

2027-2029 Demonstrations, Pilots, and Assessments

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1. INTRODUCTION

Rhode Island Energy invests in demonstrations, pilots and assessments (DPAs) that support the development of new offerings and, more generally, expand energy efficiency choices for customers. For the 2027-2029 program years, Rhode Island Energy is investigating several potential projects using the research and selection framework originally established for the 2025 program year.

To effectively assess the marketplace for new technologies and program models, Rhode Island Energy leverages three PPL (RI Energy's parent company) memberships: Electric Power Research Institute (EPRI), E Source, and the Consortium for Energy Efficiency (CEE) Emerging Technologies Collaborative (ETC). Company staff also stay up to date on offerings from other jurisdictions, emerging ideas from conventions and conferences, and general industry trends.

Electric Power Research Institute

EPRI is an independent non-profit energy research, development, and deployment organization with a membership of utilities and other energy companies worldwide. PPL has a long-standing relationship with EPRI. Power Delivery and Utilization, one of EPRI's research areas, has an Electrification and Customer Solutions focus area with some of the following programs:

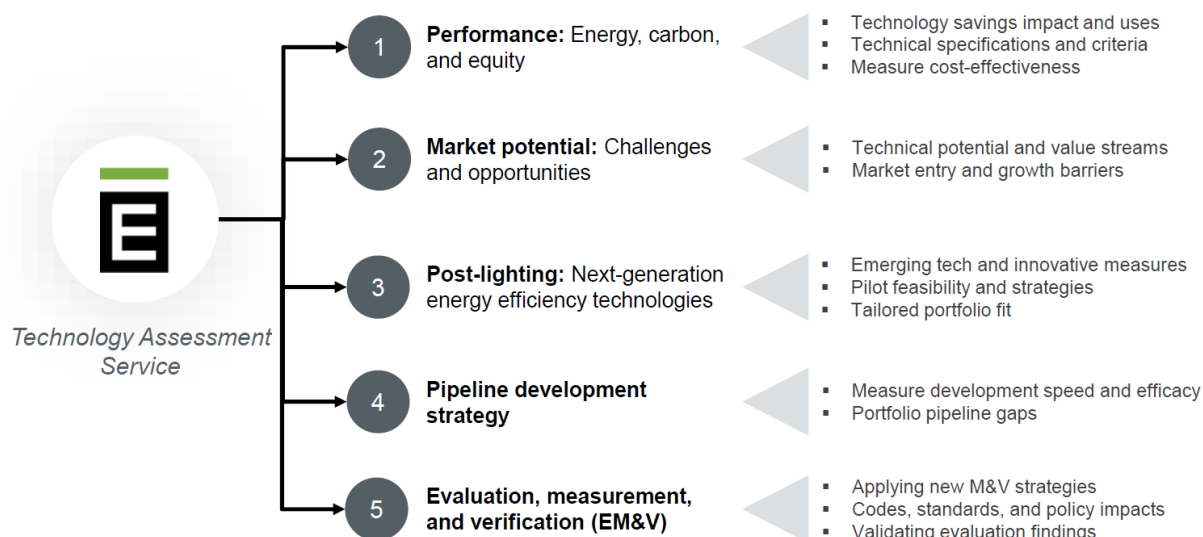
- Grid-edge customer technologies
- Customer insights
- Electrification
- Advanced buildings and communities

Rhode Island Energy has conducted a thorough analysis of EPRI's research catalogue for relevant opportunities to add to its energy efficiency program portfolio. Rhode Island Energy analysts assess all relevant EPRI reports from the previous year in pursuit of opportunities for new demonstrations, pilots, and assessments. Rhode Island Energy engages with EPRI as much as possible to influence future topic areas that may be of interest to Rhode Island consumers.

E Source

PPL also has a corporate membership with E Source, a utility member organization providing deep market research on energy efficiency and distributed energy programs, policy and technology. One of E Source's research areas is its Technology Assessment Service, which advises utilities on the performance characteristics, technical aspects, and feasibility of new demand-side management, distributed energy resources, and electrification technologies and measures. The Technology Assessment Service can help inform Rhode Island Energy's strategic technology and

innovation efforts for end-use technologies and measure development and assess end-use performance characteristics, energy impacts, and costs to help determine potential demonstration, pilot, and assessment projects. E Source's Technology Assessment Services are detailed below.



For E Source, Rhode Island Energy employs a similar analysis process to what was outlined for EPRI above. Rhode Island Energy analysts have assessed all relevant reports from the Technology Assessment Service. Using PPL's corporate memberships in EPRI and E Source allows RI Energy to cost share with other PPL affiliates to access world-class technology research in a very cost-efficient manner.

CEE

The Consortium for Energy Efficiency (CEE) is a nonprofit organization that brings together energy efficiency program administrators across the U.S. and Canada to promote the development and adoption of energy-efficient products, services, and practices. Rhode Island Energy has access to the Emerging Technologies Collaborative (ETC), a program that accelerates the adoption of technologies through research, sharing assessments, and fostering collaboration among stakeholders.

Rhode Island Energy approaches CEE resources with a similar analysis process to what was outlined for EPRI and E Source. ETC provides a comprehensive catalog of Emerging Opportunities that can be easily sorted and filtered based on technology type, sector, feasibility, timeline, and return benefits.

DPA Selection Process

For the 2027-2029 planning cycle, Rhode Island Energy employed the DPA selection framework used in the 2025 and 2026 planning processes. Following a thorough cataloging of EPRI, E Source, and CEE research, Rhode Island Energy categorized all opportunities and applied a methodological, multi-step process to narrow down the most impactful options. Each potential DPA was awarded points based on its relevance to Rhode Island Energy's four key

priorities (as described in Section 2.2 of the Plan Text) as well as more specific residential and commercial program goals provided by sector leaders. The company then conducted a final review to determine which DPA's will be moving forward for the 2027-2029 program years.

2. DEFINITIONS

Rhode Island Energy, using guidance from the PUC, has outlined three separate pathways that may be used to investigate ideas:

1. Demonstration,
2. Pilot, or
3. Assessment.

Ideas are vetted for fit and feasibility, commercial availability, and documented preliminary recommendations of characteristics such as target customer, market barriers, magnitude of potential savings, and delivery pathway. An idea will only be recommended as a demonstration, pilot, or assessment if there are clearly articulated research goals that cannot be answered without a concerted research effort.

Rhode Island Energy has three research pathways that can be applied during demonstration, pilot, or assessment:

- Independent Evaluation (highest rigor),
- Vendor Evaluation, or
- Review (lowest rigor).

The appropriate research pathway will be chosen jointly by the appropriate sector and evaluation leads, depending on the needs and potential of the demonstration, pilot, or assessment. The same team will also consider the uncertainty of the savings, scope of the offering, market barriers, and whether the technology is considered as a demonstration, pilot, or assessment. The research and evaluation pathways are summarized in Table 1 and defined further below.

Table 1. Definitions: Pilots, Demonstrations and Assessments

	Pilot	Demonstration	Assessment
Defining characteristics	- May result in independent program - Long-term, comprehensive engagement required to test and develop offering - Market capabilities may need to be developed	Technology requires information gathering and field installations	- Technology addresses program need that cannot be met with other, more certain solutions - Technology does not have a robust basis for energy savings
Cost effective savings information	Unknown or limited	Estimated savings	Unknown or limited
Evaluation Options*	Vendor or Independent	Vendor or Independent	Vendor, Independent, or Internal Review
Savings contribution to shareholder incentive	No	Yes	No
Cost recovery from SBC	Yes	Yes	Yes

* Each evaluation option will include input from EERMC and OER. Evaluation option selection based on factors such as uncertainty of savings, scope of offering, and whether technology is considered a demonstration, pilot, or assessment.

2.1 Pilots

In 2019, Rhode Island Energy redefined what it considers a pilot in accordance with Docket No. 4600-A PUC Guidance Document. Per the Guidance Document, “A pilot is a small scale, targeted program that is limited in scope, time, and spending and is designed to test the feasibility of a future program or rate design. It is incumbent upon

the proponent of a pilot to define these limits in a proposal for PUC review. Ideally, a pilot can provide net benefits and achieve goals, but the primary design and value of a pilot is to test rather than to achieve.”¹

Pilots are designed to explore technologies and approaches to energy management not included in Rhode Island Energy’s core energy efficiency programs and that could potentially become a new, standalone program.

Pilots enable Rhode Island Energy to test technologies, new energy management strategies, customer adoption, workforce adoption, and cost effectiveness of emerging and new technologies. While pilots are designed to test standalone programs, pilot results may conclude that a standalone program is not recommended, or that certain aspects of the pilot should be offered within existing programs. It is likely that pilots will require a long-term commitment and broader set of stakeholder input, given the scope of adding a new core program or program component to Rhode Island Energy portfolio. Savings associated with pilots will not contribute to shareholder incentives. Pilots may be evaluated with either an independent or a vendor evaluation.

A pilot is likely to be recommended when a solution:

- Meets the fit and feasibility criteria of the Intake stage.
- Is clearly defined in the Concept stage, including savings and potential estimates.
- Is unique and robust enough to operate as a standalone program.
- Requires comprehensive, long-term engagement to determine the benefits and structure of a potential standalone program.
- May require creation of new market capabilities for program success.

2.2 Demonstrations and Assessments

Demonstrations

For actions in this Plan that do not fall under the Docket 4600-A definition of pilots, Rhode Island Energy proposes the following definitions for demonstrations and assessments:

Where a pilot will test the feasibility of a new program outside of the existing core programs, a demonstration will test the feasibility of a new product or offering for inclusion in existing programs. It is generally expected that

¹ Docket No. 4600-A PUC Guidance Document, Oct. 27, 2017. Section V. Pilots.

demonstrations will be less time and resource intensive than pilots, since generally there is greater certainty around a narrow, incremental idea added to a program rather than a totally new set of offerings. Savings associated with demonstration projects may contribute to shareholder incentives. Demonstrations may be evaluated with either an independent or a vendor evaluation.

A demonstration is likely to be recommended when a solution:

- Meets the fit and feasibility criteria of the Intake stage.
- Is clearly defined in the Concept stage, including reasonable savings and potential estimates.
- May require information-gathering and field installations.
- Offers a robust basis for energy savings.

Assessments

Assessments will be deployed for solutions that address a particular gap or program need but have significant uncertainty around the effectiveness or potential of the solution to realize savings. Because of the uncertainty, assessments will not include field demonstrations or customer installations. Instead, assessments will focus on information gathering to equip Company staff to make a more informed decision of whether and how to proceed with the idea. It is possible that an assessment could recommend further demonstration of the idea or determine the solution should exit the review process. Savings associated with assessments may not contribute to shareholder incentives. Assessments may be evaluated with an independent evaluation, vendor evaluation, or internal review.

An assessment is likely to be recommended when a solution:

- Has questions of fit and feasibility in the Intake stage.
- Addresses a program need that cannot be met with other, more certain options.
- Lacks a robust basis for energy savings.

Rhode Island Energy employs three methods for conducting demonstration, pilot and assessment evaluations, described below.

2.3 Evaluations

Independent Evaluations

Independent evaluations apply the greatest level of rigor to the demonstration, pilot, or assessment and require broad coordination between teams. Rhode Island Energy participates in the planning and review process, but the evaluation itself is subject to the procurement process, oversight, and methods outlined in Attachment 3. The third-party evaluator develops the evaluation plan prior to customer installations to ensure the number and condition of

customer installations are appropriately rigorous. The evaluator does not necessarily perform customer installations; however, they are involved to the extent required to ensure appropriate metering and customer feedback needed for the final analysis.

An independent evaluation is likely to be recommended if a solution:

- Is expected to contribute significant savings towards program savings goals.
- Must consider a population-level analysis, as opposed to site-specific analysis, to answer research questions.
- Poses policy or baseline questions that should be addressed through the evaluation framework.

Vendor Evaluations

Vendor evaluations are managed by internal staff, with a single vendor completing all tasks. Vendor evaluations may be applied to a demonstration, pilot, or assessment. This evaluation pathway engages vendors to provide initial research on market readiness, market barriers, customer interest, and work in other territories, before they assess, install, and analyze the results of the technology. The vendor must not have a financial interest in the outcome of the pilot, demonstration, or assessment and must have the necessary engineering, research, or measurement and verification (M&V) experience to evaluate the idea in an unbiased manner. The vendor ultimately recommends whether and how to integrate the technology into the programs and presents key information to inform deployment of the offering, such as target customers, market barriers, savings methodology, and best practices for installations and commissioning. The key differences between a vendor evaluator and independent evaluator relate to oversight and coordination with the Rhode Island Evaluation, Measurement & Verification (EM&V) framework described in Attachment 3. A vendor evaluation is conducted by one of our existing program vendors and is managed by the program implementation team (with input/review from EM&V staff), whereas the independent evaluation is conducted by an evaluation firm chosen by the EM&V team through the evaluation selection process and managed by EM&V staff.

A vendor evaluation is likely to be recommended if a solution:

- Is not expected to contribute significant program savings, either because it is a niche application, or the per-project savings are relatively small.
- Is expected to be delivered through a custom pathway with site specific information inputs available during program delivery.

Internal Reviews

Internal reviews may use internal resources to explore a product through an assessment. Rhode Island Energy typically relies on external resources for pilots and demonstrations to leverage outside expertise and maintain the

integrity of the savings calculations. Internal reviews focus on key questions of uncertainty or policy related to technologies under investigation. An internal review can draw on available external resources and data, but will perform the research, analysis, and recommendations internally.

An internal review is likely to be recommended if:

- The solution is examined as an assessment.
- Research questions can be answered without customer installations.
- Research can be delivered with internal resources and external resources available without undertaking a procurement process (such as E Source).

3. SUMMARY OF DEMONSTRATIONS, PILOTS AND ASSESSMENTS

3.1 2026 Demonstrations, Pilots, and Assessments

Below is a status list of current/recent demonstrations, pilots, and assessments from Rhode Island Energy's 2025 Energy Efficiency Year End Report:

DPA Name		2025 Year-End Updates
<u>Refrigerant Swap – Demonstration – C&I</u>	Date	6/20/2026
	Stage	Design
	Recent Activity	Rhode Island Energy is working with the lead vendor to refine its approach before implementing this demonstration.
	Next Steps	Select eligible sites and begin refrigerant swap testing

3.2 2027-2029 Demonstrations, Pilots, and Assessments

3.2.1 C&I Refrigerant Swap Demonstration

This Demonstration proposes to measure the impact on energy use when higher Global Warming Potential (“GWP”) refrigerants are replaced with lower GWP refrigerants. Additionally, the demonstration will identify learnings and barriers relating to the metering and installing of the refrigerants and barriers when replacing these refrigerants. This demonstration will support Rhode Island Energy’s efforts to determine if the practice of swapping a high GWP refrigerant with a lower GWP refrigerant is a cost-effective measure that can be offered through Rhode Island Energy’s programs.

3.2.2 Other Demonstrations, Pilots, and Assessments

Rhode Island Energy maintains a running list of potential DPA opportunities and will continue to update this list based on the sources identified in Section 1 above. Rhode Island Energy may choose to add new DPAs or expand existing ones during the 3-year plan period.