas & Electric Energy Star Retail Products Platform (ESRPP) Program Pilot Early Evaluation." Prepared for Pacific Gas & Electric, (2019) pp. 16-18.

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EVALUATION ACTIVITIES AND OUTPUTS

EVALUATION OUTPUTS	RESEARCH ACTIVITIES
Program Metrics	• Literature review • Peer utility interviews • Retailer interview analysis
PSD Updates	• Engineering review of impact parameters
EM&V Best Practices	• EM&V best practices comparison
Indicators of program impact	• Shelf assortment survey analysis • Sales data analysis
Program Recommendations and Final Report (delivered Aug 1, 2020)	• Literature review • Peer utility interviews • Shelf assortment survey analysis • Sales data analysis • EM&V best practices comparison

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THANK YOU

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