

The Narragansett Electric Company
d/b/a Rhode Island Energy

2024-2026 Energy Efficiency Three-Year Plan and 2024 Energy Efficiency Plan

Pre-Filed Direct Testimony of:

Brett Feldman
Michael O'Brien Crayne
Mark Siegal
Toby Ast and
Spencer Lawrence

October 2, 2023

Submitted to:
Rhode Island Public Utilities Commission

RIPUC Docket No. 23-35-EE

Submitted by:



Rhode Island Energy™

a PPL company

October 2, 2023

VIA ELECTRONIC MAIL

Luly E. Massaro, Commission Clerk
Rhode Island Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

**RE: Docket No. 23-35-EE – The Narragansett Electric Company’s d/b/a
Rhode Island Energy’s Combined 2024-2026 Energy Efficiency Three-Year Plan
and Annual Energy Efficiency Plan for 2024**

Dear Ms. Massaro:

On behalf of The Narragansett Electric Company d/b/a Rhode Island Energy (the “Company”), enclosed, please find the Company’s 2024-2026 Energy Efficiency and Conservation Procurement Plan (“Three-Year Plan”) combined with the Company’s 2024 Annual Energy Efficiency and Conservation Procurement Program Plan (“Annual Plan”). (Collectively, the Three-Year Plan and the Annual Plan are referred to as the “Plans”). The Plans are being filed with the Public Utilities Commission (“Commission”) in accordance with R.I. Gen. Laws § 39-1-27.7(c) and the Least Cost Procurement Standards as approved and adopted by the Commission at an Open Meeting that occurred on July 27, 2023, in Docket No. 23-07-EE (the “LCP Standards”).

In support of the Plans, the Company is including joint pre-filed direct testimony of Brett Feldman, Michael O’Brien Crayne, Mark Siegal, Toby Ast, and Spencer Lawrence (“Joint Pre-Filed Testimony”). The Company respectfully requests approval by the Commission of the Plans. See Sections IV.H. (for the Three-Year Plan) and V.K. (for the Annual Plan) of the Joint Pre-Filed Testimony for more information on the requested rulings.

By the end of this week, the Company will provide the electric and natural gas benefit cost analysis models for the Plans in electronic, readable formats (Excel), with formulae intact as well as rate and bill impact models. Under separate cover at a later date, the Company will be filing an update to the surcharges by submitting revised Tables E-1 and G-1 prior to the evidentiary hearing.

The Three-Year Plan outlines the Company’s overall programmatic focus and strategies, including illustrative and provisional budgets, system benefits charges, and savings goals for the three years of implementation. It lays out a vision for the Company’s continued transformation of the energy efficiency sector in Rhode Island, including key themes and areas of focus for 2024-2026 that will then be further developed in each subsequent annual plan.

Luly E. Massaro, Commission Clerk
Docket No. 23-35-EE – 2024-2026 Three-Year Plan and
2024 Annual Energy Efficiency Plan
October 2, 2023
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If approved as filed, the Annual Plan is expected to create over \$273.6 million in benefits over the life of the installed electric and natural gas energy efficiency measures. Specifically, the electric-funded portion of the Annual Plan is anticipated to create electric energy savings of 729,294 net lifetime MWhs, 94,198 net annual MWhs, and 15,303 net annual kW from passive energy efficiency. The natural gas-funded portion of the Annual Plan is anticipated to create energy savings of 3,302,603 net lifetime MMBtus and 312,846 net annual MMBtus. In addition, the Company anticipates that investments made in energy efficiency to achieve these energy savings will add \$232.9M million to Rhode Island's state gross state product ("GSP"), the equivalent of 2,367 job years.

The Annual Plan proposes total budgets of \$96.3 million for electric and \$34.2 million for gas. The proposed electric energy efficiency charge for 2024 is \$0.01052 per kWh. The proposed residential natural gas energy efficiency charge for 2024 is \$1.094 per Dth and the proposed commercial and industrial natural gas energy efficiency charge for 2024 is \$0.782 per Dth.

The proposed performance incentive earnings opportunity for the Company is \$4.1 million for electric, and \$0.9 million for gas. In terms of bill impact, an average A-16 residential customer would see an annual bill decrease of \$0.36 or -0.2%. An average residential gas customer on the Residential Heating rate would see an annual bill increase of \$2.37 or 0.14%.

Thank you for your attention to this filing. If you have any questions, please contact me at 401-784-4263.

Sincerely,



Andrew S. Marcaccio

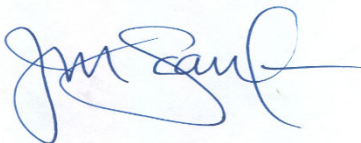
Enclosures

cc: Docket No. 23-35-EE Service List via Docket No. 22-33-EE Service List

Certificate of Service

I hereby certify that a copy of the cover letter and any materials accompanying this certificate was electronically transmitted to the individuals listed below.

The paper copies of this filing are being hand delivered to the Rhode Island Public Utilities Commission and to the Rhode Island Division of Public Utilities and Carriers.



Joanne M. Scanlon

October 2, 2023

Date

**Docket No. 22-33-EE – Rhode Island Energy’s Energy Efficiency Plan 2023
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JOINT PRE-FILED DIRECT TESTIMONY

OF

BRETT FELDMAN

MICHAEL O'BRIEN CRAYNE

MARK SIEGAL

TOBY AST, AND

SPENCER LAWRENCE

October 2, 2023

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SCHEDULES

Schedule A: 2024-2026 Energy Efficiency Plan and Attachments

Schedule B: Annual Energy Efficiency Plan for 2024 and Attachments

1 **I. Introduction**

2 **Brett Feldman**

3 **Q. Mr. Feldman, please state your name and business address.**

4 A. My name is Brett Feldman. My business address is 280 Melrose Street, Providence,
5 Rhode Island 02907.

6
7 **Q. By whom are you employed and in what position?**

8 A. I am employed by the Narragansett Electric Company d/b/a Rhode Island Energy
9 ("Rhode Island Energy" or the "Company"), which is a subsidiary of PPL Corporation
10 ("PPL"), as Manager, Customer Energy Management ("CEM"), Rhode Island. In this
11 role, I lead the teams responsible for the Company's energy efficiency strategy, policy,
12 and planning in Rhode Island.

13
14 **Q. Please describe your education and your professional experience.**

15 A. I received a Bachelor of Arts in Economics from University of Michigan and a Masters in
16 Business Administration from Boston University. I started working for the Company in
17 March 2022, the Company being under National Grid USA ("National Grid") ownership
18 at the time. On May 25, 2022, PPL Rhode Island Holdings, LLC, a wholly owned
19 indirect subsidiary of PPL, acquired 100 percent of the outstanding shares of common
20 stock of the Company from National Grid (the "Acquisition"), at which time I assumed
21 my current position. Prior to joining Rhode Island Energy, I worked at Guidehouse

1 (formerly Navigant), performing market research and consulting on global energy
2 efficiency and demand response program strategy, evaluation, and policy engagements;
3 Constellation Energy, managing demand side resource portfolios in wholesale markets
4 including ISO-NE, NYISO, and PJM; Eversource Energy, managing commercial and
5 industrial (“C&I”) energy efficiency and demand response program implementation;
6 Nexant, consulting on utility energy efficiency and demand response program design and
7 evaluation; and ICF, providing economic and marketing support to US Environmental
8 Protection Agency’s (EPA) ENERGY STAR® program.

9
10 **Q. Have you previously testified before the Rhode Island Public Utilities Commission**
11 **(“PUC”)?**

12 **A.** Yes. I testified before the PUC relating to the Company’s 2023 Annual Energy Efficiency
13 and Conservation Procurement Program Plan (“2023 Annual Plan”).

14
15 **Michael O’Brien Crayne**

16 **Q. Mr. O’Brien Crayne, please state your name and business address.**

17 **A.** My name is Michael O’Brien Crayne. My business address is 280 Melrose Street,
18 Providence, Rhode Island 02907.

19

1 **Q. By whom are you employed and in what position?**

2 A. I am employed by the Company as a Program Strategy Analyst. In this role, I am a
3 member of the team responsible for the Company's energy efficiency strategy, policy, and
4 planning in Rhode Island.

5

6 **Q. Please describe your education and your professional experience.**

7 A. I received a Bachelor of Science in Civil Engineering from Stanford University and a
8 Masters in Business Administration from Boston University's Questrom School of
9 Business. I have worked in the utility energy efficiency industry since 2013. I joined
10 Rhode Island Energy (formerly under National Grid's ownership) in 2019 as an energy
11 engineer implementing C&I energy efficiency programs, and I have been in my current
12 role since September 2022. Prior to joining Rhode Island Energy, I worked for
13 CLEAResult as an energy engineer implementing commercial new construction
14 programs, and EcoMetric Consulting as a consultant evaluating statewide program
15 portfolios.

16

17 **Q. Have you previously testified before the PUC?**

18 A. Yes. I testified in the evidentiary hearings in Docket 22-33-EE related to the 2023 Annual
19 Plan.

20

1 **Mark Siegal**

2 **Q. Mr. Siegal, please state your name and business address.**

3 A. My name is Mark Siegal. My business address is 280 Melrose Street, Providence, Rhode
4 Island 02907.

5
6 **Q. By whom are you employed and in what position?**

7 A. I am employed by the Company as a Program Strategy Analyst. In this role, I am a
8 member of the team responsible for the Company's energy efficiency strategy, policy, and
9 planning in Rhode Island.

10

11 **Q. Please describe your education and your professional experience.**

12 A. I received a Bachelor of Science in Economics from Temple University and a Masters in
13 Energy Management and Policy from the University of Pennsylvania. I joined National
14 Grid in 1994 as a program manager and was involved in implementing C&I energy
15 efficiency programs for approximately 20 years, I retired from National Grid in
16 September 2023 and joined Rhode Island Energy in September 2023.

17

18 **Q. Have you previously testified before the PUC?**

19 A. No.

20

1 **Toby Ast**

2 **Q. Mr. Ast, please state your name and business address.**

3 A. My name is Toby Ast. My business address is 280 Melrose Street, Providence, Rhode
4 Island 02907.

5

6 **Q. By whom are you employed and in what position?**

7 A. I am employed by the Company as a Project Manager. In this role, I am a member of the
8 team responsible for the Company's energy efficiency strategy, policy, and planning in
9 Rhode Island.

10

11 **Q. Please describe your education and your professional experience.**

12 A. I received a Bachelor of Science in Biology from Duke University and a Masters in
13 Business Administration from Babson College School of Business. I joined Rhode Island
14 Energy in 2022 in my current role. Prior to joining Rhode Island Energy, I worked for the
15 Rhode Island Infrastructure Bank managing the Commercial Property Assessed Clean
16 Energy Program ("C-PACE") and Bright Power as the Director of Energy Analysis.

17

18 **Q. Have you previously testified before the PUC?**

19 A. No.

20

1 **Spencer Lawrence**

2 **Q. Mr. Lawrence, please state your name and business address.**

3 A. My name is Spencer Lawrence. My business address is 280 Melrose Street, Providence,
4 Rhode Island 02907.

5

6 **Q. By whom are you employed and in what position?**

7 A. I am employed through SOFT Inc. as a contractor supporting the Company. I serve as a
8 Program Strategy Analyst. In this role, I support the team responsible for the Company's
9 energy efficiency strategy, policy, and planning in Rhode Island.

10

11 **Q. On whose behalf are you testifying?**

12 A. I am testifying on behalf of the Company.

13

14 **Q. Please describe your education and your professional experience.**

15 A. I received a Bachelor of Arts in Political Science from Brown University. I began
16 supporting Rhode Island Energy as a Contractor in January of 2023. Prior to that, I
17 worked several jobs in the energy efficiency and renewable energy industry, including as
18 an energy auditor, a program manager for the Massachusetts Department of Energy
19 Resources, and for a solar photovoltaic ("PV") system installer.

20

1 **Q. Have you previously testified before the PUC?**

2 A. No.

3

4 **II. Background**

5 **Q. What is the purpose of this joint testimony?**

6 A. The purpose of this joint testimony is to demonstrate that the *2024-2026 Three Year*
7 *Energy Efficiency and Conservation Procurement Plan* (the “Three-Year Plan”) and the
8 *2024 Annual Energy Efficiency and Conservation Procurement Plan* (the “Annual Plan”,
9 collectively the “Plans”) meet the applicable statutory and regulatory requirements and to
10 request PUC approval of the proposed measures, programs, and portfolios which are
11 discussed in greater detail herein and within the Plans.

12

13 **Q. How is your testimony structured?**

14 A. In Section III of this joint testimony, the Company describes the context in which the
15 Plans were developed. The Company then discusses the Three-Year Plan (Section IV)
16 and Annual Plan (Section V) individually – including how each Plan meets the applicable
17 statutory and regulatory requirements, how the Plans align with the goals established
18 through Docket No. 4600, consideration of other elements in each Plan, and requested
19 PUC rulings for each Plan. The Company concludes its testimony in Section VI.

20

1 **Q. Were the Plans endorsed by the Rhode Island Energy Efficiency and Resource**
2 **Management Council (“EERMC”)?**

3 A. The Plans were unanimously endorsed by the EERMC in a vote at its meeting on
4 September 28, 2023.

5
6 **Q. Are you sponsoring any schedules through this testimony?**

7 A. Yes, we are sponsoring the Three-Year Plan, the Annual Plan, and all associated
8 attachments.

9
10 The proposed Three-Year Plan is attached to this testimony as Schedule A. The Three-
11 Year Plan includes the following Attachments:

- 12 • Attachment 1: Energy Efficiency Funding
- 13 • Attachment 2: Program Level Benefit Cost Summary
- 14 • Attachment 3: Program List by Sector
- 15 • Attachment 4: Definitions
- 16 • Attachment 5: Customer Listening Sessions for 2024-2026 Plan

17

1 The proposed Annual Plan is attached to this testimony as Schedule B. The Annual Plan
2 includes the following Attachments:

- 3 • Attachment 1: 2024 Residential and Income Eligible EE Solutions and Programs
- 4 • Attachment 2: 2024 C&I EE Solutions and Programs
- 5 • Attachment 3: 2024 Evaluation, Measurement, and Verification Plan
- 6 • Attachment 4: 2024 Rhode Island Test Description
- 7 • Attachment 5: 2024 Electric Energy Efficiency Program Tables
- 8 • Attachment 6: 2024 Gas Energy Efficiency Program Tables
- 9 • Attachment 7: 2024 Bill and Rate Impacts
- 10 • Attachment 8: 2024 Pilots, Demonstrations and Assessment
- 11 • Attachment 9: 2024 Cross-Program Summary
- 12 • Attachment 10: Definitions
- 13 • Attachment 11: 2023 Rhode Island Energy Efficiency Equity Working Group
14 Report

15 **Schedules**

16 SCHEDULE A: 2024-2026 Energy Efficiency Plan and Attachments

17 SCHEDULE B: Annual Energy Efficiency Plan for 2024 and Attachments

18

1 **III. Context of Development**

2 **Q.** What is the Company's objective in describing the context of developing the Plans?

3 A. The Company's objectives in describing the context of development are to (1) frame the
4 Plans within the larger context of state climate and clean energy policy, (2) acknowledge
5 the collaboration that contributed to the Plans, (3) shed light on trends from previous
6 plans, (4) highlight the reasoning behind proposed deviations from prior trends, and (5)
7 discuss the strategy for continued collaboration in executing the Plans.

8

9 **Q. What major federal, state, and regulatory policies influenced the proposed Plans?**

10 A. Several key federal, state, and regulatory policies influenced the Plans.

11

12 At the federal level, the United States Congress enacted the Inflation Reduction Act
13 ("IRA") in August 2022, which set aside funding for both incentives and tax credits for
14 eligible energy efficiency measures. In designing the Plans, the Company considered the
15 potential impacts of and synergies with the breadth of federal funding available to
16 customers. Potential impacts that the Company planned for in the Plans include, but are
17 not limited to, increases in program participation, workforce development needs for
18 increased demand, and communication and outreach strategies to aid customer
19 understanding. Potential synergies the Company has incorporated into its Plans include,
20 but are not limited to, collaboration with other entities and processes to consider how
21 incentives are layered.

1 At the state level, in December 2022, the State of Rhode Island (“State”) released its
2 2022 Update to the 2016 Greenhouse Gas Emissions Reduction Plan (“2022 Update”) in
3 response to the 2021 Act on Climate, R.I. Gen. Laws § 42-6.2-1 et seq. In the 2022
4 Update, the State identified near-term priority actions, including several actions related to
5 energy efficiency. The Plans are the first Plans in which the Company was able to
6 consider and prioritize these priority actions.

7
8 Consistent with legislation passed by the Rhode Island General Assembly and signed into
9 law by Governor McKee, the Rhode Island Office of Energy Resources (“OER”) opened
10 its heat pump incentive program, branded “Clean Heat RI,” in September 2023. Clean
11 Heat RI complements the Company’s Plans by offering incentives to customers who
12 switch from delivered fuels to high-efficiency electric heat pumps. In its Plans, the
13 Company considers how it will collaborate with OER to streamline customer
14 participation, mitigate potential confusion, and effectuate the biggest impact.

15
16 In June 2023, the State adopted a timeline for the adoption of new building code linked to
17 the finalization of the 2024 International Energy Conservation Code that will require
18 lower energy consumption for occupants. Based on the Company’s prior experience with
19 assessing the adherence of new construction to new building codes, identifying common
20 deficiencies, and mitigating continued deficiencies through effective and collaborative
21 workforce development, the Company, in these Plans, emphasized training specific to

1 compliance with the new building code within its proposed workforce development
2 efforts.

3
4 At the regulatory level, the PUC opened Docket No. 22-01-NG, “Investigation Into the
5 Future of the Regulated Gas Distribution Business in Light of the Act on Climate”
6 (“Future of Gas Docket”) in June 2022. The purpose of the docket is to “examine the
7 extent to which the requirements of the [Act on Climate] impact the conduct, regulation,
8 ratemaking, and the future of gas supply and gas distribution within Rhode Island” and
9 will include a stakeholder process and technical analysis.¹ This docket is ongoing and
10 reporting deliverables and potential policy outcomes are not anticipated until 2024.

11 Therefore, the Company purposefully approached the Plans with the dual objectives of
12 not preempting the outcomes of the Future of Gas Docket and building in flexibility to
13 adjust at the appropriate time based on findings of the Future of Gas Docket.

14
15 Altogether, the Company recognizes the importance of decarbonization and access to
16 clean, energy efficient technologies as priorities within the State policy discussion. In
17 implementing its proposed Plans, the Company intends to work in concert with the State

¹ See Docket No. 22-01-NG, *Notice of Commencement of Docket*, dated June 9, 2022, which may be accessed at: https://ripuc.ri.gov/sites/g/files/xkgbur841/files/2022-08/22-01-NG-Notice_6-9-22.pdf

1 and stakeholders to enable its customers to participate in and benefit from energy
2 efficiency as one critical component of reaching State climate and clean energy mandates.

3
4 **Q. What additional context shaped the development of the 2024 Plan?**

5 A. The Rhode Island Energy team recognizes the interplay between its investment proposals,
6 their benefits, and the macroeconomic realities our customers are facing. Economic
7 challenges are exacerbated by global macroeconomic dynamics and customers feel these
8 impacts when they open their utility bills, pay for gas at the pump, and buy groceries at
9 the market. In reaction, the Rhode Island Energy team has focused on striking the optimal
10 balance between delivering the necessary benefits of energy efficiency and maintaining a
11 budget that reduces bill pressure on our customers.

12
13 The PUC adopted a revised version of the Least-Cost Procurement (“LCP”) Standards in
14 Docket No. 23-07-EE. The Company developed the Plans to be fully compliant with
15 these revised LCP Standards.

16
17 The Rhode Island Efficiency and Resource Management Council (“EERMC”) refreshed
18 its Market Potential Study (“MPS”), leading to the three-year energy savings targets (the
19 “Targets”) submitted in Docket No. 23-21-EE. The Company worked with the EERMC
20 during the process of developing the MPS and offered feedback to help better align the
21 MPS with the Rhode Island market. Although the Company does not propose energy

1 savings goals in the Plans that are as large as the Targets, the Company posits the goals
2 are completely compliant with LCP statute, R.I. Gen. Laws § 39-1-27.7, and LCP
3 Standards, while also striking the right balances in budget size, executability, integration
4 with upcoming federal and state incentives, and filling gaps in the energy efficiency
5 landscape.

6
7 **Q. How does energy efficiency fit into Rhode Island Energy's business objectives?**

8 A. Energy efficiency is critical to the Company's objectives of improving reliability,
9 customer satisfaction, affordability, and sustainability. Both program participants and
10 customers receive benefits from energy efficiency programs. Customers who directly
11 participate in energy efficiency programs save energy and see direct cost savings in the
12 form of lower energy bills. Energy efficiency can also lower long-term base load and
13 peak demand, thereby reducing the need for additional generation, distribution, and
14 transmission infrastructure. These avoided costs can provide benefit to all customers
15 regardless of direct participation in the Company's energy efficiency programs.

16
17 **Q. How did the Company prepare the Plans?**

18 A. The Company developed the Plans in consideration of the context described above and
19 with extensive stakeholder input and engagement. Stakeholders include the Rhode Island
20 Division of Public Utilities and Carriers ("Division"), OER, EERMC, the stakeholder

1 members of the Energy Efficiency Technical Working Group (“EE TWG”), and the
2 stakeholder members of the Energy Efficiency Equity Working Group (“EE EWG”).
3 Over the last year the Company has provided numerous opportunities for stakeholder
4 feedback on drafts of the Plans. A schedule of key deliverables and opportunities for
5 stakeholder feedback is below:

6 Schedule of Key Deliverables

Date	Milestone
April 6, 2023	Three Year Plan outline memo shared with EERMC and EE TWG
April 20, 2023	Company presented Three-Year Plan at EERMC meeting
June 1, 2023	Draft Three-Year Plan narrative shared with stakeholders
June 30, 2023	Draft Three-Year Plan Benefit Cost Models & Tables and updated Three-Year Plan narrative shared with stakeholders
August 3, 2023	First draft of 2024 Annual Plan with Benefit Cost Models and Tables shared with stakeholders
September 7, 2023	Second Draft Three-Year Plan, Updated Annual Plan Draft shared with stakeholders
September 26, 2023	Final Draft Three-Year Plan and Annual Plan shared with stakeholders

7
8 The Company hosted monthly meetings of the EE TWG where feedback on draft plans
9 was solicited. The Company conducted three customer listening sessions where
10 residential, income eligible, and commercial and industrial customers were given the
11 opportunity to comment on the Plans. Please see Attachment 5 of the Three-Year Plan for
12 a summary of those customer listening sessions.
13

1 **Q. What are the key differences in the Plans, and what is the Company’s justification**
2 **for those deviations from prior Plans?**

3 A. There are several notable differences between the currently proposed Plans and prior
4 plans: First, demand response is no longer reflected in the Plans, consistent with the
5 revised LCP Standards. Second, the Company refined its gas efficiency portfolio to shift
6 funds away from natural gas-consuming equipment and toward electric alternatives and
7 measures that reduce all types of heating fuel use. Third, the Company has removed all
8 residential lighting incentives (with the exception of common area lighting in multifamily
9 buildings).

10
11 **Q. Do the savings goals meet the targets submitted to the PUC by the EERMC in**
12 **Docket No. 23-21-EE?**

13 A. No. The savings goals presented here reflect energy savings that are ambitious but also
14 achievable under the specified circumstances conveyed in the Three-Year Plan itself,
15 resulting from a Plan that the Company argues is “optimally cost-effective, reliable,
16 prudent, and environmentally responsible” as per statute. The savings goals secure
17 significant cost savings and other benefits for energy consumers within the State. These
18 goals were developed using the Targets submitted to the PUC in Docket No. 23-21-EE
19 for electric and natural gas energy efficiency and combined heat and power as guideposts
20 and then applying the requisite standards of prudence and reliability that are not
21 considered when the Targets are set. The application of these standards resulted in refined

1 savings goals that deviate from the Targets submitted to the PUC for the period 2024
2 through 2026. Table 3 shows the lifetime electric and gas portfolio savings goals with
3 associated benefits, costs, and benefit-cost results in comparison to the Targets as
4 proposed by the EERMC.

5
6 **Q. Please describe considerations that are unique to this Three-Year Plan in**
7 **determining the savings goals.**

8 A. The Company's savings goals and associated budgets are intrinsically linked and given
9 the primary funding mechanism for energy efficiency programs, the long-term benefits
10 associated with savings goals must be balanced against the short-term rate impacts
11 necessary to achieve these savings. During program planning for this Three-Year Plan
12 and the concurrently filed Annual Plan, the Company applied more detailed cost
13 estimates to savings opportunities, incorporated reliability considerations (i.e., workforce,
14 market continuity, and program scalability), further refined program plans to ensure
15 proposed investments and program designs supported equitable access, and considered
16 rate and bill impacts on all customers as required to meet the prudence criteria.

17
18 **Q. Please describe the Company's decision to shift funds away from natural gas**
19 **consuming equipment.**

20 A. A number of efficiency programs across the country are exploring or enacting efficiency
21 program changes that incorporate a gradual phase out of incentives for natural gas

1 measures. While developing the Plans, Rhode Island Energy also received feedback from
2 key stakeholders that incentives for gas equipment are inconsistent with progress towards
3 the State's carbon reduction goals. The Company wanted to be sure that viable electric
4 alternatives exist for customers for any gas efficiency measures for which the Company
5 reduced or discontinued budgets. The Company did not reduce or discontinue any gas
6 efficiency measures for which there was no viable electric alternative at this time.

7 Members of the EERMC expressed opinions that customer choice for both residential and
8 C&I customers is important and gas efficiency incentives should continue to encourage
9 gas customers to get the most efficient equipment possible. Rhode Island Energy's
10 strategy is to continue, yet refine, gas efficiency incentives during the 2024-2026 term in
11 a manner both consistent with ongoing policy conversations about thermal
12 decarbonization and flexible enough to accommodate policy changes as they arise (e.g.,
13 as resulting from Docket 22-01-NG). Please see Section 3.2.2 of the Three-Year Plan
14 under Cross-Cutting Tactics for more background on this approach.

15
16 **Q. How did the Company account for increased availability of funding (e.g., through**
17 **the IRA, via state incentive programs) in the proposed program plan?**

18 A. The Company recognizes external funding availability as complementary and perhaps
19 supplemental to energy efficiency program incentives, providing additional support for
20 the budget proposed for the 2024 energy efficiency programs. In 2024, the Company will
21 continue to coordinate with OER on its new \$25M Clean Heat RI Program. OER has

1 committed to help cross promote programs with the Company. For example, if a
2 customer is ineligible for any state or federal programs but may be eligible for a
3 Company program, OER will help steer them to the applicable Rhode Island Energy
4 program (and vice versa). The Company will work with OER and its selected contractor
5 to optimize program delivery to our common customer markets. Similarly, the Company
6 will coordinate closely with state agencies regarding the designated uses for federal
7 funding and leverage that funding, if allowed and practical, as a driver of additional
8 participation in the 2024 energy efficiency program and future years.

9
10 The Company will prepare a preliminary plan document by June 30, 2024 that outlines an
11 approach and timeline for coordination with OER regarding IRA incentives. This plan
12 will include a customer outreach strategy, identify resources for contractor education,
13 propose customer pathways for accessing IRA funds (both in addition and in lieu of
14 Company incentives), initial projections for IRA incentive uptake, financial implications
15 for Company incentives for measures eligible for both IRA and program incentives,
16 preliminary financing options, income verification pathways, and a methodology for
17 savings attribution, as appropriate.

18

1 **IV. 2024-2026 Three-Year Plan**

2 **A. Introduction**

3 **Q. Please describe the Company's Three-Year Plan.**

4 A. The Three-Year Plan outlines the Company's overall programmatic focus and strategies,
5 budgets, associated potential resulting system benefits charges, and savings goals for the
6 three years of implementation. It lays out a vision for continued transformation of the
7 energy efficiency sector in Rhode Island, including key themes and areas of focus for
8 2024-2026 that will then be further developed in each subsequent Annual Plan.

9 **Q. What is the Three-Year Plan expected to accomplish?**

10 A. Cumulatively, the proposed investments for years 2024 – 2026 in the Three-Year Plan
11 will create total net annual savings of 283,914 MWh (electric) and 977,257 MMBtu
12 (natural gas), and net lifetime savings of 2,280,053 MWh (electric) and 10,335,579
13 MMBtu (natural gas). Achieving these goals will generate benefits of \$855 million over
14 the life of the measures, with \$608 million in benefits coming from electric efficiency and
15 \$247 million from natural gas efficiency. The electric, gas, and delivered fuel energy
16 efficiency measures proposed for years 2024 – 2026 in this Three-Year Plan will avoid
17 between 1,701,470 tons of carbon over the lifetime of the installed measures. Tables 1
18 through 5 in the Three-Year Plan summarize the illustrative benefits and costs proposed
19 through the Three-Year Plan. The Company also expects that investments made in
20 energy efficiency under the Three-Year Plan will add \$854 million to Rhode Island's

1 Gross State Product (“GSP”), with every \$1 spent on energy efficiency generating \$1.79
2 of GSP.

3
4 **B. Satisfaction of Statutory and Regulatory Requirements**

5 **Q. What are the relevant statutory and regulatory requirements for the Three-Year**
6 **Plan?**

7 A. The purpose of the LCP Statute is to meet the “electrical and natural gas energy needs in
8 Rhode Island in a manner that is optimally cost effective, reliable, prudent, and
9 environmentally responsible.” See R.I. Gen. Laws § 39-1-27.7(a). The LCP Standards
10 further detail the requirement that “Least-Cost Procurement shall be cost-effective,
11 reliable, prudent, and environmentally responsible” and “lower than the cost of additional
12 energy supply.” See Section 1.3A of the LCP Standards.

13
14 **Q. How does the Three-Year Plan meet these statutory and regulatory requirements?**

15 A. The proposed Three-Year Plan meets the statutory and regulatory requirements by being
16 optimally cost effective, prudent, reliable, environmentally responsible, and because the
17 cost of energy efficiency is less than the cost of additional supply. In the subsections
18 below, the Company presents evidence That the investments proposed in the Three-Year
19 Plan not only meet the threshold requirements of each of the Standards, but does so in an
20 optimal manner.

21

1 **C. Cost Effective**

2 **Q. How did the Company assess whether the Three-Year Plan was cost-effective?**

3 A. The Company assessed whether the Three-Year Plan was cost-effective in accordance
4 with Section 1.3.C. of the LCP Standards. As required by the LCP Standards, the
5 Company has assessed the cost effectiveness of the Three-Year Plan at the program and
6 portfolio level, and in a manner consistent with the Guidance Document issued by the
7 PUC in Docket No. 4600. (“Docket 4600 Guidance Document”).

8
9 **Q. What benefit-cost test was conducted by the Company?**

10 A. In accordance with Section 1.3.C. of the LCP Standards and the Docket 4600 Guidance
11 Document, the Company assessed cost effectiveness of the proposed investments using
12 the Rhode Island Test (“RI Test”) as the primary test.

13
14 **Q. Are the proposed investments in the Three-Year Plan cost-effective under the RI
15 Test?**

16 A. Yes. The electric and natural gas portfolios are cost effective under the RI Test. For
17 example, the 2024 RI Test result for the electric portfolio shows a RI Test Benefit-Cost
18 (“BC”) Ratio of 1.70. This means that for every \$1 of investment in the electric portfolio
19 \$1.70 of benefits are generated. In aggregate the portfolios included in this Three-Year
20 Plan submission are robustly cost effective, as the benefits exceed the costs to acquire the
21 efficiency resources and implement the programs. All programs within the electric and

1 gas portfolios are also cost effective per the RI Test. Pursuant to the LCP Standards, any
2 program with a quantified BC ratio greater than 1.0 (i.e., where quantified benefits are
3 greater than quantified costs), should be considered cost effective. Please reference
4 Section 2.1 of the Three-Year Plan for additional information regarding cost
5 effectiveness.

6
7 **D. Reliable**

8 **Q. How did the Company assess that the Three-Year Plan was reliable?**

9 A. The Company assessed the Three-Year Plan was reliable in accordance with Section
10 1.3.D. of the LCP Standards. This assessment includes assessment of “(a) the ability of
11 Least-Cost Procurement investments to meet the energy supply or delivery system needs;
12 (b) the ability of previous investments, including identical or similar investments, to
13 support the conclusion that a new investment is reliable; and (c) the potential for
14 implementation issues, including available workforce, market continuity, program
15 scalability.”

16
17 **Q. Given the above assessment, is the Three-Year Plan reliable?**

18 A. Yes, the investments proposed in the Three-Year Plan are reliable to meet energy supply
19 and delivery system needs, and this assessment is supported by the robust evaluation of
20 previous identical and similar investments and the Company’s consideration of and

1 mitigation of the potential for implementation issues, including available workforce,
2 market continuity, program scalability.

3
4 In developing this Three-Year Plan, the Company's CEM team worked closely with
5 program implementation professionals, industry experts, and vendors, to assess the
6 current state of existing programs, the potential for program scalability, the economic
7 environment, and the ability to deliver reliable energy savings as a result. Supporting the
8 Company's efforts to deploy energy efficiency to Rhode Island customers is a robust and
9 long-standing evaluation, measurement, and verification ("EM&V") apparatus. The
10 Company hires independent third-party consulting firms to regularly conduct evaluation
11 studies as part of its EM&V process in collaboration with and under oversight from the
12 EERMC. The EM&V process is continual, and every year results from EM&V studies
13 are used to update the savings in the Technical Reference Manual ("TRM") and benefit
14 cost calculations of the measures, programs, and portfolios. Furthermore, the EM&V
15 process supports the Company's participation of efficiency resources in the ISO-New
16 England ("ISO-NE") Forward Capacity Market ("FCM"). Please refer to Section 2.2 of
17 the Three-Year Plan for additional discussion regarding reliability.

18
19 The Company considered the financial, workforce, customer, code, and other constraints
20 such as dependencies on outside actors or programmatic modifications. For a more in-

1 depth discussion of the constraints that were considered in the planning process, please
2 see Section 3.2 of the Three-Year Plan.

3
4 **E. Prudent**

5 **Q. Please summarize what the Company considers in its prudency analysis.**

6 A. The Company assesses prudency in accordance with Section 1.3.E. of the LCP Standards:
7 “(a) how the investment supports the goals of the electric or natural gas system and the
8 purposes of Least-Cost Procurement; (b) potential for synergy savings based on
9 alternatives that address multiple needs; (c) how the entire investment proposal affects
10 the risks of ratepayers and the distribution company; (d) how the investment effectively
11 uses available funding sources and integrates with energy programs and policies; and (e)
12 how the investment is equitable in consideration of the allocation of costs, the allocation
13 of benefits, customer access, and customer participation.” The Company also considered
14 the rate and bill impacts to a range of customer types and usage levels consistent with
15 Section 1.3.E.ii. of the LCP Standards.

16
17 **Q. Please provide a summary of the Company’s analysis of each of these factors as they
18 relate to the proposed Three-Year Plan.**

19 The Company summarizes its assessment of the above factors, below:

20 (1) The investment supports the goals of the electric or natural gas system and the
21 purposes of Least-Cost Procurement: This Plan secures cost effective energy

1 efficiency resources that drive the realization of benefits as enumerated in the RI Test.
2 In aggregate, the portfolios included in this Three-Year Plan are robustly cost
3 effective, as the benefits exceed the costs to acquire the efficiency resources and
4 implement the programs. Further, as will be described in greater detail below, the
5 cost of procuring electric and gas energy efficiency is less than if that electric and gas
6 load was met by purchasing additional electric or gas supply.

7 (2) The proposed investments leverage and enhance the potential for synergy savings
8 based on alternatives that address multiple needs: The Company discusses how it
9 intends to leverage the potential for synergy savings and synergy benefits through
10 collaboration and integration with state entities and state and federal incentive
11 programs in Section III.

12 (3) The entire investment proposal has minimal risk for ratepayers and the distribution
13 company: The Three-Year Plan is designed to provide guidance for future investments
14 while being flexible enough to adapt to advances in state clean energy and climate
15 policies as they arise. The illustrative goals and budgets included in the Three-Year
16 Plan provide a prudent basis upon which to establish binding goals, with the benefit
17 of incremental information that will become available to the Company and other
18 stakeholders between this filing and the submission of future binding annual plan
19 goals and budgets. The Company will use these illustrative goals and budgets in
20 establishing binding annual plan goals and budgets once it has the benefit of
21 additional information and reduced uncertainty surrounding several factors that are

1 critical to setting the goals and budgets, including economic conditions, customer
2 ability and appetite to adopt energy efficiency measures, and potential sources of
3 funding outside of the energy efficiency system benefit charge (“SBC”). The
4 illustrative nature of the proposed Three-Year Plan is consistent with the mandate
5 provided in Section 3.3.A.ii. of the LCP Standards, which provides that the “initial
6 budgets and goals [of the Three-Year Plan] shall be illustrative and provisional and
7 shall guide [annual Energy Efficiency plans] over the three-year period.”

8 (4) The investment effectively uses available funding sources and integrates with energy
9 programs and policies: The Company discusses its strategy for effectively using
10 available funding sources and integrating with energy programs and policies in
11 Section III of this testimony. The rate and bill impacts for electric and natural gas
12 customers are located in Attachment 7 of the Annual Plan. The Company argues that
13 the proposed investments in the Three-Year Plan – and associated budgets – optimally
14 and appropriately consider short-term costs of program implementation. See Section
15 III of this testimony for additional discussion of how the Company balances short-
16 term impacts with long-term benefits.

17 The investment is equitable in consideration of the allocation of costs, the allocation
18 of benefits, customer access, and customer participation:

19 (5) Equity: The Three-Year Plan is designed to ensure equity across residential
20 programs. In the context of energy efficiency, this means programs serve all customer
21 segments, the energy efficiency rate has parity, and energy efficiency services aid the

1 customers who may pay a higher proportion of their income towards energy costs.

2 The Company intends to continue to identify and target groups and geographic areas
3 with historically low participation and continue to pursue opportunities to enhance the
4 equity of the portfolios during the 2024 – 2026 period.

5
6 **Q. Is the proposed Three-Year Plan prudent?**

7 A. Yes. Given the assessment of the factors above, the proposed Three-Year Plan is indeed
8 prudent.

9
10 **F. Environmentally Responsible**

11 **Q. How did the Company assess the extent to which the Three-Year Plan is**
12 **environmentally responsible?**

13 A. The Company assessed environmental responsibility in accordance with Section 1.3.F. of
14 the LCP Standards by assessing how the investment “complies with State environmental
15 and climate policies” and “how the investment affects environmental and climate
16 pollution, where applicable, at a local, regional, and global scale.”

17
18 **Q. Given the above, is the Three-Year Plan environmentally responsible?**

19 A. Yes. The energy efficiency programs and portfolios not only provide significant
20 emissions reductions benefits, but they also support the ongoing growth and development
21 of a sustainable, green job ecosystem in Rhode Island, and contribute to the realization of

1 state environmental and climate policies (e.g., Act on Climate). The Company's energy
2 efficiency programs also help to ensure that the local workforce will exist to support the
3 state's environmental policy goals. Moreover, educating and engaging residential and
4 business customers on the potential environmental impacts and benefits of the
5 implementation of energy efficiency measures is a foundational element of the
6 Company's energy efficiency go-to-market strategy. Please refer to Section 2.4 of the
7 Three-Year Plan for additional discussion regarding environmental responsibility.

8
9 **G. Lower than the Cost of Additional Supply**

10 **Q. When analyzing the cost of additional supply as required by the LCP Standards,**
11 **does the Company evaluate at the measure, program or portfolio level?**

12 A. When analyzing the cost of additional supply, the Company evaluates at the portfolio
13 level and not at the program or measure level. The portfolio level is appropriate to assess
14 the cost of energy efficiency compared to additional supply because of the aggregate
15 impact generated by the set of measures and programs included within the portfolios and
16 the nature of some costs of energy efficiency being aggregated at portfolio level. A single
17 measure may not be cost effective or less than the cost of additional supply when viewed
18 on its own, however, as part of a program and portfolio it may play a key role in serving a
19 particular market segment, enabling additional savings from complementary measures
20 and further opportunities for customers to manage their energy use.

21

1 **Q. Which mechanism is appropriate to determine what costs to include when assessing**
2 **the cost of additional supply?**

3 A. The categories of benefits and costs included in the RI Test are appropriate starting points
4 to determine which costs to include in this assessment. The RI Test captures the aspects
5 of the Rhode Island Benefit Cost Framework (as included in guidance documents in
6 Docket No. 4600) that pertain to energy efficiency programs and details what is
7 considered a cost of energy efficiency. The RI Test includes the benefits to Rhode Island
8 derived from investing in energy efficiency instead of investing in additional energy
9 supply. For the purpose of the RI Test, these energy efficiency benefits are described as
10 avoided costs. The avoided costs can also be applied as the costs of procuring additional
11 energy supply or cost of supply. These include costs incurred by the utility to implement
12 the Three-Year Plan and the expense borne by the customer for its share of the energy
13 efficiency measure cost.

14
15 **Q. Please describe the cost of additional supply compared to the cost of energy**
16 **efficiency or conservation portfolios.**

17 A. Across the Three-Year Plan, the cost of procuring 2,280,053 MWh of lifetime electric
18 energy efficiency savings through the Three-Year Plan is \$159,577,023 less than the cost
19 of purchasing additional electric supply. The cost of procuring 10,335,579 MMBtu
20 lifetime natural gas energy efficiency savings through the Three-Year Plan is \$37,766,313
21 less than the cost of purchasing additional natural gas supply. Please reference Tables 1

1 and 2 of the Three-Year Plan and Section 2.5 of the Three-Year Plan for further
2 discussion of cost of supply.

3
4 **H. Requested Ruling**

5 **Q. What approval is the Company seeking as it relates to the Three-Year Plan?**

6 A. In accordance with Section 3.3.C. of the LCP Standards, the Company requests that the
7 PUC approve: (i) initial three-year savings goals and strategies for Energy Efficiency and
8 Conservation Procurement portfolios that meet the Standards; (ii) initial three-year
9 budgets for Energy Efficiency and Conservation Procurement portfolios that meet the
10 Standards; and (iii) a three-year performance incentive plan for Energy Efficiency and
11 Conservation Procurement that meet the Standards.

12
13 **V. 2024 Annual Plan**

14 **A. Introduction**

15 **Q. Please describe the Company's Annual Plan.**

16 A. The Annual Plan is built as the first year of the Three-Year Plan. The Annual Plan
17 provides firm savings goals, budgets, funding plans, and a proposed performance
18 incentive mechanism ("PIM") earning opportunity. Further, the Annual Plan provides
19 more detail on the strategies, market approaches, programs, and measures that will be
20 offered in the 2024 calendar year. The Annual Plan seeks to ensure that all Rhode Island
21 energy consumers, regardless of their geographic location, income, home ownership

1 status, primary language, business size, or other relevant attributes are empowered to be
2 active in their energy choices, control their energy use, and enjoy the economic,
3 environmental, and cost savings benefits of energy efficiency.
4

5 **Q. What is the Annual Plan expected to accomplish?**

6 A. The Annual Plan is expected to create \$273.6M in total benefits over the life of the
7 installed electric and natural gas energy efficiency measures. Investments made in energy
8 efficiency to achieve these energy savings will add \$232.9M to Rhode Island's gross
9 state product ("GSP"), the equivalent of 2,367 job years. The projected energy savings
10 from this Plan will avoid 57,811 short tons of carbon in 2024. The electric portion of the
11 Plan will save 729,294 lifetime MWh over the lifetime of the installed energy efficiency
12 measures, 94,198 net annual MWhs, 15,303 net annual kW from passive energy
13 efficiency. The natural gas portion of the Plan will save 3,302,603 lifetime MMBtu over
14 the lifetime of installed natural gas measures and 312,846 annual MMBtu. For all fuels
15 combined (electric, gas, oil, propane), the Plan will save 6,535,414 net lifetime MMBtu
16 and 665,041 net annual MMBtu. Of the total \$273.6M benefits, \$193.3M stems from the
17 Electric Portfolio and \$80.3M is derived from the natural gas portfolio.
18

19 **Q. Please describe the specific rationale behind the Annual Plan's budget.**

20 A. The proposed budget is sized with three underlying considerations in mind. First, the
21 Company must propose a budget it is confident it can execute, mitigating risk of an over-

1 or under-spend. The proposed budget was developed based on realistic expectations in
2 how program uptake, costs, and incentive levels would change in 2024 relative to 2023.
3 Second, the Company recognizes the challenging macroeconomic conditions our
4 customers are facing. Therefore, the Company posits that a higher budget may not be
5 prudent for customers in 2024. Third, the Company recognizes the whole of potential
6 investments and funding being made available for 2024. These investments (e.g.,
7 advanced metering) and funding streams (e.g., IRA) are complementary to the energy
8 efficiency programs and may provide additional resources for customers to leverage. The
9 Rhode Island Energy team has focused on striking the best balance between delivering
10 the necessary benefits of energy efficiency and maintaining a budget that reduces bill
11 pressure on our customers, while recognizing the full portfolio of energy savings
12 opportunities at hand.

13
14 **B. Satisfaction of Statutory and Regulatory Requirements**

15 **Q. What are the relevant statutory and regulatory requirements for the Annual Plan?**

16 A. The purpose of the LCP Statute is to meet the “electrical and natural gas energy needs in
17 Rhode Island in a manner that is optimally cost effective, reliable, prudent, and
18 environmentally responsible.” See R.I. Gen. Laws § 39-1-27.7(a). The LCP Standards
19 further detail the requirement that “Least-Cost Procurement shall be cost-effective,
20 reliable, prudent, and environmentally responsible” and “lower than the cost of additional
21 energy supply.” See Section 1.3A of the LCP Standards.

1 **Q. How does the Annual Plan meet these statutory and regulatory requirements?**

2 A. The proposed Annual Plan meets the statutory and regulatory requirements by being
3 optimally cost effective, prudent, reliable, environmentally responsible, and because the
4 cost of energy efficiency is less than the cost of additional supply. In the subsections
5 below, the Company presents evidence that the investments proposed in the Three-Year
6 Plan not only meet the threshold requirements of each of the Standards, but does so in an
7 optimal manner.

8
9 The Company also includes additional discussion of the Annual Plan's alignment with
10 Docket 4600 goals, the proposed performance incentive, and its combined heat and
11 power program prior to describing the Company's requested approvals.

12
13 **C. Cost Effective**

14 **Q. How did the Company assess whether the Three-Year Plan was cost-effective?**

15 A. The Company assessed whether the Annual Plan was cost-effective in accordance with
16 Section 1.3.C. of the LCP Standards. As required by the LCP Standards, the Company
17 has assessed the cost effectiveness of the Annual Plan at the program and portfolio level,
18 and in a manner consistent with the Docket 4600 Guidance Document.

19

1 **Q. What benefit-cost test was conducted by the Company?**

2 A. In accordance with Section 1.3.C. of the LCP Standards and the Docket 4600 Guidance
3 Document, the Company assessed cost effectiveness of the proposed investments using
4 the RI Test as the primary test.

5 **Q. Are the proposed investments in the Annual Plan cost-effective under the RI Test?**

6 A. Yes. Attachment 5 of the Annual Plan, Table E-5 - Primary shows that the proposed
7 portfolio of electric programs is expected to have a BCR of 1.70 in the primary
8 presentation of BCR results, which means that approximately \$1.70 in monetized lifetime
9 benefits is expected to be created for each \$1 spent on the portfolio. Attachment 6 of the
10 Annual Plan, Table G-5 - Primary shows that the proposed portfolio of gas programs is
11 expected to have a benefit/cost ratio of 1.96 in the primary presentation of BCR results,
12 which means that \$1.96 in lifetime benefits is expected to be created for each \$1 spent on
13 the portfolio. These tables provide the RI Test results without economic benefits.
14 Economic benefits associated with each program for both electric and gas portfolios may
15 be found in Table E-5 - Economic Benefits and Table G-5 – Economic Benefits,
16 respectively. Although the exclusion of macroeconomic benefits from the calculation of
17 the RI Test results in lower benefit-cost ratios, all programs and portfolios still achieve
18 benefit-cost ratios of at least 1.00.
19
20 Each program contained within the electric and gas portfolios is also cost-effective as
21 shown in Tables E-5 - Primary and G-5 - Primary, respectively. Figures 1 and 2 in the

1 main text of the Annual Plan detail the costs and benefits for the electric and gas
2 portfolios, respectively, calculated using the RI Test. A detailed summary of the benefits
3 and costs included in the RI Test is included in Attachment 4 of the Annual Plan,
4 including alignment of the electric portfolio investments to the Docket No. 4600 Benefit
5 Cost Framework.

6
7 Attachment 5 of the Annual Plan, Table E-6 and Attachment 6 of the Annual Plan, Table
8 G-6 show the energy savings goals based on the proposed budgets. Attachment 5 of the
9 Annual Plan, Table E-7 and Attachment 6 of the Annual Plan, Table G-7 show a
10 comparison of the goals with the approved program goals from 2023.

11
12 **D. Reliable**

13 **Q. How did the Company assess that the Annual Plan was reliable?**

14 A. The Company assessed the Annual Plan was reliable in accordance with Section 1.3.D. of
15 the LCP Standards. This assessment includes assessment of “(a) the ability of Least-Cost
16 Procurement investments to meet the energy supply or delivery system needs; (b) the
17 ability of previous investments, including identical or similar investments, to support the
18 conclusion that a new investment is reliable; and (c) the potential for implementation
19 issues, including available workforce, market continuity, program scalability.”
20

1 **Q. Given the above assessments, is the Annual Plan reliable?**

2 A. Yes. Yes, the investments proposed in the Three-Year Plan are reliable to meet energy
3 supply and delivery system needs, and this assessment is supported by the robust
4 evaluation of previous identical and similar investments and the Company's consideration
5 of and mitigation of the potential for implementation issues, including available
6 workforce, market continuity, program scalability.
7 Supporting the Company's efforts to deploy energy efficiency to Rhode Island customers
8 is a robust and long-standing EM&V apparatus, as noted in Section 5 and Attachment 3
9 of the Annual Plan. In building this Annual Plan, the Rhode Island Energy team worked
10 closely with program implementation professionals, industry experts, and vendors to
11 assess the current state of existing programs, the potential for program scalability, the
12 prevailing economic conditions, and the ability to deliver reliable energy savings as a
13 result.

14
15 **E. Prudent**

16 **Q. Please summarize what the Company considers in its prudence analysis.**

17 A. The Company assesses prudence in accordance with Section 1.3.E. of the LCP Standards:
18 "(a) how the investment supports the goals of the electric or natural gas system and the
19 purposes of Least-Cost Procurement; (b) potential for synergy savings based on
20 alternatives that address multiple needs; (c) how the entire investment proposal affects
21 the risks of ratepayers and the distribution company; (d) how the investment effectively

1 uses available funding sources and integrates with energy programs and policies; and (e)
2 how the investment is equitable in consideration of the allocation of costs, the allocation
3 of benefits, customer access, and customer participation.” The Company also considered
4 the rate and bill impacts to a range of customer types and usage levels consistent with
5 Section 1.3.E.ii. of the LCP Standards.

6
7 **Q. Please provide a summary of the Company’s analysis of each of these factors as they**
8 **relate to the proposed Three-Year Plan.**

9 The Company summarizes its assessment of the above factors, below:

10 (1) Investment Supporting Energy Efficiency Goals: In aggregate, the portfolios
11 included in the Annual Plan submission are robustly cost-effective, as the benefits
12 exceed the costs to acquire the efficiency resources and implement the programs. The
13 electric portfolio achieves a BC Ratio of 1.70 and the gas portfolio achieves a BC
14 Ratio of 1.96.

15 (2) Synergy Savings: Program design seeks out synergies in customer participation,
16 through a comprehensive view of savings opportunities wherever possible and tiered
17 incentive offers, for example, in the intersection of energy efficiency and demand
18 response programs.

19 (3) Management of Risks: Risks are managed through the estimation of savings based on
20 evaluation studies, and a focus on continuous improvement based on lessons learned
21 and customer education to promote savings persistence. Also, energy efficiency can

1 offer some protection and risk reduction associated with market and energy price
2 volatility.

3 (4) Effective Use of Funding Sources: As described in Section 8.2 of the Annual Plan, the
4 Company has identified a number of funding sources to support the Annual Plan
5 budget. Furthermore, several sources of financing are offered to customers to enable
6 program budgets to go further to achieve Annual Plan targets. Finally, effective use
7 of funding is represented in the mix of measures and incentives planned in order to
8 balance the portfolio to achieve the Annual Plan's objectives. In this regard, the
9 Annual Plan further diversifies the Company's offerings beyond lighting. Likewise,
10 the Annual Plan reduces budgets in areas that have created limited value including a
11 reduction in the budget for Demonstrations, Pilots, and Assessments.

12 (5) Equitable Allocation of Costs, Benefits, and Services: The equitable allocation of
13 costs and benefits is depicted in Section 6.3.2. of the Annual Plan. Regarding the
14 equitable allocation of services, discussions of equity with EE TWG stakeholders
15 have helped shape and elevate the Company's explicit equity commitments. Equity is
16 a core strategic priority of this Annual Plan that builds on the themes presented in the
17 Three-Year Plan. The Company is committed to ensuring all customers benefit from
18 energy efficiency programs, regardless of circumstances such as their geographic
19 location, income, home ownership status, primary language, or business size. As a
20 result, the Company has added multiple specific, measurable actions across the
21 portfolio of efficiency programs. The Company also believes program-related jobs

1 and positive economic development impacts should reach all Rhode Island
2 communities, with particular emphasis on environmental justice/disadvantaged
3 communities. A full report on the EE EWG's activities can be found in Attachment 11
4 of the Annual Plan.

5
6 The Company focuses the remainder of its testimony in this subsection on the details of
7 its analysis of rate and bill impacts. The 2024 Annual Plan contains the rate and bill
8 impact analysis that has been included in plans for the past several years. The EE Impact
9 Model analysis looks at the impact on customer bills over the lifetime of energy
10 efficiency measures proposed in the Annual Plan compared to a scenario where there are
11 no energy efficiency programs in 2024. Details on results for the rate and bill impacts are
12 included in Section 6.3.2 of the Annual Plan, and additional detail is also available in
13 Attachment 7 of the Annual Plan.

14
15 **Q. What are the two different approaches that the Company uses to analyze bill**
16 **impacts?**

17 A. The Company performs a "traditional" bill impact analysis. This analysis looks at an
18 average residential customers' typical bill and isolates the impact of the proposed Annual
19 Plan and associated charges and its impact on a customers' overall bill. This analysis does
20 not include an assessment of the long-term bill savings associated with proposed energy
21 efficiency measures for the 2024 Annual Plan.

1 As a second approach to analyzing bill impacts, the Company also utilizes an Energy
 2 Efficiency Impact Model (“EE Impact Model”). This method is explained later in this
 3 testimony.

4
 5 **Q. If the Annual Plan were to be approved as filed, what would be the resulting**
 6 **traditional bill impacts for an average residential electric customer?**

7 A. An average residential electric customer on the A-16 rate would see a monthly bill
 8 decrease of \$0.36 or -0.2%. An average residential electric customer on the A-60
 9 rate would see a monthly bill decrease of \$1.89 or -1.3%.

Rate Class	Year	Starting Bill	Ending Bill	Dollar Decrease	Percent Decrease
A-16	2024	\$182.46	\$182.09	\$0.36	0.2%
A-60	2024	\$145.60	\$143.71	\$1.89	1.3%

10
 11 Tables 5 and 6 in the Annual Plan summarize the changes in rates based on the funding
 12 plan included in this proposed Annual Plan.

13
 14 **Q. If the Annual Plan were to be approved as filed, what would be the resulting**
 15 **traditional bill impacts for an average residential gas customer?**

16 A. An average residential gas customer on the Residential Heating rate would see an annual
 17 bill increase of \$2.37 or 0.14%. An average residential gas customer on the Residential
 18 Heating Low Income rate would see an annual bill decrease of \$0.64 or -0.04%.

19 Traditional Bill Impact Analysis (Gas)

Rate Class	Year	Starting Bill	Ending Bill	Dollar Change	Percent Change
Residential Heating	2024	\$1654.75	1657.12	+\$2.37	+0.14%
Residential Heating Low Income	2024	\$1461.44	\$1460.80	-\$0.64	-.04%

1

2 **Q. What is the year over year impact of the proposed energy efficiency rates for gas**
3 **and electric customers from 2023 to 2024?**

4 **A.**

Rate Category	2023	2024	2023 - 2024 Change
Gas Residential SBC (\$/dtherm)	\$1.136	\$1.094	-3.7%
Gas C&I SBC (\$/dtherm)	\$0.620	\$0.782	26.1%
Electric SBC (\$/kWh)	\$0.00960	\$0.01052	9.6%

5

6 **Q. The proposed electric budget equates to approximately a 1.6% increase over last**
7 **year (after removal of the ConnectedSolutions budget from 2023) and the proposed**
8 **gas budget equates to an approximate 7.3% decrease. What is driving the change in**
9 **budget year-over-year?**

10 **A.** The largest factor contributing to the changes in the energy efficiency charge is the
11 change in the fund balance. The fund balance carryovers in the 2024 Annual Plan
12 (projected to carry over from calendar year 2023) served to substantially depress the 2024
13 EE charge from what it would have been had there been no fund balance carryover. In the
14 proposed Annual Plan, specifically for the electric charge, a significant portion of the %
15 proposed decrease is attributable to a projected large positive fund balance carry-over.

1 Other factors influencing the energy efficiency charge calculations are other sources of
2 funding and sales forecasts. Please note that updated electric and gas fund balance
3 forecasts will be provided by November 17, 2023, per Section 8.2 of the Annual Plan.
4 The proposed SBC will be adjusted accordingly.

5
6 **Q. Please explain the EE Impact Model.**

7 A. The EE Impact Model results included in the Annual Plan calculate the long-term rate
8 impact of the electric and gas energy efficiency (“EE”) portfolios by comparing a “No
9 EE” scenario to an “EE” scenario of customer rates. In other words, the “No EE”
10 scenario models rates in the absence of an EE program, and, therefore, contains no EE
11 charge while the “EE” scenario models rates in the presence of an EE program, and,
12 therefore, contains an EE charge. The calculated impacts on long-term rates are not
13 designed to reflect the net increase or decrease to the EE charge from the prior/current EE
14 plan. Therefore, the fund balances and changes in budgets from 2023 are not factors in
15 the analysis.

16
17 The results of applying the EE Impact Model can be found in Section 6.3.2 of the Annual
18 Plan.

19

1 **Q. How is the proposed Annual Plan prudent given the bill impacts for 2024?**

2 A. One of the biggest challenges the Company faced when developing the proposed Annual
3 Plan was determining a prudent amount to invest in energy efficiency for 2024.
4 Foregoing available energy-efficient investments is to the long-term detriment of
5 customers and Rhode Islanders. On the other hand, investing too much could contribute
6 to burdensome surcharge increases in 2024. The Company received input from the
7 Division, OER and EERMC. The Company considered the different perspectives offered
8 by these agencies. Ultimately, the Company determined that the current proposal – which
9 centers around budgets being slightly lower than the approved budgets for 2023 – strikes
10 the right balance. The EE Impact Model analysis included in Section 6.3.2 of the Annual
11 Plan shows that, while there are short term rate increases to fund the 2024 Annual Plan,
12 typical participants will see bill savings over the long term; depending on the rate class,
13 average customers (a blend of participants and non-participants) will also see bill
14 reductions over the long term.

15
16 **Q. Given the above assessments, please summarize whether the Company finds its**
17 **Annual Plan to be prudent.**

18 A. Yes, the Company not only finds the Annual Plan to be prudent but considers its Annual
19 Plan to be *optimally* prudent. For the reasons summarized in our discussion of the factors
20 considered when assessing prudence and provided in greater detail in Section 6.3 of the

1 Annual Plan, and the interplay among them, the Company believes that the proposed
2 Annual Plan meets the prudency requirement as defined in the LCP Standards.

3
4 **F. Environmentally Responsible**

5 **Q. How did the Company assess the extent to which the Annual Plan is**
6 **environmentally responsible?**

7 A. The Company assessed environmental responsibility in accordance with Section 1.3.F of
8 the LCP Standards by assessing how the investment “complies with State environmental
9 and climate policies” and “how the investment affects environmental and climate
10 pollution, where applicable, at a local, regional, and global scale.”

11
12 **Q. Does the 2024 Annual Plan support the State’s ability to achieve its climate impact**
13 **goals?**

14 A. Yes. Please see the question and answer below for an assessment of how the Plan will
15 contribute to carbon dioxide emission reductions. When preparing for the Annual Plan
16 and the 2024-2026 Three-Year Plan, the Company further examined the directives set
17 forth in the Act on Climate and how those directives may influence future annual and
18 three-year plans.

19
20 The Company is actively participating in the ramp up to the 2025 Climate Strategy,
21 having submitted comments to the State’s Request for Information to Support the

1 Development of a Scope of Work for the Climate Action Strategy. The energy savings
2 achieved by Rhode Island Energy’s energy efficiency programs directly advance priority
3 actions identified by the Rhode Island Executive Climate Change Coordinating Council
4 (“EC4”) in their 2022 Update to the 2016 Greenhouse Gas Emissions Reduction Plan
5 (“2022 Update”).

6
7 The 2022 Update included several priority actions that inform the initiatives outlined in
8 the Plans, specifically:

9 ➤ **Priority Actions for the Electric Sector**

10 Continue Energy Efficiency Work: The Plans address key items highlighted in this
11 action item and will lower energy bills, reduce greenhouse gas emissions, and
12 support local and state economies.

13
14 ➤ **Priority Actions for the Thermal Sector**

15 Continue Energy Efficiency Programs and Weatherization: Weatherization
16 programs remain a focus of both residential and income-eligible services (“IES”)
17 programs. The Company collaborates with weatherization contractors and
18 Community Action Agencies to continually refine the delivery mechanisms for
19 weatherization services to both expand their reach and reduce barriers to
20 participation.

21

1 Target 15% Penetration of Energy Efficient Electric Heating by 2030: The Plans continue
2 the Company's efforts to support the adoption of electric heating, with a particular
3 emphasis on electric resistance heating customers.

4
5 Efficient Heat Pump Incentives: Several programs outlined in the Plans offer incentives
6 for efficient heat pumps, both for space and water heating. The Company has
7 collaborated with OER on their Clean Heat RI Program and will continue the
8 collaboration to align program incentives for heat pump technologies with IRA
9 incentives.

10
11 **Q. What are the potential impacts of the proposed Annual Plan in relation to the Act on**
12 **Climate's requirements?**

13 A. The Act on Climate mandates a statewide, economy-wide 45% reduction in greenhouse
14 gas emissions by 2030 relative to 1990 emissions levels, among other mandatory,
15 enforceable targets. The 2016 Greenhouse Gas Emissions Reduction Plan states that
16 Rhode Island had a greenhouse gas inventory of 12.48 MMTCO_{2e} in 1990. Assuming
17 this baseline, the proposed 2024 Annual Plan would reduce Rhode Island's greenhouse
18 gas inventory by 0.91%, thereby advancing the Act on Climate requirements. Energy
19 efficiency has long been recognized as often the most cost-effective way to meet
20 customers' energy needs and a foundational element of any approach for meeting the
21 State's climate mandates and renewable energy strategies cost effectively. The cumulative

1 impact of the continued presence of energy-efficient equipment installed through the
2 Company's programs since the inception of Least Cost Procurement also contributes to
3 meeting the Act on Climate goals.

4
5 **Q. Given the above, is the Annual Plan environmentally responsible?**

6 A. Yes. As detailed in Section 4.1.3 of the Annual Plan, the Act on Climate stipulates
7 aggressive, mandatory, and time-bound emissions reductions for the State. This Annual
8 Plan seeks to continue the progress that has been made in reducing emissions by
9 providing customers across all sectors with ways to reduce their energy consumption.
10 Energy efficiency can therefore contribute directly to meeting the Act on Climate's goals.
11 Consistent with this, for 2024, the Company has identified carbon reduction as a
12 secondary goal to energy savings. In addition to direct emissions reductions benefits,
13 energy efficiency investments reduce the potential environmental costs and footprint of
14 avoided infrastructure investments, support the ongoing growth and development of a
15 sustainable, green job ecosystem in Rhode Island, and contribute to the realization of
16 other state environmental policy goals and initiatives.

17
18 The electric and natural gas portfolios, considered together, will reduce emissions in 2024
19 by 57,811 short tons of carbon dioxide. The monetized values of non-embedded
20 emissions are included as benefit streams in the RI Test benefit-cost assessment and in
21 the assessment of cost of supply for the portfolio.

1 In addition, the Company's energy efficiency programs help to ensure that the local
2 workforce will exist to support the State's environmental policy goals and plays a key
3 role in raising customer awareness of environmental issues and the impacts of their
4 choices. Please refer to Section 6.4 of the Annual Plan for further discussion of
5 environmental responsibility.

6
7 **G. Lower than the Cost of Additional Supply**

8 **Q. When analyzing the cost of additional supply as required by the LCP Standards,**
9 **does the Company evaluate at the measure, program or portfolio level?**

10 A. When analyzing the cost of additional supply, Rhode Island Energy evaluates at the
11 portfolio level and not at the program or measure level. The portfolio level is appropriate
12 to assess the cost of energy efficiency compared to additional supply because of the
13 aggregate impact generated by the set of measures and programs included within the
14 portfolios. A single measure may not be cost effective or less than the cost of additional
15 supply when viewed on its own, however, as part of a program and portfolio it may play a
16 key role in serving a particular market segment, driving savings and further opportunities
17 for customers to manage their energy use.

18
19 **Q. Which mechanism is appropriate to determine what costs to include when assessing**
20 **the cost of additional supply?**

1 A. The categories of benefits and costs included in the RI Test are appropriate starting points
2 to determine which costs to include in this assessment. The RI Test captures the aspects
3 of the Rhode Island Benefit Cost Framework (as included in guidance documents in
4 Docket No. 4600) that pertain to energy efficiency programs and details what is
5 considered a cost of energy efficiency. The RI Test includes the benefits to Rhode Island
6 derived from investing in energy efficiency instead of investing in additional energy
7 supply. For the purpose of the RI Test, these energy efficiency benefits are described as
8 avoided costs. The avoided costs can also be applied as the costs of procuring additional
9 energy supply or cost of supply. These include costs incurred by the utility to implement
10 the Three-Year Plan and the expense borne by the customer for its share of the energy
11 efficiency measure cost.

12
13 **Q. Please describe the cost of additional supply compared to the cost of energy**
14 **efficiency or conservation portfolios.**

15 A. Based on the Company's calculation, the total cost of energy efficiency for the electric
16 portfolio is \$113.8 million and the total cost of electric supply is \$161.9 million. This is a
17 total savings of \$48.1 million over the life of the installed energy efficiency measures
18 from investing in energy efficiency instead of electric supply. The total cost of energy
19 efficiency for the natural gas portfolio is \$41.0 million and the total cost of natural gas
20 supply is \$52.0 million. This is a total savings of \$11.0 million over the life of the
21 installed energy efficiency measures from investing in energy efficiency instead of

1 natural gas supply. The methodology for calculating Cost of Supply is detailed in Section
2 6.5 of the Annual Plan and is consistent with the methodology used in the Three-Year
3 Plan.

4
5 **H. Docket 4600 Goals**

6 **Q. Does the Annual Plan advance the Docket 4600 principles and goals?**

7 A. Yes. Along with the quantitative benefits detailed in the Annual Plan, as measured by the
8 RI Test, the energy efficiency investments and innovation planned for 2024 also advance
9 the Docket 4600 principles and goals. The Company describes how the Annual Plan
10 either advances, detracts, or remains neutral on achieving the Docket 4600 goals for the
11 electric system in Table 14 of the Annual Plan, with further details in Attachment 4 of the
12 Annual Plan.

13
14 **I. Performance Incentive**

15 **Q. Please describe the Performance Incentive Mechanism (“PIM”) that the Company is**
16 **seeking in the proposed Annual Plan?**

17 A. The Company does not propose any changes to the structure of the PIM that was
18 approved by the PUC in Docket No. 5076. The benefits and costs used as inputs to the
19 PIM have been updated consistent with the benefit-cost screening and proposed budget in
20 the 2024 Annual Plan.

21

1 **Q. Please describe the shareholder incentive that the Company is seeking in the**
2 **proposed Annual Plan?**

3 A. Consistent with the approved PIM in Docket No. 5076, the Company is seeking electric
4 performance incentives of \$4,079,089 (through non-income eligible and C&I) and natural
5 gas performance incentives of \$904,972 (all through C&I).

6
7 **Q. How does the earning opportunity in 2024 compare to the earnings opportunity in**
8 **2023?**

9 A.

Portfolio	2023 Incentive	2024 Incentive	Difference	% Difference
Electric	\$3,359,161	\$4,079,089	\$719,928	21.4%
Gas	\$792,002	\$904,972	\$112,970	14.3%

10

11 The electric incentive is proposed to be earned through the C&I and non-income eligible
12 residential sectors; in 2023 the proposed shareholder incentive opportunity is in the C&I
13 sector only. The gas portfolio incentive is proposed to be earned through the C&I sector
14 only, the same as in 2023.

15

1 **Q. How were the proposed shareholder incentives determined? What influenced their**
2 **derivation?**

3 A. The proposed performance incentive values were calculated by multiplying the 2023
4 payout rates approved by the PUC by the 2024 PIM-eligible net benefits. In this way, the
5 Company proposes to maintain the share of Annual Plan benefits that accrue to
6 customers, and it should serve to continue to align utility performance with the public
7 interest. In 2024, the Company proposes an electric portfolio payout rate of 10.1% of
8 2024 planned PIM-eligible net benefits, which is the same rate used to calculate the 2023
9 payout pool. In 2024, the Company proposes a gas portfolio payout rate of 11.7% of 2024
10 planned PIM-eligible net benefits, which is the same rate used to calculate the 2023
11 payout pool.

12

13 **J. Combined Heat and Power**

14 **Q. What combined heat and power incentive is the Company proposing?**

15 A. Per R.I. Gen. Laws § 39-1-27.7(d)(6)(ii), the Company is “to support the installation and
16 investment in clean and efficient combined heat and power installations at commercial,
17 institutional, municipal, and industrial facilities.” At the time of this Annual Plan’s filing,
18 the Company is aware of a 2 MW fuel cell combined heat and power (“CHP”) project in
19 preliminary stages of development; however, the Company does not believe this project
20 will progress to completion in 2024 and has therefore not planned for it in budget or

1 savings proposals for 2024. As this project progresses, the Company will follow the
2 appropriate CHP notification procedures outlined in the Authorized CHP Process.

3
4 **Q. What is the status of the Rhode Island Grows CHP project?**

5 A. Rhode Island Grows (“RI Grows”) continues to pursue the installation of a 13.3 MW
6 CHP system. Construction of the project was stopped in 2021 due to disputes regarding
7 the local town zoning approval process. Local news reports that the project is now
8 progressing through the approval process, and that construction of the project may
9 resume this year. If/when RI Grows reengages the Company regarding a potential CHP
10 incentive, the Company will consider next steps. Any next steps taken by the Company
11 regarding this CHP system would be pursued through a separate filing with the PUC
12 distinct from the filing of this Annual Plan and Three-Year Plan. In advance of any
13 potential filing with the PUC, the Company will supplement the notice documentation
14 and provide to the Division consistent with the Authorized CHP Process.

15
16 **K. Requested Approvals**

17 **Q. What approvals are the Company seeking from the PUC in connection with the**
18 **Annual Plan?**

19 A. The Company respectfully requests that the PUC approve the Annual Plan as filed by the
20 Company. More specifically:

- 1 1. To approve the proposed savings goals, budgets and associated customer
2 collections required to fund the energy efficiency programs in 2024.
3
4 2. To approve the proposed electric energy efficiency charge for 2024 of
5 \$0.1052/kWh.
6
7 3. To approve the proposed residential natural gas energy efficiency charge for 2024
8 of \$1.094/Dth.
9
10 4. To approve the proposed C&I natural gas energy efficiency for 2024 of
11 \$0.782/Dth.
12
13 5. To approve the proposed programs, portfolios and measures for 2024.
14
15 6. To approve the proposed demonstrations, pilots, and assessments for 2024.
16
17 7. To continue utilization of the PIM approved in Order No. 24225 in Docket 5076
18 with the following modifications: (i) To approve a design performance payout for
19 the electric portfolio of \$4,079,089 and for the gas portfolio of \$904,972 and (ii)
20 approve the following maximum service quality adjustments for gas and electric
21 residential and income eligible: \$352,034 for income eligible electric, \$306,085
22 for non-income eligible gas, and \$109,637 for income eligible gas.
23

24 **VI. Conclusion**

25 Q. Does this conclude your testimony?

26 A. Yes, it does.

Schedules

SCHEDULE A: 2024-2026 Energy Efficiency Plan and Attachments

- Attachment 1: Energy Efficiency Funding
- Attachment 2: Program Level Benefit Cost Summary
- Attachment 3: Program List by Sector
- Attachment 4: Definitions
- Attachment 5: Customer Listening Sessions for 2024-2026 Plan

SCHEDULE B: Annual Energy Efficiency Plan for 2024 and Attachments

- Attachment 1: 2024 Residential and Income Eligible EE Solutions and Programs
- Attachment 2: 2024 C&I EE Solutions and Programs
- Attachment 3: 2024 Evaluation, Measurement, and Verification Plan
- Attachment 4: 2024 Rhode Island Test Description
- Attachment 5: 2024 Electric Energy Efficiency Program Tables
- Attachment 6: 2024 Gas Energy Efficiency Program Tables
- Attachment 7: 2024 Bill and Rate Impacts
- Attachment 8: 2024 Pilots, Demonstrations and Assessment
- Attachment 9: 2024 Cross-Program Summary
- Attachment 10: Definitions
- Attachment 11: 2023 Rhode Island Energy Efficiency Equity Working Group Report

SCHEDULE A

2024-2026 Energy Efficiency Three-Year Plan

Rhode Island Energy

2024-2026 Energy Efficiency Three-Year Plan

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Executive Summary

In fulfillment of the [Comprehensive Energy Conservation, Efficiency and Affordability Act of 2006](#), the Narragansett Electric Company d/b/a Rhode Island Energy (RI Energy or the Company) is proud to submit this *2024-2026 Three-Year Energy Efficiency and Procurement Plan* (2024-2026 Plan or Plan). The Plan presents an overview of the Company's approaches, program enhancements and strategic innovations planned for the 2024-2026 term. Within this Plan, the Company provides details regarding the cost effectiveness of energy efficiency programs and strategies, how these efforts achieve prudence and reliability, and offers a funding plan with illustrative budgets, funding sources and savings goals.

The 2024-2026 Plan guides annual program planning to secure energy and cost savings for Rhode Island energy consumers. Energy efficiency supports safe and reliable utility service while at the same time helping to reduce customers' carbon footprints. The efficiency programs outlined in this Plan will contribute positively to overall customer satisfaction, a key priority for both RI Energy and its parent corporation, PPL. Since the 2024-2026 Plan is submitted concurrently with the *2024 Annual Energy Efficiency and Procurement Plan* (2024 Annual Plan), the Company will use this three-year plan document as a roadmap.

The Company will consider relevant developments between the approval of this Plan and the submission of the 2025 and 2026 Annual Plans to determine the associated binding savings goals and budgets for the 2025 and 2026 program years. In this Plan, the Company proposes a strategic set of programs and strategies that are flexible, targeted and geared toward the Commercial and Industrial (C&I), Residential, and Income Eligible sectors. The Company's 2024-2026 key, customer-centric priorities are illustrated below:

Five Key Priorities



Deliver optimized, tailored programs that serve all customers and **increase program reach**



Understand customer needs, planning cycles, and goals to optimize incorporation of the **next generation of efficiency measures**



Enhance financing options, simplify offerings, and raise customer awareness of complementary funding sources that can be leveraged to **enable customers to invest in efficiency**



Serve customers equitably by designing programs with a conscious effort to serve small business and low- and moderate-income; gender, racially and ethnically diverse; and non-native English-speaking customers



Increase workforce capacity to serve customers and implement energy efficiency

RI Energy continuously seeks new opportunities to drive deeper savings and transform additional markets, particularly those that are underserved. Many of the Plan’s strategies build upon existing customer relationships to incentivize comprehensive measures that accrue greater savings over their lifetime; however, the Company is always looking for new ways to reach new markets. The Company must also go deeper and broader to secure the next unit of efficiency. This increase in energy savings will only be realized by encouraging continuous, multi-year customer engagement that increases opportunities for comprehensive savings through the installation of multiple efficiency measures, including new and emerging technologies.

Section One: Introduction

1.1 Plan Summary

This Plan outlines the Company’s overall programmatic focus and strategies, including illustrative and provisional budgets and savings goals for the next three years of efficiency program implementation. The document lays out a vision for the Company’s continued transformation of the energy efficiency sector in Rhode Island, including key approaches for the 2024-2026 term, consistent and effective service designs, creative and effective engagement strategies, and accessible and widespread program delivery.

This Plan will serve as a guide for the Company's annual plans and provides the focus, approaches, and long-term strategies to deliver energy and cost savings for Rhode Island consumers, as well as provide operational benefits for the state's electric and natural gas systems. The 2024 Annual Plan uses this high-level vision to detail the specific strategies planned for the 2024 program year, including formalizing budgets and savings goals associated with time tested programming, while outlining program enhancements and innovations. The Company will use this 2024-2026 Plan as a roadmap to guide the planning process for the 2025 and 2026 Annual Plans. Additionally, the Company will also consider developments (e.g., new technologies, updated building and/or appliance standards) that may arise between the Plan's approval and the submission of the 2025 and 2026 Annual Plans in determining if modifications are needed for program designs, savings goals and budgets for those years.

The overarching goal of energy efficiency plans is to enable Rhode Island energy consumers to save money, reduce their energy consumption and protect the environment through cost-effective, reliable, prudent, and environmentally responsible efficiency programs. Efficiency programs enable the Company to maintain system reliability and contribute to the state's goals for reducing greenhouse gases and decarbonizing the economy. Energy efficiency generates a host of non-energy environmental, health and societal benefits. The Plan proposes illustrative and provisional energy efficiency procurement budgets and savings goals that will help Rhode Island consumers meet their energy needs.

RI Energy's 2024-2026 Plan satisfies the statutory requirements of Least Cost Procurement (LCP), is consistent with the concurrently filed 2024 Annual Plan, and is fully aligned with priority actions and reducing greenhouse gas emissions per the 2021 *Act on Climate* and 2022 *Update to the 2016 Greenhouse Gas Emissions Reduction Plan* (2022 Climate Update).

1.2 The Planning Process

The Company developed this Plan in collaboration with a number of stakeholders and entities who have historically provided valuable guidance and feedback. The figure below describes the membership of each of three key stakeholder groups. The Energy Efficiency and Resource Management Council (EERMC) provides critical oversight of program design, implementation and evaluation. Once a month, the Company hosts the Energy Efficiency Technical Working Group (EE TWG) for an in-depth discussion of energy efficiency topics and also engages the EE TWG throughout the planning process to leverage their expertise and seek their feedback. In addition, the Energy Efficiency Equity Working Group (EE EWG) convenes to provide the Company with recommendations on incorporating equity in the planning, design and delivery of its energy efficiency programs.

Robust Stakeholder Input

Energy Efficiency and Resource Management Council (EERMC)

- Members represent:
- Small commercial and industrial users
 - Expertise in energy design and code
 - Expertise in environmental issues
 - Small non-profit institutions
 - Large commercial and industrial users
 - Large non-profit institutions
 - Energy regulation and law
 - Low-income users
 - Municipalities
 - Residential users

Energy Efficiency Technical Working Group (EE TWG)

- Rhode Island Division of Public Utilities and Carriers
- Rhode Island Office of Energy Resources
- Rhode Island Infrastructure Bank
- Rhode Island Energy Efficiency and Resource Management Council
- Acadia Center
- Center for Justice
- City of Providence
- George Wiley Center
- Green Energy Consumers Alliance

Energy Efficiency Equity Working Group (EE EWG)

- Green and Healthy Homes Initiative
- Rhode Island Office of Energy Resources
- HousingWorks Rhode Island
- Prospect Health Systems
- Community Action Partnership of Providence County
- RI EERMC
- Rhode Island Builders Association
- Optimal Energy / NV5
- CLEARResult

Throughout the 2024-2026 Plan development process, the Company’s staff have collaborated with the EERMC and the Rhode Island Office of Energy Resources (OER) to identify measures and strategies. The Company appreciates the efforts made by both the EERMC and their consulting team to include Company feedback in the development of their priorities. The Company considered EERMC, OER, and other stakeholder priorities in developing this Plan, alongside market assessment and evaluation activities; quality assurance insights; feedback from subcontractors and participants; input from businesses, professional and trade associations, trade allies, and others; and insights from national and regional energy efficiency experiences of peer administrators.

In the 2024-2026 period, the expected influx of federal funding allocated to Rhode Island by the federal *Inflation Reduction Act of 2022* (IRA) will necessitate that the Company continue to work closely with other stakeholders, especially OER, to set incentive levels and make program modifications to support and leverage these additional funding sources throughout the 2024-2026 term. The Company will assess program incentives due to the presence of federal funding or other sources and will continue to work with OER to accelerate the adoption of energy efficiency.

1.2.1 Collaboration and Stakeholder Feedback

Customer Listening Sessions

The Company hosted three listening sessions with customers in June 2023 including one for C&I customers (June 20), one for income-eligible customers (June 22), and one for residential customers (June 27). The Company solicited participants through outreach to EERMC and EE TWG members (e.g., OER and the Rhode Island Center for Justice), as well through communication with community action agencies, chambers of commerce, program contractors, and other local organizations and networks.

Each listening session began with an overview of the Company's energy efficiency programs followed by smaller break-out groups where customers could provide candid feedback on their experience, if any, with the Company's efficiency programs and offer suggestions on how to best increase awareness of the programs. Following the break-out groups, a Company representative presented an overview of the Plan, including proposed changes and enhancements. Participants offered their thoughts on the draft Plan and ideas for the Company to consider. Some of the key takeaways that have informed this Plan include:

- Continued effort at refining and diversifying outreach efforts is necessary. Customers who participated in programs had almost universally positive experiences, but each session offered suggestions for increasing awareness of program offerings.
- Feedback regarding future incentives for gas was split. While some customers asked about incentives for switching from natural gas to electricity, others expressed concern about losing, or the lack of current, access to natural gas.
- Several participants suggested that RI Energy work more closely with community-based organizations to increase awareness of programs.

For further information regarding these listening sessions, please see Attachment 5.

Vendor Input

The Company also engages its program vendors to solicit their input by holding monthly calls with project expeditors, the most-active C&I program vendors. When the Company solicited feedback on the Plan development process, the following statements were made by various program vendors:

- Vendors support the efforts to decarbonize buildings, in an affordable manner for customers.

- Some vendors prefer to continue to allow customers to have choices in the fuel types of equipment they procure, while promoting the most-efficient option possible.
- Some customers, particularly schools, have trouble electrifying their facilities due to cost and resource barriers.

Market Potential Study Refresh

This Plan is informed by the Rhode Island Energy Efficiency Market Potential Study Refresh (MPS Refresh) commissioned by the EERMC and completed by Dunsky Energy Consulting in early 2023. The EERMC managed the study, with input from RI Energy and other stakeholders. The results of this study were used by the EERMC to recommend energy savings targets for the 2024-2026 term.

Engagement with State Climate Planning

To further inform future annual plans, specifically the 2025 and 2026 Annual Plans, the Company will participate in future Executive Climate Change Coordinating Council (EC4) stakeholder sessions. These sessions will help the Company understand policy priorities and actions that should be taken into account in program planning and design for the 2025 and 2026 program years. The EC4's *2022 Update to the 2016 Greenhouse Gas Emissions Reduction Plan* identified energy efficiency as a priority action and directed the state to continue work in this space. Per this guidance, the Company continues to pursue energy savings under the least cost procurement framework and reporting on progress.

For Rhode Island's 2025 Climate Strategy, RI Energy stands ready to support work to evaluate economy wide decarbonization scenarios and advocate for an appropriate level of energy efficiency in that context. The Company has submitted comments in response to the EC4's Request for Information for the Strategy's scope of work and anticipates more engagement as the EC4 begins developing the *2025 Climate Strategy* in earnest. By accounting for EC4 policy priorities and actions, the Company will avoid duplication of efforts, maximize program impacts, and ensure Plan alignment with the development of the anticipated 2025 Climate Action Strategy.

Cross-Functional Coordination

RI Energy coordinates across all its business activities, including its infrastructure investment planning, customer programs, and regulatory policy, all of which have the potential to impact energy efficiency planning and strategy. In 2022, the Company filed its Advanced Metering Functionality (AMF) Business Case and its Grid Modernization Plan. Since 2022, the Company has been engaged in the Commission's Future of Gas docket (Docket No. 22-01-NG) and its investigation into energy storage (Docket No. 5000). Throughout the planning process, the Company coordinated with

internal policy and system planning resources to ensure the Plan’s energy efficiency programs support operational effectiveness and further statewide decarbonization goals.

The Company also revitalized its System Reliability Procurement (SRP) Technical Working Group, an external stakeholder group that advises RI Energy on matters related to system reliability procurement.¹ Going forward, per the updated LCP Standards, demand response programs will be presented as part of the system reliability procurement and not addressed in the energy efficiency planning process (i.e., not in the Three-Year Energy Efficiency and Procurement Plans or Annual Plans). The Company’s efficiency team regularly communicates with colleagues engaged in SRP efforts to understand potential interactions and plan accordingly.

1.3 How to Read This Plan

For ease of review, this Plan has been organized to align with the LCP Standards. There are four overarching sections:

- (1) The *LCP Standards* section explains how the Plan complies with the requirements set forth in the LCP Standards: cost effectiveness, reliability, prudence, environmentally responsible, and comparison to alternative cost of supply requirements.
- (2) The *Priorities and Programs* section provides insight into strategic considerations, high-level program descriptions and the Company’s approach to implementing the principles of program design outlined in the LCP Standards. This section also includes a discussion of program coordination with other energy programs. Goals, Budget, and Funding Plan
- (3) The *Goals, Budget, and Funding Plan* section details these elements and discusses the performance incentive plan and performance metrics.
- (4) The *Analysis of Total Rhode Island Energy Efficiency* section, a new component of the Plan per the revised LCP Standards adopted in Docket 23-07-EE, contains an analysis of the total energy expected to be saved in Rhode Island through energy efficiency during the 2024-2026 term, and the portion of those total energy savings that will be delivered by the Company’s energy efficiency programs.

¹ Additional details regarding the Company’s activities in 2022 related to system reliability procurement, including assessment of non-wires solutions and advancements in non-pipes solution program development, can be found in Rhode Island Energy’s *2022 System Reliability Procurement Year-End Report* (filed with the PUC on Jun. 1, 2023).

There are five attachments which provide additional detail regarding specific Plan elements:

- Attachment 1: Energy Efficiency Funding
- Attachment 2: Program Level Benefit Cost Summary
- Attachment 3: Program List by Sector
- Attachment 4: Definitions
- Attachment 5: Customer Listening Sessions for 2024-2026 Plan

1.4 Timeline

As provided for under the LCP Standards, the Company has opted to combine the filing of the 2024-2026 Plan with the first year (2024) of the Annual Plans. The Company submitted the combined filing to the EERMC seeking their endorsement by formal vote on September 30, 2023. As specified in the Standards, the Company will file Annual Plans for 2025 and 2026 with the PUC on October 1, 2024, and October 1, 2025, respectively. It will seek support from the EERMC for each of those plans prior to filing. RI Energy will continue to work with the EERMC and the EE TWG to meet these timelines.

Section Two: Least-Cost Procurement Law and Standards

This section describes the Company's assessment of the 2024-2026 Plan's compliance with Least Cost Procurement Law and the LCP Standards as revised in Docket 23-07-EE. In general, the Company's interpretation of the LCP Standards is as it was presented in the 2023 Annual Plan in Docket 22-33-EE, Section 7, modified for the recent revisions. The Company's interpretations are presented in Section 5 of the 2024 Annual Plan, filed simultaneously with this Plan.

The Company demonstrates its consistency with the LCP Standards in Section 5 of the 2024 Annual Plan. Subsequent annual plans filed during the 2024-2026 term, the 2025 and 2026 Annual Plans, will have the requisite level of detail to assure compliance with LCP Standards. In the following subsections, the Company discusses any key changes in the LCP Standards, and how said changes impacted the Company's approach in its development of the Plan. The Company also discusses if, for any Standard, the consistency with the Standard is expected to change over the 2024-2026 term.

2.1 Cost Effectiveness

The Rhode Island Test (RI Test) compares the present value of the total lifetime benefits derived from efficiency savings to the total costs of acquiring those savings (i.e., program and customers' costs). According to the LCP Standards:

“any program with a quantified benefit-cost ratio greater than 1.0 (i.e., where quantified benefits are greater than quantified costs), should be considered cost effective. Consistent with the PUC’s guidance issued in Docket No. 4600, qualitative benefits and costs may be considered in determining cost effectiveness. The portfolio must be cost-effective and programs must be cost effective.”²

In Docket 23-07-EE, changes to the LCP Standards required an additional view of cost effectiveness that, “for categories with value or cost that is shared between Rhode Island Energy and other jurisdictions (both within the state and region), presents only those benefits and costs that will be allocated to Rhode Island Energy.” For this analysis, the Company identified certain categories of benefits that flow outside of Rhode Island. These include a portion of demand reduction induced price effects (DRIPE) and pool transmission facility (PTF) capacity values. Attachment 2 presents the requested additional view that shows that programs are still cost effective absent these benefits. To the best of the knowledge of the Company, no costs accrue outside of Rhode Island.

Additionally, the changes to the LCP Standards in Docket 23-07-EE require that the “RI Test shall include the costs of carbon dioxide mitigation as they are imposed and are projected to be imposed by the Regional Greenhouse Gas Initiative, Rhode Island Renewable Energy Standard and Rhode Island *Act on Climate*.” In consultation with the OER, EERMC, and Division, the Companies developed a value and approach for carbon dioxide mitigation which is used in all cost-effectiveness analyses in this Plan. This approach uses Marginal Abatement Cost (MAC) from the 2021 Avoided Energy Supply Costs (AESC) study in the analysis, while the parties await resolution of the PUC’s Future of Gas docket.

The Plan is consistent with these cost-effectiveness requirements and interpretations as demonstrated in Attachment 2 and demonstrated in the 2024 Annual Plan. The Company does not expect significant variance in compliance between 2024 and subsequent years of the 2024-2026 term. The Company has analyzed the cost effectiveness for the proposed 2024 portfolio and programs using the RI Test as required by Docket 4600 and the LCP Standards. The portfolio and programs proposed for 2024 satisfy these criteria for cost effectiveness. The RI Test includes benefits in the form of primary fuel energy savings (electricity and natural gas), the value of other resources (fuel and water) benefits, price

² RI PUC Docket 5015, LCP Standards, Section 3.2N.

effects, non-embedded greenhouse gas reduction benefits, non-embedded nitrous oxide reduction benefits, the value of improved reliability, and non-energy impacts (NEIs). Costs include all projects costs, program planning and administration, sales, technical assistance and training, evaluation, and the performance incentive. Notably, cost-effectiveness results do not include economic impacts such as employment and gross state product impacts from energy efficiency investments.

While not required, the Company also reviewed benefit-cost ratios at the measure-level to ensure ratepayers and participants will receive net positive benefits from energy efficiency investments.

2.2 Reliability

The Standards for reliability create an expectation that the Company will be able to deliver the programs described herein and that the savings realized from program delivery are accurately estimated and measured. In addition, as applicable, programs should be scalable and tailored to meet specific system needs. No changes were made to the LCP Standards for reliability in the revisions in Docket 23-07-EE. The Plan is consistent with this interpretation as is demonstrated in the 2024 Annual Plan. The Company does not expect significant variance in compliance between 2024 and subsequent years of the 2024-2026 term.

The Company ensures reliability through the delivery of reliable energy savings. These savings are verified through third-party consulting firms that conduct robust annual EM&V studies to ensure claimed savings are as accurate as possible and to account for spillover, free ridership, and other industry standard factors. This EM&V process also supports the Company's participation in the ISO-New England's Forward Capacity Market (FCM). Passive demand savings achieved via electric energy efficiency and Combined Heat and Power projects, and verified by the EM&V process, continue to participate in the FCM as Passive On-Peak Demand Resources. Together, these approaches comply with the Standard of Reliability.

2.3 Prudency

In developing this Plan, the Company considered several key components in the analysis of prudency. These components can be summarized as considerations about the proposed investments on the following:

- Support for the purposes of LCP.
- Synergy savings through alternatives that meet multiple needs.
- Management of risks to ratepayers and the distribution Company.

- Effective use of funding sources.
- Equitable in the allocation of costs, benefits, access to services, and participation.
- Rate and bill impacts.
- Continuity of implementation efforts.

No changes were made to the Standards for prudence in the revisions in Docket 23-07-EE. The Company's Plan is consistent with this interpretation as is demonstrated in the 2024 Annual Plan. The Company does not expect significant variance in compliance between 2024 and subsequent years of the 2024-2026 term. Details regarding how the Company has considered each of the above components is available in the 2024 Annual Plan.

2.4 Environmentally Responsible

Environmental responsibility includes compliance of the energy efficiency plan with state policies, particularly climate change and the reduction of harmful air pollutants including carbon dioxide, nitrous oxides, sulfur oxides, and chlorofluorocarbons (from refrigerants). Environmental stewardship further requires proper valuation of environmental costs and benefits in the Plan. Modifications to the Standards in Docket 23-07-EE specify demonstration of environmental responsibility includes an assessment of compliance with state climate policies, and proper valuation of climate costs and benefits, in addition to environmental costs and benefits. The Company's interpretation of this addition is that by distinguishing between environmental policies and values and climate policy and values, the PUC intends for the Company to assess the climate impacts of its energy efficiency programs, specifically as they relate to the *Act on Climate's* targets.

The proposed revised LCP Standards require "the distribution company shall assess how investment complies with State environmental and climate policies and shall properly value environmental and climate costs and benefits." For the purposes of compliance with this section of the Standards, the Company has assessed how its 2024-2026 Plan complies, or otherwise advances, the *Act on Climate*. This legislation codified statewide, economy-wide greenhouse gas emissions reduction mandates.³ The proposed Plan investments reduce both electric and gas consumption, and both portfolios will make a meaningful contribution to reduction in emissions by driving reductions in customer energy usage in both the short and long term.

³ See [2021 Act on Climate](#) (Apr. 4, 2021).

On the electric side, prior to meeting the 100 percent Renewable Energy Standard in 2033, any electric savings will directly support the State in meeting its 2030 greenhouse gas emissions reduction mandate under the *Act on Climate*. On the gas side, all gas savings will directly support the State in meeting its 2030 greenhouse gas emissions reduction mandate. Indeed, the State's 2022 *Climate Update* to the 2016 *Greenhouse Gas Emissions Reduction Plan* calls out both electric and gas energy efficiency as a priority short-term action to get Rhode Island on the path to meet the *Act on Climate's* 2030 mandate. To properly value the environmental and climate costs and benefits associated with the proposed investment in energy efficiency, the Company uses the marginal abatement cost of carbon, as appropriate, to monetize both embedded and non-embedded value of greenhouse gas emissions reductions.

The Plan is consistent with this interpretation as demonstrated in Attachment 2 and is demonstrated in the 2024 Annual Plan. The Company's 2024-2026 Plan and 2024 Annual Plan demonstrate prioritization of meeting the *Act on Climate* mandates through the reduction of gas and electric consumption, investment in the green workforce, and the prioritization of other decarbonization strategies, such as heat pump deployment and other forms of electrification. The Company does not expect significant variance in compliance between 2024 and subsequent years of the 2024-2026 term.

2.5 Cost of Annual Plan Compared to the Cost of Energy Supply

Please see Section 5.5.1 of the 2024 Annual Plan for the Company's interpretation of the Standard of being lower than the cost of additional supply. RI Energy's Plan is consistent with this interpretation as demonstrated in Section 5.5.2 and the Company does not expect consistency to vary between 2024 and subsequent years of the 2024-2026 term.

Like the Standard for cost-effectiveness, in Docket 23-07-EE, changes to the Standards required an additional analysis of the cost of supply comparison that, "for categories with value or cost that is shared between Rhode Island Energy and other jurisdictions (both within the state and region), presents only those benefits and costs that will be allocated to Rhode Island Energy." For this analysis, the Company identified certain categories of benefits that flow outside of Rhode Island. These include a portion of DRIFE and PTF capacity values. To the best of the knowledge of the Company, no costs accrue outside of Rhode Island.

The Company's Plan is consistent with this interpretation as will be subsequently demonstrated in the 2024 Annual Plan. The Company does not expect significant variance in compliance between 2024 and subsequent years of the 2024-2026 term.

Section Three: Themes and Priorities

3.1 Strategic Overview of Programs and Priorities

Two overarching themes run throughout the design of the Company's energy efficiency programs for this 2024-2026 Plan:

- 1. Company's efforts should be customer-centric and focus on customers' and markets' needs.**
- 2. Programs need to serve customers equitably.**

In developing this Plan, the Company explored where the pockets of potential efficiency savings reside and how to access them. Through market research, such as the Residential Nonparticipant Market Barriers study, the Company will work to close the awareness gap around programs and dedicate appropriate resources to first make non-participating customer classes aware of efficiency programs and then engage them effectively to move them to participation. Once engaged, customers need to be presented with measures and program approaches that create value for them.

Over the next three years, the Company will actively seek out new products and program approaches that could benefit Rhode Island energy consumers. For Residential Programs, this will include an emphasis on electric resistance space and water heating conversions as well as pushing zero net energy projects in the residential new construction market. For C&I Programs, the Company's offerings will continue to diversify, not only with new measures, but with approaches to strategic energy management through retro-commissioning, remote monitoring, and building energy data analysis.⁴

The Company recognizes the need to provide streamlined, effective financing solutions to customers to facilitate project financing and to leverage other programs that fund efficiency work. On-bill repayment has been a successful tool; however, it is only one of many financing mechanisms to support project implementation. The Company has, and will continue to, work closely with the OER to coordinate their Clean Heat Rhode Island Program (Clean Heat RI Program) and the influx of new federal funding through IRA. During the listening sessions, several participants

⁴ See Attachment 5: 2023 Customer Listening Sessions. The diversification of measures aligns with feedback from the Company's Listening Sessions where participants suggested more measures and program support for existing buildings.

referenced the need for the Company to integrate the delivery of federal and state energy efficiency programs, such as the Clean Heat RI Program, and to make sure more customers are made aware of the programs and incentives.⁵

Key to program success will be an adequate supply of skilled people to identify and implement projects. The Company will coordinate with the state on these efforts, as we recognize that workforce development requires a holistic, collaborative approach. In terms of the Plan, the Company will target increased capacity to support zero net energy projects, building operator certification, codes and standards compliance training, and developing the weatherization workforce.

For the 2024-2026 term, the Company's programs will be considered through a lens of equity. In this Plan, the Company strives to create a portfolio of programs designed to provide benefits equitably across all demographics. The IES Program will accelerate electric resistance to heat pump conversions for qualifying customers and continue to tackle pre-weatherization barriers. During the 2024-2026 term, the commercial Main Streets Initiative will continue to prioritize Justice 40 focus areas.⁶ The Company will also continue to co-lead the EE EWG. Over the next three years, the Company will work to align equity metrics so they encompass federal Justice 40 regions within Rhode Island and to ensure they are consistent with OER equity metrics reporting.

The Company will continue to engage equity focused organizations and educate them about energy efficiency so they can assist with expanding recognition and awareness of the Income Eligible Services (IES) Program and other efficiency programs. This focus aligns once again with feedback from the Listening Sessions where several customers suggested the Company resource community-based organizations to conduct outreach and partner with trusted community leaders who have the same ethnic background and are part of the local community.⁷

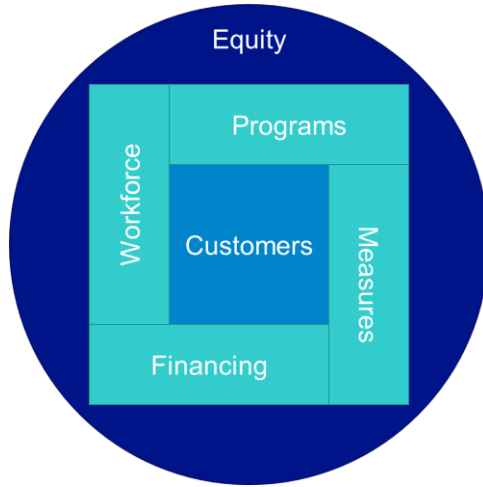
Figure 1 below presents a visual representation of how the Company has structured priorities for the 2024-2026 Plan.

⁵ See Attachment 5: 2023 Customer Listening Sessions.

⁶ The [Rhode Island Department of Environmental Management](#) defines an Environmental Justice Focus Area" as a census tract that meets one or more of the following criteria: (1) annual median household income is not more than sixty-five percent (65%) of the statewide annual median household income, (2) minority population is equal to or greater than forty percent (40%) of the population, (3) twenty-five percent (25%) or more of the households lack English language proficiency, or (4) minorities comprise twenty-five percent (25%) or more of the population and the annual median household income of the municipality in which the proposed area does not exceed one hundred fifty percent (150%) of the statewide annual median household income.

⁷ See Attachment 5: 2023 Customer Listening Sessions.

Figure 1: Visualization of Three-Year Plan Strategy



3.2 Priorities for the 2024-2026 Plan

To achieve its objectives, the Company must confront and overcome several challenges to its energy efficiency programs, both known and emerging. Economic uncertainty, inflation, and higher interest rates impact utility customers’ financial calculus, and perhaps their willingness, to implement energy conservation initiatives. The decline in claimable savings associated with high efficiency lighting demonstrates how programs can transform a market and drive the Company in search of new customers and novel opportunities for cost-effective energy savings. The welcome influx of federal support for efficiency may increase demand and meeting this demand will require significant expansion of the current workforce and supply chain.

The Company recognizes that in each challenge exists inherent opportunity and seeks to innovate to enhance and expand energy efficiency support provided to its customers. To do this, the Company plans to focus on the following five priorities aimed at increasing customer participation and enhancing the Company’s ability to deliver valuable long-term energy savings.

Five Key Priorities



Deliver optimized, tailored programs that serve all customers and **increase program reach**



Understand customer needs, planning cycles, and goals to optimize incorporation of the **next generation of efficiency measures**



Enhance financing options, simplify offerings, and raise customer awareness of complementary funding sources that can be leveraged to **enable customers to invest in efficiency**



Serve customers equitably by designing programs with a conscious effort to serve small business and low- and moderate-income; gender, racially and ethnically diverse; and non-native English-speaking customers



Increase workforce capacity to serve customers and implement energy efficiency

3.2.1 Priority 1: Deliver Optimized, Tailored Programs

Strategic Philosophy

Program constraints, supply chain issues, contractor availability, and other market forces often throw a kink in the progression from customer acquisition to project completion. While these forces impact all customers and programs, the extent of the force exerted by each factor can vary widely between customer segments. A “one-size-fits-all” approach results in “one-size-fits-some” programs. An individual customer approach is cost-prohibitive; therefore, the Company’s strategy will be to identify customer segments representing significant, opportunities for expanded program support and will inform the Company’s tactics for targeting these customers.

Cross-Cutting Tactics

The Company will continue to invest resources in collecting more detailed market information to improve outreach to customers. To better serve customers, the Company will add more training for internal and external sales and technical staff to secure a better understanding of customer requirements, allowing staff and vendors to effectively provide solutions that drive value in the areas important to specific customer groups. By expanding the vendor pool and streamlining technical review, the Company can continue to improve on delivering timely service to customers while contributing to improved customer satisfaction.

The Company understands barriers such as lack of understanding/education, difficulty of participating in complicated programs, and lack of access to capital must be addressed at some level. Therefore, the Company will seek to design

programs which address specific market failures and barriers faced by different customer segments. For example, the Residential Non-Participant Study indicated lower awareness of the energy efficiency programs among non-participants. During the 2024-2026 term, a comprehensive marketing campaign will be deployed in English and Spanish to educate customers on the availability of energy efficiency programs. The Company has also engaged with CommerceRI to discuss the coordination of the two entities' commercial and residential incentives and loan programs. While these discussions are in the early stages, the Company will continue coordinating with CommerceRI to provide another avenue to increase the awareness of efficiency program offerings.

The Company's Listening Sessions also revealed how non-participants had lower awareness of energy efficiency programs. Session participants made several recommendations to overcome barriers and increase program participation including outreach to K-12 students, bilingual outreach and education programs, proactive outreach to utility customers in arrears, and hosting educational forums/events in public places such as parks, libraries, and grocery stores.⁸ As appropriate, RI Energy will look to integrate these suggested strategies during the 2024-2026 term.

Residential & Income Eligible Tactics

For the 2024-2026 term, the Company will focus its efforts on expanded outreach to five communities targeted during the 2023 program year with the goal of increasing customer participation in the towns of Central Falls, East Providence, Pawtucket, Providence, and Woonsocket. As the tools are developed to better tailor marketing to targeted subsets within these communities, the Company will look to align with Justice40 Initiative communities so customers living within these communities receive incremental benefits from federal, state, and private initiatives that coordinate and coalesce to make a significant impact.⁹ The Company will look to partner with community-based organizations to engage customers who historically have not participated in the Residential and IES Programs.

Commercial & Industrial Tactics

The Company recognizes that new ways of reaching C&I customers, from those facing economic pressures to those with aggressive carbon reduction strategies, may be necessary. To that end, the Company has expanded its eligibility requirements for the Small Business program from customers who consume less than 1.0 million kWh annually, to

⁸ See Attachment 5: 2023 Customer Listening Sessions.

⁹ See Attachment 5: 2023 Customer Listening Sessions. This aligns with Listening Session participants who suggested the Company coordinate more with state and federal programs.

customers who consume less than 1.5 million kWh annually. This change was made to increase program participation. Over the 2024-2026 term, RI Energy will monitor participation and vendor outreach initiatives to ensure all small business customers have the opportunity to use program resources.

The Company will look to deploy a data-driven approach to increasing customer participation in the C&I sectors. This approach will include analyzing customer consumption data (i.e., kilowatt-hours, peak load, and therms) and past energy efficiency participation to better target customers who have historically not participated at the same rate and pace as their C&I peers. This analysis is likely to provide valuable insights into energy efficiency opportunities, while potentially providing insight into barriers and rationales for non-participances.

RI Energy will also look to expand the reach of its Strategic Energy Management Planning (SEMP) Initiative to support the increasing number of customers who have climate and sustainability goals. As part of the SEMP Initiative's eligibility criteria, the Company often looks for customers with sustainability or corporate environmental goals. Through the SEMP Initiative, RI Energy can help outline strategies to help customers achieve sustainability and environmental goals and memorialize them in a non-binding memorandum of understanding (MOU). Often, a customer's sustainability or environmental goals serve as a jumping off point to initiate an MOU and SEMP agreement.

3.2.2 Priority 2: Understand Customer Needs

Strategic Philosophy

Energy efficiency has evolved far beyond the low-hanging fruit of high efficiency lighting. To continue to reap the benefits of energy efficiency, customers must increasingly turn towards more complex and customized measures such as heating, ventilation, and air conditioning (HVAC) equipment and control systems. Complexity may arise when weighing options, for example, between different HVAC makes, models and configurations. While this is not the case for all measures, it necessitates additional effort from the Company to ensure programs are helping customers identify the measures that make sense for their specific situation, in addition to ensuring their successful installation and operation. The Company is ramping up the recently launched Building Analytics Program, with customers signing up in 2023 and savings expected in 2024. The Energy Management Systems offering has undergone a program revamp that is expected to result in higher non-lighting savings and more participation.

Additionally, with Rhode Island's Act on Climate, the Company must evaluate measures and program design through the additional lens of its contribution to the broader economy-wide efforts towards decarbonization.

Cross-Cutting Tactics

During the 2024-2026 term, the Company will explore innovative strategies and technologies applicable to the Rhode Island customer-base and market situation. To supplement these findings, the Company will learn from other efficiency programs, and to discern if those strategies could be successfully deployed in the Rhode Island market. The Company maintains active memberships in the Northeast Energy Efficiency Partnership (NEEP), the Consortium for Energy Efficiency (CEE), the Association of Energy Service Professionals, ESource, and other groups, both formal and informal, that facilitate knowledge transfer among program administrators. This targeted approach, coupled with learnings from other jurisdictions, and our ability to adjust incentives during the program year allows the Company to adopt successful energy efficiency strategies and technologies and evolve programs to meet customer needs.

In this Plan, the Company took a conscious look at the role of gas incentives, based on market analysis and input from stakeholders. The following criteria were used to assess how gas incentives should be sized:

Cost Effectiveness

While cost effectiveness for the Plan is measured at the program level, measure-level benefit-cost ratios are calculated as well. In this Plan, all programs are cost effective; however, the Company looked at the measure level to analyze which gas efficiency measures were not cost effective. These gas efficiency measures, primarily in the residential sector, were reduced or removed entirely from the Plan where prudent. The funds from these gas efficiency measures were shifted to more cost-effective gas measures within the residential sector or to the C&I sector.

Shift from Gas Equipment

Within the cost-effectiveness framework, the Company undertook an effort to shift funds from gas-consuming equipment to measures that help use gas more efficiently such as weatherization.

Market Forces

External market forces of supply and demand played a major role in determining incentive levels. On the supply side, the Company wanted to be sure that viable electric alternatives exist for customers for any gas efficiency measures that got reduced budgets or were discontinued. The Company did not reduce or discontinue any gas efficiency measures for which there was no viable electric alternative.

On the demand side, some members of the EERMC expressed opinions for both residential and C&I customers that customer choice is important and gas efficiency incentives should continue to encourage gas customers to get the most efficient equipment possible. Indeed, the Company retained many gas efficiency measures.

For multifamily gas furnaces specifically, the Company decided to keep the multifamily heating measures within the IES Multifamily and C&I Multifamily Programs so there would be comprehensive offerings to building owners. The heating system is of utmost concern to building owners and if the opportunity for incentives does not exist, they may not even be willing to meet with the team. Once in the door, the sales team can work on education which also includes electrification. There are also limited alternatives in the short term. Since these are both custom measures, the Company can work to ensure that there is an up-to-date custom screening tool being used and only cost-effective projects progress. Both the IES Multifamily and C&I Multifamily Programs have strong benefit-cost ratios. With the added focus on the screening tool, the team feels that these heating measures will be cost effective in practice. Anticipating success in electric heating conversions, the Company plans for furnaces to trend downwards over the 2024-2026 term.

Regarding new construction, RI Energy realizes there are some progressive home builders promoting all-electric new construction, and the Company supports them. However, based on the Company's interaction with the broader market, the majority of builders still plan for gas in new construction design. While RI Energy does not explicitly encourage new gas connections and will continue to educate the market on electric alternatives, the Company still feels it is valuable to offer customer choice and promote the most efficient gas equipment possible, rather than have that lost opportunity. Furthermore, the Company stays abreast of new energy code adoption and will continue to adjust incentives as codes dictate.

The Future of Gas docket (as discussed in section 3.4.4 of this Plan) also needs to be considered in this analysis. Answers to the larger policy questions being addressed in the Future of Gas docket, and which are beyond the scope of the Company's net benefits analysis, should be aligned with the findings and recommendations made by the PUC at the conclusion of the proceeding. The range of decarbonization scenarios being contemplated in the Future of Gas docket include analysis of various levels of energy efficiency investments, which will be valuable to inform this process. As such, RI Energy's strategy to continue, yet refine, gas efficiency incentives during the 2024-2026 term is both consistent with ongoing policy conversations about thermal decarbonization and flexible to accommodate policy changes as they arise.

Residential & Income Eligible Tactics

For the Residential and IES Programs, in addition to a continued emphasis on the core weatherization programs, the Company will prioritize electric resistance heat to air source heat pump conversions. The Company's goals for this conversion effort necessitate a comprehensive approach that includes weatherization agencies, HVAC installers, and the various stakeholders who own and rent housing throughout Rhode Island. The Company will coordinate and collaborate with the OER on its Clean Heat RI Program to support supplemental measures, such as the aforementioned weatherization services.

Another area for potential program redesign is the Residential New Construction Program. A recent evaluation indicates energy savings between recent new construction participants and non-participants has narrowed. This finding provides the Company with an opportunity to focus on higher savings building approaches. To do so, the Company plans to revisit which measures and/or market segments should be included in the Residential New Construction Program. In addition, the Company will explore options for promoting zero-energy ready homes and Passive House for the multifamily sector. New residential construction has been very slow in Rhode Island compared to other states based on a recent study of residential building permit data.¹⁰ Based on the data, Rhode Island was last in the country in new building permits in 2021. However, the Rhode Island General Assembly passed several new bills in the most recent legislative session aimed to spur housing development. RI Energy will continue to monitor and evaluate how these bills will impact the demand for energy efficiency programs and how energy efficiency can be incorporated in their implementation.

Commercial & Industrial Tactics

As high efficiency lighting opportunities decline, the Company will expand its existing C&I programs to deliver an increasingly diverse portfolio of savings. High-performance HVAC offerings will be augmented by services supporting more advanced system controls, energy management systems and building analytics. These energy efficiency technologies will be offered through multiple pathways, including but not limited to retro-commissioning, monitoring-based commissioning, equipment right-sizing and the Upstream Program.

¹⁰ See Boutique Home Plans, [The State of Residential New Construction in America](#).

Additionally, the Company will look to provide enhanced incentives to customers who commit to implementing comprehensive energy efficiency measures within a specified timeframe. To qualify for the enhanced incentives, the customer will need to commit to installing three or more energy efficiency measures with different end-uses within a program year. The objective is to accelerate deeper, more comprehensive measure adoption by reducing the payback period for customers.

Further, the Company will develop a host of prescriptive and custom offerings to promote commercial weatherization and greenhouse gas emission reductions. These offerings include prescriptive weatherization and air sealing, gas and refrigeration leak reduction, upstream heat pumps, and energy recovery ventilators and dedicated outdoor air systems with energy recovery ventilators. The Company will also work with OER to better understand electrification efforts being funded through state and federal programs, and to determine if synergistic measures could be deployed through the Company's Energy Efficiency Programs to advance electrification efforts. The Company anticipates these synergies would likely occur on projects relating to weatherization, ventilation and controls.

3.2.3 Priority 3: Enable Customers to Invest in Efficiency

Strategic Philosophy

One of the fundamental pillars of energy efficiency investment is the idea that a greater upfront investment will yield greater lifetime savings, given the decrease in ongoing consumption and costs. However, the decision is often not as simple as comparing net present values or finding a favorable payback period. While one-time rebate incentives help mitigate the first cost of efficiency measures, access to capital can still inhibit customers' ability to invest in efficiency. Straightforward, readily available financing increases project implementation and extends program dollars to serve a greater number of customers. Therefore, the Company's strategy will be to explore ways to enhance and expand the suite of financing offerings available to customers to enable more customers to make affordable, impactful multi-year investments in efficiency.

Cross-Cutting Tactics

The Company offers several financing vehicles to customers (e.g., On-Bill Repayment, Third-Party C&I Financing, HEAT Loan, Efficient Buildings Fund), and will investigate ways in which these offerings can be expanded to serve more customers. Over the course of the Plan, the Company will evaluate revising the HEAT Loan to ensure optimal use of ratepayer funds. To make financing more useful in moving projects across the finish line, the Company will provide additional training on available financing mechanisms and how to position them effectively to internal sales staff and

trade allies. At the same time, RI Energy recognizes gaps in current its financing offerings, such as a lack of options for landlords in the Multifamily Program, and the Company plans to work to find effective ways to address these gaps.

In addition to financing, the Company will collaborate with OER to integrate program incentives with state and federal funding. OER will administer \$64 million in funding designated for a variety of home improvements from the federal IRA, in addition to the \$25 million from the American Rescue Plan Act (ARPA) for its Clean Heat RI Program. The IRA also offers several enhanced tax credits to encourage homeowners to pursue efficiency and electrification measures. The Rhode Island Infrastructure Bank, in addition to their \$5 million annual allocation of program dollars, received an additional \$5 million from a 2022 state bond issue to support a small business energy efficiency fund.

Residential & Income Eligible Tactics

The Company intends to explore both financing strategies and leveraged funding for customers. As part of this effort, the Company plans to re-examine the structure of its HEAT Loan. One concern with the current HEAT Loan model is that the zero percent interest buy down may restrict the overall number of customers that the loan can reach, given its limited funds combined with the recent increase in interest rates. The Company is working to restructure the HEAT Loan to a flat 5% interest rate buy down. Additional information on this effort can be found in the Company's 2024 Annual Plan, Attachment 1.

Commercial & Industrial Tactics

The Company will continue to promote its On Bill Repayment offering to all C&I natural gas accounts and to large C&I electric accounts that consume more than 1,500 MWh per year. The On Bill Repayment offering provides rapid approval, zero interest loans for qualified energy efficiency projects. The loan size available for natural gas customers ranges from \$1,000 to \$100,000 (the loan size may be larger for SEMP or special projects), with a maximum tenor of three years for commercial accounts, and five years for state facilities. For electric customers who consume over 1,500 MWh annually, the loan size can range from \$1,000 to \$100,000 (the loan size may be larger for SEMP customers or special projects), with a maximum tenor of 5 years for commercial accounts, and 7-10 years for state facilities. Small Business accounts that consume less than 1,500 MWh per year are eligible to receive loans that range from \$500 to \$50,000, with a maximum tenor of 5 years. Please note that the Company's On Bill Repayment offering cannot be used to support energy efficiency projects that have a benefit cost ratio less than 1.0.

3.2.4 Priority 4: Serve Customers Equitably

Strategic Philosophy

Over the years, the Company's energy efficiency programs have served thousands of customers. Even with this success, the Company continues to strive to reach all its customers, especially those who have not yet participated in the wide range of energy efficiency programs. In particular, the Company seeks to continue to expand its programs' reach to those who are historically underserved, and those who bear the heaviest energy burdens (and thus have the most to benefit from energy efficiency). As the energy and program provider for all customers in its service territory, across all income levels, gender and race categories, and languages spoken, it is the Company's responsibility to ensure that ample benefits are provided to the most vulnerable populations. Therefore, the Company's strategy will be to strive to create a portfolio of programs that are designed to deliver affordable efficiency measures to the historically underserved, and equitably provide benefits to customers across all demographics to improve satisfaction for all customers.

Cross-Cutting Tactics

The Company will continue portfolio-wide efforts to ensure programs are accessible to diverse populations (e.g., creating program forms and collateral in multiple languages). The Company will continue to focus on recommendations from the EE EWG and refine metrics to measure progress on the equity front. The Company is open to discussions with stakeholders on mechanisms for including an equity component in the performance incentive mechanism (PIM).

Residential & Income Eligible Tactics

The Company's income eligible air-source heat pump plan specifies that at least 25 percent of the target 750 annual conversions take place at low-income customers' residences. The Company is implementing that plan with trusted vendor relationships in the income eligible community including HVAC and weatherization contractors as well as high performing Community Action Program (CAP) agencies.

The Company will continue to improve its outreach and engagement with community-based organizations and multifamily landlords. One potential component of the Company's outreach strategy would involve using data on deed-restricted housing, to ensure that efficiency work for income-eligible customers remains with income-eligible customers (as required in the property deed) as opposed to inadvertently playing a role in converting the property to market-rate housing through efficiency-related capital upgrades. During the listening sessions, customers recommended the Company resource community-based organizations to reach diverse populations. One suggestion

was to partner with local leaders and organizations who have similar ethnic backgrounds and are a part of the community.¹¹ This aligns with the Company's intent to engage with the historically underserved, and equitably provide benefits to customers across all demographics.

In another effort to equitably deliver programs this Plan will look to address the deferrals and pre-weatherization barriers that stand in the way of many low-and-moderate income customers receiving weatherization services. The Company intends to expand on and refine recent initiatives regarding data tracking of deferrals and pre-weatherization barriers across all Residential Home Services Programs. The Company plans to collaborate with stakeholders and other groups to assess best practices and new strategies when it comes to addressing pre-weatherization barriers so that the crucial work of weatherizing homes may continue. The Company also intends to identify and compile resources for leveraging funding to address pre-weatherization barriers. While RI Energy cannot guarantee that additional outside resources for pre-weatherization barriers will be secured, the Company will continue to engage with potential funders in pursuit of these resources, including engaging with OER to understand if any IRA funds might be eligible for this kind of remediation.

Commercial & Industrial Tactics

For the 2024-2026 term, the Company will look to deploy additional bilingual auditors who speak Spanish or Portuguese (the two most widely spoken languages besides English in Rhode Island). The Company will also continue to translate marketing material into Spanish and Portuguese to improve outreach and provide more equitable services. Additionally, the Company will look to continue its commercial Main Streets Initiative. This initiative aims to accelerate the adoption of direct-install efficiency measures for small businesses within a targeted community. Outreach for this initiative includes direct mail and/or social media engagement¹², followed by a door-to-door effort that lasts between three-to-seven days, depending on the number of small businesses or microbusinesses and the size of the target community. In selecting the Main Streets Initiative locations, the Company will prioritize Environmental Justice focus areas.

¹¹ See Attachment 5: 2023 Customer Listening Sessions.

¹² See Attachment 5: 2023 Customer Listening Sessions. Suggestions included an increase in the Company's social media engagement and presence. Some noted how customers receive utility bills electronically, so sending a text promoting energy efficiency programs would be a better way to communicate programs and their benefits to customers.

3.2.5 Priority 5: Ensure Workforce Capacity to Serve Customers

Strategic Philosophy

The ability of customers to invest in energy efficiency relies on the existence of a robust, well-trained workforce that can deliver high-quality service. For decades, the Company's programs have helped nurture the energy efficiency workforce in Rhode Island. Even still, the state of the current program delivery workforce (e.g., trade allies, vendors, and project expeditors) is sometimes strained in its ability to deliver services in a manner that meets program goals and satisfies customer expectations. The Company knows, for example, that the undersupply of qualified energy auditors, which is seen throughout construction-based fields, results in long wait times for customers, eroding program participation and customer satisfaction.

Boosting capacity alleviates the bottleneck of available labor and affords the Company the opportunity to address equity issues by expanding the number of minority-owned and women-owned business enterprises that work as primary contractors and subcontractors in program delivery. While development of Rhode Island's workforce is a multi-faceted, statewide effort that extends beyond the borders of the Company, RI Energy plays an important role as a key leader in this effort. The Company recognizes, also, that increased workforce capacity will be critical in meeting the goals set out in the *Act on Climate*. Therefore, the Company's strategy is to continue taking an active role to help its partners develop the skills and capacity necessary to maximize the impact of program dollars.

Cross-Cutting Tactics

The Company's specific role in developing Rhode Island's workforce includes:

- Define how large a workforce is needed to successfully deliver programs in the short and long term.
- Identify gaps in the current workforce (e.g., minority-owned business enterprise contractors who serve customers in their preferred language).
- Support programs financially and with subject matter expertise that are an effective pipeline for the energy efficiency workforce (e.g., the Residential Construction Workforce Partnership).

The Company plans to enhance its workforce development efforts based on the recommendations from the Rhode Island Workforce Needs Assessment Study (Workforce Study).¹³ The Workforce Study had four objectives:

1. Quantify the current energy efficiency workforce in Rhode Island.
2. Uncover the needs of and opportunities for energy efficiency businesses and workers as well as potential energy efficiency workers.
3. Highlight workforce development gaps and potential solutions in the state.
4. Identify potential roles for RI Energy in supporting energy efficiency workforce development in the state.

The Workforce Study resulted in the following key findings:

- The Rhode Island energy efficiency workforce is diversified by technology but not by demography, and employment levels are recovering from COVID-19 impacts but stabilizing at 2016 levels.
- Energy efficiency businesses in Rhode Island have been hiring and expect to hire more workers with different skills sets to grow their businesses.
- Employers expect hiring to be difficult, at least in the near term, as it is taking place in a tight labor market with high competition for these workers.
- At present, there is not significant interest among future workers in filling energy efficiency job openings.
- Rhode Island may struggle to meet its energy efficiency workforce needs due to a lack of focus from key stakeholders and a need for greater coordination across the state's energy efficiency workforce ecosystem.
- The state has positive attributes that will be helpful in creating well-functioning energy efficiency workforce development programs.

Based on the findings of the Workforce Study, the following recommendations for advocates and practitioners operating at the intersection of energy efficiency and workforce issues were made:

¹³ [bw] Research, [Rhode Island Workforce Needs Assessment Study](#), 2023.

1. Prioritize increasing the pipeline of future energy efficiency workers through education, communications, and information sharing.
2. Pursue a comprehensive approach that balances education, training, and certifications, while getting new workers the foundational, in-the-field experience they lack.
3. Actively support efforts to secure initial energy efficiency employment, working with employers and educators.
4. Strengthen educational institutions' emphasis on energy efficiency.
5. Embark on equity-related actions to further increase the pipeline of workers and bring higher-quality job opportunities to underserved communities through expanded alternative pathways, language and wraparound support, and community partnerships.
6. Encourage leadership and collaboration across the Rhode Island energy efficiency workforce development ecosystem.
7. Leverage and scale programs and success stories that already exist in the state.

RI Energy will need to address the following near-term actions identified in the Workforce Study to meet energy efficiency workforce needs:

1. **Encourage workforce ecosystem coordination and leadership** by advocating for increased emphasis on energy efficiency and workforce development within relevant state-wide entities and supporting emerging leadership efforts in the state around energy efficiency workforce development.¹⁴
2. **Support marketing efforts and pipeline building** by further leveraging RI Energy's marketing and communications capacity with credible information resources and campaigns and by partnering with groups, especially those serving underserved communities, to raise awareness about the value and opportunities of energy efficiency jobs.

¹⁴ See Attachment 5: 2023 Customer Listening Sessions. Customers suggested collaboration across the workforce development ecosystem.

3. **Champion energy efficiency-related programs at all levels of education** by increasing support for specific programs in high schools and vocational-technical schools, including curriculum development, instructor recruitment, internships, and equipment needs.¹⁵
4. **Partner with contractors** to expand worker recruitment by communicating the benefits of energy efficiency careers, funding career navigators and wraparound supports, and educating contractors about the opportunities in energy efficiency.

The Company is currently working on improving training for vendors and project expeditors, and the Company has the capacity to increase its focus on code compliance. Known areas of focus will be zero net energy projects, building operator certification, codes and standards compliance training, weatherization, HVAC system optimization and controls, and general energy efficiency skills, such as auditing and the Association of Energy Engineers' Certified Energy Manager (CEM) certification. Multilingual trainings are currently available and will be expanded to reach more potential members of the workforce.

The Company is currently engaged in discussions with a third-party consultant to develop weatherization and heat pump training for contractors.¹⁶ This third-party consultant is a leading industry voice in the transformation of the HVAC market and is a proponent of educating the contractor workforce to effectively engage customers. The training curriculum is still under development, so the exact timing and pricing are unknown, but RI Energy will explore where it can integrate these offerings into its existing curriculum at the proper time.

The Rhode Island General Assembly's recent legislation (H6101/S0855 Sub A) requires Rhode Island's adoption of the 2024 International Energy Conservation Code (2024 IECC) within three months of publication (expected to be January of 2024). The law requires adoption with no weakening amendments and a plan for 90 percent compliance within six months for residential and commercial new construction and renovations. Recently, the Company's Codes & Standards program team met with the RI Code Commissioner to begin the process of scheduling mandatory trainings for building

¹⁵ See Attachment 5: 2023 Customer Listening Sessions. Participants recommended workforce strategies to increase program participation including partnering with career offices at the Community College of Rhode Island, and local high schools, colleges, and universities to leverage and access younger adults with internship opportunities.

¹⁶ See Attachment 5: 2023 Customer Listening Sessions. Customers suggested more training and guidance for contractors to promote decarbonization strategies such as weatherization and heat pumps.

officials. The Company and its third-party code support contractor will augment code update trainings for all industry professionals, details of which can be found in the 2024 Annual Plan.

Depending on the timing of code adoption, enhanced training activity will occur in 2024 and 2025 to the extent necessary, and then return to a baseline level in 2026. The change in the residential code will likely result in the industry shifting away from prescriptive pathways to a performance-based pathway for compliance, which involves an energy rating. More Home Energy Rating System (HERS) Raters will be needed to meet this demand and will be a focus of workforce development efforts over the 2024-2026 term. The IRA has allocated funding to assist states in adopting the current energy code (or a zero-energy code) and implementing a compliance plan. OER will administer this funding and the Company will work with the agency to collaborate on this workforce development effort.¹⁷

The Company is also coordinating closely with the Rhode Island Builders' Association (RIBA) to promote code awareness and training to its members and partners, such as the lumber yard industry that is critical to the building supply chain. The National Association of Home Builders, RIBA's national affiliate, is developing code training curriculum, and Rhode Island will be the first state to use this curriculum when it adopts the 2024 IECC.

The Company includes initiatives in workforce development in this Plan including:

- Providing training to the residential efficiency workforce and technical students. Enhancing continuing education for building managers and facilities operators.
- Educating current vocational students about opportunities in the energy efficiency field.
- Increasing the supply of HERS Raters.

These efforts will be coordinated across the Company's C&I and Residential teams, along with the appropriate state and local authorities, to maximize the impact of the incremental initiatives that will be undertaken.

3.2.6 2024-2026 Program Updates

The Company anticipates making the following enhancements and changes to the programs for the 2024-2026 Plan.

¹⁷ See Attachment 5: 2023 Customer Listening Sessions. More collaboration across the workforce development ecosystem was encouraged by customers.

Residential Programs

EnergyWise Single Family (Electric and Gas)

- Coordinate with OER's Clean Heat RI Program.
- Coordinate with OER to leverage additional federal funding opportunities (e.g., ARPA, IRA).¹⁸
- Leverage the high-cost effectiveness of weatherization measures and heat pump installations by offering additional funding to remediate pre-weatherization barriers (up to the point of cost effectiveness for both measures).
- Improve data collection efforts around pre-weatherization barriers, to better understand their impact on energy efficiency progress.
- Collaborate with stakeholders and other groups to assess best practices and new strategies to address pre-weatherization barriers (also applicable to the IES Program).

Multifamily (Electric and Gas)

- Use the Heat Pump Market research study results, including landlord interviews, to target landlords for heat pump upgrades and other applicable energy efficiency measures (also applicable to C&I Multifamily Program).¹⁹
- Work to establish a pilot program around one or more new financing options for multifamily buildings (also applicable to the C&I Multifamily Program).

Income Eligible Services (Electric and Gas)

- Ensure the IES Program is delivered equitably, with the input and guidance of the EE EWG.
- Address the deferrals and pre-weatherization barriers that stand in the way of many low-and-moderate income customers receiving IES program services.

¹⁸ See, Attachment 5: 2023 Customer Listening Sessions. Several participants talked about how the integrated delivery of federal and state programs, "sometimes the combined programs makes it more worthy," and ensures customers are aware of all incentives.

¹⁹ See, Attachment 5: 2023 Customer Listening Sessions. Several participants talked about the need for more landlord education regarding the programs to help tenants get access to the energy efficiency programs.

- Expand on and refine recent initiatives regarding data tracking of deferrals and pre-weatherization barriers across all Residential Home Services programs.
- Collaborate with stakeholders and other groups to assess best practices and new strategies to address pre-weatherization barriers.
- Identify and compile resources for leveraging funding to address pre-weatherization barriers.

Residential New Construction

- Revise the RNC program guidelines to reflect changing baseline assumptions.
- Increase the number of projects achieving advanced and sustainable building standards and certifications such as Zero Net Energy and Passive House.
- Determine needed implementation changes based on an ongoing User Defined Reference Home (UDRH) study.

Home Energy Reports (Electric and Gas)

- Explore tailoring HER program to target specific audiences (e.g., high users).
- Explore increasing messaging to Automated Metering Frequency (AMF) customers.

Residential Consumer Products (Electric)

- In 2024, the Company will move the following products from downstream to the midstream Most Efficient category: clothes dryers, dehumidifiers, and room air conditioners.

Residential High-Efficiency Heating, Cooling, and Hot Water (Electric and Gas)

- Target electric heat resistance customers for heat pump upgrades as outlined in the Company's *Electric Resistance Heating to Air Source Heat Pumps: Implementation Plan for the Income Eligible Sector* (also applicable to Income Eligible Services program).
- Coordinate with OER's Clean Heat RI Program.
- Research opportunity to implement right-sizing incentives for fossil fuel equipment and options for optimizing electric versus gas.
- Coordinate with OER to leverage additional federal funding opportunities (e.g., ARRA, IRA).

- Coordinate with OER on HVAC workforce development in 2024.

Commercial and Industrial Offerings

New Construction

- Redesign C&I New Construction program to simplify the pathways for participation. The Company is anticipating those changes will result in additional program activity during the 2024-2026 term.
- Revise the Large Commercial New Construction program guidelines to reflect changing baseline assumptions, moving from IECC 2018 to IECC 2024 as it is adopted.
- Change Upstream New Construction baseline assumptions for commercial food services HVAC equipment based on federal standards.

Retrofit

- The Company will look to deploy a data-driven approach to increasing customer participation in the C&I sector.
- Analyze customer consumption data (kWh, peak load, and therms) and past energy efficiency participation to better target customers, especially non-participants.
- Expand the reach of its SEMP initiative to support the increasing number of customers with climate and sustainability goals.
- Expand services supporting more advanced system controls, energy management systems, and building analytics.
- Enhanced incentives to customers that commit to implementing comprehensive energy efficiency measures.
- Enhance continuing education for building managers and facilities operators.²⁰
- Work with OER to better understand electrification efforts being funded through state and federal programs.
- Promote prescriptive and custom offerings to promote commercial weatherization and greenhouse gas emissions reduction.

²⁰ See Attachment 5: 2023 Customer Listening Sessions. Customers suggested the Company offer Building Operator Certification training.

Small Business Direct Install

- Promote prescriptive and custom offerings to promote commercial weatherization and greenhouse gas emissions reduction including the development of prescriptive weatherization and air sealing offerings.
 - RI Energy is currently working on a custom express tool for Rhode Island similar to that used in Massachusetts. The Company is currently running an assessment to develop this tool which will launch in 2024. While launching this tool, the Company will leverage lessons learned from previous commercial weatherization offerings through RGGI funds to ensure a successful launch and implementation. These lessons include understanding the importance of staying ahead of market shifts by being proactive with relevant trainings and education material for those completing weatherization related projects.
- Complete three Main Streets initiatives in Environmental Justice Focus Areas.
- Deploy multilingual marketing materials and program materials.
 - Spanish and Portuguese are the two most widely spoken languages, aside from English in Rhode Island. Marketing and program materials will be translated into these languages.²¹
- Work with OER to better understand electrification efforts being funded through state and federal programs.

3.3 Multi-year Strategies

The PUC has directed the Company to identify investment strategies for which implementation and budget requests (or revenue collection) are expected to span multiple years. There is no such multi-year commitment envisioned for the 2024-2026 term. Several of the initiatives outlined in the Plan will continue throughout the three years of the plan, including efforts to address pre-weatherization barriers, integration and coordination with OER regarding IRA programs, and many others, but per the Standards, multiyear strategies are specifically tied to budget requests that span several years. No current requests span more than the parameters of an annual program plan.

²¹ See Attachment 5: 2023 Customer Listening Sessions. Participants suggested translating marketing and program materials would increase participation as well as bilingual education and outreach at events to reach more diverse communities.

3.4 Coordination with Other Programs and Policies

Continuing to provide the best value to Rhode Island customers necessitates that the Company coordinate with other parts of the energy system. For the 2024-2026 Plan, RI Energy will continue to implement the energy efficiency portfolio of programs in coordination with other Company filings and activities, as described below. Efforts have also been taken to ensure the Plan is aligned with relevant state policies and objectives and specific coordination opportunities are identified below.

3.4.1 System Reliability Procurement

Based on the latest changes to the Standards, demand response programs will fall under SRP starting in 2024. RI Energy will continue to coordinate across energy efficiency programs and SRP. For the 2024-2026 term, this coordination includes, but is not limited to, supporting market engagement efforts for non-wires and non-pipes solutions, conducting locational outreach for energy efficiency measures that may preemptively alleviate grid needs to some extent, and supporting internal evaluation of energy efficiency as a non-wires or non-pipes solution. The Company will coordinate internally through overlapping staffing assignments and anticipates support for coordination through external stakeholder engagement.

3.4.2 Advanced Metering Functionality and Grid Modernization

The deployment of AMF in the Company's service territory will enable the near real-time collection of granular customer energy usage data. The availability of this data in turn enables enhancements to energy efficiency program design and implementation. AMF data can be used to target programs, identifying customers who are likely to benefit the most from program participation (and the converse, customers who are least likely to benefit). The analysis of AMF data can provide the Company with real-time views of program performance, enabling enhanced program management (adjusting program approaches during the year based on observed performance), faster and more immediately actionable EM&V. The availability of real-time program performance data also creates the potential for expanded pay-for-performance programs.

Currently, the Company's plan for AMF meter deployment begins in Q4 2024, with continual deployment expected to go through Q1 of 2026. Therefore, in the 2024 Annual Plan, the Company will not plan for activities that rely on AMF, but rather plan activities which lay the groundwork for implementing the program enhancements listed above in future years. As AMF is gradually deployed throughout 2025 and 2026, in the development of the 2025 and 2026 Annual Plans, the Company plans to explore ways to pilot AMF-enabled offerings with customers who have received AMF meters. Based on learnings from these pilots, the Company will identify potential full-scale programs to launch in the

2027-2029 planning cycle. These plans are contingent on the progression of the Company's AMF deployment and so are subject to change.

3.4.3 Act on Climate

The *Act on Climate* sets mandatory, enforceable, statewide, economy-wide greenhouse gas emissions reduction targets of 10 percent below 1990 levels by 2020, 45 percent below 1990 levels by 2030, 80 percent below 1990 levels by 2040, and net-zero emissions by 2050. The Company is actively participating in the ramp up to the *2025 Climate Strategy*, having submitted comments to the State's Request for Information to Support the Development of a Scope of Work for the Climate Action Strategy. The energy savings achieved by RI Energy's efficiency programs directly advance priority actions identified by the EC4 in their *2022 Climate Update* to the *2016 Greenhouse Gas Emissions Reduction Plan*.

The *2022 Climate Update* included several priority actions that inform the initiatives outlined in the Plan, specifically:

- **Priority Action for the Electric Sector: Continue Energy Efficiency Work**
 - This Plan addresses key items highlighted in this action item and will lower energy bills, reduce greenhouse gas emissions, and support local and state economies.
- **Priority Action for the Thermal Sector: Continue Energy Efficiency Programs and Weatherization**
 - Weatherization programs remain a focus of both Residential and IES programs. The Company collaborates with weatherization contractors and Community Action Agencies to continually refine the delivery mechanisms for weatherization services to both expand their reach and reduce barriers to participation.
- **Priority Action for the Thermal Sector: Target 15% Penetration of Energy Efficient Electric Heating by 2030**
 - This Plan continues the Company efforts to support the adoption of electric heating, with a particular emphasis on electric resistance heating customers.
- **Priority Action for the Thermal Sector: Efficient Heat Pump Incentives**
 - Several programs outlined in this Plan offer incentives for efficient heat pumps, both for space and water heating.
 - The Company has collaborated with OER on their Clean Heat RI Program and will continue the collaboration to align program incentives for heat pump technologies with IRA incentives.

3.4.4 Future of Gas Docket

The Company does not anticipate that the PUC's Docket 22-01-NG Investigation into the Future of the Regulated Gas Distribution Business in Rhode Island as it pertains to the *Act on Climate* will impact the 2024 Annual Plan. It is uncertain whether the docket and/or subsequent rulings could impact the latter years of this 2024-2026 Plan. It is, however, worth highlighting that the Company is making adjustments to gas incentives, including substantial decreases, driven by an evaluation of which efficiency measures deliver net benefits. Answers to the larger policy questions being addressed in the Future of Gas docket, and which are beyond the scope of the Company's net benefits analysis, should be aligned with the findings and recommendations made by the PUC at the conclusion of the proceeding. In fact, the range of decarbonization scenarios being contemplated in the Future of Gas docket may include the continued need for efficient gas furnaces. As such, it is prudent to defer the decision to phase out gas energy efficiency incentives in their entirety until the Company has clear visibility into the PUC's preferred decarbonization pathways and how those might impact customer gas demand and use of the natural gas system.

3.4.5 Office of Energy Resources

The OER has been allocated \$25 million in ARPA funding to develop and implement their Clean Heat RI Program. The Company and OER have communicated throughout the development of this program to coordinate, to the extent possible, the Company's efficiency program offerings with those of the Clean Heat RI Program. The goal is to simplify the process for customers interested in this technology. During the initial stages of this program, OER will focus their incentives on heat pump replacement projects that are not eligible for Company incentives, specifically those customers currently using natural gas heating. The parties will continue to collaborate on technical specifications for equipment, cross-marketing programs and coordinating application processes.

3.4.6 Federal Funding

RI Energy will continue to collaborate with OER as they develop programs to spend federal funding provided through IRA. Most of that funding, nearly \$64 million, will go towards rebates for residential energy efficiency and electrification measures. The Company will prioritize clarity for customers and participants as to the best pathways for them to access the appropriate incentives and rebates for their projects.²² OER has committed to help cross promote programs. For

²² See Attachment 5: 2023 Customer Listening Sessions. Suggestions for the Company to coordinate its energy efficiency programs more with state and federal programs.

example, if a customer is ineligible for any state or federal programs but may be eligible for a Company program, OER will help steer them to the applicable RI Energy program (and vice versa).

The Company will prepare a preliminary plan document by the end of Q2 2024 that outlines an approach and timeline for coordination with OER regarding IRA incentives. This plan will include a customer outreach strategy, identify resources for contractor education, propose customer pathways for accessing IRA funds (both in addition and in lieu of Company incentives), initial projections for IRA incentive uptake, financial implications for Company incentives for measures eligible for both IRA and program incentives, preliminary financing options, income verification pathways, and a methodology for savings attribution.

The Company will use resources from industry groups and through direct contact to keep abreast of what other states and utilities are planning for IRA implementation, in order to discern best practices and lessons learned. The Company will also participate in NEEP's IRA attribution working group to focus on that issue and determine the best path forward.

Regarding Demand Side Management (DSM) proposals, at this time the Company is not planning on submitting a DSM proposal for 2024. RI Energy intends to maximize the contributions from IRA funds in conjunction with its Energy Efficiency Programs first and will revisit the additional value of a DSM proposal as the Company learns about the effectiveness of IRA implementation.

The Company has a history of collaboration with OER and has administered a Heat Pump Program for delivered fuel customers, funded by RGGI dollars allocated to the Company by OER, for several years. The Company and OER regularly communicate with regards to IRA plans and will schedule a regular cadence of touchpoints as more details are unveiled. There remain several unknowns about the ultimate design of the IRA incentive programs, but as OER moves toward launch, answers to the questions outlined above will help ensure Company programs and IRA funds complement each other in providing energy savings for customers.

One IRA-related action that RI Energy and OER have already begun collaborating on is working with Rewiring America to develop a customized online calculator, which will provide Rhode Island residents with an estimate of IRA and utility program incentives they may be eligible for when considering projects. Rhode Island will be the first state to publish such a tool with Rewiring America. The team will devise a mechanism to update the tool as changes to program incentives occur to assure that users get accurate, current information.

In addition to IRA funding, the Bipartisan Infrastructure Law has allocated \$550 million to expand DOE's existing Industrial Assessment Center (IAC) program.²³ The Company has been in discussions with both Community College of RI and Worcester Polytechnic Institute with regards to their applications to DOE to establish IACs at their institutions.²⁴ These programs will provide training for students through new classroom curricula and hands-on field experience providing energy assessments to small and medium sized manufacturers in Rhode Island. RI Energy has committed to working with both schools, should their applications be accepted, by connecting them with enterprises that would be good candidates for energy assessments and providing funding to support energy assessment activity. These IACs would adhere to Justice40 guidelines, and each school has a diverse student body that would benefit from expanded opportunities in the field of building science. If awarded, these IACs would conduct energy assessments and provide additional workforce capacity, especially for evaluating the energy performance of smaller enterprises.

3.5 Evaluation Plans

As program offerings continue to evolve, RI Energy intends to deploy EM&V studies to support that evolution while, at the same time, using the studies to verify reliable program savings. Among the themes that the Company expects to address over the course of the 2024-2026 term in evaluation are:

- Future of incentives for efficient lighting and claimable savings from lighting.
- Support for the adoption of heat pumps.
- Options for gas energy efficiency program evaluation under the *Act on Climate*.
- How effective is the coordination and interaction between federally funded energy efficiency and RI Energy's programs; if programs are well coordinated, there will be minimal overlap of effort and free ridership impact. The Company will also ensure that its EM&V activities conform to relevant requirements of federal programs.
- Leverage AMF in EM&V activities where feasible and practical, noting that a sufficient number of meters will need to be in place before AMF can be used for evaluation.
- Aspects related to the adoption of the 2024 IECC.

²³ Department of Energy, "[Industrial Assessment Centers](#)" webpage.

²⁴ See Attachment 5: 2023 Customer Listening Sessions. Participants recommended workforce strategies to increase program participation including partnering with career offices at the Community College of Rhode Island, and local high schools, colleges, and universities to leverage and access younger adults with internship opportunities.

In January 2023, the Rhode Island House of Representatives passed legislation, [H6101/S0855 Sub A](#), requiring the state to adopt the 2024 International Energy Conservation Code (2024 IECC) within three months of its publication. The law requires adoption of the 2024 IECC with no weakening amendments as well as the creation of a plan for 90 percent compliance within six months for residential and commercial new construction and renovation projects. During the 2024-2026 cycle the Company will monitor code impacts and consider the best time to update EM&V related to code compliance support. The Company commits, during the 2024-2026 cycle, to assessing when best to undertake this impact evaluation based on the market impacts, with the additional commitment that the impact evaluation will take place during the 2027-2029 cycle if it has not already begun prior to that period.

Plans for specific EM&V studies will be included in each Annual Plan.

Section Four: Savings Goals, Budgets, and Funding Plan

This section provides the numerical energy and demand savings goals for the 2024-2026 term. Goals are presented in units of lifetime savings (MWh for electric and MMBtu for gas), annual savings, and all-fuels MMBtu savings. Carbon reductions are calculated and reported as a secondary goal consistent with the Standards and the *Act on Climate*. This section describes the Company's development of its savings goals.

4.1 Three-Year Goals

The Company developed its projected savings goals for the 2024-2026 term by considering recent program achievements, market dynamics shaping energy efficiency adoption, recent evaluation results, and proposed program design changes. RI Energy also factored input from stakeholders and the public, as described above. Finally, the MPS Refresh offered insights into potential areas of savings growth. Using this information, the Company developed measure and program level estimates of savings and aggregated these up to sector and portfolio levels.

The Company similarly calculated spending required for customer incentives to achieve the savings goals and developed budgets for program administration, marketing, and evaluation, building on recent program experience. In developing budgets and the savings that could be achieved within those budgets, RI Energy also gave considerable weight to recent PUC guidance about limiting year-over-year growth in program budgets. While most focus in detailed planning is given to the 2024 program year, the Company adjusted savings estimates for the 2025 and 2026 program years to reflect program changes over the term. The Company will work with The EERMC to identify opportunities to modify goals for the 2025 and 2026 annual plans to potentially better align with council targets for those program

years. Table 1 below summarizes the Three-Year Electric Portfolio Savings and 2 summarizes the gas portfolio savings for the 2024-2026 term.

Table 1. 2024 – 2026 Electric Portfolio Savings Summary

Electric Programs	2024	2025	2026
Savings and Benefits			
Annual Electric Savings (MWh)	94,198	94,839	94,877
Lifetime Electric Savings (MWh)	729,294	761,976	788,783
Net Annual Summer Demand Savings (kW)	15,190	15,436	15,381
Net Annual Winter Demand Savings (kW)	12,988	13,111	13,015
Total Benefits (RI Test)	\$193,286,885	\$203,454,405	\$210,871,214
Annual Carbon Reduction (Short Tons)	39,420	40,422	40,854
Lifetime Carbon Reduction (Short Tons)	344,856	365,258	381,298
Costs			
Total Funding Required	\$96,308,493	\$99,514,133	\$103,073,728
Cost per Lifetime kWh	\$0.150	\$0.147	\$0.147
EE Program Charge per kWh	\$0.01052	\$0.01235	\$0.01334
Benefit Cost Ratio (RI Test)	1.70	1.75	1.76

Table 2. 2024-2026 Natural Gas Portfolio Savings Summary

Natural Gas Programs	2024	2025	2026
Savings and Benefits			
Annual Natural Gas Savings (MMBtu)	312,846	325,816	338,595
Lifetime Natural Gas Savings (MMBtu)	3,302,603	3,448,012	3,584,964
Total Benefits (RI Test)	\$80,289,135	\$82,309,393	\$84,089,164
Annual Carbon Reduction (Short Tons)	18,392	19,152	19,903
Lifetime Carbon Reduction (Short Tons)	194,974	203,487	211,597
Costs			
Total Funding Required	\$34,159,984	\$34,846,414	\$34,950,833
Cost per Lifetime MMBtu	\$0.012	\$0.012	\$0.011
Residential Energy Efficiency Program Charge per Dth	\$1.094	\$0.920	\$0.908
C&I Energy Efficiency Program Charge per Dth	\$0.782	\$0.931	\$0.939
Benefit Cost Ratio (RI Test)	1.96	1.96	1.99

Below please find an explanation of some of the considerations used in preparing the savings, budgets, and benefits in Table 1 and Table 2.

Residential and Income Eligible Services

EnergyWise Single Family

Starting in 2024, the program will no longer offer LED lighting resulting in the decrease in MWh savings seen in 2024. Over the 2024-2026 term, the program anticipates growth of heat pump adoption through a concierge service administered by a third party to assist customers with heat pumps. In addition, the Company expects growth through emphasis on weatherization of electrically heated homes to help mitigate some of the losses associated with the sunseting of the program's lighting offering. Gas savings are estimated to grow modestly as some of the inflationary economic pressures that have suppressed participation across the programs begin to ease and strategies to overcome pre-weatherization barriers are implemented, expanding the pool of potential participants.

EnergyWise Multifamily

Starting in 2024, the EnergyWise Multifamily Market Rate and IES Programs will no longer offer lighting measures except for common areas. The Company anticipates that the decline in electric savings due to the elimination of certain lighting will be balanced by the increased uptake of heat pump replacements resulting from a more focused and strategic approach to targeting multifamily property owners for heat pump upgrades. Gas savings are estimated to grow modestly as some of the inflationary economic pressures that have prevented multifamily property owners from undertaking capital improvements begin to ease. The Company is also optimistic about the potential for new financing options for the multifamily sector.

Income Eligible Services

The Single-Family IES Program will no longer offer lighting measures in 2024. The decline in anticipated electric savings is tempered by the addition of more electric resistance to electric heat pump replacements. Gas savings are forecasted to decline as customers transition gas heated residences to electrically heated homes and there are fewer heating system replacements and potentially lower weatherization opportunities.

Residential New Construction

The Residential New Construction Program is currently projecting an increase in electric savings and a decrease in gas savings as the Company anticipates the continuing trend of phasing out gas incentives. The higher electric savings in 2024 relative to 2025 and 2026 are based on the Company's projections from its existing pipeline of work. One thing to note is that current 2024-2026 numbers may be revised as the Company continues to evaluate the impact of updated UDRH baselines on the program.

Home Energy Reports

The Home Energy Reports Program has been offered in Rhode Island for 10 years. As the program continues, the degree of savings declines as customers move or opt out of the offering. There is a natural decline in year-over-year savings until enough new customers are available to create a new cohort of customers.

Residential Consumer Products

The primary reason for the decrease in 2024 is based on the Company’s evaluation of the program in 2023, as well as decreased consumer spending due to the current economic environment. The Company anticipates a slight rebound in the 2025 and 2026 program years.

Residential High-Efficiency Heating, Cooling, and Hot Water

The Company anticipates a large increase in 2024 due to ambitious heat pump targets. Additionally, RI Energy is raising its goal in general as the HVAC program has been outperforming its goals in recent years. The Company also anticipates additional savings from OER’s Clean Heat RI Program. On the gas side, the Company anticipates decreased savings as it shifts away from gas appliances towards electric units.

Commercial and Industrial (Electric)

Code Impacts

Listed below are the anticipated per unit percent savings reductions that are likely to occur after the adoption of a new code standard. For the purposes of this forecast, the Company is assuming these changes will be implemented as of January 1, 2024.

Electric Measures	Per Unit % Savings Reduction
2023 Fryer	32%
2023 Convection Oven	46%
2023 Combination Oven	73%
2023 Steamer	89%
2023 1/2 Size HFHC	45%
2023 3/4 Size HFHC	25%
2023 Full Size HFHC	81%

Dishwasher Measures	Per Unit % Savings Reduction
Low Temp Under Counter	35%
Low Temp Stationary Single Tank Door	91%
Low Temp Single Tank Conveyor	67%
Low Temp Multi Tank Conveyor	66%
High Temp Under Counter	37%
High Temp Stationary Single Tank Door	82%
High Temp Single Tank Conveyor	59%
High Temp Multi Tank Conveyor	76%
High Temp Pot, Pan, and Utensil	58%

HVAC	Per Unit % Savings Reduction
Unitary Air Conditioning Units	~40%
Heat Pumps	

Retrofit

The C&I Electric Retrofit Three Year Plan represents a significant increase in savings derived from HVAC and Motor and Drives end-uses. The increased HVAC savings can be attributed to the ramping up of the Building Analytics Program and deployment of the Energy Management System prescriptive tool, coupled with increased incentives. Additionally, the Company expects the Industrial initiative to perform more energy conservation measures related to Motors and Drives as the lighting market continues to saturate.

- The 2024 Retrofit Plan represents a 1,191,227 increase in gross annually kWh above the 2023 Retrofit Planned values.
 - The 2025 Retrofit Plan accounts for a 1,783,336 increase in gross annual kWh above the 2023 Retrofit Planned values.
 - The 2026 C&I Electric Retrofit Plan includes a 3,564,847 annual gross kWh increase above the 2023 Retrofit Planned Values.
- The 2026 Retrofit Plan accounts for an approximately 66 percent gross annual kWh increase in HVAC related savings above the 2023 Planned values.

- The 2024 Planned HVAC savings represent a 15% increase above 2023 Planned values.
- The Company has planned a 44% increase in HVAC related savings from 2024 to 2026.
- The 2026 Retrofit Plan includes a 63 percent gross annual kWh increase in Motors and Drives related savings above 2023 Planned values. This includes a 44 percent increase in planned Motors and Drives savings from 2024 to 2026.

New Construction

The Electric New Construction 2024-2026 Plan assumes a roughly 40 percent decrease in savings for unitary air conditioners and heat pumps due to code. The Company has factored in several claimable savings reductions linked to food service equipment due to advances in code (see table above for impacts). To account for these savings reductions, the Company has planned for significant increases within the New Construction Plan related to HVAC and Custom projects. The Company anticipates these savings levels will be achieved in part through the new streamlined C&I New Construction Program design and through incremental process improvements and outreach strategies.

- The 2024 Electric New Construction Plan accounts for a 1,935,683 gross annually kWh increase above 2023 Retrofit Planned values.
 - The 2025 Electric New Construction Plan accounts for a 2,583,828 gross annual kWh increase above 2023 New Construction Planned values.
 - The 2026 Electric New Construction Plan includes a 3,446,843 annual gross kWh increase above the 2023 Electric New Construction Planned values.
- The 2026 Electric New Construction Plan includes an 18 percent gross annual kWh increase in HVAC related savings above 2024 planned values.
 - The 2025 Electric New Construction Plan includes an 8 percent increase in gross kWh savings from HVAC end-uses above 2024 Planned values.
 - The 2026 Electric New Construction Plan includes an above 9 percent increase in gross kWh savings from HVAC end-uses above the 2025 Planned values.
- Please note that this accounts for an expected 40 percent decrease in claimable savings due to updates to Code standards beginning in 2024.

- The 2024 Electric New Construction Plan includes a 20 percent increase in gross annual kWh savings attributed to Custom projects above 2023 Planned values.
 - The 2026 Electric New Construction Plan accounts for an approximately 49 percent increase in gross annual kWh savings from Custom projects above the 2023 Planned values.

Commercial & Industrial (Gas)

Code Impacts

The Company has listed the anticipated per unit percent savings reductions below that are likely to occur after the adoption of a new code standard. For the purposes of this forecast, RI Energy is assuming these changes will be implemented as of January 1, 2024.

Gas Measures	Per Unit % Savings Reduction
2023 Fryer	80%
2023 Convection Oven	46%
2023 Combination Oven	92%
2023 Steamer	91%

Retrofit

The plan for the C&I Gas Retrofit Program includes an 11 percent increase in Planned savings above 2023 Planned values. The increase in Planned savings can be attributed to a ramping-up of savings related to HVAC and Custom projects. More specifically, the Company has planned a 30 percent increase in Custom HVAC Energy Management Systems/Controls in large part due to the increased focus on EMS, particularly those buildings that are too large to participate through the prescriptive EMS Tool pathway. Additionally, the Company has increased a host of Custom HVAC measures, including a 20 percent increase in Planned savings from Custom HVAC retrofit equipment.

- The 2024 C&I Gas Retrofit Plan includes an 11% increase in Planned savings above 2023 Planned values. The 2026 Retrofit plan includes a 34 percent increase in Planned savings above the 2023 Planned values.
- The 2024 Annual Plan accounts for an approximately 12 percent increase in HVAC related savings above the 2023 planned values. The 2026 Annual Plan will contain a 35 percent increase in HVAC related savings above 2023 planned values.

- The 2024 Annual Plan accounts for a 20 percent increase in Custom savings above the 2023 planned values. The 2026 Annual Plan represents a 46 percent increase in Custom savings above the 2023 planned values.

New Construction

The C&I Gas New Construction Three-Year Plan accounts for significant reductions in per unit claimable savings from Food Service Equipment due to Code Standards (see table above). To account for the decrease in Food Service claimable savings, the Company will look to ramp-up savings associated with HVAC and Custom projects. The 2026 Plan includes a 35 percent increase in HVAC related savings above 2024 Planned values. Likewise, the 2026 Plan accounts for a 21 percent increase in savings from Custom projects above 2024 Planned values. The Company anticipates these values will be achieved because of the newly streamlined New Construction Program and as a result of process improvements and increased outreach.

- The 2026 C&I Gas New Construction Plan represents a 21 percent increase above 2024 Planned values.
- The 2026 Annual Plan accounts for a 54 percent increase in HVAC related savings above 2023 Planned values. HVAC related savings increase by 35 percent from 2024 Planned values to 2026 Planned values.
- The 2024 Annual Plan represents an 18 percent increase in Custom savings above 2023 Planned values, and a 21 percent increase custom savings from the 2024 Annual Plan to the 2026 Annual Plan.

Please note that the 2024-2026 C&I Gas New Construction Plan takes into account the savings reductions per unit described in the table listed above.

Small Business Direct Install (Electric and Gas)

For the Electric Small Business Direct Install Program, the Company is projecting a steady transition from a lighting dominated base of 2023 (almost 90 percent of savings) to about 50 percent by 2026. The difference is largely made up in custom HVAC, drives/motors, and custom water heaters (heat pump water heaters). For the Gas Small Business Direct Install Program, the Company increased savings for building shells. Over the 2024-2026 term, there will be a continued push to diversify the Company's measure mix and move away from lighting and bring in more HVAC and weatherization opportunities.

4.1.1 Comparison of Goals with Market Potential Study Refresh

An analysis was performed to compare the MPS Refresh²⁵, prepared by Dunsky Energy and Climate Advisors for the EERMC, with the 2023 BCR model. The comparison is shown in

²⁵ For additional information on the Market Refresh, please visit the [EERMC website](#).

Schedule A

Table 3 below.

Table 3. Comparison of Goals with MPS Refresh

	Planned Values		MPS Values	
	Lifetime MMBtu (Gas Programs)	Lifetime MWh (Electric Programs)	Lifetime MMBtu (Gas Programs)	Lifetime MWh (Electric Programs)
Residential				
2024	1,109,736	190,617	3,225,203	524,767
2025	1,116,702	205,409	3,238,316	535,582
2026	1,093,149	215,638	3,248,486	541,630
Income Eligible Residential				
2024	290,839	55,358	291,786	60,900
2025	284,776	60,406	292,957	61,685
2026	279,340	58,562	293,891	62,272
Commercial and Industrial				
2024	1,917,369	483,319	3,541,850	811,977
2025	2,061,933	496,161	3,559,417	804,343
2026	2,228,718	514,583	3,577,207	810,052
Total Savings	10,382,560	2,280,053	21,269,114	4,213,208

To perform the comparison, because measure names in the two sources do not match, assumptions were made to match MPS measures with BCR measures. This matching process could have potentially created some disparities in the comparison. With this caveat in mind, the primary differences between the MPS Refresh and BCR include:

- **Planned quantities.** The difference in quantities between the MPS Refresh and the Company's goals is largely driven by unconstrained budget increases allowed in the MPS Refresh. The significantly higher quantities in the MPS Refresh caused savings to be significantly higher for many measures.
- **Sourcing and values of impact factors.** The BCR sources were mostly Rhode Island specific studies, recent Massachusetts studies, or sourced from recent technical reference manuals (TRMs). These updated sources in several cases reflected decreased savings compared to the sources used in the MPS Refresh which included IL 2019 TRM, Iowa 2018 TRM, MA 2019 TRM, Dunsky Professional Judgement, and ENERGY STAR® sources.
- **Lifetime savings.** Differences in lifetime savings were driven by differences in impact factors and planned quantities, as well as some measure life differences.

- **Measure included in the MPS Refresh.** There were a handful of measures providing savings in the MPS Refresh that the Company does not currently plan for in its programs. Some of these measures failed the RI Test when the Company had previously screened them and some of them are new.

This comparison provides valuable insight into the differences between the EERMC’s filed targets and the goals proposed by the Company over the coming three years and this analysis was shared with the EERMC. Further understanding of these differences could reduce the gap between the savings estimates. It could also provide insight into potential recommendations for updates in subsequent Plans. These updates may include updating impact factors by using assumption references from the MPS Refresh, updating planned quantities through considering different marketing approaches or adjusting incentive levels, adding in new measures called out within the MPS Refresh, or using the analysis to support net savings goals.

4.2 Historic Savings

To put the savings goals in context, Table 4 and Table 5 show a summary of historic electric and natural gas energy efficiency achievements and spending since 2009.

Table 4. Summary of 2009-2021 Electric Energy Efficiency Year End Reports

Year	Annual MWh Savings	Lifetime MWh Savings	Total Benefits (\$000)	Total Spending (\$000)	TRC BC Ratio	RI Test BC Ratio	EE Program Charge/kWh	\$ / lifetime kwh	Participants
2009	81,543	899,331	\$123,045	\$29,536	3.02		\$0.00320	\$0.027	106,525
2010	81,275	929,242	\$128,864	\$29,712	3.73		\$0.00320	\$0.027	153,611
2011	96,009	1,076,778	\$151,542	\$39,308	3.35		\$0.00526	\$0.031	254,747
2012	119,666	1,288,325	\$140,104	\$50,719	2.24		\$0.00589	\$0.036	201,351
2013	159,035	1,612,371	\$192,418	\$72,875	2.24		\$0.00862	\$0.039	470,245
2014	268,468	3,278,088	\$314,673	\$80,321	2.69		\$0.00911	\$0.041	551,882
2015	222,822	2,287,785	\$312,000	\$82,897	2.38		\$0.00942	\$0.036	622,822
2016	214,329	2,034,220	\$234,234	\$74,274	2.16		\$0.01077	\$0.034	758,284
2017	232,023	2,327,916	\$249,986	\$90,012	1.91		\$0.01124	\$0.039	687,141
2018	206,209	1,848,845	\$369,835	\$88,123	1.88	2.99	\$0.00972	\$0.048	688,471
2019	190,159	1,624,417	\$489,299	\$104,620	2.49	3.43	\$0.01121	\$0.064	668,420
2020	157,346	1,299,159	\$533,494	\$88,224		4.76	\$0.01323	\$0.068	637,349
2021	131,365	1,046,790	\$477,423	\$94,564		3.88	\$0.01113	\$0.090	418,432
2022	105,036	712,989	\$188,289	\$80,852		1.99	\$0.00960	\$0.113	297,957

Table 5. Summary of 2009-2021 Natural Gas Energy Efficiency Year End Reports

Year	Annual MMBtu Savings	Lifetime MMBtu Savings	Total Benefits (\$000)	Total Spending (\$000)	TRC BC Ratio	RI Test BC Ratio	EE Program Charge/Dth	\$ per lifetime MMBtu	Participants
2009	195,200	2,553,828	\$26,071	\$6,552	2.83		\$0.150	\$2.44	8,339
2010	140,097	2,155,112	\$26,309	\$5,496	2.31		\$0.150	\$2.33	5,670
2011	119,613	1,623,922	\$18,196	\$4,868	2.21		\$0.150	\$2.73	3,080
2012	229,811	3,300,583	\$36,237	\$13,310	1.68		\$0.384	\$3.72	11,681
2013	311,585	4,377,672	\$44,747	\$19,501	1.78		\$0.414	\$4.21	135,646
2014	409,029	5,958,381	\$50,417	\$20,034	2.41		\$0.600 (Res) \$0.492 (C&I)	\$3.84	143,655
2015	419,778	5,249,170	\$54,762	\$20,129	2.60		\$0.781 (Res) \$0.637 (C&I)	\$3.47	146,098
2016	417,820	5,282,221	\$51,103	\$23,135	1.93		\$0.748 (Res) \$0.487 (C&I)	\$4.78	150,160
2017	468,211	4,615,034	\$70,972	\$27,513	1.86		\$0.888 (Res) \$0.726 (C&I)	\$5.96	112,202
2018	497,119	5,513,499	\$113,117	\$27,231	2.62	3.11	\$0.869 (Res) \$0.671 (C&I)	\$4.94	101,423
2019	451,466	4,527,147	\$115,736	\$30,142	2.17	2.66	\$0.715 (Res) \$0.420 (C&I)	\$6.66	151,655
2020	318,845	2,960,120	\$96,717	\$24,598		3.08	\$1.011 (Res) \$0.777 (C&I)	\$8.31	164,410
2021	316,424	3,454,006	\$120,325	\$35,680		2.79	\$0.871(Res) \$0.596 (C&I)	\$10.33	165,233
2022	383,562	3,642,284	\$110,274	\$31,393		2.77	\$1.136 (Res) \$0.620 (C&I)	\$8.62	152,624

4.3 Funding Plan and Budgets

Over the 2024-2026 term, the following funding sources may be used each year and the amounts from each source will be detailed in Annual Plans. The Electric and Natural Gas Energy Efficiency Programs are funded by the following sources:

1. A charge on the customer's bill currently labeled "Energy Efficiency Programs" comprised of the existing energy efficiency program charge of \$0.0096 per kWh, and \$1.136 per Dth for Residential and Income Eligible Customers and \$0.620 per Dth for Commercial and Industrial customer, plus an annual fully reconciling funding mechanism charge in accordance with RI Gen. Laws § 39-1-27.7.
2. Revenue resulting from the participation of the Company's energy efficiency resources in ISO-New England's Forward Capacity Market (FCM); these are applied toward the electric plans only.
3. Funds from any state, federal, or international climate or cap and trade legislation or regulation including, but not limited to, revenue or allowances allocated to expand RI Energy's energy efficiency programs. (Waiting for word on finalizing RGGI funding).
4. Other sources may be identified by the Company with input from other stakeholders such as the EERMC.

The uncertainties associated with these funding sources include company sales, customer co-payments, commitments made for future years, the settlement price for future FCM auctions, identification of additional outside sources of funding, and the Company's success in minimizing costs to maximize customer benefit. Due to these uncertainties, the Company estimates the amount of funding it expects to need in each year of the 2024-2026 Plan and asks for provisional approval of these amounts to guide the development of future Annual Plans.

The Company intends to continue to work with various market actors (e.g., program vendors, distributors, designers, and builders) to obtain the best pricing for services to achieve program savings goals while controlling costs. The Annual Plans, including the attached filing of the 2024 Annual Plan, will reflect progress made in leveraging other sources of funding, if applicable. The Company will also coordinate with OER to leverage, when possible, the incentives made available through IRA.

Section Five: Performance Incentive Plan

5.1 Proposed Performance Incentive

The PUC approved a PIM for the 2021-2023 Plan in Docket 5076 that changed the way that the Company measures and earns a performance incentive.²⁶ The PIM, as approved in Docket 5076, established the measurement of performance as a net benefits framework based on a set of prioritized benefit categories. This prioritizes utility system impacts over resource benefits generated by the programs and omits the societal benefits. The “netting” calculation incents budget controls so that the benefits are achieved in line with the portfolio budgets as proposed in the Plan.

Equation 1. Illustrative Calculation of Net Benefits for Performance Incentive Mechanism

$$\text{Total Benefits} = (100\% \text{ of Utility System Benefits} + 50\% \text{ of Resource Benefits})$$

$$\text{Net Benefits} = (100\% \text{ of Utility System Benefits} + 50\% \text{ of Resource Benefits}) -$$

$$(\text{Pro grammatic Costs} + \text{Regulatory Costs})$$

The PIM measures performance at the sector and fuel level:

- Non-Income Eligible Residential Electric
- Income Eligible Residential Electric
- Commercial and Industrial Electric
- Non-Income Eligible Residential Gas
- Income Eligible Residential Gas
- Commercial and Industrial Gas

The earning opportunity for each portfolio is allocated to the sectors with positive net benefits. The PIM also includes Service Quality Adjustments (SQAs) for those sectors with planned negative net benefits, as calculated above, which

²⁶ Refer to [Appendix A of PUC Report and Order No. 24225](#); written order issued on September 21, 2021 for final guidance on the PIM as approved in PUC Docket 5076.

require the Company to achieve defined levels of performance equal to the sum of prioritized total benefits. If the defined levels of service (total benefits) are not achieved in the identified sectors, the SQAs apply reductions to any realized earnings in the sectors with earnings opportunities. The SQAs also include a cost component that adjusts the realized performance, and consequently any reduction of earnings, based on how the realized expenditures in the non-earning sectors compare to planned budgets. The SQAs therefore provide a similar incentive signal as the “netting” calculation in the core of the PIM and provide the Company with signals that savings and benefits should be pursued and prioritized in each sector, rather than exclusively the sector(s) where the earning opportunity resides.

In addition, the PIM calculations include a set of potential adjustments that are intended to further incent the company to maintain budget controls in the delivery of savings, and therefore prioritized benefits, by adjusting earnings under this mechanism based on cost relative to budget.

The Company is proposing to retain the structure of the PIM adopted by the PUC in Order 24225 in Docket 5076 for the 2024-2026 term. This structure is aligned with the PUC’s PIM principles and was used by the Company in its 2022 and 2023 Annual Plans. While retaining the structure, the Company may propose changes to the inputs in the PIM calculation in the Annual Plans over the three-year term. Furthermore, the Company may revisit the PIM structure in the 2025 or 2026 Annual Plans as program strategy evolves to accommodate regulatory or policy changes.

Section Six: Analysis of Total Rhode Island Energy Efficiency

The LCP Standards adopted in Docket 23-07-EE specify that the Three-Year Plan contain “an analysis of total energy likely to be saved in Rhode Island through energy efficiency over the three years, and the portion of those total energy savings that are likely to be delivered by the distribution company’s energy efficiency programs. For purpose of this analysis, total energy savings should be presented in two different ways: the cumulative annual energy savings to be delivered during the three years, and the cumulative lifetime energy savings to be delivered during the three years. At a minimum, this analysis should include:

- (1) An estimate of the total energy likely to be saved and emissions likely to be avoided in Rhode Island through energy efficiency over the three years, for the following fuel types: electricity, natural gas, and delivered fuels.
- (2) For each of the fuel types, an estimate of the portion of total energy savings and avoided emissions that are likely to be delivered by the distribution company’s energy efficiency programs and the associated budget.

- (3) For each of the fuel types, an estimate of the portion of total energy savings and avoided emissions that are likely to be delivered by state and local programs beyond the distribution company’s EE programs, and the associated budget.
- (4) For each of the fuel types, an analysis of what entities or programs will likely deliver the remaining portion of total energy savings and avoided emissions that will not be delivered by the distribution company’s EE programs or other state and local programs.

Table 6 shows the results of the savings analysis and Table 7 shows the results of the emissions analysis.

Table 6. State of Rhode Island, Energy Savings

		Electricity (MWh)	% Savings	Natural Gas (MMBtu)	% Savings	Delivered (Gallons)	% Savings	Total Energy Saved (MMBtu)	% Savings	Total Associated Budget 3YR (\$)	% Budget
Annual	RIE	277,445	68%	919,057	81%	-	0%	4,630,543	70%	\$ 403,096,400	78%
	Non Programmatic Adoption	96,537	24%	193,562	17%	-	0%	1,484,977	22%	\$ -	0%
	State	26,851	7%	22,463	2%	58,572	100%	392,875	6%	\$ 106,237,791	20%
	Other RI Utilities (Pascoag + Block Island)	7,045	2%	-	0%	-	0%	94,242	1%	\$ 10,330,935	2%
	Total	407,879	100%	1,135,082	100%	58,572	100%	6,602,638	100%	\$ 523,426,126	100%
Lifetime	RIE	2,224,608	67%	9,847,421	74%	-	0%	39,606,801	68%	NA	NA
	Non Programmatic Adoption	880,824	27%	3,118,614	23%	-	0%	14,901,716	26%	NA	NA
	State	159,823	5%	390,640	3%	1,049,737	100%	2,729,592	5%	NA	NA
	Other RI Utilities (Pascoag + Block Island)	56,500	2%	-	0%	-	0%	755,822	1%	NA	NA
	Total	3,321,756	100%	13,356,675	100%	1,049,737	100%	57,993,931	100%	NA	NA

Table 7. State of Rhode Island, Emission Savings

		Electricity (metric tons CO2)	% Savings	Natural Gas (metric tons CO2)	% Savings	Delivered Fuel (metric tons CO2)	% Savings	Total Avoided Emissions (metric tons CO2)	% Savings
Annual	RIE	196,709	68%	48,710	81%	-	0%	245,419	70%
	Non Programmatic Adoption	68,445	24%	10,259	17%	-	0%	78,704	22%
	State	19,038	7%	1,191	2%	594	100%	20,822	6%
	Other RI Utilities (Pascoag + Block Island)	4,995	2%	-	0%	-	0%	4,995	1%
	Total	289,186	100%	60,159	100%	594	100%	349,940	100%
Lifetime	RIE	1,577,247	67%	521,913	74%	-	0%	2,099,160	68%
	Non Programmatic Adoption	624,504	27%	165,287	23%	-	0%	789,791	26%
	State	113,315	5%	20,704	3%	10,650	100%	144,668	5%
	Other RI Utilities (Pascoag + Block Island)	40,059	2%	-	0%	-	0%	40,059	1%
	Total	2,355,125	100%	707,904	100%	10,650	100%	3,073,678	100%

To perform the analysis, the Company made several assumptions:

- Non-Programmatic Adoption estimates used the Company's 2024-2026 Plan free-ridership rates.
- Unless state savings were called out, the Company utilized savings per dollar values from its 2024-2026 benefit-cost model to convert dollar spend from state programs to state savings.
 - Programs that were integrated in this analysis included the Clean Heat RI Program, HOMES, HEEHRA, RIIB, RGGI, and WAP funding.
- Other RI Energy estimates utilized savings data from the ACEEE 2022 Annual Score Card²⁷ and converted the savings to budget spend by calculating the ratio of MWh per dollar spent from the Company's 2024-2026 benefit-cost model and applying that ratio to energy saved from other utilities.

²⁷ American Council for an Energy-Efficient Economy, [ACEEE 2022 Annual Scorecard](#), (Dec. 6, 2022).

Section Seven: Conclusion and Requested Rulings

In accordance with the LCP Standards adopted by the PUC in Docket 23-21-EE, the Company requests that the PUC approve the following:

- Initial three-year energy savings goals and strategies for Energy Efficiency and Conservation Procurement programs and portfolio, provided that such goals may be updated annually.
- Initial three-year budget plan for Energy Efficiency and Conservation Procurement programs and portfolio; provided that specific budgets will be proposed, and approval sought through the annual plans.
- The structure of the performance incentive mechanism proposed herein, with specific goals, earning rates, and provided that the specific earning opportunity is determined in subsequent binding annual plans.

**2024-2026 Energy Efficiency Plan
Rhode Island Energy
Electric Funding Plan**

Part A: Total Funding and Goals		2023	2024	2025	2026	Three Year Total
(1)	Projected kWh Sales	7,326,620,839	7,328,562,532	7,359,729,627	7,379,396,240	22,067,688,399
(2)	Proposed Energy Efficiency Program Charge per kWh (Including Uncollectible Recovery)	\$0.00960	\$0.01052	\$0.01235	\$0.01334	
(3)	Projected Revenues from DSM Charge		\$77,096,478	\$90,892,661	\$98,441,146	\$266,430,285
Other Sources of DSM Funding						
(4a)	Projected Commitments from Previous Year	\$0	\$0	\$0	\$0	\$0
(4b)	Projected Entering Fund Balance and Interest	\$36,891,411	\$8,638,000	\$0	\$0	\$8,638,000
(4c)	Projected Capacity FCM Payments from ISO-NE	\$10,125,657	\$11,486,280	\$9,795,080	\$5,824,856	\$27,106,216
(4d)	Projected RGGI Proceeds	\$0	\$0	\$0	\$0	\$0
(4)	Subtotal Other Sources of DSM Funding	\$47,017,068	\$20,124,280	\$9,795,080	\$5,824,856	\$35,744,216
(5)	Total Projected Funding from DSM		\$97,220,758	\$100,687,741	\$104,266,002	\$302,174,501
(6)	Sector Implementation Budget	\$92,142,756	\$86,401,901	\$89,185,668	\$92,478,643	\$268,066,212
Other Expenses						
(7a)	Estimated Commitments to Future Years	\$0	\$0	\$0	\$0	\$0
(7b)	Target Shareholder Incentive	\$3,359,161	\$4,079,089	\$4,252,629	\$4,382,049	\$12,713,768
(7c)	EERMC	\$594,272	\$702,267	\$702,267	\$702,267	\$2,106,801
(7d)	OER	\$891,407	\$1,387,737	\$1,636,068	\$1,773,269	\$4,797,073
(7e)	Electric Resistance to Heat Pump Conversions	\$1,707,561	\$0	\$0	\$0	\$0
(7f)	Rhode Island Infrastructure Bank	\$3,737,491	\$3,737,500	\$3,737,500	\$3,737,500	\$11,212,500
(7)	Subtotal Additions to Program Expenses	\$10,289,891	\$9,906,593	\$10,328,464	\$10,595,085	\$30,830,142
(8)	Other Budget Requests	\$0	\$0	\$0	\$0	\$0
(9)	Total Funding Required	\$102,432,648	\$96,308,493	\$99,514,133	\$103,073,728	\$298,896,354
Part B: Fully Reconciling Funding						
(10)	Total Projected Funding from DSM with Previous Year's Energy Efficiency Charge		\$90,478,480	\$87,219,436	\$96,960,400	\$274,658,316
(11)	Total Fully Reconciling Funding Required from Additional Source		\$6,742,278	\$13,468,305	\$7,305,602	\$27,516,185
(12)	Proposed Adjustment to Reflect Fully Reconciling Funding Mechanism per kWh		\$0.00092	\$0.00183	\$0.00099	
(13)	Previous Year's Energy Efficiency Program Charge per kWh (Including Uncollectible Recovery)		\$0.00960	\$0.01052	\$0.01235	
(14)	Proposed Energy Efficiency Program Charge per kWh (Including Uncollectible Recovery)	\$0.00960	\$0.01052	\$0.01235	\$0.01334	
Part C: Plan Targets and Costs per Lifetime kWh						
(15)	Net Annual MWh	96,351	94,198	94,839	94,877	283,914
(16)	Net Lifetime MWh	668,715	729,294	761,976	788,783	2,280,053
(17a)	Net Annual Winter kW	15,149	15,190	15,436	15,381	46,007
(17b)	Net Annual Summer kW	57,954	12,988	13,111	13,015	39,114
(18)	Participant Cost	\$19,222,830	\$17,495,754	\$16,991,631	\$16,949,352	\$51,436,737
(19)	Cost per Lifetime kWh	\$0.177	\$0.150	\$0.147	\$0.147	\$0.148
(20)	Utility Spending per Lifetime kWh	\$0.143	\$0.124	\$0.123	\$0.123	\$0.123
Rhode Island Test						
(21)	Total Benefits	\$207,243,766	\$193,286,885	\$203,454,405	\$210,871,214	\$607,612,503
(22)	Net Benefits	\$104,811,118	\$96,978,392	\$103,940,272	\$107,797,485	\$308,716,149
(23)	Benefit Cost Ratio	1.70	1.70	1.75	1.76	1.73

Notes:

(1) 2023 values are included for the purposes of comparison.

Schedule A

2024-2026 Energy Efficiency Plan
Rhode Island Energy
Gas Funding Plan

Part A: Total Funding and Goals		2023	2024	2025	2026	Three Year Total
(1)	Forecasted Dth Volume	38,727,480	38,319,931	38,319,931	38,319,931	114,959,793
(2)	Proposed Portfolio Energy Efficiency Program Charge per Dth (Including Uncollectible Recovery)	\$0.892	\$0.947	\$0.925	\$0.922	
(3)	Projected Revenues from DSM Charge		\$36,300,028	\$35,451,593	\$35,346,644	\$107,098,266
Other Sources of DSM Funding						
(4a)	Projected Commitments from Previous Year	\$0	\$0	\$0	\$0	\$0
(4b)	Projected Entering Fund Balance and Interest	\$2,309,738	-\$1,474,108	\$0	\$0	-\$1,474,108
(4d)	Low Income Weatherization in Base Rates	\$0	\$0	\$0	\$0	\$0
(4)	Subtotal Other Sources of DSM Funding	\$2,309,738	-\$1,474,108	\$0	\$0	-\$1,474,108
(5)	Total Projected Funding from DSM		\$34,825,920	\$35,451,593	\$35,346,644	\$105,624,158
(6)	Implementation Budget	\$33,884,813	\$30,973,142	\$31,559,715	\$31,542,440	\$94,075,297
Other Expenses						
(7a)	Estimated Commitments to Future Years	\$0	\$0	\$0	\$0	\$0
(7b)	Target Shareholder Incentive	\$792,002	\$904,972	\$1,018,921	\$1,138,793	\$3,062,686
(7c)	EERMC	\$396,879	\$376,533	\$376,533	\$376,533	\$1,129,599
(7d)	OER	\$595,319	\$642,837	\$628,745	\$630,568	\$1,902,149
(7e)	Rhode Island Infrastructure Bank	\$1,262,509	\$1,262,500	\$1,262,500	\$1,262,500	\$3,787,500
(7)	Subtotal Additions to Program Expenses	\$3,046,709	\$3,186,842	\$3,286,699	\$3,408,393	\$9,881,934
(8)	Total Funding Required	\$36,931,523	\$34,159,984	\$34,846,414	\$34,950,833	\$103,957,231
Part B: Fully Reconciling Funding						
(9)	Total Projected Funding from DSM with Previous Year's Energy Efficiency Charge		\$32,708,724	\$36,300,028	\$35,451,593	\$104,460,345
(10)	Total Fully Reconciling Funding Required from Additional Source		\$2,117,197	-\$848,435	-\$104,949	\$1,163,813
(11)	Proposed Adjustment to Reflect Fully Reconciling Funding Mechanism per Dth		\$0.055	-\$0.022	-\$0.003	
(12)	Previous Year's Portfolio Energy Efficiency Program Charge per Dth (Including Uncollectible Recovery)		\$0.892	\$0.947	\$0.925	
(13)	Proposed Portfolio Energy Efficiency Program Charge per Dth (Including Uncollectible Recovery)		\$0.947	\$0.925	\$0.922	
(14a)	Proposed Residential Energy Efficiency Program Charge per Dth (Including Uncollectible Recovery)	\$1.136	\$1.094	\$0.920	\$0.908	
(14b)	Proposed C&I Energy Efficiency Program Charge per Dth (Including Uncollectible Recovery)	\$0.620	\$0.782	\$0.931	\$0.939	
Part C: Plan Targets and Costs per Lifetime MMBtu						
(15)	Net Annual Gas Savings (MMBtu)	324,879	312,846	325,816	338,595	977,257
(16)	Net Lifetime Gas Savings (MMBtu)	3,537,835	3,302,603	3,448,012	3,584,964	10,335,579
(17)	Participant Cost	\$7,815,712	\$6,854,409	\$7,243,748	\$7,202,208	\$21,300,365
(18)	Cost per Lifetime MMBtu	\$0.012	\$0.012	\$0.012	\$0.011	\$0.012
(19)	Utility Spending per Lifetime MMBtu	\$0.010	\$0.010	\$0.009	\$0.009	\$0.009
Rhode Island Test						
(20)	Total Benefits	\$92,282,579	\$80,289,135	\$82,309,393	\$84,089,164	\$246,687,692
(21)	Net Benefits	\$55,351,056	\$46,129,151	\$47,462,980	\$49,138,331	\$142,730,461
(22)	Benefit Cost Ratio	2.06	1.96	1.96	1.99	1.97

Notes:

(1) 2023 values are included for the purposes of comparison.

Rhode Island Energy
2024 Rhode Island Cost Effectiveness Test
Summary of Electric Benefits, Expenses, and Evaluation Costs (\$000)

	RI Test Benefit / Cost	Total Benefit	Program Implementation Expenses	Participant Cost	Performance Incentive
Residential					
Residential New Construction	2.83	\$4,831.7	\$1,312.7	\$392.7	
Residential HVAC	1.86	\$17,424.9	\$6,563.6	\$2,780.0	
EnergyWise Single Family	1.31	\$24,962.9	\$16,277.7	\$2,802.9	
EnergyWise Multifamily	2.21	\$3,161.2	\$1,291.9	\$140.5	
Home Energy Reports	2.71	\$5,756.3	\$2,123.3	\$0.0	
Residential Consumer Products	1.80	\$4,016.5	\$1,987.4	\$247.3	
Comprehensive Marketing - Residential			\$326.5		
Community Based Initiatives - Residential			\$139.4		
Subtotal	1.63	\$60,153.4	\$30,022.5	\$6,363.3	\$546.5
Income Eligible Residential					
Income Eligible Single Family	1.47	\$17,977.8	\$12,237.4	\$0.0	
Income Eligible Multifamily	1.23	\$4,641.0	\$3,784.2	\$0.0	
Subtotal	1.41	\$22,618.8	\$16,021.6	\$0.0	\$0.0
Commercial & Industrial					
Large C&I New Construction	3.51	\$35,869.3	\$9,227.2	\$1,000.6	
Large C&I Retrofit	2.03	\$64,622.6	\$22,797.9	\$9,049.0	
Small Business Direct Install	1.08	\$10,022.9	\$8,199.9	\$1,082.8	
C&I Financing			\$0.0		
Community Based Initiatives - C&I			\$57.9		
Commercial Workforce Development			\$74.9		
Subtotal	2.01	\$110,514.7	\$40,357.8	\$11,132.4	\$3,532.6
Portfolio					
EERMC			\$702.3		
OER			\$1,387.7		
Rhode Island Infrastructure Bank			\$3,737.5		
Subtotal			\$5,827.5		
Grand Total	1.70	\$193,286.9	\$92,229.4	\$17,495.8	\$4,079.1

Notes:

(1) RI Test = total benefits from excluding economic benefits / program implementation expenses and customer contribution.

Rhode Island Energy
2024 Rhode Island Intrastate Cost Effectiveness Test
Summary of Electric Benefits, Expenses, and Evaluation Costs (\$000)

	RI Test Benefit / Cost	Total Benefit	Program Implementation Expenses	Participant Cost	Performance Incentive
Residential					
Residential New Construction	2.68	\$4,568.1	\$1,312.7	\$392.7	
Residential HVAC	1.58	\$14,778.7	\$6,563.6	\$2,780.0	
EnergyWise Single Family	1.27	\$24,320.3	\$16,277.7	\$2,802.9	
EnergyWise Multifamily	2.05	\$2,941.7	\$1,291.9	\$140.5	
Home Energy Reports	2.22	\$4,707.2	\$2,123.3	\$0.0	
Residential Consumer Products	1.43	\$3,200.8	\$1,987.4	\$247.3	
Comprehensive Marketing - Residential			\$326.5		
Community Based Initiatives - Residential			\$139.4		
Subtotal	1.48	\$54,516.8	\$30,022.5	\$6,363.3	\$546.5
Income Eligible Residential					
Income Eligible Single Family	1.37	\$16,751.1	\$12,237.4	\$0.0	
Income Eligible Multifamily	1.14	\$4,318.1	\$3,784.2	\$0.0	
Subtotal	1.32	\$21,069.3	\$16,021.6	\$0.0	\$0.0
Commercial & Industrial					
Large C&I New Construction	2.92	\$29,832.7	\$9,227.2	\$1,000.6	
Large C&I Retrofit	1.66	\$53,017.7	\$22,797.9	\$9,049.0	
Small Business Direct Install	0.84	\$7,791.1	\$8,199.9	\$1,082.8	
C&I Financing			\$0.0		
Community Based Initiatives - C&I			\$57.9		
Commercial Workforce Development			\$74.9		
Subtotal	1.65	\$90,641.5	\$40,357.8	\$11,132.4	\$3,532.6
Portfolio					
EERMC			\$702.3		
OER			\$1,387.7		
Rhode Island Infrastructure Bank			\$3,737.5		
Subtotal			\$5,827.5		
Grand Total	1.46	\$166,227.6	\$92,229.4	\$17,495.8	\$4,079.1

Notes:

(1) Rest-of-pool DRIPE and PTF transmission are excluded from the "Total Benefit" column.

Rhode Island Energy
2025 Rhode Island Cost Effectiveness Test
Summary of Electric Benefits, Expenses, and Evaluation Costs (\$000)

	RI Test Benefit / Cost	Total Benefit	Program Implementation Expenses	Participant Cost	Performance Incentive
Residential					
Residential New Construction	2.62	\$5,319.5	\$1,498.8	\$528.2	
Residential HVAC	2.01	\$21,004.9	\$7,082.3	\$3,393.4	
EnergyWise Single Family	1.28	\$25,693.4	\$17,022.6	\$3,044.4	
EnergyWise Multifamily	1.94	\$2,566.6	\$1,195.6	\$128.6	
Home Energy Reports	2.71	\$5,756.3	\$2,122.1	\$0.0	
Residential Consumer Products	1.80	\$4,119.2	\$2,033.5	\$249.7	
Comprehensive Marketing - Residential			\$336.3		
Community Based Initiatives - Residential			\$143.6		
Subtotal	1.63	\$64,459.9	\$31,434.7	\$7,344.4	\$667.9
Income Eligible Residential					
Income Eligible Single Family	1.62	\$21,302.0	\$13,114.2	\$0.0	
Income Eligible Multifamily	1.47	\$3,926.6	\$2,668.0	\$0.0	
Subtotal	1.60	\$25,228.7	\$15,782.2	\$0.0	\$0.0
Commercial & Industrial					
Large C&I New Construction	3.50	\$37,809.4	\$9,745.1	\$1,044.1	
Large C&I Retrofit	2.08	\$65,071.4	\$23,515.2	\$7,708.2	
Small Business Direct Install	1.15	\$10,885.0	\$8,574.2	\$894.9	
C&I Financing			\$0.0		
Community Based Initiatives - C&I			\$59.5		
Commercial Workforce Development			\$74.9		
Subtotal	2.06	\$113,765.9	\$41,968.8	\$9,647.2	\$3,584.7
Portfolio					
EERMC			\$702.3		
OER			\$1,636.1		
Rhode Island Infrastructure Bank			\$3,737.5		
Subtotal			\$6,075.8		
Grand Total	1.75	\$203,454.4	\$95,261.5	\$16,991.6	\$4,252.6

Notes:

(1) RI Test = total benefits from excluding economic benefits / program implementation expenses and customer contribution.

Rhode Island Energy
2025 Rhode Island Intrastate Cost Effectiveness Test
Summary of Electric Benefits, Expenses, and Evaluation Costs (\$000)

	RI Test Benefit / Cost	Total Benefit	Program Implementation Expenses	Participant Cost	Performance Incentive
Residential					
Residential New Construction	2.48	\$5,034.3	\$1,498.8	\$528.2	
Residential HVAC	1.72	\$18,038.2	\$7,082.3	\$3,393.4	
EnergyWise Single Family	1.25	\$25,016.4	\$17,022.6	\$3,044.4	
EnergyWise Multifamily	1.79	\$2,372.8	\$1,195.6	\$128.6	
Home Energy Reports	2.22	\$4,707.2	\$2,122.1	\$0.0	
Residential Consumer Products	1.44	\$3,278.4	\$2,033.5	\$249.7	
Comprehensive Marketing - Residential			\$336.3		
Community Based Initiatives - Residential			\$143.6		
Subtotal	1.48	\$58,447.3	\$31,434.7	\$7,344.4	\$667.9
Income Eligible Residential					
Income Eligible Single Family	1.50	\$19,658.6	\$13,114.2	\$0.0	
Income Eligible Multifamily	1.37	\$3,655.6	\$2,668.0	\$0.0	
Subtotal	1.48	\$23,314.2	\$15,782.2	\$0.0	\$0.0
Commercial & Industrial					
Large C&I New Construction	2.92	\$31,497.9	\$9,745.1	\$1,044.1	
Large C&I Retrofit	1.71	\$53,510.1	\$23,515.2	\$7,708.2	
Small Business Direct Install	0.90	\$8,540.3	\$8,574.2	\$894.9	
C&I Financing			\$0.0		
Community Based Initiatives - C&I			\$59.5		
Commercial Workforce Development			\$74.9		
Subtotal	1.69	\$93,548.3	\$41,968.8	\$9,647.2	\$3,584.7
Portfolio					
EERMC			\$702.3		
OER			\$1,636.1		
Rhode Island Infrastructure Bank			\$3,737.5		
Subtotal			\$6,075.8		
Grand Total	1.50	\$175,309.8	\$95,261.5	\$16,991.6	\$4,252.6

Notes:

(1) Rest-of-pool DRIPE and PTF transmission are excluded from the "Total Benefit" column.

Rhode Island Energy
2026 Rhode Island Cost Effectiveness Test
Summary of Electric Benefits, Expenses, and Evaluation Costs (\$000)

	RI Test Benefit / Cost	Total Benefit	Program Implementation Expenses	Participant Cost	Performance Incentive
Residential					
Residential New Construction	2.42	\$5,871.8	\$1,720.6	\$710.1	
Residential HVAC	1.97	\$22,156.2	\$7,524.1	\$3,725.4	
EnergyWise Single Family	1.26	\$27,027.8	\$18,105.7	\$3,330.6	
EnergyWise Multifamily	1.93	\$2,351.6	\$1,108.9	\$111.8	
Home Energy Reports	2.61	\$5,526.0	\$2,121.0	\$0.0	
Residential Consumer Products	1.81	\$4,243.7	\$2,078.0	\$268.6	
Comprehensive Marketing - Residential			\$346.3		
Community Based Initiatives - Residential			\$147.9		
Subtotal	1.60	\$67,177.1	\$33,152.4	\$8,146.6	\$660.1
Income Eligible Residential					
Income Eligible Single Family	1.61	\$21,763.8	\$13,535.3	\$0.0	
Income Eligible Multifamily	1.60	\$3,389.6	\$2,119.7	\$0.0	
Subtotal	1.61	\$25,153.4	\$15,655.0	\$0.0	\$0.0
Commercial & Industrial					
Large C&I New Construction	3.51	\$39,975.8	\$10,292.7	\$1,099.5	
Large C&I Retrofit	2.14	\$67,065.1	\$24,289.4	\$6,983.2	
Small Business Direct Install	1.19	\$11,499.8	\$8,953.2	\$720.1	
C&I Financing			\$0.0		
Community Based Initiatives - C&I			\$61.1		
Commercial Workforce Development			\$74.9		
Subtotal	2.11	\$118,540.7	\$43,671.2	\$8,802.8	\$3,721.9
Portfolio					
EERMC			\$702.3		
ORER			\$1,773.3		
Rhode Island Infrastructure Bank			\$3,737.5		
Subtotal			\$6,213.0		
Grand Total	1.76	\$210,871.2	\$98,691.7	\$16,949.4	\$4,382.0

Notes:

(1) RI Test = total benefits from excluding economic benefits / program implementation expenses and customer contribution.

Rhode Island Energy
2026 Rhode Island Intrastate Cost Effectiveness Test
Summary of Electric Benefits, Expenses, and Evaluation Costs (\$000)

	RI Test Benefit / Cost	Total Benefit	Program Implementation Expenses	Participant Cost	Performance Incentive
Residential					
Residential New Construction	2.29	\$5,563.9	\$1,720.6	\$710.1	
Residential HVAC	1.69	\$19,013.5	\$7,524.1	\$3,725.4	
EnergyWise Single Family	1.23	\$26,293.6	\$18,105.7	\$3,330.6	
EnergyWise Multifamily	1.78	\$2,177.4	\$1,108.9	\$111.8	
Home Energy Reports	2.13	\$4,518.9	\$2,121.0	\$0.0	
Residential Consumer Products	1.44	\$3,377.5	\$2,078.0	\$268.6	
Comprehensive Marketing - Residential			\$346.3		
Community Based Initiatives - Residential			\$147.9		
Subtotal	1.45	\$60,944.8	\$33,152.4	\$8,146.6	\$660.1
Income Eligible Residential					
Income Eligible Single Family	1.49	\$20,222.2	\$13,535.3	\$0.0	
Income Eligible Multifamily	1.50	\$3,183.8	\$2,119.7	\$0.0	
Subtotal	1.50	\$23,406.1	\$15,655.0	\$0.0	\$0.0
Commercial & Industrial					
Large C&I New Construction	2.93	\$33,352.3	\$10,292.7	\$1,099.5	
Large C&I Retrofit	1.77	\$55,280.3	\$24,289.4	\$6,983.2	
Small Business Direct Install	0.94	\$9,073.1	\$8,953.2	\$720.1	
C&I Financing			\$0.0		
Community Based Initiatives - C&I			\$61.1		
Commercial Workforce Development			\$74.9		
Subtotal	1.74	\$97,705.7	\$43,671.2	\$8,802.8	\$3,721.9
Portfolio					
EERMC			\$702.3		
OER			\$1,773.3		
Rhode Island Infrastructure Bank			\$3,737.5		
Subtotal			\$6,213.0		
Grand Total	1.52	\$182,056.5	\$98,691.7	\$16,949.4	\$4,382.0

Notes:

(1) Rest-of-pool DRIPE and PTF transmission are excluded from the "Total Benefit" column.

Rhode Island Energy
2024 Rhode Island Cost Effectiveness Test
Summary of Gas Benefits, Expenses, and Evaluation Costs (\$000)

	RI Test Benefit / Cost	Total Benefit	Program Implementation Expenses	Participant Cost	Performance Incentive
Residential					
Residential New Construction	1.97	\$1,737.5	\$579.9	\$304.1	
Residential HVAC	1.09	\$3,672.8	\$1,516.2	\$1,861.4	
EnergyWise Single Family	1.06	\$12,924.0	\$11,084.8	\$1,053.0	
EnergyWise Multifamily	3.29	\$4,927.9	\$1,439.8	\$57.6	
Home Energy Reports	4.05	\$1,439.1	\$354.9	\$0.0	
Comprehensive Marketing - Residential			\$79.7		
Community Based Initiatives - Residential			\$46.5		
Subtotal	1.34	\$24,701.2	\$15,101.6	\$3,276.1	\$0.0
Income Eligible Residential					
Income Eligible Single Family	1.61	\$7,255.0	\$4,509.6	\$0.0	
Income Eligible Multifamily	3.14	\$9,649.1	\$3,076.6	\$0.0	
Subtotal	2.23	\$16,904.1	\$7,586.2	\$0.0	\$0.0
Commercial & Industrial					
Large C&I New Construction	5.38	\$12,997.6	\$2,135.6	\$281.3	
Large C&I Retrofit	2.45	\$17,763.2	\$4,476.7	\$2,764.0	
Small Business Direct Install	2.17	\$2,026.1	\$757.4	\$178.1	
C&I Multifamily	4.78	\$5,896.9	\$879.9	\$354.8	
C&I Financing			\$0.0		
Community Based Initiatives - C&I			\$3.7		
Commercial Workforce Development			\$32.1		
Subtotal	3.03	\$38,683.8	\$8,285.3	\$3,578.3	\$905.0
Portfolio					
EERMC			\$376.5		
OER			\$642.8		
Rhode Island Infrastructure Bank			\$1,262.5		
Subtotal			\$2,281.9		
Grand Total	1.96	\$80,289.1	\$33,255.0	\$6,854.4	\$905.0

Notes:

(1) RI Test = total benefits from excluding economic benefits / program implementation expenses and customer contribution.

Rhode Island Energy
2024 Rhode Island Intrastate Cost Effectiveness Test
Summary of Gas Benefits, Expenses, and Evaluation Costs (\$000)

	RI Test Benefit / Cost	Total Benefit	Program Implementation Expenses	Participant Cost	Performance Incentive
Residential					
Residential New Construction	1.97	\$1,737.5	\$579.9	\$304.1	
Residential HVAC	1.09	\$3,677.5	\$1,516.2	\$1,861.4	
EnergyWise Single Family	1.05	\$12,790.9	\$11,084.8	\$1,053.0	
EnergyWise Multifamily	3.28	\$4,918.3	\$1,439.8	\$57.6	
Home Energy Reports	4.05	\$1,439.1	\$354.9	\$0.0	
Comprehensive Marketing - Residential			\$79.7		
Community Based Initiatives - Residential			\$46.5		
Subtotal	1.34	\$24,563.3	\$15,101.6	\$3,276.1	\$0.0
Income Eligible Residential					
Income Eligible Single Family	1.60	\$7,227.1	\$4,509.6	\$0.0	
Income Eligible Multifamily	3.13	\$9,631.7	\$3,076.6	\$0.0	
Subtotal	2.22	\$16,858.8	\$7,586.2	\$0.0	\$0.0
Commercial & Industrial					
Large C&I New Construction	5.34	\$12,895.9	\$2,135.6	\$281.3	
Large C&I Retrofit	2.45	\$17,763.2	\$4,476.7	\$2,764.0	
Small Business Direct Install	2.17	\$2,026.1	\$757.4	\$178.1	
C&I Multifamily	4.77	\$5,889.4	\$879.9	\$354.8	
C&I Financing			\$0.0		
Community Based Initiatives - C&I			\$3.7		
Commercial Workforce Development			\$32.1		
Subtotal	3.02	\$38,574.6	\$8,285.3	\$3,578.3	\$905.0
Portfolio					
EERMC			\$376.5		
OER			\$642.8		
Rhode Island Infrastructure Bank			\$1,262.5		
Subtotal			\$2,281.9		
Grand Total	1.95	\$79,996.8	\$33,255.0	\$6,854.4	\$905.0

Notes:

(1) Rest-of-pool DRIPE and PTF transmission are excluded from the "Total Benefit" column.

Rhode Island Energy
2025 Rhode Island Cost Effectiveness Test
Summary of Gas Benefits, Expenses, and Evaluation Costs (\$000)

	RI Test Benefit / Cost	Total Benefit	Program Implementation Expenses	Participant Cost	Performance Incentive
Residential					
Residential New Construction	1.68	\$1,690.5	\$617.0	\$389.3	
Residential HVAC	1.09	\$3,454.7	\$1,402.3	\$1,778.1	
EnergyWise Single Family	1.07	\$13,465.2	\$11,508.0	\$1,105.4	
EnergyWise Multifamily	3.27	\$4,691.3	\$1,378.3	\$57.6	
Home Energy Reports	4.06	\$1,439.1	\$354.8	\$0.0	
Comprehensive Marketing - Residential			\$82.1		
Community Based Initiatives - Residential			\$47.9		
Subtotal	1.32	\$24,740.8	\$15,390.3	\$3,330.3	\$0.0
Income Eligible Residential					
Income Eligible Single Family	1.57	\$7,255.0	\$4,617.4	\$0.0	
Income Eligible Multifamily	3.09	\$9,368.0	\$3,032.8	\$0.0	
Subtotal	2.17	\$16,622.9	\$7,650.2	\$0.0	\$0.0
Commercial & Industrial					
Large C&I New Construction	5.46	\$13,710.4	\$2,221.7	\$290.7	
Large C&I Retrofit	2.50	\$19,485.6	\$4,669.9	\$3,121.6	
Small Business Direct Install	2.15	\$2,026.1	\$764.0	\$178.3	
C&I Multifamily	4.97	\$5,723.5	\$827.8	\$322.8	
C&I Financing			\$0.0		
Community Based Initiatives - C&I			\$3.7		
Commercial Workforce Development			\$32.1		
Subtotal	3.04	\$40,945.6	\$8,519.2	\$3,913.4	\$1,018.9
Portfolio					
EERMC			\$376.5		
OER			\$628.7		
Rhode Island Infrastructure Bank			\$1,262.5		
Subtotal			\$2,267.8		
Grand Total	1.96	\$82,309.4	\$33,827.5	\$7,243.7	\$1,018.9

Notes:

(1) RI Test = total benefits from excluding economic benefits / program implementation expenses and customer contribution.

Rhode Island Energy
2025 Rhode Island Intrastate Cost Effectiveness Test
Summary of Gas Benefits, Expenses, and Evaluation Costs (\$000)

	RI Test Benefit / Cost	Total Benefit	Program Implementation Expenses	Participant Cost	Performance Incentive
Residential					
Residential New Construction	1.68	\$1,690.5	\$617.0	\$389.3	
Residential HVAC	1.09	\$3,459.1	\$1,402.3	\$1,778.1	
EnergyWise Single Family	1.06	\$13,330.2	\$11,508.0	\$1,105.4	
EnergyWise Multifamily	3.26	\$4,682.2	\$1,378.3	\$57.6	
Home Energy Reports	4.06	\$1,439.1	\$354.8	\$0.0	
Comprehensive Marketing - Residential			\$82.1		
Community Based Initiatives - Residential			\$47.9		
Subtotal	1.31	\$24,601.2	\$15,390.3	\$3,330.3	\$0.0
Income Eligible Residential					
Income Eligible Single Family	1.57	\$7,227.1	\$4,617.4	\$0.0	
Income Eligible Multifamily	3.08	\$9,355.3	\$3,032.8	\$0.0	
Subtotal	2.17	\$16,582.4	\$7,650.2	\$0.0	\$0.0
Commercial & Industrial					
Large C&I New Construction	5.42	\$13,608.7	\$2,221.7	\$290.7	
Large C&I Retrofit	2.50	\$19,485.6	\$4,669.9	\$3,121.6	
Small Business Direct Install	2.15	\$2,026.1	\$764.0	\$178.3	
C&I Multifamily	4.97	\$5,716.2	\$827.8	\$322.8	
C&I Financing			\$0.0		
Community Based Initiatives - C&I			\$3.7		
Commercial Workforce Development			\$32.1		
Subtotal	3.04	\$40,836.6	\$8,519.2	\$3,913.4	\$1,018.9
Portfolio					
EERMC			\$376.5		
OER			\$628.7		
Rhode Island Infrastructure Bank			\$1,262.5		
Subtotal			\$2,267.8		
Grand Total	1.95	\$82,020.2	\$33,827.5	\$7,243.7	\$1,018.9

Notes:

(1) Rest-of-pool DRIPE and PTF transmission are excluded from the "Total Benefit" column.

Rhode Island Energy
2026 Rhode Island Cost Effectiveness Test
Summary of Gas Benefits, Expenses, and Evaluation Costs (\$000)

	RI Test Benefit / Cost	Total Benefit	Program Implementation Expenses	Participant Cost	Performance Incentive
Residential					
Residential New Construction	1.55	\$1,118.9	\$474.9	\$247.0	
Residential HVAC	1.08	\$2,989.1	\$1,235.7	\$1,542.8	
EnergyWise Single Family	1.07	\$14,137.8	\$11,992.9	\$1,160.6	
EnergyWise Multifamily	3.29	\$4,405.7	\$1,299.7	\$38.8	
Home Energy Reports	4.06	\$1,439.1	\$354.6	\$0.0	
Comprehensive Marketing - Residential			\$84.5		
Community Based Initiatives - Residential			\$49.3		
Subtotal	1.30	\$24,090.6	\$15,491.7	\$2,989.3	\$0.0
Income Eligible Residential					
Income Eligible Single Family	1.69	\$7,255.0	\$4,289.1	\$0.0	
Income Eligible Multifamily	3.19	\$9,176.1	\$2,872.9	\$0.0	
Subtotal	2.29	\$16,431.1	\$7,162.0	\$0.0	\$0.0
Commercial & Industrial					
Large C&I New Construction	5.51	\$14,514.2	\$2,333.1	\$300.9	
Large C&I Retrofit	2.56	\$21,474.9	\$4,954.4	\$3,443.0	
Small Business Direct Install	2.10	\$2,026.1	\$787.7	\$178.2	
C&I Multifamily	5.20	\$5,552.2	\$777.6	\$290.8	
C&I Financing			\$0.0		
Community Based Initiatives - C&I			\$3.8		
Commercial Workforce Development			\$32.1		
Subtotal	3.06	\$43,567.5	\$8,888.7	\$4,213.0	\$1,138.8
Portfolio					
EERMC			\$376.5		
OER			\$630.6		
Rhode Island Infrastructure Bank			\$1,262.5		
Subtotal			\$2,269.6		
Grand Total	1.99	\$84,089.2	\$33,812.0	\$7,202.2	\$1,138.8

Notes:

(1) RI Test = total benefits from excluding economic benefits / program implementation expenses and customer contribution.

Rhode Island Energy
2026 Rhode Island Intrastate Cost Effectiveness Test
Summary of Gas Benefits, Expenses, and Evaluation Costs (\$000)

	RI Test Benefit / Cost	Total Benefit	Program Implementation Expenses	Participant Cost	Performance Incentive
Residential					
Residential New Construction	1.55	\$1,118.9	\$474.9	\$247.0	
Residential HVAC	1.08	\$2,993.3	\$1,235.7	\$1,542.8	
EnergyWise Single Family	1.06	\$13,996.1	\$11,992.9	\$1,160.6	
EnergyWise Multifamily	3.29	\$4,397.1	\$1,299.7	\$38.8	
Home Energy Reports	4.06	\$1,439.1	\$354.6	\$0.0	
Comprehensive Marketing - Residential			\$84.5		
Community Based Initiatives - Residential			\$49.3		
Subtotal	1.30	\$23,944.4	\$15,491.7	\$2,989.3	\$0.0
Income Eligible Residential					
Income Eligible Single Family	1.68	\$7,227.1	\$4,289.1	\$0.0	
Income Eligible Multifamily	3.19	\$9,159.4	\$2,872.9	\$0.0	
Subtotal	2.29	\$16,386.5	\$7,162.0	\$0.0	\$0.0
Commercial & Industrial					
Large C&I New Construction	5.47	\$14,412.5	\$2,333.1	\$300.9	
Large C&I Retrofit	2.56	\$21,474.9	\$4,954.4	\$3,443.0	
Small Business Direct Install	2.10	\$2,026.1	\$787.7	\$178.2	
C&I Multifamily	5.19	\$5,545.1	\$777.6	\$290.8	
C&I Financing			\$0.0		
Community Based Initiatives - C&I			\$3.8		
Commercial Workforce Development			\$32.1		
Subtotal	3.05	\$43,458.7	\$8,888.7	\$4,213.0	\$1,138.8
Portfolio					
EERMC			\$376.5		
OER			\$630.6		
Rhode Island Infrastructure Bank			\$1,262.5		
Subtotal			\$2,269.6		
Grand Total	1.99	\$83,789.6	\$33,812.0	\$7,202.2	\$1,138.8

Notes:

(1) Rest-of-pool DRIPE and PTF transmission are excluded from the "Total Benefit" column.

Overview of 2024-2026 Residential Energy Efficiency Programs

Program Name	Program Description
<p>EnergyWise Single Family (Funded by Electric and Gas)</p>	<p>EnergyWise is a direct-to-customer in-home program that educates residents on how their home can become more energy efficient. The program offers single-family customers (buildings with 1-4 dwelling units) home energy assessments, weatherization services, and information regarding their energy usage. The program addresses base load electric use and heating, cooling, and water heating energy loads in all residential buildings. Participants receive energy efficiency recommendations and technical assistance, as well as financial incentives to upgrade inefficient items such as heating and water heating systems, thermostats, and insulation. At the completion of the assessment, the customer receives an Energy Action Plan that indicates additional energy savings opportunities delivered through Rhode Island Energy’s various programs. The program will continue to deliver finance opportunities to customers, such as the Heat Loan.</p>
<p>Multifamily (Funded by Electric and Gas)</p>	<p>This program offers comprehensive energy services for market-rate multifamily customers (buildings with 5+ dwelling units), including energy assessments, incentives for heating and domestic hot water systems, cooling equipment, and appliances. All types of multifamily properties are eligible. A primary point-of-contact is designated to manage and coordinate services offered through the Company’s existing portfolio. This program is offered in conjunction with the C&I Multifamily gas program where a site may have a commercial meter or office space but should be</p>

	<p>virtually indistinguishable to the customer as the Company’s single point of contact will handle all program overlap and offer a seamless customer experience.</p>
<p>Residential New Construction (Funded by Electric and Gas)</p>	<p>The Residential New Construction (RNC) program promotes the construction of high-performing energy efficient single family, multifamily, and income eligible homes, as well as the education of builders, tradespeople, designers, and code officials.</p>
<p>Home Energy Reports (Funded by Electric and Gas)</p>	<p>The Home Energy Reports (HER) program encourages energy efficiency behavior through personalized print and email reports and a seamlessly integrated website. Each of the communication channels displays energy consumption patterns and contains a normative comparison to similarly sized and similarly heated homes, as well as to an energy reduction goal for each customer.</p> <p>The Company will continue to deliver Home Energy Reports that offer feedback to inspire customers to take actions that reduce their energy consumption and increase their participation in other energy efficiency programs.</p>
<p>Residential Consumer Products (Funded by Electric Only)</p>	<p>This program promotes the purchase of high efficiency household appliances, including kitchen appliances and electronics carrying the ENERGY STAR® label. This program trains retail sales staff about products. The program also offers refrigerator, freezer, and dehumidifier recycling.</p>
<p>Residential High-Efficiency Heating, Cooling, and Hot Water (ENERGY STAR® HVAC) (Funded by Electric and Gas)</p>	<p>This program promotes the installation of high efficiency central air conditioners and eligible heat pumps for electric customers and new energy efficient natural gas related equipment including boilers, furnaces, windows, water heating equipment, thermostats, boiler reset controls, and water saving devices. Incentives for energy efficient air source heat pumps for space and water heating equipment are available for customers with electric resistance heating/hot water. Incentives are also available for air source heat pumps used as accessory heating and cooling</p>

	<p>devices in homes with a primary heating system that is natural gas, oil, or propane. The program provides training of contractors to increase accurate installation practices, testing of the high efficiency systems, tiered rebates for new ENERGY STAR® systems, and incentives for checking new and existing systems.</p>
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Overview of 2024-2026 Income Eligible Programs

Program Name	Program Description
<p>Income Eligible Single Family (Funded by Electric and Gas)</p>	<p>Income Eligible Single (IES) Family Services are delivered by local Community Action Program (CAP) agencies with oversight provided by a Lead Vendor. Three levels of home energy assessments are offered: (1) lighting and appliance, (2) heating and weatherization, and (3) comprehensive assessment. Customers who qualify for the A-60 rate or for the Low-Income Home Energy Assistance Program (LIHEAP) are eligible to receive all services and equipment upgrades at no cost.</p>
<p>Income Eligible Multifamily* (Funded by Electric and Gas)</p>	<p>Comprehensive energy services for multifamily customers (buildings with 5+ dwelling units) that also meet the criteria for “income eligible” as defined in Attachment 1 Residential & IES Programs, Section 3. Multifamily. These services include energy assessments, incentives for heating and domestic hot water systems, Air Source Heat Pumps, cooling equipment, lighting, and appliances. In most cases, there are no costs to the customer for these services as most income eligible upgrades are covered at 100%.</p>

Overview of 2024-2026 Commercial and Industrial Energy Efficiency Programs

Program Name	Program Description
<p>Large Commercial and Industrial New Construction and Building Energy Code Support</p> <p>(Funded by Electric and Gas)</p>	<p>This program encourages energy efficiency in new construction, major renovations, planned replacement of aging equipment, and replacement of failed equipment through financial incentives and technical assistance to developers, manufacturers, vendors, customers, and design professionals. C&I customers with annual electric consumption greater than 1,000,000 kWh per year are eligible.</p> <p>The program supports new construction projects with proactive technical assistance during design with energy modeling and analysis. Incentives are also offered to owner’s design teams for their time and effort to meet program requirements. The program promotes and incentivizes the installation of high efficiency equipment in existing facilities during remodeling or equipment failure and replacement. A customer who does not install energy efficient equipment at the time of construction or equipment replacement will likely never make the investment or will do so at a much greater cost later. Operations Verification or quality assurance is also offered to ensure that the equipment and systems operate as intended.</p> <p>The program also promotes compliance with the building energy code and increased use of the Stretch Code to support the State’s goals and objectives. In addition, it provides technical assistance in advancing the development and adoption of minimum efficiency standards for appliances and equipment. Finally, the program supports the State’s Zero Energy Building (ZEB) goals</p>

	<p>through engagement and development of ZEB programs in the future.</p>
<p>Large Commercial and Industrial Retrofit (Funded by Electric and Gas)</p>	<p>This program incentivizes the replacement of existing equipment and systems with energy-efficient alternatives when the customer might otherwise not plan on making efficiency investments. This may include energy efficient equipment such as lighting, motors, and heating, ventilation and air conditioning (HVAC) systems, thermal envelope measures, and custom measures in existing buildings. All commercial, industrial, and institutional customers are eligible to participate. The Company offers technical assistance to customers to help them identify cost-effective efficiency opportunities and pays incentives to assist in defraying part of the material and labor costs associated with the energy efficient measures.</p> <p>The Company also offers education and training, such as the building operator certification (BOC) training, to support adoption of energy-efficient equipment and practices.</p>
<p>Small Business Direct Install (Funded by Electric and Gas)</p>	<p>This is a retrofit program that provides turn-key solutions to customers that consume less than 1,000,000 kWh per year. As part of the program, customers receive a free on-site energy assessment and a customized report detailing recommended energy efficient improvements. Rhode Island Energy then completes retrofit installations at the customer’s convenience. The program serves small businesses of all types from restaurants to non-profits, to small offices. Rhode Island Energy pays up to 70% of installation and equipment costs, and customers can finance the remaining share of the project over as many as 60 months (typically 24) on their</p>

	<p>electric bill, interest free, using the Small Business Revolving Loan Fund, provided funds are available.</p>
<p>Commercial and Industrial Multifamily (Funded by Gas)</p>	<p>Comprehensive energy services for market-rate multifamily customers (buildings with five plus dwelling units) include energy assessments and incentives for heating and domestic hot water systems and weatherization. Coordinated services will be offered for all types of multifamily properties. An approach tailored for multifamily properties designates a primary point-of-contact to manage and coordinate services offered through the Company’s existing portfolio, including EnergyWise, C&I Retrofit, Residential New Construction, Income Eligible, and the ENERGY STAR® HVAC programs.</p>

Standardized Definitions for the 2024-2026 Energy Efficiency Plan

Assessment

An assessment 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.

Customer Contribution/Customer Cost

The financial cost of a measure and/or service that is not covered by the customer incentive.

Customer Incentive

Financial support and/or services (e.g., rebates, on-bill repayment) provided to participants in attempt to motivate the installation of measures and/or changes in behavior to achieve energy savings.

On-Bill Repayment (OBR)

A financial mechanism that allows customers to pay back the customer contribution/customer cost of a measure and/or service on their energy bill.

Demonstration

A demonstration will test the feasibility of a new product or offering for inclusion in existing programs. It is generally expected that 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.

Evaluation

Independent Evaluation: An independent evaluation uses a third-party evaluation vendor selected via a competitive Request for Proposals process for the specified evaluation or selected in the recent past for evaluation services of efficiency programs. An independent evaluation can be both a process and an impact evaluation.

Vendor Evaluation: A vendor evaluation is conducted by a vendor installing a technology, measure, strategy, or solution. A vendor evaluation can also be conducted by a Technical Assistance vendor who conducts a savings analysis for the installed technology, measure, or an energy saving strategy. A vendor evaluation can only be an impact evaluation.

Goals

Goals refer to Rhode Island Energy's annual plan energy efficiency savings goals.

Non-Energy Impacts

Non-energy impacts (NEIs) are those other than the energy and demand savings generated by efficiency programs. Non-energy impacts accrue to program participants (e.g. increased comfort and health, improved property values), society at large (e.g. greenhouse gas reductions, improved air quality), and the utility system (e.g. Reduced arrearages).

Non-Participant

A customer that does not directly participate in an efficiency program.

Participant

A customer that reduces or otherwise modifies their energy end use patterns due to involvement in an efficiency program. Participation is measured differently in different programs. For several programs, a participant is defined as a customer account (electric or gas). In contrast, the Residential Consumer Products program measures participation by the number of rebates processed.

Pilots

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. Pilots are designed to explore technologies and approaches to energy management not included in the core energy efficiency programs (Residential, Commercial and Industrial, and Multifamily) and that could potentially become a new, standalone program.

Pilots enable the Company 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 to the Company portfolio. Savings associated with Pilots will not contribute to shareholder incentives. Pilots may be evaluated with either an independent or a vendor evaluation.

Portfolio

A collection of programs. The electric portfolio contains programs that primarily focus on delivering electricity savings and the natural gas portfolio contains programs that primarily focus on delivering natural gas savings. Per the Least Cost Procurement Standards, as updated in RI PUC Docket 5015, a portfolio is required to be cost-effective.

Program

A collection of defined services and/or measures carried out by Rhode Island Energy and/or its vendors and subcontractors that: target a specific market segment, customer class, or defined end use; are designed to influence customer behavior to achieve changes in energy usage, equipment preferences, investment, and maintenance practices; and are guided by a specific savings goal and have a benefit-cost ratio. Programs are typically made up of the following categories that contribute to the overall program savings goals and benefit-cost ratios. Per the Least Cost Procurement Standards, as updated in RI PUC Docket 5015, a program is required to be cost-effective.

Sub-Program

Within the Commercial and Industrial Sector, a sub-program is a further grouping of measures within a program. An example is the upstream lighting sub-program within the Commercial and Industrial Sector.

Measure Group or Category

A group of measures with similar characteristics within a program. For example, the measure group LED in the Residential lighting program includes several types of LED light bulbs and the Compressed Air measure group within the Large Commercial New Construction program contains all the compressed air measures within that program.

Measure

A piece of equipment or customer action that reduces or otherwise modifies energy end use patterns. This is the most granular level of categorization. For example, an LED light bulb.

Comprehensive Measures: When a customer employs multiple pieces of equipment or actions that reduce or otherwise modify energy use at the same time, more fully taking advantage of energy savings opportunities at one time rather than completing piecemeal projects.

Services

A range of activities to support customer awareness, education, and adoption of energy saving and energy modification opportunities including free technical assistance, training, analysis, and reports.

Initiative

A “go to market” strategy within a program that promotes a subset of measures or services within that program and/or targets a certain segment of customers. For example, the Grocery Initiative within the Large Commercial and Industrial Retrofit Program.

Assessment

Refer to the definition above. Included in this section again to indicate that assessments can be a component of programs.

Demonstration

Refer to the definition above. Included in this section again to indicate that assessments can be a component of programs.

Performance Incentive

A financial incentive that the Company has an opportunity to earn based on performance in fulfilling the savings goals of the approved Annual Plan. The Performance Incentive is authorized and established through Annual Energy Efficiency Plans by R.I. Gen. Laws § 39-1-27.7(e) and § 39-1-27.7.1.

Rebate

A financial incentive paid to a participant in order to obtain a specific action, typically the installation of equipment. A rebate can also be paid to manufacturers and suppliers of measures to lower the price at the point of sale to the customer.

Savings

Annual Savings: Energy savings accrued annually from the installed measure(s).

Lifetime Savings: Energy savings accrued over the functional lifetime of the installed measure(s).

Sector

A grouping of participants by customer rate class. Programs are organized by these groupings. There are three sectors: Residential, Income-Eligible, and Commercial and Industrial.

Technical Assistance (TA) Study

A technical assistance study assesses a measure or group of measures for savings and costs and is performed by a third-party technical assistance vendor. A TA study quantifies electric and gas savings, along with delivered fuel and non-energy impacts. TA studies include some or all of the following activities: facility benchmarking and/or walkthrough, equipment metering or analysis of building energy management system data, determination of measure baseline, engineering analysis of the operation of the baseline, and proposed measures and building energy simulations. The TA vendor performs a benefit-cost screening to assess the estimated payback for the customer along with the impact of costs and savings. A TA study report is presented to the customer which outlines the methodology followed to determine estimated project savings, cost, and project payback, along with the results of the study.

Technical Assessment

A technical assessment is engineering research conducted to determine the savings of a new technology or measure that may not be widely adopted in the market.

Attachment 5: 2023 Customer Listening Sessions for 2024-2026 Plan

The Company hosted three listening sessions with RI Energy customers in June 2023:

- June 20, Commercial and Industrial (C&I) customers
- June 22, Income-Eligible customers
- June 27, Residential customers

These sessions were intended to collect feedback from customer segments regarding the priorities outlined in the 2024-2026 Energy Efficiency Plan. The Company solicited participants through outreach to Energy Efficiency and Resource Management Council (EERMC) and Energy Efficiency Technical Working Group (EETWG) members, including, for example, the Office of Energy Resources (OER) and the Rhode Island Center for Justice, as well through communication with community action agencies, chambers of commerce, and other local organizations and networks.

For the purposes of this document, RI Energy has separated the responses from the different breakout groups as many comments, questions and conversations built upon other participants' feedback.

1. Commercial & Industrial Session

The C&I Session was held on June 20, 2023. After a presentation regarding the Company's energy efficiency programs, participants were separated into two small break-out groups and asked the following two questions:

- What was your experience accessing and using RI Energy's efficiency program? Did it meet your expectations, why or why not?
- What actions can RI Energy take to encourage participation in their programs?

Following the break-out groups, a Company representative presented an overview of the 2024-2026 Plan's priorities and session participants offered their thoughts, comments and suggestions on the draft Plan for the Company to consider.

1.1 Question 1 Summary

What was your experience accessing and using RI Energy's efficiency program? Did it meet your expectations, why or why not?

Breakout Group #1 Responses

When asked if the program was easy to access, some participants spoke about potential issues arising when the RI Energy review timeline does not align with the customer's project timeline. These customers said, "technical review

must be fast and get back to the customer before the architect/designer gets too far along.” One customer noted they have not “accessed the program to date”; however, they have spoken to many people over the years about various iterations of the program and currently are “embarking on several projects” with a vendor.

When asked if the program met their expectations, participants noted the program had “met expectations for paperwork flow and process” while other said the C&I program was “easy and helpful.”

Breakout Group #2 Responses

When asked if the programs were easy to access, participants responded with “yes, it was easy to access,” “easy to access site, easy to navigate site,” and “When National Grid became RI Energy, service provided was improved.” One participant was concerned regarding the Strategic Energy Management Plan (SEMP) Initiative. They said their “SEMP expired, but the team is pushing you to get new SEM, feels they are treated like their SEM never expired.”

When asked if their expectations were met, participants noted there was a “lack of funding for electric vehicle infrastructure.” Other participants noted they had “difficulty navigating the payment site” as the “process is a little difficult.”

1.2 Question 2 Summary

What actions can RI Energy take to encourage participation in their programs?

Breakout Group #1 Responses

Participants were asked what actions the Company could take to encourage participation in the programs. Some suggestions focused on marketing the programs. Participants suggested the Company develop case studies to show the energy savings and measures implemented for actual customers. In addition, participants suggested more marketing including “more flyer awareness (printed materials), advertisements on social media, television and radio.” Additional suggestions include the development of a standardized form as the “email communication between RI Energy and subcontractors can be hard to follow.” Participants encouraged the Company to “partner with RI Department of Human Services, especially their workforce program to help people find jobs.”

Breakout Group #2 Responses

When asked how the Company could encourage participation, several group members suggested holding “community outreach and small events explaining the programs” and “small events and meetings.” Other participants suggested a “focus on equity” and targeting “underserved communities and build relationships and trust, engage with communities to better understand how to serve them and what their unique needs are.” Additional suggestions included collaborating with other state entities and community organizations as this will “better serve customers and make it easier for them to access all different programs” and incorporating “provisions for language access including translating program materials.”

Several participants suggested the Company streamline its processes such as making forms easier to complete where possible and hiring staff to walk customers through programs.

1.3 Collective Responses to Draft 2024-2026 Plan

Priority One: Reach More Customers

Session participants suggested the addition of a project expeditor, using existing partners as advocates, and developing relationships with trade groups, such as the Rhode Island Manufacturers Association.

Priority Two: Help Customers Find the Right Measures

Some participants suggested shifting from natural gas to electric buildings including “continue with program that incentivizes electric [measures] and reduce those for gas.” Others noted some industrial processes need gas and that there are no feasible alternatives at this point and that is “concerning for manufacturers, need significant incentives to change equipment.” Other participants expressed concern regarding light-emitting diode (LED) lighting incentives and asked for the Company to “keep these going.”

Priority Three: Enable Customers to Invest in Efficiency

Participants commented that there needs to be more knowledge of weatherization and importance.

Priority Four: Serve Customers Equitably

There were no comments made addressing this priority.

Priority Five: Ensure Workforce Capacity to Serve Customers

Session participants suggested Building Operator Certification (BOC) training.

Final Questions or Comments

Other questions and comments about the 2024-2026 Plan:

1. Electric vehicle owners need to be incentivized to charge at the right times (i.e., not at peak times).
2. There should be a similar forum for the other energy efficiency programs.

2. Income Eligible Services Session

The Income Eligible Services Session was held on June 22, 2023. After a presentation regarding the Company’s energy efficiency programs, the customers were separated into three small break-out groups and asked the following two questions:

- What was your experience accessing and using RI Energy’s efficiency program? Did it meet your expectations, why or why not?
- What actions can RI Energy take to encourage participation in their programs?

Following the break-out groups, a Company representative presented an overview of the 2024-2026 Plan's priorities and session participants offered their thoughts, comments and suggestions on the draft Plan for the Company to consider.

2.1 Question 1 Summary

What was your experience accessing and using RI Energy's efficiency program? Did it meet your expectations, why or why not?

Breakout Group #1 Responses

Group participants talked about how they found out about the Income Eligible Services (IES) Program. One participant found out about the IES Program through the Tri-Town Community Action Agency. These participants said about the IES Program: "people are friendly and informative," "great that it is free," and "grateful for resources." Other participants reported they found out about the IES Program through a Google search. One participant said it was not easy to access the IES Program as "they didn't know about help until it was needed" but once they started working with the program it was "easy and great."

When asked if the programs met their expectations, some participants said they were "great programs" and "people who come to the house are very helpful."

Breakout Group #2 Responses

Group participants were asked about their experience accessing and using the efficiency programs (i.e., IES Program). One group participant said, "once I found out about the program it was easy to use, but finding it was by chance." Participants felt the program was "geared toward an owner" and questions if the program "applies to them, when we look at the website it looks like it is for owners and landlords but is it something tenants can access?". Other participants talked about their lack of trust as their "experience with utility companies is not the best" and they have resisted "applying for assistance or programs the Company offers".

In response to the question regarding how the program met their expectations, participants responded positively, "exceeded my expectations by far. Once the connection was made my CCAP/BVCAP contact assisted me to all programs I qualified for" and "was easy to contact and schedule with CCAP/BVCAP representative." Another participant asked about the qualifications for income, "as family was just overqualified for the number of people in the household; they decided to not continue."

Breakout Group #3 Responses

In response to this question, some participants said they had accessed the program through the Tri-Country Community Action Agency and it was a "good experience" but there were contractor issues with the insulation and window repair. Other participants had accessed the program through a community action agency and they had a "great experience" with the furnace replacement and the CCAP agency kept them informed and followed up to make

sure things were working. Another participant discussed how they had noticed energy savings due to the new equipment (propane equipment and insulation) installed in their home.

When asked if the program met their expectations, participants said the program was “easy to schedule,” “exceeded expectations,” and the CCAP agency and the agency “provided follow-up and had good communications.” One participant did state when insulation was blown in it came in through the inside vents and plugged up their furnace chimney; however, the CCAP agency was able to address it.

2.2 Question 2 Summary

What actions can RI Energy take to encourage participation in their programs?

Breakout Group #1 Responses

Group participants discussed actions RI Energy can take to encourage participation in energy efficiency programs. Participants discussed advertising programs on “billboards on highways” and making resources and information more “visible in public spaces” such as “grocery stores, libraries, Department of Motor Vehicles, community health centers, malls, and Walmart.” Other participants suggested the Company participate in “more public and community events” to “help people understand what help is available before that help is needed.”

Some participants suggested educating children about energy efficiency and “teaching programs in schools.” They noted that “many people who need help are parents; attract the kids and get information to the adults about programs.” Participants also suggested bilingual education programs and outreach as for “many folks, English isn’t their first language.” These breakout group participants also suggested making information about energy efficiency eye catching as “if you are looking for a program like this you probably need help—fight or flight mode—finding that has to pop up to you, be large, eye-catching, creative!”). Participants also suggested a gift card for those individuals who participate in energy efficiency programs.

Breakout Group #2 Responses

Some suggestions included using different language and terms in promotional items to describe potential outcomes such as “lower energy costs” and “save you money.” Other group participants suggested proactive outreach to customers who are late and/or past due with utility bills to offer the IES program as a solution to lower energy costs and make energy affordable. One group participant suggested finding more efficient marketing campaign for clients to find out about the programs as it is “too hard to find right now.” Suggestions included marketing the program through printed information in energy bills, public areas, website, social media, and texts.

Breakout Group #3 Responses

Some suggestions for encouraging participation in the programs include outreach at food banks, senior centers, community health care centers, and English as a Second Language (ESL) classes at libraries. Participants noted lots of information does come via utility bills; however, “a lot of people don’t read them” and “there needs to be resources for people without computers.” Other suggestions include a Social Media channel to serve as a Q&A forum and to

instruct people regarding how to engage in programs. One participant noted financing options were helpful. Participants also suggested incentives for people who completed surveys and/or programs.

2.3 Collective Responses to Draft 2024-2026 Plan

Priority One: Reach More Customers

Session participants spoke about the need for landlords to be made aware of energy efficiency programs and how Rhode Island Housing should share with their clients (participants unsure if they did share). Participants said it should be “illegal for landlords not to inform tenants about resources for utilities and maybe RI Energy could be on the lease.” Other suggestions included giving information to homebuyers enrolled in the First Time Home Buyers program for single and multifamily properties.

To increase awareness, session participants spoke about how most RI Energy customers have paperless bills and therefore, do not see bill inserts advertising energy efficiency programs. These participants suggested monthly texts instead. Other participants suggested the Company ensure program information is displayed and available at “unbiased places” such as grocery stores (e.g., banners). Other participants expressed concerns about relying on social workers to relay information about energy efficiency programs.

Priority Two: Help Customers Find the Right Measures

Several participants requested household rate assistance for customers who use geothermal heat pumps (i.e., electric customers receive rate assistance). These participants noted, “[geothermal heat] is the same as electric resistance heat, powered by electric and electric energy used solely when temperatures drop below freezing.” Other participants suggested more support for existing buildings or “older construction” through window replacement and weatherization as there is a “huge energy loss with inefficient older construction.” Some participants suggested implementing an incentive, such as a gift card, for joining calls/webinars/information sessions to learn about RI Energy programs. Others spoke about the need for RI Energy to provide solar panel support and expand programs to include renewables. *Note: Rhode Island solar photovoltaic programs and other renewable programs are supported by state agencies and other entities.*

Priority Three: Enable Customers to Invest in Efficiency

The majority of this group’s discussion focused on the integrated delivery of federal and state programs as “sometimes the combined programs makes it more worthy” and making sure customers are aware of all incentives. This suggestion includes making sure customers are educated about the federal and state programs simultaneously and how there should be more outreach at public places, such as grocery stores.

Priority Four: Serve Customers Equitably

Participants noted “equity is not the same as equal.” Others said energy efficiency should be a mandatory course in high school and college and that it “would also be cool if RI Energy went to a high school and did a presentation to plant that seed for high schoolers once they get out in the real world.” Other participant suggestions included making monthly workshops available, opening a HUB help location using the RI Energy name in some areas, and expanding

weatherization to windows and glass doors. One participant suggested the Company, “inform individuals that these programs are little to no cost to income-affected individuals as they are afraid of getting more bills.”

Priority Five: Ensure Workforce Capacity to Serve Customers

One suggestion was to offer classes and/or training programs through high schools and colleges.

Final Questions or Comments

Several participants had the following questions and comments about the 2024-2026 Plan:

1. Implement fraud prevention to increase trust in RI Energy. Some participants noted there were “lots of scammers using RI Energy to sell windows, etc. on social media.”
2. One participant noted their refrigerator was replaced the prior week and they said Tri-County Agency was “excellent” and “provided so much information about energy savings.” Their suggestion was to share information on how they can get additional energy-saving ideas. Another participant spoke highly of the IES Program and its benefits as they “could not have afforded them” and that the “contractors, delivery people, and all staff were courteous and knowledgeable and were always on time and pleasant.”
3. Participants suggested providing municipalities with inexpensive energy-saving supplies to initiate local community interest (e.g., outlet insulators, window/door stripping).
4. Expand natural gas to locations currently not being served.

3. Residential Session

The Residential Session was held on June 27, 2023. After a presentation regarding the Company’s energy efficiency programs, the customers were separated into three small break-out groups and asked the following two questions:

- What was your experience accessing and using RI Energy’s efficiency program? Did it meet your expectations, why or why not?
- What actions can RI Energy take to encourage participation in their programs?

Following the break-out groups, a Company representative presented an overview of the 2024-2026 Plan’s priorities and session participants offered their thoughts, comments and suggestions on the draft Plan for the Company to consider.

3.1 Question 1 Summary

What was your experience accessing and using RI Energy’s efficiency program? Did it meet your expectations, why or why not?

Breakout Group #1 Responses

In general, group participants’ experiences with the EnergyWise or Income Eligible Services (IES) programs were positive. This included statements of “great success with the energy audit” and “great success with the energy audit

and work completed.” A group participant noted they had received IES Program services through the Tri-Town Community Action Agency and “were led there after responding to a statement on our utility bill. We received some energy-efficient light bulbs.” Other participants spoke about needing more clear communications regarding EnergyWise Program eligibility guidelines noting that they “did an assessment in 2001/2002ish but did not really implement anything at the time because of finances. We would do so now but do not know the time parameters of being able to have another assessment.”

Through the Residential Consumer Products Program, consumers can purchase efficiency products at a local retailer, online at the [RI Energy Marketplace](#) (Marketplace), or through any online retailer (as long as the product meets product specifications, with receipt). Some group participants shared how they “had issues with the Marketplace.” Additional feedback included satisfaction with the easy rebate process stating, “we have used [the Programs] in the past, the National Grid rebates for a new refrigerator as well as a thermostat. That was easy to do the rebate.” The same participant did note they had “also bought new power strips through the rebate [Program] and did not like them.”

General feedback noted how the “light bulbs have been useful” and that they were “very happy” with their experience. Other group participants shared that the “energy rebate process was frustrating,” “working with sub-contractors was also frustrating,” and “clearly different from the experience of working with RI Energy.”

Breakout Group #2 Responses

Some participants shared their limited experience with the Company’s Residential programs; however, they had heard of several offerings. “I have no experience, as I have not accessed it previously,” said one group member. “I do receive a periodic letter that indicates our efficiency in our household as compared to other households in our neighborhood. In the past, we received some rebates for purchase of energy-efficient appliances.” Another participant’s experience was limited as they had “no experience as I have not accessed it.”

Other participants reported the EnergyWise Program was “simple to access” and “straight forward.” Other individuals spoke about how the “contractor was great to work with, helped with enhanced rebates, and showed them how to take advantage of the zero percent interest loan” while others noted their participation with the “energy audit in the past, at that time it felt cost prohibitive.” One group member had participated in the EnergyWise Program twice (2012 and Winter 2022/2023) and had converted from oil to a mini split system two-and-a-half months ago. They were “impressed with the dehumidifying” and thought their “contractor was great to work with as they helped with rebates.” The same member stated the “first [audit] felt like it was about getting everyone switched over to light-emitting diodes (LEDs), the second [audit] felt more about the [building] structure.”

Breakout Group #3 Responses

Group members provided varied feedback regarding their experience with, and the accessibility of, the Company’s Residential programs. Program awareness was a big topic for this group. Members referenced they had “heard through word of mouth” and had “responded to statements on energy bills linking them to Tri-County Community Action Agency where they heard about the programs.” Another group member referenced the “support for multilingual customers had been helpful [in Woonsocket].”

This breakout group also discussed the confusion between the numerous groups and agencies involved in Residential efficiency programs. One participant noted, “RI Energy, OER, RISE, can be confusing for a customer to sort out as they are not sure who they are talking to.” Another participant stressed the importance of “making sure appointment confirmation is not on the customer’s to-do list;” highlighting the necessity of pre-audit confirmation phone calls from EnergyWise and ISE Program contractors.

Several participants shared their positive experience with audits, “work was well done and audit was great,” “efficient lighting bulbs have been helpful,” and “good experience on the installation side, positive results come winter/summer.” Other group participants asked for “better guidance for written audit reports with regards to income eligibility (how is income determined),” “coordination between HVAC and insulation installation,” and the “potential [need for] training for heat pump installers.”

3.2 Question 2 Summary

What actions can RI Energy take to encourage participation in their programs?

Breakout Group #1 Responses

Group participants shared their opinions regarding actions the Company could take to encourage participation in the Residential programs. The general feedback from this breakout group suggested more and better Company communications regarding the Residential programs. “There is conflicting information still out on the web from the [Company’s previous name] National Grid. It would be helpful to have that stuff taken down off website,” stated one participant. Other participants suggested the Company, “incorporate better communications in monthly bills, as well as the emails that are sent every month with the Home Energy Reports” and identified the need for “clear [program] expectations.” Another suggestion was “social media outreach and an easily accessible Question & Answer feature.”

Breakout Group #2 Responses

Some participants suggested the Company offer financial incentives to encourage participation. One suggestion was on-bill incentives: “We are admittedly a money/coupon motivated household; so, even a \$10 rebate on our bill might be enough to get us to sign up for an assessment.” While another participant suggested a “refer-a-friend program/incentive” as they are “always looking for more energy savings.”

Former program participants spoke about wanting to know what was available to them now. “We did the energy assessment 20 years ago; we were in a different financial situation as new homeowners,” the participants said. “Now things are different, house is older now too, would be good to know what we could do now and what is available to us (i.e., another assessment).” The group also shared how the Company should “tell us how we can benefit from the programs without making it look like an advertisement. Sometimes it looks like an advertisement and we disregard the information.”

Breakout Group #3 Responses

This breakout group suggested the Company should increase its outreach through “social media,” “leaving behind some reference materials,” “tables at festivals and local events,” and “working with other groups and agencies (e.g., DARE, Poor People’s Campaign, state agencies, George Wiley Center, etc.)” Participants also suggested a phone consultation service for participants (especially for heat pumps) as this would provide “more support in evaluating HVAC contractors and estimates.” Other suggestions included “more advertisements with energy bills” and “more guidance in decision making processes.”

The Home Energy Reports Program was noted as “useful for education but doesn’t always change opinions.”

3.3 Collective Responses to Draft 2024-2026 Plan

Priority One: Reach More Customers

Session participants noted the Company should work more closely with HVAC and other contractors to serve as the program promoters as they are a trusted source for customers.

Another idea was to resource community-based organization to conduct outreach. Session participants said the Company should directly fund community groups for their time and capacity to perform outreach and not just provide marketing collateral for distribution. This direct funding would include incentives to community groups to serve vulnerable populations and partnering with “trusted leaders who have the same ethnic background and that frequent popular community gathering places such as community centers and faith-based organizations.

Session participants also thought the Company should actively seek out Homeowner Associations (HOAs) for economy of scale savings (e.g., replacing furnaces and roofs at same time). One participant noted their furnace needed replacing and that their HOA had 37 houses. If their unit needs replacing then there is a high likelihood other furnaces would need replacing. It was also noted coordination in neighborhoods without HOAs would also be helpful.

Priority Two: Help Customers Find the Right Measures

Several participants noted the majority of recommended contractors seemed more comfortable with keeping their house on gas and were not “pro-heat pump or electrification” and “[I] was talked out of heat pump to stay with oil.” Another participant said, “more help is needed to get contractors to be more willing to install heat pump systems into existing solar battery backup systems.”

Additional questions were raised regarding the alignment of heat pump trainings with recommended contractors and how the recommended contractor list was vetted. Other participants asked how the Company could coordinate better with OER’s heat pump program.

Priority Three: Enable Customers to Invest in Efficiency

One participant talked about how renters are not in a position to “finance” measures since the landlord owns the building. They said, “If income eligible, they [the renter] should receive no-cost measures” and that the priority should

be rewritten to include “expand incentive options” rather than just financing. Another participant said there should be a “focus on multifamily buildings for renters” while another talked about net metering for solar customers and giving them the “ability to fully size solar for future electrification and peak times.”

Other comments included the inclusion of pre-weatherization barrier remediation for zero interest loans and other rebates, a zero-interest loan for electric air source heat pumps (currently only accessible to oil and not gas customers), and offering a new energy efficiency rebate for induction stoves (in combination with an educational campaign regarding the technology’s efficiency and health benefits).

Priority Four: Serve Customers Equitably

Some participants suggested the Company offer incentives to community groups who are serving vulnerable populations and the need to benchmark energy efficiency program participation data for race, geography, socioeconomic status, language, age of home, age of owner, age of renter, heating fuel type, type and age of heating/hot water/cooling systems. A question asked was “how can we prioritize equity in the programs to make sure we prioritize underserved customers?”.

Another suggestion was to offer a finders fee (or a bill reduction) for referrals for customers with electric heat. One participant said it was important to remember the elderly as they are “less skilled at online stuff. Even the phone can be hard as hearing is diminished.”

Priority Five: Ensure Workforce Capacity to Serve Customers

Some participants suggested the Company collaborate with local diverse community organizations to train and certify potential workers including Progresso Latino, Hispanic chamber of commerce and Cape Verdean community development. Another suggestion was to partner with career offices at CCRI, and at other local colleges and universities to leverage and access younger adults with internship opportunities.

Final Questions or Comments

Several participants had final questions and comments about the 2024-2026 Plan:

1. What are the plans for addressing health and safety barriers to weatherizing homes (e.g., mold, mildew, asbestos, etc.)?
2. Since RI Energy profits from conversions to electricity, you might invest in promoting heat pump conversion from propane both in terms of rebates and in terms of popularizing more among installers. Free education and training.
3. Speak to Senior Centers for those not computer savvy.

SCHEDULE B

2024 Annual Energy Efficiency Plan

Rhode Island Energy

2024 Energy Efficiency Plan

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Section One: Introduction

1.1 Executive Summary

Pursuant to Rhode Island General Statute § 39-1-27.7, the *Comprehensive Energy Conservation, Efficiency and Affordability Act of 2006*,¹ the Narragansett Electric Company d/b/a Rhode Island Energy (RI Energy or Company) hereby submits its 2024 Annual Energy Efficiency and Conservation Procurement Plan (Annual Plan or 2024 Plan). This is the first annual plan of three submitted within the sixth triennial plan, the 2024-2026 Three-Year Energy Efficiency and Conservation Procurement Plan² (2024-2026 Plan).

Energy efficiency is the most cost-effective approach to lower energy costs, increase grid reliability, and protect the environment through the reduction of carbon and other air pollutant emissions. Customers who directly participate in the Company's energy efficiency programs save energy and lower their energy bills. Non-program participants also benefit as energy efficiency reduces peak demand and lowers long-term base load, reducing the need for investments in distribution, generation, and transmission infrastructure.

The Company's energy efficiency programs are a cost-effective method of contributing to mitigating climate change and contributing to state and federal mandates for greenhouse gas emission reductions. Efficiency programs reduce carbon dioxide and other greenhouse gas emissions, such as nitrous oxides, sulfur oxides and chlorofluorocarbons (from refrigerants). On April 14, 2021, Governor Dan McKee signed into law the 2021 Act on Climate³, legislation which set forth enforceable statewide, economy-wide greenhouse gas emission reduction mandates. The legislation requires Rhode Island to reduce greenhouse gas emissions by 45 percent below 1990 levels by 2030, 80 percent by 2040, and achieve net-zero emissions by 2050. Energy efficiency in buildings is a key strategy to achieving the legislation's mandates of reducing greenhouse gas emissions in the state and the Company plans to pursue a number of

¹ Rhode Island General Law, [Comprehensive Energy Conservation, Efficiency, and Affordability Act of 2006](#), RIGL § 39-1-27.7.

² 2024-2026 Plan (filed Oct. 2, 2023).

³ Rhode Island General Law, [2021 Act on Climate](#), RIGL §42-6.2.

decarbonization strategies including weatherization and the installation of efficient heating, cooling and hot water systems.⁴

To develop the Annual Plan and its associated binding savings goals and budgets, the Company worked closely with the Energy Efficiency & Resource Management Council (EERMC) and its consulting team, the Office of Energy Resources (OER), the Division of Public Utilities and Carriers (the Division), Energy Efficiency Technical Working Group (EE TWG) stakeholders, the Energy Efficiency Equity Working Group (EE EWG), and the Company's vendors. Additionally, the Company solicited residential, income-eligible, and commercial and industrial (C&I) customer feedback from the listening sessions hosted by the Company.⁵ The EE EWG's report recommendations and ongoing work to increase outreach and participation equitably in the state influenced the design and implementation of the 2024 Plan as well.

The 2024 Plan is a \$130.5 million investment in helping Rhode Island customers save energy and money.⁶ This investment is expected to save 5,790,955 net lifetime MMBtu (one million British thermal units) and 634,251 net annual MMBtu across all fuels, while reducing annual carbon dioxide emissions by 71,763 short tons.⁷ By calculating the combined energy and non-energy benefits (e.g., other system, societal, environmental, etc.), the state's efficiency investment is expected to generate \$273.6 million in total net benefits.⁸

Rhode Island's efficiency programs support a robust workforce of local and regional vendors, contractors, and suppliers, further driving local economic activity. Highly skilled, diverse, and trained professionals are the key to engaging more customers, driving participation in programs, and increasing energy savings across the Company's

⁴ The Company is waiting on clarification from related 2021 Act on Climate and Executive Climate Change Coordinating Council (EC4) strategy proceedings to determine if there are program changes needed for the 2024-2026 term. Any necessary changes will be reflected in subsequent annual plans as the 2025 Climate Strategy will not be available ahead of the Oct. 2, 2023, filing deadline for the 2024 Plan and 2024-2026 Plan.

⁵ See Attachment 5 of the 2024-2026 Plan for a detailed overview of the three listening sessions held in June 2023 with residential, income-eligible, and C&I customers. Additionally, the 2024-2026 Plan references (when applicable) where customer feedback was integrated into the Company's overall strategies and vision for the 2024-2026 term.

⁶ This number includes performance incentives relevant to Electric and Natural Gas Energy Efficiency Programs.

⁷ The electric, gas, and delivered fuel energy efficiency measures proposed in the 2024 Plan will avoid over 71,763 short tons of carbon dioxide in 2024 (annual). The avoided carbon emissions from the subset of energy efficiency measures in the 2024 Plan that will continue to be in service in 2030 will contribute toward the *2021 Act on Climate's* greenhouse gas emission reduction requirements of 45 percent below 1990 levels by 2030.

⁸ Total benefits do not include quantified economic impacts.

energy efficiency programs. Therefore, in 2024, the Company will increase its workforce development to support trainings regarding zero-net energy projects, building operator certification, codes and standards compliance training, heat pump technologies, and weatherization. In 2024, the Company expects federal funding through the Inflation Reduction Act⁹ (IRA) will increase the demand for energy efficiency. To meet this demand, the Company will need to help expand the current efficiency workforce and supply chain, as well as leverage the knowledge and training opportunities available through trade allies and other industry experts.

The Company is focused on developing an equity-driven framework for its energy efficiency programs. For all market sectors, the Company plans to allocate program budgets to increase marketing to underserved populations. RI Energy has developed a community-based organization outreach effort to provide support to this priority. This effort is further detailed in Attachment 8 of this 2024 Plan. If approved, the Company would work with the EWG to design this offering.

The Company remains focused on delivering cost-effective programs and strategies that provide sustainable energy solutions. RI Energy continuously evaluates customer needs and market dynamics to determine if program enhancements and adjustments are warranted and to drive market transformation across multiple end uses, building types and market sectors. This requires flexibility in program planning so the Company can develop and evolve program design and efficacy as needed.

As federal funding for energy efficiency projects flows to state energy offices, it is critical that the Company's energy efficiency programs equitably serve all customers and align with the Justice40 Initiative.¹⁰ This federal initiative mandates that a minimum of 40 percent of the overall benefits of federal investments must flow to disadvantaged communities that are marginalized, underserved, and overburdened by pollution. RI Energy will look to align its programs with the Justice40 Initiative to ensure underserved Rhode Island communities are able to access and benefit from both federal funding and the Company's energy efficiency programs.

In 2024, the Company will look to leverage federal funding through IRA to support and complement existing efficiency efforts. This additional funding will allow RI Energy to serve more customers, address weatherization and other participation barriers, and help incentivize the decarbonization of buildings' heating, cooling and hot water systems.

⁹ H.R.5376, *Inflation Reduction Act of 2022* (Aug.16, 2022).

¹⁰ The [Justice40 Initiative](#) was established by President Joseph Biden's [Executive Order 14008](#) issued Jan. 27, 2021.

The remainder of Section One describes the 2024 Plan's associated energy savings and benefits, program planning process, and stakeholder engagement. This section also provides an overview of the Company's proposed programs for the Residential, Income Eligible and C&I sectors, program costs and a funding plan. Additionally, this section describes how the 2024 Plan is responsive to legal mandates and regulatory requirements and delineates the regulatory rulings requested. For further details regarding the Company's 2024 Plan and the Residential, Income Eligible and C&I programs, please see the applicable Attachment.

1.2 Plan Summary

1.2.1 Savings

The primary goal of the 2024 Plan is to create energy and economic cost savings for Rhode Island consumers through energy efficiency. The Electric Portfolio will save 729,294 lifetime megawatt-hours (MWh) over the lifetime of the installed energy efficiency measures 94,198 net annual MWhs, and 12,988 net annual summer kilowatts (kW) and 15,190 net winter kW from passive energy efficiency. The Natural Gas Portfolio will save 3,302,603 lifetime MMBtu over the lifetime of installed natural gas measures and 312,846 annual MMBtu. For all fuels combined (electric, gas, oil, propane), the Annual Plan will save 6,515,936 net lifetime MMBtu and 660,866 net annual MMBtu. Energy savings are measured and verified by third-party evaluation firms.

1.2.2 Benefits

The 2024 Plan will create significant benefits for Rhode Island's residential, commercial, industrial, and income eligible customers. In total, the Annual Plan is expected to create \$273.6 million in total benefits over the life of the installed electric and natural gas energy efficiency measures.¹¹ Of these total benefits, \$193.3 M (\$166.2 M Rhode Island only benefits) come from electric efficiency and passive demand reductions, and \$80.3 M (\$80.0 M Rhode Island only benefits) derive from natural gas efficiency.

¹¹ Total benefits do not include quantified economic impacts.

Table 1 includes a high-level summary of the electric-funded and natural gas-funded portions of the Annual Plan. Each \$1 spent on the Electric Portfolio will create \$1.70 in benefits (\$1.46 in Rhode Island only benefits) over the lifetime of the investment, and every \$1 spent on the Natural Gas Portfolio will create \$1.96 in benefits (\$1.95 in Rhode Island only benefits) over the lifetime of the investments. A detailed summary of the benefits and costs included in the Rhode Island Test (RI Test) are included in Attachment 4.

1.2.3 Economic Impacts

The Company expects that investments made in energy efficiency under this Annual Plan will add \$232.9 million to Rhode Island's Gross State Product (GSP), the equivalent of 2,367 job years.¹² The vast majority of jobs associated with the Annual Plan's energy efficiency investments are local because they are tied to the installation of equipment and materials. An analysis of RI Energy's 2022 Energy Efficiency Portfolio found that 73 percent of vendors who deliver services on behalf of the Company's programs are either headquartered or have a presence in Rhode Island.¹³ Investments in energy efficiency contribute to Rhode Island's economy overall and benefit business owners and their employees who deliver these programs and services. As described in Attachment 4, the calculation of the RI Test benefits excludes any monetized value of economic impacts because of concerns over double counting of benefits with other categories.

1.2.4 Environmental Benefits

The electric, gas, and delivered fuel energy efficiency measures proposed in this Annual Plan will avoid over 71,763 short tons of carbon in 2024,¹⁴ which contributes toward the Act on Climate's greenhouse gas emission reduction requirement of 45 percent below 1990 levels by 2030, and towards the legislation's greenhouse gas emission

¹² Macroeconomic multipliers for the economic growth and job creation benefits of investing in cost-effective energy efficiency from "Economic Multipliers Update" filed in Docket 5189 on Jan. 6, 2022. This is a correction to the multipliers in "Review of RI Test and Proposed Methodology" prepared for National Grid by the Brattle Group, Jan. 31, 2019. These macroeconomic multipliers reflect the total impact to the Rhode Island economy and do not remove benefits counted elsewhere in the RI Test, so are shown as a separate economic impact analysis estimate.

¹³ Guidehouse, "Rhode Island 2022 Energy Efficiency Workforce Analysis Report," Jun. 1, 2023 (filed as Attachment 5 of Rhode Island Energy's 2022 Energy Efficiency Year-End Report).

¹⁴ While all energy savings seen in the Annual Plan are net, these emissions are calculated based on gross energy savings from energy efficiency measures. The marginal carbon emission rates are from the Synapse Energy Economics, Inc., "[Avoided Energy Supply Components in New England: 2021 Report](#)," Appendix G, based on US Energy Information Agency (EIA) data.

requirement of net-zero by 2050.¹⁵ The Company believes that robust, ambitious energy efficiency programs should be a foundational element of achieving greenhouse gas emission reduction targets. The Company also supports the various efforts that holistically evaluate the least cost pathways to realizing economy wide emissions.

1.2.5 Budgets and Funding

This Plan includes an investment of \$96.3 million in the cost-effective Electric Portfolio in 2024.¹⁶ If approved, this will be funded by \$11.5 million in proceeds from the ISO New England (ISO-NE) Forward Capacity Market (FCM), revenues from the existing energy efficiency program charge of \$0.0096 per kWh, and accounting for a fully reconciling mechanism of \$0.00092 per kWh pursuant to R.I. Gen. Laws § 39-1-27.7(c)(5) to fully fund the cost-effective Electric Portfolio for the 2024 program year for a total charge of \$0.01052 per kWh.^{17,18}

This Plan also includes an investment of \$34.2 million in the cost-effective Natural Gas Portfolio in 2024.¹⁹ If approved, this investment will be funded by revenues from the existing energy efficiency program charge of \$1.136 per dekatherm for residential customers and \$0.620 per dekatherm for non-residential customers, and accounting for a fully reconciling mechanism adjustment of (\$0.042) per dekatherm for residential customers and \$0.162 per dekatherm for non-residential customers. This is pursuant to R.I. Gen. Laws § 39-1-27.7(c)(5) to fully fund the cost-effective Natural Gas Portfolio for 2024, for a total of \$1.094 per dekatherm for residential customers and \$0.782 per dekatherm for non-residential customers.²⁰

The cost of procuring 729,294 net lifetime MWh electric energy efficiency savings through the Annual Plan is \$48.1 million less than if that electric load was met by purchasing additional electric supply. The cost of procuring said MWh savings is \$21.0 million less than the cost of supply if only Rhode Island intrastate electric benefits are counted. The cost of procuring 3,302,603 MMBtu lifetime natural gas energy efficiency savings through the Plan is \$11.0 million less than

¹⁵ Rhode Island General Law, [2021 Act on Climate](#), RIGL §42-6.2.

¹⁶ This number includes performance incentives relevant to Electric Portfolio programs.

¹⁷ See Attachment 5: Electric Energy Efficiency Program Tables, Table E-1 for a list of funding sources and calculation of the charge.

¹⁸ In 2024, no new Regional Greenhouse Gas Initiative (RGGI) funds will be available for efficiency programming. RI Energy will identify residual funds.

¹⁹ This number includes performance incentives relevant to Natural Gas Portfolio programs.

²⁰ See Attachment 6: Natural Gas Energy Efficiency Program Tables, Table G-1 for list of funding sources and calculation of the charge.

if that natural gas load was met by purchasing additional natural gas supply.²¹ The cost of procuring said MMBtu savings is \$10.7 million less than the cost of supply if only Rhode Island intrastate natural gas benefits are counted.

²¹ For more information on how this was calculated, see section 7.5 of the Main Text, “Cost of Annual Plan Compared to the Cost of Energy Supply”.

Table 1. 2024 Energy Efficiency Program Plan Summary

Electric Programs by Sector	Implementation Budget (\$000) ⁽³⁾	Performance Incentive (\$000)	Customer Contribution (\$000)	Annual Savings (MWh)	Lifetime Savings (MWh)	\$/ Lifetime kWh ⁽⁴⁾	Summer Annual Demand Savings (kW) ⁽⁵⁾	Total Benefits (\$000) ⁽⁶⁾	Alternative Benefits (\$000) ⁽⁶⁾	RI Test B/C Ratio ⁽⁶⁾	Participants ⁽⁷⁾
Non-Income Eligible Residential	\$30,023	\$547	\$6,363	35,292	190,617	\$0.19	4,261	\$60,153	\$54,517	1.63	324,977
Income Eligible Residential ⁽¹⁾	\$16,022	\$0	\$0	3,686	55,358	\$0.29	364	\$22,619	\$16,022	1.41	5,976
Commercial and Industrial	\$40,358	\$3,533	\$11,132	55,221	483,319	\$0.11	8,363	\$110,515	\$90,642	2.01	2,559
Regulatory ⁽²⁾	\$5,828										
Electric Subtotal	\$92,229	\$4,079	\$17,496	94,198	729,294	\$0.15	12,988	\$193,287	\$166,228	1.7	333,513
Gas Programs by Sector	Implementation Budget (\$000) ⁽³⁾	Performance Incentive (\$000)	Customer Contribution (\$000)	Annual Savings (MMBtu)	Lifetime Savings (MMBtu)	\$/ Lifetime MMBtu ⁽⁴⁾	NA	Total Benefits (\$000) ⁽⁶⁾	Alternative Benefits (\$000) ⁽⁶⁾	RI Test B/C Ratio ⁽⁶⁾	Participants ⁽⁷⁾
Non-Income Residential	\$15,102	\$0	\$3,276	137,163	1,098,130	\$16.74		\$24,701	\$24,563	1.34	140,993
Income Eligible Residential ⁽¹⁾	\$7,586	\$0	\$0	16,367	287,482	\$26.39		\$16,904	\$16,859	2.23	3,587
Commercial and Industrial	\$8,285	\$905	\$3,578	159,317	1,916,991	\$6.19		\$38,684	\$38,575	3.03	765
Regulatory ⁽²⁾	\$2,282										
Gas Subtotal	\$33,255	\$905	\$6,854	312,846	3,302,603	\$12.14		\$80,289	\$79,997	1.96	145,345
TOTAL Combined Plan	\$125,484	\$4,984	\$24,350	NA	NA	NA	NA	\$273,576	\$246,225	1.83	NA
(1) In addition to Income Eligible Residential programs, Income Eligible customers can participate in all Non-Income Eligible Residential programs.											
(2) Regulatory Includes contributions to the Office of Energy Resources, EERMC and the Rhode Island Infrastructure Bank.											
(3) The Program Implementation Budgets come from Tables E-3 and G-3 of Attachment 5 and 6, respectively.											
(4) Performance Incentive excluded from denominator, consistent with the Attachment 5 and 6.											
(5) The Summer Annual Demand Response (kW) measures passive demand savings.											
(6) "Total Benefits" and the "RI Test B/C Ratio" continue to exclude economic benefits from the RI Test as in the 2023 Plan.											
(7) The unit measure for participation varies by program. See Attachment 5, Table E-7 and Attachment 6, G-7 for participation goals by program.											
(8) Electric Programs are funded by the Electric Energy Efficiency Charge but also include Delivered Fuels energy savings.											

1.3 The Planning Process

This 2024 Plan benefited from the process undertaken in the 2023 calendar year that resulted in the 2024-2026 Plan and reflects a refinement of the planning that was undertaken for the first year of the 2024-2026 Plan, including incorporating the latest Evaluation, Measurement, and Verification (EM&V) studies and Avoided Cost study (see Attachment 3 for the latest studies applied). The 2024-2026 Plan was informed by the areas of opportunity identified in the Rhode Island Energy Efficiency Market Potential Study Refresh (Market Potential Study Refresh) commissioned by the EERMC and completed by Dunsky Energy Consulting in early 2023. This Annual Plan has also been guided by the LCP Standards in RI PUC Docket 23-07-EE. The Standards include an extensive set of “principles of program design” referenced in section 2.2.

The Company has engaged the EE TWG, EWG, and the EERMC and its consulting team throughout the planning process to leverage their expertise and seek their feedback. The Company is grateful for the substantive critiques and ideas that have come through this process of continued engagement. In particular, the discussions of equity have helped shape and elevate RI Energy's equity commitments, establishing equity as an overarching strategic objective of the 2024 Plan and adding multiple specific, measurable actions across the Company's energy efficiency programs.

1.4 How to Read this Plan

For ease of review, this 2024 Plan has been organized to align with the revised LCP Standards. There are three overarching sections:

- **Strategies and Approaches to Planning.** This section provides discussion of the Company's approach to implementing the principles of program design outlined in the LCP Standards and provides summary program descriptions, along with the major enhancements and innovations planned for 2024. This section also includes a discussion of program participation, EM&V, coordination with other energy programs, and demonstrations, pilots and assessments.
- **Consistency with Standards.** This section explains how the Annual Plan complies with the requirements for cost-effectiveness, reliability, prudence (including a detailed discussion of equity and rate and bill impacts), environmentally responsible, and comparison to alternative cost of supply requirements, as set forth in the LCP Standards.
- **Goals, Budget, and Funding Plan.** This section details these elements and discusses the performance incentive plan and performance metrics.

The eleven Attachments to this Annual Plan provide additional detail on specific Plan elements. **Attachment 1 Residential & IES Programs** and **Attachment 2 C&I Programs** provide detail on program eligibility criteria, offerings, implementation and delivery, customer feedback, 2024 changes with accompanying rationale, and proposed evaluations for each program. **Attachment 3 Evaluation, Measurement, and Verification Plan** reviews evaluation studies completed in 2022, details studies planned for 2024, and provides a recap of historical studies. **Attachment 4 RI Benefit Cost Test** presents the framework for assessing cost-effectiveness of this Annual Plan. **Attachments 5 and 6** contain funding, budgets, goals, and cost-effectiveness tables for the Electric and Natural Gas energy efficiency programs, respectively. **Attachment 7 Rate and Bill Impacts** provides a detailed analysis of the bill impacts resulting from this Plan. **Attachment 8** details, for each sector, **2024 Demonstrations, Pilots and Assessments**. **Attachment 9**

Cross-Program Summary documents how the programs described in this Annual Plan relate to other specific RI Energy programs. **Attachment 10 Definitions** provides definitions of energy efficiency terms used throughout the Annual Plan. **Attachment 11 Equity Working Group Report** provides a summary of actions taken through the EWG.

Section Two: Strategies and Approaches to Planning

2.1 Strategic Overview

This Annual Plan is the first year of the 2024-2026 Plan. This 2024 Plan supports continued innovation and accelerates the efficiency of Rhode Island homes and businesses. This Annual Plan achieves savings by implementing the following key strategic priorities set out in the 2024-2026 Plan, modified for the 2024 program year:

Five Key Priorities



Deliver optimized, tailored programs that serve all customers and **increase program reach**



Understand customer needs, planning cycles, and goals to optimize incorporation of the **next generation of efficiency measures**



Enhance financing options, simplify offerings, and raise customer awareness of complementary funding sources that can be leveraged to **enable customers to invest in efficiency**



Serve customers equitably by designing programs with a conscious effort to serve small business and low- and moderate-income; gender, racially and ethnically diverse; and non-native English-speaking customers



Increase workforce capacity to serve customers and implement energy efficiency

2.2 Principles of Program Design

This 2024 Plan has been guided by the LCP Standards as updated in RI PUC Docket 23-07-EE, which provides a set of principles of program design. The bullets below summarize the principles and, if appropriate, in what sections of this Annual Plan they are addressed.

- **Integration with other programs and policies.** Section 4: Coordination with Other Energy Policies and Programs provides details on the Annual Plan's connection to specific state policies. Energy Efficiency Program descriptions in Attachments 1 and 2 describe the dissemination of information on energy programs beyond those run directly by the Company.
- **Innovation.** Innovative strategies are outlined in Attachment 8: Demonstrations, Pilots and Assessments.
- **Comprehensiveness.** Examples of strategies to achieve deep comprehensive savings packages that emphasize whole building and whole system solutions are found in the C&I market sector approach and the Residential and Income Eligible whole building delivery program descriptions, in Attachments 2 and 1, respectively.
- **Equity.** Using an equity lens involves consideration of how to modify systemic and institutional structures that have made it easier for some customers to access the energy efficiency programs than others. Sections 2.5.1 and 2.7 describe the Company's approach to equity in 2024.
- **Build on prior plans.** The experience and lessons of prior planning and regulatory approval processes informs the current program design.
- **Build on prior programs.** Programs are continuously evolving, building from one plan year to the next. Each program description in Attachments 1 and 2 has a section addressing program design changes for 2024.
- **Planned based on potential assessments.** This Annual Plan is informed by the 2023 Market Potential Study Refresh, and the areas of opportunity identified within it, as well as the cost implications and approach to barrier mitigation necessary to achieve higher levels of potential savings.
- **Unlock capital and effectively uses funding sources.** This Annual Plan consistently looks beyond direct financial incentives and traditional financing strategies to design capital and program access strategies that respond to specific customer barriers, such as grants for overcoming pre-weatherization barriers, a revised HEAT Loan or third-party financing.
- **Integration of natural gas and electric energy efficiency programs.** All programs are integrated across fuels where it is possible to optimize and benefit from synergies between the two energy systems.
- **Strategies to achieve targets.** As noted above, the overarching strategies highlighted in the 2024-2026 Plan permeate this Annual Plan.

- **Investments on behalf of all customers.** All customers contribute to energy efficiency program funding, and, in return, programs are designed so that all customers have the opportunity to participate. This element of equity is discussed further in section 2.7.
- **Efficacy.** The Company has incorporated opportunities to balance the portfolio of energy savings measures and program approaches to drive higher cost efficiencies (i.e., the amount of energy savings per dollar invested) and minimize the impact on customer bills. Efficacy also incorporates workforce development, which is described further in section 2.5.2.
- **Parity among sectors.** This Annual Plan examines the amount collected from the different sectors by the SBC, as compared to the program budgets by sectors, to ensure that sectors are generally receiving the benefits paid for. This is further described in section 6.3.2.
- **Cost effectiveness.** Programs are cost effective as required and shown in Attachments 5 and 6. The application of cost effectiveness as a design principle at a program level involves a balancing of comprehensive, costly projects with long-term measures, with programming that requires less intensive customer support, such as upstream programming that moves the incentive from the end user to the point of sale and Strategic Energy Management Planning with very large customers.

Further details on the Company's application of the Standards are found in section 6. As with any plan, this 2024 Plan was developed using the best information available at the time. Should circumstances change as the year develops, the Company will act in its capacity as Program Administrator to adapt as needed and inform stakeholders of the inability to execute a proposed strategy or commitment or the need to revise them.

2.3 Residential Programs

2.3.1 Overview of Residential and Income Eligible Energy Efficiency Programs

In 2024, the Company will continue all Residential and Income Eligible energy efficiency programs offered in 2023. All Residential and Income Eligible programs are funded by electric and natural gas customers. The Company offers the programs detailed below to provide comprehensive services to two regulatorily defined sectors, market rate and income eligible.

Residential Consumer Products

The Residential Consumer Products Program promotes the purchase of high efficiency household appliances carrying the ENERGY STAR® label including dehumidifiers, pool pumps, and room air cleaners. In 2024, the program will also promote the purchase of “Most Efficient” room air conditioners, dehumidifiers, refrigerators, freezers, clothes washers, and dryers. Consumers can participate by purchasing these products at retail stores or through the Company’s online marketplace. Residential Consumer Products also provides incentives toward advanced power strip purchases.

The program trains retail sales staff about the ENERGY STAR label and how to promote the certification’s energy and environmental benefits to consumers. The most efficient appliances are incentivized at the retailer level to encourage sales of these ENERGY STAR most efficient appliances. Additionally, the program offers refrigerator, freezer and dehumidifier recycling.

Home Energy Reports

The Home Energy Reports Program is a behavioral-based offering designed to make customers aware of their energy consumption through personalized print and email reports and a seamlessly integrated website. Each of the communication channels displays a customer’s energy consumption patterns, sets an energy reduction goal for each customer, and contains a normative comparison to similarly sized and heated homes. The goal of the Home Energy Reports Program is to inspire customers to take actions that reduce their energy consumption and increase their participation in other Company energy efficiency programs.

Residential High-Efficiency Heating, Cooling, and Hot Water

The Heating, Ventilation and Cooling (HVAC) Program promotes the installation of high efficiency central air conditioners and eligible heat pumps for electric customers and new energy-efficient natural gas related equipment including boilers, furnaces, windows, water heating equipment, thermostats, and water-saving devices. The program offers incentives for high efficiency air source heat pumps to customers with electric resistance heating as well as customers whose primary heating system is fuel by natural gas, oil or propane.

Incentives for energy-efficient central and ductless air source heat pumps for space and water heating equipment are available for customers with electric resistance heating/hot water. Incentives are also available for air source heat pumps used as cooling devices in homes with a primary heating system that is natural gas, oil or propane. The HVAC

Program supports contractor training to increase accurate installation practices, testing of the high efficiency systems, tiered rebates for new high efficiency systems, and incentives for checking new and existing systems.

Residential New Construction

The Residential New Construction program offers financial incentives and no-cost education, training and technical support to builders and homeowners to promote the construction of high performing energy-efficient single family, multifamily and income-eligible homes. The program helps residential new construction and major renovation projects meet high energy performance standards and provides education and training support to builders, designers, tradespeople, and code officials.

EnergyWise Single Family

The EnergyWise Program offers single-family customers (homes with 1-4 dwelling units) in-home energy assessments, weatherization services, and information regarding their energy usage and energy-saving opportunities. The program is designed as a direct-to-customer offering that educates residential customers on how they can make their home more energy efficient. Energy specialists address electric use, heating, cooling and water heating loads in single-family residential buildings through various measures including weatherization, along with providing immediate on-site installations of advanced power strips and water-saving devices.

Once the assessment and energy saving installations are completed, participants receive energy efficiency recommendations and technical assistance, as well as financial incentives to upgrade to high efficiency HVAC equipment, water heating systems, insulation, and smart thermostats. Customers also receive an Energy Action Plan detailing the additional energy savings opportunities they have through participation in other Company energy efficiency programs. Qualified customers can receive zero percent financing to install these high efficiency upgrades through the Company's financing programs, including the HEAT Loan.

Market Rate Multifamily

This program offers comprehensive energy services for market rate multifamily customers (buildings with 5+ dwelling units), including energy assessments, incentives for heating and domestic hot water systems, cooling equipment, and weatherization. All types of multifamily properties are eligible. A primary point of contact is designated to manage and coordinate services offered through the Company's existing portfolio. This program is offered in conjunction with the

C&I Multifamily Gas Program where a site may have a commercial meter or office space but also has individual dwelling units. The delivery of the Market Rate Multifamily Program's services should be virtually indistinguishable to the customer as the Company's single point of contact will handle all program overlap (between Residential and C&I energy efficiency programs) and offer a seamless customer experience. See Attachment 1 for more detail on the program and some new ideas to improve performance moving forward.

Income Eligible Programs

The Company wants customers who meet the income eligibility requirements and may have a high energy burden and/or difficulty paying their electric or gas bills to participate in, and benefit from, the Company's energy efficiency programs. Therefore, the income-eligible sector is designated as a unique sector and funding for this sector is subsidized by both non-income-eligible residential customers and C&I customers so a larger proportion of income eligible customers can be served.

The Income Eligible Services (IES) Program offers home energy assessments, weatherization services, appliance, and heating system replacements with no customer cost to qualified single-family customers. Customers who qualify for the A-60 rate or for the Low-Income Home Energy Assistance Program (LIHEAP) are eligible to receive all services and equipment upgrades at no cost. The IES Program's services are delivered by local Community Action Program (CAP) agencies who coordinate with outside contractors that perform heating system and appliance replacements and weatherization installations with oversight provided by a Lead Vendor.

The Income Eligible Multifamily Program offers comprehensive energy services for multifamily customers that also meet the criteria for "income eligible" as defined in Attachment 1: Residential and IES Programs, Section 4: Multifamily. These services include energy assessments, incentives for heating and domestic hot water systems, air source heat pumps, cooling equipment, water-saving installations, and smart thermostats. Typically, there are no costs to the customer for these services as most income-eligible upgrades are covered at 100 percent.

2.3.2 Major Residential and Income Eligible Program Changes

In 2024, the Company will continue to offer the full suite of Residential and Income Eligible programs listed above. These programs will be delivered in an equitable manner to make Rhode Island homes energy efficient through advanced building standards, weatherization, high efficiency HVAC and hot water systems, efficient appliances, behavioral strategies, smart thermostats, and more. In acknowledgement of the broad adoption of energy efficient

lighting in the residential market and federal lamp standards, lighting will generally no longer be offered as a measure across residential programs beginning in 2024. The only remaining lighting option will be for EW & IE MF common area lighting. The Company is also shifting several products in the Consumer Products program from downstream to the midstream Most Efficient category. Please see Attachment 1 Section 7 for more detail.

A top priority for the Company is to develop an equity-driven approach to the design, implementation, and marketing of Residential and Income Eligible programs. In 2024, the Company is committed to working with the EWG and other stakeholders to make sustained progress on equity initiatives. The Company plans to allocate Residential and Income Eligible program budgets to increase marketing to underserved populations. The Company has proposed an assessment to partner with community-based organizations that have the experience and established relationships with neighborhoods and municipalities to promote the benefits of energy efficiency. The Company is working with the EWG to design this assessment. For additional detail, please see Attachment 8.

Due to pre-weatherization barriers (including but not limited to asbestos, knob-and-tube wiring, mold and mildew, and vermiculite) some customers are prevented from receiving the valuable weatherization services offered through the EnergyWise, Multifamily and IES Programs. During the 2024 program year, the Company will continue to collaborate with stakeholders and other groups to assess best practices and new strategies to address these pre-weatherization barriers. The Company will expand on and refine recent initiatives regarding data tracking of deferrals and pre-weatherization barriers across all Residential and Income Eligible programs.

The Company plans to coordinate with OER to leverage additional funding opportunities for energy efficiency measures and projects funded through the American Rescue Plan Act (ARPA) and IRA, such as Clean Heat RI Program. This program is administered by OER and received \$25 million in ARPA funds to provide financial incentives to residential and C&I customers for the purchase and installation of high efficiency electric heat pumps. The Company is also working on a new Multifamily Financing offering for the 2024 program year. Please refer to Attachment 8 for more detail on this initiative.

The Company is actively implementing its income-eligible focused Heat Pump Plan to encourage electric resistance heating customers to upgrade to air source heat pumps systems. These high efficiency systems reduce annual energy expenditures and decrease reliance on fossil fuels. As part of RI Energy's Heat Pump Plan, the Company was directed by the PUC to develop a Heat Pump Plan to achieve 750 conversions annually by 2025 with 25 percent of those customers

served classified as income eligible. In 2024, the Company will continue to aggressively reach out to income-eligible customers to upgrade to efficient electric heating.

2.4 Commercial and Industrial Programs

2.4.1 Overview of Commercial and Industrial Energy Efficiency Programs

The C&I Programs offer incentives, rebates, technical assistance, and financing to customers that look to reduce energy consumption, cut greenhouse gas emissions, or meet corporate sustainability goals. To reach customers, the Company uses a market sector approach, whereby specific energy efficiency initiatives are developed to meet the needs of different market segments (e.g., the Grocery program, Chain Restaurants, and the Industrial Initiative). In addition to the market sector approach, the Company also provides Prescriptive and Custom offerings. The Prescriptive offerings are available for a wide variety of standardized energy-efficient products with “deemed” savings values, such as lighting equipment, air compressors, variable speed drives, and stream traps. While the Custom offerings are available for any energy conservation measure that is not covered under alternative pathways.

In planning the Commercial and Industrial programs, the Company evaluates customer needs, market dynamics, and State policy objectives to determine how program offerings can be enhanced or adjusted to drive market transformation across multiple end-uses. Another central component to the planning process is the development of strategies that advance more equitable services, particularly within the Small Business and Multifamily Programs.

The C&I Programs are listed below. For more details regarding program details and upcoming changes, please see Attachment 2: C&I Programs.

Large C&I New Construction and Building Energy Code Support

The Large C&I New Construction Program offers financial incentives and technical assistance to customers, design professionals, developers, and vendors to encourage energy efficiency in new construction, major renovation, planned replacement of aging equipment, and replacement of failed equipment projects. C&I customers with an annual electric consumption greater than 1.5 million kWh per year are eligible.

Through the program, design professionals are eligible to receive technical assistance to conduct energy modeling and analysis for new construction projects. Owner’s design teams are offered incentives for their time and effort to meet program requirements. The program promotes and incentivizes the installation of high efficiency equipment in existing

facilities during remodeling projects or for equipment failure and replacement. Since customers are more likely to install energy-efficient equipment at the time of construction or equipment replacement, the program offers incentives to ensure customers make the investment immediately rather than doing so at a greater cost later. The program also offers operations verification or quality assurance services to ensure that installed equipment and systems operate as intended.

The program supports the state's Zero Energy Building goals through engagement and in developing future offerings. The program promotes compliance with the building energy code to support the State's goals and objectives. Technical assistance is provided for advancing the development and adoption of minimum efficiency standards for appliances and equipment.

Large Commercial and Industrial Retrofit

All commercial, industrial, and institutional customers are eligible to participate in the Retrofit Program. The program incentivizes the replacement of existing equipment and systems with high efficiency alternatives when the customer might otherwise not plan on making efficiency investments. Incentivized measures include lighting, HVAC systems, motors, thermal envelope measures and custom measures in existing buildings. Technical assistance is offered to customers to help them identify energy-saving opportunities.

The program's incentives help C&I customers in defraying part of the material and labor costs associated with the installation of energy efficiency measures. In addition, the Company offers education and training, such as the BOC training, to support the adoption of energy-efficient equipment and practices.

Small Business Direct Install

This program is a retrofit offering that provides turn-key efficiency solutions to customers who use less than 1.5 million kWh per year. Through the program, a free on-site energy assessment is performed, and customers receive a customized report detailing recommended energy-efficient improvements.

From local pizzerias to small convenience stores, the Small Business Direct Install Program serves small businesses of all customer types, buildings and sizes. The program pays up to 70 percent of installation and equipment costs. Provided funds are available, customers can finance the remaining costs of the project for up to 60 months (typically 24) interest free on their electric bill using the Small Business Revolving Loan Fund.

Commercial and Industrial Multifamily

The C&I Multifamily Program provides comprehensive efficiency services for market rate multifamily customers who reside in residential buildings with 5+ dwelling units. These coordinated services include energy assessments and incentives for weatherization and the replacement of heating and domestic hot water equipment and systems. The program's services are offered for all types of multifamily properties.

To streamline the delivery of program services, the Company designates a primary point of contact for the multifamily property who will manage and coordinate the services offered. The measures and services are offered through the Company's existing Energy Efficiency Portfolio of C&I Programs (C&I Retrofit) and Residential Programs (EnergyWise, Income Eligible, Residential New Construction and ENERGY STAR HVAC).

2.4.2 Major C&I Program Changes for 2024

The Company plans to make a number of modifications and enhancements to the C&I Programs during the 2024 program year. Some of these changes will affect how the Company engages customers in energy efficiency while other modifications focus on providing more innovative efficiency measures and services to C&I customers to capture all energy-saving opportunities. Intertwined, all the modifications and enhancements are designed to engage C&I customers and drive energy efficiency across Rhode Island. In 2024, the Company plans to implement the following strategies for its C&I programs:

- Deploy a data-driven approach to increasing customer participation in the C&I sector. Including analyzing customer consumption data (e.g., kilowatt-hours, peak load and therms) and past energy efficiency participation to better target customers, especially nonparticipants.
- Expand the reach of the Strategic Energy Management Plan Initiative to support the increasing number of customers with climate and sustainability goals.
- Support more advanced system controls, energy management systems and building analytics through retro-commissioning, monitoring-based commissioning, equipment right sizing and the Upstream Initiatives.
- Develop a host of prescriptive and custom offerings to promote commercial weatherization and greenhouse gas emission reductions through the installation of energy recovery ventilators, upstream heat pumps, and measures to prevent gas and refrigerant leak reductions.

- Promote the Main Streets Initiative in Environmental Justice Focus Areas.²²
- Enhance continuing education for building managers and facilities operators.

2.5 Cross Cutting Programs

2.5.1 Equity

Equity is a key priority for the 2024 Plan. The Company is committed to ensuring customers across Rhode Island have equitable access to energy efficiency, regardless of their income, geographic location, primary language, business size, home ownership status, or other relevant barriers. The Company planned and developed its 2024 Energy Efficiency Portfolio with a conscious effort to serve all customer including low-and-moderate income and small business, gender, racially and ethnically diverse, and non-native English-speaking customers.

Throughout the 2021-2023 term, RI Energy and OER have co-hosted a series of EWG meetings facilitated by the Green & Healthy Homes Initiative. The purpose of these meetings is to provide the Company with written recommendations to advance equity in the planning, design, and delivery of its energy efficiency programs. The EWG has released two reports, in 2022²³ and 2023,²⁴ making recommendations for strategies and specific measurable actions for the Company to take to increase equity in energy efficiency. For the planning process for the 2024 Plan, RI Energy has worked with the EWG to develop the Company's 2024 Equity Commitments. For more information regarding the Company's 2024 Equity Commitments, please see section 2.7.

²² The Rhode Island Department of Environmental Management defines an Environmental Justice Focus Area as a census tract that meets one or more of the following criteria: (1) annual median household income is not more than sixty-five percent (65%) of the statewide annual median household income, (2) minority population is equal to or greater than forty percent (40%) of the population, (3) twenty-five percent (25%) or more of the households lack English language proficiency, or (4) minorities comprise twenty-five percent (25%) or more of the population and the annual median household income of the municipality in which the proposed area does not exceed one hundred fifty percent (150%) of the statewide annual median household income.

²³ [2021 Rhode Island Energy Efficiency Equity Working Group Report](#), prepared by Green & Healthy Homes Initiative, rel. Sep. 2021.

²⁴ See 23 Id.

2.5.2 Workforce Development

Clean energy and energy efficiency programs are drivers of job creation in Rhode Island. The Company's energy efficiency programs support a large clean energy workforce of local and regional vendors, contractors, distributors, and suppliers. It is important that the jobs and economic benefits created from energy efficiency jobs reach all Rhode Island communities, especially Environmental Justice Focus Areas.

The success of Rhode Island's energy efficiency programs depends on having a highly skilled workforce. In 2024, the Company will collaborate with the Rhode Island Department of Labor & Training, the Governor's Workforce Board, and other stakeholders to identify the needs of the current and future energy efficiency workforce and to pursue federal funding in coordination with existing clean energy programs. Increasing workforce capacity and diversity creates additional opportunities for the Company to pursue equity-driven strategies by supporting and recruiting new workers from marginalized communities, as well as opportunities to increase the level of activity in future energy efficiency plans in areas where workforce is currently a limiting factor.

During the 2024-2026 term, the Company's workforce development efforts will be based on the recommendations from the recently released Rhode Island Workforce Needs Assessment Study.²⁵ More details on the study can be found in the 2024-2026 Plan. The study made four recommendations for RI Energy, for which responses are provided here:

- 1) Encourage workforce ecosystem coordination and leadership by advocating for increased emphasis on energy efficiency and workforce development within relevant state-wide entities and supporting emerging leadership efforts in the state around energy efficiency workforce development.**

The study identified many entities and organizations currently offering training, certification and continuing education credits that support workforce development within energy efficiency. Some groups also provide funding and grants, as well as financial support for surround-care to help people with transportation or childcare challenges. Given the rich ecosystem of resources that already exists within the state, an effective next step would be to create an entity (i.e., group/web location) where these resources can be centralized and made available. This

²⁵ [2023 Rhode Island Workforce Needs Assessment Study](#), prepared by BW Research Partnership, rel. July 2023.

would greatly facilitate access to resources, easy to promote and bring more awareness about opportunities for residents.

The Governor's Workforce Board is the state's long-standing primary workforce training and investment entity, helping state entities design, fund and build training programs. They have just begun to form a new subcommittee, the Green Energy Workforce Advisory Committee, which would be perfectly positioned to lead the drive for energy efficiency workforce development. The Company will support the efforts of this Board and Committee to help develop a central resource for the state.

- 2) Support marketing efforts and pipeline building by further leveraging the Company's marketing and communications capacity with credible information resources and campaigns and by partnering with groups, especially those serving underserved communities, to raise awareness about the value and opportunities of energy efficiency jobs.**

The Company is well known in Rhode Island and has a wide reach to customers/residents across the state. RI Energy's marketing and communications teams promote availability of the energy efficiency programs through a variety of mediums on a regular basis. The Company will leverage these existing efforts to promote opportunities for energy efficiency training and careers, and partner with groups, such as the Rhode Island Builders Association (RIBA) to reach underserved communities.

- 3) Champion energy efficiency-related programs at all levels of education by increasing support for specific programs in high schools and vocational-technical schools, including curriculum development, instructor recruitment, internships, and equipment needs.**

High schools, vocational technical schools and adult training programs are an opportunity for bringing new workforce to energy efficiency, particularly when it comes to the trades. The Company will work with and support [RIBA](#) and the Residential Construction Workforce Partnership ([RCWP](#)) to enhance and improve their existing educational programming.

- 4) Partner with contractors to expand diverse worker recruitment by communicating the benefits of energy efficiency careers, funding career navigators and wraparound supports, and educating contractors about the opportunities in energy efficiency.**

RI Energy and its energy efficiency vendors are connected to a large network of contractors in the state, including insulation, HVAC, energy auditors and specialists, builders, contractors, and engineers. The Company can partner with this network of contractors to identify their needs and connect them with resources including wraparound services and career navigators.

In 2024, the Company will proactively prepare for an expansion of energy efficiency due to IRA federal funding for Residential, Income Eligible, and C&I projects. With increased funding from IRA and the greenhouse gas emission reduction goals mandated by the Act on Climate, the need for highly skilled professionals in Rhode Island's energy efficiency workforce is only growing. The Company will increase its continuing education and training opportunities for existing and future members of the energy efficiency to build capacity and meet demand.

Meeting the increased demand for energy efficiency will require significant expansion of the current efficiency workforce and supply chain, as well as leveraging the knowledge and training opportunities available through trade allies. RI Energy plans to increase workforce trainings to support zero-net energy projects, building operator certification, HVAC system optimization and controls, heat pump technologies, weatherization, and general energy efficiency skills, such as auditing and the Association of Energy Engineers' Certified Energy Manager (CEM) certification. The Company will also enhance its continuing education opportunities for building managers and facilities operators. RI Energy will also increase its efforts to recruit technical and vocational students and educate them about the career opportunities they have in energy efficiency.

The Company will continue its support of the Energy Expo at the Rhode Island Home Show in 2024. In 2023, the Energy Expo resulted in over 150 direct energy audit appointments for customers, as well as the potential for many more based on postcards that customers took home. Furthermore, it is a valuable workforce development activity, in cooperation with RIBA and Rhode Island's Career Technical Education (CTE) programs, to involve schools and students at the Energy Expo. The model for having students and schools participating in building features and educating consumers along with industry partners has been adopted by the Rhode Island Department of Education as an approved work-based learning and career exploration curriculum to satisfy internship/career exploration requirements for graduation. RIBA presented on the results of the 2023 Energy Expo at the July 20, 2023 EERMC meeting.²⁶

²⁶ RI Home Show: Energy Expo RIBA [Presentation](#), presented at EERMC meeting (Jul. 20, 2023).

Table 2 below shows the Company’s continued workforce development activities.

Table 2. Continued Workforce Development Activities

Sector	Workforce Development Activity	Description	Target Audience
Res	HVAC Check trainings	HVAC installation best practices training delivered as part of the HVAC Program	HVAC technicians
Res + IE	Zero Net Energy training	High performance building best practices training delivered as part of the Residential New Construction Program	Design professionals, builders and contractors
IE	Miscellaneous income-eligible training	Training on topics such as smart thermostats and air source heat pumps delivered as part of the IES Single-Family Program	Weatherization contractors, auditors
Res	RI Builder’s Association and Residential Construction Workforce Partnership (RCWP) training	Weatherization focused training. Students recruited from community with anticipation of returning to their community and supporting local CAP agencies	Weatherization for both Income Eligible and Market-Rate applications
C&I	Zero Net Energy training	High performance building best practices training delivered as part of the C&I New Construction and Major Renovations Program	Design professionals, developers and contractors
C&I	BOC training	Building operations and maintenance (O&M) best practices training delivered as part of the C&I Retrofit Program	Facility managers, building maintenance staff
C&I	Controls Best Practices training (HVAC and Lighting Controls)	ASHRAE Guideline 36 training (Sequence of Operations)	Contractors, engineers
C&I	Controls Best Practices training (HVAC and Lighting Controls)	Lighting Design Lab (lighting controls) training	Contractors, engineers, program technical and sales staff
All sectors	Codes & Standards – code compliance training	A suite of services which includes training sessions (classroom, webinar, and in-field), project-specific “hotline” support, and	Code officials, design professionals, builders, developers and contractors

Sector	Workforce Development Activity	Description	Target Audience
		development and delivery of tools and resources to fill industry gaps	

To further address the training needs that will be required to prepare for the adoption of the 2024 IECC building code, the Company has planned for the Additional Workforce Development activities in 2024 (and 2025 as needed).

Table 3. Additional Workforce Development Activities

Sector	Workforce Development Activity	Description	Target Audience
Res	Train the Trainer	A “train the trainer” program will multiply the number of qualified instructors and allow for an increased training capacity	Code trainers
Res	Reimburse Program Approved Trainers	After completing the trainer course, qualified instructors will be compensated to deliver code update trainings	Code trainers
Res	Full Day Workshops	Full-day workshops allow for a deeper level of instruction for trainees looking for more detailed or specific code information such as design and plan review, HVAC implementation, etc.	Code officials, design professionals, builders, developers and contractors
Res	LMS System Trainings	LMS style trainings can be pre-recorded and linked to various state and industry websites. This will allow trainees with time or transportation constraints to attend trainings on their own time	Code officials, design professionals
Res	HERS Rater Training & Certification	Rhode Island will need to increase this workforce network dramatically to meet the needs of the industry once the new code takes full effect	HERS Raters

The Company will coordinate workforce development efforts with the appropriate state and local authorities to maximize and leverage the impact of the incremental initiatives that will be undertaken. For example, OER is pursuing

federal Department of Energy (DOE) workforce funds for an HVAC Heat Pump Apprentice Program and Clean Energy Internship Program, which can complement RI Energy's workforce development activities.

2.5.3 Multifamily Landlords

The Company plans to heavily promote heat pump upgrades and other applicable energy efficiency measures to building owners and landlords. RI Energy recognizes gaps in current financing offerings, such as a lack of options for landlords in the Multifamily Program. In 2024, the Company plans to work to find effective ways to address these gaps and has proposed a new Multifamily Financing Program demo. Please see Attachment 8 for additional detail.

2.5.4 Enhance Financing and Funding Options

The Company currently offers several financing vehicles to customers including the On-Bill Refinancing Loan, Third-Party C&I Financing Loan, HEAT Loan, and financing through the Efficient Buildings Fund. In 2024, the Company will investigate ways in which these offerings can be expanded to serve more customers, including increasing loan limits for comprehensive projects. To make financing more useful in moving projects across the finish line, the Company will provide additional training on available financing mechanisms and how to position them effectively to internal sales staff and trade allies.

In addition to financing, the Company will collaborate with OER to integrate program incentives with state and federal funding. OER will administer \$64 million in funding from the federal IRA in addition to \$25 million from ARPA for its Clean Heat RI Program. The IRA also offers several enhanced tax credits to encourage homeowners to pursue efficiency and electrification measures. Rhode Island Infrastructure Bank, in addition to their \$5 million annual allocation of program dollars, received an additional \$5 million from a 2022 state bond issue to support a small business energy efficiency fund. The Company intends to leverage these outside dollars to encourage greater program participation.

2.5.5 HVAC Equipment

The Company plans to coordinate with OER to leverage additional funding opportunities for energy efficiency measures and projects funded through ARPA and IRA, such as the [Clean Heat RI Program](#). This program is administered by OER and received \$25 million in ARPA funds to provide financial incentives to residential and C&I customers for the purchase and installation of high efficiency electric heat pumps.

The Company will target electric heat resistance heat pump upgrades as outlined in the Company's *Electric Resistance Heating to Air Source Heat Pumps: Implementation Plan for the Income Eligible Sector*. The Company was directed by

the Public Utilities Commission to develop the Heat Pump Plan to achieve 750 conversions annually by 2025 with 25 percent of those customers served classified as income eligible. In 2024, the Company will make a concerted effort to upgrade income-eligible customers.

2.6 Participation and Outreach

In 2024, the Company will continue to drive participation through two main pathways – targeted programs and broad-based programs. Targeted programs include the Company’s retrofit, new construction, product rebate, and small business initiatives. These programs serve to drive deeper savings to targeted customer segments and offer a wide array of energy efficiency measures. The Company also reaches broad participation by promoting products upstream and through Home Energy Reports. These broader based programs provide value by reaching a wide and diverse set of customers, helping to provide more customers with access to energy savings, as well as acting as a gateway to drive participation in other Company energy efficiency programs.

In 2024, the Company will continue its efforts to reach customers who have never participated in its energy efficiency programs. A comprehensive marketing campaign will be deployed in English and Spanish that will educate customers on the availability of the programs. The Company will continue its focus with Central Falls, East Providence, Pawtucket, Providence, and Woonsocket, communities with lower participation rates (some towns have participation rates at fewer than 5 percent of accounts, while other communities have participation rates upward of 30 percent) and will conduct additional outreach and engagement in those communities. Some of the communities may be further tailored to align with federal Justice40 communities. The Company will continue to deliver innovative strategies to increase customer participation and reach customer segments that are historically underrepresented. Also, the Company will continue to track participation trends and will again provide a detailed analysis in its 2023 Year-End Report showing additive and cumulative portfolio participation. The Year-End Report also captures energy efficiency spending by ZIP code where additional spending on programs can be tracked.

Each program described in this 2024 Plan seeks to drive customer participation to deliver the benefits of energy efficiency to customers throughout Rhode Island. The Annual Plan is designed to provide equitable access to savings and programs across sectors and market segments. For 2024, the Company will continue to plan and report participation in ‘net’ terms, which takes into account free-ridership and spillover, which are commonly referred to as net-to-gross factors. This method of accounting for participants aligns participation numbers with energy savings numbers, which are already recorded in net terms. This approach provides a more accurate connection between

energy savings and the number of customers who benefit from efficiency programs. Planned participation estimates are included in Attachment 5: Electric EE Program Tables, Table E-7 and Attachment 6: Gas Energy Efficiency Program Tables, Table G-7.

Table 4 below describes the definitions for how RI Energy projects, tracks and reports participation in the efficiency programs.

Table 4. Participation Definitions

Fuel	Sector	Program	Participation Unit	
Natural Gas	C&I	Large Commercial New Construction	Unique Account	
		Large Commercial Retrofit	Unique Account	
		Small Business Direct Install	Unique Account	
		C&I Multifamily	Housing Units	
	Income Eligible Residential	Single Family – Income Eligible Services	Unique Account	
		Income Eligible Multifamily	Housing Units	
	Residential	ENERGY STAR HVAC	Unique Account	
		EnergyWise	Unique Account	
		EnergyWise Multifamily	Housing Units	
		Home Energy Reports	Unique Account	
		Residential New Construction	Housing Units	
	Electric	C&I	Large Commercial New Construction	Unique Account
			Large Commercial Retrofit	Unique Account + Unique Customer names from Upstream Lighting
Small Business Direct Install			Unique Account	
Income Eligible Residential		Single Family – Income Eligible Services	Unique Account	
		Income Eligible Multifamily	Housing Units	
Residential		ENERGY STAR HVAC	Unique Account	
		EnergyWise	Unique Account	
		EnergyWise Multifamily	Housing Units	

Fuel	Sector	Program	Participation Unit
		Home Energy Reports	Unique Account
		Residential New Construction	Housing Units
		Residential Consumer Products (formerly ENERGY STAR Products and ENERGY STAR Lighting)	Number of Rebates

The Company will estimate the number of unique participants for each program. For some programs such as ENERGY STAR HVAC, one measure does not necessarily equal one participant as a customer can purchase more than one measure. Therefore, the Company also considers the previous year’s unique accounts-to-savings ratio in order to estimate the planned unique participants in 2024. This method allows for a better estimation of unique participants but can make it more difficult to compare planned numbers across years.

RI Energy is in the process of updating its website to transition away from the structure used by National Grid. Updates to all web pages, including those for energy efficiency programs, are in process. The beta site is being reviewed by internal stakeholders and user experience experts, as well as being tested by customers. The website will adhere to best practices for accessibility. The Company is targeting a roll out of the new website in Q2 of 2024.

2.7 Equity

The Company defines equity in its energy efficiency programs as ensuring that all customers have equal ability to access and benefit from its programs regardless of their geographic location in Rhode Island, income, home ownership status, primary language, business size, or other attributes. This involves incorporating equity when designing and evaluating programs, as well as considering the systemic and institutional structures that may make it easier for some customers to access energy efficiency products and programs more than others. In 2021, the Company began a deeper dive into equity by conducting participant and non-participant research to quantify gaps in customer participation. In 2022, the first year of the EWG was initiated jointly with the OER so the Company could listen to the voices of advocates for underserved communities. As a result of the EWG, equity metrics were developed and have been continuously refined. The Company is committed to progressing its equity outreach and engagement efforts by building upon initiatives that began in 2022 and expanded in 2023.

To ensure this continued focus on equity, the Company is committing to at least six EWG meetings in 2024. In Q1, these meetings will be focused on further developing equity metrics and establishing achievable reporting standards. The

Company may opt to create a temporary sub-committee of the EWG specifically dedicated to workshopping and finding agreement on metrics. The metric development process will balance stakeholder input with what is feasible and reasonable from a program perspective. The intent is to have a set of agreed-upon metrics by the end of Q1 2024, along with the identification of the Company's reporting templates, systems, processes, and personnel. The first energy efficiency equity metrics report will be issued along with the Company's other Q2 reports. Metrics and activities that are currently planned to be reported on in 2024 include:

- Spending by ZIP code reported in the Energy Efficiency Year-End Report
- Assessment and weatherization participation by town reported for Q2 2022 and Q4 2022
 - Single-family participation in EnergyWise and IES Programs by town
 - EnergyWise and IES Program single-family owner versus renter information
- Energy efficiency outreach and education with other community organizations

When considering equity outreach, it is only through consistent and ongoing action that disparity can be addressed. The energy efficiency non-participants have a much lower awareness of energy efficiency than participants do. By continuing engagement with community organizations that have the trust of non-participants, working to remove barriers to participation, and collaborating with other equity efforts, the Company strives to make continuous progress. As such, the outreach activities that occurred in 2023 and will continue in 2024 include:

- Cross training of customer advocates, CAP agencies, and other home-visiting programs to facilitate greater understanding of available programs and services for both energy efficiency and health/well-being
- Hosting "office hours" or tabling events to answer questions and make connections with customers
- Focus on non-participant, equity communities of Central Falls, East Providence, Pawtucket, Providence, and Woonsocket

The Company's energy efficiency equity work is also focused on ensuring qualified customers are moved to the discount rate. Even in community organizations that provide space to educate their customers about energy efficiency, the priority is to assist customers with billing questions and payment plan opportunities. Not surprisingly, the immediate bill relief from the discount rate removes some financial pressure and concern from an energy burdened population. Direct face-to-face contact with customer advocates also builds customer trust. Once that trust is established, it is easier to move the attention of customers to energy efficiency.

Furthermore, in 2023 the Company began to engage with the Rhode Island Department of Health Equity Zone Initiative through a connection facilitated by the EERMC. The Health Equity Zone Initiative supports place-based approaches to promote healthy communities and improve the socioeconomic and environmental conditions in neighborhoods across Rhode Island. There are 15 Health Equity Zone collaboratives across the state and each zone is overseen by a backbone agency. The Company has previously engaged many of these agencies through the Weatherization Program and the Health Equity Zone Initiative provides an additional opportunity to work with agencies that serve residents who have not historically participated in The Company's energy efficiency programs. In 2024, the Company will continue to participate in Health Equity Zone events and collaborate with backbone agencies to increase awareness of efficiency offerings.

Beginning in 2024, the Company will focus its equity efforts in four additional areas:

1. **Outreach through non-profit organizations.** A Residential Equity Outreach Assessment will be developed to engage non-profit organizations in providing direct outreach to landlords in one or more of the five equity communities. The EWG has apprised the Company of increasing demands placed on non-profit organizations from stakeholders frequently requesting additional outreach with no additional funding. The Residential Equity Outreach Assessment would work with a handful of stakeholders to provide direct outreach and education to landlords within the five equity communities. The Company is working with EWG stakeholders to best understand how to engage with non-profits and the funding structure for participation. For additional detail, please see Attachment 8.
2. **Justice40 Initiative.** The Company will continue with reporting on existing equity metrics while working with the EWG and OER to fine tune and align reporting metrics to be aligned with Justice40 Initiative reporting by OER. Justice40 is a federal investment in climate and clean energy benefits to disadvantaged communities. The federal government is seeking to provide at least 40 percent of overall benefits to the defined communities. Reporting on the Justice40 communities allows the Company to highlight its energy efficiency programs' benefits in the overall national efforts. Residents in these communities will hopefully also experience an additive impact in benefits with multiple clean energy and energy efficiency efforts focused on these communities.
3. **Awareness education on Latina radio.** In 2024, there will be a new energy efficiency marketing campaign in Rhode Island and The Company will work to expand the education to a Latina radio station in Spanish.

Engagement with the Latina community has made the Company aware that radio is a preferred resource for relaying community information as opposed to print and email formats.

4. **Removing barriers to participation.** A large barrier to participation comes in the form of income verification. The Company was fortunate to provide self-attesting, moderate income customers (defined as 60-to-80% of the state median income) with no-cost weatherization services through RGGI-supported funding from OER. This opportunity allowed the Company to serve customers and then further determine whether these customers were considered moderate income after their participation. The Company proposes continuing to serve customers with either a self-attestation method or no qualification if they live within a Justice40-designated community.

Section Three: Demonstrations, Pilots, and Assessments

Commercial, industrial, and residential demonstrations, pilots and assessments are all vehicles that may be used to identify, test, analyze, and deliver new innovative solutions and services that are technically feasible, desirable by customers, and viable for inclusion in the portfolio. The Company will continue to systematically review opportunities to add to the portfolio through a consistent and transparent process. Please refer to Attachment 8 for additional details on evaluations for demonstrations, pilot, and assessments. Consistent with PUC Guidance, the Company uses the following definitions for demonstrations, pilots and assessments.

3.1 Definitions

Demonstrations

A demonstration will test the feasibility of a new product or offering for inclusion in existing programs. It is generally expected that 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.

Pilots

A small-scale, targeted program that is limited in scope, time, and spending and is designed to analyze the feasibility of a future program or rate design. Pilots are designed to test technologies and approaches to energy management not included in the core energy efficiency programs that could potentially become a new, standalone program. Given the scope of adding a new core program to the Company Energy Efficiency Portfolio, it is likely that pilots will require a long-term commitment and broader set of stakeholder input. Savings associated with pilots will not contribute to shareholder incentives. Pilots may be evaluated with either an independent or a vendor evaluation.

Assessments

An assessment 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.

The Company will coordinate efforts with internal and external stakeholders, such as EM&V, Customer Energy Management, the OER, and the EERMC, at various points in the development process to ensure appropriately rigorous evaluation and attention is given to each demonstration, pilot and assessment. Updates will be provided to OER and the EERMC consultant team on a quarterly basis and the Company will solicit input during its collaborative annual planning process.

2024 Demonstrations, Pilots and Assessments

The 2024 Plan includes funding for three demonstrations and assessments (see Attachment 8 for greater details). The Company also recognizes the need to stay abreast of relevant technological and policy innovations in energy efficiency. RI Energy is a member of several organizations that foster collaboration among efficiency program administrators and provide ongoing insights into emerging opportunities that support the efforts of the Company to deliver energy efficiency solutions to customers. These include the Electric Power Research Institute, ESource, Northeast Energy Efficiency Partnerships, and the Consortium for Energy Efficiency.

3.2 Multi-year Strategies

In the LCP Standards adopted by the PUC in Docket 23-07-EE, the PUC directs the Company to identify investment strategies for which implementation and budget requests (or revenue collection) are expected to span multiple years. In addition to the budgets and targets required for the rest of the portfolio, the PUC directs that the Company may separately provide budgets and goals for multi-year strategies. The requirement applies to both the Annual and Three-Year Energy Efficiency Plans. There is no such multi-year commitment envisioned for 2024.

Section Four: Coordination with Other Programs and Policies

Continuing to provide the best value to Rhode Island customers necessitates that the Company coordinate with other parts of the energy system, rather than pursuing savings programs and strategies in isolation. For this 2024 Plan, the Company highlights specific ways in which it plans to implement its Energy Efficiency Portfolio in coordination with other Company filings and activities, as described below. Efforts have also been taken to ensure the Annual Plan is aligned with relevant state policies and objectives and specific coordination opportunities are identified below.

4.1 Other Programs and Policies

4.1.1 System Reliability Procurement

There are two points of integration between energy efficiency and system reliability procurement. First, while the demand response program had historically been housed within the energy efficiency program, demand response will now be integrated into system reliability procurement (see the forthcoming 2024-2026 System Reliability Procurement Three-Year Plan for more information). While the program will maintain its core design, its new home within system reliability procurement will prompt additional coordination between energy efficiency program staff and system planning team members. This coordination includes, but is not limited to, supporting market engagement efforts for non-wires and non-pipes solutions, conducting locational outreach for energy efficiency measures that may preemptively alleviate grid needs to some extent, and supporting internal evaluation of energy efficiency as a non-wires or non-pipes solution. The Company will coordinate internally through overlapping staffing assignments and anticipates support for coordination through external stakeholder engagement.

Second, energy efficiency may be a potentially viable solution to system needs. The system reliability procurement process evaluates the ability of energy efficiency to resolve system needs either partially or fully in a manner that less

than the cost of the best alternative utility reliability procurement solution. In this manner, energy efficiency coordinates with system reliability procurement to potentially mitigate specific system needs as they arise.

4.1.2 Advanced Metering Functionality and Grid Modernization

The increased availability of more near real-time customer energy usage data, if enabled by AMF deployment, will allow for enhancements to energy-efficiency program design and implementation. Currently, the Company's plan for AMF meter deployment if approved begins with a "Solution Validation" phase, installing approximately 500 meters starting in late 2024, followed by continual deployment expected to go through the end of 2025/early 2026. Therefore, this Annual Plan does not include activities that rely on AMF. However, throughout 2024, the Company will identify activities which may help lay the groundwork for implementing program enhancements which AMF will enable in future years. The intent of such activities would be to increase participants', stakeholders', and the Company's comfort and familiarity with targeted programs and pay-for-performance (P4P) programs. As these are foundational program enhancements enabled by AMF, laying the groundwork for these concepts in 2024 should help facilitate a smooth implementation of AMF-enabled enhancements once they are available.

4.1.3 2021 Act on Climate

The Act on Climate sets mandatory, enforceable, statewide, economy-wide greenhouse gas emissions reduction targets of 10 percent below 1990 levels by 2020, 45 percent below 1990 levels by 2030, 80 percent below 1990 levels by 2040, and net-zero emissions by 2050. The Company is actively participating in the ramp up to the *2025 Climate Strategy*, having submitted comments to the State's Request for Information to Support the Development of a Scope of Work for the Climate Action Strategy. The energy savings achieved by RI Energy's efficiency programs directly advance priority actions identified by the EC4 in their *2022 Climate Update* to the *2016 Greenhouse Gas Emissions Reduction Plan*.

The *2022 Climate Update* included several priority actions that inform the initiatives outlined in the 2024 Plan, specifically:

- **Priority Action for the Electric Sector: Continue Energy Efficiency Work**
 - This Annual Plan addresses key items highlighted in this action item and will lower energy bills, reduce greenhouse gas emissions, and support local and state economies.
- **Priority Action for the Thermal Sector: Continue Energy Efficiency Programs and Weatherization**

- Weatherization programs remain a focus of both Residential and IES programs. The Company collaborates with weatherization contractors and Community Action Agencies to continually refine the delivery mechanisms for weatherization services to both expand their reach and reduce barriers to participation.
- **Priority Action for the Thermal Sector: Target 15% Penetration of Energy Efficient Electric Heating by 2030**
 - This Annual Plan continues the Company efforts to support the adoption of electric heating, with a particular emphasis on electric resistance heating customers.
- **Priority Action for the Thermal Sector: Efficient Heat Pump Incentives**
 - Several programs outlined in this Annual Plan offer incentives for efficient heat pumps, both for space and water heating.
 - The Company has collaborated with OER on their Clean Heat RI Program and will continue the collaboration to align program incentives for heat pump technologies with IRA incentives.

This Annual Plan directly advances greenhouse gas emissions reductions through energy savings. Tables E-6A and G-6A in Attachments 5 and 6 include the projected carbon reductions from the 2024 Plan.

4.1.4 Coordination with State and Federal Incentive Programs

In 2024, the Company will coordinate with OER on its new \$25 million Clean Heat RI Program to facilitate the customer experience, ensure that all available incentives are communicated, and explore synergies in implementation. The Clean Heat RI Program will include funding for fuel switching and will complement RI Energy's efforts to promote efficient heat pump adoption for residential, low-income and small commercial customers. As indicated in section 2.3 of this Annual Plan, the Company will work with OER to complement the federal funding they will make available for home efficiency improvements. Section 3.4.6 of the 2024-2026 Plan contains additional detail regarding the Company's plan to prepare for the influx of federal funding.

4.1.5 New Codes and Standards

In January 2023, the Rhode Island House of Representatives passed legislation, [H6101/S0855 Sub A](#), requiring the state to adopt the 2024 International Energy Conservation Code (2024 IECC) within three months of publication.²⁷ The law requires adoption of the 2024 IECC with no weakening amendments as well as the creation of a plan for 90 percent compliance within six months for residential and commercial new construction and renovation projects. These residential code changes will most likely shift the new construction and renovation industry away from prescriptive pathways toward a performance-based pathway for compliance (i.e., energy ratings) and as a result, more Home Energy Rating System (HERS) Raters will be needed. The Company will increase trainings to support code compliance. To support this increase, the Company and OER will leverage IRA funding that assists states in adopting the 2024 IECC and/or a zero-energy code, as well as implementing a code compliance plan. OER will be responsible for administering this funding and the Company will work closely with the agency to support code training efforts.

4.1.6 Future of Gas

The PUC Docket 22-01-NG Investigation into the Future of the Regulated Gas Distribution Business in Rhode Island is underway with regular meetings of the established stakeholder committee; the expected kickoff of the technical analysis expected in the fall and a policy development phase to follow in 2024 informed by the results of the technical analysis. As such, the outcomes of the Future of Gas docket are unlikely to impact the 2024 Plan although the Company expects to have better visibility into future decarbonization pathways in light of this docket to inform subsequent annual plans.

Section Five: Evaluation, Measurement, and Verification

EM&V provides independent verification of impacts to ensure that savings and benefits claimed by the Company through its energy efficiency programs are accurate and credible. EM&V also provides insight into market characteristics and guidance on program design to improve the delivery of cost-effective programs.

²⁷ The 2024 IECC is expected to go into effect in January 2024.

To verify the impacts of programs on energy savings, the Company hires independent third-party consulting firms to regularly conduct evaluation studies as part of its EM&V process. These evaluations incorporate industry standard methods such as engineering analysis, metering analysis, billing analysis, site visits, surveys, and market studies to realize the actual energy savings of a measure. The EERMC and OER provide direct oversight of each evaluation study conducted. Every year, the results of the studies are used to update the benefit-cost calculations during planning. Attachment 3: EM&V Plan lists the evaluations that have occurred since 2010 that are still being used and their influence on program planning. All completed evaluations are submitted electronically to the PUC; final reports of evaluations completed in prior years are available in the dockets for previous years, on the EERMC website, or upon request.

Additionally, the 2024 EM&V Plan is presented in Attachment 3 and includes brief descriptions of each of the proposed studies. The areas proposed for study in 2024 were chosen based on several factors: the relative amount of savings in that program or end use, the vintage of the most recent evaluation study, the relative precision of the recent evaluation study, recommendations from previously completed studies, and the available evaluation budget. This list may be added to as the year progresses, and different evaluation priorities are identified. In particular, the Company will consider the value of using evaluations from other jurisdictions as well as adding Rhode Island-specific impact or process evaluations, as appropriate, that will help inform the Company's efforts towards achieving the goals of least cost procurement.

Section Six: Consistency with Least Cost Procurement Standards

This Annual Plan is submitted in accordance with the Least Cost Procurement Law, R.I. Gen. Laws § 39-1-27.7, the basis for which is the *Comprehensive Energy Conservation, Efficiency, and Affordability Act of 2006*, R.I. Gen. Laws § 39-2-1.2, and the LCP Standards as approved and adopted in Docket No. 23-07-EE in July 2023. The Standards guide how energy efficiency services are delivered in a manner that is optimally cost-effective, reliable, prudent, and environmentally responsible. The Company has assessed each of these requirements in developing this Annual Plan. Details on the Company's approach to considering each of these elements are included in this section. In addition, further detail on the cost-effectiveness screening of the proposed investments is in Attachment 4: RI Benefit Cost Test, with detail on rate and bill impacts in Attachment 7.

6.1 Cost-Effectiveness

6.1.1 Interpretation of Standard

The RI Test compares the present value of the total lifetime benefits derived from efficiency savings to the total costs of acquiring those savings (i.e., program and customers' costs). According to the Standards, "any program with a quantified benefit-cost ratio greater than 1.0 (i.e., where quantified benefits are greater than quantified costs), should be considered cost-effective. Consistent with the PUC's guidance issued in Docket No. 4600, qualitative benefits and costs may be considered in determining cost effectiveness. The portfolio must be cost effective, and programs must be cost effective."²⁸

In Docket 23-07-EE, changes to the Standards required the following:

- An additional view of cost effectiveness that, "for categories with value or cost that is shared between Rhode Island Energy and other jurisdictions (both within the state and region), presents only those benefits and costs that will be allocated to Rhode Island Energy." For this analysis, the Company has identified certain categories of benefits that flow outside of Rhode Island. These include a portion of demand reduction induced price effects (DRIPE) and pool transmission facility (PTF) capacity values. Attachments E-5B and G-5B present the requested additional view that shows that programs are still cost effective absent these benefits. To the best of the knowledge of the Company, no costs accrue outside of Rhode Island.
- The "RI Test shall include the costs of carbon dioxide mitigation as they are imposed and are projected to be imposed by the Regional Greenhouse Gas Initiative, Rhode Island Renewable Energy Standard and Rhode Island Act on Climate..." In consultation with the OER, EERMC, and Division, a value and approach for carbon dioxide mitigation was developed which is used in all cost-effectiveness analyses in this Annual Plan. This approach is to use the Marginal Abatement Cost values from the 2021 AESC study in the analysis, while parties await resolution of the Future of Gas docket.

²⁸ [LCP Standards](#), section 3.2N.

6.1.2 Compliance with Standard

The Company has analyzed the cost effectiveness for the proposed 2024 Portfolio and programs using the RI Test as required by Docket 4600 and the LCP Standards. The Energy Efficiency Portfolio and programs proposed for 2024 satisfy these criteria for cost effectiveness.

As provided for in the Docket 4600 RI Test Framework, benefits include primary fuel energy savings (electricity and natural gas), the value of other resource (fuel and water) benefits, price effects, non-embedded greenhouse gas reduction benefits, non-embedded NOx reduction benefits, the value of improved reliability, and non-energy impacts (NEIs). Costs include all projects costs, program planning and administration, sales, technical assistance and training, evaluation, and the performance incentive. To illustrate the detailed components of the RI Test as well as the sources of the values, the Company has provided Attachment 4: RI Benefit Cost Test. The RI Test as applied to the 2024 Plan utilizes the regional avoided cost study, referred to as AESC 2021, completed by Synapse Energy Economics in May 2021 that provided the monetization of most benefit categories. The monetization of benefits also incorporates the latest EM&V results that affect claimable savings in the programs. Attachment 4 provides additional detail on changes in the avoided costs.

Attachment 5, Table E-5 shows that the proposed portfolio of electric programs is expected to have a benefit-cost ratio of 1.70, counting all benefits regardless of the jurisdiction to which they accrue, which means that approximately \$1.70 in monetized lifetime benefits is expected to be created for each \$1 spent on the portfolio. Attachment 6, Table G-5 shows that the proposed portfolio of gas programs is expected to have a benefit/cost ratio of 1.96 in the presentation of BCR results, which means that \$1.96 in lifetime benefits is expected to be created for each \$1 spent on the portfolio. The tables in Attachments 5 and 6 also demonstrate cost-effectiveness at a program level.

Attachment 5, Table E-5A shows that the proposed Electric Portfolio is expected to have a benefit-cost ratio of 1.46, counting all benefits and costs which accrue only to RI Energy, which means that approximately \$1.46 in monetized lifetime benefits is expected to be created for each \$1 spent on the portfolio. Attachment 6, Table G-5A shows that the proposed Natural Gas Portfolio is expected to have a benefit/cost ratio of 1.95 in the presentation of BCR results, which means that \$1.95 in lifetime benefits is expected to be created for each \$1 spent on the portfolio.

Cost-effectiveness results do not include economic impacts such as employment and gross state product impacts from energy efficiency investments. Per agreement with stakeholders, economic impacts are shown separately from the benefit-cost analysis in Attachment 5, Table E-5B (Economic Benefits) and Attachment 6, Table E-6B (Economic

Benefits). In addition, the RI Test and the Docket 4600 Framework guidance also indicate that categories of the Framework can be considered qualitatively in the assessment of cost effectiveness. When considering the significant economic activity generated directly by the programs, including supporting close to 800 FTEs associated with the programs and more than 1,000 companies involved, as well as non-quantified benefits such as resiliency, a reasonable assumption is that the macroeconomic benefits of the programs are positive and potentially significant and, were those benefits included in the RI Test screening as quantified benefits, the programs would achieve more favorable benefit-cost ratios.

6.2 Reliability

6.2.1 Interpretation of Standard

The Standards for reliability create an expectation that the Company will be able to deliver the programs described herein and that the savings realized from program delivery are accurately estimated and measured, which ensures that the energy savings described herein can meet reliability standards. In addition, as applicable, programs should be scalable and be tailored to meet specific system needs.

6.2.2 Compliance with Standard

The energy efficiency programs developed under this Annual Plan will continue the Company's extensive history of offering best-in-class offerings to customers. The Company continues to collaborate with a diverse set of stakeholders including the EERMC, OER, Division, and community and advocacy organizations to continually analyze the programs and identify opportunities for improvement.

In building this Annual Plan, the Company's Customer Energy Management team worked closely with industry experts, vendors, and program implementation professionals to assess the current state of existing programs, the potential for program scalability, the economic environment, and the ability to deliver reliable energy savings as a result.

Supporting the Company's efforts to deploy energy efficiency to Rhode Island customers is a robust and long-standing EM&V apparatus, and the resulting robust, verifiable savings ensure this Annual Plan's fulfillment of the requirements of the Reliability Standard. As noted in section 5, the Company hires independent third-party consulting firms to regularly conduct evaluation studies as part of its EM&V process. A distinct group of personnel within RI Energy that includes analysts with specialized skills in engineering, statistics, and economics are tasked with the EM&V function and coordinate all elements of the EM&V process internally and externally. Evaluations

incorporate industry standard methods to assess the actual energy and demand savings of measures incentivized by the programs.

All elements of the EM&V process are closely monitored by the EERMC, their consultants, and OER. The EM&V process is continual, and every year results from EM&V studies are used to update the savings in the benefit cost calculation of the measure, programs, and portfolios. In addition, process evaluations and market studies conducted in the EM&V process provide an independent perspective on the performance of the programs and provide insight into the state of the market and ways that the Company can address new opportunities with its programs.

In total, these EM&V processes provide a transparent, externally vetted approach to ensuring that claimed savings provide as accurate of a picture as possible of the impact of the Company's energy efficiency programs, accounting for spillover, free ridership, and other industry standard adjustment factors. Taken together, this approach complies with the Standard of Reliability.

The EM&V process also supports the Company's participation in the ISO-NE FCM. Passive demand savings achieved via electric energy efficiency and Combined Heat and Power projects, and verified by the EM&V process, continue to participate in the FCM as Passive On-Peak Demand Resources. As detailed further in section 8.2.3, the Company bids the passive demand savings attributed to energy efficiency measures and Combined Heat and Power facilities in the FCM and manages the associated capacity resources to maximize the resulting FCM revenue. The EM&V process provides the necessary verification of claimed savings in order to meet the high standards for participation in the FCM.

6.3 Prudency

6.3.1 Interpretation of Standard

The Company has considered, and continues to consider, several key components in the analysis of prudency. These components can be summarized as considerations about the proposed investments on the following:

- Support for the purposes of Least Cost Procurement.
- Synergy savings through alternatives that meet multiple needs.
- Management of risks to ratepayers and the distribution Company.
- Effective use of funding sources.

- Equitable in the allocation of costs, benefits, access to services, and participation.
- Rate and bill impacts.
- Continuity of implementation efforts.

The Standard for Prudence was clarified regarding equitable access to resources in the revisions in Docket 23-07-EE.

6.3.2 Compliance with Standard

For the proposed investments detailed in this Annual Plan, the Company has assessed each of these elements and how they can be balanced to provide a comprehensive set of programs that will be achievable within known and anticipated constraints.

Purposes of Least Cost Procurement

This 2024 Plan secures cost-effective energy efficiency resources, as detailed in section 6.1.2, to support the electric and gas system through the creation of customer benefits in various components enumerated in both the RI Test, comparison with the Cost of Supply, as well as the Performance Incentive Mechanism.

Synergy Savings

Program design seeks out synergies in customer participation, through a comprehensive view of savings opportunities wherever possible and tiered incentive offers. As an example of the way that the proposed investments in this Annual Plan address multiple needs, the Company will coordinate with the OER regarding engaging customers to weatherize at the same time they are converting to heat pumps.

Management of Risks

Energy efficiency investments are generally low risk investments. Savings have been well researched and documented through evaluation studies and the Company has confidence, based on those studies, that predicted savings will be realized. Continued research through new evaluation studies contributes to continuous program improvement and increasing levels of confidence. Furthermore, many programs include customer education, post-installation inspection, or commissioning to provide a foundation for assumptions about savings persistence. This further reduces risk to ratepayers. Additionally, when the savings are reliably estimated, it serves to increase confidence and reduce risk related to the energy efficiency resource in distribution planning. Finally, by reducing costs and reliance on fuel supply

by reducing demand, energy efficiency can offer some protection and risk reduction associated with market and energy price volatility.

Effective Use of Funding

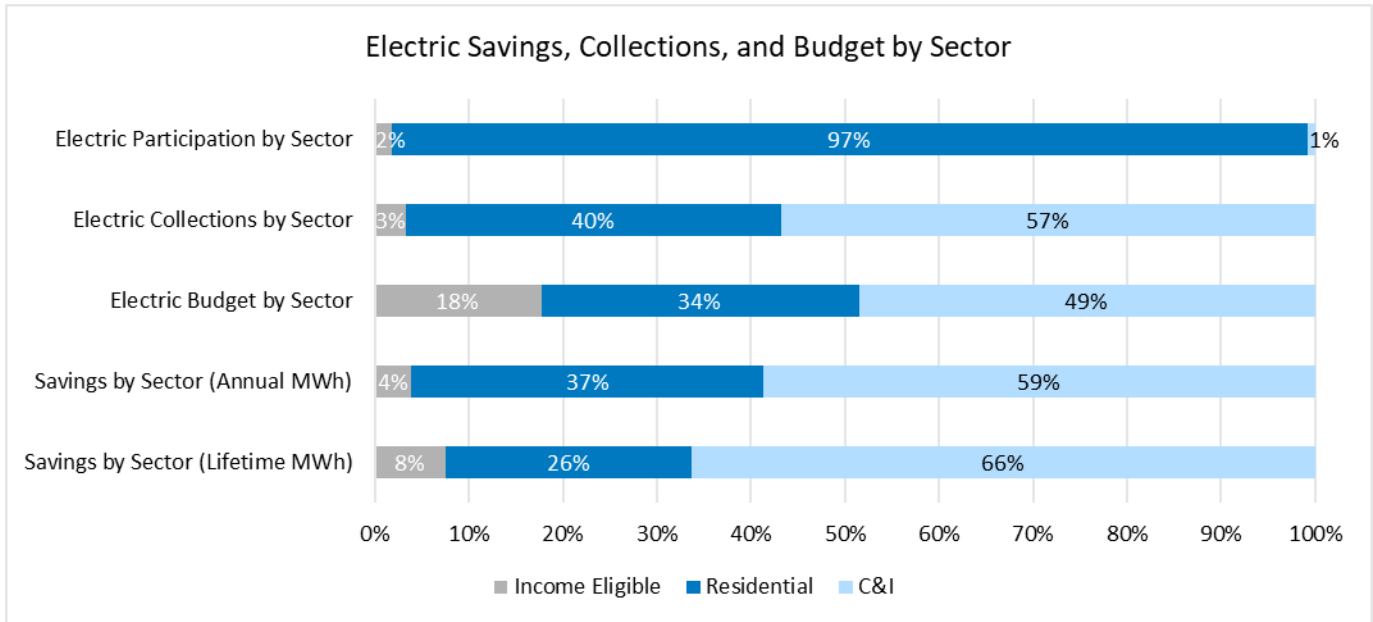
As described in section 8.2, the Company has identified a number of funding sources to support the Annual Plan budget. Furthermore, several sources of financing are offered to customers to enable program budgets to go further to achieve 2024 Plan targets. Finally, effective use of funding is represented in the mix of measures and incentives planned in order to balance the Portfolio to achieve the Annual Plan's objectives.

Equitable Allocation of Costs, Benefits, Services and Participation

As shown in Figure 1, there is approximate parity between the collections by a customer class and its resulting budget and savings in the Electric Portfolio. The only exception is the income-eligible sector where part of the collections from the residential and C&I customer classes are used to help cover the income-eligible sector funding needs.

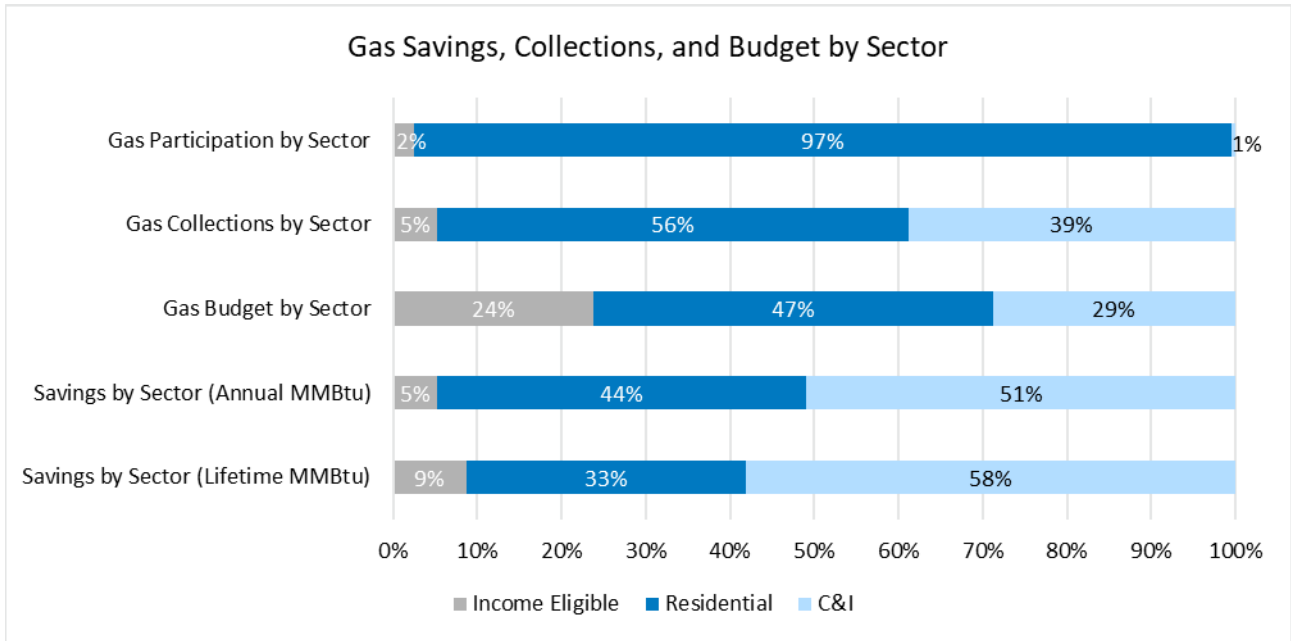
The Income-Eligible budget is higher compared to its savings due to several factors: incentives are 100 percent of the cost, the programs are more expensive because they are delivered in-home (compared to at retail sites or via rebates) which requires more labor and management, and the programs have fewer economies of scale (compared to C&I). \$23.6 million is budgeted for the delivery of the gas and electric income-eligible sector programs, 16.6 percent and 22.2 percent of the total funding for each fuel portfolio respectively in 2024. Taken together, these investments represent 18.1 percent of the overall Electric and Natural Gas portfolio budgets.

Figure 1. 2024 Graphical representation of Attachment 5 Table E-1, E-7, and total Electric Savings by Sector, Cumulative



For the Natural Gas Portfolio, there is also parity between the collections by a customer class and the resulting savings. There is less equitable allocation between budgets and savings. This is due to several factors. First, the energy efficiency program charge varies by customer segment, which changes collections. Second, C&I projects tend to create more savings per dollar. This is due to larger economies of scale, larger projects, different delivery channels that require less labor or management and are more cost-effective, evaluation factors such as free-ridership and spillover, and different customer opportunities. Figure 4 shows the distribution of savings, collections, and budget in the gas portfolio.

Figure 2. 2024 Graphical representation of Attachment 6 Table G-1, G-7, and total Gas Savings by Sector, Cumulative



Given these considerations, as well as the continued interest in supporting income eligible programs, the allocation of costs and benefits is prudently equitable.

Rate and Bill Impacts

The Company has assessed rate and bill impacts of the proposed Electric and Natural Gas Portfolios. Summary results are included in the tables below, while additional details are available in Attachment 7: Rate & Bill Impacts. Electric Programs are projected to usually generate slight upward movement on long-term rates; however, sometimes they generate a reduction in long-term rates. The range of long-term rate impacts is between 0.06 percent and -0.34 percent. For both residential and C&I participants, modeling shows a reduction in bills between 0.52 percent and 21.25 percent. Natural gas programs are projected to generate slight upward movement on long-term rates between 0.01

percent and 0.56 percent. For income-eligible customer participants, small C&I participants, and large C&I participants, modeling shows a reduction in rates between 0.26 percent and 0.56 percent.²⁹

²⁹ The calculated impacts on long-term rates are not designed to reflect the net increase or decrease to the EE charge from the prior/current energy efficiency plan. Instead, the models calculate the long-term rate impact of the Electric and Natural Gas Energy Efficiency Portfolios by comparing a “No EE” scenario to an “EE” scenario of customer rates. In other words, the “No EE” scenario models rates in the absence of an EE program, and, therefore, contains no EE charge while the “EE” scenario models rates in the presence of an EE program, and, therefore, contains an EE charge. Additionally, long-term rate impacts are captured as a levelized average over the study period rather than a single year.

Table 5 and Table 6 summarize the results of the electric and natural gas rate and bill analyses for the 2024 proposed programs, respectively. All electric sectors, except standard residential, see slight increases in long-term rates.³⁰ For all sectors, average electric customers see small decreases in overall bills. Furthermore, average electric participants see decreases in their long-term bills. All natural gas sectors see a slight increase in long-term rates due to the 2024 programs.³¹ With the exception of the large C&I and Residential HERs customers, the average gas customer sees a small increase in long-term bills while the average natural gas participant experiences a reduction in long-term bills across all sectors.

³⁰ "Long-term" means over the 20-year study period.

³¹ "Long-term" means over the 22-year study period.

Table 5: Rate and Bill Impact Results for the Electric Portfolio

Sector	Long-Term Rate Impacts (% of Total Rate)	Change in Typical Bill (% of Total Bill)		
		Non-Participants	Average Customer	Average Participant
Residential (Model 1: HERs only)	-0.07%	-0.06%	-0.09%	-0.11%
Residential (Model 2: All Programs Except HERs)	0.05%	0.02%	-0.18%	-5.04%
Residential (Model 3: All Programs)	0.06%	0.03%	-0.20%	-4.94%
Income Eligible (Model 1: HERs only)	-0.10%	-0.09%	-0.13%	-0.15%
Income Eligible (Model 2: All Programs Except HERs)	-0.26%	-0.27%	-1.25%	-6.76%
Income Eligible (Model 3: All Programs)	-0.27%	-0.28%	-1.30%	-6.45%
Small C&I	-0.04%	-0.04%	-0.54%	-21.25%
Medium C&I	-0.12%	-0.14%	-0.64%	-9.31%
Large C&I	-0.34%	-0.34%	-1.17%	-0.52%

Table 6: Rate and Bill Impact Results for the Natural Gas Portfolio

Sector	Levelized net change in rates due to 2024 Programs	Long Term Average Change in Bills		
		Non-Participants	Average Customer	Average Participant
Residential (Model 1: HERs only)	0.02%	0.01%	-0.01%	-0.02%
Residential (Model 2: All Programs Except HERs)	0.37%	0.36%	0.15%	-5.35%
Residential (Model 3: All Programs)	0.38%	0.37%	0.14%	-0.01%
Income Eligible	0.56%	0.57%	0.11%	-3.84%
Small C&I	0.26%	0.26%	0.08%	-24.51%
Large C&I	0.31%	0.30%	-0.04%	-3.01%

When the HER Program is considered in isolation (Model 1), average participants see a reduction in bills of 0.11 percent for residential electric, 0.15 percent for income-eligible electric, and 0.02 percent for gas. These results can largely be attributed to the relatively short duration of savings from this program. When all other residential programs except HERs are considered together (Model 2), average participants see 5.04 percent, 6.76 percent, and 5.35 percent

reductions in average bills for electric residential, electric income-eligible, and gas customers, respectively. Lastly, when all Residential Programs are considered together including the HER Program (Model 3), long-term average reductions in bills are 4.94 percent for electric, 6.45 percent for electric income-eligible, and 0.01 percent for gas. The Company asserts that this rate and bill impacts analysis demonstrate a prudent investment of ratepayer funds in the pursuit of the objectives of Least Cost Procurement.

The Company has also developed an estimate of the delivered fuel bill impacts experienced by Electric Energy Efficiency Program participants who heat with delivered fuels. While delivered fuels are unregulated, integrating delivered fuel and electric bill analysis provides a sense of the overall impact Electric Energy Efficiency Portfolio has on total bills. See Table 7 below and Attachment 7 for details.

Table 7. Delivered Fuels and Combined Bill Impacts

Sector	Long Term Average Change in Bills	
	From Delivered Fuels	Total (Electric and Delivered Fuels)
Residential (Participants)	-7.94%	-6.77%
Income Eligible (Participants)	-3.70%	-4.64%

The Company also has assessed the annual change in rates from 2023 to 2024 driven by the funding plan and budgets discussed later in this Annual Plan as another dimension of prudence. Table 8 summarizes the changes in rates based on the E-1 and G-1 tables.³² While the Company’s proposed budget for 2024 is approximately equal to the budget levels approved in the 2023 Annual Plan, several factors contribute to the change in the energy efficiency charges being negative. The primary factor is the change in the fund balance projection going into 2024 compared to the projection for 2023. Other factors include the budget levels, other sources of funding, and anticipated electric loads and natural gas sales. The changes to annual rates caused by these factors may be considered to be prudent. These elements are discussed further in section 8 of this 2024 Plan.

³² This analysis uses the rates and electric energy efficiency surcharge in effect for the last 9 months of 2023.

Table 8. Summary of Changes in Rates between 2023 and 2024

Rate Category	2023	2024	2023 – 2024 Growth
Gas Residential SBC (\$/dtherm)	\$1.136	\$1.094	-3.7%
Gas C&I SBC (\$/dtherm)	\$0.620	\$0.782	26.1%
Electric SBC (\$/kWh)	\$0.00960	\$0.01052	9.6%

Continuity of Implementation Efforts

While not explicitly spelled out in the Standards, the Company has historically considered the continuity of implementation efforts as an element of prudence. Continuity of implementation efforts means changing the scope or scale of programs in a way that is sensitive to maintaining and developing a skilled workforce and receptive to the prevailing economic conditions in the marketplace. The Company generally informs vendors of planned program changes to enable them to prepare their workforce as necessary (for example to ramp up or provide training). The Company also pays attention to this aspect of continuity because, absent continuity, skilled workers may move to other jobs which could result in disruptions of energy efficiency services to customers.

6.4 Environmentally Responsible

6.4.1 Interpretation of Standard

Environmental responsibility includes compliance of the Annual Plan with state policies, particularly pollution reduction. This Standard further requires proper valuation of environmental costs and benefits in this 2024 Plan. Modifications to the Standards in Docket 23-07-EE specify that demonstration of environmental responsibility include an assessment of compliance with state climate policies, and proper valuation of climate costs and benefits, in addition to environmental costs and benefits. The Company’s interpretation of this addition is that, by distinguishing between environmental policies and values and climate policy and values, the Commission intends for the Company to assess the climate impacts of its programs, specifically as they relate to the Act on Climate targets.

6.4.2 Compliance with Standard

The energy efficiency programs and Portfolios described in this Annual Plan are environmentally responsible. As detailed in section 0, the Act on Climate stipulates mandatory and time-bound emissions reductions for the state. This Annual Plan seeks to continue the progress that has been made in reducing emissions by providing customers across all sectors with ways to reduce their energy consumption. Energy efficiency therefore contributes directly to meeting the Act on Climate's goals as well as other environmental policies and priorities in the state. In addition to direct emissions reductions benefits, energy efficiency investments reduce the potential environmental costs and footprint of avoided infrastructure investments and support the ongoing growth and development of a sustainable, green job ecosystem in Rhode Island.

Both the Electric and Natural Gas Portfolios will make a meaningful contribution to reduction in emissions by driving reductions in customer energy usage in both the short and long term. As shown in Attachments 5 and 6, the Electric and natural Gas Portfolios, considered together, will reduce annual emissions by 71,763 short tons of carbon in 2024.³³ The values of non-embedded avoided carbon are calculated using avoided cost values determined in AESC 2021 and the AESC Supplemental Study: the non-embedded values of carbon dioxide and nitrous oxide benefits generated by the 2024 Plan over the lifetime of the measures are \$49.9 million and \$3.5 million respectively. These monetized values of emissions are included as benefit streams in the RI Test benefit-cost assessment and in the assessment of cost of supply for the portfolio; however, they are excluded from the calculation of net benefits in the Performance Incentive Mechanism.

The Company's 2024 Plan complies with, or otherwise advances, the 2021 Act on Climate, which sets statewide, economy-wide greenhouse gas emissions reduction mandates. The proposed investments reduce both electric and gas consumption. On the electric side, prior to meeting the 100 percent Renewable Energy Standard in 2033, any electric savings will directly support the State in meeting its 2030 greenhouse gas emissions reduction mandate through reduced peak demand, which reduces emissions associated with peaker plants, and by ramping up efficiency investments that will help enable the use of more renewables in the future. On the gas side, all gas savings will directly

³³ While all energy savings seen in the Annual Plan are net, these emissions are calculated based on gross energy savings from EE measures because meeting the state's targets does not depend on who is getting credit for the GHG reductions. The marginal carbon emission rates are from "Avoided Energy Supply Components in New England: 2021 Report" Appendix G.

support the State in meeting its 2030 greenhouse gas emissions reduction mandate by reducing emissions associated with customer purchases of gas appliances. Indeed, the State's *2022 Update to the 2016 Greenhouse Gas Emissions Reduction Plan* calls out both electric and gas energy efficiency as a priority short-term action to get Rhode Island on the path to meet the 2021 Act on Climate's 2030 mandate. To properly value the environmental and climate costs and benefits associated with the proposed investment in energy efficiency, the Company used the marginal abatement cost to monetize both embedded and non-embedded value of greenhouse gas emissions reduction.

As noted in section 2.5.2, this Annual Plan includes several activities designed to support upskilling of the green workforce. In providing for these jobs and demonstrating the availability and attractiveness of local, green jobs to Rhode Island's existing and emerging workforce, the Company's energy efficiency programs help to ensure that the local workforce will exist to support the state's environmental policy goals.

Educating and engaging residential and business customers on the potential environmental impacts and benefits of the implementation of energy efficiency measures is a foundational element of the Company's energy efficiency go-to-market strategy and contributes to the environmental responsibility of the Annual Plan. Whether in the form of conveying potential environmental benefits of customer recommendations through Home Energy Reports, EnergyWise home energy assessments, or retail marketing initiatives, or by connecting Small Business audits or large C&I customer sales efforts to business customer sustainability initiatives, the Company's energy efficiency program presence continue to help to support the prominence of environmental issues in customers' minds. Additionally, through the Community Solutions, the Company partners with municipalities and works through local energy and environmental sustainability committees to connect individual customers' energy efficiency decisions and actions to broader municipal sustainability goals and messages. In doing so, the Company's programs continue to link energy savings and efficiency to real and visible benefits for the communities in which their residents and small business reside.

A final component of the environmental responsibility of the Company's 2024 Plan is its ongoing efforts in electrification. The Company will be continuing its efforts to transition electric resistance heating customers to more efficient heat pumps. The Company will also continue to cooperate and coordinate with the OER and others as the state implements its electrification and decarbonization strategies to reach customers that require fuel switching and are ineligible for RI Energy's programs.

6.5 Lower than the Cost of Supply

6.5.1 Interpretation of Standard

In accordance with the LCP Standards, the Company assessed the cost of incremental energy supply and the cost of energy efficiency using all applicable costs enumerated in the Rhode Island Benefit Cost Framework (Framework) approved by the PUC in Docket 4600-A and the Rhode Island Test as described in Attachment 4: RI Benefit Cost Test. This method is substantially the same as that used in the 2023 Plan.

Like the Standard for cost effectiveness, in Docket 23-07-EE, changes to the Standards required an additional analysis of the cost of supply comparison that, “for categories with value or cost that is shared between RI Energy and other jurisdictions (both within the state and region), presents only those benefits and costs that will be allocated to Rhode Island Energy.” In considering the nature of “other jurisdictions,” the Company interpreted this to refer to states other than Rhode Island, and that “Rhode Island Energy” therefore refers, in this case, to Rhode Island. Using this interpretation, the Company identified certain categories of benefits that flow outside of Rhode Island. These include a portion of DRIPE and PTF capacity values. This additional view on the cost of supply will be provided in the final version of the 2024 Plan. To the best of the Company’s knowledge, no costs accrue outside of the state.

6.5.2 Compliance with Standard

For the analysis that includes benefits and costs that accrue only in the Rhode Island Energy jurisdiction, based on the Company’s calculation, the total cost of energy efficiency for the electric portfolio in the is \$113.8 million and the total cost of electric supply to meet the same need would be \$134.8 million. This is a total savings of \$21.0 million over the life of the installed measures from investing in energy efficiency instead of electric supply. The total cost of energy efficiency for the Natural Gas Portfolio is \$41.0 million and the total cost of natural gas supply to meet the same need would be \$51.7 million. This is a total savings of \$10.7 million over the life of the installed measures from investing in energy efficiency instead of natural gas supply. The methodology for calculating Cost of Supply is detailed below.

The RI Test is an appropriate mechanism to determine which costs to include in this assessment. The RI Test, as detailed in Attachment 4, captures the aspects of the Framework that pertain to energy efficiency programs. For the purposes of this assessment, the avoided cost values in the RI Test can also be applied as the costs of procuring additional energy supply. The RI Test also details what is considered a cost of energy efficiency. These are costs incurred by the utility to implement the Annual Plan and the expense borne by the customer for its share of the energy efficiency measure cost.

The Company proposes to use the costs described in Table 9 to compare the cost of energy efficiency to the cost of energy supply. The categories listed in this table are all used in the RI Test, as defined in Attachment 4. As directed by the LCP Standards, the Company provides an explanation for why cost categories are either appropriate or not appropriate for inclusion in the assessment of the cost of energy supply compared to the cost of energy efficiency.

Table 9. List of the Costs of Energy Efficiency and Costs of Energy Supply

Costs of Energy Efficiency		
Cost	Included (Y/N)	Explanation
Utility Costs	Yes	These costs are incurred to achieve implementation of energy efficiency measures and programs. Includes all costs in Tables E-2 and G-2.
Participant Costs	Yes	Customer contribution to the installation cost of the efficient measure. Customer costs included in Tables E-5 and G-5.

Costs of Energy Supply		
Cost	Included (Y/N)	Explanation
Electric Energy Costs	Yes	Represents the cost of purchasing electric energy supply.
Electric Generation Costs	Yes	Represents cost of generation capacity in ISO-NE.
Electric Transmission Capacity Costs	Yes	Represents Pool Transmission Facilities (PTF) cost.
Electric Distribution Capacity Costs	Yes	Represents the cost of distribution capacity related to increased load.
Natural Gas Costs	Yes	Represents the cost of purchasing natural gas supply.
Fuel Costs	Yes	Non-regulated delivered fuels are an energy supply cost to customers that utilize these fuels for heating. The fuel costs in this category are separate from those embedded in the cost of the electric market. While not a direct cost of electric energy supply, RI Energy includes incentives for delivered fuel energy efficiency measures in its Electric Portfolio. Therefore, to achieve symmetry with costs associated with electric energy efficiency, delivered fuels costs should be included in this comparison.
Water and Sewer Costs	No	While avoided water and sewer costs are a benefit of installing certain energy efficiency measures, they are not a direct cost of energy supply.

Costs of Energy Supply		
Cost	Included (Y/N)	Explanation
Non-Energy Impact Costs	No	With the exception of the three NEIs listed below, while non-energy impacts are a benefit of installing certain energy efficiency measures, they are not a direct cost of energy supply.
• Income Eligible Rate Discount	Yes	- Costs associated with energy being sold at the income eligible rate.
• Arrearages	Yes	- Costs associated with arrearage carrying costs as a result of customers not being able to pay their energy bills.
• Utility	Yes	- Costs associated with utility carrying costs as a result of customers encountering issues with utility services or paying their bills.
Price Effects	Yes	Represents costs associated with the impact of demand reduction on ISO-NE energy and capacity markets.
Non-embedded Greenhouse Gas Reduction Costs	Yes	Represents the social cost of carbon. The social cost of carbon is the cost associated with meeting the goals of the Act on Climate. Carbon emissions come from the production of energy and should be considered a cost of supplying that energy.
Economic Development	No	While economic development is a benefit of investment in energy efficiency measures it is not a direct cost of energy supply.
Non-embedded Nitrous Oxide (NOx) Costs	Yes	NOx emissions come from the production of energy and therefore the health impacts of NOx emissions should be considered part of the cost of supplying that energy.
Reliability Costs	Yes	Increased energy demand can lead to declining reserve margins and decrease reliability so should be associated with the cost of energy.

Assessing the Cost of Supply, the Company applies the above costs of supply to the lifetime electricity, lifetime MMBtu of delivered fuels, demand, and natural gas savings for each measure included in the Annual Plan in present value terms. The costs of the 2024 Plan occur only in the 2024 program year and are therefore not discounted. The results of the Cost of Supply analysis are presented in Table 10, including the additional intrastate assessment required by the LCP Standards.

Table 10. Costs of Energy Efficiency and Costs of Energy Supply

Benefits	Electric	Electric (RI Only)	Natural Gas	Natural Gas (RI Only)
Electric Energy	\$51,762,507	\$33,640,472	\$337,539	\$274,416
Electric Generation	\$4,677,854	\$4,677,854	\$124,249	\$124,249
Electric Transmission Capacity	\$9,998,148	\$1,060,916	\$248,242	\$19,012
Electric Distribution Capacity	\$15,564,462	\$15,564,462	\$282,031	\$282,031
Natural Gas	-\$537,276	-\$537,276	\$28,377,765	\$28,377,765
Delivered Fuel	\$22,209,195	\$22,209,195	\$0	\$0
Price Effects	\$26,747,651	\$26,747,651	\$378,042	\$378,042
Non-Embedded Greenhouse Gas Reduction	\$30,035,690	\$30,035,690	\$19,820,251	\$19,820,251
Non-Embedded NOx	\$1,082,192	\$1,082,192	\$2,389,919	\$2,389,919
Reliability	\$139,395	\$139,395	\$1,010	\$1,010
Income Eligible Rate Discount	\$76,203	\$76,203	\$0	\$0
Arrearages	\$32,064	\$32,064	\$0	\$0
Utility	\$115,675	\$115,675	\$35,514	\$35,514
Cost of Supply	\$161,903,761	\$134,844,494	\$51,994,562	\$51,702,208
Program Implementation Expenses	\$92,229,404	\$92,229,404	\$33,255,011	\$33,255,011
Customer Contribution	\$17,495,754	\$17,495,754	\$6,854,409	\$6,854,409
Shareholder Incentive	\$4,079,089	\$4,079,089	\$904,972	\$904,972
Cost of EE	\$113,804,247	\$113,804,247	\$41,014,392	\$41,014,392
Difference	\$48,099,514	\$21,040,248	\$10,980,170	\$10,687,816

Based on this analysis, the 2024 Plan is compliant with the Standard of Lower Than the Cost of supply.

Section Seven: Savings Goals

In 2024, the Company will primarily measure performance through lifetime energy savings. The Company recognizes the long-term value of developing and achieving lifetime energy savings goals because of the focus on longer term customer savings and benefits. The Electric Portfolio will measure energy savings in units of lifetime MWh and the Gas Portfolio will measure energy savings in units of lifetime MMBtu. For comparability with past plans, the Company will

continue to track and report on annual energy savings. Electric demand savings, from passive energy efficiency savings, will continue to be measured and reported in annual units of kW.

The Company will also track net annual and lifetime all-fuel MMBtu (electric, gas, oil, and propane) savings for both the electric and gas portfolios.³⁴ Tracking net annual and lifetime all-fuel savings (MMBtu) more fully captures the net effect of all-fuel savings efforts (electric, gas, oil, and propane). The tracking effort will provide useful information and benchmarking for state efforts to support decarbonization of the thermal energy sector and better support state and Company greenhouse gas reduction goals now and in the future. Carbon reductions will be calculated and reported as a secondary goal in 2024 consistent with the Standards and the Act on Climate.³⁵ Savings goals for the Electric Portfolio are presented in Attachment 5 and for the Natural Gas Portfolio in Attachment 6.

7.1 Annual Plan Compared to the Three-Year Plan

The energy and cost savings for the 2024 program year are consistent with the objectives and requirements of Least Cost Procurement. For 2024, the values in the 2024-2026 Plan are identical to the values in the Annual Plan. In future annual plans during the 2024-2026 term, the Company will examine key drivers contributing to differences with the 2024-2026 Plan. Based on prior years' experience, the Company expects the drivers to be budgets, cost to acquire energy efficiency, measure mix, evaluation results, changes to avoided costs, and addition or elimination of categories of benefits.

7.2 Comparison of 2024 Goals with Proposed EERMC Targets

This section compares the Company's proposed goals for 2024 with the targets proposed by the EERMC in Docket 23-21-EE.³⁶ These targets, which were informed by the EERMC-commissioned Market Potential Study Refresh, are still under PUC review. Table 11 shows a summary comparison by sector of lifetime savings.

³⁴ See Tables E6-A and G6-A for calculation of annual and lifetime MMBtu of all fuels.

³⁵ See Tables E6-A and G6-A for calculation of annual short tons of carbon dioxide.

³⁶ PUC Docket No. [23-21-22](#): RI Energy Efficiency & Resource Management Council's Recommended Targets for Energy Efficiency and Active Peak Demand Reduction Savings for 2024-2026 (filed 4/28/23).

Table 11. Comparison of Goals with EERMC Proposed Targets

	Planned Values		EERMC Proposed Targets	
	Lifetime MMBtu (Gas Programs)	Lifetime MWh (Electric Programs)	Lifetime MMBtu (Gas Programs)	Lifetime MWh (Electric Programs)
Residential				
2024	1,098,130	190,617	3,225,203	524,767
Income Eligible Residential				
2024	287,482	55,358	291,786	60,900
C&I				
2024	1,916,991	483,319	3,541,850	811,977
Total Savings				
2024	3,302,603	729,294	7,058,839	1,397,644

To perform the comparison, because measure names in the two sources do not match, assumptions were made to match MPS measures with BCR measures. This matching process could have potentially created some disparities in the comparison. With this caveat in mind, the primary differences between the MPS Refresh and BCR include:

- Planned quantities of measures.** The difference in quantities between the MPS Refresh and the Company’s goals is largely driven by unconstrained budget increases allowed in the MPS Refresh. The significantly higher quantities in the MPS Refresh caused savings to be significantly higher for many measures.
- Sourcing and values of impact factors.** The BCR sources were mostly Rhode Island specific studies, recent Massachusetts studies, or sourced from recent technical reference manuals (TRMs). These updated sources in several cases reflected decreased savings compared to the sources used in the MPS Refresh which included IL 2019 TRM, Iowa 2018 TRM, MA 2019 TRM, Dunsky Professional Judgement, and ENERGY STAR sources.
- Lifetime savings.** Differences in lifetime savings were driven by differences in impact factors and planned quantities, as well as some measure life differences.
- Measures included in the MPS Refresh.** There were a handful of measures providing savings in the MPS Refresh that the Company does not currently plan for in its energy efficiency programs. Some of these measures failed the RI Test when the Company had previously screened them and some of them are new.

This comparison provides valuable insight into the differences between the EERMC’s filed targets and the goals proposed by the Company over the coming three years and this analysis was shared with the EERMC. Further understanding of these differences could reduce the gap between the savings estimates. It could also provide insight into potential recommendations for updates in subsequent Plans. These updates may include updating impact factors by using assumption references from the MPS Refresh, updating planned quantities through considering different marketing approaches or adjusting incentive levels, adding in new measures called out within the MPS Refresh, or using the analysis to support net savings goals.

Section Eight: Budget and Funding Plan

8.1 Budgets

The Company is proposing Energy Efficiency Portfolio budgets for 2024 that are 0.1 percent higher than the final approved budgets for 2023.³⁷ In developing the Annual Plan, the RI Energy team has focused on striking the best balance between delivering the necessary benefits of energy efficiency and maintaining a budget that reduces bill pressure on our customers given present economic realities affecting Rhode Island. The Company submits that its approach in developing the budget for 2024 is consistent with the prudence requirements of the Standards.

The Energy Efficiency Portfolio for 2024 will have an overall budget of approximately \$96.3 million for electric programs and \$34.2 million for natural gas programs. The budget is segmented into three sectors: residential income eligible, residential non-income eligible, and C&I. Proposed sector and program budgets are provided in Attachment 5: Electric EE Program Tables, Table E-2 and Attachment 6: Gas EE Program Tables, Table G-2. A comparison of these proposed budgets to the 2023 budget is provided in Attachment 5, Table E-4 and Attachment 6, Table G-4.

The Company will continue the practice of funding commitments established in the 2014 Plan, Docket 4451. Specifically, the Company will continue to make funding commitments for projects with a projected one-time incentive

³⁷ Costs approved for ConnectedSolutions programs in 2023 are excluded from this comparison, as those programs are no longer part of the Energy Efficiency Program Portfolio.

in excess of \$3.0 million. For all other projects, except those with incentives greater than \$3.0 million, there would be no commitment budget.

8.2 Funding Plan

The 2024 budgets for cost-effective electric and natural gas efficiency investments are dependent on a number of projections that inform the amount of funding, including projections of electricity and natural gas sales, year-end 2023 large C&I program commitments, capacity payments received from ISO-NE (electric only), and forecast year-end 2023 spending. The sources of funding and the amounts of the funding proposed for the 2024 Energy Efficiency Portfolio are shown in Table E-1 for Electric Programs and Table G-1 for Natural Gas Programs. Annual Plan funding sources are described in the sections that follow.

8.2.1 Energy Efficiency Charges

The sources of funding for the 2024 electric programs are shown in Attachment 5: Electric EE Program Tables, Table E-1. To collect these funding sources for the 2024 cost-effective programs, the Company proposes: (1) one line on the customers' bill labeled "Energy Efficiency Charge" at \$0.01052 per kWh, as calculated in Attachment 5, Table E-1 (composed of the existing energy efficiency program charge of \$0.0096 per kWh plus a fully reconciling funding mechanism charge of \$0.00092 per kWh in accordance with the requirements of R.I. Gen. Laws § 39-1-27.7); (2) projected Large C&I commitments from 2023, if any; (3) projected carryover of the year-end 2023 fund balance, as applicable, including interest at the rate in effect for customer deposits; (4) forecast revenue generated by ISO-NE's Forward Capacity Market (FCM); and (5) other potential outside revenue sources, including but not limited to those generated through RGGI permit auctions. Funding sources do not include revolving loan funds.

The sources of funding for the 2024 natural gas programs are shown in Attachment 6 Gas EE Program Tables, Table G-1. The Company proposes that the 2024 budget should be funded from the following sources: (1) one line on the customers' bill labeled "Energy Efficiency Charge" at \$1.094 per dekatherm for residential customers and \$0.782 per dekatherm for non-residential customers as calculated in Attachment 6, Table G-1 (composed of the existing energy efficiency program charge of \$1.136 per dekatherm plus a fully reconciling funding mechanism of (\$0.042) per dekatherm for residential customers and the existing energy efficiency program charge of \$0.620 per dekatherm plus a fully reconciling funding mechanism of \$0.162 per dekatherm for non-residential customers in accordance with the requirements of R.I. Gen. Laws § 39-1-27.7); (2) projected carryovers or under-recoveries of the year-end 2023 fund

balance, including interest at the rate in effect for customer deposits. Funding sources do not include revolving loan funds.

The increase in the proposed EE Program Charge per kWh is driven by a smaller positive projected 2023-year end electric fund balance forecast relative to the 2022 year-end electric fund balance. The increase in the C&I and Residential Program Charge per Dth is driven by the decrease in the 2023 year-end gas fund balance forecast compared to the 2022 year-end gas fund balance.

The Company forecasts electric energy deliveries and gas loads for a variety of filings. In the context of the Annual Plan, the forecasts primarily factor into the calculation of the per-unit energy charges that fund the Natural Gas and Electric Energy Efficiency Portfolios. At the time of the preparation of this Annual Plan, the Company used a gas forecast based on the June 2023 release and an electric forecast based on the September 2022 release. The sections below provide an overview of the forecasting processes for the electric energy delivery and gas load forecasts.

Electric Forecast Summary

The electric energy deliveries forecast is developed in several steps. The first step was to “reconstitute,” that is add-back or subtract, as applicable, the impacts of energy efficiency (EE), solar-photovoltaics (PV), electric vehicles (EV), and electric heat pumps (EH) to the historical monthly energy dataset. This set of programs and technologies is termed Distributed Energy Resources (DERs), and the reconstituted data is termed “gross” to reflect the fact that it represents data prior to the impacts of DERs.

The second step is to develop an econometric forecast of gross energy deliveries based on Rhode Island economic conditions, normal weather, and days billed, as appropriate, using this reconstituted dataset. The economic conditions are from Moody’s economy outlook. The weather variables considered are cooling degree days (CDDs) and heating degree days (HDDs). Normal weather is defined by the average CDDs and HDDs of the most recent ten years. Due to the unavailability and / or great uncertainties of long-term weather forecasts, it is a common practice to use normal weather for long-term load forecasting.

The third step is to create the “net” forecast by adjusting the gross forecast by the projections for future DERs. Impacts for EE and PV (reflecting decreased electric load on the system) are subtracted from the gross forecast, impacts of EV (reflecting increased electric load on the system) are added to the gross forecast, and impacts of EH are added to or subtracted from the gross forecast depending on the season to create the net forecasts. These forecasts were first

developed in terms of revenue classes – residential, commercial, and industrial. They were then allocated to the various rate classes using the current revenue to rate class percentages from the Company’s billing system.

Natural Gas Forecast Summary

The Company’s gas load forecast is based on a comprehensive methodology for forecasting retail customer load requirements using a series of econometric models to determine the changes expected for Residential Heating, Residential Non-Heating, Commercial, and Industrial classes. To determine total gas demand and projected growth over the forecast period, the econometric models use historical economic, demographic, and energy price data, and weather data.

The product of the Company’s retail demand forecast is a forecast of meter counts, use-per-customer, and volume by month by internal rate code under normal weather conditions. The Company’s retail demand forecast is then converted to wholesale supply requirements at the Company’s city gates based on the daily relationship between city gate volumes (including supplementals) and weather. The product of the Company’s wholesale customer requirements forecast is a forecast of daily volumes under normal and design weather conditions.”

8.2.2 Fund Balances

The Company estimates that the electric projected fund balance at year-end 2023 will be \$8.6 million, as shown in Line 3, Attachment 5, Table E-1; the gas fund balance at year-end 2023 is estimated to be (\$1.5 million), as shown in Line 2 Attachment 6, Table G-1. The Company has included 2023 year-end fund balance forecasts (electric and gas) on line 3 of the E-1 and on line 2 of the G-1 tables in Attachment 5 and Attachment 6, respectively. The fund balance forecasts include estimated implementation expenses and estimated earned-performance incentives.

Adjustments for 2023 Year-End Fund Balance

The 2023 year-end fund balance will be a function of actual implementation expenses and Company earned performance incentive through year-end 2023. Consistent with recent practice, by November 17, 2023, the Company will provide updated year-end fund balance forecasts, reflecting updated sales, collection, and program expenditure forecasts through year-end and revised Tables E-1 and G-1 to provide the PUC with time to review the Company’s proposed charges in advance of the Annual Plan hearing. This would allow the charges, if approved, to have an effective date of January 1, 2024. This will allow the Company to begin collecting the most accurate charge possible at the start of the program year and avoid any market confusion surrounding the status and implementation of the 2024 energy

efficiency programs. If the actual year-end 2023 fund balance as filed in the Year-End Report is higher or lower than that amount projected in the November 17, 2023 revised Tables E-1 and G-1, any deviation will be fully reconciled in the next program year in accordance with the requirements of R.I. Gen. Laws § 39-1-27.7.

The fund balance does not currently include credits from shareholder funds, with interest, to the fund balance based on the Company's involvement in Docket 22-05-EE. All credits identified thus far in that process were accounted for in the 2023 Annual Plan.

8.2.3 ISO-NE Capacity Market Revenue

Consistent with the LCP Standards, Annual Plan, and PUC decisions regarding annual plans since 2008, the kW-demand savings achieved via the electric energy efficiency and Combined Heat and Power programs continue to participate in the FCM as Passive On-Peak Demand Resources. The Company will manage and direct the revenues by bidding the demand savings attributed to energy efficiency measures and Combined Heat and Power facilities in the FCM and managing the associated capacity resources to maximize the resulting FCM revenue. The revenues from measures installed through this Annual Plan, as well as all previous plans, will continue to be reinvested in energy savings for the life of the measure.

The Company is to recover all prudently incurred FCM expenses from ISO-NE capacity-payment revenue generated by the demand savings from efficiency programs represented by the Company. The Company expects that capacity payments received from the ISO-NE will exceed its administrative and EM&V compliance costs of participation in the FCM and will result in additional funds being made available to fund efficiency programs for customers. If these participation costs exceed the capacity payments, the Company may recover its prudently incurred costs from the energy efficiency program fund. Only prudently incurred expenses are deducted from ISO-NE capacity payments or the energy efficiency program fund.

In addition, as part of the FCM, all qualified auction participants are required to post Financial Assurance to provide security that the promised resource will deliver the promised MW at the promised time. If, as a result of circumstances

beyond the Company's control³⁸, the Company is unable to provide all or a portion of the MW of capacity proposed in its qualification packages and capacity auction bids, some or all the financial assurance monies would be forfeited.

8.2.4 RGGI Funding

RGGI funding is allocated to the State of Rhode Island based on quarterly auctions for emissions allowances. The OER develops a plan for the allocation of auction proceeds. No RGGI proceeds have been allocated to the Company for 2024 energy efficiency programs.

8.2.5 Exceptions to the Natural Gas Energy Efficiency Program Charge

All gas used for distributed generation projects approved since 2014 will be subject to the natural gas energy efficiency surcharge.³⁹

The 2006 Act allows the PUC to exempt natural gas used for manufacturing processes from the energy efficiency surcharge where the customer has established a self-directed program to invest in and achieve best effective energy efficiency in accordance with a PUC-approved plan and subject to periodic review and approval by the PUC. Consistent with prior PUC decisions, the Company has developed recommendations for a process under which a manufacturer may submit its self-directed program and the required annual reports for approval. The Company recognizes that this process may need to be reviewed and modified after the PUC has accumulated sufficient experience with these programs. Any customer that receives this exemption from the natural gas energy efficiency program charge will not be eligible to receive natural gas energy efficiency program services.

³⁸ Such circumstances may include legislative action to alter the EE Program Charge or discontinue the Company's authority to implement the energy efficiency programs underlying the Qualifications Package or a PUC decision limiting the Company's role in bidding the demand savings acquired through program efforts into the FCM.

³⁹ Natural gas used for distributed generation (excluding natural gas used by emergency generators) for distributed generation projects approved under the energy efficiency programs in 2013 and prior years - independent of the date those facilities become commercially operable – are not subject to the energy efficiency surcharge when natural gas used for that purpose can be clearly identified through uniquely metered use and when so requested in writing by the customer.

8.2.6 Budget Management

Deviations from the planned budget for 2024 are possible during the program year. The Company contemplates three potential overspending scenarios, and will address them as follows:

- **Anticipated overspending up to 10 percent.** The Company's expenditures for 2024 may exceed the total portfolio budget by up to 10 percent as long as written notification is provided to the EERMC, OER, PUC, and DPUC for any deviation. The Company will track expected expenditures relative to planned budgets and will report to stakeholders through inclusion in the quarterly reports, or earlier, if the Company believes such overage is likely to occur. Any such notification will occur as soon as possible, and no later than the distribution of the Company's Third Quarter Report in mid-November 2024 and must explain the need for a higher budget and must justify how the expenditures are reasonably consistent with the original Annual Plan and in accordance with Least Cost Procurement.
- **Anticipated overspending in excess of 10 percent.** During 2024, if the Company anticipates that continued operation of its programs is likely to result in actual expenditures exceeding the total portfolio budget by more than 10 percent, the Company will seek a vote of approval from the EERMC. OER commits to making all reasonable efforts to schedule such vote as soon as feasible following notification, but no later than thirty days from receipt of notification. The PUC will not provide advance approval of expenditures exceeding the total budget by more than 10 percent. The Company will be required to demonstrate to the PUC that the overspend was prudent. Support from the Division, OER, and EERMC will be considered in the PUC's review of prudence.
- **Unanticipated overspending in excess of 10 percent.** If the Company did not anticipate and notify stakeholders identified above that its actual expenditures would exceed the total portfolio budget by more than 10 percent, but actual expenditures do exceed such threshold, such expenditures above 110 percent of approved budget will be at the Company's risk. In order to secure cost recovery, the Company will bear the burden of demonstrating the reasonableness of its actions to the PUC, including an explanation of why the overspending occurred and how the expenditures are reasonably consistent with the original Annual Plan and in accordance with Least Cost Procurement. Such a demonstration would be required to be part of the 2024 Year-End Report.

In all instances, the PUC retains its traditional ratemaking authority to review the prudence and reasonableness of the Company's actions.

8.2.7 Notification of Large Customer Incentives

The Company shall inform the PUC, DPUC, OER, and EERMC in writing of any energy efficiency incentive annual offer in excess of \$3 million per measure. The Company shall inform the DPUC, OER, and EERMC in writing of any Combined Heat and Power project with a net output of 1 MW or greater (where net is the nameplate MW output minus Combined Heat and Power auxiliary kW). The process for notification of Combined Heat and Power projects is described in Attachment 2: C&I Programs.

To prevent customer delays and to facilitate the Company's ability to meet customer expectation and annual energy savings goals, the OER, EERMC and Division agree to ask questions and provide comments on any non-Combined Heat and Power energy efficiency incentive annual offer in excess of \$3 million within 30 days. The Company, through its own discretion, may proceed with an incentive offer. The incentive, and any other related proposals will be authorized to proceed after 30 days from the date on which the Company notified the PUC, OER, Division, and EERMC of the incentive unless the PUC suspends the filing and/or issues an order within such 30-day period to extend the time for purposes of further review.

Section Nine: Performance Incentive Plan Structure

The Performance Incentive Mechanism (PIM), as approved in Docket 5076, established the measurement of performance as a net benefits framework based on a set of prioritized benefit categories. This prioritizes utility system impacts over resource benefits generated by the programs and omits the societal benefits. The "netting" calculation incents budget controls so that the benefits are achieved in line with the portfolio budgets as proposed in the Annual Plan.

Equation 1. Illustrative Calculation of Net Benefits for Performance Incentive Mechanism

$$\text{Total Benefits} = (100\% \text{ of Utility System Benefits} + 50\% \text{ of Resource Benefits})$$

$$\text{Net Benefits} = (100\% \text{ of Utility System Benefits} + 50\% \text{ of Resource Benefits}) - (\text{Programmatic Costs} + \text{Regulatory Costs})$$

The PIM measures performance at the sector and fuel level:

- Non-Income Eligible Residential Electric

- Income Eligible Residential Electric
- Commercial and Industrial Electric
- Non-Income Eligible Residential Gas
- Income Eligible Residential Gas
- Commercial and Industrial Gas

The PIM calculations include a set of potential adjustments that are intended to further incent the company to maintain budget controls in the delivery of savings, and therefore prioritized benefits, by adjusting earnings under this mechanism based on cost relative to budget. The Company is not proposing structural changes to the PIM for 2024.

Attachment 5, Table E-8A and Attachment 6, G-8A show the categories of benefits that are included in the PIM calculations, categories omitted from the PIM, and the weighting assigned to those benefits in the calculation. The categories of benefits are also summarized in Table 12 for electric and Table 13 for gas [Table 13](#) below. The monetized benefits included in the PIM are calculated from a subset of benefit categories included in the RI Test, calculated using the same methods and inputs as the RI Test.

Table 12. Electric Energy Efficiency Portfolio Benefits Alignment for PIM Calculations

Benefit	PIM Categorization	Percent Allocation in PIM Calculation
Summer Generation	Electric Utility System Benefits	100%
Capacity DRIPE		
Transmission		
Distribution		
Reliability		
Winter Peak Electric Energy		
Winter Off Peak Electric Energy		
Summer Peak Electric Energy		
Summer Off Peak Electric Energy		
Electric Energy DRIPE		

Schedule B

Benefit	PIM Categorization	Percent Allocation in PIM Calculation
Utility Non-Energy Impacts (NEIs)		
Non-Embedded Carbon		
Natural Gas and Natural Gas DRIPE		
Oil and Oil DRIPE	Resource Benefits	50%
Propane		
Water		
Non-Resource (NEIs)		
Non-Embedded NOx	Other Not Included Benefits	0%
Economic		

Table 13. Gas Energy Efficiency Portfolio Benefits Alignment for PIM Calculations

Benefit	PIM Categorization	Percent Allocation in PIM Calculation
Natural Gas	Gas Utility System Benefits	100%
Natural Gas DRIPE		
Utility Non-Energy Impacts (NEIs)		
Summer Generation	Resource Benefits	50%
Capacity DRIPE		
Transmission		
Distribution		
Reliability		
Winter Peak Electric Energy		
Winter Off Peak Electric Energy		
Summer Peak Electric Energy		
Summer Off Peak Electric Energy		
Electric Energy DRIPE		
Oil and Oil DRIPE		
Propane		
Water		
Non-Resource (NEIs)	Other Not Included Benefits	0%
Non-Embedded Carbon		
Non-Embedded NOx		
Economic		

Tables E-8B and G-8B show the costs that are used in the “netting” calculations in the PIM, and that are incorporated in the SQAs in the sectors to which they apply. The core of the costs included in the PIM is the “Eligible PIM Budget” derived from Attachment 5, Table E-3 and Attachment 6, Table G-3. The Eligible PIM budget is calculated based on the

total budget from Tables E-2 and G-2 with regulatory costs equally distributed and commitments, OER costs, RIIB transfers, pilot costs, assessment costs, and performance incentive value removed.

Electric

In 2024, two electric sectors (non-income eligible Residential and C&I) are eligible to receive performance incentives. The combined eligible net benefits of these sectors have increased from 2023 to 2024. In 2024, the Company proposes a payout rate of 10.1% of 2024 planned PIM-eligible net benefits, which is the same rate used to calculate the 2023 payout pool. Because of the greater amount of PIM-eligible benefits, this payout rate yields a target incentive pool of \$4,079,089, which is \$719,928 more in electric performance incentives than in 2023.

For 2024, the Company has proposed raising the maximum income eligible electric SQA from \$313,802 to \$352,034. This adjustment is directly scaled to the increase in total income eligible benefits between 2023 and 2024. The non-income eligible Residential and C&I sectors are not eligible for SQAs in 2023.

Natural Gas

As in 2023, in 2024, the gas performance incentive is entirely allocated to the C&I sector (the only sector with positive eligible net benefits). Therefore (consistent with the calculation of the electric performance incentive), the specific decrease in the Company's proposed 2024 gas incentive was calculated by keeping the 2023 gas C&I payout rate of 11.7% constant for 2024. In 2024, the Company is seeking a payout pool of \$904,072 which is \$112,970 more in gas performance incentives than in 2023. This increase aligns with the increase in natural gas eligible net benefits.

In 2024, the Company has proposed lowering the maximum non-income eligible gas SQA from \$333,102 to \$306,085 and lowering the maximum income eligible gas SQA from \$123,176 to \$109,637. The adjustments are directly scaled to the changes in total sector-specific eligible benefits between 2023 and 2024. The C&I sector is not eligible for an SQA in 2024. Tables E-8C and G-8C show the final summarizations of the calculations for the PIM and SQAs, including target earning opportunities and maximum earning opportunities.

9.1 Future Performance Metrics

The Company does not propose any additional performance metrics for the 2024 Program Year.

Section Ten: Advancing Docket 4600 Goals and Principles

Along with the quantitative benefits detailed in this Annual Plan, as measured by the RI Test, the energy efficiency investments and innovation planned for 2024 also advance the Docket 4600 principles and goals.⁴⁰ The Docket 4600-A Guidance Document directed that “the proposing party must provide accompanying evidence that addresses how the proposal advances, detracts from, or is neutral to each of the stated goals of the electric system.”⁴¹ To meet this directive, the Company describes how the Annual Plan either advances, detracts, or remains neutral on achieving the Docket 4600 goals for the electric system in Table 14.

Table 14. Docket 4600 Goals for the Electric System

4600 Goals for Electric System	Advances/Detracts/Neutral
Provide reliable, safe, clean, and affordable energy to Rhode Island customers over the long term.	Advances: The Annual Plan gives customers tools to reduce their energy consumption. The safest, most reliable, most affordable energy is energy that is never used. Lowering energy consumption avoids investments in the installation, upgrade, or replacement of transmission and distribution infrastructure, and reduces strain on the system.
Strengthen the Rhode Island economy, support economic competitiveness, retain, and create jobs by optimizing the benefits of a modern grid and attaining appropriate rate design structures.	Advances: The Annual Plan will create significant economic benefits in Rhode Island. The Company expects that investments made in energy efficiency under this Annual Plan will add \$232.9 million to Rhode Island’s Gross State Product (GSP), equivalent to 2,367 job-years.
Address the challenge of climate change and other forms of pollution.	Advances: The Annual Plan will help reduce 71,763 short tons of carbon emissions in 2024 from the installed measures as well as reduce other

⁴⁰ PUC Report and Order No. 22851 accepting the Stakeholder Report. Written Order issued Jul. 31, 2017.

⁴¹ Approved final clean version of Guidance Document (Oct. 27, 2017).

4600 Goals for Electric System	Advances/Detracts/Neutral
	pollutants associated with the generation and combustion of electricity, natural gas, and delivered fuels.
<p>Prioritize and facilitate increasing customer investment in their facilities (efficiency, distributed generation, storage, responsive demand, and the electrification of vehicles and heating) where that investment provides recognizable net benefits.</p>	<p>Advances: The Annual Plan provides incentives for customers to invest in cost-effective energy efficiency measures in their facilities and participate in demand response programs and provides handoffs to other programs including EV charging programs.</p>
<p>Appropriately compensate distributed energy resources for the value they provide to the electricity system, customers, and society.</p>	<p>Neutral.</p>
<p>Appropriately charge customers for the cost they impose on the grid.</p>	<p>Neutral.</p>
<p>Appropriately compensate the distribution utility for the services it provides.</p>	<p>Advances: The performance incentive contained in this Annual Plan compensates the Company for achieving the energy savings goals through delivering cost-effective energy efficiency programs to customers while aligning with the PUC’s PIM principles.</p>
<p>Align distribution utility, customer, and policy objectives and interests through the regulatory framework, including rate design, cost recovery, and incentive.</p>	<p>Advances: The Annual Plan aligns Company, customer, and policy objectives and interests by incentivizing energy savings measures that enable customers to manage and reduce their energy consumption, which in turn contributes to the greenhouse gas reduction goals of the Act on Climate, Power Sector Transformation goals, Heating Sector Transformation goals, and the 100 percent Renewable Electricity goal while allowing the Company to earn a performance incentive.</p>

Section Eleven: Miscellaneous Provisions

- Other than as expressly stated herein, this Annual Plan establishes no principles and shall not be deemed to foreclose any party from making any contention in any future proceeding or investigation before the PUC.
- Other than as expressly stated herein, the approval of this Annual Plan by the PUC shall not in any way constitute a determination as to the merits of any issue in any other PUC proceeding.
- RI Energy will convene the EE TWG no less than six times in 2024 to review the status and performance of the Company's 2024 energy efficiency programs and advise the Company on potential programs for the 2025 program year.

Section Twelve: Reporting Requirements

In 2024, the Company will provide reports, including a report for the first three quarters of 2024 and an annual 2024 report. These reports will be sent to the EERMC, the Division, OER, the EE TWG, and the PUC and will include the most currently available program performance for both natural gas and electric efficiency programs. These reports will include a comparison of budgets and goals by program to actual expenses and savings on a year-to-date basis, and a status report on revolving loan funds. The Company reports will also include a summary of program and equity progress and will highlight issues by sector for EERMC, Division, OER, and EE TWG attention. Within the C&I sector, there will be separate highlighting of large and small customer program progress and issues. Beginning in the second quarter, the quarterly reports also include a forecast of expected results.

- Beginning with the 2019 Year End Report, the Company provided detailed costs schedules that were developed in collaboration with the PUC. The Company proposes to submit detailed cost schedules in the 2024 Year End Report. In addition, the Company also proposes to submit confidential vendor schedules to the PUC, with a motion for protective treatment. These confidential vendor schedules detail costs to individual vendors and other external entities.
- Per the Standards adopted in Docket 23-07-EE, the Company will provide to the EE TWG, and file with the PUC its 2024 Year-End Report no later than May 1, 2024. This report will include achieved natural gas and electric energy savings in 2024 and earned incentives for 2024. The report will also include a discussion of deviations from planned quantities as specified in the Standards.

- The Company will provide the EE TWG with a summary of evaluation results that have been incorporated into this 2024 Plan, including a description of the impact of those results in planning the Company's 2025 programs, in the 2025 Plan to be filed by October 1, 2024.

Section Thirteen: Requested Rulings

The Company respectfully requests that the PUC approve the 2024 Plan as presented in this document and the supporting attachments in its entirety. The Annual Plan has been developed with careful consideration of the linkages between all parts. The specific components of this 2024 Plan for which the Company requests approval include:

- The savings goals, programs, measures, budgets, and associated customer collections required to fund the 2024 energy efficiency programs.
- The demonstrations, pilots and assessments the Company proposes for the 2024 program year and the associated budgets and customer collections required to fund those efforts.
- The PIM and associated earning opportunity provided by the Company in this Annual Plan.

Attachments

Annual Plan Attachment 1: Residential and Income Eligible Energy Efficiency Solutions and Programs

Annual Plan Attachment 2: Commercial and Industrial Energy Efficiency Solutions and Programs

Annual Plan Attachment 3: Evaluation, Measurement & Verification Plan

Annual Plan Attachment 4: Rhode Island Benefit Cost Test Description

Annual Plan Attachment 5: Electric Energy Efficiency Program Tables

Annual Plan Attachment 6: Gas Energy Efficiency Program Tables

Annual Plan Attachment 7: Rate and Bill Impacts

Annual Plan Attachment 8: Demonstrations, Pilots and Assessments

Annual Plan Attachment 9: Cross-Program Summary

Annual Plan Attachment 10: Definitions

Annual Plan Attachment 11. Energy Efficiency Equity Working Group Final Report

2024 Residential and Income Eligible Energy Efficiency Solutions and Programs

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1. Overview

The goal of the 2024 Plan is to deliver optimized, tailored programs in an equitable manner to make Rhode Island homes energy efficient through weatherization, advanced building standards, efficient appliances, smart thermostats, and high-efficiency heating, cooling and hot water systems. To attain its energy efficiency savings goals will require the Company to make a concerted, sustained effort to ensure the workforce is well trained and that customers are aware of and participate in programs. The 2024 vision is to support the residential new construction industry's transition to a Zero Net Energy market, address pre-weatherization barriers in homes, replace inefficient heating, cooling and hot water systems with high-efficiency units, and to implement a comprehensive approach to the next generation of efficiency measures.

The 2024 Residential Portfolio's programs have been intentionally designed to broaden access to energy efficiency for all Rhode Island residents, specifically customer segments who have previously been underserved (including low-and-moderate income, non-native English-speaking, and gender, racially and ethnically diverse customers). As noted in the [2021 Rhode Island Energy Efficiency Equity Working Group \(EWG\) Report](#), "equity is historical parity, not just current equality, which means that equity should be viewed as an ongoing process and not a single goal with an endpoint."¹ In 2024, flexibility is an inherent design component of the Company's planned strategies to engage different customer classes or groups in energy efficiency. While some strategies will be successful, others will need modification to generate the desired equitable outcomes.

The detailed program descriptions provided in Attachment 1 offer a snapshot of how the Residential Portfolio's programs are modified from one Annual Plan year to the next, allowing for continuous improvement in the Company's energy efficiency offerings. While the Annual Plan's main text describes the high-level strategies planned for the upcoming program year, this Attachment 1 includes the specific actions and activities that will engage customers. This document also includes the strategies that will be used to attain energy savings for customers and provides a detailed overview of individual program design, implementation, and new strategies planned for 2024.

[1.1 What to Look For in 2024](#)

The Company will focus on equitable access to efficiency programs, decarbonizing the building sector and reducing greenhouse gas emissions, addressing pre-weatherization barriers, ensuring the workforce is well trained to install efficiency measures and leveraging energy efficiency with other funding sources to increase program participation. The focus on these priority areas reflects stakeholder priorities and recommendations identified during the planning process. To develop the Annual Plan, the Company worked closely with the Energy Efficiency & Resource Management Council (EERMC) and its consulting team, the Office of Energy Resources (OER), the Division of Public Utilities and Carriers (the Division),

¹ The Narragansett Electric Company d/b/a National Grid. 2022 Energy Efficiency Program Plan, Attachment 11, p. 11.

Energy Efficiency Technical Working Group stakeholders, the Company's vendors, and customer feedback. Additionally, the EWG's report recommendations and ongoing work to increase outreach and participation equitably in the state were integral in the design and implementation of the programs detailed below.

In 2024, there will be a reduction in natural gas incentives. The Company understands the trendline is moving toward this gradual decrease in natural gas incentives but remains aware of customer and vendor reception to this approach. Currently, the Company's Energy Efficiency team is waiting on the results of the Future of Gas working group and docket to inform this and subsequent efficiency plans.

In acknowledgement of the broad adoption of energy efficient lighting in the residential market, lighting will generally no longer be offered as a measure across residential programs beginning in 2024. The one exception to this will be the continuation of common area lighting measures for EW & IE MF.

Deliver Programs Equitably

A top priority for the Company is to develop an equity-driven approach to the design, implementation and marketing of energy efficiency programs. This approach includes allocating budgets to increase marketing to underserved populations and partnering with community-based organizations, as detailed below.

Rhode Island is not the only state working towards equity in energy efficiency. Many utilities, program administrators and stakeholders are learning that the customers who could benefit the most from energy efficiency are not engaged due to a number of circumstances including lack of awareness, barriers to participation such as language or culture, and limited access to financing and resources to help address pre-weatherization barriers. While the newly implemented strategies will take time to develop and gain momentum, the Company will build on equity-driven tactics deployed in 2023, such as increased equity mailings to the five target communities, mailings to income eligible electric heat customers for no-cost Air Source Heat Pumps, and in person education at Customer Assistance Expos, as every additional customer engaged will realize reduced energy bills and increased comfort in the homes they occupy or own.

The Company plans to allocate program budgets to increase marketing to underserved populations. An assessment is being developed where the Company would partner with community-based organizations that have the experience and established relationships with neighborhoods and municipalities to promote programs and the benefits of energy efficiency. The Company is working with the EWG to design this assessment. For additional detail, please see Attachment 8.

On January 27, 2021, President Joseph Biden issued [Executive Order 14008](#) setting a goal that a minimum of 40 percent of the certain benefits of federal investments must flow to disadvantaged communities that are marginalized, underserved and overburdened by pollution. As federal funding for clean energy projects flows to state energy offices, it is critical that the Rhode Island energy efficiency

programs are designed to equitably serve all customers.. This will ensure disadvantaged and historically marginalized communities are able to access and benefit from federal funding. Rhode Island Energy will work in 2024 to provide reporting report on Justice40 customers served.

Reduce Greenhouse Gas Emissions

Energy efficiency reduces carbon dioxide and other greenhouse gas emissions, such as nitrous oxides, sulfur oxides and chlorofluorocarbons (from refrigerants). On April 14, 2021, Governor Dan McKee signed into law the [2021 Act on Climate](#), which established enforceable climate emissions reduction mandates of 45 percent below 1990 levels by 2030, 80 percent below 1990 levels by 2040, and net-zero emissions by 2050. Energy efficiency in buildings is a key strategy to achieving the legislation's mandates of reducing greenhouse gas emissions in the state and the Company plans to pursue a number of strategies to decarbonize the building sector including weatherization and the installation of efficient heating, cooling and hot water systems. The Company is waiting on some clarification from related Act on Climate dockets to determine if there are program changes needed for the 2024-2026 term.

The Company plans to expand outreach to its electric resistance heating customers to encourage them to upgrade to an air source heat pump system that significantly reduces annual energy expenditures and decreases reliance on fossil fuels. The Company outlined their plan to target electric heat resistance customers for heat pump upgrades in its *Electric Resistance Heating to Air Source Heat Pumps: Implementation Plan for the Income Eligible Sector* (Heat Pump Plan). The Company was directed by the Public Utilities Commission to develop the Heat Pump Plan to achieve 750 conversions annually by 2025 with 25 percent of those customers served classified as income eligible. In 2024, the Company will make a concerted effort to upgrade income-eligible customers.

The Rhode Island Strategic Electrification Study² cites the main barriers preventing customers from moving to air source heat pumps as being: (1) a lack of awareness and (2) the high initial cost of system installations. The Company believes that awareness is being raised through a variety of mechanisms, including ongoing marketing, RIE's heat pump efforts, OER's [Clean Heat RI](#) heat pump program (which encourages fuel switching and electrification), and general market evolution. Furthermore the high initial cost is being addressed through RIE incentives, OER's heat pump program, and through federal funding by way of the Inflation Reduction Act and the Bipartisan Infrastructure Law.

Address Pre-Weatherization Barriers

Weatherization (insulation and air sealing) is an essential component of the Company's Residential Portfolio, and it plays an important role as we electrify heating sources. Weatherization services offered through the EnergyWise Single Family, Multifamily, and the Income Eligible Services Programs help improve the comfort of homes for occupants, save money for residents and building owners, and reduce

² Cadmus, *Electric Resistance Heating to Air Source Heat Pumps: Implementation Plan for the Income Eligible Sector* Dec. 23, 2020.

energy consumption. Pre-weatherization barriers (PWBs) such as asbestos, knob-and-tube wiring, mold, mildew, and vermiculite can prevent weatherization projects from moving forward and are particularly prominent health and safety issues in Rhode Island, which has one of the oldest housing stocks in the nation.

The Company plans to continue our work on pre-weatherization barriers to ensure the equitable distribution of program benefits to households with high energy burdens. Many barriered homes are occupied or owned by low-and-moderate income customers who may not have the funds or resources needed to address weatherization barriers. The Company has been collecting data and performing analysis on barriers across the EnergyWise and Income Eligible programs over the last several years. We plan to use the results of this analysis to better inform our approach to addressing PWBs. Furthermore, the Company will collaborate with stakeholders and other groups to assess best practices and new strategies to address pre-weatherization barriers.

Enhance Financing Options and Leverage Other Funding Sources

A key strategy in increasing the Residential Portfolio's program reach is to leverage other funding sources. The Company plans to coordinate with OER to leverage additional funding opportunities for energy efficiency measures and projects through the American Rescue Plan Act and the Inflation Reduction Act, including HOMES and HEEHRA and OER's Clean Heat RI. Currently, the Company is launching an assessment that would provide a new financing option to multifamily properties. See Attachment 8 for more information. Another possible financing change would be to re-examine the structure of the HEAT loan. For example, whether or not to buy down the HEAT Loan's full interest amount, given the high current interest rate, or whether the Company should just buy down a flat percent amount (e.g., 5 percent). The plan for the company to buy down a flat percentage rate is currently underway. The HEAT Loan agreement with banks is being updated and meetings with participating banks will be scheduled in the 4th quarter of 2023. The Company plans to have the flat interest rate buy down in place by Jan 2024.

Increase Workforce Capacity to Serve Customers

A well-trained workforce is imperative to the successful implementation of programs and to achieve energy savings goals. Increasing workforce capacity is a top priority as highly skilled weatherization, HVAC, and new construction professionals are needed to install energy efficiency measures, promote the benefits of energy efficiency and to decarbonize the building sector. Increasing workforce capacity creates additional opportunities for the Company to pursue equity-driven strategies by supporting and recruiting new workers from marginalized communities. The company remains committed to increasing workforce capacity. In 2023, for example, Rhode Island Energy provided \$40,000 to the Rhode Island Builder's Association and Residential Construction Workforce Partnership to develop future assessors and contractors. This support will continue in 2024.

1.2 Residential and Income Eligible Programs

The Company offers the following programs listed in [Table 1](#) to provide comprehensive services to two regulatorily defined sectors; market rate and income eligible.

Table 1. Residential and Income Eligible Programs

Market Rate Residential Sector ³	Income Eligible Sector
EnergyWise Single Family	Income Eligible Single Family
Multifamily	Income Eligible Multifamily
Residential New Construction	
Home Energy Reports	
Residential Consumer Products	
Residential High Efficiency Heating and Hot Water	

This attachment provides detailed descriptions of the Residential Portfolio, including information regarding the markets (customer/building types) targeted, eligibility requirements, offerings, implementation and delivery, and changes for 2024. There are several market rate Residential Portfolio programs where market rate and income eligible customers can participate, although the program is listed under market rate residential. These programs include Residential New Construction, Residential Consumer Products, Residential High Efficiency Heating and Hot Water, and Home Energy Reports.

Program Description Structure

In order to streamline review of program information in the Annual Plan, the Company has adopted the following structure for each of the programs:

- a. Description of offering,
- b. Eligibility criteria,
- c. Delivery,
- d. Changes for 2024

³ The ConnectedSolutions program is no longer being reported under the Energy Efficiency portfolio; it is anticipated that it will be part of the System Reliability Procurement filing.

2. EnergyWise Single Family (Electric and Gas)

2.1 Offerings

The EnergyWise program offers comprehensive energy efficiency services using a whole-house approach to identify energy saving opportunities in all major energy systems and end uses, including heating, cooling, water heating systems, water saving measures, plug loads, and building envelope leaks. In 2024, the Company plans to provide 13,125 home energy assessments. EnergyWise provides in-home services in two phases: home energy assessment and weatherization.

Home Energy Assessment

Continuing in 2024, customers will be able to choose whether to have an in-person assessment or a virtual home energy assessment⁴. In 2023, only a small percentage of customers have selected a virtual assessment over the in-person assessment. Although this is a small percentage, the virtual home energy assessment is an excellent option for customers who are hesitant to commit to an in-person appointment.

During the in-home assessment, an energy specialist(s) (a Building Performance Institute certified building analyst) will look for immediate energy saving opportunities that can quickly be addressed during the visit including aerators, showerheads, pipe insulation, refrigerator brushes, smart strips and thermostats as well as identify deeper energy saving opportunities. Applying a comprehensive, whole-house approach, the energy specialist will evaluate all major energy systems including the heating, cooling and water heating systems, appliances, water fixtures, plug loads, and the tightness of the building envelope.

An Energy Action Plan is presented to the customer at the end of the assessment and reviewed with the customer. The Energy Action Plan gives the customer a clear roadmap for upgrading their home, including a recommended plan for weatherization (air sealing, insulation, and duct sealing) and associated costs, including available incentives and customer costs. The Energy Action Plan also provides the customer with a streamlined path to engage a qualified independent insulation contractor to perform the weatherization work. The Energy Action Plan details additional potential energy upgrades and incentives the customer may be eligible for, including high-efficiency heating, cooling, and hot water

⁴ Virtual assessments were introduced in 2020 and provide multiple options to communicate energy savings information depending on customer familiarity with smart phone and video calling technologies. A video call can be used to guide the customer around their home so an energy specialist can assess the home's energy use. If the customer is not able to use video, the energy specialist will ask the customer send in pictures (before or after the virtual assessment) of important areas such as the attic, heating and water heating system, and basement crawl spaces while walking through the assessment by phone.

systems. Opportunities for financing the customer share of the weatherization (as well as other upgrades) are also provided at this time. If a customer accepts the Energy Action Plan recommendations and wants to move forward with weatherization, the customer signs a contract with the Lead Vendor for HER.⁵ The work will then be assigned to a weatherization contractor who will contact the customer directly to schedule a date for weatherization work.

Weatherization

The energy specialist's primary focus during an in-home assessment is to examine the opportunity to improve the home's building envelope through air sealing (decreasing air leaks), duct sealing, and increasing insulation, collectively referred to as "weatherization." Weatherization is a cost-effective way to improve a building's performance. It also offers customers a healthier and more comfortable home that will passively remain cooler in the summer and warmer in the winter, helping reduce energy bills for customers. Many health and safety considerations are addressed when weatherizing, such as adding attic ventilation or using mechanical fans to ensure a healthy air exchange rate. The standard EnergyWise incentive currently covers 50 percent or more of the project cost depending on the customer's primary heating fuel. EnergyWise will continue to offer the 100 percent landlord weatherization incentive which encourages landlords to weatherize homes by removing any direct costs for the landlord. Renters then benefit with lower energy bills and a more comfortable home. The EnergyWise program will also continue offering 100 percent moderate income incentives for customers with a household income up of 60 to 80 percent of State Median Income.

One of the largest impediments to customers proceeding with weatherization are pre-existing health and safety issues or physical barriers, which prevent the continuation of weatherization until remediated; collectively these issues are referred to as pre-weatherization barriers (PWBs). At this time, EnergyWise does not substantially pay for remediation of the pre-weatherization barriers, nor are they included in the weatherization scope of work to be implemented by program contractors. The Company recognizes, however, that if a customer learns that additional work not included in the weatherization scope is required before weatherization can proceed, customers may become confused or disheartened. Therefore, the program provides a \$250 incentive to customers who certify that pre-weatherization barriers have been remediated by appropriate licensed professionals. Some of the lower cost barriers can be addressed with the \$250 incentive such as cleaning and tuning of the heating system. Pre-weatherization costs for knob-and-tube wiring, vermiculite, and asbestos can be included in the HEAT Loan.

Additionally, in 2022, the Lead Vendor began including more information on addressing pre-weatherization barriers for customers who face these constraints. This includes information on types of contractors to call (with a list of contractors for some barriers) and information on available grants and loans. The information packet also emphasizes the importance of addressing pre-weatherization barriers

⁵ RIE's Lead Vendors are determined through an RFP process and administer the program selected for.

for reasons other than continuing with the weatherization process to further persuade customers to move forward with the process.

2.2 Eligibility Criteria

EnergyWise is the flagship in-home comprehensive energy efficiency offering for all Rhode Islanders in single family residences (defined as one to four units) who are not candidates for the Income Eligible Services Program. All market rate customers with either an electric or natural gas Rhode Island Energy account can participate. Homeowners, renters, and landlords are all encouraged to participate. Customers with any heating fuel type, including delivered fuels, are served as long as they have a Rhode Island Energy account.

2.3 Implementation and Delivery

EnergyWise is delivered through a Lead Vendor model where the Lead Vendor provides assessments and schedules weatherization projects with the Independent Insulation Contractors who provide weatherization services. The Lead Vendor provides program oversight of all weatherization work. Before the Independent Insulation Contractor closes the job, the Lead Vendor verifies the completion of all contracted work. This process minimizes return visits and complaints from customers. Spanish and Portuguese speaking energy specialists are available by request and a translation service is available for other languages.

The Lead Vendor model facilitates consistent assessments for customers and allows the program to incorporate testing of new concepts as well as generating leads for other programs. EnergyWise's program design has been consistently recognized as best-in-class for the past eight years by ENERGY STAR® Partner of the Year awards for program implementation.

Customers can apply for low-cost financing through the HEAT Loan to finance the customer costs associated with the upgrade(s). Financing the energy upgrades requires selecting an approved lender and applying for the loan. For customers with lower credit scores, there is a lender that specializes in financial coaching and approves HEAT Loans for energy upgrades.

An independent third-party company provides quality control and quality assurance to at least 5 percent of all assessments and weatherization projects.

2.4 2024 Program Enhancements and Changes

The EnergyWise Program offers a number of weatherization services to customers, including insulation and air sealing. However, due to the older housing stock in Rhode Island, a number of homes have pre-weatherization barriers (e.g., asbestos, knob-and-tube wiring, and vermiculite) that prevent customers from moving forward with weatherization projects. Addressing these pre-weatherization barriers will help to ensure the equitable distribution of program benefits to households with high energy burdens.

The Company is considering using energy efficiency funds to address pre-weatherization barriers on a project-by-project basis or program-by-program basis so long as the project or program remains cost effective. Additionally, the Company plans to improve data collection efforts around pre-weatherization barriers in order to better understand their impact on energy efficiency progress.

In 2024, the Company plans to continue coordinating with OER and other stakeholders to leverage additional federal funding opportunities such as ARPA and IRA. Any additional funding for energy efficiency will enable the Company to conduct more outreach, increase program participation and drive energy savings.

Lastly, in acknowledgement of the broad adoption of energy efficient lighting in the residential market, lighting will no longer be offered as a measure in the EnergyWise Single Family program beginning in 2024.

3. Multifamily (Electric and Gas)

3.1 Offerings

The Multifamily Program offers comprehensive energy services for multifamily customers including:

- Energy assessments.
- Incentives for efficient electricity, natural gas, or delivered fuels equipment including heating, cooling and domestic hot water systems, cooling equipment, thermostats, smart strips, water saving measures, and eligible air source heat pumps.
- Coordination for all services will be offered for multifamily properties that participate in the Market-Rate and Income Eligible Multifamily Programs.

3.2 Eligibility Criteria

Eligible multifamily program participants are defined as the following:

- Buildings with five or more dwelling units.
- Properties consisting of four or more one-to-four-unit buildings that meet both of the following requirements:

- Are within a reasonable geographical distance⁶ from each other, or to a five plus unit building, and
- Are owned by the same individual or firm.

Both market-rate and income-eligible multifamily properties are subject to the above multifamily eligibility requirements for coordinated services. Customers with any heating fuel type, including delivered fuels, are served as long as they have a Rhode Island Energy account.

For income-eligible properties, co-payments for energy efficiency services and measures will be waived. The income-eligible multifamily sector is defined by properties that meet one of the following criteria:

- Owned by public housing authorities or community development corporations;
- Receive affordable housing tax credits or other types of low-income funds/subsidies from the state or federal government; or
- Consist of building units where 50 percent or more of occupants receive utility service on the A-60 Low-Income rate.)

Moderate-income customers (customers that are at 80 percent or below the State Median Income) may receive services through the Income Eligible Multifamily Program as they are represented in other units of an income-eligible multifamily property that may not meet the eligibility criteria for low-income customers. For example, if a multifamily property has a total of 20 units, and 12 of which qualify as income eligible, the moderate-income customers could make up the remaining 8 units of the property and therefore be eligible to participate in the Income Eligible Multifamily Program offerings.

A multifamily property may be eligible for services and incentives under both residential and commercial programs. As an example, a building with 20 dwellings that is electrically sub-metered (20 residential accounts) with a commercial electric account for common areas and one commercial gas account serving a central heating/hot water system will likely qualify for incentives through both Multifamily and the Commercial & Industrial Multifamily Programs (see section 6 of Attachment 2). While this adds a layer of complexity for the Company, it is critical that the Company maintain accounting via these various program budgets to ensure equity for all customers, funding projects through the energy efficiency program charge. In contrast, customers do not experience this added layer of complexity and receive a consolidated incentive for all efficiency work completed at the site. The Program's Lead Vendor is well versed in managing projects with multiple types of multifamily designations and can help the customer navigate the process of participating in both programs.

⁶ "Reasonable geographic distance" is determined at the discretion of the vendor. The prior program guidelines required buildings to be neighboring each other. This revised guideline will allow the vendor to treat more units for a single owner where those units may be located down the street from each other.

3.3 Implementation and Delivery

The Rhode Island Multifamily Program has a single Lead Vendor that utilizes a network of Rhode Island subcontractors to serve all customers, including income-eligible customers. A customer can learn about the Company's Multifamily Program offerings in a myriad of ways ranging from communicating directly with the Lead Vendor, accessing the Rhode Island Energy website, direct mail and print marketing, and digital marketing campaigns. The Lead Vendor also conducts direct outreach to help enroll customers in the programs and increase participation.

If the customer or landlord is interested in starting the process, the Lead Vendor would perform an eligibility assessment and then schedule a home energy assessment. The Lead Vendor then conducts post site screening to identify which measures pass a benefit/cost (B/C) screening on a project level basis. If a measure does not pass, customers can still include it in the project without an incentive.

A final proposal is then presented to the customer that includes the scope of work, costs, available incentives, and an estimated time frame. The customer is made aware of financing options available to them as well. If the customer decides to proceed with the project, installation work is then scheduled. Once installation work is completed, a final walk through with the customer is done. A completion report is then created and presented to the site's authorized representative and signed off on. A customer survey is also conducted once work is complete.

Individual condo owners within the Multifamily Program are eligible for financing under the HEAT Loan. An on-bill financing offer to multifamily commercial and industrial gas customers will be offered during the 2024 program year.

An independent third-party company provides quality control and quality assurance to at least 5 percent of all assessments and weatherization projects.

3.4 2024 Program Enhancements and Changes

Based on the recent Heat Pump Market research study's results, including the landlord interviews, the Company plans to heavily promote heat pump upgrades, through both the RIE program and encouragement for customers to take advantage of the OER heat pump program, and other applicable energy efficiency measures to building owners and landlords.

The Company will look to facilitate multi-family building owners' access to alternative funding and incentive options for projects where the building owner wishes to install heat pumps, but which would require fuel switching.

In 2024, the Company will establish an assessment to bring on a new multifamily financing option.

Additionally, in 2024 the Company plans to continue to rely on the newly updated participant/nonparticipant dashboard to better understand the customer profiles of nonparticipants to encourage participation in the multifamily programs.

The Company will incorporate a multi-family component into the Residential Equity Outreach assessment project where the Company partners with community-based organizations that have experience and established relationships with neighborhoods and municipalities to promote the multi-family program and the benefits of energy efficiency. Through this assessment the Company looks to strengthen communication channels and build trust with multi-family building owners. For additional detail, please see Attachment 8.

In terms of additional outreach efforts, the Company will bolster its regular marketing efforts with a more proactive approach where the multi-family program engages directly with multi-family building owners at community events, industry meetings, as well as targeted one on one engagement.

The multi-family program will leverage the work being done to address pre-weatherization barriers in the single-family sector and offer an aligned set of incentives tailored to the multi-family sector.

In upcoming contract extensions for the multi-family Lead Vendor, the Company will incorporate key performance indicators and performance metrics tied to goal achievement.

In acknowledgement of the broad adoption of energy efficient lighting in the residential market, only controlled common area lighting will be offered as a measure in the EW & IE MF program.

4. Income Eligible Services (Electric and Gas)

[4.1 Offerings](#)

In 2024 the Income Eligible Services (IES) Program will offer a comprehensive, no-cost⁷, in-home (or virtual) home energy assessment services to increase comfort in the home and decrease a customer's energy costs.

Home Energy Assessment (HEA)

The IES Program will move to offering a comprehensive Home Energy Assessment for the customer. In the past, the program offered the Appliance Management Program Assessment and a Weatherization and Heating System Assessment in two separate visits. The elements of these two offerings will be

⁷ 100 percent incentive via the systems benefit charge (SBC) that funds all Rhode Island Energy's energy efficiency programs. Customer incurs no cost for audit, weatherization, or equipment replacement.

streamlined into one (HEA), thereby increasing the services offered to the customer with a smaller time commitment than in the past. The HEA will offer:

- The energy specialist educates the homeowner or tenant about their energy bill and monthly usage; assesses the home and learns about the day-to-day activities that consume energy in the home; discusses ways the customer can save energy and money, educates the customer to properly operate energy-efficient equipment and how to identify signs that indicate if weatherization or heating system replacement is needed.
- Upgrades of instant energy savings measures such as advanced power strips, water saving measures (e.g., faucet aerators and low-flow showerheads) and thermostats.
- Evaluation of existing appliances including refrigerators, freezers, window air conditioning unit(s), clothes washers, and dehumidifiers to determine energy efficiency and eligibility for a no-cost replacement with an energy-efficient appliance model (including delivery and installation).⁸ An BPI-certified energy specialist conducts a comprehensive assessment of the building envelope and heating and cooling systems including visual and equipment-required inspections, infrared camera thermal imaging, and combustion safety testing of heating and water heating systems.
- Air sealing, duct sealing, and insulation upgrades in attics, walls, and basements.
- No-cost replacement of eligible heating or cooling systems if they are determined to be inefficient or unsafe. Applicable to all existing heating/cooling systems: electric, natural gas, oil, and propane.
- If a home has existing electric resistance heat, the customer will be offered a no-cost replacement to energy-efficient air source heat pumps that provide both heating and cooling.

4.2 Eligibility Criteria

The IES Program serves Rhode Island homeowners, renters, and landlords, who have a Rhode Island Energy account and meet any of the following criteria:

- Household income equal to, or less than, 60 percent of State Median Income levels which are set each program year⁹ **or** enrolled in Rhode Island Energy's fuel discount rate plans, Electric A-60 rate and/or Gas 11, 13 rates.¹⁰

⁸ All appliances are purchased/supplied through a central organization (SMOC, a nonprofit agency) to ensure that all delivery personnel meet the Company's security and liability criteria, and all appliances meet Income Eligible Services Program requirements. Warranty calls are handled expeditiously and properly documented and non-efficient appliances are removed and recycled safely and properly.

⁹ <http://www.dhs.ri.gov/Programs/LowIncomeGuidelines.php>.

¹⁰ <https://www.nationalgridus.com/RI-Home/Bill-Help/Payment-Assistance-Programs>

- Customers enrolled in the federal Low-Income Home Energy Assistance Program (LIHEAP)¹¹, also known as “fuel assistance”.
- Homeowners and renters who live in a one-to-four unit building with either an electric or gas Rhode Island Energy Discount Rate account can participate, including customers with delivered fuel heat (oil, propane, wood, or coal) if they have an electric account.

Additional eligibility criteria, including the 50 percent rule,¹² shelter and group home eligibility, renter eligibility and repair or replacement eligibility are available in the Rhode Island Weatherization Assistance Program (WAP/IES) Operations Manual. All criteria adhere to 10 CFR 440¹³ requirements.

4.3 Implementation and Delivery

Program Delivery

The IES Program is administered through a Lead Vendor that is responsible for managing the implementation of program work through the six Rhode Island geographically based Community Action Program (CAP) agencies. The CAP agencies serve as a trusted entity where income-eligible customers can obtain essential resources within their respective community.

The IES Program is marketed through a marketing specialist, as well as cross marketed at community expos, via the Customer Advocates dedicated to the Rhode Island Income Eligible Services consumers, social media outreach, coordination with other non-profits in Rhode Island, and the Company’s call center. The primary point for customers to enroll in the IES Program is through the CAP agencies as they provide income verification and comprehensive resources for income-eligible customers.

The Lead Vendor monitors the work of the CAP agencies. If a CAP agency determines they cannot complete their pipeline of weatherization jobs, then they will refer the job to either another CAP agency who can or to a third-party entity to perform the weatherization (this referral process is also in place for energy assessments). The Lead Vendor works closely with the CAP agencies to regularly review weatherization pipeline and timeliness of job completion. The referred jobs will be accounted for in the referring CAP agency’s participation and job completion goals.

Key Performance indicators are tracked to measure and improve consistency of program delivery as well as drive performance of the CAP agencies and include timeliness of administrative reporting, monthly/year to date spending compared to goals, participation numbers for the Appliance

¹¹ <https://www.benefits.gov/benefit/1572>

¹² Customers that are not on the income-eligible rate but live in a two-to-four-unit building where more than 50 percent of the units are income eligible are also eligible to receive weatherization and health and safety services. This exception is referred to as the “50 percent rule”.

¹³ <https://www.ecfr.gov/current/title-10/chapter-II/subchapter-D/part-440>

Management Program assessment, electric and natural gas weatherization and heating system installations and cost.

Quarterly IES Program Best Practices meetings are held with the Company, the Lead Vendor, the CAP agencies, DHS, program vendors, and/or speakers to address a pertinent topic.

Monthly engagement of the Company, the Lead Vendor, Executive Directors of the CAP agencies, and the State of Rhode Island's Department of Human Services (DHS) to review the overall performance of the IES Program and coordination of best practices across the CAP agencies.

The Lead Vendor also coordinates with home performance, HVAC contractors and appliance vendors responsible for installing weatherization, heating (space and hot water), window air conditioners, and appliance measures.

Customer Journey

- A customer begins the process for a no-cost home energy assessment by contacting (call/in-person) their local CAP agency to submit their information to determine if they meet the income eligibility requirements for participation in the IES Program. Customers learn about the program through outreach from their local CAP agency or from Rhode Island Energy.
- Currently, after the CAP agency verifies income eligibility, the CAP will schedule a no-cost Appliance Management and/or Weatherization and Heating System assessment. Starting in 2024, there will just be a single assessment, combining the AMP and Weatherization and Heating System assessment.
- CAPs provide the full suite of energy efficiency services including:
 - Income-eligibility verification.
 - Customer education regarding energy and cost savings opportunities.
 - Energy assessments.
 - Installation of instant energy savings measures.
 - Recommendations for further energy savings measures.
- Energy education is provided to the customer regarding the pre- and post-energy assessment process, opportunities to save energy, processes for receiving appliance or heating/cooling system upgrades and/or weatherization.

- If needed, health and safety services will be provided including replacing smoke and carbon monoxide detectors if non-functioning or expired, clean and tune heating systems, and address conditions such as mold before the energy efficiency work is able to be completed. The program leverages funding sources from LIHEAP and others to help reduce pre-weatherization expenses that customers face.
- The CAP agency will schedule all necessary follow-up services for insulation, air sealing, appliance and heating/cooling and hot water system replacements. Funding for weatherization and heating system replacements are leveraged with WAP and LIHEAP. All services and appliance and heating/cooling system replacement are provided at no cost to the customer.
- Customer receives a “comment card” to provide their feedback on all aspects of their journey through the IES Program.

An independent third-party company provides quality control and quality assurance to at least 5 percent of all assessments and weatherization projects.

[4.4 2024 Program Enhancements and Changes](#)

The Company is committed to an equity-driven approach to the design, implementation, and marketing of the IES Program. In 2024, the Company plans to implement several strategies, with the input and guidance of the Equity Working Group, to make customers aware of the program and remove barriers to participation such as language and culture.

The Company will continue outreach with community-based organizations to promote the IES Program and its benefits. There will also be some funding set aside for community organizations to work on engagement with landlords (a currently underserved customer segment). Ideas for the best way to promote the engagement opportunity and funding stream will be discussed with the EWG.

The Company will target homes with electric resistance heat for heat pump upgrades as outlined in the Company's *Electric Resistance Heating to Air Source Heat Pumps: Implementation Plan for the Income Eligible Sector*. The Company was directed by the Public Utilities Commission to develop the Heat Pump Plan to achieve 750 conversions annually by 2025, with 25 percent of the customers served classified as income eligible.

Similar to its EnergyWise Program efforts, the Company plans to address the deferrals and pre-weatherization barriers that stand in the way of many low-and-moderate income customers receiving IES Program services. Many barriered homes are occupied or owned by low-and-moderate income customers who may not have the funds or resources needed to address weatherization barriers. Please refer to the PWB section earlier in this document for more information.

The Company will continue to collaborate with the Rhode Island Department of Human Services (DHS), the federal [Weatherization Assistance Program](#) (WAP) and the federal [Low Income Home Energy Assistance program](#) (LIHEAP) to create synergy and improve the outcomes of all the programs. The IES Program benefits from leveraging LIHEAP funds, resulting in more customers being served. The amount of funds leveraged is approximately 25 percent of total customer incentive benefits for weatherization and heating system replacements. The LIHEAP funds also help pay for the remediation of non-energy related health and safety improvements (i.e., pre-weatherization barriers or deferred projects), that if not remediated, would prevent a customer from receiving weatherization and/or heating system upgrades. This will allow the Company to coordinate resources and serve more customers. The challenge will still exist with finding commensurate funding to overcome pre-weatherization barriers that allow weatherization work to proceed.

5. Residential New Construction (Electric and Gas)

5.1 Offerings

Design and Construction Assistance

- Energy modeling and design assistance to verify compliance with the Residential New Construction (RNC) Program's requirements and determination of respective incentives.
- In-field training and inspections to verify compliance with the RNC Program requirements and promote efficiency in subsequent projects.

Market Development

- Technical training on high-efficiency and Zero Energy building practices, as well as energy code compliance, to build necessary market capacities.
- Training and certifying Home Energy Rating System (HERS) raters to increase the number of qualified raters based in RI.
- Rating and certification services, including HERS, DOE Zero Energy Ready Home, Passive House, and ENERGY STAR, to promote visibility of energy efficiency in the marketplace and support increased use of the Rhode Island Residential Stretch Code.

Incentives

- Whole-home efficiency incentives for buildings based on achieved level of efficiency and number of units.

- Path to Energy Efficiency incentives ranging from \$200 to \$4,000 per home.
- Three efficiency tiers, with an entry threshold of 15 percent more efficient than baseline and progressive maximum air leakage requirements.
- Additional incentive options of \$250-\$1,000 per home for all-electric homes and \$100-\$200 per home for ENERGY STAR certification.
- Path to Zero Energy Ready incentives ranging from \$500-\$1,500 per home in addition to Path to Energy Efficiency.
 - Projects must meet a minimum base efficiency level, be all-electric, and achieve DOE Zero Energy Ready Home, Passive House, or equivalent certification.
 - Projects with >75 units are eligible for custom incentives.
 - Adaptive Reuse projects are incentivized based on a separate set of prescriptive measures tailored to mill conversion projects.
- Certification incentives are provided to support third-party verification of energy efficiency measures.
- Equipment rebates for qualifying high-efficiency heating, cooling, and hot water equipment.
- Complimentary WaterSense showerheads.

5.2 Eligibility Criteria

The RNC Program is designed to advance the Rhode Island housing market toward Zero Energy Homes. The program provides technical services, inspection services, and project incentives for new construction, additions, and major renovations to both one-to-four unit and five plus unit buildings. The program also supports major renovation of adaptive reuse projects (e.g., mill building conversions). The RNC Program supports both market rate and income eligible housing units.

5.3 Implementation and Delivery

Design and Construction Assistance, Incentives

The RNC project pipeline is developed primarily through coordination with Rhode Island permitting departments, engagement of the building industry, and referrals from EnergyWise and Rhode Island Housing. A participating customer/project team begins the process by calling or emailing the RNC Program. The project team meets with the RNC Program team (led by a Lead Vendor) to discuss the project design, learn how to modify design or mechanical systems to improve energy efficiency, and

initiate energy modeling of the project to determine the potential for incentives. Once construction has begun, RNC staff provides on-site training as needed and conducts inspections of the completed project to determine energy efficiency and respective incentives. When the project is complete and has met program requirements, the performance and equipment incentives are issued.

Market Development

The RNC Program identifies opportunities to build necessary market capacities to advance toward Zero Energy Homes and delivers education and outreach programming designed to achieve this goal.

5.4 2024 Program Enhancements and Changes

The RNC Program is designed to advance the Rhode Island housing market toward Zero Energy Homes. In 2024, the Company plans to increase the number of projects achieving advanced building standards and certifications including Zero Net Energy and Passive House. Additional training for builders, homeowners and code officials will be held to make them aware of these certifications and advanced building standards.

Based on the Residential New Construction and Code Compliance Study, the Company will make revisions to the 2024 RNC Program's guidelines to reflect changing baseline assumptions, since meeting the percentage savings targets will become more difficult with these higher baselines. The implementation changes will be determined based on the ongoing User Defined Reference Home study. In order to determine how best to revise the program in response to the updated baseline, RIE is exploring several options for program design that will be modeled, including a pay-for-performance case to encourage all incremental savings and/or an all-electric case. The Company will continue sponsoring code trainings through the Code Compliance Enhancement Initiative (CCEI) and will claim savings based on the most recent evaluation of this initiative. While code trainings will focus on preparing the workforce for IECC 2024 adoption, the current evaluation of the CCEI is based on prior code versions, and so the Company believes that there is still reasonable justification for claiming the current savings attribution level through this initiative. The CCEI evaluation will be refreshed in future years once IECC 2024 is adopted to update the savings claim accordingly.

In the 2022 Annual Plan, the Company detailed its ongoing research regarding all-electric new construction called "Closing the Gas Gap for All-Electric Homes". The objective of the assessment was to identify how the Company can promote new construction of all-electric buildings (without a gas connection) through incentives and technical support. The assessment examined high efficiency options for electric appliances. The Company is continuing to review the results of this assessment, together with the Residential New Construction and Code Compliance Study to consider a gradual transition to an all-electric construction offering.

6. Home Energy Reports (Electric and Gas)

6.1 Offerings

The HER Program is a statewide energy efficiency offering that provides benefits for Rhode Island residential customers through the mailing and emailing of customer-specific energy usage reports and insights. While over 300,000 customers receive HERs (i.e., the treatment group) by way of direct mail and/or e-mail, all account holders have access to insights into their energy consumption via the web tools located on the Company's website. The program has evolved since 2013 from offering only mailed insights to now being integrated into the Company's website with online assessment tools, sending Non-Advanced Metering Infrastructure (AMI) High Usage Alerts, and utilizing segmentation to target different populations with relevant messaging.

6.2 Eligibility Criteria

Most Rhode Island residential Electric and Gas customers are eligible for the HER Program. Customers with an email address on record will also receive an electronic version of the report (eHER). All customers have access to the online home energy assessment and related insights. Randomly compiled control and treatment groups are necessary for accurate savings reporting. Thus, some customers will not receive print or electronic reports (control group), while others receive both print and electronic HERs (treatment group).

6.3 Implementation and Delivery

The HER Program is administered by a Lead Vendor, a company with subject matter expertise selected by the Company to deliver the program. The Lead Vendor is responsible for maintaining HER distribution groups, tracking data, managing the online portal, and documenting energy savings. The Lead Vendor works with the Company to craft the messaging and delivery of the HERs and works with the Company to introduce additional program enhancements, aligning with the Company's state-wide comprehensive marketing efforts.

All eligible customers will receive up to six printed versions of the report a year and up to four gas specific reports in the winter season. All customers with email on record will receive up to 12 eHERs a year. The reports include marketing messages informing customers of other program opportunities so that they may be made aware of the most current and relevant energy efficiency offerings. For customers interested in learning more about energy saving tips and their home's energy consumption, they may log into the online portal and use the available tools.

6.4 2024 Program Enhancements and Changes

In 2024, the HER Program's communications will continue to target specific audiences, such as high energy users and customers with home solar photovoltaic installations.

7. Residential Consumer Products (Electric)

7.1 Offerings

The Residential Consumer Products Program incorporates the Environmental Protection Agency (EPA) ENERGY STAR categories of consumer appliances, select building products, and some energy-saving items not included by the federal agency. The largest savings elements of the Consumer Products Program come from recycling older refrigerators, dehumidifiers, and freezers.

In 2024, the Residential Consumer Products Program will - support:

- Advanced power strips
- Most Efficient Electric Clothes dryers
- Most Efficient Dehumidifiers
- Efficient shower heads
- Most efficient clothes washers and refrigerators
- Low-emissivity storm windows
- Pool pumps
- Recycling (dehumidifiers, freezers and refrigerators)
- Room air cleaners
- Most Efficient Room Air Conditioners

Consumers can purchase products at a local retailer, online at the [RI Energy Marketplace](#), or through any online retailer (as long as the product meets product specifications, and there is a receipt). The RI Energy Marketplace is a streamlined portal through which customers can buy efficient products with the rebate already applied, eliminating the need for the customer to apply for the rebate post-sale. Most products on the Marketplace are ones that can be installed by the customer (e.g., room air cleaners, water

fixtures, dehumidifiers, and advanced power strips). In some instances, products on the Marketplace are not incentivized. However, the Company lists these products on the Marketplace in order to provide pre-vetted products to narrow down the selection for consumers and help them avoid potentially unreliable or untested products available through other online retailers.

7.2 Eligibility Criteria

The Residential Consumer Products Program serves all residential customers.

7.3 Implementation and Delivery

There is a Lead Vendor that works with retailers, so that they are knowledgeable about the products and ensure proper signage within the retail stores. The Lead Vendor also helps staff customer outreach events and customer information tables at retailer locations. The program supports a combination of upstream and midstream incentives as well as post-purchase consumer incentives.

The upstream incentive is negotiated with major retailers, manufacturers, and distributors while the midstream incentives are typically offered to distributors who are working with smaller retailers. The incentives encourage retailers, manufacturers, and distributors to support ENERGY STAR products by increasing the on-site stocking levels of highly efficient products. By increasing the availability of the products, providing information on the advantages of ENERGY STAR products, and the offer (or promise) of an incentive, the consumer is more likely to acquire products that they might not normally have purchased.

In 2024, measures offered upstream and midstream are advanced power strips, pool pumps, as well as Most Efficient for the following products; refrigerators, and clothes washers and dryers, dehumidifiers, and room air conditioners. Consumer incentives are designed to bring efficient product costs in line with less efficient equipment, thereby encouraging the adoption of the more efficient items.

A rebate processing vendor verifies and processes post-consumer incentives which can be submitted electronically or by traditional mail. This vendor also processes upstream, midstream, and recycling incentives.

The recycling vendor collects refrigerators, freezers and dehumidifiers from customer residences or central recycling locations and transports them to the recycling facility in compliance with the EPA's Responsible Appliance Disposal Program.

7.4 2024 Program Enhancements and Changes

In 2024, the Company will move the following products from downstream to the midstream Most Efficient category: clothes dryers, dehumidifiers, and room air conditioners.

8. Residential High-Efficiency HVAC and Hot Water Programs (Electric and Gas)

8.1 Offerings

The High-Efficiency Heating, Cooling, Ventilation and Hot Water Programs (HVAC and Hot Water Program) promotes and incentivizes the installation of high-efficiency electric and gas equipment through the following rebates and services:

Customer rebates on energy-efficient equipment:

- Boilers
- Combined condensing boilers
- Furnaces
- Triple-paned windows
- Hot water heaters
- Air source heat pumps (central and ductless)
- Air source heat pump water heaters
- Smart thermostats
- Water saving devices
- ECM pumps

Contractor services:

- Quality installation verification
- Contractor training
- Contractor incentives
- Upstream incentives (discount taken at the distributor level)

The HVAC and Hot Water Program is cross-promoted through the following programs: EnergyWise, Multifamily, Residential New Construction, and Home Energy Reports Programs. Training elements and best practices of the program are also provided to the IES Program to maintain consistency in contractor skills for accurate sizing, design, installation, and performance verification of high-efficiency HVAC systems.

8.2 Eligibility Criteria

The HVAC and Hot Water Program serves all residential customers. Energy-efficient equipment must be installed by a licensed heating or cooling contractor or plumber.

8.3 Implementation and Delivery

The HVAC and Hot Water Program is administered by a Lead Vendor that is responsible for contractor training, maintaining distributor relationships, tracking data, providing content for marketing, and documenting monthly, quarterly, and annual energy savings. The Lead Vendor works closely with the Company to deliver the HVAC and Hot Water Program and provides strategic insight for program improvements.

Contractor training and education is a primary component of the HVAC and Hot Water Program to ensure accurate sizing, design, installation and performance verification of heating, cooling, and hot water equipment and results in energy savings and customer satisfaction.

The Lead Vendor provides regular communication and in-store visits with distributors to provide training and information on the equipment and solicit feedback on customer interactions. The Lead Vendor also ensures distributors have proper promotions and marketing signage within the distribution stores.

The Company and Lead Vendor work with manufacturers to develop special offers, or “flash sales”, to further incentivize customers to participate in the HVAC and Hot Water Program to gain the benefit of the energy savings.

Product channels for ease of customer use and for product adoption:

- HVAC contractors during routine maintenance service, emergency service, or contractors’ marketing communications
- Residential New Construction/Major Renovation energy advisors during project design consultation.
- Upstream and midstream incentives.
- Comprehensive RI Energy marketing channels including emails, HERs, bill inserts, and radio and media advertisements.
- RI Online Marketplace (www.RIEnergyMarketplace.com) offers customers the ability to purchase instant discount rebates on energy-efficient thermostats and water fixtures.
- The program supports a combination of upstream and midstream incentives as well as post-purchase consumer incentives. The upstream and midstream incentives encourage retailers, distributors, and manufacturers to support ENERGY STAR products with increased production and availability of products. Consumer incentives are designed to bring efficient product costs in line with less efficient equipment, thereby encouraging the adoption of the more efficient item.

- The HER Program sends communications to electric customers promoting air source heat pumps as an energy efficiency solution.
- The Company markets to all residential customers to make them aware of incentives available for heat pump water heaters and updates HVAC contractors on the offering.

A rebate processing vendor verifies and processes post-consumer incentives which can be submitted electronically or by traditional mail. This vendor also processes upstream and midstream incentives.

Customers who complete a Home Energy Assessment through the EnergyWise Program can apply for 0 percent HEAT Loan financing for qualified high-efficiency space heating and hot water equipment upgrades.

8.4 2024 Program Enhancements and Changes

The Company plans to coordinate with OER to leverage additional funding opportunities for energy efficiency measures and projects funded through the American Rescue Plan Act (ARPA) and the Inflation Reduction Act (IRA), such as [Clean Heat Rhode Island](#). This program is administered by OER and received \$25 million in ARPA funds to provide financial incentives to residential and C&I customers for the purchase and installation of high efficiency electric heat pumps.

The Company will target electric resistance heat to heat pump upgrades as outlined in the Company's *Electric Resistance Heating to Air Source Heat Pumps: Implementation Plan for the Income Eligible Sector*. The Company was directed by the Public Utilities Commission to develop the Heat Pump Plan to achieve 750 conversions annually by 2025 with 25 percent of those customers served classified as income eligible. In 2024, the Company will make a concerted effort to upgrade income-eligible customers.

Additionally, the Company plans to retire heat recovery ventilators (a gas measure). Starting in 2024, we will retire 90% AFUE condensing boilers and indirect water heaters from the program. We are ramping down quantities for 95% AFUE condensing boilers and 97% AFUE furnaces.

9. Marketing to Residential Customers

In 2024, the Company will continue to drive participation through two main pathways – targeted programs and broad-based programs. Targeted programs include the Company's retrofit, new construction, and product rebate programs. These programs serve to drive deeper savings to targeted customer segments and offer a wide array of energy efficiency measures. The Company also reaches broad participation by promoting products upstream and through Home Energy Reports. These broader based programs provide value by reaching a wide and diverse set of customers, helping to provide more

customers with access to energy savings, as well as acting as a gateway to drive participation in other Company energy efficiency programs. See the 2022 Year-end Report for further details on participation through 2022.

In 2024, the Company will continue its efforts to reach customers that have never participated in its energy efficiency programs. The residential non-participant study indicated lower awareness of the energy efficiency programs among non-participants. A comprehensive marketing campaign will be deployed in English and Spanish that will educate customers on the availability of the programs. The Company will be specifically focused on five communities with lower participation rates (some towns have participation rates at fewer than 5% of accounts, while other communities have participation rates upward of 30%) and will conduct additional outreach and engagement in those communities. The Company will continue to deliver innovative strategies to increase customer participation and reach customer segments that are historically underrepresented. In 2023, the marketing team promoted equity offerings in the five communities by direct mail. The response rate was robust and allowed the Company to deplete RGGI funds used for no cost moderate income weatherization. This mailing also provided a good pipeline of customers for continue moderate income weatherization with energy efficiency funding. Also, the Company will continue to track participation trends and will again provide a detailed analysis in its 2023 Year-End Report showing additive and cumulative portfolio participation. The Year-End Report also captures energy efficiency spending by zip code where additional spending on programs can be tracked.

Each program described in this Plan seeks to drive customer participation to deliver the benefits of energy efficiency to customers throughout Rhode Island. For 2024, the Company will continue to plan and report participation in 'net' terms, which takes into account free-ridership and spillover, which are commonly referred to as net-to-gross factors. This method of accounting for participants aligns participation numbers with energy savings numbers, which are already recorded in net terms. This approach provides a more accurate connection between energy savings and the number of customers who benefit from efficiency programs. Planned participation estimates are included in Attachment 5 Electric EE Program Tables, Table E-7 and Attachment 6 Gas EE Program Tables, Table G-7.

Table 2 describes the definitions for how Rhode Island Energy projects, tracks, and reports participation in the efficiency programs.

Table 2. Participation Definitions

Fuel	Sector	Program	Participation Unit	
Gas	Commercial & Industrial	Large Commercial New Construction	Unique Billing Account	
		Large Commercial Retrofit	Unique Billing Account	
		Small Business Direct Install	Unique Billing Account	
		C&I Multifamily	Housing Units	
	Income Eligible Residential	Single Family – Income Eligible Services	Unique Billing Account	
		Income Eligible Multifamily	Housing Units	
	Residential	ENERGY STAR® HVAC	Unique Billing Account	
		EnergyWise	Unique Billing Account	
		Multifamily	Housing Units	
		Home Energy Reports	Unique Billing Account	
		Residential New Construction	Housing Units	
	Electric	Commercial & Industrial	Large Commercial New Construction	Unique Billing Account
			Large Commercial Retrofit	Unique Billing Account + Unique Customer names from Upstream Lighting
Small Business Direct Install			Unique Billing Account	
Income Eligible Residential		Single Family – Income Eligible Services	Unique Billing Account	
		Income Eligible Multifamily	Housing Units	
Residential		ENERGY STAR® HVAC	Unique Billing Account	
		EnergyWise	Unique Billing Account	
		Multifamily	Housing Units	
		Home Energy Reports	Unique Billing Account	
		Residential New Construction	Housing Units	
		ENERGY STAR® Products	Number of Rebates	

The Company will estimate the number of unique participants for each program. For some programs such as ENERGY STAR® HVAC, one measure does not necessarily equal one participant. This is because a customer can purchase more than one measure. Therefore, the Company also considers the previous year’s unique accounts to savings ratio in order to estimate the planned unique participants in 2024. This method allows for a better estimation of unique participants but can make it more difficult to compare planned numbers across years.

The Company plans to introduce a new marketing campaign in 2024, with different visuals and messaging. The concept will be tested with customers before introducing it into the market.

10. Residential Measures and Incentives

Table 3 below lists the planned measures for the electric Residential programs, by program, along with the planned quantities, incentives per quantity, total incentives, and annual and lifetime savings. Table 4 shows planned costs in non-incentive cost categories for each program that are not allocated at the measure level. Table 5 and Table 6 show the same information for the planned Gas program, respectively.

Table 3. Planned Measures for Electric Residential Programs

Table 3. Planned Measures for Electric Residential Programs

Program	Measure	Quantity	Incentive / Quantity	Total Incentives	Net Annual Energy Savings (MWh)	Net Lifetime Energy Savings (MWh)	Net Annual Summer Capacity Savings (kW)	Net Annual Winter Capacity Savings (kW)	Annual Carbon Reductions (Short Tons)	Lifetime Carbon Reductions (Short Tons)	
EnergyWise Multifamily	Aerator - Elec	200	\$5.00	\$1,000	6.4	44.5	0.5	1.2	2.5	17.5	
	Aerator - Oil	60	\$5.00	\$300	0.0	0.0	0.0	0.0	0.8	5.7	
	Aerator - Other	48	\$5.00	\$240	0.0	0.0	0.0	0.0	0.6	3.9	
	Air Sealing - Elec	800	\$178.00	\$142,400	18.8	375.4	1.6	1.1	7.4	147.9	
	Air Sealing - Elec w/AC	20	\$178.00	\$3,560	1.4	27.5	0.8	0.0	0.5	10.8	
	Air Sealing - Oil	35	\$178.00	\$6,230	0.0	0.0	0.0	0.0	5.8	115.7	
	Air Sealing - Other	5	\$0.00	\$0	0.0	0.0	0.0	0.0	0.2	4.7	
	CUSTOM CIRCULATOR	2	\$4,800.00	\$9,600	3.6	54.1	0.0	0.0	1.4	21.3	
	Heat Pumps	14	\$19,500.00	\$273,000	100.2	2004.0	0.0	0.0	39.5	789.8	
	Insulation - Elec w/AC	1150	\$52.50	\$60,375	37.8	945.8	0.0	0.0	14.9	372.8	
	Insulation - Oil	100	\$52.50	\$5,250	0.0	0.0	0.0	0.0	39.2	981.2	
	Insulation - Other	10	\$52.50	\$525	0.1	1.8	0.0	0.0	0.5	12.5	
	Pipe Wrap DHW - Elec	200	\$3.00	\$600	4.2	62.5	0.3	0.8	1.6	24.6	
	Pipe Wrap DHW - Oil	30	\$3.00	\$90	0.0	0.0	0.0	0.0	0.3	4.5	
	Pipe Wrap DHW - Other	2	\$3.00	\$6	0.0	0.0	0.0	0.0	0.0	0.3	
	Programmable Thermostat - Elec w/ AC	800	\$125.00	\$100,000	112.0	2127.6	32.4	16.2	44.1	838.5	
	Programmable Thermostat - Oil	20	\$125.00	\$2,500	0.3	5.5	0.1	0.0	1.4	26.8	
	Showerhead - Elec	120	\$25.00	\$3,000	24.7	370.6	1.8	4.8	9.7	146.1	
	Showerhead - Oil	40	\$25.00	\$1,000	0.0	0.0	0.0	0.0	3.8	56.6	
	Showerhead - Other	5	\$25.00	\$125	0.0	0.0	0.0	0.0	0.4	6.1	
	Smart Strips	1000	\$23.00	\$23,000	56.8	284.0	5.9	8.8	22.4	111.9	
	TSV Showerhead - Elec	30	\$40.00	\$1,200	7.9	118.6	0.6	1.5	3.1	46.8	
	TSV Showerhead - Oil	10	\$40.00	\$400	0.0	0.0	0.0	0.0	1.1	16.2	
	TSV Showerhead - Other	2	\$40.00	\$80	0.0	0.6	0.0	0.0	0.2	3.0	
	VFD	9	\$12,000.00	\$108,000	130.8	1700.0	0.0	0.0	51.5	670.0	
	EnergyWise Single Family	Aerator, Electric	200	\$7.00	\$1,400	3.8	26.3	0.3	0.7	1.5	10.4
		Aerator, Oil	220	\$7.00	\$1,540	0.0	0.0	0.0	0.0	1.8	12.5
Aerator, Others		32	\$7.00	\$224	0.0	0.0	0.0	0.0	0.2	1.5	
Electric Resistance to MSHF Participant		10	\$4,200.00	\$42,000	61.9	1052.1	0.0	16.6	24.4	414.7	
Pipe Insulation, Electric		12750	\$375.00	\$4,781,250	0.0	0.0	0.0	0.0	0.0	0.0	
Pipe Insulation, Oil		1260	\$7.00	\$8,820	44.3	664.6	3.3	8.6	17.5	261.9	
Pipe Insulation, Others		2310	\$7.00	\$16,170	0.0	0.0	0.0	0.0	42.6	639.6	
Pre-weatherization		630	\$7.00	\$4,410	0.0	0.0	0.0	0.0	10.0	150.6	
Programmable Thermostat - Elec		650	\$250.00	\$162,500	0.0	0.0	0.0	0.0	0.0	0.0	
Programmable Thermostat, Oil		700	\$100.00	\$70,000	79.5	1511.1	20.6	12.7	31.3	595.6	
Programmable Thermostat, Others		2768	\$100.00	\$276,800	38.1	724.8	21.2	0.0	250.5	4758.6	
Refrigerator Brush		70	\$100.00	\$7,000	1.0	18.3	0.5	0.0	5.5	104.9	
Showerhead - Elec		5250	\$5.00	\$26,250	59.5	297.6	8.5	7.0	23.5	117.3	
Showerhead - Oil		800	\$30.00	\$24,000	113.0	1694.6	9.5	0.0	44.5	667.9	
Showerhead - Other		1250	\$30.00	\$37,500	0.0	0.0	0.0	0.0	80.1	1200.9	
Smart Strip		63	\$30.00	\$1,890	0.0	0.0	0.0	0.0	3.2	47.9	
Weatherization, Electric		8925	\$22.00	\$196,350	535.9	2679.6	55.9	83.0	211.2	1056.1	
Weatherization, Oil		263	\$3,200.00	\$841,600	183.1	3661.7	51.9	32.1	72.2	1443.2	
Weatherization, Others		1836	\$3,050.00	\$5,599,800	106.9	2138.6	44.6	0.0	1709.9	34197.9	
WiFi Thermostat - AC Only		220	\$3,050.00	\$671,000	12.8	256.3	5.3	0.0	177.6	3551.6	
WiFi Thermostat - Electric		10	\$200.00	\$2,000	0.3	2.9	0.1	0.0	0.1	1.1	
WiFi Thermostat - Oil		200	\$200.00	\$40,000	22.7	250.0	5.9	3.6	9.0	98.5	
WiFi Thermostat - Others		63	\$200.00	\$12,600	0.9	9.6	0.5	0.0	7.6	83.2	
	21	\$200.00	\$4,200	0.3	3.2	0.2	0.0	2.2	24.1		

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Table 3. Planned Measures for Electric Residential Programs

Program	Measure	Quantity	Incentive / Quantity	Total Incentives	Net Annual Energy Savings (MWh)	Net Lifetime Energy Savings (MWh)	Net Annual Summer Capacity Savings (kW)	Net Annual Winter Capacity Savings (kW)	Annual Carbon Reductions (Short Tons)	Lifetime Carbon Reductions (Short Tons)
Home Energy Reports	Existing Dual Fuel	155680	\$0.00	\$0	15044.8	15044.8	2068.7	3197.0	5929.5	5929.5
	Existing Electric	94515	\$0.00	\$0	5815.2	5815.2	799.6	1235.7	2291.9	2291.9
	New Movers Dual Fuel	16745	\$0.00	\$0	1649.9	1649.9	226.9	350.6	650.3	650.3
	New Movers Electric	9635	\$0.00	\$0	848.9	848.9	116.7	180.4	334.6	334.6
Residential Consumer Products	Advanced Power Strips - Tier 2	100	\$35.00	\$3,500	14.1	70.5	1.5	2.2	5.6	27.8
	Clothes Washer Most Efficient	125	\$25.00	\$3,125	29.9	418.1	2.0	2.3	11.8	164.8
	Dehumidifier Most Efficient	125	\$15.00	\$1,875	5.8	98.9	1.1	0.2	2.3	39.0
	Dehumidifier Recycling	1200	\$35.00	\$42,000	200.3	801.2	14.1	2.9	78.9	315.8
	Dryer Most Efficient	125	\$25.00	\$3,125	13.7	219.1	1.8	2.3	5.4	86.3
	Freezer Recycling	350	\$50.00	\$17,500	109.5	876.1	14.0	10.4	43.2	345.3
	Low E Storm Windows, electric heat	40	\$25.00	\$1,000	8.8	175.9	2.3	1.4	3.5	69.3
	Low E Storm Windows, other heat	40	\$25.00	\$1,000	0.2	3.8	0.1	0.0	2.4	48.5
	Low Flow Showerhead w/ TSV - Elec	55	\$15.00	\$825	10.6	158.9	0.8	2.1	4.2	62.6
	Low Flow Showerhead w/ TSV - Oil	55	\$15.00	\$825	0.0	0.0	0.0	0.0	4.6	68.4
	Low Flow Showerhead w/ TSV - Other	55	\$15.00	\$825	0.0	0.0	0.0	0.0	3.5	52.9
	Pool pump (variable)	500	\$500.00	\$250,000	571.4	3428.3	330.4	0.0	225.2	1351.2
	Refrigerator Most Efficient	425	\$25.00	\$10,625	30.5	366.1	4.3	3.6	12.0	144.3
	Refrigerator Recycling	3100	\$95.00	\$294,500	1261.6	5046.3	179.4	147.6	497.2	1988.9
	Room AC Most Efficient	125	\$15.00	\$1,875	10.2	121.8	5.1	0.0	4.0	48.0
	Room air cleaners	800	\$45.00	\$36,000	191.2	1720.4	36.1	7.5	75.3	678.0
	Smart Strips	4500	\$10.00	\$45,000	352.1	1760.5	36.8	54.5	138.8	693.9
	Thermostatic Shutoff Valve - Elec	50	\$11.50	\$575	2.9	43.1	0.2	0.6	1.1	17.0
	Thermostatic Shut-off Valve - Oil	50	\$11.50	\$575	0.0	0.0	0.0	0.0	1.3	19.6
	Thermostatic Shut-off Valve - Other	50	\$11.50	\$575	0.0	0.0	0.0	0.0	1.0	15.0
Tricklestar Keyboard	50	\$25.00	\$1,250	2.7	13.7	1.0	1.5	1.1	5.4	
Residential HVAC	Central Heat Pump	200	\$350.00	\$70,000	268.3	5366.2	35.1	54.2	105.7	2115.0
	CoolSmart AC QIV ES	40	\$175.00	\$7,000	1.5	26.4	0.8	0.0	0.6	10.4
	CoolSmart HP Digital Check	75	\$175.00	\$13,125	21.8	109.0	2.1	4.9	8.6	43.0
	CoolSmart HP QIV ES	40	\$0.00	\$0	9.7	174.0	0.9	2.2	3.8	68.6
	ECM Pumps	4100	\$100.00	\$410,000	308.3	6166.4	0.0	89.9	121.5	2430.3
	Electric Resistance to MSHP	858	\$4,000.00	\$3,432,000	5085.2	86449.0	0.0	1362.4	2004.2	34071.7
	HPWH, Electric - <55 gallon	25	\$600.00	\$15,000	39.9	518.7	3.2	5.9	14.5	189.0
	HPWH, Electric - >55 gallon, UEF 2.70	195	\$150.00	\$29,250	65.4	850.8	3.0	5.5	25.8	335.3
	Mini Split Heat Pump QIV	370	\$100.00	\$37,000	30.5	517.7	2.5	6.7	12.0	204.0
	MiniSplit HP	1335	\$350.00	\$467,250	682.4	11601.1	53.0	121.7	269.0	4572.3
	WiFi programmable thermostat with cooling (oil)	1500	\$75.00	\$112,500	95.6	1052.0	26.0	0.0	371.2	4083.4
	Window -Electric Resistance	25	\$75.00	\$1,875	3.1	53.4	1.0	1.3	1.2	21.1
	Window -Heat Pump	25	\$75.00	\$1,875	1.7	28.2	0.4	0.3	0.7	11.1
	Window -Oil	25	\$75.00	\$1,875	0.2	2.9	0.1	0.0	1.2	20.8
	Window -Propane	25	\$75.00	\$1,875	0.2	2.9	0.1	0.0	1.1	18.1
Residential New Construction	Clothes Washer	130	\$0.00	\$0	4.2	46.3	1.6	1.8	1.7	18.3
	CODES AND STANDARDS	1	\$0.00	\$0	248.4	4967.9	0.0	0.0	97.9	1958.0
	Cooling - Tier 1	106	\$0.00	\$0	10.2	254.2	0.5	0.0	4.0	100.2
	Cooling - Tier 2	102	\$0.00	\$0	10.6	264.5	0.5	0.0	4.2	104.2
	Cooling - Tier 3	13	\$0.00	\$0	1.7	41.4	0.1	0.0	0.7	16.3
	CP - Cooling	13	\$0.00	\$0	1.9	48.5	0.5	0.0	0.8	19.1
	CP - DHW	13	\$0.00	\$0	4.9	73.2	0.0	0.0	1.9	28.9
	CP - Heating	13	\$380.00	\$4,940	17.1	427.7	0.0	5.5	15.2	378.8
	DHW - Tier 1	106	\$0.00	\$0	3.4	50.9	0.8	0.0	1.3	20.1
	DHW - Tier 2	102	\$0.00	\$0	3.3	50.0	2.3	0.0	1.3	19.7
	DHW - Tier 3	13	\$0.00	\$0	0.5	6.8	0.3	0.0	0.2	2.7
	Dishwasher	358	\$0.00	\$0	1.3	13.8	0.1	0.2	0.5	5.4
	Heating - Tier 1	106	\$974.00	\$103,244	54.2	1355.6	0.0	3.0	36.5	913.2
	Heating - Tier 2	102	\$1,678.00	\$171,156	115.6	2890.6	0.0	6.6	78.8	1971.0
	Heating - Tier 3	13	\$4,090.00	\$53,170	21.7	542.8	0.0	2.3	15.7	391.7
	Refrigerators	488	\$0.00	\$0	22.8	273.1	2.6	2.9	9.0	107.7
	Renovation Rehab - Cooling Tier 1, Elec	26	\$0.00	\$0	10.0	250.1	1.1	3.9	43.6	1089.8
	Renovation Rehab - Cooling Tier 2, Elec	33	\$0.00	\$0	51.6	1289.9	1.0	3.7	35.3	881.4
	Renovation Rehab - Cooling Tier 3, Elec	3	\$0.00	\$0	6.3	157.0	0.5	1.7	2.5	61.9
	Renovation Rehab - DHW Tier 1, Elec	26	\$0.00	\$0	10.0	150.1	1.1	3.9	43.6	654.1
	Renovation Rehab - DHW Tier 2, Elec	33	\$0.00	\$0	51.6	774.0	1.0	3.7	35.3	528.9
	Renovation Rehab - DHW Tier 3, Elec	3	\$0.00	\$0	6.3	94.2	0.5	1.7	2.5	37.1
	Renovation Rehab - Heating Tier 1, Elec	26	\$990.00	\$25,740	10.0	250.1	1.1	3.9	43.7	1093.5
	Renovation Rehab - Heating Tier 2, Elec	33	\$1,672.00	\$55,176	51.6	1289.9	1.0	3.7	35.3	882.8
	Renovation Rehab - Heating Tier 3, Elec	3	\$2,907.00	\$8,721	6.3	157.0	0.5	1.7	2.5	61.9
	Renovation Rehab CP - Cooling, Elec	3	\$0.00	\$0	2.1	52.7	0.0	0.1	0.8	20.8
	Renovation Rehab CP - DHW, Elec	3	\$0.00	\$0	2.1	31.6	0.0	0.1	0.8	12.5
	Renovation Rehab CP - Heating, Elec	3	\$380.00	\$1,140	2.1	52.7	0.0	0.1	0.8	20.8
Showerheads	13	\$0.00	\$0	3.1	46.9	0.4	0.8	1.2	18.5	
Income Eligible Single Family	Basic Educational Measures	2000	\$180.00	\$360,000	42.0	210.0	4.4	6.5	16.6	82.8
	Dehumidifier Rebate	475	\$375.00	\$178,125	232.5	3951.9	43.8	9.1	91.6	1557.5
	Domestic Hot Water Measure, Oil	15	\$20.00	\$300	0.0	0.0	0.0	0.0	1.1	14.1
	Early Retirement Clothes Washer Elec DHW & Elec Dryer	120	\$870.00	\$104,400	70.6	987.8	9.3	9.9	27.8	389.3
	Early Retirement Clothes Washer Elec DHW & Gas Dryer	5	\$870.00	\$4,350	1.5	21.5	0.2	0.2	0.9	12.4

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Table 3. Planned Measures for Electric Residential Programs

Program	Measure	Quantity	Incentive / Quantity	Total Incentives	Net Annual Energy Savings (MWh)	Net Lifetime Energy Savings (MWh)	Net Annual Summer Capacity Savings (kW)	Net Annual Winter Capacity Savings (kW)	Annual Carbon Reductions (Short Tons)	Lifetime Carbon Reductions (Short Tons)
	Early Retirement Clothes Washer Gas DHW & Elec Dryer	200	\$870.00	\$174,000	65.4	915.6	8.7	9.2	40.8	570.5
	Early Retirement Clothes Washer Gas DHW & Gas Dryer	120	\$870.00	\$104,400	5.5	77.3	0.7	0.8	17.9	250.6
	Early Retirement Clothes Washer Oil DHW & Elec Dryer	180	\$870.00	\$156,600	58.9	824.0	7.8	8.3	41.7	584.4
	Early Retirement Clothes Washer Propane DHW & Elec Dryer	15	\$870.00	\$13,050	4.9	68.7	0.6	0.7	3.3	45.7
	Heating System Retrofit - Boiler, Oil	150	\$7,300.00	\$1,095,000	1.5	34.5	0.0	0.3	94.8	2179.9
	Heating System Retrofit - Boiler, Other	3	\$7,300.00	\$21,900	0.0	1.1	0.0	0.0	1.7	38.3
	Heating System Retrofit - Furnace, Oil	25	\$7,300.00	\$182,500	0.3	4.3	0.0	0.1	15.8	268.5
	Heating System Retrofit - Furnace, Other	6	\$7,300.00	\$43,800	0.1	1.6	0.0	0.0	3.3	56.6
	HP Water Heaters	3	\$2,131.00	\$6,393	5.1	77.0	0.2	0.3	2.2	32.3
	MSPH - Electric Resistance	120	\$17,500.00	\$2,100,000	785.9	13360.0	0.0	210.6	309.7	5265.5
	Replacement Freezer	150	\$615.00	\$92,250	50.0	599.4	6.4	4.8	19.7	236.2
	Replacement Refrigerator	1350	\$1,260.00	\$1,701,000	630.5	9456.8	89.6	73.8	248.5	3727.1
	Smart Strips	2300	\$20.00	\$46,000	180.0	899.8	18.8	27.9	70.9	354.6
	Weatherization, Del Fuel	230	\$5,500.00	\$1,265,000	21.9	437.0	5.7	3.5	249.3	4986.1
	Weatherization, Electric	120	\$5,500.00	\$660,000	147.7	2954.4	38.8	23.9	58.2	1164.4
	Weatherization, Other	20	\$5,500.00	\$110,000	1.9	37.2	1.1	0.5	17.4	348.3
	Wi-Fi Thermostat - AC Only	25	\$275.00	\$6,875	1.6	17.7	0.8	0.0	0.6	7.0
	Wi-Fi Thermostat - Oil	30	\$275.00	\$8,250	0.5	5.9	0.3	0.0	7.0	76.5
	Wi-Fi Thermostat - Other	5	\$275.00	\$1,375	0.1	1.0	0.1	0.0	1.0	11.1
	Window AC Replacements	2225	\$480.00	\$1,068,000	158.0	1895.7	82.4	0.0	62.3	747.1
Income Eligible Multifamily	Aerator - Electric	95	\$5.00	\$475	3.2	22.7	0.2	0.6	1.3	9.0
	Aerator - Oil	20	\$5.00	\$100	0.0	0.0	0.0	0.0	0.3	2.0
	Air Sealing - Elec	50	\$70.00	\$3,500	5.0	100.9	0.0	0.0	2.0	39.8
	Air Sealing - Elec w/AC	30	\$70.00	\$2,100	3.0	60.6	0.7	0.5	1.2	23.9
	Air Sealing - Oil	9	\$70.00	\$630	0.0	0.0	0.0	0.0	2.2	43.8
	Air Sealing - Other	5	\$70.00	\$350	0.0	0.0	0.0	0.0	0.0	0.0
	Custom	1	\$300,000.0	\$300,000	60.9	912.8	0.0	0.0	24.0	359.7
	CUSTOM CHP	1	\$540,000.0	\$540,000	119.8	2395.0	0.0	0.0	30.2	603.9
	CUSTOM CIRCULATOR	2	\$8,000.00	\$16,000	5.5	83.2	0.0	0.0	2.2	32.8
	Heat Pumps	5	\$300,000.0	\$1,500,000	548.4	10968.5	0.0	0.0	216.1	4323.0
	Insulation - Elec with AC	100	\$230.00	\$23,000	13.2	330.8	0.0	0.0	5.2	130.4
	Insulation - Oil	50	\$230.00	\$11,500	0.0	0.0	0.0	0.0	28.9	721.5
	Insulation - Other	10	\$230.00	\$2,300	0.0	0.0	0.0	0.0	0.7	17.4
	LED Fixture - Common Ext	80	\$330.00	\$26,400	40.2	40.2	5.5	8.6	15.9	15.9
	LED Fixture - Common Int	370	\$200.00	\$74,000	76.2	76.2	10.5	16.2	30.0	30.0
	LED Fixture - Linear, Common Int	500	\$200.00	\$100,000	103.0	103.0	14.2	21.9	40.6	40.6
	Programmable Thermostat - Elec with AC	74	\$125.00	\$9,250	19.5	371.3	4.8	3.2	7.7	146.3
	Refrigerator	40	\$0.00	\$0	36.6	438.7	5.2	4.3	14.4	172.9
	Showerhead - Elec	100	\$25.00	\$2,500	22.1	332.1	1.6	4.3	8.7	130.9
	Showerhead - Oil	30	\$25.00	\$750	0.0	0.0	0.0	0.0	3.0	45.6
	Showerhead - Other	20	\$25.00	\$500	0.0	0.0	0.0	0.0	1.8	26.3
	Smart Strips	196	\$23.00	\$4,508	15.9	79.5	1.7	2.5	6.3	31.3
	TSV Showerhead - Elec	10	\$40.00	\$400	2.8	42.5	0.2	0.6	1.1	16.8
	TSV Showerhead - Oil	5	\$40.00	\$200	0.0	0.0	0.0	0.0	0.6	8.7
	TSV Showerhead - Other	5	\$40.00	\$200	0.0	0.0	0.0	0.0	0.5	7.5
	VFD	11	\$28,000.00	\$308,000	144.0	2159.8	0.0	0.0	56.7	851.2

Table 4. Shared and Other Costs for Electric Residential Programs

Table 4. Shared and Other Costs for Electric Residential Programs

Program	Program Planning & Administration	Marketing	Sales, Tech Assist & Training	Evaluation & Market Research
Residential New Construction	\$122,305	\$24,339	\$592,706	\$48,330
Residential HVAC	\$358,128	\$282,069	\$849,669	\$59,173
EnergyWise Single Family	\$450,216	\$362,402	\$1,816,907	\$178,295
EnergyWise Multifamily	\$117,080	\$68,734	\$166,491	\$16,265
Home Energy Reports	\$28,116	\$13,412	\$2,061,912	\$19,824
Residential Consumer Products	\$112,773	\$431,999	\$699,582	\$24,935
Income Eligible Single Family	\$361,376	\$135,737	\$1,911,636	\$127,395
Income Eligible Multifamily	\$232,439	\$15,068	\$551,395	\$56,328

Table 5. Planned Measures for Gas Residential Programs

Table 5. Planned Measures for Gas Residential Programs

Program	Measure	Quantity	Incentive / Quantity	Total Incentives	Total Annual Gas Savings (MWh)	Total Lifetime Gas Savings (MWh)	Annual Carbon Reductions (Short Tons)	Lifetime Carbon Reductions (Short Tons)
EnergyWise Multifamily	Faucet aerator	475	\$7.00	\$3,325	79.5	556.6	4.7	32.6
	Air Sealing	1330	\$355.00	\$472,150	1356.6	27132.0	79.4	1587.2
	Demand Circulator	1	\$1,800.00	\$1,800	116.5	1747.5	6.8	102.2
	Duct Insulation, MF	95	\$3.00	\$285	3.4	85.2	0.2	5.0
	Duct Sealing	190	\$84.00	\$15,960	0.1	2.9	0.0	0.2
	Heating, Custom	3	\$28,200.00	\$84,600	740.7	11110.5	43.3	650.0
	MF Shell Insulation	3420	\$138.00	\$471,960	2093.0	52326.0	122.4	3061.1
	Pipe Wrap (Water Heating)	95	\$3.00	\$285	11.9	178.9	0.7	10.5
	Low Flow Showerhead - Showerhead	190	\$25.00	\$4,750	206.7	3101.1	12.1	181.4
	Programmable thermostat	475	\$125.00	\$59,375	358.7	6816.1	23.7	450.7
	Wi-Fi programmable thermostat (controls gas heat only)	47	\$295.00	\$13,865	54.4	598.7	3.5	38.2
	Low Flow Showerhead - w/TSV	33	\$40.00	\$1,320	38.9	584.2	2.3	34.2
	EnergyWise Single Family	Aerator	725	\$7.00	\$5,075	77.6	543.1	4.5
Participants (Unique Account Numbers)		2200	\$0.00	\$0	0.0	0.0	0.0	0.0
Pipe Wrap		5150	\$7.00	\$36,050	1181.0	8267.0	69.1	483.6
Programmable thermostat		1850	\$100.00	\$185,000	2221.1	42201.1	141.4	2685.7
Showerhead		1000	\$30.00	\$30,000	848.5	12727.3	49.6	744.5
Weatherization		2250	\$3,900.00	\$8,775,000	27436.5	548730.0	1661.5	33230.5
WiFi thermostat		75	\$200.00	\$15,000	106.8	1174.8	6.7	73.2
Home Energy Reports	Existing Dual Fuel	112021	\$0.00	\$0	69049.7	69049.7	4039.4	4039.4
	Existing Gas	17470	\$0.00	\$0	11090.0	11090.0	648.8	648.8
	New Movers Dual Fuel	10042	\$0.00	\$0	5523.1	5523.1	323.1	323.1
Residential HVAC	Combo Condensing Boiler/Water Heater - 95% AFUE	600	\$1,000.00	\$600,000	5356.3	123194.0	313.3	7206.8
	ENERGY STAR ON DEMAND WATER HEATER 0.87 UEF	290	\$600.00	\$174,000	1571.2	29853.2	88.1	1674.1
	ENERGY STAR STORAGE WATER HEATER .64 UEF (med draw)	20	\$75.00	\$1,500	38.7	348.3	2.0	18.0
	Forced Hot Water Boiler - >=95% AFUE	240	\$800.00	\$192,000	1959.4	35268.9	114.6	2063.2
	Furnace w/ ECM - 97% AFUE	150	\$550.00	\$82,500	492.1	8366.3	28.8	489.4
	Low Flow Showerhead	300	\$7.00	\$2,100	305.8	4586.9	17.9	268.3
	Programmable Thermostat	120	\$25.00	\$3,000	215.4	4091.9	12.6	239.4
	Thermostatic Shut-Off Valve	40	\$11.00	\$440	12.9	193.7	0.8	11.3
	Triple Pane Windows	10	\$75.00	\$750	5.8	97.9	0.4	6.2
	TSV Showerhead	40	\$15.00	\$600	41.5	621.8	2.4	36.4
	WiFi Thermostat, Gas - Cooling and Heating	125	\$75.00	\$9,375	302.4	3326.0	18.5	203.0
	WiFi Thermostat, Gas - Heat Only	425	\$75.00	\$31,875	1028.0	11308.5	60.1	661.5
	Residential New Construction	CODES AND STANDARDS	1	\$0.00	\$0	1507.2	30144.3	88.2
Cooling - Tier 1		70	\$0.00	\$0	0.0	0.0	0.0	0.0
Cooling - Tier 2		88	\$0.00	\$0	0.0	0.0	0.0	0.0
Cooling - Tier 3		9	\$0.00	\$0	0.0	0.0	0.0	0.0
CP - Cooling		9	\$0.00	\$0	0.0	0.0	0.0	0.0
CP - Heating		9	\$310.00	\$2,790	78.0	1950.8	4.6	114.1
Heating - Tier 1		70	\$1,050.00	\$73,500	459.4	11484.4	26.9	671.8
Heating - Tier 2		88	\$1,975.00	\$173,800	728.6	18216.0	42.6	1065.6
Heating - Tier 3		9	\$2,300.00	\$20,700	99.8	2494.1	5.8	145.9
Renovation Rehab - Cooling Tier 1, Gas		18	\$0.00	\$0	0.0	0.0	0.0	0.0
Renovation Rehab - Cooling Tier 2, Gas		22	\$0.00	\$0	0.0	0.0	0.0	0.0
Renovation Rehab - Cooling Tier 3, Gas		2	\$0.00	\$0	0.0	0.0	0.0	0.0
Renovation Rehab - Heating Tier 1, Gas		18	\$1,050.00	\$18,900	96.9	2421.9	5.7	141.7
Renovation Rehab - Heating Tier 2, Gas		22	\$1,450.00	\$31,900	219.4	5485.0	12.8	320.9
Renovation Rehab - Heating Tier 3, Gas		2	\$2,535.00	\$5,070	26.7	667.9	1.6	39.1
Renovation Rehab CP - Cooling, Gas		2	\$0.00	\$0	0.0	0.0	0.0	0.0
Renovation Rehab CP - DHW, Gas		2	\$50.00	\$100	1.0	15.5	0.1	0.9
Renovation Rehab CP - Heating, Gas		2	\$310.00	\$620	12.5	312.8	0.7	18.3
Showerhead		25	\$0.00	\$0	9.0	134.7	0.5	7.9
Income Eligible Single Family		Boiler	150	\$6,127.00	\$919,050	1185.0	27255.0	70.3
	Furnace	45	\$6,127.00	\$275,715	355.5	6043.5	21.1	358.4
	Weatherization	350	\$6,127.00	\$2,144,450	4340.0	86800.0	266.7	5334.4
	Wi-Fi Thermostat, Gas	40	\$265.00	\$10,600	111.6	1227.6	6.8	75.3
Income Eligible Multifamily	Air Sealing	49	\$785.00	\$38,465	160.4	3207.4	9.4	187.6
	Custom	44	\$15,900.00	\$699,600	2594.2	38912.5	151.8	2276.4
	Faucet aerator	392	\$5.00	\$1,960	70.6	493.9	4.1	28.9
	HEATING_Custom_LI	11	\$135,000.0	\$1,485,000	5956.5	89347.5	348.5	5226.8
	Insulation	637	\$325.00	\$207,025	750.6	18763.8	43.9	1097.7
	Low Flow Showerhead - Showerhead	112	\$25.00	\$2,800	131.0	1965.6	7.7	115.0
	Pipe Wrap (Water Heating)	98	\$3.00	\$294	13.2	198.5	0.8	11.6
	Programmable thermostat	490	\$125.00	\$61,250	698.3	13266.8	46.2	877.2

Table 6. Shared and Other Costs for Gas Residential Programs

Table 6. Shared and Other Costs for Gas Residential Programs

Program	Program Planning & Administration	Marketing	Sales, Tech Assist & Training	Evaluation & Market Research
Residential New Construction	\$58,014	\$2,239	\$174,990	\$16,987
Residential HVAC	\$83,453	\$209,494	\$104,914	\$19,290
EnergyWise Single Family	\$274,139	\$64,505	\$1,394,414	\$93,336
EnergyWise Multifamily	\$66,803	\$51,497	\$183,676	\$7,214
Home Energy Reports	\$4,413	\$0	\$348,192	\$2,296
Income Eligible Single Family	\$167,702	\$22,823	\$842,781	\$56,787
Income Eligible Multifamily	\$111,980	\$9,264	\$416,602	\$40,435

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1. Overview

The primary objective of the Company’s Commercial and Industrial (C&I) programs is to drive the implementation of energy efficiency projects that minimize or reduce energy consumption and help Rhode Island businesses, industries, institutions, and government agencies save on their utility bills. Energy efficiency programs also help C&I customers reduce their operations and maintenance (O&M) costs, meet corporate sustainability goals, improve indoor air quality, and protect the environment by reducing greenhouse gas emissions and other air pollutants. The Company’s C&I programs offer incentives, rebates, financing, and technical assistance to customers across the state who want to save money and reduce their building’s overall energy consumption footprint.

The Company continuously evaluates customer needs and market dynamics to determine if program adjustments and enhancements are warranted and to drive market transformation across multiple end uses. This retrospection allows the Company to develop and evolve program design and efficacy, determine the value and potential of energy efficiency, and secure comprehensive energy savings.

1.1 Market Sector Approach

The state’s C&I sector is diverse and complex; therefore, the Company has designed its energy efficiency programs to offer tailored solutions addressing the different subsectors and varying efficiency needs of building types and uses. Over the last decade, the Company has focused on a market sector approach for C&I customers. A customer’s efficiency needs are shaped by the strategic and commercial pressures specific to their market sector, industry or communities served. Some C&I customers may need to

improve the efficiency of their factory operations to maintain their competitive niche while others need to improve the comfort of customers through the installation of high efficiency heating, cooling, and ventilation (HVAC) systems. The Company offers a wide variety of customized solutions to empower customers to determine what energy efficiency measures or programs are the best fit for their needs. This process engages the C&I customer and often leads to more comprehensive projects with multiple energy efficiency measures.

Large C&I customers are the greatest opportunities for cost-effective savings. The Company operates its C&I programs primarily through an account management approach where each account manager focuses on one or more industry vertical or market sector. By focusing on specific market sectors, the Company's account manager can identify the correct vertical initiatives (e.g., Grocery, Restaurant, Industry) that are supported by implementation vendors or through large-scale agreements, such as the Strategic Energy Management Partnerships. These vertical initiatives enable the Company to tailor offerings to meet the specific needs of customers, identify and apply project learnings to customers in similar market sectors and facilities, and engage customers in energy efficiency. This custom-tailored approach drives program participation and establishes a trusted relationship between the Company and customers.

Additionally, the Company offers a Small Business Direct Install Program that provides turn-key services, program offers audits, installation services, enhanced incentives and financing through the Company's implementation vendor or an alternate vendor of the customer's choice. The installation of energy efficiency measures helps lower customers' energy bills while improving the ambiance, comfort and operations of the establishment.

The Company designed its Upstream Program to help all C&I customers, regardless of size, purchase qualifying high efficiency HVAC, hot water, lighting, and commercial kitchen equipment. The program subsidizes measures to encourage distributors to stock, promote and sell high efficiency equipment.

This attachment provides detailed descriptions regarding the Company's C&I programs and how the Company plans to transform the 2024 Annual Plan's high-level goals and strategies into specific, concrete actions and activities for each C&I program. The Company provides these details for stakeholders, regulators and other interested parties so they can see the complex framework needed to integrate program implementation, incentive design, new standards and emerging technologies into flexible, innovative programs tailored to specific customer and building types.

[1.2 What to Look for in 2024](#)

The Company plans to make a number of modifications and enhancements to the C&I programs during the 2024 program year. Some of these changes will affect how the Company engages customers in energy efficiency while other modifications focus on providing more innovative efficiency services to C&I customers to capture energy-saving opportunities. Intertwined, the modifications and

enhancements are designed to engage C&I customers and drive energy efficiency across Rhode Island. In 2024, the Company plans to implement the following strategies for its C&I programs:

- Deploy a data-driven approach to increasing customer participation in the C&I sector.
- Deploy a data-driven approach to increasing customer participation in the C&I sector by analyzing customer consumption data (e.g., kilowatt-hours, therms, load distribution, and peak load) and past energy efficiency participation to better target customers, especially nonparticipants.
- Expand the reach of the Strategic Energy Management Planning Initiative to support the increasing number of customers with climate and sustainability goals.
- Support more advanced system controls, energy management systems and building analytics through retro-commissioning, monitoring-based commissioning, equipment right sizing and the Upstream Initiatives.
- Develop prescriptive and custom offerings to promote commercial weatherization and greenhouse gas emission reductions through the installation of energy recovery ventilators, upstream heat pumps, and measures to prevent gas and refrigerant leak reductions.
- Work with the Office of Energy Resources (OER) to better understand electrification efforts funded through federal and state programs.
- Promote the Main Streets Initiative in Environmental Justice Focus Areas.¹
- Enhance continuing education for building managers and facilities operators.

The implementation of these strategies will support continued innovation and accelerate the efficiency of Rhode Island businesses, industries, institutions and government agencies. These actions and activities support the key strategic priorities set out in the Three-Year Plan and Annual Plan including increased customer outreach, programs delivered equitably, enhanced financing options, increased workforce capacity building, and targeted comprehensive efficiency upgrades to increase program participation. These strategies and planned activities reflect ideas and insights identified by the Company in collaboration with the Energy Efficiency & Resource Management Council (EERMC) and its

¹ The Rhode Island Department of Environmental Management defines an Environmental Justice Focus Area" as a census tract that meets one or more of the following criteria: (1) annual median household income is not more than sixty-five percent (65%) of the statewide annual median household income, (2) minority population is equal to or greater than forty percent (40%) of the population, (3) twenty-five percent (25%) or more of the households lack English language proficiency, or (4) minorities comprise twenty-five percent (25%) or more of the population and the annual median household income of the municipality in which the proposed area does not exceed one hundred fifty percent (150%) of the statewide annual median household income.

consulting team, the Office of Energy Resources (OER), and the Division of Public Utilities and Carriers (the Division), as well as customers, program vendors, and trade allies.

A top priority for the Company is to develop an equity-driven approach to the design, implementation and marketing of C&I programs. To help ensure programs are delivered equitably to C&I customers across the state, the Company will hire multilingual small business auditors, conduct participant surveys in multiple languages, promote equitable hiring practices through vendor agreements, and focus on reaching small C&I customers with a specific focus on woman and minority-owned enterprises. It will also leverage the recommendations and findings from the most recent Small Business Process Evaluation. The Company will utilize the Main Streets Initiative to promote the Small Business Direct Install (Small Business) Program to C&I customers located in Environmental Justice Focus Areas. The Company continues to monitor the Equity Working Group's progress and, where appropriate and prudent, will implement the group's recommendations within the C&I programs.

On January 27, 2021, President Joseph Biden issued [Executive Order 14008](#) setting a goal that a minimum of 40 percent of the overall benefits of federal investments must flow to disadvantaged communities that are marginalized, underserved and overburdened by pollution. As federal funding for clean energy projects flows to state energy offices, it is critical that the Rhode Island energy efficiency programs are designed to equitably serve all customers and align with the [Justice40 Initiative](#). This will ensure disadvantaged and historically marginalized communities are able to access and benefit from federal funding.

A key component to increasing program participation is to ensure there is a robust and skilled workforce to identify and implement energy efficiency projects. To build workforce capacity in 2024, the Company plans to collaborate and partner with educational and job training entities that have the existing resources to address workforce development issues as identified in the Workforce Needs Assessment Study referenced in the Main Text.² In addition to these entities, the Company acknowledges that it will need additional public and private support to build capacity and plans to identify and partner with additional groups over the 2024-2026 term. The Company plans to target increased capacity to support Zero Net Energy buildings, Building Operator Certification, codes and standards compliance training and increased C&I weatherization projects. In 2024, the Company plans to sponsor training sessions to retain and upskill the workforce in supporting high-performance buildings, including trainings on advanced HVAC and lighting controls. Workforce development efforts are further described in the Cross-Cutting Programs section of the Main Text.

² This is in alignment with the LCP standard, which states: "The distribution company shall include wherever possible and practical, partnerships with existing educational and job training entities."

1.3 Commercial & Industrial Programs

In 2024, the Company will implement four C&I energy efficiency programs as shown in Table 1, below.³ These programs are designed to serve a number of different market sectors, customers and building types.

Table 1. Commercial and Industrial Programs

Large Commercial and Industrial New Construction
Large Commercial Retrofit
Small Business Direct Install
C&I Multifamily Program

All C&I customers are eligible to participate in the Large Commercial and Industrial New Construction Program (New Construction Program) and Large Commercial Retrofit Program (Retrofit Program). However, eligibility for the Small Business Program is limited to customers that consume less than 1.5 million kilowatt-hours (kWh) per year. In cases where a small C&I customer’s project demands larger or more complex efficiency measures than offered through the Small Business Program, the customer can participate in the New Construction Program or Retrofit Program. Table 2 provides a summary of the programs.

Table 2. 2024 Commercial and Industrial Programs

Program Name	Program Description
<p>Large Commercial and Industrial New Construction and Building Energy Code Support</p> <p><i>Funded by Electric and Natural Gas</i></p>	<p>The New Construction Program offers financial incentives and technical assistance to customers, design professionals, developers, and vendors to encourage energy efficiency in new construction, major renovation, planned replacement of aging equipment, and replacement of failed equipment projects.</p> <p>Through the program, design professionals are eligible to receive technical assistance to conduct energy modeling and analysis for new construction projects. Owner’s design teams are offered incentives for their time and effort to meet program requirements. The program promotes and incentivizes the installation of high efficiency equipment in existing facilities during remodeling projects or for equipment failure and replacement. Since customers are more likely to install energy-efficient equipment at the time of construction or equipment replacement, the program offers incentives to ensure customers make the investment immediately rather than doing</p>

³ The ConnectedSolutions program is no longer being reported under the Energy Efficiency portfolio; it is anticipated that it will be part of the System Reliability Procurement filing.

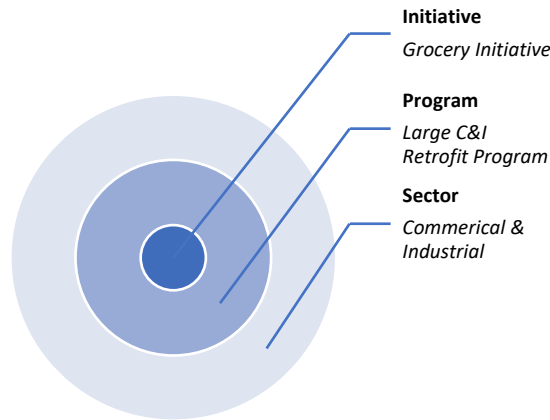
Program Name	Program Description
<p>Large Commercial and Industrial Retrofit</p> <p><i>Funded by Electric and Natural Gas</i></p>	<p>so at a greater cost later. The program also offers operations verification or quality assurance services to ensure that installed equipment and systems operate as intended.</p> <p>The program supports the State’s Zero Energy Building goals through engagement and in developing future offerings. The program promotes compliance with the building energy code and increasing the use of the Stretch Code to support the State’s goals and objectives. Technical assistance is provided for advancing the development and adoption of minimum efficiency standards for appliances and equipment.</p> <p>All commercial, industrial and institutional customers are eligible to participate in the Retrofit Program. The program incentivizes the replacement of existing equipment and systems with high efficiency alternatives such as lighting, HVAC systems, motors, thermal envelope measures and custom measures in existing buildings. Technical assistance is offered to customers to help them identify energy-saving opportunities.</p> <p>The program’s incentives help C&I customers in defraying part of the material and labor costs associated with the installation of energy efficiency measures. In addition, the Company offers education and training, such as the Builder Operator Certification training, to support the adoption of energy-efficient equipment and practices.</p>
<p>Small Business Direct Install</p> <p><i>Funded by Electric and Natural Gas</i></p>	<p>The Small Business Program is a retrofit offering that provides turn-key efficiency solutions to customers who use less than 1.5 million kWh per year. Through the program, a free on-site energy assessment is performed, and customers receive a customized report detailing recommended energy-efficient improvements.</p> <p>From local pizzerias to small convenience stores, the Small Business Program serves mall businesses of all customer types, buildings and sizes. The program pays up to 70 percent of installation and equipment costs. Provided funds are available, customers can finance the remaining costs of the project for up to 60 months (typically 24) interest free on their electric bill using the Small Business Revolving Loan Fund.</p>
<p>Commercial and Industrial Multifamily</p> <p><i>Funded by Natural Gas</i></p>	<p>The C&I Multifamily Program provides comprehensive efficiency services for market-rate multifamily customers who reside in buildings with 5+ dwelling units. These coordinated services include energy assessments and incentives for weatherization and the replacement of heating and domestic hot water equipment and systems. The program’s services are offered for all types of multifamily properties.</p> <p>To streamline the delivery of program services, the Company designates a primary point of contact for the multifamily property who will manage and coordinate the services offered. The measures and services are offered through the Company’s existing Energy Efficiency Portfolio of C&I programs (C&I Retrofit) and Residential</p>

Program Name	Program Description
	programs (EnergyWise, Income Eligible, Residential New Construction and ENERGY STAR® HVAC).

The Company’s market sector approach is reflected in the four C&I programs. Within a given program, there are one or more vertical initiatives that are designed to deliver a custom-tailored solution or targeted approach to a particular market sector, customer or building type. The Company defines initiatives as a go-to-market strategy within a C&I program that promotes a subset of energy efficiency measures or services within the program and targets a certain market segment. For example, the Retrofit Program has a Grocery Initiative and Industrial Initiative that have identified particular market pressures, energy consumption patterns and energy-saving opportunities for these market segments.

These customized initiatives allow the Company to more effectively and efficiently secure savings from target customers. Please note that estimated energy savings, program budgets and participants for each initiative are included in the program-level totals. All initiatives support both electric and natural gas measures, unless otherwise noted or self-evident (i.e., lighting initiatives only cover electric measures).

Figure 1. Relationship between Programs and Initiatives



1.4 Program Description Structure

In order to streamline review of program information in the Annual Plan, the Company has adopted the following structure for each of the C&I programs:

- a. Description of offering,

- b. Eligibility criteria,
- c. Delivery,
- d. Changes for 2024, and
- e. Other considerations/research.

Enabling strategies for increased program participation, improved customer experience and efficient program delivery are detailed in the Financing and Marketing sections. Workforce development is addressed in the main text and in the Cross-Cutting Programs section. A list of measures and incentives can be found at the end of this Attachment. In 2024, the Company plans to continue to engage in pilots, demonstrations, and assessments (see Attachment 8 for a detailed scope and list for each pilot, demonstration, and assessment proposed for the 2024 Annual Plan). Financial mechanisms structures are described in Section 6 and in Table 3 below.

Table 3. Financial Mechanisms Structure

Mechanism	Description
Customer type	This section highlights the customer consumption in kWh or customer type for which the mechanism is best suited
Loan size	Shows maximum loan size
Maximum Tenor	Shows the maximum length of time (term) for which a customer can borrow funds
Loan volume	Shows the dollar volume of loans outstanding or the range of funds previously borrowed (or both)
Benefits to customer	Describes the benefits of a mechanism to a customer
Limitations	Describes the limitations of a mechanism to a customer
2024 Actions	This area is included for the Efficient Buildings Fund and C-PACE (Commercial Property Assessed Clean Energy) as the Company is currently working with the Rhode Island Infrastructure Bank and other stakeholders on integrating these mechanisms
More Information	This area describes where more information can be found regarding the mechanism, such as numerical tables. This area may include additional information such as justifications for On-Bill Refinancing fund injections (natural gas) or On-Bill refinancing rightsizing (electric)
Relevant Notes	This area contains note and will vary by mechanism

2. Large Commercial and New Construction Program

2.1 Offerings

The New Construction Program offers incentives and technical assistance to promote and support high performance building design, building operation and equipment selection. The incentives and technical services offered are based on the projected energy savings performance of the building and are designed to encourage design teams, building owners and developers to build beyond the current Rhode Island program energy baseline. The technical assistance provided by the program varies from simple plan review and efficiency upgrade recommendations to complete technical blueprint reviews. Additionally, the program offers incentives to building owners and design teams for Zero Net Energy certification and verification and post-occupancy verification of energy savings.

The program incentivizes both new equipment at existing sites and new construction and major renovation projects. Section 2.2 describes the baselines and eligibility guidelines for new equipment.

In 2024, the Company will continue to offer two pathways for ground-up new construction or major renovation projects:

- Pathway 1: Energy Use Intensity / Zero Net Energy Ready
- Pathway 2: Streamlined / Systems

Pathway 1: Energy Use Intensity / Zero Net Energy Ready

This pathway focuses on high efficiency design as well as post-occupancy energy use intensity (EUI). EUI measures the total energy consumption (measured in kBtu) per square foot throughout a whole building. (e.g. a high-efficiency building will have a low EUI, whereas an inefficient building will have a high EUI). This pathway is being made available to buildings 20,000 square feet or greater whose design teams and building owners engage with the Company early in the schematic design and development process. For this pathway, the Company has developed specific EUI targets for several market sectors including libraries, offices, public safety facilities and schools (elementary and high school). The specific EUI targets help to benchmark buildings with similar end-uses, systems, and equipment. For other building types, a site-specific EUI category will be available to ensure that any building type can participate in this pathway.

The Company has established EUI ranges for both Tier 1 and Tier 2 buildings. Tier 1 buildings are designed to achieve higher efficiency and are considered Net Zero Energy Ready, while Tier 2 includes high efficiency buildings that are designed to achieve savings relative to energy code and industry standard practice. By offering a range of EUIs rather than one specific target, the Company can encourage a wider range of building types to participate in Pathway 1. The pathway encourages additional savings by offering higher incentives for buildings that reach below the Tier 1 EUI targets. For example, a building with a Tier 1 EUI target of 30 will receive additional incentives if they realize an EUI of 25.

Pathway 1 offers comprehensive technical assistance and financial incentives for Zero Net Energy, Zero Net Energy ready and very low EUI projects. A Zero Net Energy building is an extremely energy-efficient building designed and operated to consume only as much energy as it produces annually. A Zero Net Energy Ready is defined as a building that could offset most or all the buildings annual energy use through a renewable energy system. And, as mentioned above, Energy Use Intensity (EUI) is the total energy use measured in kBtu per a square foot. This pathway offers an optional verification incentive to measure building EUI post occupancy.

Pathway 2: Streamlined/Systems

This pathway is designed for smaller and simpler building designs and offers a variety of incentives and technical assistance services. The offering is available to buildings 20,000 square feet or greater regardless of when the design teams and building owners engage the Company. The program process requirements for this pathway are streamlined from the required documents to the technical assistance procedures. This streamlined offering encourages increased participation for simpler building designs.

Pathway 2 provides incentives based on individual energy-saving measures implemented and the Company utilizes a spreadsheet analysis tool to estimate energy savings and incentives early in the project. This pathway is especially appropriate for major renovation projects, such as tenant fit outs, and for customers who lack the resources or time to pursue an EUI-based approach.

Additionally, prescriptive and upstream rebates for installing energy efficient equipment and measures will be made available to buildings less than 20,000 square feet.

2.2 Large C&I New Construction Initiatives

2.2.1 Upstream Initiative

When “upstream” is referenced, the Company is referring to the practice of offering an incentive directly to a manufacturer or distributor of efficient equipment rather than offering an incentive directly to the customer through an application form and process after the sales transaction has been made. This allows manufacturers and distributors to sell the product for a lower price and makes the efficient option more appealing to a potential customer. For customers, the Upstream Initiative offers them the ability to purchase high efficiency equipment without the burden of paperwork or waiting for reimbursement. The following Upstream Initiatives are available to all C&I customers.

- **Upstream HVAC Initiative.** This initiative offers discounted premium efficiency HVAC equipment and controls at the point of sale at qualified distributors including air-cooled air conditioning and heat pumps systems, water-cooled air conditioning and heat pumps.
- **Upstream Gas Initiative.** This initiative offers discounted premium efficiency water heating equipment at the point of sale through qualified distributors. In 2024, as in past years, the initiative will include water heaters (indirect and on-demand), water heating boilers and condominium water heaters.
- **Upstream Kitchen Equipment Initiative.** This initiative offers discounted premium efficiency electric and natural gas kitchen equipment at the point of sale at qualified distributors. The Company currently offers more than nine different types of energy-efficient cooking equipment across both fuels.

- **Upstream Lighting Initiative.** This initiative is primarily focused on Retrofit projects and offers discounted luminaires, luminaires with controls, lamps, and controls at the point of sale at qualified distributors.

All Upstream initiatives follow a similar implementation and delivery process. Distributors sell products directly to consumers or relevant intermediaries and provide discounts at the point of sale. The distributor then submits data on the purchase and the Company pays the incentive to the distributor and conducts quality control visits for a percentage of installations. The Company collaborates with qualified distributors to target market efforts to relevant customers.

2.2.2 Customer Eligibility

The New Construction Program is divided into two main categories to address new construction target markets:

- **New Buildings, Additions, Major Renovations and Tenant Fit-Ups Pathway.** This category is designed for customers that are pursuing ground up new construction or major renovation projects. These types of projects traditionally involve some level of design and are governed by building and energy codes.
- **New Equipment and End-of-Life Replacements Pathway.** This category is designed for customers that are purchasing new energy consuming equipment or replacing equipment that has reached the end of its useful life. Customers are incentivized to purchase and install energy-efficient equipment. Typically, there is no design component to these projects. Baseline energy use is considered to be the energy code or industry standard practice where applicable and energy savings are calculated using the baseline. If equipment has reached the end of its useful life, this pathway calculates energy savings from new equipment against the current codes and standards baselines (instead of against the old equipment). This pathway works similarly to the “systems approach” described below, whether through prescriptive or custom pathways.

2.2.3 Implementation and Delivery

As referenced in Section 2.1, the New Construction Program offers two pathways for ground-up new construction or major renovation projects. The Company also offers additional enhancements, with the goal of improving the customer experience and in turn driving repeat participation from customers and design teams.

2.2.3.1 Pathway 1: Energy Use Intensity / Zero Net Energy Ready

For Pathway 1, the Company’s Energy Efficiency team reaches out to customers, owners and developers regarding new construction project opportunities. Over the years, several customers and design teams have become repeat participants. If the customer decides to participate in energy efficiency programs,

the Company's team engages with the customer project design team and facilitates a design charrette to establish customer project goals. Based on the project goals, an EUI target range is established, and a Technical Assistance vendor is engaged to model the baseline project and proposed design project.

Zero Net Energy Projects

The Company's Energy Efficiency team must follow these steps for reviewing all potential Zero Net Energy projects:

- Vet the proposed project to ensure it meets basic New Construction Program requirements.
- Bring in a Zero Net Energy expert to assist the customer in assessing the project and identify services that may be needed to achieve the Zero Net Energy goal.
- Require the customer to engage a Zero Net Energy consultant, with the fee cost shared between the Company and the customer. The Zero Net Energy consultant is engaged from early in the project through the end of design development.
- Ensure the Zero Net Energy consultant provides a number of services including benchmarking EUI targets, conducting an energy charrette, performing load reduction analysis, and running HVAC selection analysis and model feedback.
- Require the customer to sign a Memorandum of Understanding (MOU) that outlines the EUI target, the post-occupancy EUI verification plan and other incentive details.
- Require the customer to sign an application that includes the energy efficiency measures and systems agreed upon. By signing the MOU and application, the customer commits to implementing the efficiency recommendations and accepts the associated incentives.
- Ensure a Company engineer creates a Minimum Requirements Document as part of the application process.
- Remain engaged during the design development and construction process to ensure energy efficiency measures and solutions are incorporated in the building project to achieve the EUI targets.
- Perform a visual inspection and review all construction design submittals after project completion. If any HVAC controls or variable-load energy efficiency measures have been incorporated in the project, the Company requires field measurements to verify operation standards, as described in the Minimum Requirements Document.

- Monitor the EUI measurements over a prescribed period and under the prescribed conditions before final incentive payment is made based on the savings achieved.
- Offer an optional verification incentive to assist customers in identifying and correcting issues that may arise in the first year of occupancy to help achieve the EUI. Verification documents must be submitted to obtain the optional verification incentive.

2.2.3.2 Pathway 2: Streamlined/Systems Approach

The Company's Energy Efficiency team works with and approaches customers, building owners and owner representatives regarding new construction or major renovation projects. If a customer decides to move forward with a project, they can choose to: (1) select a vendor of their choice to install energy efficiency measures or (2) to develop the project with technical assistance from the Company's Energy Efficiency team. Once the measures are installed, the Company performs an inspection and reviews design submittals. Once there are documented savings from the project, the customer can receive the incentive.

2.2.4 2024 Program Enhancements and Changes

As a result of the New Construction Program's newly simplified participation pathways, the Company anticipates these changes will result in additional program activity during the 2024-2026 term. Regarding building codes, in its 2023 session, the Rhode Island General assembly passed legislation requiring the state to adopt the 2024 International Energy Conservation Code (2024 IECC) within 3 months of its release. Based on conversations with staff at the International Code Council (ICC), the 2024 IECC is expected to be released in mid-2024. The Company's standard practice is to not update a new construction baseline building code mid-program-year, and so the 2024 IECC will be used to update baseline assumptions for the 2025 program year. The Company will continue sponsoring code trainings through the Code Compliance Enhancement Initiative (CCEI) and will claim savings based on the most recent evaluation of this initiative. While code trainings will focus on preparing the workforce for IECC 2024 adoption, the current evaluation of the CCEI is based on prior code versions, and so the Company believes that there is still reasonable justification for claiming the current savings attribution level through this initiative. The CCEI evaluation will be refreshed in future years once IECC 2024 is adopted to update the savings claim accordingly. Regarding appliance standards, the Company will make changes to the Upstream Initiative's new construction baseline assumptions for food services and HVAC equipment as applicable.

2.2.5 Other Considerations

2.2.5.1 Customer Feedback

The Company regularly solicits customer feedback through its Energy Efficiency team's interactions with customers and design teams. These entities provide insights on what types of technical assistance and design support motivate builders, architects and customers to adopt high efficiency measures and design practices.

The Commercial Customer listening session held this year yielded additional insights. Participants mentioned the challenge of coordinating the Company's technical review timelines with project timelines, and as a result the Company is reviewing options for improving coordination with project developers and technical reviewers. Participants also had suggestions for increasing program outreach, such as additional case studies and working with trade associations, which are part of 2024 marketing activities.

3. Large Commercial Retrofit Program

3.1 Offerings

The Company has several pathways by which customers can participate in the Retrofit Program for energy efficiency in existing buildings. Customers can participate via the:

- **Prescriptive Application Process**; By working with a RI Energy Sales Representative or a Project Expeditor (PEX) to complete a **Custom application** for any energy improvement that is not covered by the Prescriptive pathway; or
- **Upstream Lighting Initiative**; This offering is described in Section 2.2 under the New Construction Program's Upstream Initiatives.

The Retrofit Program also offers initiatives targeting specific market segments, such as the Grocery and Industrial Initiatives that focus on the specific needs of that customer type. The Company also serves some of its largest customers through Strategic Energy Management Partnerships that are described in more detail below. Although sector-specific initiatives are helpful in addressing customer needs that are shaped directly by the industry and geographies in which the customers operate, the Company recognizes that this approach does not cover the Company's entire C&I customer base. Therefore, the Company provides a number of energy efficiency solutions that are oriented towards specific technologies and trainings.

The following areas are included in the Large Commercial Retrofit program but are linked to specific technologies or trainings, as opposed to specific market sectors:

- Building Operator Certification training
- Equipment & System Performance Optimization Initiative
- Performance Lighting Initiative
- Customer-owned streetlights
- Company-owned streetlights
- Combined Heat and Power and fuel cells

3.2 Initiatives Primarily Targeting Large Commercial Retrofit

3.2.1 Industrial Initiative

The Industrial Initiative is available to all manufacturing and industrial customers and provides incentives and technical assistance services including free facility audits, project management, installer and customer education sessions, production systems and line efficiency coordination. In addition, the Company provides support in identifying and implementing process-related improvements that increase the efficiency of business processes and energy consumption.

Historically, the Industrial Initiative has primarily targeted large C&I customers to ensure economies of scale. In 2024, the Industrial Initiative will continue to conduct outreach to customers in the 200-to-400-kilowatt (kW) range to encourage greater participation by medium-sized industrial facilities. The Company's intent is to improve parity among C&I customer sizes and capture projects with rapid paybacks such as variable frequency drive installations and enhanced controls.

The Industrial Initiative helps diversify the Electric Portfolio, with 66 percent of electric savings from January 2016 through July 2022 deriving from non-lighting measures including process equipment and controls (30 percent), compressed air (16 percent), HVAC (7 percent), and motors and drives (5 percent). For the Natural Gas Portfolio, the initiative contributes significant natural gas savings from process improvements.

3.2.2 Grocery Initiative

The EnergySmart Grocer Initiative serves commercial customers who sell food at the retail or wholesale level. The initiative offers technical assistance, project management, targeted incentives, financing, and education sessions for installers and customers. This initiative primarily delivers electric savings through

lighting and refrigeration upgrades. In 2022, the vendor’s compensation structure was altered to encourage greater emphasis on non-lighting measures.

The EnergySmart Grocer Initiative has been in place for roughly a decade. While low-hanging opportunities related to refrigeration and lighting have been largely saturated, some additional opportunities remain – especially among late adopters, although these customers are often more difficult to engage. The initiative now also focuses on O&M measures submitted through the ESPO initiative, as well as advanced controls measures and leak detection and repair. Typically, refrigerant leak surveys are only performed when leaking refrigerant is visible to the naked eye or identified as a problem by the customer.

3.2.3 National and Regional Restaurant Initiative

The Serve Up Savings Initiative serves regional and national restaurant chains. Local restaurants with multiple locations within Rhode Island are served by the Small Business Direct Install Program. For franchisees, the initiative offers incentives, project management, technical assistance, and collaboration to develop an integrated package of efficiency measures that work for franchisors.

3.2.4 Strategic Energy Management Partnerships Initiative

The Strategic Energy Management Partnerships (SEMP) Initiative is available to the Company’s largest C&I customers. This initiative targets customers who commit to achieving deeper energy efficiency savings, are motivated by corporate and institutional sustainability goals and who have the in-house expertise to make organizational changes and make multi-year efficiency plans. Participating customers agree to specific savings targets that are memorialized in the form of a non-binding Memorandum of Understanding.

The initiative provides customers with customized support and offers them flexibility to address their corporate or institutional business needs while helping them meet sustainability, carbon reduction and efficiency goals. The SEMP Initiative helps customers think long term about their energy use, needs and equipment. This initiative allows a tailored approach to the site’s or facility’s specific needs and results in more comprehensive energy savings than traditional program offerings.

The Company has ten existing SEMP agreements in place with customers that operate in a number of different market sectors including chain restaurants, colleges and universities, health care, industries and municipal and state government. Recent historic participation and savings achievement from the SEMP Initiative is as follows:

Year	Customers	Lifetime MWh	Lifetime Therms	Incentives Paid
2021	8	74,906	3,136,107	\$3,544,162
2022	10	47,722	3,057,341	\$3,423,492

In 2024, the Company plans to continue partnering with large C&I customers to increase the number of SEMP agreements, with the objective of adding 2 additional SEMP partnerships by the close of 2024. The Company will also focus on extending established partnerships. Two SEMP MOUs expire in 2023 and we are working on new MOUs to continue those partnerships. One additional university MOU expires in 2024 and we will prioritize a new MOU extending that partnership. For 2024 the Company will also emphasize broader and deeper energy savings with SEMP customers. As SEMP participants have completed LED lighting conversions, the annual savings goals frequently decrease. We work with SEMP customers to prioritize their buildings and create a project pipeline. In 2024 we will continue with retro-commissioning studies and project implementation. Retro-commissioning and early engagement on new construction projects are common with SEMP customers. In addition, the Company will utilize the SEMP relationship to market residential and commercial program offerings to SEMP community members: employees, students, neighbors, and contractors.

The Company will continue to leverage its SEMP partnership with the state and the Office of Energy Resources Lead by Example program to achieve energy savings goals with public entities, including state agencies, state colleges and universities, and municipal buildings.

3.2.5 Building Operator Certification Training

The Company sponsors Building Operator Certification (BOC) training for facility engineers and maintenance staff. BOC training courses help operators make their buildings and facilities more comfortable and efficient. Many BOC participants also become aware of the C&I programs and actively seek out efficiency solutions for their facilities. As a result of these trainings, program participation and energy savings increase in the C&I programs. The Company will support two BOC training courses in 2024. Each course targets between 22 participants.

Rhode Island Energy will pay up to 50% tuition reimbursement to one facilities management professional per commercial customer facility within a five-year period provided that the facilities management professional graduates from a Building Operator Certification (“BOC”) Level 1 course and commercial customer facility meets the requirements. Tuition reimbursement is available for facilities management professionals who (i) graduate from the BOC Level 1 course; (ii) are Rhode Island Energy commercial customers or employed by one of those commercial customers; and (iii) have not taken the BOC Level 1 course within the last 5 years. Facility management professionals must work at a commercial customer facility in a facilities management position, e.g., as a facility manager, energy manager or in a role to reduce building-wide energy consumption. The commercial customer facility must have a minimum of 50,000 sq. ft. of conditioned building space. Rhode Island Energy may, in its sole discretion, modify or terminate this offer for tuition reimbursement at any time without notice. Reimbursements are provided to companies or organizations and cannot be dispersed to individuals only.

3.2.6 Equipment & System Performance Optimization Initiative

The Equipment & Systems Performance Optimization (ESPO) Initiative helps C&I customers optimize the efficiency of their HVAC, refrigeration, compressed air, and steam systems. Energy efficiency solutions include operations and maintenance (O&M), retro-commissioning and monitoring-based commissioning. The initiative is available to all C&I customers averaging greater than 2,000 building operating hours a year. This initiative helps customers capture energy savings and may be delivered through other initiatives (e.g., SEMP Initiative or Industrial Initiative).

The ESPO Initiative covers several technologies and end-uses identified in the Market Potential Study, including boilers (steam and hot water), energy management systems, refrigeration, rooftop units, scheduling and set point optimization, and waste energy recovery. The ESPO Initiative provides multiple pathways for participation depending on a customer's energy-saving opportunities, building characteristics and the sophistication of existing control systems. These pathways are detailed below.

3.2.6.1 Low-Cost Tuning Pathway

This pathway offers prescriptive incentives to customers for making common tuning improvements to building equipment and systems. These improvements are often identified through facility audits or retro-commissioning efforts. Prior to a customer or outside party receiving an incentive for installation, pre-approval must be obtained from the Company. In an effort to streamline this pathway, the Company has developed guidelines for documentation baseline conditions to enable program participants to implement some low-cost tune-up measures without pre-approval.

The Low-Cost Tuning pathway offers incentives to customers whose baseline conditions and proposed building upgrades are documented through a simple data input which is used to determine savings at the measure level. Only selected compressed air, HVAC, refrigeration, and steam measures are eligible for the pathway's prescriptive incentives. Customers who are participating in the other ESPO Initiative pathways (see below) may elect to apply for Low-Cost Tuning pathway incentives, eliminating the need to submit custom savings calculations.

3.2.6.2 Targeted Systems Pathway

The Targeted Systems pathway offers customers a custom retro-commissioning approach. The pathway provides an in-depth investigation of specific processes or end-uses. Investigation funds are available for System Tuning and incentives are offered per unit of savings for measures implemented through this pathway, with higher incentives available for meeting certain site-specific thresholds.

3.2.6.3 Whole Building & Process Tuning Pathway

The Whole Building & Process Tuning pathway delivers a comprehensive retro-commissioning approach for customers with a functional control system in place and whose electric usage is greater than 5 million kWh annually. The pathway offers investigation funds for system tuning and whole building and process tuning. Incentives are offered per unit of savings for measures implemented through this pathway, with higher incentives available for meeting certain site-specific thresholds.

3.2.6.4 Monitoring-Based Commissioning Pathway

The Monitoring-Based Commissioning pathway is similar to the Targeted Systems and Whole Building & Process Tuning pathways; however, this offering assumes that identified measures and savings will persist for at least three years. Monitoring-based commissioning is a process designed to maintain and continuously improve building performance over time. This is achieved through building monitoring and analysis of large amounts of data. Known as real-time energy management, a monitoring-based commissioning approach requires the installation of a software platform and monitoring equipment to capture and analyze operational data from a building's or facility's building automation system.

Larger systems can provide continuous monitoring of hundreds of control points within a building and provide building operators with fault detection and diagnostics capabilities. This allows building operators to identify equipment that is not operated as intended due to many factors including faulty programming, systems in need of maintenance, incorrect settings (e.g., scheduling or setpoints) and even damaged equipment.

3.2.6.5 Building Analytics Pathway

This new pathway was introduced in late 2022 and funds system set-up costs for monitoring-based commissioning systems from a closed Qualified Service Provider list. This offering was designed to address historical barriers to monitoring-based commissioning adoption. The Building Analytics pathway helps customers identify sites that would benefit from monitoring-based commissioning, provides upfront support for the installation of systems that produce unknown savings and vets best in-class providers and makes sector-specific referrals regarding which Qualified Service Provider can best serve the customer's business needs.

The Building Analytics pathway helps improve measure persistence through a focus on long-lasting measures (e.g., physical repairs and reprogramming of control systems), training for facilities staff and long-term service contracts. There is a limited pool of Qualified Service Providers for this niche field. The pathway helps customers minimize their program transaction costs and the providers give upfront guidance regarding required documentation and savings calculations. In addition, the providers deliver ongoing service analysis to help customer facilities staff interpret monitored-based commissioning system output and improve system functionality.

3.2.6.6 Additional ESPO Offerings

The Company has developed a guidebook that standardizes the process of completing and documenting retro-commissioning savings calculations and classifying different energy efficiency measures; efforts that have presented a significant challenge for prior ESPO Initiative participants and created an administrative burden for program implementation staff. This guidebook assists customers and trade allies who participate in the Monitoring-based Commissioning, Targeted Systems and Whole Building & Process Tuning pathways by answering common questions and eliminating points of confusion.

The Market Potential Study found that energy management systems realize the second-highest savings among electric non-lighting measures. While the ESPO Initiative is designed to improve the performance of existing equipment and systems, the monitoring-based commissioning and tuning investigations conducted very often lead to the installation of new energy management system equipment or the reprogramming of controls.⁴ The ESPO Initiative also helps municipal customers improve the efficiency of unit ventilators and other gas measures located in school classrooms and other occupied zones (i.e., not heating and cooling equipment located in mechanical rooms) as this equipment frequently needs significant tuning or repairs.

3.2.7 Performance Lighting Initiative

This initiative is open to all customers with a commercial account. All projects, for both existing and new construction projects, that qualify under the Performance Lighting Initiative must meet the following criteria:

- Average a minimum of 2,000 lighting operating hours per year,⁵
- Provide maintained light levels in accordance with the recommendations of the Illuminating Engineering Society of North America's 10th Edition Lighting Handbook or supporting Design Guides, and
- The customer must submit a copy of the manufacturer's technical specification sheets (cut sheets) for each type of eligible equipment to be purchased.

Performance Lighting Initiative incentives are offered in two tiers:

- Tier 1: Performance lighting—LED lighting with luminaire level lighting controls or wirelessly accessible controls, and

⁴ The reprogramming of controls is treated as an energy management system for C&I program purposes and is either assigned to the New Construction Program or Retrofit Program, depending on the situation.

⁵ This criteria is before controls are implemented.

- Tier 2: Performance lighting—LED fixtures with networked lighting controls system.

3.2.7.1 Lighting Designer Incentives (LDI)

The initiative offers lighting design incentives to design teams for qualifying projects in both new and existing buildings. The Company maintains a list of qualified lighting designers, engineers and architects who have demonstrated at least five years of lighting design experience. Lighting designers are not allowed to sell products for projects where they receive lighting design incentives. The Company markets the program to the new construction and design community.

Lighting designers must have at least one of the following qualifications to earn the incentive:

- **Lighting Certified**. This is granted to those designers who successfully complete the NCQLP (National Council on Qualifications for the Lighting Professions) Lighting Certification Examination.
- **Certified Lighting Energy Professional**. This is a certification awarded by the Association of Energy Engineers.
- **IALD Professional**. This is a professional membership status for the International Association of Lighting Designers.
- **Certified Lighting Designer**. This is a certification sponsored by the International Association of Lighting Designers. The guidelines for this certification are similar to those for the ESPO lighting design incentive.

The incentive must go directly to the lighting design team to fund their efforts to achieve lighting energy savings while maintaining quality lighting design. These incentives have been recalibrated to encourage projects to achieve higher tiers in Performance Lighting. The lighting design incentive must equal 20 percent of the customer's lighting incentive for Performance Lighting Tier 2 projects, 15 percent of the incentive for Performance Lighting Tier 1 projects and 10 percent of the incentive for all other projects. The Company has established a \$15,000 maximum incentive per project.

3.2.8 LED Streetlight Initiatives

3.2.8.1 Customer-owned LED Streetlight Initiative

This initiative is available to any city or town in Rhode Island serviced by the Company for electric service on the customer-owned equipment S-05 tariff,⁶ as well as fire districts, municipal water utility boards, Kent County Water Authority, Rhode Island Commerce Corporation, Narragansett Bay Commission and the State of Rhode Island. The initiative offers incentives for qualifying LEDs and/or controls associated with either dimming or part-night run hours. The majority of Rhode Island's municipal and state streetlights have been converted to LEDs already, although opportunities remain to implement advanced controls. This is a success story, due in large part to efforts by the Company and actors within state government.

To be eligible for incentives, customers must be on one of the three unmetered streetlight tariffs (S-06, S-10 and S-14) and replace an existing roadway or post-top style, incandescent, mercury vapor or high-pressure sodium vapor sourced luminaire with one of the Company's LED offerings. The tariffs allow LED street or post-top fixtures to be available to all customer groups. All company-owned street and area lights operate on a dusk-to-dawn schedule. This is a success story, due in large part to efforts by the Company and actors within state government.

3.2.8.2 Company-owned Streetlight Equipment Initiative

This initiative is available to any customer on one of the three unmetered streetlight tariffs (S-06, S-10 and S-14) who replaces an existing roadway or post-top style, incandescent, mercury vapor or high-pressure sodium vapor sourced luminaire with one of the Company's LED offerings. The tariffs allow LED street or post-top fixtures to be available to all customer groups. All company-owned street and area lights operate on a dusk-to-dawn schedule.

3.2.9 Combined Heat and Power Initiative

Combined heat and power (CHP) is the simultaneous production of electricity and thermal energy from a single fuel source. The CHP Initiative offers incentives and technical assistance to customers who install new construction and retrofit installations.

Eligibility:

To qualify for a Combined Heat and Power (CHP) energy efficiency incentive, a proposed project must meet the following conditions:

- Host customers must be in the franchise service area of the Company.

⁶ Rate S-05 is the customer-owned equipment tariff.

- Both new construction and retrofit installations are eligible; in either case, the baseline system must be documented.
- The CHP system must meet the applicable efficiency requirements listed in Table 4. System efficiency is calculated as Annual Useful Energy/Annual Natural Gas Input where:

$$\text{Annual useful energy} = \text{Net Annual kWh} * 3,413 / 100,000 + \text{utilized thermal output (therms)}$$

$$\text{Annual natural gas input} = \text{CHP gas input in therms (HHV)}$$

- The equipment to generate electricity may be a combustion-based system (internal combustion engine, gas turbine engine, steam turbine), or a fuel cell system, and the facility will capture waste heat for use in the facility.
- CHP projects must reduce carbon emissions related to overall site energy use by a minimum of 30%, which may be achieved through other simultaneous EE installations.
- The project must pass cost-effectiveness screening.

In order to support Rhode Island's climate objectives while still promoting CHP, for 2023 the Company proposes the following changes which are reflected in this plan.

- Total combustion-based system efficiency must be greater than or equal to 60%
- Back pressure and extraction turbines are no longer eligible
- Eligibility for incentives will be available to only those CHP projects that reduce carbon emissions related to overall site energy use (including source generation, even if out of state) by a minimum of 30%; the amount of carbon reductions may be achieved through other simultaneous energy efficiency installations to achieve the site carbon reduction goal.

Offerings:

If a project has been shown to be cost-effective, presents no capacity or reliability concerns, and has met the required eligibility criteria, it will be eligible for a non-variable incentive. ⁷

Table 4. Determination of Non-Variable Incentive Level for CHP Projects

System	Incentive
Fuel cell	\$700 per net kW
Combustion-Based CHP with total system efficiency ≥60%	\$800 per net kW
CHP (fuel cell or combustion-based) that utilizes more than 25% opportunity fuels, renewable natural gas, or biogas as the fuel source	\$1,050 per net kW

For the purpose of determining the non-variable incentive level, the Company has defined opportunity fuels, renewable natural gas and biogas as gaseous fuels derived from the biological breakdown of waste.

The CHP system costs must include: all system, auxiliary, and interconnection costs, and CHP maintenance. If the CHP system is receiving a tax credit or other financial arrangement that reduces the cost of the CHP project to the customer without distributing that cost reduction as an additional cost to other electric or gas ratepayers, it may be treated as a credit against the cost of the CHP project.

The CHP incentive package cap from the Company will be 70% of the total project cost inclusive of the installation incentive, incentives related to gas service, present value of any performance incentive, system reliability procurement incentive, and any other incentives related to the transaction. For new construction installations, the incentive cap will be 70% of the incremental cost difference between the cost of what would have been done absent the CHP project and the cost of the CHP project. In the event the incentive is greater than 70% of the total project cost, the incentive amount will be reduced to an amount equal to or less than 70%. A minimum of 20% of the energy efficiency incentive payment will be held until commissioning is completed.

An additional optimal operations and maintenance energy efficiency incentive capped at \$20/kW-year (\$1.66/kW-month) and \$50/kW-year (\$4.16/kW-month) for systems utilizing biogas will be offered as part of the incentive package for any project with a net output greater than one MW for a period of up to 10 years. No payments will be made until the unit is in operation and provides demonstrated load reduction. The optimal operations and maintenance energy efficiency incentive will be made semiannually based on actual metered load reduction. Load reduction performance will be based on the net daily metered kW output of the system during ISO-New England’s on-peak periods averaged over each six-month period.

The optimal operations and maintenance energy efficiency incentive provides the customer with a post-commissioning incentive for maintaining or increasing the total system efficiency of the CHP system. This helps ensure the system is operating efficiently and that the system capacity savings are in-line with those bid into the ISO-NE Forward Capacity Market.

The customer will repay a portion of the incentive to the Company if the project is abandoned, removed from the premises, sold, or otherwise no longer utilized as the primary source of heat and electricity by the customer, within 10 years from the date of final incentive payment authorization. The repayment will be the energy efficiency installation incentive times the number of years remaining until the required ten years of service divided by ten.

Identification and Recruitment of Qualified CHP Projects:

The Company currently works with vendors and customers to identify CHP opportunities at customer locations. The Company promotes CHP systems and outlines the process for qualification and implementation of CHP facilities through the Company's energy efficiency programs. The Company has sales and technical staff that are the primary points of contact for customers and vendors with potential CHP projects. The Company will continue to communicate criteria for CHP assessment and will communicate to vendors so that their presentations to customers will be more consistent with Company technical assistance requirements.

Installation of Incremental or Additional Energy Efficiency Measures for Customers who have Previously Installed CHP:

The Company will individually review the installation of proposed incremental energy efficiency measures for customers who have previously installed CHP on site or who are adding additional energy efficiency equipment that might affect the performance of an existing CHP unit. The Company will carefully categorize and protect the benefits attributed to previously installed CHP projects, while at the same time foster any additional cost-effective energy efficiency measures that further reduce total energy use.

There are two types of project categories. The first category is "CHP Optimization" and involves measures which are installed with the purpose of increasing the output or operating efficiency of the existing CHP or other distributed generation (DG) unit; for example, the addition of combustion air precooling on a gas turbine CHP unit. In order to maintain compliance with ISO-NE's FCM rules, such projects will be tracked in the FCM, if applicable, as incremental output of the associated DG facilities. The second category is "Incremental EE", which includes "traditional" energy efficiency measures installed with the intent of reducing energy consumption in sites that have previously installed CHP. These measures may or may not affect CHP performance and output.

For locations where an existing CHP unit covers a large percentage of the total load at the facility, additional energy efficiency savings measures installed may result in lowering the output of the CHP system instead of a load reduction on the Company's electric grid. Therefore, to assess savings that can be claimed by the energy efficiency programs, hourly load mapping may be required to accurately assess the net savings on the Company's electric and gas distribution systems, which will be assessed at the Company's electric and/or gas revenue meters at the customer's site. In cases where a typically electric measure (like lighting) reduces the electric load enough to require reducing the CHP output, gas savings may result from a normally electrical energy efficiency measure and could be claimed in the Gas utility DSM programs.

Scoping Study/Qualification:

The Company will offer technical assistance on CHP projects beginning with a preliminary scoping of a potential site. This scoping will be based on an evaluation of:

- Monthly (or hourly, where available) electric, gas, and other fuel usage
- All site-specific forms of thermal energy end-uses
- Coincidence of electric and thermal loads
- Proposed project cost
- A high-level analysis of the fuel resources needed for the project and any actual or anticipated fuel capacity constraints and/or actual or anticipated fuel reliability issues

This scoping will determine if further study of the site appears favorable, i.e., provides CHP operating hours and load factors that would be an appropriate application of CHP.

Technical Assistance Study:

Assuming a favorable screening during preliminary scoping, Rhode Island Energy will offer to co-fund a TA study of CHP with the customer. The TA study will be performed by an independent, qualified engineering firm. This study will assess thermal and electric loads, propose an appropriate CHP size and technology, compile a budget cost estimate, and identify potential barriers to the technology, etc. Rhode Island Energy typically funds 50% of the cost of any TA study conducted by a preferred vendor selected by the Company, and up to 50% of the TA for other qualifying independent engineering firms. Any TA study by a CHP vendor or its representative which fulfills the CHP TA requirements may be accepted, though no co-funding will be provided. The TA study must be completed, submitted, and approved by the Company prior to implementation. The TA study must include an assessment of the likely on-peak kW reduction from the CHP given the proposed nameplate rating, the net CHP output after subtracting parasitic loads associated with the CHP, projected availability based on anticipated site-specific operating characteristics, performance data on other similar units, and a greenhouse gas analysis that estimates the change in greenhouse gas emissions expected from the project and a statement that informs the customer of the state goal to

reduce greenhouse gas emissions by 45% below the 1990 levels by 2030; 80% below 1990 levels by 2040; and net-zero by 2050. (On-peak kW reduction = Net Output x Availability x % Loaded.) This kW load reduction should be used in the benefit-cost screening.

As indicated in the offering section, incentives are only available for CHP projects that reduce the carbon footprint of the host facility by more than 30%. To determine the customer's carbon footprint the Company will utilize the EPA Greenhouse Gas Equivalencies Calculator and the EPA CHP Energy and Emissions Savings Calculator. The TA study of the CHP proposal could include an assessment of energy efficiency measures that would help meet that objective. These opportunities themselves will be eligible for energy efficiency incentives and will help make sure that the CHP facility is correctly sized for the facility's needs and will avoid creating a disincentive for future load reduction at the site.

Cost-Effectiveness:

The screening for cost-effectiveness specific to CHP is included in the Rhode Island Test included as Attachment 4. However, given the Division's concerns over the applicability in all circumstances of what the Division characterizes as generic economic benefit assumptions identified in the CHP economic development benefit study underpinning these adders, the Company will provide two scenarios of the benefit cost screening for CHP systems with a net output of one MW or greater: one test that includes the economic benefits adder within the Rhode Island Test, and one test that excludes the economic benefits adder. If the scenario of the screening test for the project would not pass without the economic benefits included, the Company will provide a written and well-supported justification explaining why the economic benefits are reasonably likely to be obtained. During the project notification process described elsewhere in this section for projects of one MW or greater, if any party who has intervened in the notification dockets disagrees with the Company's justification, the matter will be set for hearing at the Commission for resolution.

Other Contract Terms and Guidelines:

In order to ensure proper operation of the CHP facility and persistence of energy savings, the following terms and guidelines will be required:

- As part of the TA study, a minimum requirements document (MRD) will be developed. This MRD will contain engineering hardware and operational specifications that directly affect the savings estimates developed in the TA study. Compliance with the MRD will be necessary to receive rebate payments.
- All systems greater than one MW will require electric, thermal and gas metering for commissioning and monitoring of system efficiencies.
- The project must be commissioned. Commissioning is a process following installation whereby a third party verifies that the project is installed and operating as detailed in the TA study and MRD.

- The customer must sign and produce a contract for O&M services through the first planned major overhaul of the CHP unit after post installation commissioning. On-going O&M contracts for a minimum of 10 years from project commissioning are recommended.
- Customers applying for interconnection of a CHP systems must not operate the unit until they receive the authorization to interconnect from the Company.
- kW-demand savings achieved via the electric energy efficiency programs, including CHP, will continue to be reported by the Company to ISO-NE as Other Demand Resources (ODR) and the revenue generated will be used to fund future energy efficiency projects through the Company's programs.

Qualification:

The cost of the project will be provided by a design/build or general contractor experienced with CHP projects and revised as necessary.

Attribution of CHP Energy Savings to the Company:

For CHP projects one MW or greater in size that meet the eligibility criteria, 100% of the project savings shall be attributed to the energy efficiency programs. For CHP projects smaller than one MW, the Company shall use the latest net to gross adjustments determined by impact evaluations conducted on the RI CHP programs. These evaluations shall be conducted at least once every five years.

Notification Process:

The Company shall inform the DPUC, OER, and EERMC of any CHP project with a net output of one MW or greater (where net is the nameplate MW output minus CHP auxiliary kW). The notification shall occur after the cost benefit screening and before the offer letter is presented to the customer. For CHP projects with a net output of one MW or greater, the Company shall submit the following documents for review by the Division:

1. Documentation demonstrating that the project would not move forward without energy efficiency technical assistance and/or incentives. The documentation shall justify its finding with the following evidence:
2. A letter signed by a senior executive or site operations manager stating that the project would not move forward without the energy-efficiency technical assistance and incentive;
 - a. Documentation from the customer on all relevant leases, agreements or commitments related to the CHP system or incentive offer;
 - b. Estimated project budget
3. A complete benefit cost analysis for the CHP project using the Rhode Island Test, as well as application of this test applying sensitivities related to the removal of economic benefits

4. A report including a natural gas capacity analysis that addresses the impact of the proposed project on gas reliability; the potential cost of any necessary incremental gas capacity and distribution system reinforcements; and the possible acceleration of the date by which new pipeline capacity would be needed for the relevant area.

For any proposed CHP project greater than one MW:

1. The Company will submit a project description to the Division, providing all the pertinent details relating to the project.
2. The Division may submit information requests to the Company at any time after receipt of the project description. The Division may also submit follow-up data requests, as needed.
3. The Company shall respond to all information requests as soon as reasonably possible, but no later than fourteen days from receipt of information requests, unless the Division grants an extension.
4. The Division will make all reasonable efforts to communicate decisions around the provision of a notification of support within thirty days of the receipt of the last set of information request responses received from the Company.
5. To the extent that additional review time is required, the Division will provide notification to the Company.
6. If at the end of fifty days from the date the Company provided the project description to the Division, the Division has not provided to the Company its opinion of support or opposition to the project, the Company retains the right to make a filing with the Commission seeking approval of the CHP incentive. The Division retains its right to take any position on the project it deems appropriate and shall not be prejudiced by the fact that it did not provide an opinion to the Company within the fifty-day period.

Even if the Division provides its opinion to the Commission that the Division supports the CHP project, the Company must file a notification with the Commission, setting forth the pertinent facts relating to the project. If (i) the Commission takes no action within thirty days and (ii) the Division or any other party has not objected to the proposed project, the project will be deemed approved. If the Division or any other party objects, the Commission will set the matter for hearing.

Customer and Vendor Feedback:

Stakeholders including vendors and installers provided feedback at the 2023 Rhode Island Annual CHP Public Meeting. Stakeholders expressed that the interconnection process remains the most significant barrier to CHP adoption, noting that the process is time-consuming, costly, and creates difficulty in planning projects as interconnection requirements and costs are not known until late in the design process.

Participation and Savings:

Due to the high capital cost and technical requirements of installing CHP, there is a very long lead time for a successful installation. With small numbers of projects and wide ranges of possible project sizes, the Company anticipates substantial variability in MW realized in any given year. Due to the high capital cost and technical requirements of installing CHP, there is a very long lead time for a successful installation.

The Company commits to providing an updated estimate of projects in the current-year pipeline in each annual Energy Efficiency Plan and reconciliation filing to the PUC going forward.⁸ Direct notification shall be sent to the Division of Public Utilities & Carriers, the Office of Energy Resources, and the Energy Efficiency and Resource Management Council via email whenever a CHP project with a net output of one MW or greater is added, removed, or updated after the Technical Assistance Study and before the offer letter to the customer.

3.3 Eligibility

The program serves the needs of existing buildings in their pursuit to lower energy consumption. All C&I customers are eligible for the Retrofit Program.

3.4 Implementation and Delivery

The Retrofit Program offers customers a variety of pathways to participate. Typically, a Company sales representative is assigned to cover any large C&I account, defined as a customer with at least 1 million kWh or 100,000 therms of annual energy usage. The general customer journey through the Retrofit Program is:

- A facility audit or walk-through by the Company, customer or a third-party vendor identifies one or more energy efficiency opportunities.
- In most cases, especially custom measures, the Company provides an offer letter committing to a specific incentive and laying out the project's requirements. The customer signs and submits the offer letter.
- Once the energy efficiency measure is implemented, the customer notifies the Company. The Company's staff or vendors (often engineers) verify that the measure has been implemented in accordance with project requirements.

⁸ Other project information such as Name*, Approximate Size of CHP (kW and Net Lifetime MWh), Location, and Current Status (Scoping, Study, Notification Process, Under Construction, Post-Inspection or Commissioning), may be provided depending on the state of advancement of CHP projects.

- Company staff (administrators, engineers, and sales staff) work with the customer to ensure complete documentation and to pay the incentive.

Prescriptive Application

Customers can complete prescriptive applications by printing or submitting them [online](#). Prescriptive incentives are available for a wide variety of standardized energy efficiency measures with “deemed” savings values, such as lighting equipment, air compressors, variable speed drives and steam traps.

Upstream Process

The Upstream Initiatives offer instant discounts (i.e., incentives) to customers for the purchase of qualified, high efficiency products including luminaires, kitchen equipment, water heating equipment and high efficiency heating and cooling technologies at participating distributors. By offering discounts through distributors, the Company obviates the need for individual customers to submit incentive applications, a significant barrier for non-managed and smaller customer accounts. Customers no longer need to submit applications for incentives, which drives far greater program participation and more equitable distribution of incentive funds. The Upstream Initiatives impact the market by reducing the cost of energy-efficient products compared to less efficient alternatives and by encouraging distributors to stock and promote high efficiency products. Note: The Upstream Lighting Initiative’s savings and budget are captured within the Retrofit Program and the Upstream HVAC and Food Service Initiatives are captured within the New Construction Program.

Custom Application

A Company sales representative or project expeditor assists customers and their vendors with the completion of the Retrofit Program’s custom applications. These are applications for the installation of any energy efficiency measure not incentivized through the Prescriptive or Upstream Initiatives. A custom measure typically requires a Minimum Requirements Document that provides details regarding project guidelines and engineering specifications. Custom measures also require detailed savings calculations completed by a combination of customer, vendor and Company staff. For some projects, additional post-installation monitoring must be completed prior to incentive payment to ensure projects perform in accordance with the Minimum Requirements Document.

Project Expeditors

The Company utilizes project expeditors to provide turnkey services for Retrofit and New Construction Program projects. A project expeditor is an authorized vendor who serves as a customer’s main point of contact and personal guide to energy cost savings. Several project expeditors work closely with the Company’s account management team to evaluate energy efficiency opportunities and determine

incentives. A project expeditor can connect large C&I customers with the latest energy technology solutions and savings on equipment including:

- Lighting and lighting controls,
- HVAC efficiency improvements,
- Energy management systems,
- Variable speed drive upgrades for fans, motors, and pumps in HVAC, refrigeration, and other systems, and
- Gas heating and hot water system upgrades,
- Compressed air solutions, including air compressors, dryers, drains and engineered air nozzles.

3.5 2024 Program Enhancements and Changes

Building Analytics Initiative

In 2024, the Company will scale up the Building Analytics Initiative to help customers optimize the performance of HVAC equipment and other systems. The Building Analytics Initiative launched in 2022, with the selection and onboarding of Qualified Service Providers, finalization of program materials, and initial outreach to customers. In 2024, outreach and system installation are expected to ramp up. Although it often takes a full year after system installation to achieve significant customer savings, some savings is likely to be captured in 2024.

Technical Processes

In 2024, the Company will implement multiple improvements to technical processes and also develop streamlined savings calculators for target measures. The Company will launch a Heat Pump Hot Water Heater calculator, an Energy Management System prescriptive calculator, a C&I weatherization tool and other custom express tools. These efforts are likely to yield savings in 2024.

The Company will also look to deploy a data-driven approach to increasing customer participation in the commercial and industrial sectors. This includes analyzing customer consumption data (kWh, peak load, and therms) and past energy efficiency participation to better target customers, especially non-participants. Furthermore, the Company will revisit burdensome data collection practices that can discourage customers from pursuing custom projects. The objective is to strike a better balance between the need for accurate savings calculations and the need to minimize the time required by customers and their contractors to participate in the program.

Company engineers often conduct site visits when validating project installations and savings calculations. Going forward, engineers will leverage these site visits not only to validate installed measures but to identify additional energy-saving opportunities.

Additional Program Enhancements

In 2024, the Company will introduce new services supporting more advanced system controls, energy management systems, and building analytics to the Retrofit Program. This includes retro-commissioning, monitoring-based commissioning, equipment right-sizing and the Upstream Initiatives.

The Company plans to expand the reach of the SEMP Initiative to support the increasing number of customers with climate and sustainability goals. This includes expanding services supporting more advanced system controls, energy management systems and building analytics. In 2024, the Company will develop a host of prescriptive and custom offerings to promote commercial weatherization and greenhouse gas emissions reductions. Additionally, the Company will work with OER to better understand electrification efforts being funded through state and federal programs.

In 2023, the Northeast Energy Efficiency Partnership (NEEP) commenced a Rhode Island Community Energy Network. The intent of the network is to support all RI municipalities in pursuing clean energy and building decarbonization actions (and applying for federal funding). RI Energy has participated in numerous meetings and events of the network to provide information on our programs and plans to continue to engage in 2024 and beyond.

In 2024, the Company will continue to enhance its continuing education offerings for building managers and facilities operators, including the BOC trainings.

The Bipartisan Infrastructure Law has allocated \$550 million to expand DOE's existing Industrial Assessment Center (IAC) program. The Company has been in discussions with both Community College of RI and Worcester Polytechnic Institute with regards to their applications to DOE to establish IACs at their institutions. These programs will provide training for students through new classroom curricula and hands-on field experience providing energy assessments to small and medium sized manufacturers in Rhode Island. RI Energy has committed to working with both schools, should their applications be accepted, by connecting them with enterprises that would be good candidates for energy assessments and providing funding to support energy assessment activity. These IACs would adhere to Justice40 guidelines, and each school has a diverse student body that would benefit from expanded opportunities in the field of building science. If awarded, these IACs would conduct energy assessments and provide additional workforce capacity, especially for evaluating the energy performance of smaller enterprises.

Variable Frequency Drive Contractor Incentive

In 2024, the Company will offer a limited-time contractor incentive to HVAC, mechanical, electrical, and controls contractors who identify variable frequency drive (VFD) opportunities in commercial and

industrial facilities between 200-400 kW demand range. The Company will offer a split-incentive of \$30 a horsepower per the proposed/installed VFD. A \$10 per horsepower incentive will be made available to the contractor after the Company has reviewed and confirmed the project's eligibility. And a \$20 per horsepower incentive will be made available to the contractor upon successful installation and operational testing.

The contractor incentive will only be available to retrofit installations and for VFDs that are controlled by automatic signal. The contractor incentive will not be made available to VFD replacements, forward-curve fans with inlet guide vanes, variable pitch vane-axial fans, circulation pumps with integral variable speed technology, or VFDs installed prior to January 1, 2024.

3.6 Other Considerations

Workforce Development

The Company is planning additional trainings to upskill the C&I workforce. Technologies of focus include HVAC, building controls and automation, building envelope, and energy management. These trainings target a mix of customers, trade allies (e.g., project expeditors, contractors, engineers, etc.), program vendors, and other project influencers. A particular area of focus is facility auditors, who are often charged with identifying potential opportunities. While some have broad-based expertise, in many cases these auditors possess expertise in lighting but have limited experience with other energy efficiency technologies. In addition to the direct benefits of these trainings, the events can serve to drive program participation by increasing awareness of energy efficiency incentives and services. Likewise, events help Company staff and program implementers form deeper relationships with attendees, increasing the likelihood that trade allies and customers will participate in the programs going forward to implement energy efficiency projects.

Code Changes for 2024

Regarding building codes, in its 2023 session, the Rhode Island General assembly passed legislation requiring the state to adopt the 2024 International Energy Conservation Code (2024 IECC) within 6 months of its release. Based on conversations with staff at the International Code Council (ICC), the 2024 IECC is expected to be released in mid-2024. The Company's standard practice is to not update a new construction baseline building code mid-program-year, and so the 2024 IECC will be used to update baseline assumptions for the 2025 program year.

Regarding appliance standards, the Company will make changes to the Upstream Initiative's new construction baseline assumptions for food services, lighting, and HVAC equipment as applicable. These strengthening standards help lower overall energy consumption at a macro level, however they lessen the claimable savings potential for affected measures as they close the gap between high-efficiency options and the least-efficient options available on the market. As baseline standards continue to rise,

the Company will continue to identify and support appliances which still have significant claimable savings potential.

4. Small Business Direct Install Program

4.1 Offerings

The Small Business Program offers a no-cost site assessment conducted by a Small Business Energy Specialist to understand the customer's energy-related needs and goals. This site assessment identifies energy efficiency measures including lighting systems and controls, cooler/refrigeration controls, water saving measures, HVAC controls, motor controls, weatherization/insulation and custom measures. The Small Business vendor offers turn-key installation and on-bill refinancing to support the adoption of the recommended energy efficiency measures to the customer.

The program also offers a Customer Directed Option pathway. In this pathway, customers may use their own electrician to install measures while the Small Business vendor processes and submits all necessary paperwork to the Company.

4.2 Eligibility

Commercial customers who have less than 1.5 million kWh in annual usage may participate in the Small Business Program. K-12 schools, national and regional chain restaurants, and small grocery stores who consume less than 1.5 million kWh per year are excluded from this program as they are served through other pathways or initiatives.

4.3 Implementation and Delivery

If a customer is interested in participating in the Small Business Program, they can sign up for an energy assessment by either calling, emailing or using an [online](#) form to express interest in the program. After this initial contact, the customer is connected to a dedicated Small Business Program representative to learn details about the program's processes and next steps. The program vendor schedules an assessment with the customer and an Energy Specialist will meet the customer at the scheduled time. The Energy Specialist performs an energy assessment, identifies strategies to pursue opportunities, reviews design considerations with the customer, and incorporates the energy efficiency measures identified into a proposal. The proposal reflects the installed costs, the expected energy savings and the applicable program incentives.

4.4 2024 Program Enhancements and Changes

4.4.1 Equity

4.4.1.1 Multilingual Outreach

In 2024, the Company will continue to incorporate two equity-related initiatives. The Company and its Small Business implementation vendor will continue to seek to deploy bilingual auditors who speak either Spanish or Portuguese – the two most widely spoken languages besides English in Rhode Island. The Program currently has a Brand Manager on staff located in Cranston, RI who speaks five languages. They are available to assist with translation and outreach services when needed. The program will continue to target its marketing directly to Woman and Minority Owned Enterprises (WME). This effort extends beyond the WME businesses registered with the state and seeks to develop long-term relationships with groups such as the Rhode Island Black Business Association and the Rhode Island Hispanic Chamber of Commerce to determine how to better serve these businesses. The Company's vendor also canvasses in conjunction with local community organizations, such as Progreso Latino.

4.4.1.2 Main Streets Initiative and Microbusinesses

Finally, the Communities Initiative includes equity elements, including a focus on microbusinesses, as described in the Main Text of the 2024 Plan. The Company continues to integrate its program outreach efforts with the Main Streets Initiative to increase adoption of direct install energy efficiency measures among underserved microbusinesses in Rhode Island. In 2024, through its turnkey vendor, the Company will continue to target microbusinesses concentrated around the main streets of three communities. For each targeted community, the vendor will conduct targeted direct mail and/or social media followed by door-to-door outreach for 3-7 working days. For door-to-door canvassing, the vendor may seek to secure cooperation and support of local government leaders, community organizations, and neighborhood groups (e.g., chamber of commerce). The five communities targeted in 2024 are Pawtucket, Providence, Cranston, West Warwick and Middletown/Newport. The Company has committed to completing Main Streets initiative for a minimum of 3 out of these 5 communities in 2024 with a minimum of two campaigns for the larger communities, including promoting these campaigns on the Company's website. These communities contain Environmental Justice areas and are also targeted for enhanced outreach through the Company's Income Eligible programs.

4.4.2 Decarbonization

In 2024, the Company will look to develop a host of prescriptive and custom offerings to promote commercial weatherization and greenhouse gas emissions reductions. This will include the development of prescriptive weatherization and air sealing offerings for the Small Business Program and Retrofit

Program. The Company also plans to work with OER to better understand electrification efforts being funded through state and federal programs.

4.4.3 Increase Program Participation

In 2024, the Company will integrate Small Business Program outreach efforts with its Main Streets Initiative to reach more small businesses located in Environmental Justice Areas. In addition, the Company plans to deploy multilingual marketing materials and program materials in an effort to increase participation in the Small Business Program. In 2024, the Company will report on participation in the Small Business Program by customer size (e.g. annual kWh usage).

5. C&I Multifamily Program

5.1 Offerings

See Attachment 1: Multifamily Program.

5.2 Eligibility

See Attachment 1, Section 3, for eligibility information. In addition to the criteria listed in Attachment 1, Section 3, the C&I Multifamily Program provides joint residential and commercial energy services to condominiums and apartment complexes for energy efficiency upgrades with no cost audits. The program also serves customers like non-profits, group homes and houses of worship that traditionally do not fit within the predefined program structure.

5.3 2024 Program Enhancements and Changes

See Attachment 1, Section 3, for 2024 program enhancements and changes.

6. Finance as an Enabling Strategy

Many customers face challenges in bringing energy efficiency projects to fruition. These may include structural limitations within a business, information overload, cultural resistance within companies, and access to capital. The Company's plan deals with the first three barriers in various ways, but this section of the plan focuses on mechanisms that can help customers afford to carry out energy efficiency upgrades and/or perceive costs differently.

6.1 Mechanisms Offered

The Company and its partners have developed four primary finance mechanisms to help customers afford energy efficiency upgrades, each with unique attributes. Some may only be available or apply to certain customers, building, or ownership types.

6.1.1 On Bill Repayment – Electric

On-Bill Repayment – Electric, for commercial customers who consume less than 1.5 million kWh per year	
Loan Size	\$1,000 to ~\$100,000 (may be larger for SEMP Initiative)
Maximum Tenor	5 years for commercial accounts, 7-10 years for State facilities
Loan Volume	Variable, between \$5.0M to \$10M per year
Benefits to Customer	No formal credit check/ rapid approval, on bill repayment, zero interest
Limitations	Maximum tenor too short for many comprehensive upgrade
More Information	The Company’s most recent Small Business revolving loan fund projections are illustrated in Attachment 5, Table E-10
Relevant Notes	

6.1.2 On Bill Repayment – Electric Small Business

On-Bill Repayment – Electric Small Business, for commercial customers who consume less than 1.5 million kWh per year	
Loan Size	\$500 to \$50,000
Maximum Tenor	5 years
Loan Volume	Variable, between \$1.8M and \$3.0M per year
Benefits to Customer	No formal credit check / rapid approval, on-bill repayment, zero percent interest
Limitations	Maximum tenor too short for many comprehensive upgrades, cannot be used to support upgrades customers may want, such as windows and roofs as they have a benefit-cost ratio less than 1.0
More Information	The Company’s most recent Small Business revolving loan fund projections are illustrated in Attachment 5, Table E-10
Relevant Notes	

6.1.3 On Bill Repayment – Natural Gas

On-Bill Repayment – Natural Gas, all commercial gas customers	
Loan Size	\$1,000 to ~\$100,000 (may be larger for SEMP Initiative or special projects)
Maximum Tenor	3 years for commercial accounts, 5 years for State facilities
Loan Volume	Variable, between \$1.0M and \$1.5M per year
Benefits to Customer	No formal credit check / rapid approval, on-bill repayment, zero percent interest
Limitations	Maximum tenor too short for many comprehensive upgrades, cannot be used to support upgrades customers may want, such as windows and roofs as they have a benefit-cost ratio less than 1.0
More Information	The Company’s most recent Natural Gas revolving loan fund projections are illustrated in Attachment 6, Table E-10
Relevant Notes	

6.1.4 Efficient Buildings Fund

Efficient Buildings Fund, state agencies, quasi-state agencies and municipalities	
Loan Size	More than \$5M
Maximum Tenor	Up to 20 years
Loan Volume	Variable, over \$60M in loans closed to date
Benefits to Customer	Below market rate interest, long tenor and loan amounts can be large enough to make comprehensive building wide improvements
Limitations	Appropriate customers must file applications and be ranked against other potential loan applicants
More Information	More details on this program can be found online at the Rhode Island Infrastructure Bank webpage and the OER Resources webpage
Description	The Efficient Buildings Fund is a long-term, below-market financing option for municipalities and quasi-public agencies to complete energy efficiency and renewable energy projects. The fund is administered in partnership with OER and the Rhode Island Infrastructure Bank (RIIB). OER is responsible for determining project eligibility, reviewing project applications, and producing a

Efficient Buildings Fund, state agencies, quasi-state agencies and municipalities	
	Project Priority List. RIIB only finances projects that are listed on the Project Priority List
2024 Actions	RIIB and OER will administer the program and the Company will continue to provide technical, logistical and incentive support to municipal customers

6.1.5 Public Sector Revolving Loan Fund

The Public Sector Revolving Loan fund was a predecessor of the Efficient Buildings Fund. It was funded by Regional Greenhouse Gas Initiative (RGGI) funds controlled by OER. This fund no longer makes loans. As funds are repaid from previous disbursements, they are periodically transferred back to RI OER to be used at their discretion. More details on this fund can be found in Attachment 5, Table E-9.

6.1.6 Commercial Property Assessed Energy (C-PACE)

C-PACE, owners of non-residential properties	
Maximum Loan Size	Limited by the financial health of the building
Maximum Tenor	Average measure life of all upgrades, can exceed 15 years
Loan Volume	Variable
Benefits to Customer	Can be structured to be cash flow positive, no personal guarantees, financing can be used to finance a wide variety of improvements related to energy, may be considered an operating expense
Limitations	Minimum transaction value of ~\$50,000, preferred \$100,000+

6.1.7 Ascentium Rental Agreement

Ascentium Rental Agreement, owners of non-residential properties	
Maximum Loan Size	No stated limit
Maximum Tenor	Variable
Loan Volume	Variable
Benefits to Customer	Rapid preliminary approval, rental product is considered an operating cost
Limitations	Specific terms of the agreement may not be attractive to some customer types, including any that are reluctant to take on debt

7. Marketing to C&I Customers

Throughout 2023, marketing continued to increase program participation amongst Large Commercial & Industrial Customers, Small Businesses, and Multifamily properties. Beginning in January 2024, Rhode Island Energy is launching a new campaign for all commercial customers, with messaging that will focus on helping customers connect with the resources, financing, and expertise they need. The new campaign will include messaging about how energy efficiency can help address high energy prices.

The Company aims to represent the voice of the customer in all campaign planning. Rhode Island Energy will pay close attention to how economic conditions impact customers and maintain a nimble approach. These conditions include inflation, labor market shortages, long-term market changes resulting from COVID-19, and a potential recession.

The Company will continue to leverage digital marketing, paid search and social media marketing, print advertising, direct mail, and email campaigns. Partnerships with Providence Business News, www.pbn.com, and www.bizjournals.com/rhodeisland/ proved especially effective in making a local connection with businesses in Rhode Island.

RI Energy's paid media primarily targets direct decision-makers for capital budgets and facilities projects, C-suite executives, facility managers, and small business owners. A portion of advertising and communications are also dedicated to targeting other key influencers who influence energy project go-forward decisions, such as distributors, PEX's, engineers, and architects who may have existing relationships with customers.

The Company will continue to adjust tone and messaging as appropriate to remain sensitive to our customers' needs. Rhode Island Energy updates its website and campaign landing pages to reflect key messages, strategies, and general core values and has also increased focus on providing industry-specific messaging and information wherever possible. A new and improved website is expected to launch in May 2024.

Finally, the Company will tie its marketing activities to the energy efficiency program priorities described elsewhere in this plan. This includes:

- Promoting planned Workforce Development activities, potentially via social media.
- Developing fact sheets to explain program focus areas such as Building Analytics, ESPO, or lighting controls.
- Developing case studies to highlight efficiency opportunities in specific market sectors.

8. Commercial and Industrial Measures and Incentives

Table 5 below lists the planned measures for the electric Commercial and Industrial programs, by program, along with the planned quantities (in kWh or MMBtu savings), incentives per quantity, total incentives, and annual and lifetime savings. Table 6 shows planned costs in non-incentive cost categories for each program that are not allocated at the measure level. Table 6 and Table 8 show the same information for the planned Gas program, respectively.

Table 5. Planned Measures for Electric Commercial and Industrial Programs

Table 5. Planned Measures for Electric Commercial and Industrial Programs											
Program	Measure	Quantity (kWh)	Incentive / Quantity	Total Incentives	Net Annual Energy Savings (MWh)	Net Lifetime Energy Savings (MWh)	Net Annual Summer Capacity Savings (kW)	Net Annual Winter Capacity Savings (kW)	Annual Carbon Reductions (Short Tons)	Lifetime Carbon Reductions (Short Tons)	
Large C&I New Construction	Advanced Building	477090	\$0.45	\$214,691	170.8	2733.2	47.7	6.4	67.3	1077.2	
	Air Cooled AC - 11.25-20 T	41413	\$0.25	\$10,353	21.9	329.2	1.9	0.0	8.7	129.8	
	Air Cooled AC - 20-63 T	27354	\$0.25	\$6,838	14.5	217.5	1.3	0.0	5.7	85.7	
	Air Cooled AC - 5.4-11.25 T	159868	\$0.25	\$39,967	84.7	1271.0	7.3	0.0	33.4	500.9	
	Air Cooled AC - over 63 T	13295	\$0.25	\$3,324	7.0	105.7	0.6	0.0	2.8	41.7	
	AirChiller - 150to300T	34431	\$0.26	\$8,952	28.1	646.8	7.7	1.5	11.1	254.9	
	AirChiller - IPLV	34431	\$0.26	\$8,952	28.1	646.8	7.7	1.5	11.1	254.9	
	AirChiller - Peak	34431	\$0.26	\$8,952	28.1	646.8	7.7	1.5	11.1	254.9	
	AirChiller - to150T	34431	\$0.26	\$8,952	28.1	646.8	7.7	1.5	11.1	254.9	
	AirHP - 11.25-20T	2366	\$0.13	\$296	1.4	16.4	0.2	0.0	0.5	6.5	
	AirHP - 5.4-11.25T	3654	\$0.15	\$544	2.1	25.3	0.3	0.0	0.8	10.0	
	AirHP - Pkg to5.4T	250000	\$0.40	\$100,000	144.4	1732.5	20.0	0.0	56.9	682.8	
	Boiler, Draft Fan	7883	\$0.31	\$2,463	4.8	72.7	0.4	0.4	1.9	28.6	
	Boiler, Feedwater Pump	7883	\$0.31	\$2,463	5.6	84.1	0.4	0.4	2.2	33.2	
	Building Exhaust Fan	7883	\$0.31	\$2,444	4.8	72.7	0.4	0.4	1.9	28.6	
	Building Shell	4617	\$0.50	\$2,308	3.1	77.8	0.0	0.0	1.2	30.7	
	Chiller	575195	\$0.53	\$304,278	388.0	8923.1	52.3	58.7	152.9	3516.8	
	Chiller, Water Pump	7883	\$0.31	\$2,463	5.6	84.1	0.4	0.4	2.2	33.2	
	CODES AND STANDARDS	341598	\$0.00	\$0	341.6	6832.0	0.0	0.0	134.6	2692.6	
	Commercial Electric Combination Oven	20288	\$0.18	\$3,652	15.4	184.3	2.9	2.9	6.1	72.6	
	Commercial Electric Convection Oven	32006	\$0.23	\$7,465	24.2	290.7	4.6	4.6	9.5	114.6	
	Commercial Electric Fryer - Large	1438	\$0.10	\$139	1.1	13.1	0.2	0.2	0.4	5.1	
	Commercial Electric Fryer - Standard	1845	\$0.09	\$171	1.4	16.8	0.3	0.3	0.6	6.6	
	Commercial Electric Griddle	3380	\$0.31	\$1,050	2.6	30.7	0.5	0.5	1.0	12.1	
	Commercial electric steamer	30488	\$0.08	\$2,325	23.1	277.0	4.3	4.3	9.1	109.2	
	Commercial Refrigeration	973949	\$0.46	\$448,017	656.9	9853.7	69.1	90.0	258.9	3883.6	
	Comprehensive Design	477090	\$0.44	\$209,920	170.8	2733.2	47.7	6.4	67.3	1077.2	
	Compressed Air	2812815	\$0.39	\$1,099,811	1897.2	28458.1	233.9	279.0	747.7	11216.1	
	Compressed Air Nozzle	7500	\$0.28	\$2,100	8.2	122.6	0.8	0.6	3.2	48.3	
	Conveyor Broiler - >28" wide	3161	\$0.98	\$3,100	2.4	28.7	0.5	0.5	0.9	11.3	
	Cooling Tower Fan	7883	\$0.31	\$2,463	5.6	84.1	0.4	0.4	2.2	33.2	
	Custom HVAC	1557819	\$0.53	\$824,086	1050.7	16811.7	141.5	159.0	414.1	6625.9	
	Deck Oven	56393	\$0.30	\$16,875	42.7	512.3	8.0	8.0	16.8	201.9	
	DHW ECM Pump - <= 1/8 HP	3788	\$0.39	\$1,481	2.9	57.4	0.6	0.6	1.1	22.6	
	DHW ECM Pump - <=1/20 HP	5034	\$0.39	\$1,968	3.8	76.2	0.0	0.0	1.5	30.0	
	DHW ECM Pump - 1/20 to 1/8 HP	5034	\$0.39	\$1,968	3.8	76.2	0.0	0.0	1.5	30.0	
	DHW ECM Pump - 1/6 to 3/4 HP	5034	\$0.39	\$1,968	3.8	76.2	0.0	0.0	1.5	30.0	
	DHW ECM Pump - 1/8 to 1/6 HP	5034	\$0.39	\$1,968	3.8	76.2	0.0	0.0	1.5	30.0	
	DHW ECM Pump - 3/4 to 3 HP	5034	\$0.39	\$1,968	3.8	76.2	0.0	0.0	1.5	30.0	
	Dishwasher - High Temperature Door Type	4118	\$0.22	\$918	3.1	46.8	0.6	0.6	1.2	18.4	
	Dishwasher - High Temperature Multi Tank	2783	\$0.10	\$267	2.1	42.1	0.4	0.4	0.8	16.6	
	Conveyor										
	Dishwasher - High Temperature Pots and Pans	1548	\$0.90	\$1,388	1.2	11.7	0.2	0.2	0.5	4.6	
	Dishwasher - High Temperature Single Tank	5728	\$0.36	\$2,059	4.3	86.7	0.8	0.8	1.7	34.2	
	Conveyor										
	Dishwasher - High Temperature Under Counter	16531	\$0.29	\$4,846	12.5	125.1	2.4	2.4	4.9	49.3	
	Dishwasher - Low Temperature Single Tank	3821	\$0.01	\$49	2.9	57.8	0.5	0.5	1.1	22.8	
	Conveyor										
	Dishwasher - Low Temperature Under Counter	1529	\$0.15	\$228	1.2	11.6	0.2	0.2	0.5	4.6	
	Dual enthalpy economizer controls	2722	\$0.09	\$250	2.1	20.6	0.8	0.0	0.8	8.1	
	ECM Pump - <= 1/8 HP	54729	\$0.30	\$16,539	41.4	828.6	5.4	5.4	16.3	326.6	
	ECM Pump - <=1/20 HP	18242	\$0.30	\$5,513	13.8	276.2	2.5	2.5	5.4	108.9	
Electric HW Spray Valve	20334	\$0.58	\$11,692	15.4	77.0	2.9	2.9	6.1	30.3		
EMS	1727101	\$0.53	\$913,636	1164.9	17473.6	156.9	176.3	459.1	6886.8		
Food Service	38552	\$0.39	\$15,074	26.0	286.0	0.0	0.0	10.2	112.7		

Schedule B

Table 5. Planned Measures for Electric Commercial and Industrial Programs

Program	Measure	Quantity (kWh)	Incentive / Quantity	Total Incentives	Net Annual Energy Savings (MWh)	Net Lifetime Energy Savings (MWh)	Net Annual Summer Capacity Savings (kW)	Net Annual Winter Capacity Savings (kW)	Annual Carbon Reductions (Short Tons)	Lifetime Carbon Reductions (Short Tons)
	Freezer Glass Door - <15 ft3	427	\$0.53	\$225	0.3	3.9	0.1	0.1	0.1	1.5
	Freezer Glass Door - >50 ft3	1486	\$0.20	\$300	1.1	13.5	0.2	0.2	0.4	5.3
	Freezer Glass Door - 15 to 29.9 ft3	681	\$0.48	\$325	0.5	6.2	0.1	0.1	0.2	2.4
	Freezer Glass Door - 30 to 49.9 ft3	1062	\$0.19	\$200	0.8	9.6	0.2	0.2	0.3	3.8
	Freezer Solid Door - <15 ft3	2120	\$1.06	\$2,250	1.6	19.3	0.3	0.3	0.6	7.6
	Freezer Solid Door - >50 ft3	589	\$0.51	\$300	0.4	5.4	0.1	0.1	0.2	2.1
	Freezer Solid Door - 15 to 29.9 ft3	7290	\$0.67	\$4,875	5.5	66.2	1.0	1.0	2.2	26.1
	Freezer Solid Door - 30 to 49.9 ft3	17312	\$0.37	\$6,400	13.1	157.3	2.5	2.5	5.2	62.0
	Freezer, Ultra Low Temperature	145433	\$0.40	\$58,183	110.1	1100.9	20.7	20.7	43.4	433.9
	Hand Wrapper	3130	\$0.07	\$220	2.4	23.7	0.4	0.4	0.9	9.3
	Heating Hot Water Pump	15766	\$0.31	\$4,927	11.2	168.3	0.9	0.9	4.4	66.3
	High Efficiency Condensing Units - Floating Head Pressure Control	104689	\$0.29	\$30,525	79.2	1030.2	11.6	10.4	31.2	406.0
	High Efficiency Condensing Units - Scroll Compressor	104689	\$0.29	\$30,525	79.2	1030.2	11.6	10.4	31.2	406.0
	High Performance Contact Conveyor Toaster	1000	\$0.70	\$700	0.8	10.1	0.1	0.1	0.3	4.0
	Hot Food Holding Cabinet - 1/2	26214	\$0.59	\$15,561	19.8	238.1	3.7	3.7	7.8	93.9
	Hot Food Holding Cabinet - 3/4	4369	\$0.73	\$3,192	3.3	39.7	0.6	0.6	1.3	15.6
	Hot Food Holding Cabinet - Full	10921	\$0.35	\$3,791	8.3	99.2	1.6	1.6	3.3	39.1
	HVAC Fan - Return	15766	\$0.31	\$4,927	11.2	168.3	0.9	0.9	4.4	66.3
	HVAC Fan - Supply	15766	\$0.31	\$4,927	11.2	168.3	0.9	0.9	4.4	66.3
	Ice Machine - Cont. Remote	5202	\$0.09	\$450	3.9	31.5	0.7	0.7	1.6	12.4
	Ice Machine - Ice Making Head	46914	\$0.25	\$11,550	35.5	284.1	6.7	6.7	14.0	112.0
	Ice Machine - Ice Self Contained	3220	\$0.28	\$900	2.4	19.5	0.5	0.5	1.0	7.7
	Ice Machine - Remote/Split	7282	\$0.06	\$450	5.5	44.1	1.0	1.0	2.2	17.4
	LEDs	122305	\$0.35	\$42,195	88.3	1324.9	18.5	10.5	34.8	522.2
	Lighting Controls - Dimming	154947	\$0.22	\$34,088	111.2	1000.8	10.2	9.3	37.8	340.6
	Lighting Controls - Exterior	117000	\$0.22	\$25,740	84.0	755.7	7.7	7.0	28.6	257.2
	Lighting Controls - Integrated	117000	\$0.22	\$25,740	84.0	923.6	7.7	7.0	28.6	314.3
	Lighting Controls - Sensor	135806	\$0.22	\$29,877	97.5	877.1	8.9	8.2	33.2	298.5
	Lighting Controls - Street Light Exterior	117000	\$0.22	\$25,740	84.0	755.7	7.7	7.0	28.6	257.2
	Lighting Controls, Custom	64350	\$0.35	\$22,201	46.5	418.2	9.7	5.5	18.3	164.8
	Lighting Systems, Custom	122305	\$0.35	\$42,195	88.3	1324.9	18.5	10.5	34.8	522.2
	LOADCOMP-25HP	104746	\$0.28	\$29,329	114.2	1712.7	10.6	8.7	45.0	675.0
	LOADCOMP-75HP	104746	\$0.28	\$29,329	114.2	1712.7	10.3	8.5	45.0	675.0
	Low pressure drop filter	7500	\$0.28	\$2,100	8.2	40.9	0.7	0.6	3.2	16.1
	Make Up Air Fan	2033	\$0.31	\$635	1.4	21.7	0.1	0.1	0.6	8.6
	MFHR - Cooling	6278	\$0.39	\$2,449	4.8	118.8	0.0	0.0	1.9	46.8
	MFHR - DHW	6278	\$0.39	\$2,449	4.8	71.3	0.0	0.0	1.9	28.1
	MFHR - Heating	6278	\$0.39	\$2,449	4.8	118.8	0.0	0.0	1.9	46.8
	MFHR - Lighting	6278	\$0.39	\$2,449	0.0	0.0	0.0	0.0	0.0	0.0
	Motor	58140	\$0.22	\$12,791	39.2	784.3	7.9	7.5	15.5	309.1
	ODP-1200F	2033	\$0.29	\$590	1.4	21.7	0.1	0.1	0.6	8.6
	ODP-1200N	2033	\$0.29	\$590	1.4	21.7	0.1	0.1	0.6	8.6
	ODP-1200S	2033	\$0.29	\$590	1.4	21.7	0.1	0.1	0.6	8.6
	ODP-1800F	2033	\$0.29	\$590	1.4	21.7	0.1	0.1	0.6	8.6
	ODP-1800N	2033	\$0.29	\$590	1.4	21.7	0.1	0.1	0.6	8.6
	ODP-1800S	2033	\$0.29	\$590	1.4	21.7	0.1	0.1	0.6	8.6
	ODP-3600F	2033	\$0.29	\$590	1.4	21.7	0.1	0.1	0.6	8.6
	ODP-3600N	2033	\$0.29	\$590	1.4	21.7	0.1	0.1	0.6	8.6
	ODP-3600S	2033	\$0.29	\$590	1.4	21.7	0.1	0.1	0.6	8.6
	Other	55384	\$0.39	\$21,655	37.4	373.6	3.8	5.8	14.7	147.2
	Packaged Terminal Air Conditioner	48089	\$0.25	\$12,022	26.4	396.7	2.3	0.0	10.4	156.4
	PEI H2O PUMP - COMM, C	180600	\$0.12	\$21,672	98.5	1477.5	19.2	1.7	38.8	582.3
	Performance Lighting - Tier 1 Exterior	133640	\$0.22	\$29,401	95.9	1438.6	8.8	8.0	32.6	489.6
	Performance Lighting - Tier 1 Interior	786903	\$0.22	\$173,119	564.7	8470.7	51.6	47.3	192.2	2882.6
	Performance Lighting Tier 2 & 3 Exterior	99000	\$0.22	\$21,780	71.0	1065.7	6.5	5.9	24.2	362.7
	Performance Lighting Tier 2 & 3 Interior	99000	\$0.22	\$21,780	71.0	1065.7	6.5	5.9	24.2	362.7
	Performance Lighting, Custom	122305	\$0.35	\$42,195	88.3	1324.9	18.5	10.5	34.8	522.2
	Prescriptive Lighting - Compact	55000	\$0.22	\$12,100	39.5	592.0	3.6	3.3	13.4	201.5
	Prescriptive Lighting - Custom	55000	\$0.22	\$12,100	39.5	592.0	3.6	3.3	13.4	201.5
	Prescriptive Lighting - EXT-24/7	111703	\$0.25	\$27,926	80.2	1202.4	7.3	6.7	27.3	409.2
	Prescriptive Lighting - EXT-DUSKDAWN	284897	\$0.22	\$62,677	204.5	3066.8	18.7	17.1	69.6	1043.6
	Prescriptive Lighting - Fluorescent	55000	\$0.22	\$12,100	39.5	592.0	3.6	3.3	13.4	201.5
	Prescriptive Lighting - LED Case Ref	55000	\$0.22	\$12,100	39.5	592.0	3.6	3.3	13.4	201.5
	Prescriptive Lighting - LED General	1084661	\$0.22	\$238,625	778.4	11675.9	71.2	65.2	264.9	3973.4
	Prescriptive Lighting - LED Sign	99000	\$0.22	\$21,780	71.0	1065.7	6.5	5.9	24.2	362.7
	Process	1129128	\$0.34	\$383,904	761.6	11423.7	115.8	151.0	300.2	4502.4
	Process Cooling	289266	\$0.32	\$93,144	195.1	2926.6	29.7	38.7	76.9	1153.4
	Process Exhaust Fan	7883	\$0.31	\$2,463	5.6	84.1	0.4	0.4	2.2	33.2
	Process, Cool Pump	7883	\$0.31	\$2,463	5.6	84.1	0.4	0.4	2.2	33.2
	Refrigerated Air Dryer - CAT<100	20782	\$0.28	\$5,819	22.7	294.5	2.1	1.7	8.9	116.1
	Refrigerated Air Dryer - CAT>400	20782	\$0.28	\$5,819	22.7	294.5	2.1	1.7	8.9	116.1
	Refrigerated Air Dryer - CAT=200	20782	\$0.28	\$5,819	22.7	294.5	2.1	1.7	8.9	116.1
	Refrigerated Air Dryer - CAT=300	20782	\$0.28	\$5,819	22.7	294.5	2.1	1.7	8.9	116.1
	Refrigerated Air Dryer - CAT=400	20782	\$0.28	\$5,819	22.7	294.5	2.1	1.7	8.9	116.1

Table 5. Planned Measures for Electric Commercial and Industrial Programs

Program	Measure	Quantity (kWh)	Incentive / Quantity	Total Incentives	Net Annual Energy Savings (MWh)	Net Lifetime Energy Savings (MWh)	Net Annual Summer Capacity Savings (kW)	Net Annual Winter Capacity Savings (kW)	Annual Carbon Reductions (Short Tons)	Lifetime Carbon Reductions (Short Tons)
	Refrigerated Chef Base - 35" to 54"	1051	\$0.52	\$550	0.8	9.5	0.1	0.1	0.3	3.8
	Refrigerated Chef Base - 74" to 89"	1986	\$0.28	\$550	1.5	18.0	0.3	0.3	0.6	7.1
	Refrigerator Glass Door - <15 ft3	3675	\$0.92	\$3,375	2.8	33.4	0.5	0.5	1.1	13.2
	Refrigerator Glass Door - >50 ft3	3660	\$0.61	\$2,250	2.8	33.2	0.5	0.5	1.1	13.1
	Refrigerator Glass Door - 15 to 29.9 ft3	11666	\$0.57	\$6,650	8.8	106.0	1.7	1.7	3.5	41.8
	Refrigerator Glass Door - 30 to 49.9 ft3	22680	\$0.42	\$9,450	17.2	206.0	3.2	3.2	6.8	81.2
	Refrigerator Solid Door - <15 ft3	2550	\$1.32	\$3,375	1.9	23.2	0.4	0.4	0.8	9.1
	Refrigerator Solid Door - >50 ft3	1880	\$1.00	\$1,875	1.4	17.1	0.3	0.3	0.6	6.7
	Refrigerator Solid Door - 15 to 29.9 ft3	8160	\$0.69	\$5,600	6.2	74.1	1.2	1.2	2.4	29.2
	Refrigerator Solid Door - 30 to 49.9 ft3	4410	\$1.33	\$5,850	3.3	40.1	0.6	0.6	1.3	15.8
	Room Air Cleaner - K-12	10950	\$0.26	\$2,896	8.0	24.1	1.2	1.2	3.2	9.5
	Room Air Cleaner - Office	10950	\$0.26	\$2,896	8.0	24.1	1.2	1.2	3.2	9.5
	Room Air Cleaner - Retail	10950	\$0.26	\$2,896	8.0	24.1	1.2	1.2	3.2	9.5
	Sensors	10950	\$0.26	\$2,847	8.9	89.4	2.5	0.5	3.5	35.3
	Split system AC to 5.4 tons	55306	\$0.25	\$13,826	29.3	439.7	2.5	0.0	11.6	173.3
	TEFC-1200F	2033	\$0.29	\$590	1.4	21.7	0.1	0.1	0.6	8.6
	TEFC-1200N	2033	\$0.29	\$590	1.4	21.7	0.1	0.1	0.6	8.6
	TEFC-1200S	2033	\$0.29	\$590	1.4	21.7	0.1	0.1	0.6	8.6
	TEFC-1800F	2033	\$0.29	\$590	1.4	21.7	0.1	0.1	0.6	8.6
	TEFC-1800N	2033	\$0.29	\$590	1.4	21.7	0.1	0.1	0.6	8.6
	TEFC-1800S	2033	\$0.29	\$590	1.4	21.7	0.1	0.1	0.6	8.6
	TEFC-3600F	2033	\$0.29	\$590	1.4	21.7	0.1	0.1	0.6	8.6
	TEFC-3600N	2033	\$0.29	\$590	1.4	21.7	0.1	0.1	0.6	8.6
	TEFC-3600S	2033	\$0.29	\$590	1.4	21.7	0.1	0.1	0.6	8.6
	Transformers	3788	\$0.40	\$1,515	2.6	58.8	0.0	0.0	1.0	23.2
	VARICOMP, 75HP	83796	\$0.31	\$25,977	91.3	1370.2	8.3	6.8	36.0	540.0
	Vending Miser - Glass Front Refrigerated Coolers	1200	\$0.70	\$840	1.0	5.2	0.1	0.1	0.4	2.1
	Vending Miser - Non-Refrigerated Snack Vending Machines UPSTR	1200	\$0.70	\$840	1.0	5.2	0.1	0.1	0.4	2.1
	Vending Miser - Refrigerated Beverage Vending Machines UPSTR	1200	\$0.70	\$840	1.0	5.2	0.1	0.1	0.4	2.1
	VFD Secondary	2033	\$0.31	\$635	1.4	21.7	0.1	0.1	0.6	8.6
	VRF HP - 11.25T-20T	261578	\$0.31	\$81,899	82.4	1400.7	6.9	0.0	32.5	552.1
	VRF HP - 5.4T-11.25T	590566	\$0.27	\$156,573	186.0	3162.5	15.6	0.0	73.3	1246.4
	VRF HP - over 20T	10613	\$0.23	\$2,409	3.3	56.8	0.0	0.0	1.3	22.4
	VSD Compressor (15<=HP<=75)	83796	\$0.22	\$18,435	91.3	1187.5	8.2	6.8	36.0	468.0
	VSD-Non HVAC	123122	\$0.22	\$27,087	32.9	493.7	6.6	6.3	13.0	194.6
	Water Source Heat Pump	2520	\$0.45	\$1,134	2.0	24.0	0.0	0.0	0.8	9.5
	WCChill - 150-300T_IPLV	1680	\$0.30	\$504	1.4	31.6	0.4	0.1	0.5	12.4
	WCChill - 150-300T_IPLV_CEN	1680	\$0.30	\$504	1.4	31.6	0.4	0.1	0.5	12.4
	WCChill - 150-300T_IPLV_SCR	1680	\$0.30	\$504	1.4	31.6	0.4	0.1	0.5	12.4
	WCChill - 150-300T_PkkW	1680	\$0.30	\$504	1.4	31.6	0.4	0.1	0.5	12.4
	WCChill - 150-300T_PkkW_CEN	1680	\$0.30	\$504	1.4	31.6	0.4	0.1	0.5	12.4
	WCChill - 150-300T_PkkW_SCR	1680	\$0.30	\$504	1.4	31.6	0.4	0.1	0.5	12.4
	WCChill - 300-1000T_IPLV	1680	\$0.30	\$504	1.4	31.6	0.4	0.1	0.5	12.4
	WCChill - 300-1000T_PkkW	1680	\$0.30	\$504	1.4	31.6	0.4	0.1	0.5	12.4
	WCChill - 30-70T	1680	\$0.30	\$504	1.4	31.6	0.4	0.1	0.5	12.4
	WCChill - 70-150T	1680	\$0.30	\$504	1.4	31.6	0.4	0.1	0.5	12.4
	WCChill - over300T_IPLV_CEN	1680	\$0.30	\$504	1.4	31.6	0.4	0.1	0.5	12.4
	WCChill - over300T_IPLV_SCR	1680	\$0.30	\$504	1.4	31.6	0.4	0.1	0.5	12.4
	WCChill - over300T_PkkW_CEN	1680	\$0.30	\$504	1.4	31.6	0.4	0.1	0.5	12.4
	WCChill - over300T_PkkW_SCR	1680	\$0.30	\$504	1.4	31.6	0.4	0.1	0.5	12.4
	WCChill - to150T_IPLV_CEN	1680	\$0.30	\$504	1.4	31.6	0.4	0.1	0.5	12.4
	WCChill - to150T_IPLV_SCR	1680	\$0.30	\$504	1.4	31.6	0.4	0.1	0.5	12.4
	WCChill - to150T_PkkW_CEN	1680	\$0.30	\$504	1.4	31.6	0.4	0.1	0.5	12.4
	WCChill - to150T_PkkW_SCR	1680	\$0.30	\$504	1.4	31.6	0.4	0.1	0.5	12.4
	Zero loss condensate drain	23620	\$0.28	\$6,613	25.7	386.2	2.3	1.9	10.1	152.2
Large C&I Retrofit	Boiler, Draft Fan	85307	\$0.42	\$35,829	68.6	1028.4	5.2	5.3	27.0	405.3
	Boiler, Feedwater Pump	85307	\$0.42	\$35,829	68.6	1028.4	5.2	5.3	27.0	405.3
	Building Exhaust Fan	85307	\$0.42	\$35,829	68.6	1028.4	5.2	5.3	27.0	405.3
	Building operator certification	109917	\$0.00	\$0	94.0	469.9	0.0	0.0	37.0	185.2
	Building Shell	255062	\$0.80	\$204,049	148.6	2675.3	0.0	0.0	58.6	1054.4
	Chiller, Water Pump	85307	\$0.42	\$35,829	68.6	1028.4	5.2	5.3	27.0	405.3
	Commercial Refrigeration	815739	\$0.44	\$358,925	475.3	6179.5	31.8	68.9	187.3	2435.5
	Cooling Town Fan	79620	\$0.42	\$33,441	64.0	959.9	4.9	4.9	25.2	378.3
	Custom Compressed Air	2734189	\$0.09	\$246,077	1593.3	3186.5	194.1	290.4	627.9	1255.9
	Custom HVAC	1688051	\$0.60	\$1,012,831	983.7	9836.5	183.5	105.1	661.1	6611.0
	Custom Motor	47996	\$0.40	\$19,198	28.0	419.5	4.2	3.2	11.0	165.3
	Custom Other	1917608	\$0.19	\$364,346	1117.4	5587.1	96.6	107.7	440.4	2202.0
	Custom process	546696	\$0.22	\$120,273	318.6	4141.4	48.4	72.1	125.6	1632.2
	EMS 40k-80ksqft	435962	\$0.55	\$239,779	295.4	2953.8	20.6	21.4	175.8	1758.5
	EMS 5k-40ksqft	544952	\$0.60	\$326,971	369.2	3692.3	25.7	26.7	219.8	2198.1
	EMS 80k-200ksqft	653943	\$0.50	\$326,971	443.1	4430.8	30.9	32.1	263.8	2637.7
	Energy management system, custom	1557965	\$0.40	\$623,186	907.8	6354.9	169.4	97.0	357.8	2504.6
	Food Service	28232	\$0.35	\$9,881	16.5	181.0	0.0	0.0	6.5	71.3

Table 5. Planned Measures for Electric Commercial and Industrial Programs										
Program	Measure	Quantity (kWh)	Incentive / Quantity	Total Incentives	Net Annual Energy Savings (MWh)	Net Lifetime Energy Savings (MWh)	Net Annual Summer Capacity Savings (kW)	Net Annual Winter Capacity Savings (kW)	Annual Carbon Reductions (Short Tons)	Lifetime Carbon Reductions (Short Tons)
	Heating Hot Water Pump	106160	\$0.42	\$44,587	65.3	848.4	5.0	5.0	25.7	334.4
	HVAC Fan - Return	106160	\$0.42	\$44,587	85.3	1279.8	6.5	6.5	33.6	504.4
	HVAC Fan - Supply	106160	\$0.42	\$44,587	85.3	1279.8	6.5	6.5	33.6	504.4
	LEDS	2860150	\$0.34	\$972,451	1784.5	10707.0	314.6	212.3	703.3	4219.9
	Lighting Controls, Custom	1401646	\$0.57	\$798,938	874.5	7870.6	174.7	117.9	344.7	3102.0
	Lighting Systems, Custom	3010684	\$0.34	\$1,023,633	1878.4	11270.5	375.2	253.3	498.3	2989.6
	Make Up Air Fan	55199	\$0.42	\$23,184	44.4	665.5	3.4	3.4	17.5	262.3
	Motor VFD Secondary	32356	\$0.42	\$13,589	26.0	390.1	4.5	4.5	10.2	153.7
	MTVFD-BLDG EXHST FAN	43389	\$0.42	\$18,223	34.9	523.1	6.0	6.0	13.7	206.2
	MTVFD-BOIL DRAFT FAN	43389	\$0.42	\$18,223	34.9	523.1	6.0	6.0	13.7	206.2
	MTVFD-BOIL FWTR PUMP	43389	\$0.42	\$18,223	34.9	523.1	6.0	6.0	13.7	206.2
	MTVFD-CHIL WATER PMP	43389	\$0.42	\$18,223	34.9	523.1	6.0	6.0	13.7	206.2
	MTVFD-CT FAN	43389	\$0.42	\$18,223	34.9	523.1	6.0	6.0	13.7	206.2
	MTVFD-HEAT HW PUMP	43389	\$0.42	\$18,223	34.9	523.1	6.0	6.0	13.7	206.2
	MTVFD-HVAC RET FAN	43389	\$0.42	\$18,223	34.9	523.1	6.0	6.0	13.7	206.2
	MTVFD-HVAC SUP FAN	43389	\$0.42	\$18,223	34.9	523.1	6.0	6.0	13.7	206.2
	MTVFD-NK UP AIR FAN	43389	\$0.42	\$18,223	34.9	523.1	6.0	6.0	13.7	206.2
	MTVFD-PROC COOL PUMP	43389	\$0.42	\$18,223	34.9	523.1	6.0	6.0	13.7	206.2
	MTVFD-WATER/WST PUMP	43389	\$0.42	\$18,223	34.9	523.1	6.0	6.0	13.7	206.2
	MTVFD-WSHP PUMP	43389	\$0.42	\$18,223	34.9	523.1	6.0	6.0	13.7	206.2
	Non-refrigerated snack vending machine	66879	\$0.50	\$33,440	59.2	296.2	4.1	4.3	35.3	176.3
	O & M	1375464	\$0.18	\$247,583	801.5	1603.0	0.0	0.0	315.9	631.8
	Prescriptive Lighting - LED - Downstream	4995405	\$0.34	\$1,698,438	3967.8	23806.9	926.3	847.8	1324.7	7948.4
	Prescriptive Lighting - LED Replacement	2417663	\$0.34	\$822,005	1920.3	11522.0	448.3	410.3	641.1	3846.9
	Prescriptive Lighting - Linear LED - Downstream	2725154	\$0.34	\$926,552	2164.6	12987.5	505.3	462.5	722.7	4336.1
	Process Cooling	131580	\$0.25	\$32,895	76.7	996.8	7.7	11.5	30.2	392.8
	Process, Cool Pump	79620	\$0.42	\$33,441	48.9	636.3	3.7	3.8	19.3	250.8
	Process, Exhaust Fan	79620	\$0.42	\$33,441	64.0	831.9	4.9	4.9	25.2	327.9
	Refrigerated beverage vending machine	76911	\$0.50	\$38,455	68.1	340.6	0.0	0.0	40.6	202.8
	Street Lighting - Lighting	1496228	\$0.24	\$359,095	933.5	4667.6	0.0	140.0	367.9	1839.6
	Street lighting - Lighting w/ Controls	3093631	\$0.31	\$959,026	1930.2	11581.0	0.0	289.6	760.7	4564.4
	Transformers	177129	\$0.35	\$61,995	103.2	2786.8	0.0	0.0	40.7	1098.4
	UPSTR Lighting - High/Low Bay Controls	3686364	\$0.42	\$1,548,273	2087.2	16697.8	514.5	405.4	756.7	6053.5
	UPSTR Lighting - LED Controls	1638384	\$0.42	\$688,121	859.1	6014.0	211.8	166.9	299.4	2095.8
	UPSTR Lighting - LED Exterior	3481566	\$0.10	\$348,157	562.3	2811.4	193.8	110.4	221.6	1108.0
	UPSTR Lighting - LED High/Low Bay	10055582	\$0.15	\$1,508,337	5693.5	39854.4	1403.4	1105.7	2064.1	14448.6
	UPSTR Lighting - LED Outdoor Control	1126389	\$0.17	\$191,486	181.9	1091.5	62.7	35.7	71.7	430.2
	UPSTR Lighting - LED Stairwell	51200	\$0.33	\$16,896	31.7	190.1	2.8	2.5	12.5	74.7
	UPSTR Lighting - Linear LED	440316	\$0.08	\$35,225	172.5	1034.8	16.9	13.3	60.1	360.6
	VARICOMP - 25 HP	155322	\$0.08	\$12,426	187.2	2434.2	13.9	9.4	73.8	959.4
	VARICOMP - 75 HP	152419	\$0.08	\$12,194	183.7	2388.7	17.1	14.0	72.4	941.5
	VFD Secondary	32356	\$0.42	\$13,589	19.9	298.4	3.4	3.4	7.8	117.6
	VSD-HVAC	66696	\$0.35	\$23,344	0.0	0.0	5.9	4.5	0.0	0.0
	VSD-Non HVAC	83040	\$0.35	\$29,064	48.4	629.1	7.3	5.6	19.1	247.9
	Water Source Heat Pump	79620	\$0.42	\$33,441	48.9	734.2	3.7	3.8	19.3	289.4
	Water/Waste Pump	79620	\$0.42	\$33,441	64.0	959.9	11.0	11.0	25.2	378.3
Small Business Direct Install	Freezer Recycling	57214	\$0.33	\$18,881	40.7	325.9	3.6	2.9	16.1	128.4
	Hot Water, Custom	240000	\$0.75	\$180,000	138.9	1806.0	15.0	12.4	54.8	711.8
	HVAC, Custom	900000	\$0.75	\$675,000	521.0	6772.6	56.2	46.3	205.3	2669.3
	LED - Exterior HW	518050	\$0.70	\$362,635	456.9	2741.5	37.3	34.1	180.1	1080.5
	LED - Interior HW	2473466	\$0.70	\$1,731,426	2251.4	13508.4	171.1	156.6	737.7	4426.0
	LED - Interior SI	3616954	\$0.66	\$2,387,189	3292.2	16461.2	250.2	229.0	1078.7	5393.5
	OCCUPANCY SENSORS	228933	\$0.66	\$151,096	201.9	1817.3	15.4	14.1	67.3	606.0
	PROGRAMMABLE THERMOSTATS	53549	\$0.60	\$32,129	38.1	571.9	3.3	2.8	15.0	225.4
	Refrigerated case LED	6352	\$0.50	\$3,176	5.3	31.6	0.5	0.4	2.1	12.5
	TIMECLOCKS	158	\$0.52	\$82	0.1	1.3	0.0	0.0	0.0	0.4
	VENDING MACHINES	6608	\$0.29	\$1,916	4.7	23.5	0.4	0.3	1.9	9.3
	Water Heating	7602	\$0.40	\$3,041	5.4	37.9	0.5	0.4	2.1	14.9

Table 6. Shared and Other Costs for Electric Commercial and Industrial Programs

Table 6. Shared and Other Costs for Electric Commercial and Industrial Programs				
Program	Program Planning & Administration	Marketing	Sales, Tech Assist & Training	Evaluation & Market Research
Large C&I New Construction	\$247,434	\$216,903	\$1,637,657	\$598,276
Large C&I Retrofit	\$747,950	\$160,976	\$4,241,718	\$665,142
Small Business Direct Install	\$282,194	\$181,590	\$270,956	\$394,526

Schedule B

Table 7. Planned Measures for Gas Commercial and Industrial Programs

Table 7. Planned Measures for Gas Commercial and Industrial Programs									
Program	Measure	Quantity (MMBtu)	Incentive / Quantity	Total Incentives	Total Annual Gas Savings (MWh)	Total Lifetime Gas Savings (MWh)	Annual Carbon Reductions (Short Tons)	Lifetime Carbon Reductions (Short Tons)	
C&I Multifamily	Air Sealing	235	\$245.00	\$57,575	239.7	4794.0	14.0	280.4	
	Demand Circulator	2	\$2,100.00	\$4,200	233.0	3495.0	13.6	204.5	
	Faucet aerator	177	\$5.00	\$885	29.6	88.9	1.7	5.2	
	Heating, Custom	11	\$48,000.00	\$528,000	3290.5	49358.1	192.5	2887.4	
	Low Flow Showerhead w/ Thermostatic Valve	9	\$40.00	\$360	10.6	159.3	0.6	9.3	
	MF Shell Insulation	5880	\$2.25	\$13,230	58.1	1452.1	3.4	84.9	
	Pipe Wrap (Water Heating)	294	\$3.00	\$882	36.9	479.9	2.2	28.1	
	Programmable thermostat	392	\$125.00	\$49,000	296.1	5625.1	19.6	371.9	
	Wi-Fi programmable thermostat (controls gas heat only)	9	\$300.00	\$2,700	10.4	156.3	0.7	10.0	
	Large C&I New Construction	Boiler - 95% AFUE < 300 MBU	591	\$30.00	\$17,730	340.4	6808.3	19.9	398.3
Boiler - 96% AFUE		591	\$30.00	\$17,730	340.4	6808.3	19.9	398.3	
BOILER RESET 1 STAGE		591	\$30.00	\$17,730	340.4	6808.3	19.9	398.3	
CODES AND STANDARDS		430	\$0.00	\$0	429.6	8592.0	25.1	502.6	
Combo Condensing Boiler/ Water Heater - 95% AFUE		591	\$20.00	\$11,820	171.4	3427.8	10.0	200.5	
Comprehensive Design		1250	\$40.00	\$50,000	698.4	11174.4	40.9	653.7	
Condensing Boiler - <= 300 mbh		591	\$30.00	\$17,730	340.4	6808.3	19.9	398.3	
Condensing Boiler - 1000-1700 mbh		591	\$30.00	\$17,730	340.4	6808.3	19.9	398.3	
Condensing Boiler - 1701+ mbh		591	\$30.00	\$17,730	340.4	6808.3	19.9	398.3	
Condensing Boiler - 300-499 mbh		591	\$30.00	\$17,730	340.4	6808.3	19.9	398.3	
Condensing Boiler - 500-999 mbh		591	\$30.00	\$17,730	340.4	6808.3	19.9	398.3	
Condensing Water Heater, 90%MIN 75-800		1661	\$29.01	\$48,186	481.7	7225.4	28.2	422.7	
ERV - Fixed Plate UPSTR		1400	\$19.31	\$27,031	1120.0	16800.0	65.5	982.8	
ERV - Rotary Wheel UPSTR		2000	\$16.55	\$33,096	1600.0	24000.0	93.6	1404.0	
Fryer, Upstream		4698	\$16.60	\$77,987	2706.0	32472.6	158.3	1899.6	
Gas driven cooling		6229	\$0.00	\$0	3028.3	45425.2	177.2	2657.4	
Gas Oven Upstream - Convection Oven		1623	\$30.81	\$49,989	934.6	11214.7	54.7	656.1	
Gas Oven Upstream - Conveyor Oven		265	\$12.44	\$3,297	152.6	1831.7	8.9	107.2	
Gas Oven Upstream - Rack Oven		151	\$4.97	\$751	87.0	1044.5	5.1	61.1	
Gas Oven Upstream- Combination Oven		2769	\$11.79	\$32,645	1594.9	19138.6	93.3	1119.6	
Griddle, Upstream		76	\$14.51	\$1,103	43.8	525.3	2.6	30.7	
Heat Recovery - All		6229	\$16.00	\$99,669	3028.3	45425.2	177.2	2657.4	
Heat Recovery - Seasonal		6229	\$16.00	\$99,669	3028.3	45425.2	177.2	2657.4	
Heat Recovery - Year Round		6229	\$16.00	\$99,669	3028.3	45425.2	177.2	2657.4	
INFRARED HEATER - LOW INT		6383	\$19.20	\$122,544	3676.3	62497.4	215.1	3656.1	
Low Flow Cooking Spray Nozzle, Upstream		627	\$6.58	\$4,126	361.2	2889.2	21.1	169.0	
Other Gas - All		6229	\$16.00	\$99,669	3028.3	45425.2	177.2	2657.4	
Other Gas - Seasonal		6229	\$16.00	\$99,669	3028.3	36340.2	177.2	2125.9	
Other Gas - Year Round		6229	\$16.00	\$99,669	3028.3	39368.5	177.2	2303.1	
Pasta Cooker, Upstream		981	\$16.05	\$15,745	565.1	6780.7	33.1	396.7	
Steam boiler		721	\$25.00	\$18,026	350.5	7010.4	20.5	410.1	
Steamer, Upstream		378	\$4.86	\$1,839	218.0	2615.4	12.8	153.0	
WATER HEATER - INDIRECT		291	\$21.03	\$6,120	104.8	1571.4	6.1	91.9	
Water Heater - On-Demand 90		1478	\$7.79	\$11,514	532.1	9045.4	31.1	529.2	
Water Heating Boiler - 94% TE		10667	\$10.81	\$115,310	4693.5	70402.2	274.6	4118.5	
Large C&I Retrofit		Building operator certification	3060	\$0.00	\$0	3329.3	16646.4	194.8	973.8
		Custom Other	6241	\$25.00	\$156,025	5730.9	85964.0	335.3	5028.9
		Heat Recovery - All	4362	\$30.00	\$130,860	4005.5	60082.5	234.3	3514.8
		Heat Recovery - Seasonal	4362	\$30.00	\$130,860	4005.5	60082.5	234.3	3514.8
		Heat Recovery - Year Round	4362	\$30.00	\$130,860	4005.5	60082.5	234.3	3514.8
	HVAC - Controls and EMS	4550	\$30.00	\$136,500	4178.1	41781.4	244.4	2444.2	
	HVAC - Equipment	9882	\$30.00	\$296,460	9074.4	136115.5	530.9	7962.8	
	Operation & Maintenance	30000	\$12.50	\$375,000	27548.2	137740.8	1611.6	8057.8	
	Other Gas - All	5363	\$34.00	\$182,342	4924.7	73870.4	288.1	4321.4	
	Programmable thermostat	2969	\$22.00	\$65,316	3230.2	35531.8	189.0	2078.6	
	Steam Trap HVAC - High Pressure	1320	\$22.00	\$29,040	1436.2	8617.0	84.0	504.1	
	Steam Trap HVAC - Low Pressure	1320	\$22.00	\$29,040	1436.2	8617.0	84.0	504.1	
	Steam Trap, Custom - Low Pressure	5405	\$12.50	\$67,563	5880.6	35283.8	344.0	2064.1	
	Ventilation Reduction	3240	\$22.00	\$71,280	2975.2	35702.4	174.0	2088.6	
	Verified savings	3660	\$22.00	\$80,520	3360.9	43691.4	196.6	2555.9	
	VSDs - Non-HVAC	6534	\$30.00	\$196,020	6000.0	89999.8	351.0	5265.0	
WiFi Thermostat - Heat Only, Custom	2969	\$25.00	\$74,223	3230.2	48452.4	189.0	2834.5		
WiFi Thermostat Gas - Cooling and Heating	2969	\$25.00	\$74,223	3230.2	48452.4	189.0	2834.5		
WiFi Thermostat Gas - Heating	2969	\$25.00	\$74,223	3230.2	48452.4	189.0	2834.5		
Small Business Direct Install	Building Shell	1200	\$80.00	\$96,000	914.6	16462.1	53.5	963.0	
	DHW	400	\$30.00	\$12,000	304.9	3658.2	17.8	214.0	
	Duct Insulation	1000	\$90.00	\$90,000	903.0	18060.0	52.8	1056.5	
	Faucet aerator	1000	\$30.00	\$30,000	903.0	2709.0	52.8	158.5	
	HVAC - Controls and EMS	25	\$25.00	\$625	19.1	190.5	1.1	11.1	
	HVAC - Equipment	964	\$25.00	\$24,100	734.7	11020.4	43.0	644.7	
	Insulation Pipe H2O - Diameter 1.5in	200	\$30.00	\$6,000	180.6	2709.0	10.6	158.5	
	Insulation Pipe H2O - Diameter 2in	200	\$30.00	\$6,000	180.6	2709.0	10.6	158.5	
	Insulation Pipe Steam - Diameter 1.5in	100	\$30.00	\$3,000	90.3	1354.5	5.3	79.2	
	Insulation Pipe Steam - Diameter 2in	100	\$30.00	\$3,000	90.3	1354.5	5.3	79.2	

Table 7. Planned Measures for Gas Commercial and Industrial Programs								
Program	Measure	Quantity (MMBtu)	Incentive / Quantity	Total Incentives	Total Annual Gas Savings (MWh)	Total Lifetime Gas Savings (MWh)	Annual Carbon Reductions (Short Tons)	Lifetime Carbon Reductions (Short Tons)
	Low-flow showerhead	788	\$25.00	\$19,700	711.6	7115.6	41.6	416.3
	Other, Custom	3000	\$80.00	\$240,000	2286.4	34295.9	133.8	2006.3
	Pipe/Tank/Duct/HVAC Insulation	100	\$30.00	\$3,000	76.2	1143.2	4.5	66.9
	Pre-rinse spray valve	788	\$25.00	\$19,700	711.6	2134.7	41.6	124.9
	Programmable thermostat	1100	\$40.00	\$44,000	993.3	10926.3	58.1	639.2
	Salon Nozzle	788	\$20.00	\$15,760	711.6	2134.7	41.6	124.9
	WiFi Thermostat - cooling and htg	25	\$28.00	\$700	22.6	338.6	1.3	19.8
	WiFi Tstat-heat only	25	\$28.00	\$700	22.6	338.6	1.3	19.8

Table 8. Shared and Other Costs for Gas Commercial and Industrial Programs

Table 8. Shared and Other Costs for Gas Commercial and Industrial Programs				
Program	Program Planning & Administration	Marketing	Sales, Tech Assist & Training	Evaluation & Market Research
Large C&I New Construction	\$98,024	\$116,068	\$402,835	\$136,143
Large C&I Retrofit	\$206,005	\$174,268	\$1,666,049	\$130,041
Small Business Direct Install	\$17,660	\$20,345	\$56,248	\$23,519
C&I Multifamily	\$37,165	\$25,856	\$155,638	\$4,382

2024 Evaluation, Measurement, and Verification Plan

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1 Introduction

Evaluation, Measurement, and Verification (EM&V) is an integral and required part of Rhode Island Energy's energy efficiency program planning process. EM&V provides independent verification of impacts to ensure that savings and benefits claimed by the Company through its energy efficiency programs are accurate and credible. EM&V also provides insight into market characteristics and guidance on energy efficiency program design to improve the delivery of cost-effective programs.

The Company's EM&V Plan continues to focus on evaluating Rhode Island projects, markets, and energy efficiency programs while leveraging as many resources as possible from evaluation studies in other jurisdictions to maximize value for ratepayers while minimizing costs. These studies are commissioned by the Company. They are conducted by independent evaluation firms, whose goal is to produce an accurate, complete, and transparent review of Rhode Island's energy efficiency programs and markets. The types of evaluation may include (but not limited to) the following:

- **Impact Evaluations:** Comparisons of claimed savings against actual realized savings using methods such as literature review, billing analyses, engineering methods and onsite data logging as a means of verification.
- **Process Evaluations:** Broad examinations of existing practices, such as program delivery methods, for the purpose of gathering information to draw conclusions about effectiveness of existing processes, highlight best practices, and offer suggestions for future improvements.
- **Market Assessment Studies:** Broad studies aimed at assessing changes in market conditions, such as evolving adoption rates of current energy efficiency technologies.
- **Net-to-Gross Evaluations:** Studies aimed at quantifying the rate of free-ridership and spillover associated with energy efficiency participants and non-participants.

The free-ridership rate is the percentage of savings attributable to participants who would have installed the measures in the absence of program intervention while spillover includes the effects of two components:

1. Participants in the program who install additional energy efficient measures outside of the program as a result of participating in the program, and
2. Non-participants who install energy efficient measures as a result of being aware of the program

The study methodologies and savings assumptions from evaluation studies are documented in the Rhode Island Technical Reference Manual (TRM). The TRM is reviewed and updated annually to reflect changes in technology, baselines, and evaluation results.

The entire evaluation process is managed by the Company in consultation with the Rhode Island Energy Efficiency & Resource Management Council (EERMC) and the Office of Energy Resources (OER). The EERMC and OER follow each study closely and are involved in planning, work plan development, and review of interim work products and study results.

The Company's EM&V framework provides confidence among ratepayers and stakeholders that programs are effective and EM&V activities are independent and objective.

2 Evaluation Studies Applicable to 2024

2.1 Overview

The Company, with input from EERMC and OER, expects to complete thirteen Rhode Island-specific evaluation studies in 2023 that will be applied beginning in 2024 (see Section 2.2 below). The research studies include impact evaluations, process evaluations, and market studies in the residential and commercial and industrial (C&I) sectors, as well as studies that are considered cross-cutting.

A complete list of historical research studies is provided in Section 4 along with a brief summary of the impact of those results in planning the Company's programs. Most of these studies are posted on the EERMC website.¹ Prior year studies that have been superseded by studies completed since the filing of the 2023 Energy Efficiency Plan have been removed from this list.

Section 5 provides detailed descriptions, findings, and recommendations of each of the Rhode Island-specific studies listed in the next section. In addition, selected research studies completed in other regions and/or other jurisdictions, most commonly Massachusetts,² are periodically reviewed for applicability to Rhode Island due to similarity with RI Energy's programs, either in the measures offered, or program structure or delivery. In some instances, the results of these other evaluations have been judged by the Company, in consultation with EERMC and OER, to be applicable to Rhode Island's energy efficiency programs. No such evaluation study results are being adopted in 2024 program planning.

2.2 Recent Rhode Island-Specific studies

Commercial

- Small Business Process Evaluation (RI-22-CX-Proc, In progress)
- C&I New Construction Baseline Study (RI-22-CX-Codes, In progress)
- Automated RTU Optimization Demonstration Evaluation (RI-22-CX-RTUOpt, In progress)
- Impact Evaluation of PY2021 Custom Gas Installations (RI-22-CG-CustGasPY21, In progress)
- Impact Evaluation of PY2021 Custom Electric Installations (RI-22-CE-CustElecPY21, In progress)
- C&I Free-Ridership and Spillover Study (RI-23-CX-FRISO, In progress)
- Commercial Cooking Gas and Electric Impact Evaluation (RI-23-CX-CommCook, In progress)

Residential and Income-Eligible

- Residential New Construction and Code Compliance Study (RI-21-RX-CSNC, Completed)
- Nonparticipant Characterization and Segmentation Research (RI-23-RX-NPsegmentation, In progress)

¹ <https://rieermc.ri.gov/resources/> then scroll to "EM&V Studies."

² Prior to May 2022, Narragansett Electric Company was part of National Grid, which has affiliates in Massachusetts, and which facilitated the leveraging of evaluation studies.

- Participation Study Dashboard Update (RI-23-RX-Dashboard, In progress)
- EnergyWise PY 2021 Impact Evaluation Study (RI-23-RX-EWisePY21, In progress)

Cross-cutting

- Comprehensive Measure Life Review (RI-23-XX-Lifetime, In progress)
- Rhode Island Energy Efficiency Workforce Development Needs Assessment (RI-22-XX-WorkDev , Completed)

2.3 Recent Studies Adopted from Other Jurisdictions

The company will not be adopting any studies from other jurisdictions at this time.

3 2024 Planned Evaluation Studies

3.1 Overview

This section describes planned studies that focus on areas of interest to the Rhode Island Energy energy efficiency programs and build on the deep history of evaluation studies commissioned by the Company over numerous years. To optimize the use of evaluation resources, where programs are considered to be similar in program delivery and population served with those offered in Massachusetts, the Company will consider avenues to participate in Massachusetts studies.³

3.2 Summary

Table 2 lists evaluation studies that the Company plans to conduct in 2024 to inform the 2025 Annual Plan and future planning cycles. Barring changes to the 2025 Annual Plan schedule, studies that will be incorporated into the Annual Plan must be completed by August 2024. The proposed budget for evaluation study expenditures in 2024 is approximately \$2.7 million (\$2.2 million for electric and \$0.5 million for gas), including staffing costs. The proposed budget for EM&V comprises approximately 1.5% of the total portfolio budget in 2024.

Study labeling codes take the general form shown in Table 1. For example, RI-17-CG-CustGas refers to the Custom Gas Evaluation Study that started in 2017 in the commercial sector for gas, while RI-18-RX-IESF refers to evaluation study started in 2018 of the income eligible single-family program for electric and gas.

Table 1. Study Labeling Code Format

[State]	–	[Year Study Conducted]	–	[Sector]	[Fuel]	–	[Keyword]
RI		21		R = residential	E = electric		
		22		C = commercial	G = gas		
		23		X = cross sector	X = electric & gas		

³ Despite no longer being part of National Grid, the Company plans to stay abreast of the voluminous Massachusetts evaluation activities that may be beneficial and applicable in Rhode Island and follow through as appropriate.

Table 2. Planned Evaluation Studies in 2024

Sector	Study Code	Type	Affected Programs	Study Name
C&I	RI-24-CE-Lighting	Impact	C&I Elec	Impact Evaluation of Upstream or Downstream Prescriptive C&I Lighting
C&I	RI-24-CX-CustProcessEval	Process	C&I	Process Evaluation of Custom Approach
C&I	RI-23-CG-CustGasPY22	Impact	C&I Gas	Impact Evaluation of Custom Gas Installations
C&I	RI-23-CE-CustElecPY22	Impact	C&I Elec	Impact Evaluation of Custom Electric Installations
Cross-cutting	RI-23-XX-AESC24	Value	All Elec; All Gas	2024 Avoided Energy Supply Component Study 2024
Residential	RI-24-RX-IncEligible	Impact	Residential	Impact Evaluation of Income Eligible Single Family Program
Cross-cutting	RI-24-XX-StandardsSavings	Impact	All Elec; All Gas	Appliance Standards Gross Savings Review
C&I	RI-24-CX-CINCPProcess	Process	C&I	Process Evaluation of C&I New Construction Program
C&I	RI-24-CX-ISPRResearch	Impact	C&I	Commercial and Industrial Industry Standard Practice Research
Cross-cutting	RI-24-XX-MultiFamCustom	Impact	All Elec; All Gas	Impact Evaluation of Multifamily Custom Approach
Residential	RI-24-RX-MarketResearch	Market	Residential	Residential Market Research
C&I	RI-24-CX-MarketResearch	Market	C&I	Commercial and Industrial Market Research
C&I	RI-24-CX-SBDashboard	Market	Residential	Small Business Data Dashboard
Cross-cutting	RI-24-XX-MeasureLife2	Impact	All Elec; All Gas	Comprehensive Measure Life Review, Phase II

The evaluation pathway for pilots, demonstrations, and assessments is based on each effort’s scale, budget, scope, and the availability of external data. The Company’s EM&V team will provide guidance

beginning at the Plan stage for all pilots, demonstrations, and assessments to ensure design and data collection are suitable to allow for effective evaluation. In cases where an independent evaluation is appropriate, the EM&V team will run the evaluation. For guidelines on the stakeholder review process and which pilots, demonstrations, and assessments will receive an independent evaluation, please see Attachment 8. The evaluation will follow the same established evaluation framework used in evaluations of established programs. This includes management of the independent evaluation vendor by the Company's EM&V team in consultation with the EERMC and OER. See Attachment 8 for further details on pilots, demonstrations, and assessments.

The EM&V team will follow the Company's standard procurement policy that cuts across programs in order to achieve the lowest cost procurement of required external services while enabling the Company to minimize administrative costs, deliver on program commitments, and meet time-sensitive regulatory deadlines. The Company's standard procurement policy is supported and enforced by a stand-alone internal procurement function. Contract characteristics below certain thresholds are eligible for sole sourcing while contract characteristics above thresholds require competitive procurement - unless it can be demonstrated to the procurement organization that securing multiple bids is not possible or practical.

Final reports along with graphical executive summaries will be made publicly available upon completion of the evaluation studies. All complete graphical executive summaries will be provided as a handout at EERMC meetings and posted on the EERMC website.⁴

3.3 Commercial and Industrial Planned Studies

RI-23-CG-CustGasPY22 - Impact Evaluation of PY2022 Custom Gas Installations

The objective of this impact evaluation is to provide verification of natural gas energy savings estimates for a sample of custom gas projects through site-specific inspection, metering, and analysis. The results of this study will be used to determine the realization rates for custom gas energy efficiency offerings based on installations from 2022. This will continue 'rolling' evaluation efforts, where each year will evaluate roughly 1/3 of the number of sites needed for a full sample and results will be combined with results from the previous two years, which will keep the realization rates updated yearly. This study began in summer 2023 and will continue into 2024 at which time a new cohort from 2023 will be studied.

RI-23-CE-CustElecPY22 – Impact Evaluation of PY2022 Custom Electric Installations

The objective of this impact evaluation is to provide verification of electric energy savings estimates for a sample of non-lighting custom electric projects through site-specific inspection, metering, and analysis. The results of this study will be used to determine the realization rates for custom electric energy

⁴ <https://rieermc.ri.gov/plans-reports/evaluation-studies/>

efficiency offerings based on installations from 2022. This will continue 'rolling' evaluation efforts, where each year will evaluate roughly 1/3 of the number of sites needed for a full sample and results will be combined with results from the previous two years, which will keep the realization rates updated yearly. This study began in spring 2023 and will continue into 2024 at which time a new cohort from 2023 will be studied.

RI-24-CE-Lighting - Impact Evaluation of Midstream or Downstream Prescriptive C&I Lighting

Lighting efficiency continues to be a significant contributor to savings in the C&I Electric portfolio, and it has been five years or more since C&I lighting was studied in an impact evaluation. The Company will review achieved savings in 2023 and identify whether the evaluation will focus on midstream or downstream lighting programs. A downstream study could focus on baseline fixture types and controls, while a midstream study could assess in-service rates.

RI-24-CX-CustProcessEval - Process Evaluation of Custom Approach

Commercial and Industrial custom projects continue to be a major contributor to overall savings. The Company has many strategies for reaching customers through the custom pathway and, in addition, there are several additional administrative process steps needed in the custom pathway. This study will review both the outreach and administrative processes and develop recommendations for process improvements that may ultimately lead to greater amounts of participation and savings. A similar study is being launched in Massachusetts and it is believed that it may be possible to leverage survey instruments from that study.

RI-24-CX-CINCPProcess - Process Evaluation of C&I New Construction Program

The Commercial and Industrial New Construction market continues to offer opportunities for savings. The Company's process to effectively intervene in this market will be reviewed in this study with the objective of more effectively influencing New Construction efficiency projects.

RI-24-CX-ISPResearch - Commercial and Industrial Industry Standard Practice Research

The objective of this study is to better understand what the baseline or industry standard practice (ISP) is for certain technologies. There are two potential areas of investigation: One area is air compressors, where many projects use load/no load as the baseline but VFD (variable frequency drive) compressors are ever more common and could be standard practice. There may be an opportunity to study compressor ISP jointly with Massachusetts. The second potential area is a cannabis grow facility ISP study, particularly with regards to horticulture lighting. This is an emerging area in the state with great potential for efficiency. However, since it is emerging, there are varying views about what baseline practices are. These questions could be resolved with an ISP study. The Company will determine the specific area for investigation in late 2023 or early 2024.

RI-24-CX-MarketResearch - Commercial and Industrial Market Research

This research will focus on one or more of the following areas: it may focus on the lighting market to understand more concretely how much fluorescent lighting is still installed, and how much lighting is still without controls. Updated data collection should help plan future lighting programs in the state. The research may also focus on certain C&I submarkets that have experienced lower than average participation and savings rates to understand the market drivers and develop strategies for increasing participation and savings.

RI-24-CX-SBDashboard - Small Business Data Dashboard

The focus of the data dashboard would be to collect participant and non-participant data for the small business sector and map it geographically to identify which communities and, potentially, small business subtypes, are underserved. This, in turn, will assist in the development of outreach strategies for this market. A similar dashboard was constructed for the Residential sector and it has been proven to be very helpful.

3.4 Residential and Income-Eligible Planned Studies

RI-24-RX-IncEligible - Income Eligible Single Family Impact Evaluation

Rhode Island Energy has not completed an impact evaluation of this program since 2018 – and that study evaluated the cohort of participants from 2015-2016. The impact values from this study are among the oldest in Rhode Island Energy’s residential portfolio and suggest an update using a more recent cohort (likely 2022) is needed. This study will conduct an impact evaluation of the Income Eligible Single Family program.

RI-24-RX-MarketResearch – Residential Market Research

There are several areas of potential interest for additional market research to support delivery of Residential energy efficiency programs. Among these are research into: HVAC market intervention strategies, customer attitudes about electrification of residential cooking, challenges and opportunities of electrification in LMI households, language and access barriers for Residential customers, and follow-ups to the Nonparticipant Characterization and Segmentation Research (RI-23-RX-NPSegmentation) which is focusing on electric heat customers. Research related to electrification will be carefully considered to make sure it is consistent with the Company’s energy efficiency implementation efforts. The Company will determine the specific area for investigation in late 2023 or early 2024.

3.5 Cross-sector or Other Planned Studies

RI-23-XX-AESC24 – 2024 Avoided Energy Supply Component (AESC) Study

Rhode Island Energy participates in the triennial regional AESC Study, as it has done for over 20 years. This study produces the avoided costs the Company uses in cost-effectiveness testing (see Attachment 4) and was last updated in 2021. This study kicked off in August 2023 and a final report is scheduled to

be delivered in the first quarter of 2024. Rhode Island Energy will use the results of this study beginning with the 2025 Annual Plan.

RI-24-XX-StandardsSavings - Appliance Standards Gross Savings Review

This study would build from work recently completed in New Jersey and currently underway in Massachusetts to update electric and natural gas baselines resulting from the adoption of the Appliance and Equipment Energy and Water Efficiency and Standards Act of 2021 (R.I.G.L § 39-27). The New Jersey and Massachusetts studies have identified concerns with the savings estimates produced by the Appliance Standards Awareness Project. This study would apply the revised savings estimates approaches established in New Jersey and Massachusetts to the appliance standards adopted in Rhode Island and update baselines and savings estimates as necessary.

RI-24-XX-MultiFamCustom - Multifamily Custom Measure Impact Evaluation

In 2021, the Residential evaluation team completed a comprehensive process and impact evaluation of Rhode Island Energy's market rate and income eligible multifamily programs. However, that study focused exclusively on the programs' prescriptive measures and did not include custom measures, which given the programs' position at the nexus of the residential and commercial sectors, reflect a meaningful portion of total multifamily savings. An impact study focused on custom measures would close this existing evaluation gap.

RI-24-XX-MeasureLife2 - Comprehensive Measure Life Review, Phase II

The Comprehensive Measure Life Review (RI-23-XX-Lifetime) being conducted in 2023 reviewed the measure lives of approximately 60% of the measures in the Company's benefit-cost model, assessed the quality of those measure lives and, where appropriate, recommended updated sources and values. This is an important exercise because the calculation of lifetime benefits created by the programs depends on an accurate assessment of measure lives. Because Rhode Island Energy expanded the number of measures in its model, the 2023 study was not able to review the measure lifetimes for all the measures. This proposed study will complete the research.

4 Historic Evaluation Studies

This section contains a list of all historic studies still being used by the Company as the basis of claimed savings in the 2023 Program Plan and in the Technical Reference Manual. An at-a-glance summary in Table 3 shows the studies by program, followed by the more detailed Table 4 summarizing the relevant studies.

Table 3. Historic Evaluation Studies

Sector	Study type	Program	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024 Plan	
Residential	Impact	EnergyWise SF											
		Income Eligible SF											
		EnergyWise MF											
		Income Eligible MF											
		Home Energy Reports											
		EnergyStar Products											
	Impact/Market	HVAC								Demo	HP		
		EnergyStar Lighting											
	Impact/Process	Connected Solutions											
		EnergyWise SF											
	Market	EnergyWise MF											
		EnergyWise SF											
	Process	EnergyWise SF				HEAT Loan							
		Income Eligible SF											
		EnergyWise MF											
Income Eligible MF													
Process/Market	Home Energy Reports												
	HVAC												
Cross-cutting/Special	Benefits	Avoided Cost											
		Economic Impacts											
	Impact	Lifetime											
		C&I NEIs											
		Gas Peak Demand											
	Impact/Market	C&I Cooking											
		Workforce											
	Market	ES Homes/Codes&Standards											
		Potential Study											
		Participation											
		Non-Participant											
		RASS											
		Heat Pumps Study											
		Legislated M&V Study											
	Process	Free Ridership/Spillover											
Value	Piggybacking Study												
C&I Electric	Impact	All											
		Custom											
		HVAC											
		Industrial Process											
		CAIR											
		Refridgeration, Motors, Other											
		Custom Lighting											
		Street Lighting											
		CDA											
		CHP											
		Prescriptive Lighting											
		Upstream Lighting											
		Prescriptive HVAC			chillers								
		Prescriptive VSD											
	Prescriptive CAIR												
Market	Connected Solutions												
Process	All												
C&I Gas	Impact	All											
		Custom											
	Market	Prescriptive	steam trap		steam trap	steam trap							
		All											
	Process	All											
Small Business	Impact	All											
		Lighting	presc.										
	Market	Non-Lighting Electric											
		All											
Process	NTG												
	All												

These studies are available through the EERMC, the PUC, and Rhode Island Energy.

Table 4. Completed Evaluation Studies Applicable in 2023

2023		
Study	Impact Descriptions	Sector
Cadeo & NMR, Residential New Construction and Code Compliance Study, May 2023	The study updated the User Design Reference Home baseline measure level efficiencies, observed how building practices have changed over time, and identified the level of code compliance.	Res
Cadeo, Comprehensive Measure Life Review, August 2023	The study reviewed prescriptive measure life assumptions and ensured they aligned with recent research, Rhode Island evaluation studies, and industry best practices. The study also recommended measure life updates when appropriate.	Cross-Cutting
Cadeo, EnergyWise Single Family Weatherization Impact Evaluation, August 2023 (Draft)	The study updated the gross energy savings for EWSF's weatherization measures, for both primary and secondary heating and cooling. The evaluation accounted for energy savings associated with natural gas, electricity and/or delivered fuels (oil, propane, and wood).	Res
DNV, Impact Evaluation of PY2021 Custom Gas Installations, August 2023	The study updated realization rates for custom gas projects, as part of a rolling effort that incorporated results from PY2019, PY2020, and PY2021.	C&I
DNV, Impact Evaluation of PY2021 Custom Electric Installations, August 2023	The study updated realization rates for custom electric projects, as part of a rolling effort that incorporated results from PY2019, PY2020, and PY2021.	C&I
DNV, Rhode Island Commercial Food Service Equipment ISP, August 2023	The study characterized industry standard practice in RI for commercial kitchen equipment by incorporating the 2023 appliance standards and prevalence of used equipment in the marketplace.	C&I
Cadeo, Small Business Program Process Evaluation, August 2023	The study assessed program activities and identified opportunities for program enhancement for the small business program.	C&I
BW Research Partnership, Rhode Island Energy Workforce Development, August 2023	The study quantified the current energy efficiency workforce in RI, identified needs and opportunities for the future, highlighted workforce development gaps and potential solutions, and identified potential roles for RI Energy in supporting energy efficiency workforce development in RI.	Cross-Cutting

2022		
Study	Impact Descriptions	Sector
DNV, C&I Lighting Market Characterization and Adjusted Measure Life Study, August 2022	The study calculated adjusted measure lives for non-residential custom and prescriptive lighting measures for RI.	C&I
DNV, Impact Evaluation of PY2020 Custom Gas Installations, August 2022	The study updated realization rates for custom gas projects, as part of a rolling effort that incorporated results from PY2018, PY2019, and PY2020.	C&I
DNV, Impact Evaluation of PY2020 Custom Electric Installations, August 2022	The study updated realization rates for custom electric projects, as part of a rolling effort that incorporated results from PY2018, PY2019, and PY2020.	C&I
DNV, Rhode Island Cannabis Industry Standard Practice, August 2022	The study identified industry standard practices for the medical market cannabis industry with a focus on horticultural lighting, lighting controls, cultivation area HVAC, HVAC controls, and dehumidification.	Cross- Cutting
Cadeo, Nonparticipant Market Barriers Study, June 2022	The study characterized the customer groups not participating in Rhode Island Energy's energy efficiency programs, determined barriers to participation, and identified opportunities to engage nonparticipants.	Cross- Cutting
Cadeo, Participation and Multifamily Census Study, June 2022	The study identified trends and drivers in participation and the likelihood of nonparticipants opting into a residential program in the future. The study also developed an algorithm to identify multifamily buildings suitable for RIE's multifamily programs.	Cross- Cutting
Guidehouse, Rhode Island 2021 Energy Efficiency Workforce Analysis – Final Report, May 2022	This study quantified the workforce that was involved in delivering The Narragansett Electric Company's Rhode Island programs in 2021. The workforce analysis reported the number of jobs associated with the programs, compared them to past years, and provided narrative context for those findings and observations.	Cross-Cutting
DNV, O&M and Non-O&M NEI Study (MA20X10-B-CIOMNEI), October 2021	This study developed O&M and non-O&M non-energy impacts (NEIs) across all C&I measures and programs.	C&I
2021		
Study	Impact Descriptions	Sector
DNV, Impact Evaluation of PY2019 Upstream Lighting Program, July 2021	This study updated prospective realization rates and impact factors for the C&I Upstream lighting program. The values reflect decreasing ISR values for Screw-in products and increasing ISRs for linear products. These will be applicable for 2022, 2023, and beyond.	C&I

DNV, Impact Evaluation of PY2019 Custom Gas Installations, September 2021	The study updated realization rates for custom gas projects, as part of a rolling effort that incorporated results from PY2017, PY2018, and PY2019.	C&I
DNV, Impact Evaluation of PY2018 Custom Electric Installations, September 2021	The study updated realization rates for custom electric projects, as part of a rolling effort that incorporated results from PY2016, MA PY2017/18, and PY2018.	C&I
DNV, Impact Evaluation of PY2019 Custom Electric Installations, September 2021	The study updated realization rates for custom electric projects, as part of a rolling effort that incorporated results from PY2016, PY2018, and PY2019.	C&I
NMR, Appliance Recycling Impact Factor Update, June 2021	This study updated the gross kWh savings, realization rates and NTG factors for refrigerator and freezer recycling measures.	Res
DNV, Franchise Controls Deemed Savings Study, March 2021 (Leveraged study from MA)	This study recommended a deemed savings value of 5,344 kWh for a building automation system (BAS) measure that controls small individual food service appliances.	C&I
DNV, Upstream Lighting NTG, June 2021 (Leveraged study from MA)	This study updated NTG values for upstream lighting technologies and adjusted the values down significantly due to heavy free ridership.	C&I
DNV, Ground Source Heat Pump eTRM Measure Review, March 2021 (Leveraged study from MA)	This study recommended that GSHPs be broken out from ASHPs into their own category offering in order to allow the program to attribute savings, baselines, and lifetimes in a more defensible way. It also recommended the GSHP lifetime be updated to 25 years.	C&I
DNV, NRNC Market Characterization Study, June 2021 (Leveraged study from MA)	This study produced factors to be applied to IECC 2015-based code LPD to determine baseline LPD requirements.	C&I
DNV, Energy Management System ISP Study, 2021 (Leveraged study from MA)	This study identified industry standard practices for energy management systems, with a particular focus on criteria for determining when an existing system should be considered failed.	C&I
DNV, C&I HVAC NTG & Market Effects Measurement, 2021 (Leveraged study from MA)	This study established Net to Gross Ratios for six technologies supported by the Upstream HVAC Initiative.	C&I
Guidehouse, RCD Virtual Assessment Study, March 2021 (Leveraged study from MA)	This study found that in-service rates are lower for self-installed measures. Rhode Island leveraged results from this study to update the in-service rates for instant savings measures in the EnergyWise Single Family program.	Res

Guidehouse, Comprehensive TRM Review, April 2021 (Leveraged study from MA)	This study updated savings assumptions and effective useful lives (EUL) of several residential measures in MA. Rhode Island adopted the results from this study to update savings and EUL assumptions for several measures in the residential programs.	Res
NMR, Low Income Multifamily Health NEI (TXC 50), July 2021 (Leveraged study from MA)	This study produced NEI values associated with energy efficiency programs in Income Eligible, Multifamily buildings. A total of 4 health and safety NEIs were monetized as part of this study. Arthritis, Thermal Stress (cold), Home Productivity, and reduced fire risk were all found to have Annual Per unit values of \$49, \$1,426, \$49, and \$13, respectively, totaling \$1536. These values are allocated to all applicable air sealing, insulation, and heating measures.	Res
NMR, Residential New Construction Quick Hit NEI Study (MA20X14-RNCNEI), September 2021 (Leveraged study from MA)	The study produced updated NEI values for heating related measures offered through the Residential New Construction program. The total Heating NEIs for RNC went from an Annual Per Unit value of \$117 to \$142.33 due to increases in thermal comfort and noise reduction related impacts.	Res
NMR, Residential Downstream/Upstream Products Net-to-Gross Study, June 2021 (Leveraged study from MA)	This study yielded prospective net-to-gross ratios and retrospective and prospective in-service rates for products supported by the Residential Retail or Residential Coordinated Delivery Initiatives. Rhode Island adopted the results from this study to update 2022 planning assumptions for ENERGY STAR Products program.	Res
NMR, Low-rise Residential New Construction Net-to-Gross Study, July 2021 (Leveraged study from MA)	This study yielded prospective and retrospective net-to-gross ratios for measures supported by the Low Rise Residential New Construction offering. Rhode Island adopted the results from this study to update 2022 planning assumptions.	Res
NMR, Renovations and Additions Net-to-Gross Study, July 2021 (Leveraged study from MA)	This study yielded prospective and retrospective net-to-gross ratios for measures supported by the Renovations and Additions Residential New Construction offering. Rhode Island adopted the results from this study to update 2022 planning assumptions.	Res
Guidehouse, Impact Analysis of Residential Wi-Fi Thermostats, September 2021 (Leveraged study from MA)	This study updated savings assumptions for programmable and Wi-Fi thermostats delivered through retail and direct install channels. Rhode Island adopted the draft results from this study to update savings for programmable and Wi-Fi thermostat measures in the residential HVAC and retrofit programs.	Res
Net-to-Gross Research of RCD and Select Products Measures (MA20R28)	For RI, the study applied new NTG results for the residential gas and electric HVAC programs.	Res
Synapse Energy Economics, Avoided Energy Supply	This study developed new estimates of avoided costs associated with energy efficiency measures for program administrators throughout New England States. Rhode Island	All

Components in New England 2021 Report. May 2021.	used the avoided costs of energy, capacity, natural gas, fuel oil, environmental costs and demand reduction induced price effects resulting from this study for 2022 program planning.	
2020		
Study	Impact Descriptions	Sector
Cadeo, Impact and Process Evaluation of EnergyWise Single Family Program, September 2020.	This study updated gross savings, in-service rates, and net-to-gross ratios for the EnergyWise Single Family program.	Res
Cadeo, Impact and Process Evaluation of EnergyWise Multi Family Program, September 2020.	This study updated gross savings, realization rates, in-service rates, and net-to-gross ratios for the EnergyWise Multi Family program.	Res
Cadeo, Impact and Process Evaluation of Income Eligible Multi Family Program, September 2020.	This study updated gross savings, realization rates and in-service rates for the Income-Eligible Multi Family program.	Res
Cadeo, Impact Evaluation of Home Energy Reports Program 2017-2019, September 2020.	This study updated realization rates for the Home Energy Reports program.	Res
NMR, Lighting Hours of Use Study, March 2020. (Leveraged study from MA)	This study reviewed and updated the HOU used to calculate the lighting savings measures in MA. Rhode Island adopted the results to update savings assumptions for the lighting measures in RI.	Res
DNV GL, Impact Evaluation of 2017 Small Business Electric Installations, March 2020.	The study updated electric non-lighting impact factors for the Small Business initiative. RI leveraged the MA study of this initiative.	C&I
DNV GL, C&I Measure Life Study, March 2020.	This study informed Effective Useful Lives and Remaining Useful Lives for key C&I energy efficiency measures, updating the commercial boiler EUL. RI leveraged the MA study of this initiative.	C&I
Tetra Tech, C&I Free-Ridership and Spillover Study, September 2020.	This study updated free-ridership and spillover rates for the C&I program	C&I
The Brattle Group, The Road to 100% Renewable Energy by 2030 in Rhode Island, December 2020.	This study provided a high-level economic analysis of the key factors that will guide RI to meet 100% of the state's electricity demand by 2030 through renewable generation and efficiency. The study updated economic impact multipliers to quantify the benefits of future EE programs in the Rhode Island economy.	All

2019		
Study	Impact Descriptions	Sector
NMR, RLPNC 17-3 Advanced Power Strip Metering Study (Revised). March 2019. (Leveraged study from MA)	This study yielded recommended gross electric savings and realization rates from advanced power strips offered through the Home Energy Services and upstream programs. Rhode Island adopted the result from this study to inform savings for Tier 1 and Tier 2 advanced power strips offered through its Retail Products program.	Res
Navigant, Wi-Fi Thermostat Impact Evaluation Secondary Research Study. September 2018. (Leveraged study from MA)	This study recommended annual savings values of 31 therms for combustion heating, 97 kWh for electric resistance heating, and 64 kWh for central air conditioning for Wi-Fi thermostats. Rhode Island adopted these results to update savings assumptions for Wi-Fi thermostats in HVAC and residential retrofit programs.	Res
2018		
Study	Impact Descriptions	Sector
Energy & Resource Solutions, Two-Tier Steam Trap Savings Study, April 2018.	This MA study recommends a two-tier approach for prescriptive steam traps. It calculates deemed savings to be 8.4 MMBtu/yr. for system operating pressure ≤15 psig, and 35.6 MMBtu/yr. for system operating pressure is >15 psig.	C&I
DNV GL, Impact Evaluation of PY 2015 Rhode Island Commercial and Industrial Upstream Lighting Initiative. September 2018.	The study updated impact factors for the Upstream Lighting initiative. The RI study leveraged the MA study of the same initiative.	C&I
DNV GL, Rhode Island Commercial & Industrial Impact Evaluation of 2013-2015 Custom Comprehensive Design Approach. October 2018.	The study updated the realization rate for the CDA initiative. The RI study leveraged the MA study of the same initiative.	C&I
DNV GL, Impact Evaluation of PY2016 RI C&I Small Business Initiative: Phase I. June 2019.	The study updated impact factors for the Small Business initiative. The RI study leveraged the MA study of the same initiative.	C&I
DNV GL, Prescriptive C&I Loadshapes of Savings. March 2018.	This MA study pooled known sources of 8,760 savings loadshapes in an interactive tool to estimate general prescriptive measure loadshapes over customizable time periods.	C&I
NMR, Rhode Island Residential Appliance Saturation Survey. October 2018	This study developed an inventory of residential end-uses, including appliances, consumer electronics, heating and cooling equipment, thermostats, water heating, and building characteristics. Findings from this study will be used to inform program planning and support future potential studies in Rhode Island.	Res

Cadeo, Rhode Island Impact Evaluation of Income Eligible Services Single Family Program, August 2018	This study produced deemed savings values and realization rates for electric and gas participants using billing and engineering analysis. The Company adopted the deemed savings values in the 2019 program plan.	Res
Navigant, MA Residential Electric Loadshape and Baseline Study (Heating and Cooling Season report). July 2018. (Leveraged study from MA)	This study collected saturation, penetration, and usage behavior data for all major electric and gas appliances in Massachusetts. Rhode Island adopted the end use load shapes determined by this study.	Res
NMR/DNV GL, TXC29 Market-Rate Rental Property NEI Study (Phase 1), March 2018	This study identified and analyzed NEIs associated with market-rate multifamily properties.	Res
2017		
Study	Impact Descriptions	Sector
ICF, 2017 Rhode Island Residential Code Savings Analysis	This study found that the average Rhode Island home could attain annual electric savings of 3,690 kWh and gas savings of 10 MMBtu if it fully complied with the state's building energy code.	Res
NMR, 2017 Rhode Island Code Compliance Enhancement Initiative Attribution and Savings Study	The study found residential and commercial attribution factors of 23% and 46%, respectively, which were used along with study results on average savings as well as construction activity projections to calculate the CCEI's projected savings from 2018-2020.	C&I
DNV-GL, MA C&I Steam Trap Evaluation Phase 2, Feb, 2017	This study updated steam trap savings estimates.	C&I
DNV-GL, Gas Boiler Market Characterization Study Phase II: Final Report, March 2017	This study updated C&I condensing boiler savings estimates.	C&I
DNV-GL, MA45 Prescriptive Programmable Thermostats, March 2017	This study updated programmable thermostat deemed gas savings for C&I programs.	C&I
2016		
Study	Impact Descriptions	Sector
DNV-GL, Impact Evaluation of 2014 RI Prescriptive Compressed Air Installations Final Report, July 2016	This study yielded an energy realization rate for prescriptive compressed air compressors, dryers, and EE accessories.	C&I
DNV-GL, Impact Evaluation of 2012 National Grid-Rhode	This study yielded an energy realization rate for prescriptive chillers.	C&I

Island Prescriptive Chiller Program Final Report, July 2016		
Cadmus Group; Large Commercial and Industrial On-Bill Repayment Program Evaluation, September, 2016	National Grid commissioned this study to evaluate the financing component of the large commercial and industrial (LCI) energy efficiency program. Cadmus evaluated the program design, performance, and sustainability; the overall market for the program; and the program’s penetration of that market to date.	C&I
DNV GL, Stage 2 Results—Commercial and Industrial New Construction Non-Energy Impacts Study—Final Report, prepared for the Massachusetts Program Administrators, March 2016	The purpose of this study was to quantify the dollar value of participant NEIs for C&I NC projects completed in 2013, and to estimate gross NEIs per unit of energy savings resulting from NC electric and gas measures separately.	C&I
2015		
Study	Impact Descriptions	Sector
DNV-GL, Massachusetts 2013 Prescriptive Gas Impact Evaluation; Steam Trap Evaluation Phase 1, March 2015	The study concluded that there should continue to be both prescriptive and custom pathways for steam trap retrofit incentives, and further recommended that a group convene to review and revise the deemed savings estimate for steam traps. The study also recommended the use of a six-year lifetime for steam traps.	C&I
2014		
Study	Impact Descriptions	Sector
DNV GL, 2014, Impact Evaluation of National Grid Rhode Island C&I Prescriptive Gas Pre-Rinse Spray Valve Measure	The evaluation examined the gas and water savings associated with the installation of reduced-flow pre-rinse spray valves. The results are based on site measurements from MA and RI facilities. The final gross gas and water savings are 11.4 MMBtu and 6,410 gallons per spray valve respectively.	C&I
2012		
Study	Impact Descriptions	Sector
TetraTech, Final Report – Commercial and Industrial Non-Energy Impacts Study, (prepared for Massachusetts Program Administrators), June 29, 2012	This report provides a comprehensive set of statistically reliable non-energy impact (NEI) estimates across the range of C&I prescriptive and custom retrofit programs offered by the MA electric and gas Program Administrators (PAs). The analytical methods used allow this report’s findings to be applicable to RI.	C&I

2011		
Study	Impact Descriptions	Sector
KEMA, Inc., C&I Unitary HVAC Loadshape Project Final Report, Prepared for the Regional Evaluation, Measurement, and Verification Forum, June 2011.	This study produced updated diversity and equivalent full load hours for unitary HVAC measures using end use metering.	C&I
NMR/TetraTech, MA Special and Cross Sectors Studies Area, Residential and Low-Income NEI Evaluation, August 2011	This study quantified NEIs that apply to residential and low-income programs.	Res
2010		
Study	Impact Descriptions	Sector
ADM Associates, Inc., Residential Central AC Regional Evaluation, Final Report, October 2009	kWh and kW savings figures for the installation of efficient residential CAC systems.	Res

5 2023 Evaluation Study Findings

5.1 Rhode Island-Specific studies

RI-21-RX-CSNC - Residential New Construction and Code Compliance Study

Type of Study: Impact/Market

Evaluation Conducted by: Cadeo/NMR

Date Evaluation Conducted: May 2023

Evaluation Objective and High-Level Findings:

The primary objectives of this study included:

- Updating the baseline efficiencies for measures included in the UDRH.
- Estimating average code compliance for homes built under the Rhode Island State Building Code – 8 Energy Conservation Code.
- Comparing non-program on-site data to program home data, as well as comparing those to results from previous baseline studies.
- Understanding the extent to which building departments keep thorough and accurate records that could inform baseline efficiencies.

The key findings from the study include:

- Non-program HERS scores have only improved slightly since the previous 2017 baseline study (2017 Baseline HERS score = 73 vs 2022 Baseline HERS score = 71).
- Most measure level efficiencies have improved since the previous 2017 baseline including all building shell R-values; however, some measures have decreased in efficiency (measure level percent improvements shown in *Table 5* below).
- Program homes continue to outperform non-program homes, but the margin is decreasing. (Program homes HERS score = 61 vs non-program homes HERS score = 71).
- Overall code compliance has increased since the previous study among non-program homes, and it is higher among custom built homes than spec homes (code compliance for custom homes = 90%, spec homes = 85%, and statewide homes = 87%).
- Windows and air leakage had the highest rate of code compliance, and duct leakage the lowest (measure level code compliance is illustrated in *Table 6*).
- The recommended UDRH update inputs are highlighted below in *Table 7*.

Table 5. Measure Level Efficiencies Percent Improvement

Measure	% Improvement
Conditioned foundation wall	57%
Frame floor	29%

Measure	% Improvement
Vaulted ceiling	20%
Air leakage	13%
Flat ceiling	7%
Cooling efficiency	7%
Above grade wall	7%
Duct leakage to outside	3%
Heating efficiency	-1%
Total duct leakage	-19%
DHW efficiency	-35%

Table 6. Measure Level Code Compliance

Measure	% Compliant
Windows	97%
Air leakage	95%
Foundation walls	94%
Above grade walls	91%
Slabs	89%
Total	87%
Frame Floors	82%
Ceiling	81%
Duct leakage	68%

Table 7. Recommended UDRH Inputs

	Units	2017 Baseline	Recommended UDRH Input
Above grade wall	R-value	19.8	21.3
Flat ceiling	R-value	36.1	39.0
Vaulted ceiling	R-value	29.4	36.9
Frame floor	R-value	20	28.1
Conditioned foundation wall	R-value	7.9	18.2

	Units	2017 Baseline	Recommended URDH Input
Duct leakage to outside	CFM25/ 100 sq. ft.	8.6	8.3*
Total duct leakage	CFM25/ 100 sq. ft.	20.6	24.6*
Air leakage	ACH50	5.3	4.6
Heating efficiency	AFUE	92.1	91.4
Heating efficiency (fossil fuel)	AFUE	NA	91.4
Heating efficiency (electric)	HSPF	NA	10.3
Cooling efficiency	SEER	13.7	14.8
DHW efficiency	EF	1.38	1.02
DHW efficiency (fossil fuel)	EF	NA	0.89
DHW efficiency (electric)	EF	NA	1.35

*Two outliers identified and removed. No other outliers identified for other measures.

Programs to which the Results of the Study Apply:

The results of this study are applicable to Residential New Construction (RNC) measure savings and results may inform RNC program strategy.

Evaluation Recommendations included in the Study:

Cadeo/NMR recommends the following:

- Focus code compliance training activities on measures with the lowest levels of compliance, specifically duct leakage. Compliance has dropped for duct leakage since the previous baseline from 72% to 68% and a majority (93%) of homes sampled in this study had ducts, presenting a large opportunity to increase compliance. Ceilings and frame floors continue to have lower compliance so should continue to be a focus in these trainings as well.
- The program should consider increasing the stringency of program requirements to increase the overall performance of program homes over the general market, otherwise program savings may decrease. This may involve increasing the minimum % savings thresholds for program Tiers or adopting a pay for performance type model similar to the Massachusetts program.
- Increase incentives outside of the RNC program (downstream or midstream) for heat pump water heaters above the level of gas tankless models, or drop gas tankless incentives entirely, to drive adoption in new homes. While a builder or homeowner may not decide to participate in the RNC program for the whole home, they may decide to purchase an incentivized piece of equipment. Decreasing the upfront cost of HPWHs through incentives will make them a competitive choice for water heating.
- Focus code official trainings on consistently collecting third party verification of energy code compliance such as prescriptive checklists, blower door and duct blaster results, IECC certificates, or HERS ratings. Collecting building department data to inform UDRH values in future RNC baseline studies is still a worthwhile endeavor, but data from third party verified sources should be prioritized.

Explain Whether or Not Rhode Island Energy (RIE) Decided to Adopt Recommendations from the Study:

RIE is considering the recommendations for implementation into the RNC program and have adopted the savings impacts from the updated UDRH.

Savings Impact:

The RNC measures savings decreased by 2.37% for heating measures, 2.76% for cooling measures, 2.72% for hot water savings, and 2.50% for appliance measures based on the updated UDRH.

RI-23-XX-Lifetime – Comprehensive Measure Life Review

Type of Study: Policy

Evaluation Conducted by: Cadeo

Date Evaluation Conducted: August 2023

Evaluation Objective and High-Level Findings:

The primary objectives of this study included:

- Ensure all measure life assumptions align with the most recent research and evaluation efforts in Rhode Island and industry best practices for prescriptive measures.
- Recommend updated measure life values for prescriptive measures, when appropriate and possible.

The key findings from the study include:

- Cadeo categorized measures into high, medium, and low based on lifetime savings to prioritize which measures to review. Cadeo identified a total of 68 measures to review.
- Cadeo recommended a new measure life source for six measures (1 high priority, 1 medium priority, and 4 low priority measures) which resulted in no impact to the measure life value.
- Cadeo recommended a new measure life source and value for 22 of the 68 measures. This consisted of the following measures by priority: high – 2 of the 8, medium – 7 of the 15, and low – 13 of the 45. Half of the measures resulted in an increase in the measure life and the other half a decrease in measure life.

Programs to which the Results of the Study Apply:

The results of the study are applicable to all prescriptive measures in Residential, Income Eligible, and C&I programs.

Evaluation Recommendations included in the Study:

Cadeo recommends updating the measure life source and value for 22 measures and the measure life source for six measures. The table below contains the measure life value recommendations.

Table 8. Measure Life Value Recommendations

Measure Name	Fuel	Sector	Existing ML	New ML
Wi-Fi Thermostat	Electric, Gas	Income Eligible & Residential	15	11
Electric Resistance to MSHP	Electric	Residential	18	17
Replacement Refrigerator	Electric	Income Eligible	19	15
Heat Pumps	Electric	Income Eligible	18	20
Mini-Split Heat Pump	Electric	Income Eligible	18	17

Measure Name	Fuel	Sector	Existing ML	New ML
Programmable Thermostat	Gas	C&I	15	11
Refrigerator Recycling	Electric	C&I	8	4
ERV	Gas	C&I	20	15
Refrigerator	Electric	Residential	12	15
MSHP	Electric	Income Eligible	18	17
Clothes Washer Most Efficient	Electric	Residential	11	14
HP Water Heaters	Electric	Income Eligible	10	13
Refrigerated Air Dryer	Electric	C&I	15	13
Faucet Aerator	Gas	C&I	7	3
VSD Compressor (15<=HP<=75)	Electric	C&I	15	13
Furnace	Gas	C&I	18	23
Water Heater	Gas	C&I	20	17
Early Retirement Clothes Washer	Electric	Income Eligible	12	14
VRF HP	Electric, Gas	C&I	15	17
Duct Insulation_MF	Gas	C&I	25	20

Explain Whether or Not Rhode Island Energy (RIE) Decided to Adopt Recommendations from the Study:

RIE is adopting all the measure life source updates and is generally adopting all the measure life value updates.

Savings Impact:

Overall, there is an approximate 0.3% lifetime savings increase across all sectors and fuels, using 2023 savings estimates.

RI-23-RX-EWisePY21– EnergyWise Single Family PY 2021 Weatherization Impact Evaluation Study (Draft)

Type of Study: Impact

Evaluation Conducted by: Cadeo

Date Evaluation Conducted: August 2023

Evaluation Objectives and High-Level Findings:

The primary objectives of this study included:

- Evaluating the energy consumption change in natural gas, electric, and delivered fuels associated with weatherization regarding primary heating usage, secondary heating use, and cooling.
- Comparing the evaluated savings to the previous evaluation from 2017-2018 and programs in neighboring states.

The key findings from the study include:

- Higher weatherization savings for participants that heat their homes with natural gas or delivered fuels in comparison to the 2017-2018 evaluation.
- Slightly lower weatherization savings for participants that electrically heat their home.
- Participants reduced their use of secondary heating fuels after weatherizing their home.

Programs to which the Results of the Study Apply:

The results of the study are applicable to the EnergyWise Single Family Program.

Evaluation Recommendations included in the Study:

The evaluation recommends the following updates to weatherization savings:

Table 9. EWSF Savings Results

Type of Savings	Natural Gas	Electric	Delivered Fuels
Primary Heating (MMBtu/year)	13.1	-	12.2
Primary Heating (kWh/year)	-	732	-
Secondary Heating (MMBtu/year)	0.3	0.1	0.2
Cooling (kWh/year)	23	24	21
Furnace Fan (kWh/year)	47	9	43
Total (MMBtu/year)	13.6	2.7	12.6

Explain Whether or Not Rhode Island Energy (RIE) Decided to Adopt Recommendations from the Study:

RIE is adopting the recommendations from the evaluation report.

Savings Impact:

Overall, gas weatherization savings increased by 42%, electric weatherization savings decreased by 6.9% and delivered fuel weatherization savings increased by 27% relative to the prior study.

RI-22-CG-CustGasPY21 – Impact Evaluation of PY2021 Custom Gas Installations**Type of Study:** Impact**Evaluation Conducted by:** DNV**Date Evaluation Conducted:** August 2023**Evaluation Objectives and High-Level Findings:**

The objective of this impact evaluation was to provide verification or re-estimation of energy (therms) savings for a sample of custom gas projects through site-specific inspections, end-use monitoring, and analysis. The site-specific results were aggregated to determine realization rates for Rhode Island Energy's custom gas installations.

Table 10. Custom Gas Installation Results

Parameter	PY2019	PY2020	PY2021	PYs 2018+2019+2021
Tracking Savings (therms)	1,944,204	1,280,693	1,075,499	4,300,346
Non-Operational Sample Size	10	8	4	22
Operational Sample Size	6	6	4	16
Realization Rate (RR)*	80.8%	84.5%	90.6%	84.4%
Relative Precision @ 80% CI (%)*	± 48.3%	± 8.9%	± 15.3%	± 18.0%

*Only non-steam trap realization rates are shown.

As a three-year rolling scheme is used to determine custom realization rates, the overall realization rate from this study combines results from PY2019, PY2020, and PY2021 studies.

In PY2021, all sites were completed as full measurement and verification with on-site metering and verification as it was found that customers and facilities have normalized post-COVID operations.

In this evaluation, steam trap sites were kept in the overall population so that they are included in the expanded results but were not included in the latest sample.

Programs to which the Results of the Study Apply:

Gas – Large Commercial New Construction

Gas – Large C&I Retrofit

Evaluation Recommendations included in the Study:

DNV GL recommends the following:

- Apply the combined result of 84.4% RR
- Assess whether to continue evaluating steam trap sites in upcoming custom evaluations or continue to forgo the evaluation of steam trap sites.
- Assess whether to implement the new MA steam trap results or determine an alternate approach to vetting RI steam trap sites which may involve developing a tool.
- Perform more site-specific adjustments on the calculation models for energy savings.
- Ensure baseline inputs used for the savings analysis are accurate.

DNV GL proposes the following considerations:

- Update the Steam Trap Tool for RI using RI specific data.
- Separate steam trap and non-steam trap results.

Explain Whether or Not Rhode Island Energy (RIE) Decided to Adopt Recommendations from the Study:

RIE is adopting the combined result of 84.4% RR for custom gas and is assessing the approach to steam traps.

Savings Impact:

The study will result in an increase in claimable savings for Large C&I Custom Gas projects as the realization rate slightly increased from the previous year.

RI-22-CE-CustElecPY21 – Impact Evaluation of PY2021 Custom Electric Installations**Type of Study:** Impact**Evaluation Conducted by:** DNV**Date Evaluation Conducted:** August 2023**Evaluation Objective and High-Level Findings:**

The objective of this impact evaluation was to provide verification or re-estimation of energy (kWh) savings for a sample of custom electric projects through site-specific inspections, end-use monitoring, and analysis. The site-specific results were aggregated to determine realization rates for Rhode Island Energy's custom electric installations for non-lighting.

Table 11. Custom Electric Installation Results

Non-Lighting	PY2019	PY2020	PY2021	PYs 2018+2019+2021
Tracking Savings (kWh)	12,804,067	10,676,671	26,073,183	49,552,921
Sample Size (n)	15	10	10	39
Realization Rate (RR)	104.1%	68.6%	88.4%	89.1%
Relative Precision @ 90% CI	± 18.4%	± 28.4%	± 15.8%	± 11.9%

The PY2018 study was scheduled to be completed in 2020, but due to onsite restrictions resulting from COVID-19, onsite work did not begin until late 2020. Due to this delay, the PY2019 study was completed in 2021. As a three-year rolling scheme is used to determine custom realization rates, the overall realization rates from this study combine results from PY2019, PY2020, and PY2021 studies.

For the beginning of 2021, collecting metered data at some sites was not possible due to pandemic-related changes in facility operation or site access. For these sites, assessment of non-operational factors was performed, and a historical operational adjustment factor was used to estimate the site operation.

Programs to which the Results of the Study Apply:

Electric – Large C&I Retrofit

Electric – Large Commercial New Construction

Evaluation Recommendations included in the Study:

DNV recommends applying the combined results of 89.1% Energy RR, 73.8% Summer kW RR, 105.3% Winter kW RR, and 78% on-peak kWh RR for non-lighting.

DNV also recommends the following:

- RIE conduct a thorough review of baseline assumptions and calculations for measures involving dust collection systems.
- RIE perform post inspections for all projects regardless of savings.
- RIE field staff and implementers interview customers on their type of network security anytime a measure involves network and/or Wi-Fi control to understand compatibility.
- RIE ensure proper commissioning protocol are followed to ensure key measure components are installed and generating savings.

- RIE continue to evaluate lifetime savings and report them at the site level in all future cost electric evaluations.

Explain Whether or Not Rhode Island Energy (RIE) Decided to Adopt Recommendations from the Study:

RIE is adopting the combined results of 89.1% Energy RR, 73.8% Summer kW RR, 105.3% Winter kW RR, and 78% on-peak kWh RR for non-lighting.

Savings Impact:

The study will result in an increase in claimable savings for non-lighting Custom Large C&I Electric projects as the realization rate increased from the previous year.

RI-23-CX-CommCook – Commercial Food Service Equipment Industry Standard Practice Study

Type of Study: Impact

Evaluation Conducted by: DNV

Date Evaluation Conducted: August 2023

Evaluation Objective and High-Level Findings:

The objective of this ISP study was to research and understand what industry standard practice is for commercial kitchen equipment installed in replace on failure (ROF) and new construction (NC) applications. The primary focus of this study included commercial fryers, ovens, steam cookers, hot food cabinets, ice making and dishwashers.

DNV found that used equipment accounts for about 14% of commercial kitchen equipment sales and distributors indicated it accounts for about 12%. DNV did not find any difference between ROF versus NC projects. The weighted baselines are presented in Table 12.

Table 12. Commercial Food Service Equipment New Baselines

Measure	% New Equipment	% Used Equipment	Weighted Baseline
Fryer	87% Energy Star V2.0	2% Energy Star V2.0	11% Energy Star V2.0 – baseline
Oven	83% Energy Star V2.2	2% Energy Star V2.2	15% Energy Star V2.2 – baseline
Commercial dishwasher	83% Energy Star V2.0	0% N/A	17% Energy Star V2.0 – baseline
Hot food holding cabinets	86% Energy Star V2.0	0% N/A	14% Energy Star V2.0 – baseline
Steam cooker	100% Energy Star V1.2	0% N/A	0% N/A

DNV recalculated deemed electric and gas energy and demand savings using the new (2024) version of the Savings Calculator for ENERGY STAR Commercial Food Service Products. Inputs to the tool included a mix of CA DEER workpaper sources, ENERGY STAR standards, RI appliance standards and findings from this study. The recalculated savings using the weighted baseline are presented in Table 12.

Table 13. Commercial Food Service Equipment Savings Values with Weighted Baseline

Equipment Type	Equipment Size/ Category	Savings	Units
Electric Fryer	Standard Vat	2,017	kWh
	Large Vat	2,438	kWh
Electric Oven	Convection Oven	1,796	kWh
	Combination Oven	8,870	kWh
Electric Steam Cooker	Std. size	3,082	kWh
High Temperature Commercial Dishwasher	Under Counter	1,528	kWh
	Door Type	1,558	kWh
	Single Tank Conveyor	4,937	kWh
	Multi Tank Conveyor	8,587	kWh
	Pot, Pan and Utensil	1,159	kWh
Low Temperature Commercial Dishwasher	Under Counter	1,650	kWh
	Door Type	2,082	kWh
	Single Tank Conveyor	5,709	kWh
	Multi Tank Conveyor	8,485	kWh
Hot Food Cabinet	All sizes	498	kWh
Griddle	N/A	2,639	kWh
Ice Making – Batch	Head	765	kWh
	Split unit	1,322	kWh
	Self-contained	563	kWh
Ice Making – Continuous	Head	1,574	kWh
	Split unit	3,235	kWh
Gas Fryer	Standard Vat	19	MMBtu
	Large Vat	23	MMBtu
Gas Oven	Convection Oven	23	MMBtu
	Combination Oven	30	MMBtu
	Rack Oven -Single Rack	N/A	MMBtu
	Rack Oven -Double Rack	33	MMBtu
Gas Steamer	Std. size	24	MMBtu
Griddle	N/A	15	MMBtu

Programs to which the Results of the Study Apply:

- Electric – Large Commercial New Construction
- Gas – Large Commercial New Construction

Evaluation Recommendations included in the Study:

DNV recommends adopting the updated baselines and savings values determined from this study as presented in Table 12. Specifically, for fryers, ovens, dishwashers, and hot food holding cabinets, DNV recommends using a weighted baseline that takes into account the appliance standard requirements

along with the used equipment. For steam cookers, the baseline should be the appliance standard requirements. DNV does not recommend changes to the assumptions for ice machines or griddles since they are not applicable to the appliance standard.

DNV proposed considerations of continuing to monitor compliance to see how new and used equipment is impacting the market as the new appliance standard continues to take effects and investigating additional inputs that drive savings such as hours of use and pounds of food cooked per day.

Explain Whether or Not Rhode Island Energy (RIE) Decided to Adopt Recommendations from the Study:

RIE is adopting the updated baselines and savings values for fryers, ovens, dishwashers, hot food holding cabinets, and steam cookers.

Savings Impact:

The study will result in a decrease in claimable gas and electric savings for food service equipment.

RI-22-CX-Proc – Small Business Process Evaluation**Type of Study:** Process**Evaluation Conducted by:** Cadeo**Date Evaluation Conducted:** August 2023**Evaluation Objective and High-Level Findings:**

The objective of the process evaluation was to assess program activities and identify opportunities for program enhancement.

The main objectives are to assess how the program operates from customer outreach to on-bill repayment (OBR), assess the program delivery's strengths and weaknesses, gain insight into the current and future challenges and identify opportunities to overcome those challenges, recommend improvements for overall program effectiveness and recommend ways to better engage underserved small businesses, including woman- and minority- owned businesses.

Key findings included:

- The RIE Small Business Program operates effectively and has many features that can support the program as it adapts.
- RISE staff and RISE-affiliated contractors are successfully delivering the program, but customer directed projects need more attention.
- Main Street canvassing approaches can be effective for reducing the cost of serving very small businesses and may help the program engage underserved small businesses (including minority- and women-owned businesses).
- There are opportunities to customize marketing materials for small businesses and further support program contractors in outreach.

Programs to which the Results of the Study Apply:

Electric and Gas – Small Business Direct Install

Evaluation Recommendations included in the Study:

The study had the following recommendations:

- Promote on-bill financing to encourage wider adoption and overcome first cost barriers.
- Use financing to expand access to measures that offer energy savings and other benefits.
- Increase tracking and follow up on Customer Directed Option projects to ensure the project is on track.
- Review labor rates and reimbursement schedule to ensure it reflects recent cost increases.
- Deploy strategies that expand the effectiveness of Main Street outreach efforts, including advanced notification to community based/civic organizations, promoting the schedule several months before the program, and providing specific mailers to qualified businesses with links/call center support in different languages.
- Expand marketing and collateral tools to support a range of communications and promotion of measure packages.

Explain Whether or Not Rhode Island Energy (RIE) Decided to Adopt Recommendations from the Study:

RIE has generally adopted the recommendations from the Small Business Program Process Evaluation. These recommendations include the Main Street initiatives and Marketing and Outreach.

Savings Impact: N/A

RI-23-XX-WorkforceDev – Rhode Island Energy Workforce Development**Type of Study:** Impact/Market**Evaluation Conducted by:** BW Research Partnership**Date Evaluation Conducted:** August 2023**Evaluation Objectives and High-Level Findings:**

The four main objectives within the workforce needs assessment included:

1. Quantify the current energy efficiency workforce in Rhode Island.
2. Uncover the needs of and opportunities for energy efficiency businesses and workers as well as potential energy efficiency workers.
3. Highlight workforce development gaps and potential solutions in the state.
4. Identify potential roles for RI Energy in supporting energy efficiency workforce development in the state.

Key findings from the study are listed below:

- The Rhode Island energy efficiency workforce is diversified by technology but not by demography, and employment levels are recovering from COVID-19 impacts but stabilizing at 2016 levels.
- Energy efficiency businesses in Rhode Island have been hiring and expect to hire more workers with different skills sets to grow their businesses.
- Employers expect hiring to be difficult, at least in the near term, as it is taking place in a tight labor market with high competition for these workers.
- At present, there is not significant interest among future workers in filling energy efficiency job openings.
- Rhode Island may struggle to meet its energy efficiency workforce needs due to a lack of focus from key stakeholders and a need for greater coordination across the state's energy efficiency workforce ecosystem.
- The state has positive attributes that will be helpful in creating well-functioning energy efficiency workforce development programs.

Programs to which the Results of the Study Apply: N/A**Evaluation Recommendations included in the Study:**

Near-term recommendations:

- Encourage workforce ecosystem coordination and leadership development by advocating for an increased emphasis on energy efficiency and workforce development within relevant state-wide entities and supporting emerging leadership efforts around energy efficiency workforce development in the state.
- Support marketing efforts and pipeline building by further leveraging its marketing and communications capacity with credible information resources and campaigns and partnering with groups, especially those serving underserved communities, to raise awareness about the value and opportunities of energy efficiency jobs.

- Champion energy efficiency-related programs at all levels of education by increasing support for specific programs in high schools and vocational-technical schools, including curriculum development, instructor recruitment, internships, and equipment needs.
- Partner with contractors to expand worker recruitment by communicating the benefits of energy efficiency careers, funding career navigators and wraparound supports, and educating contractors about opportunities in energy efficiency.

Additional recommendations:

- Prioritize increasing the pipeline of future energy efficiency workers through education, communications, and information sharing.
- Pursue a comprehensive approach that balances education, training, and certifications, while getting new workers the foundational, in-the-field experience they lack.
- Actively support efforts to secure initial energy efficiency employment.
- Strengthen educational institutions' emphasis on energy efficiency.
- Bring an equity-centered approach to further increase the pipeline of workers and bring higher-quality job opportunities to underserved communities.
- Encourage leadership and collaboration across the Rhode Island energy efficiency workforce development ecosystem.
- Leverage and scale successful programs and success stories in Rhode Island.

Explain Whether or Not Rhode Island Energy (RIE) Decided to Adopt Recommendations from the Study:

Rhode Island Energy has generally adopted the recommendations and strategies mentioned in the RIE Workforce Development study. These recommendations include upskilling workforce, multi-lingual outreach, existing employee retention, etc.

Savings Impact: N/A

2024 Rhode Island Test Description

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1 Introduction

This section has been prepared pursuant to Section 1.3(C) and 3.2(N) of the Least Cost Procurement Standards as approved and adopted pursuant to Rhode Island PUC Docket 23-07-EE¹ (referred to herein as the “LCP Standards”), and in alignment with the Rhode Island Benefit Cost Test (RI Test) as defined by the Standards and the Docket 4600A Benefit-Cost Framework and associated Guidance. The methods identified herein will be used for the calculation of benefits and costs associated with the 2024 Annual Energy Efficiency Plan.

Two key supporting documents for cost-effectiveness are the Technical Reference Manual (TRM) and the Avoided Cost Study. For the Annual Plan, the Company developed the 2024 Rhode Island Technical Reference Manual, which documents the savings / savings algorithms and costs for proposed 2024 measures. The TRM identifies the sources for the savings estimates. Sources can be evaluation studies, engineering analyses, and/or other research. The TRM is a public document and was provided to the EERMC and its consultants to support and facilitate their determination of the Plan’s cost-effectiveness. The TRM is reviewed and updated annually to reflect changes in technology, baselines, and evaluation results.

The cost-effectiveness analyses of the proposed programs use avoided energy supply costs developed by Synapse Energy Economics as part of the “Avoided Energy Supply Components in New England: 2021 Report” (2021 AESC Study). The study is sponsored by the New England electric and gas efficiency program administrators and is used for cost-effectiveness screening in 2021 or later. The avoided costs reflect a view of market conditions over the full study horizon (2021-2036) at the time of the study² and are highly influenced by the cost of fossil fuels and expectations about ISO-NE’s forward capacity market. Company-specific transmission and distribution capacity values are also included. The 2021 AESC Study introduced four counterfactual scenarios representing variations in demand-side measures offered in the future. For cost-effectiveness screening of the 2024 Rhode Island energy efficiency portfolio, the Company used Counterfactual #4 as the best representative scenario for future DSM portfolios. Counterfactual #4 models a scenario in which program administrators install no new energy efficiency resources in 2021 or later years. This scenario includes some amount of assumed building electrification but does not include any installed active demand management resources.³

¹ https://ripuc.ri.gov/sites/g/files/xkgbur841/files/2023-07/2307-LCP%20Standards_final.pdf

² The long-term view is appropriate for energy efficiency planning, as most measures have expected useful lifetimes in excess of 10 years. Fuel cost increases experienced since the study was completed are not reflected in the avoided costs but in the past such price spikes have tended to dissipate over time.

³ Refer to the 2021 AESC Executive Summary for a descriptions of Counterfactuals #1 – 4 https://www.synapse-energy.com/sites/default/files/AESC%202021_20-068.pdf

2 The RI Test Overview and Docket 4600 Benefit Cost Framework

The RI Test compares the present value of net benefits associated with the lifetime net savings of an energy efficiency measure / program to the total costs necessary to implement that measure / program. The RI Test may be applied to any energy efficiency measure / program independent of primary fuel type.

The RI Test captures the value created by efficiency measures installed in a particular program year across the useful life of the measure. The measure life is based on the technical life of the measure modified to reflect expected measure persistence. Because the RI Test captures the value associated with a stream of benefits over a period of time, a measure's benefits are present-valued so that costs and benefits may be compared.

RI Test benefits are defined as the avoided resource supply and delivery costs, valued at marginal cost for the periods when there is load reduction, as well as the monetized value of non-resource savings.

RI Test costs are defined as expenses paid by both the utility and by participants plus the increase in supply costs for any period in which load is increased. All equipment, installation, O&M, removal, evaluation, and administration costs are included.

All savings included in the value calculations are net savings. The expected net savings are typically an engineering estimate of savings modified to reflect the actual realization of savings based on evaluation studies. The expected net savings also reflect market effects due to the program. The RI Test captures the combined effects of a program on both the participating customers and those not participating in a program. From a resource acquisition perspective, if the program induces participants or non-participants to acquire energy efficiency devices without program expenditures (i.e., outside of the program), these effects—known as spillover—should be attributed as program benefits in the RI Test. The costs incurred by customers to acquire equipment on their own are also counted as costs in the RI Test.

On the other hand, if customers accept program funds to implement an energy efficiency measure they would have installed anyway, the associated savings are known as “free-ridership.” From the perspective of resource acquisition through utility programs, it is important to distinguish whether a customer would have implemented the efficiency measure without the program. Therefore, savings associated with free ridership are deducted from program savings.⁴ The cumulative impact of realization rates and market effects on gross savings is known as net savings.

⁴ Both free-ridership and spillover have been determined from evaluation, measurement, and verification studies of program participants, non-participants, and other market actors, such as developers and vendors.

The primary assessment of cost-effectiveness in the RI Test captures all benefits and costs shared between Rhode Island and other jurisdictions. Modifications made to the LCP Standards in 2023 specify an additional assessment of cost-effectiveness including only those benefits and costs that will be allocated to Rhode Island Energy. The Company has determined that pool transmission capacity benefits (described in Section 3.3) and rest-of-pool DRIPE (section 3.8) accrue out of state; these are excluded from a secondary assessment of cost-effectiveness in Attachments 5 and 6. To the best of the Company's knowledge, no costs accrue out of state.

The benefits and costs considered in the RI Test as applied to Energy Efficiency are detailed in the next section.

3 Description of Program Benefits and Costs

The following benefits and costs are quantified and monetized in the RI Test.⁵ Section 5 of this attachment shows the alignment of each benefit and cost category to the Docket 4600 Benefit-Cost Matrix for the electric portfolio.

Benefits

- Electric Energy Benefits
- Electric Generation Capacity Benefits
- Electric Transmission Capacity and Distribution Capacity Benefits
- Natural Gas Benefits
- Fuel Benefits (including the value of delivered fuel savings from programs that influence delivered fuel consumption)
- Water and Sewer Benefits
- Non-Energy impacts
- Demand Reduction Induced Price Effects (DRIPE)
- Non-embedded Greenhouse Gas Reduction Benefits
- Non-embedded NOx Reduction Benefits
- Value of Improved Reliability
- Combined Heat and Power Benefits

Costs

- Utility Costs
- Participant Costs

⁵ Economic Development Benefits are a recognized benefit in Rhode Island. Their monetized value, however, is not included in the RI Test calculation but is reported separately.

3.1 Electric Energy Benefits

Avoided electric energy costs are appropriate benefits for inclusion in the RI Test. When consumers do not have to purchase electric energy because of their investment in energy efficiency, an avoided resource benefit is created.

Electric energy savings are valued using the avoided electric energy costs developed in the 2021 AESC Study, Appendix B. The values in the 2021 AESC Study represent wholesale electric energy commodity costs that are avoided when generators produce less electricity because of energy efficiency.⁶ These values include pool transmission losses incurred from the generator through the point of delivery / the distribution company, and the costs of renewable energy credits borne by generators. The avoided energy costs also internalize the expected cost of complying with current or reasonably anticipated future regional or federal greenhouse gas reduction requirements which are borne by generators and passed through in wholesale costs.

The avoided energy costs in the 2021 AESC Study are provided in four different costing periods consistent with ISO-NE definitions. Net energy savings are split up into these periods in the value calculation. The time periods are defined as follows:

- Winter Peak: October – May, 7:00 a.m. – 11:00 p.m., weekdays excluding holidays.
- Winter Off-Peak: October – May; 11:00 p.m. – 7:00 a.m., weekdays. Also includes all weekends and ISO defined holidays.
- Summer Peak: June – September, 7:00 a.m. – 11:00 p.m., weekdays excluding holidays.
- Summer Off-Peak: June – September; 11:00 p.m. – 7:00 a.m., weekdays. Also includes all weekends and ISO defined holidays.

In the calculation of benefits, energy savings are grossed up using factors that represent transmission and distribution losses, because a reduction in energy use at the customer site means less energy needs to be generated and less extra generation is needed to cover losses that occur in delivery. A wholesale risk premium factor is also added to capture market risk factors typically recovered by generators in their pricing, which also increases the wholesale costs.

⁶ Avoided costs may be viewed as a proxy for market costs. However, avoided costs may be different from wholesale market spot costs because avoided costs are based on simulation of market conditions, as opposed to real-time conditions. Avoided costs may be different from standard offer commodity costs because of time lags and differing opinions on certain key assumptions, such as short term fuel costs.

Net energy savings for a program (or measures aggregated within a program) are allocated to each costing period and multiplied by the appropriate avoided energy value.⁷ The dollar benefits are then grossed up using the appropriate loss factors representing losses from the ISO delivery point to the end use customer.

- Summer Peak Energy Benefit (\$) = kWh * Energy%_{SummerPk} * SummerPk\$/kWh_(@Life) * (1 + %Losses_{SummerPk-kWh}) * (1 + Wholesale Risk Premium)
- Summer OffPeak Energy Benefit (\$) = kWh * Energy%_{SummerOffPk} * SummerOffPk\$/kWh_(@Life) * (1 + %Losses_{SummerOffPk-kWh}) * (1 + Wholesale Risk Premium)
- Winter Peak Energy Benefit (\$) = kWh * Energy%_{WinterPk} * WinterPk\$/kWh_(@Life) * (1 + %Losses_{WinterPk-kWh}) * (1 + Wholesale Risk Premium)
- Winter OffPeak Energy Benefit (\$) = kWh * Energy%_{WinterOffPk} * WinterOffPk\$/kWh_(@Life) * (1 + %Losses_{WinterOffPk-kWh}) * (1 + Wholesale Risk Premium)

3.2 Electric Generation Capacity Benefits

Avoided electric generation capacity values are appropriate for inclusion in the RI Test. When generators do not have to build new facilities or when construction can be deferred because of investments in energy efficiency, an avoided resource benefit is created. In the New England capacity market, capacity benefits accrue because demand reduction reduces ISO-NE's installed capacity requirement. The capacity requirement is based on the load's contribution to the system peak, which for ISO-NE is the summer peak. Therefore, capacity benefits accrue only from summer peak demand reduction. There is currently no winter generation capacity benefit.

Demand savings created through program efforts are valued using the avoided capacity values from the 2021 AESC Study, Appendix B. The values contained in the study reflect the avoided cost of peaking capacity and incorporate a reserve margin and losses incurred from the generator through the point of delivery and the distribution companies. ISO-NE reserve margins are incorporated into the capacity values, since energy efficiency avoids the back-up reserves for that generation as well as the generation itself. A loss factor representing losses from the ISO delivery point to the end-use customer is used as a multiplier, since those losses are not included in the avoided costs. Demand savings are calculated to be coincident with the ISO-NE definition of peak.

⁷ The notation "@Life" is an indication that the avoided value component for each benefit (e.g., electric energy, capacity, natural gas, etc.) is the cumulative net present value (in 2023 dollars) of avoided costs for each year of the planning horizon from the base year over the life of the measure. For example, the avoided value component for a measure with an expected life of ten years for any given benefit component is the sum of the net present value of the annual avoided costs for that component in Year 1, Year 2, Year 3, etc., through Year 10.

The dollar value of benefits is therefore calculated as:

- Generation Capacity Benefit (\$) = $kW_{\text{Summer}} * \text{GenerationCapValue} \$/kW_{(\text{@Life})} * (1 + \% \text{Losses}_{\text{SummerkW}})$

In addition to the traditional valuation of electric generation capacity, for which results are provided in Appendix B, the 2021 AESC study also valued the capacity of short duration measures that are not actively bid in the ISO-NE Forward Capacity Market (FCM). The AESC study has always provided avoided electric generation capacity values that are differentiated based on whether a measure is bid into the FCM or not.⁸ Given the three year forward nature of the FCM and the timing of the ISO-NE load forecast, it takes five years from the time of load reduction for uncleared capacity to begin impacting the FCM procurements. As a result, measures with a useful life less than five years would not produce any generation capacity benefits in years 1-5 under the traditional capacity modeling methodology.

The 2021 AESC study conducted a detailed analysis of the ISO-NE load forecast methodology and determined that there are deferred capacity benefits for short duration measures that are not bid in the FCM which persist beyond the measure's useful life. The logic behind this analysis is that the ISO-NE load forecast utilizes multiple years of historical load data, and even a load reduction for only one year will have a lasting impact on the load forecast for several years. The deferred capacity valuation methodology for uncleared capacity is used to determine the avoided electric generation capacity value for these measures based on the values provided in Appendix J of the 2021 AESC study.

3.3 Electric Transmission Capacity and Distribution Capacity Benefits

Avoided transmission and distribution capacity values are appropriate for inclusion in the RI Test. When transmission and distribution facilities do not have to be built or can be deferred because of lower loads because of consumers' investments in energy efficiency, an avoided resource benefit is created.

Electric distribution capacity benefits are valued in the RI Test using avoided distribution capacity values calculated in a spreadsheet tool that was originally developed in 2005 by ICF International, Inc., updated with recommendations from recent AESC Studies. The ICF tool calculates an annualized value of statewide avoided distribution capacity values from company-specific inputs of historic and projected capital expenditures and loads, as well as a carrying charge calculated from applicable tax rates and Federal Energy Regulatory Commission (FERC) Form 1 accounting data. The calculations of the electric distribution capacity benefits were updated for the 2024 plan using updated inputs to this tool and results in an avoided distribution capacity cost of \$174.41/kW-year in 2023 dollars.

⁸ Capacity bid into the FCM is known as cleared capacity. Capacity not bid into the FCM is known as uncleared capacity. Uncleared capacity passively reduces system load and subsequently reduces the ISO-NE load forecast and the resulting amount of capacity that is procured through the FCM.

Electric transmission capacity benefits are valued in the RI Test based on the costs of Pool Transmission Facilities (PTF). The 2021 AESC study calculates an avoided cost for PTF of \$97.46/kW-year in 2021 dollars. In the 2021 AESC Study the estimation of the PTF values was revised to include transmission projects anticipated to occur through 2026. The Company continues to use the avoided PTF values instead of the avoided cost of local transmission investments in screening the energy efficiency portfolios. PTF values are sourced from Appendix B.

The Company has also developed an estimate of non-PTF capacity value. This estimate was developed using the ICF model using company-specific information on load growth and investments in non-PTF transmission. The Company has calculated the value of the avoided cost for non-PTF of \$11.89/kW-year in 2023 dollars.

Capacity loss factors are applied to the avoided T&D capacity costs to account for local transmission and distribution losses from the point of delivery to the distribution company's system to the ultimate customer's facility. Thus, losses will be accounted for from the generator to the end use customer.

T&D benefits could be allocated to summer and winter periods, depending on the relation between summer and winter peaks on the local system. However, the Company's system is summer peaking. Therefore, the T&D benefits will be exclusively associated with summer demand reduction and the dollar value will be calculated as follows:

- Transmission Benefit (\$) = $(kW_{\text{Summer}} * \text{Trans}\$/kW_{(\text{@Life})} * [1 + (\text{Losses}_{\text{SumkWTrans}})])$ where $\text{Trans}\$/kW$ is the sum of PTF and non-PTF transmission avoided costs.
- Distribution Benefit (\$) = $(kW_{\text{Summer}} * \text{Dist}\$/kW_{(\text{@Life})} * [1 + (\text{Losses}_{\text{SumkWDist}})])$

3.4 Natural Gas Benefits

Avoided natural gas consumption is appropriate for inclusion in the RI Test. When a project saves natural gas, an avoided resource benefit is created.

Natural gas benefits in the RI Test are valued using avoided natural gas values from the 2021 AESC Study, Appendix C. These costs include commodity costs, pipeline transportation costs, and retail distribution margin costs / delivery charges that would be avoided by fuels not consumed by end users.

The 2021 AESC Study Report presents avoided natural gas value components into end-use categories to match with individual program characteristics. The natural gas categories are:

- Commercial and industrial, non-heating/hot water

- Assumes savings are constant throughout the year.
- Averages monthly natural gas values over 12 months.
- Commercial and industrial, heating
 - Averages the monthly values for November through March.
- Residential heating
 - Averages the monthly values for November through March. These months have the highest natural gas values. Therefore, associated natural gas savings are comparatively high, despite the exclusion of monthly values for April through October.
- Residential water heating/residential non-heating
 - Assumes savings are constant throughout the year.
 - Averages monthly natural gas values over 12 months.
- All commercial and industrial
 - Used for behavioral savings, codes and standards, and custom measures.
- All residential
 - Used for behavioral programs.
- All retail end-uses

Using each of these end-use value components as appropriate, the dollar value of fuel benefits is calculated as:

- Natural Gas Benefits (\$) = MMBtu Gas Savings * (Gas\$/MMBtu_(EndUseCategory,@Life))

3.5 Delivered Fuel Benefits

Avoided delivered fuel costs (fuel oil or propane) are appropriate for inclusion in the RI Test. When a project saves delivered fuels, an avoided resource benefit is created.

Fuel benefits in the RI Test are valued using avoided fuel values from the 2021 AESC Study, Appendix D. The 2021 AESC Study developed estimates of avoided fuel costs for residential distillate fuel oil, commercial distillate fuel oil, commercial residual fuel oil, industrial distillate fuel oil, industrial residual fuel oil, and residential propane.

Using each of these end-use value components as appropriate, the dollar value of fuel benefits is calculated as:

- Fuel Benefits (\$) = MMBtu_Fuel Savings * Fuel\$/MMBtu_(EndUseCategory,@Life)

3.6 Water and Sewer Benefits

Water savings created from program efforts should be valued and included in the RI Test. Water savings can be valued using avoided water and sewer values that are based on average water and sewer rates in Rhode Island. While there are no specific water efficiency measures, when an electricity or fuel efficiency project also affects water consumption—for example, a cooling tower project that reduces makeup water needed—a resource benefit is created. Depending on the project and metering configuration, changes in water consumption may also affect sewerage billings.

Water and sewerage rates were determined from a May 2021 internet survey of rates posted to the Rhode Island PUC website, updated as of September 3, 2020. Average rates were calculated for both residential and commercial and industrial customers and applied as appropriate to the water savings generated by measures.⁹

Water and sewer benefits are counted for all projects, where appropriate, and calculated as follows:

- Water and Sewerage Benefits (\$) = Water and/or Sewerage Savings * Water and/or Sewer \$/Gal_(@Life)

3.7 Non-Energy Impacts

Other quantifiable non-resource or non-energy impacts may be created as a direct result of Least Cost Procurement efforts and are therefore appropriate for inclusion in the RI Test. Non-energy impacts are typically associated with the number of measures installed, rather than the energy consumption of the equipment. However, in some cases these impacts are applied on an annual or one-time basis. These impacts may be positive or negative, and they may be one-time benefits or annually recurring. The effects of non-energy impacts will be included when they are a direct result of the measure and are quantifiable and avoidable.

The specific values of non-energy impacts used in the 2024 Annual Plan for prescriptive measures are documented in the 2024 RI Technical Reference Manual. Non-energy impacts may include – but are not limited to – labor, material, facility use, health and safety, materials handling, property values, and transportation. For income-eligible measures, non-energy impacts also include the impacts of having lower energy bills to pay, such as reduced arrearages or avoided utility shut off costs. Non-energy impacts for Commercial and Industrial custom measures are counted when supported by site specific engineering calculations or other analyses.

⁹ RI Regulated Water Suppliers – Rates Updated September 3, 2020,
<http://www.ripuc.ri.gov/utilityinfo/water/residentialgri.html>

The dollar value of non-resource benefits will be calculated as follows:

- One-time Non-energy impacts (\$) = Non-energy impact (\$)/unit * Number of units
- Annual Non-energy impacts (\$) = Non-energy impact (\$)/unit * Number of units * Present Worth Factor_(@Life)

3.8 Price Effects

The Demand-Reduction-Induced Price Effect (DRIPE) is the reduction in prices in energy and capacity markets resulting from the reduction in need for energy and/or capacity due to efficiency and/or demand response programs. Consumers' investments in energy efficiency avoid both marginal energy production and capital investments, but also lead to structural changes in the market due to lower demand. Over time, the market adjusts to lower demand. However, until the market adjustment, reduced demand leads to a reduction in the market price of electricity. This trend is observed in the New England market when ISO-NE activates its price response programs. When this price effect results from consumer investments in energy efficiency, it is appropriate to include the effect in the RI Test.

DRIPE effects are very small when expressed as an impact on market prices, i.e., reductions of a fraction of a percent. However, DRIPE impacts are significant when expressed in absolute dollar terms over all the kWh and kW transacted in the market. Very small impacts on market prices, when applied to all energy and capacity being purchased in the market, translate to large absolute dollar amounts.

DRIPE values developed for energy efficiency installations in 2024 from the 2021 AESC Study are used in the RI Test. The price effects are expressed as \$/kWh for each of the four energy costing periods, \$/kW for capacity, \$/MMBtu for natural gas, and \$/MMBtu for oil. For the electric energy DRIPE, there are values for in-state as well as rest-of-pool DRIPE. There are also cross fuel effects that apply when natural gas energy efficiency affects the price of electricity because residential heating and electric generation compete for natural gas supply in the winter. The resulting scarcity of natural gas for generation may drive up the cost of electricity. Therefore, reduction in natural gas consumption due to energy efficiency may cause a price effect for electricity.¹⁰ In addition, reducing demand for petroleum and refined products leads to a reduction in oil prices. The DRIPE benefit is calculated as:

¹⁰ Even though the price effect is for electricity, that DRIPE benefit is converted to \$/MMBtu so that it can be attributed to the gas savings that create the effect.

- Summer Peak Energy DRIPE Benefit (\$) = kWh * Energy%_{SumPk} * (SummerPkDRIPE\$/kWh_(@Life+ElectricGasDRIPE\$/kWh) * (1 + %Losses_{SummerPk-kWh}) * (1 + Wholesale Risk Premium)
- Summer OffPeak Energy DRIPE Benefit (\$) = kWh * Energy%_{SumOffPk} * (SumOffPkDRIPE\$/kWh_(@Life+ElectricGasDRIPE\$/kWh) * (1 + %Losses_{SummerOffPk-kWh}) * (1 + Wholesale Risk Premium)
- Winter Peak Energy DRIPE Benefit (\$) = kWh * Energy%_{WinterPk} * (WinterPkDRIPE\$/kWh_(@Life+ElectricGasDRIPE\$/kWh) * (1 + %Losses_{WinterPk-kWh}) * (1 + Wholesale Risk Premium)
- Winter OffPeak Energy DRIPE Benefit (\$) = kWh * Energy%_{WinOffPk} * (WinterOffPkDRIPE\$/kWh_(@Life+ElectricGasDRIPE\$/kWh) * (1 + %Losses_{WinterOffPk-kWh}) * (1 + Wholesale Risk Premium)
- Generation Capacity DRIPE Benefit (\$) = kW_{Summer} * CapDRIPEValue\$/kW_(@Life) * (1 + %Losses_{SummerkW}) * (1 + Wholesale Risk Premium)
- Natural Gas DRIPE Benefit (\$) = MMBtu_Fuel Savings * (GasDRIPEValue\$/MMBtu_(@Life) + GasElectricDRIPE\$/MMBtu)
- Oil DRIPE Benefit (\$) = MMBtu Fuel Savings * (OilDRIPEValue\$/MMBtu_(@Life))

3.9 Non-embedded Greenhouse Gas Reduction Benefits

In accordance with Section 1.3(C)(iv) of the LCP Standards and the Docket 4600 Benefit-Cost Framework the RI Test includes the value of non-embedded greenhouse gas (GHG) reductions.

The 2021 AESC Study developed multiple approaches for calculating the non-embedded cost of carbon.¹¹ The four methods for calculating the non-embedded cost of carbon are:

- A damage cost approximated by the social cost of carbon (SCC);
- A global marginal abatement cost (MAC) approach;
- An approach based on New England MAC (electric sector), assuming a cost derived from electric sector technologies, with offshore wind being the marginal abatement technology; and
- An approach based on New England MAC (multiple sector), assuming a cost derived across multiple sectors (i.e., renewable natural gas).

For the 2024 Annual Plan, the Company uses the New England MAC (electric sector) values. The Company is actively involved in the Executive Climate Change Coordinating Council (EC4) process and, in future plans, will use updated values that result from that process when they are available.

¹¹ The 2021 AESC Study, re-released on May 14th, 2021, may be found at the following: https://www.synapse-energy.com/sites/default/files/AESC%202021_20-068.pdf

The AESC 2021 Supplemental Study found that the SCC was \$393/short ton, levelized over a 15-year period, and the May re-release of the 2021 AESC study found that the New England MAC (electric sector) was \$124/short ton, levelized over a 15-year period, both values being in 2021 dollars.¹²

The costs of compliance with the Regional Greenhouse Gas Initiative (RGGI) are already included or “embedded” in the projected electric energy market prices. Therefore, in the context of electric savings, these costs are removed from the overall cost of carbon to obtain the non-embedded cost of carbon. In the context of fossil fuel savings, which are not affected by the cost of compliance with RGGI, the full value of the cost of carbon may be used as the non-embedded cost of carbon. The 2021 AESC study found that the embedded cost of RGGI was \$8.50/short ton, levelized over a 15-year period (in 2021 dollars). As a result, the non-embedded costs of carbon under the New England MAC (electric sector) and SCC GHG cost basis are approximately \$115/ton and \$385/ton, respectively.

The Company obtained the non-embedded cost of carbon values from User Interface file Appendix B of the 2021 AESC Study for electric savings and User Interface file Appendix G for gas, oil, and propane savings.¹³ In this form, the non-embedded cost of carbon is expressed as a \$/kWh value or a \$/MMBtu value, the former of which depends on the summer/winter peak/off-peak short tons/kWh of electricity from a Synapse-modeled electric grid (EnCompass model, Counterfactual #1) through time and the latter of which depends on whether the MMBtu savings come from natural gas, oil, and propane given constant emission factors as reported by the U.S. Energy Information Agency.¹⁴ Fossil fuel emission factors are as follows:

- Natural Gas emission factor: 0.0585 short tons/MMBtu
- Fuel Oil emission factor: 0.0805 short tons/MMBtu
- Propane emission factor: 0.0695 short tons/MMBtu

The non-embedded greenhouse gas reduction benefit is calculated by multiplying the kWh and/or MMBtu fuel savings by the respective non-embedded cost of carbon specific to that fuel type and temporal category, if applicable (e.g., summer peak). The “NonEmbeddedCarbonValue\$” portion of the calculations depends further on SCC or New England MAC (electric sector) applicability for each measure.

¹² Because of the long-term nature of climate impacts, the Supplemental Study uses longer term discount rates in the derivation of these values than those used in AESC 2021.

¹³ In order to obtain the non-embedded CO₂ values based on Synapse’s updated guidance for SCC, values from Table 1 of the AESC 2021 Supplemental Study were placed into Table 16 of the “Library” tab under the “1.00%” discount rate column in the User Interface file. Toggling for “Social cost of CO₂” or “New England MAC (electric sector)” in cell D24 of the “User Interface” tab directly impacts which non-embedded cost of carbon is output in Appendix B and G. The workbook must be set to “Automatic” calculation mode for proper calculation.

¹⁴ While Counterfactual #4 is used as the basis of RI’s avoided costs, the User Interface workbook is designed to use Counterfactual #1 for calculating CO₂ short tons/MWh from the modeled electric grid. The workbook states “All counterfactuals are expected to have largely similar marginal emission rates.”

- Summer Peak Non-Embedded Greenhouse Gas Benefit (\$) = kWh * Energy%_{SummerPk} * SummerPkNonEmbeddedCarbonValue\$/kWh_(@Life) * (1 + %Losses_{SummerPk-kWh})
- Summer OffPeak Non-Embedded Greenhouse Gas Benefit (\$) = kWh * Energy%_{SummerOffPk} * SummerOffPkNonEmbeddedCarbonValue\$/kWh_(@Life) * (1 + %Losses_{SummerOffPk-kWh})
- Winter Peak Non-Embedded Greenhouse Gas Benefit (\$) = kWh * Energy%_{WinterPk} * WinterPkNonEmbeddedCarbonValue\$/kWh_(@Life) * (1 + %Losses_{WinterPk-kWh})
- Winter OffPeak Non-Embedded Greenhouse Gas Benefit (\$) = kWh * Energy%_{WinterOffPk} * WinterOffPkNonEmbeddedCarbonValue\$/kWh_(@Life) * (1 + %Losses_{WinterOffPk-kWh})
- Natural Gas Non-Embedded Greenhouse Gas Benefit (\$) = MMBtu Gas Savings * GasNonEmbeddedCarbonValue\$/MMBtu_(Gas, @Life)
- Fuel Oil Non-Embedded Greenhouse Gas Benefits (\$) = MMBtu Fuel Oil Savings * FuelOilNonEmbeddedCarbonValue\$/MMBtu_(Fuel Oil, @Life)
- Propane Non-Embedded Greenhouse Gas Benefits (\$) = MMBtu Propane Savings * PropaneNonEmbeddedCarbon\$/MMBtu_(Propane, @Life)

To quantify the Year 1 gross carbon reduction due to the 2024 Annual Plan, the relevant emission factors (short tons/MWh or short tons/MMBtu_{Fuel}) are multiplied by the relevant gross annual savings. For the electricity emission factor, the value used reflects an average across the summer/winter peak/off-peak values found in the AESC 2021 study for the Plan year in question. For the 2024 Annual Plan, the Year 1 electricity emission factor is found to be 0.39413 short tons/MWh in 2024.

Contribution to Rhode Island's emission reduction targets may be quantified by dividing the total Year 1 gross carbon reduction due to the 2024 Annual Plan by the % reduction of Rhode Island's 1990 Annual Gross GHG Inventory for the interim goal of interest.¹⁵ This relationship can be described as follows:

- Year 1 Gross Carbon Reduction as % Progress Toward X Interim Goal = (Year 1 Gross Carbon Reduction) / [(% Reduction of Rhode Island's 1990 Gross GHG Inventory by X Year) * (Rhode Island's 1990 Gross GHG Inventory)]

¹⁵ Rhode Island's Greenhouse Gas Emissions Inventory between 1990 and 2018 may be found at the following: <https://dem.ri.gov/programs/air/ghg-emissions-inventory.php>

3.10 Non-embedded NO_x Reduction Benefits

In accordance with Section 1.3(C)(iv) of the Standards and the Docket 4600 Benefit-Cost Framework, the RI Test includes the value of nitrogen oxides (NO_x) emission reductions not already embedded in the avoided cost of energy.

NO_x emissions come from a variety of sources including industrial processes and the combustion of natural gas for electric generation and heating systems. NO_x contributes to the formation of fine particles (PM) and ground level ozone that are associated with adverse health effects including respiratory illness. When a consumer installs an energy efficiency measure that reduces electric generation and natural gas usage, (and subsequently NO_x emissions), an avoided resource benefit is created.

The 2021 AESC Study utilizes published averages for the continental United States to develop a non-location specific, non-embedded NO_x emission cost. The 2021 AESC Study assumes a 90/10 mix of NO and NO₂, which translates to a price of \$14,700 per short ton of NO_x at the median value from cited studies. That translates to an avoided cost for NO_x equal to \$0.77 per MWh.

The Company obtained the non-embedded NO_x values from Appendix B in the User Interface file for Counterfactual #4 for electricity savings and Appendix G in the User Interface file for non-electric savings.

The non-embedded NO_x reduction benefit is calculated similarly to the non-embedded greenhouse gas reduction benefit except that natural gas and fuel oil are sector specific. In other words, Appendix G of the User Interface tool provides non-embedded NO_x costs for natural gas and fuel oil depending on whether those savings are derived from the residential, commercial, or industrial sector. The non-embedded NO_x reduction benefit is calculated by multiplying the kWh and/or MMBtu fuel savings by the respective non-embedded cost of NO_x specific to that fuel type, sector, and temporal category (e.g., summer peak), if applicable.

- Summer Peak Non-Embedded NO_x Benefit (\$) = kWh * Energy%_{SummerPk} * SummerPkNonEmbeddedNOxValue\$/kWh_(@Life) * (1 + %Losses_{SummerPk-kWh})
- Summer OffPeak Non-Embedded NO_x Benefit (\$) = kWh * Energy%_{SummerOffPk} * SummerOffPkNonEmbeddedNOxValue\$/kWh_(@Life) * (1 + %Losses_{SummerOffPk-kWh})
- Winter Peak Non-Embedded NO_x Benefit (\$) = kWh * Energy%_{WinterPk} * WinterPkNonEmbeddedNOxValue\$/kWh_(@Life) * (1 + %Losses_{WinterPk-kWh})
- Winter OffPeak Non-Embedded NO_x Benefit (\$) = kWh * Energy%_{WinterOffPk} * WinterOffPkNonEmbeddedNOxValue\$/kWh_(@Life) * (1 + %Losses_{WinterOffPk-kWh})

- Natural Gas Non-Embedded NOx Benefit (\$) = MMBtu Gas Savings *
GasNonEmbeddedNOxValue\$(Sector)/MMBtu(Gas, @Life)
- Fuel Oil Non-Embedded NOx Benefits (\$) = MMBtu Fuel Oil Savings *
FuelOilNonEmbeddedNOxValue\$(Sector)/MMBtu(Fuel Oil, @Life)
- Propane Non-Embedded NOx Benefits (\$) = MMBtu Propane Savings *
PropaneNonEmbeddedNOX\$/MMtBu(Propane, @Life)

3.11 Value of Improved Reliability

In accordance with the Docket 4600 Benefit-Cost Framework, the RI Test includes the value of improved reliability from energy efficiency investments.

The 2021 AESC Study used the following methodology to determine the value of improved reliability. As with the 2018 AESC Study, the 2021 AESC Study in part relied on the value of lost load (VoLL) from the Lawrence Berkeley National Laboratories (LBNL) assessment “Updated Value of Service Reliability Estimates for Electric Utility Customers in the United States.” Berkeley: LBNL, 2015. LBNL-6941E. The VoLL describes the cost to consumers of being unable to take power from the system. New to the 2021 AESC Study, an additional study was incorporated into the calculations of lost load. Cambridge Economic Policy Associates released a study in July 2018 entitled “Study on the Estimation of the Value of Lost Load of Electricity Supply in Europe.” This study assessed the VoLL in each European Union country for residential customers and 13 types of non-residential customers. The 2021 AESC Study examined annual average VoLLs of EU countries and identified those most similar to the New England region on a GDP per capita basis. To develop the estimate of the VoLL in the AESC report, Synapse averaged findings from the LBNL and Cambridge Economic Policy Associates studies together for each category of customer. Then, using share-of-sales data for the residential, small C&I, and large C&I customer segments, Synapse calculated a weighted average VoLL of \$73 per kWh.

The 2021 AESC Study then examined the ability of load reduction to increase reserve margins in the ISO New England (ISO-NE) Forward Capacity Market (FCM) and therefore increase reliability in the wholesale generation market.

Load reductions can improve generation reliability in the following ways:

- Some resources that do not clear ISO New England’s Forward Capacity Auction (FCA) will continue to operate as energy-only resources – adding to available reserves. While not obligated to do so, these resources are likely to operate at times of tight supply and high energy prices. These resources may also be available to assume the capacity obligations of resources that unexpectedly retire or otherwise become unavailable.

- Not all energy efficiency load reductions will clear in the capacity market or immediately affect the load forecast used to determine the amount of capacity acquired. Those load reductions will increase reserve margins.
- The operation of the ISO New England capacity market increases the amount of capacity acquired as the price falls. To the extent that energy efficiency programs reduce the capacity clearing price, reserve margins and reliability will increase.

The 2021 AESC Study monetized cleared reliability benefits in \$/kW-month by calculating the product of (a) the change in MWh of reliability benefits per megawatt of reserve, (b) the net increase in cleared supply, (c) the decay effect, and (d) the VoLL.¹⁶ Uncleared reliability benefit in \$/kW-month is calculated as the product of (a) the change in MWh of reliability benefits per megawatt of reserve, (b) one plus the reserve margin, (c) the load forecast effect, (c) the decay effect, and (e) the VoLL.

As recommended by the 2021 and 2018 AESC Studies, the Company applies different reliability values to measures that clear and don't clear the Forward Capacity Market auction. This is because the reliability effect of cleared energy efficiency load reductions will be partially offset by reduction in the amount of other capacity cleared, while uncleared load reductions will not be subject to such offsets.

The Company applied Reliability Value of Cleared EE (\$/kW-year) from the 2021 AESC Study to all summer kW savings associated with cleared measures and the Reliability Value of Uncleared EE (\$/kW-year) from the 2021 AESC Study to all summer kW savings associated with uncleared measures. Reliability values are sourced from the AESC User Interface file Appendix B, Counterfactual #4.

The reliability benefit is calculated as follows with the reliability value in \$/kW changing whether a measure is assumed to be cleared or uncleared in the FCM auction. The 2021 AESC Study Counterfactual #4 finds that the 15-year levelized benefit of increasing generation reserves through reduced energy usage is \$0.49/kW-year for cleared resources.

- Wholesale Reliability Value Benefit (\$) = $kW_{Summer} * ReliabilityValue_{\$/kW_{(Life)}} * (1 + \%Losses_{SummerkW})$

3.12 Combined Heat and Power Benefits

R.I.Gen.Laws §39-1-27.7(c) (6) (iii) directs the Company to support the development of combined heat and power (CHP). The law requires that the following criteria be factored into the Company's CHP plan: (i) economic development benefits in Rhode Island; (ii) energy and cost savings for customers; (iii)

¹⁶ Refer to the 2021 AESC Study section 11.2 for additional detail on the derivation of each of these components.

energy supply costs; (iv) greenhouse gas emissions standards and air quality benefits; and (v) system reliability benefits.¹⁷ Energy and cost savings and energy supply costs are captured in the energy benefits described above. The other three listed benefits – economic development, greenhouse gas, and system reliability benefits – are described below and will be applied to eligible CHP projects, should any be proposed.

Economic Development

As provide by the statute, for all CHP projects, net economic development benefits will be counted as benefits. If the CHP project is smaller than 3 MW, the gross state product multipliers for the program in which it is implemented (e.g., C&I retrofit) presented in Table 1 or Table 2 below will be used to calculate the benefits. The rate of economic development benefit of lifetime gross state product increases per dollar of program investment for CHP projects less than 3 MW is based on the report, “Review of RI Test and Proposed Methodology” prepared for the Company by the Brattle Group, January 31, 2019. The multiplier reflects the present value of lifetime state gross domestic product (GDP) effects of program and participant spending that creates jobs in construction and other industries as the project is planned, and equipment is purchased and installed. Therefore, the CHP Economic Development benefits will be calculated as program and participant spending (\$) x program multiplier.

For CHP projects larger than 3 MW in size, the Company will run a REMI analysis using project-specific values in accordance with the recommended methodology from the Brattle Group study.¹⁸ The economic benefits from this analysis are added to the economic benefits for the program derived from all other measures in this program to arrive at the total program benefits.

Greenhouse gas emissions standards and air quality benefits

For all CHP projects, greenhouse gas mitigation and air quality benefits will be counted as benefits to the extent they are not already captured in the BCR screening values and to the extent that usable emissions data is available. The emissions profile of the CHP site facility prior to the installation of the retrofit (most likely a combination of grid supplied generation for electricity and an on-site boiler for thermal needs) will be compared to the emissions post-retrofit (most likely the CHP unit alone). The change in emissions in tons will be multiplied by a value of \$/ton for each pollutant and the values will be summed over all pollutants and counted as a benefit in the benefit/cost calculation. This method is contingent on having emissions data for all pollutants. This information is often difficult to come by; for example, ISO-New England annually publishes emissions per kWh for only SO_x, NO_x, and CO₂. Similarly, the amount of

¹⁷ See R.I. Gen.Laws § 39-1-27.7(c) (6) (iii).

¹⁸ In the 2024 Benefit Cost Model, the Company applied a weighted average economic multiplier to the C&I Retrofit program that accounts for the economic multipliers for C&I Retrofit and CHP, weighted by incentives to be spent on CHP and the rest of C&I Retrofit projects.. CHP expenditures, besides incentives, are not disaggregated from the rest of the expenditures for the C&I Retrofit program so the multiplier cannot be applied directly to program spending for CHPs. The final weighted average multiplier applied to the total C&I Retrofit program, including CHP, was \$5.72.

emissions for all pollutants associated with a particular CHP unit is not always provided. Where locational information is not available, the value of CO₂ emission reductions and NO_x reductions will be calculated consistent with sections 9 and 11 above.

System Reliability

If a CHP project is proposed in a system reliability target area, the system reliability benefits from deferring a distribution system upgrade would be captured in the System Reliability Procurement report. In the context of CHP located elsewhere in the state, system reliability benefits are the local distribution benefits created by the introduction of the CHP unit in the local area. Notably, CHP projects do not produce the same level of deferred distribution investment savings described in Section (3) above, as traditional energy efficiency.¹⁹ Accordingly, the distribution benefits are modified as follows:

- For CHP systems of less than 1 MW net capacity, the distribution deferral benefit value estimated by the Company based on system wide averages will be multiplied by 0.75 to incorporate an estimate of the reliability experience of discrete deployment of CHP units compared with end-use reduction efficiency measures which are spread across the state;²⁰
- For CHP systems equal to or greater than 1 MW net capacity, the distribution benefit will consider location-specific distribution benefits, as opposed to average system-wide benefits. The results of this analysis will replace the adjusted 0.75 of average system-wide distribution benefit described for CHP projects of less than 1 MW. This may entail a detailed engineering analysis performed by the Company, and additional costs. This consideration will have two parts: 1) identification of foreseeable investments that the CHP installation could potentially help defer, and their value; and 2) whether the unit will be sufficiently reliable, or firmed through the provision of physical assurance by the customer, to enable such savings to be realized;
- For CHP projects of 1 net MW or greater, gas system benefits not paid out as incentives to the Customer via the AGT incentive or gas service contract terms will be counted as benefits.²¹

¹⁹ With traditional energy efficiency projects, the installed measures permanently reduce load on the electric distribution system and, therefore, reduce the need to make distribution investments. CHP projects may not result in similar deferred distribution investment savings. A CHP unit may not be available at all peak times, and, absent any contractual or mechanical modification to ensure that the load does not reappear, the Company will still need to design and maintain the distribution system for when that unit goes off line during a peak hour on a peak day. This is particularly significant with larger CHP projects, in which a single host customer represents a significant percentage of the total load on a feeder. With multiple smaller units, some level of savings is possible, but these units are still not likely to produce distribution benefits in the same manner as traditional energy efficiency.

²⁰As explained in footnote 10, *supra*, while multiple small CHP units may produce some level of savings, these units are still not likely to produce distribution benefits in the same manner as traditional energy efficiency. Therefore, the 0.75 factor is adopted as a planning assumption to represent the contingency that, when a single CHP unit on a feeder fails to perform, the load reappears on the system. As more CHP units, particularly smaller units, are deployed in the state, the diversity of operation may allow the adjustment factor to be increased. The Company intends to review this planning assumption based on actual experience for future EE Program Plan filings.

²¹ For example, a 3 MW installation with an additional sales volume of approximately 150,000 Dth per year would generate approximately \$130,000 of marginal revenue per year under current rates. Assuming \$100,000 of capital costs, the project could qualify for up to \$573,000 in AGT funding, subject to budget limitations.

3.13 Utility Costs

Utility costs incurred to achieve implementation of energy efficiency measures and programs are appropriate for inclusion in the RI Test. These costs have been categorized as follows:

- **Program Planning and Administration (PP&A):** These costs are the administrative costs associated with the utility role in program delivery, including payroll, information technology, contract administration, and overhead expenses.
- **Marketing:** These are the costs of marketing and advertising to promote a program. The costs also include the payroll and expenses to manage marketing.
- **Cost of services and product rebates/incentives provided to customers:** These are the incentives (provided by the program) that customers use to install energy efficient equipment. Incentives include, but are not limited to, rebates to customers, copayments to vendors for direct installation of measures, payments to distributors to buy down the cost of their products for sale in retail stores, payments to vendors to create and deliver information, costs of an education course, or payments to lenders to buy down the interest in a loan. Customer incentives typically cover a portion of the equipment and installation costs directly associated with the energy efficient equipment being installed.²² For a retrofit project, the customer incentives cover a portion of the full cost of the efficiency project, as it is assumed that the alternative to the project is no customer action. For a failed equipment replacement/renovation/new construction project, these customer incentives cover a portion of the incremental additional costs associated with moving to a higher efficiency item or practice compared to what the customer would have done otherwise.
- **Sales, Technical Assistance, and Training (STAT):** These costs include the training and education of the trade ally community regarding the company's current energy efficiency programs. Examples of trade allies include but are not limited to: equipment vendors, heating contractors, lead vendors, project expeditors, weatherization contractors, and equipment installers. These costs also include the tasks associated with internal and contractual delivery of programs. Tasks associated with this budget category include but are not limited to: lead intake, customer service, rebate application, quality assurance, technical assessments, engineering studies, plan reviews, payroll and expenses.
- **Evaluation:** These are the costs of evaluation or market research studies to support program direction and post-installation studies to study program effectiveness or verification of savings estimates. These costs also include the payroll and expenses to manage the research.

²² The full cost of the efficiency project is not necessarily the same as the full cost of the project being undertaken by the customer. For example, a customer may be renovating an HVAC project that includes a newly installed chiller and chilled water distribution system. While the new distribution system may be part of the construction project, if it does not contribute to energy savings, it will not be included in the efficiency project cost; only the incremental cost of the new efficient chiller will be considered.

- **Performance Incentive:** This is the incentive received by the Company for meeting specified savings goals and/or performance targets (the Company would not implement energy efficiency programs to the extent it does without the incentive). The performance (shareholder) incentive is included in the cost of energy efficiency.

3.14 Customer Costs

Customer costs include the customer's contribution to the installation cost of the efficient measure. Typically, this is the portion of the equipment and installation cost not covered by the customer incentive. As noted above, it excludes the cost of equipment that might be part of the customer's construction project, but that is not related to the energy efficiency portion of the project.

In addition to the direct costs that customers face to purchase energy efficient equipment, they may have additional costs for participating in energy efficiency programs that are not quantified and monetized. For example, a customer participating in a home energy assessment may need to spend some amount of time at home in order to facilitate the assessment, creating some time cost for the customer to participate. The magnitude and value of these additional potential time costs are currently unknown. They would likely vary by sector, program, and possibly measure and are therefore challenging to estimate reliably.

4 Benefit Cost Calculations

The cost-effectiveness of a measure, program, or portfolio is determined by calculating whether the ratio of the net present value of the benefits to the net present value of the costs is greater than or equal to 1.

For the 2024 Annual Plan, all costs and benefits will be expressed in constant 2024 dollars. When escalation of specific avoided cost inputs is needed to produce values in 2024 dollars, appropriate inflation rates are used.²³

The avoided value component for each benefit (e.g., electric energy, capacity, natural gas, etc.) is the cumulative net present value (in 2024 dollars) of lifetime avoided costs for each year of the planning horizon from the base year up to the measure life of the equipment. Since all future year values are in constant 2024 dollars, calculated lifetime benefits are discounted back to mid-2024 using a real discount rate equal to $[(1 + \text{Nominal Discount Rate}) / (1 + \text{Inflation})] - 1$.

²³ Inflation of avoided costs was made using assumptions from the 2021 AESC Study. The assumed inflation is lower than the recently experienced inflation. However, as noted above, the AESC Study provides a long-term view that is appropriate for energy efficiency planning.

As prescribed by the Standards, all values in the Plan and the benefit-cost model are stated in present value terms, “using a discount rate that appropriately reflects the risks of the investment of customer funds in Least-Cost Procurement. Energy efficiency is a low-risk resource in terms of cost of capital risk, project risk, and portfolio risk.” For the 2024 Annual Plan, the Company modified the approach used to calculate the discount rate. For the 2021 Annual Plan and prior years, the real discount rate was calculated from the twelve-month average of the historic daily real yields from a ten-year United States Treasury note, using the preceding calendar year to determine the twelve-month average. During 2021, Treasury yields exhibited atypical behavior, with several daily yields being less than zero, in part due to the influence of the Covid-19 Pandemic and its prolonged economic impacts. To account for this behavior, three years of past data (2019 – 2021) were used to calculate the discount rate. Additionally, in any case when the daily yield was negative, the value was set to zero for purposes of the averaging calculation. These calculations resulted in a real discount rate of 0.14% and nominal discount rate of 1.49%. If observed real yields only were used for 2021, a negative real discount rate would have resulted.

The total benefits will equal the sum of the NPV of each benefit component:

[Energy Benefits + Generation Capacity Benefits + Avoided T&D Benefits + Natural Gas Benefits + Fuel Benefits + Water & Sewer Benefits + Non-Resource Benefits + Price Effects Benefits + Non-embedded Greenhouse Gas Reduction Benefits + Non-embedded NOx Reduction Benefits + Value of Improved Reliability + Economic Development Benefits (treatment as described above)]

The total costs will equal the sum of the NPV of each cost component:

[Program Planning and Administration + Sales, Training, Technical assistance + Marketing + Rebates and Other Customer Incentives + Evaluation + Shareholder incentive+ Customer Cost]

The RI Test benefit cost ratio will then equal:

Total NPV Benefits/Total NPV Costs

Per the Standards, on a program level, all benefit categories are included in the benefit/cost calculation. All cost categories, except the shareholder incentive, are included at the program level because they are tracked at that level.²⁴

On a sector level, the cost of pilots, community-based initiatives, sector financing, workforce development, and educational/outreach programs (which are not focused on producing savings), and the projected shareholder incentive, are included with the other costs in the determination of cost-effectiveness. The shareholder incentive is included at this level because it is designed to achieve savings

²⁴ Commitments, if any, of customer incentives made from one year to the next are excluded from the program costs used in the benefit/cost calculation. The costs are only counted in the year in which the incentive is paid and the savings are counted.

targets by sector. At a portfolio level, the allocations to the Office of Energy Resources and EERMC are also included in the cost-effectiveness calculation.

Separate calculations of benefits and cost-effectiveness are provided for the electric energy efficiency programs and natural gas energy efficiency programs. Some electric energy efficiency programs are expected to produce natural gas savings in addition to electricity savings while some natural gas energy efficiency programs are expected to produce electricity savings in addition to natural gas savings. All resource benefits produced by a program are shown with that program. For example, an HVAC project that improves air distribution incented through the electric Large C&I Retrofit Program will produce natural gas savings when natural gas is used by the participant for heating.

5 Economic Impacts (Non-CHP Measures)²⁵

Per the practice first set for the 2022 Plan and with the agreement of stakeholders, economic impacts are presented separately and not included in the estimation of the RI Test ratios. The Rhode Island PUC may consider the estimated value of these economic impacts in their determination of cost-effectiveness under the Least Cost Procurement standards.²⁶

The macroeconomic multipliers for the economic growth and job creation benefits of investing in cost-effective energy efficiency are based on the report, “Economic Impacts of Rhode Island Energy’s 2023 Annual Energy Efficiency Plan” prepared for the Company by the Brattle Group in 2023. This study is an update to “Review of RI Test and Proposed Methodology” prepared for the Company by the Brattle Group in 2019. The updated study identified values for other categories of economic impact identified by the Division (i.e., business income, personal income, state income taxes) and gave attention to the question of how double counting of economic benefits in cost-effectiveness testing can be avoided. The presentation of economic impacts in Attachments 5 and 6 includes gross domestic product associated with the proposed investment in energy efficiency in Rhode Island in 2024 using values derived from the Brattle study. The macroeconomic multipliers for job-years associated with proposed investments in energy efficiency are still sourced from the Brattle Group’s 2019 report. The Brattle Group’s 2023 report did not contain updated job-year multipliers.

The exclusion of economic benefits from cost-effectiveness calculations was motivated by the DPUC, via their consultant Synapse Energy Economics, who conducted a benefit cost analysis and assessment of the treatment of macroeconomic benefits of the RI Community Remote Net Metering (CRNM) program in

²⁵ This section details the methodology for applying economic benefits to non-CHP measures. Section 13 in this document refers to the application of economic benefits to CHP measures.

²⁶ LCP Standards, Section 3.2(N) states “qualitative benefits and costs may be considered in determining cost-effectiveness.” The exception to this would be for Combined Heat and Power facilities, since the inclusion of economic benefits is required by statute.

early 2021.²⁷ This analysis recommended that, due to the challenges of fully separating all benefit streams within macroeconomic benefits from those already included in other benefit categories counted in the RI Test, the results of an economic impact assessment (EIA) should be shown separately from a BCA and that further discussion of the approach to including economic benefits in the RI Test are warranted to refine the estimation of macroeconomic benefits.

For the 2024 Annual Energy Efficiency Plan, the Company shows RI Test results without economic impacts included. Omission of the macroeconomic benefits and other economic impacts lowers benefit cost ratios for all programs and the portfolios as a whole. Because this is a conservative approach to addressing potential double counting and likely underestimates cost-effectiveness, the Company submits that the cost-effectiveness of its programs and portfolios is likely greater than what is shown for the RI Test and requests that the Commission take this into consideration when assessing the cost-effectiveness of the Plan.

²⁷ <http://www.ripuc.ri.gov/generalinfo/Synapse-CRNM-Macroeconomic-Report-2021.pdf>

Figure 1. Multipliers by Energy Efficiency Program Type

Program Type	GDP / \$ Program Spending	Job Years / \$M Program Spending
Electric Portfolio		
<i>Residential Programs</i>		
Residential New Construction	1.66	14.8
Residential HVAC	1.45	12.2
EnergyWise Single Family	1.17	12.3
EnergyWise Multifamily	1.97	14.8
Home Energy Reports	2.17	13.6
Residential Consumer Products	1.76	8.5
Income Eligible Single Family	1.67	10.9
Income Eligible Multifamily	2.37	13.4
<i>C&I Programs</i>		
Large C&I New Construction	4.76	19.0
Large C&I Retrofit	2.06	51.4
Small Business Direct Install	1.97	12.3
Gas Portfolio		
<i>Residential Programs</i>		
Residential New Construction	1.19	2.4
Residential HVAC	1.06	6.9
EnergyWise Single Family	0.87	11.9
EnergyWise Multifamily	2.30	16.5
Home Energy Reports	2.77	7.5
Income Eligible Single Family	1.53	12.1
Income Eligible Multifamily	2.31	16.0
<i>C&I Programs</i>		
Large C&I New Construction	5.28	1.2
Large C&I Retrofit	1.92	16.4
Small Business Direct Install	2.50	13.4
C&I Multifamily	3.46	11.0
Demand Response Portfolio		
C&I ConnectedSolutions	2.99	17.5
Residential ConnectedSolutions	2.25	6.9

6 Docket 4600 Benefit Cost Framework

Table 1. Alignment of RI Test to Docket 4600 Framework for 2024 Electric Energy Efficiency Portfolio

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
Power System Level	1	Energy Supply & Transmission Operating Value of Energy Provided or Saved	Quantified	\$18,863,402	Energy Efficiency Measures: Winter peak electric energy (kWh) savings are monetized for winter peak by multiplying savings during this period by the avoided retail cost of winter peak energy from Appendix B of the avoided cost schedules in the AESC 2021 study.	Benefit
			Quantified	\$16,872,599	Energy Efficiency Measures: Winter off-peak electric energy (kWh) savings are monetized for winter peak by multiplying savings during this period by the avoided retail cost of winter off-peak energy from Appendix B of the avoided cost schedules in the AESC 2021 study.	Benefit
			Quantified	\$9,523,936	Energy Efficiency Measures: Summer peak electric energy (kWh) savings are monetized for winter peak by multiplying savings during this period by the avoided retail cost of Summer peak energy from Appendix B of the avoided cost schedules in the AESC 2021 study.	Benefit
			Quantified	\$6,502,571	Energy Efficiency Measures: Summer off-peak electric energy (kWh) savings are monetized for winter peak by multiplying savings during this period by the avoided retail cost of Summer off-peak energy from Appendix B of the avoided cost schedules in the AESC 2021 study.	Benefit
			Quantified	\$4,677,854	Energy Efficiency Measures: Value of avoided summer generation capacity benefit is monetized by the AESC 2021 study avoided costs	Benefit

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
	2	Renewable Energy Credit Cost / Value	Quantified	See Notes	Wholesale cost of RECs is included in the winter peak, winter off-peak, summer peak, and summer off-peak retail energy costs from the preceding category.	Benefit
	3	Retail Supplier Risk Premium	Quantified	See Notes	Wholesale Risk Premium is built into the retail costs of electric energy and electric capacity sourced from the AESC 2021 study and used to calculate the benefits of avoided energy and capacity.	Benefit
	4	Forward Commitment: Capacity Value	Quantified	See Notes	Forward capacity avoided costs are included in capacity benefits.	Benefit
	5	Forward Commitment: Avoided Ancillary Services Value	Not applicable	See Notes	Not applicable to energy efficiency	Not Applicable
	6	Utility / Third Party Developer Renewable Energy, Efficiency, or DER costs	Quantified	\$96,307,174	Rhode Island Energy costs to implement the electric energy efficiency portfolio. Total budget includes costs for Program Planning & Administration; Marketing; Customer Incentives; Sales Technical Assistance and Training; Evaluation & Market Research; Performance Incentive Mechanism	Cost
	7	Electric PTF Transmission Capacity Costs / Value	Quantified	\$8,937,231	Energy Efficiency: Electric transmission capacity benefits are quantified by multiplying a statewide Pooled Transmission Facility (PTF) transmission value from AESC 2021 study by the summer kW saved from efficiency measures	Benefit
		Electric Non-PTF Transmission Capacity Costs / Value	Quantified	\$1,060,916	Energy Efficiency: Electric transmission capacity benefits are quantified by multiplying a statewide Pooled Transmission Facility (PTF) transmission value from AESC 2021 study by the summer kW saved from efficiency measures	Benefit
	8	Electric transmission infrastructure costs for Site Specific Resources	Not applicable	See Notes	Currently no location-specific energy efficiency included, all measures offered across service territory.	Not Applicable

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Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
	9	Net risk benefits to utility system operations (generation, transmission, distribution)	Not Quantified or Qualified	See Notes	Value of Improved Reliability benefit calculated based on reliability value from the AESC 2021 study multiplied by the avoided summer kW savings. Values included in the row "Distribution system and customer reliability / resilience impacts"	Benefit
	10	Option value of individual resources	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	11	Investment under Uncertainty: Real Options Cost / Value	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	12	Energy Demand Reduction Induced Price Effect	Quantified	\$1,503,846	Energy Efficiency measures: Electric Energy (kWh) Intrastate DRIPE values quantified based on the energy DRIPE values included in the AESC 2021 study. Calculated for each of winter peak, winter off-peak, summer peak, and summer off-peak.	Benefit
Quantified			\$18,122,035	Energy Efficiency measures: Electric Energy (kWh) Rest-of-Pool DRIPE values quantified based on the energy DRIPE values included in the AESC 2021 study. Calculated for each of winter peak, winter off-peak, summer peak, and summer off-peak.	Benefit	
Quantified			\$194,776	Energy Efficiency measures: Electric Energy (kWh) Cross-DRIPE values quantified based on the energy DRIPE values included in the AESC 2021 study. Calculated for each of winter peak, winter off-peak, summer peak, and summer off-peak.	Benefit	
Quantified			\$6,933,409	Energy Efficiency measures: Electric Generation Capacity (kW) DRIPE value quantified by multiplying avoided summer kW by applicable capacity DRIPE values (\$/kW) from the AESC 2021 study.	Benefit	

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Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
			Quantified	See Fuel benefits	Additional DRIPE benefits for oil fuel savings from energy efficiency measures are quantified by multiplying oil fuel savings (MMBtu) by applicable oil DRIPE values (\$/MMBtu) from the AESC 2021 study. These benefits are included in the category "Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water".	Benefit
			Quantified	See notes	Gas Resource Benefits in the Electric energy efficiency Benefit Cost Model includes Gas Supply DRIPE and Gas-Electric Cross DRIPE monetized by multiplying the gas savings attributable to the electric portfolio measures by applicable avoided cost series from the AESC 2021 study. These benefits are included in the category "Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water".	Benefit
	13	Greenhouse gas compliance costs	Quantified	See notes	Cost of compliance with criteria air pollutant regulations are included in the wholesale electric energy commodity costs from the AESC 2021 study and are included in the calculation of the energy benefits in the category "Energy Supply & Transmission Operating Value of Energy Provided or Saved"	Benefit
	14	Criteria air pollutant and other environmental compliance costs	Quantified	See notes	Cost of compliance with criteria air pollutant regulations are included in the wholesale electric energy commodity costs from the AESC 2021 study and are included in the calculation of the energy benefits in the category "Energy Supply & Transmission Operating Value of Energy Provided or Saved"	Benefit

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Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
	15	Innovation and Learning by Doing	Not Quantified or Qualified	See notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs. Likely a minimal value in comparison to other benefits included in RI Test, but possible value due to pilots, demonstrations, and assessments included in programs.	Benefit
	16	Distribution capacity costs	Quantified	\$15,564,462	Energy Efficiency: Electric distribution capacity benefits are quantified by multiplying a Company-generated distribution value (\$/kW) by the summer kW saved from efficiency measures.	Benefit
	17	Distribution delivery costs	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	18	Distribution system safety loss/gain	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	19	Distribution system performance	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	20	Utility low income	Quantified	See Notes	Reduced arrearages; bad debt write-offs; terminations and reconnections; notices; safety related emergency calls; customer calls and collections; and rate discounts are included as NEIs for income eligible programs. Aggregated with other NEIs in row "Program participant / prosumer benefits / costs"	Benefit
	21	Distribution system and customer reliability / resilience impacts	Quantified	\$139,395	Energy Efficiency: Value of Improved Reliability benefit calculated based on reliability value from the AESC 2021 study multiplied by the avoided summer kW savings.	Benefit
Customer Level	22	Program participant / prosumer benefits / costs	Quantified	\$17,495,754	Energy Efficiency measures: Participant contribution cost is the direct cost of the measure that is not covered by the customer	Cost

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Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
					rebate/incentive for energy efficiency measures.	
			Quantified	\$30,954,031	Quantifiable non-resource, non-energy impacts are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the Annual Plan. Non resource, non-energy impacts may include but are not limited to labor, material, facility use, health and safety, materials handling, national security, property values, and transportation. Includes quantified utility NEIs noted elsewhere in this table, and national security NEI value.	Benefit
	23	Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water	Quantified	\$22,318,538	Energy Efficiency measures: Quantification of Resource Benefits from: Natural Gas, Oil, Propane, Water & Sewage. Natural Gas Benefits are based on Appendix C of the 2021 AESC study, Oil and Propane Benefits are based on Appendix D of the 2021 AESC study, Water & Sewage Benefits are derived from an internet survey of rates posted to the RI PUC website.	Benefit
	24	Low-Income Participant Benefits	Quantified	See Notes	Low-Income Participant Benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the Annual Plan and TRM. See the category "Program participant / prosumer benefits / costs" for these benefits	Benefit
	25	Consumer Empowerment & Choice	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
	26	Non-participant (equity) rate and bill impacts	Quantified	See Notes	External to cost effectiveness analysis. Bill Impacts model the effects of efficiency programs on annual customer bills by aggregating rate and consumption changes, including non-participants. Electric and natural gas rate and bill impact models included in Attachment 7 of the Annual Plan	Benefit (but not included in BCA screening)
Societal Level	27	Greenhouse gas externality costs	Quantified	\$30,035,690	Energy Efficiency measures: Quantified Non-embedded Greenhouse gas reduction benefits obtained from the 2021 AESC Study. Non-embedded CO2 values are sourced from the following tables in the 2021 AESC Study Appendix B for electric savings and Appendix G for gas savings, oil savings, and propane savings.	Benefit
	28	Criteria air pollutant and other environmental externality costs	Quantified	\$1,082,192	Energy Efficiency measures: Quantified Non-embedded NOx reduction benefits obtained from the 2021 AESC Study. Additional research would be required to determine other benefit streams from air pollutants and other environmental externalities	Benefit
	29	Conservation and community benefits	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined
	30	Non-energy costs/benefits: Economic Development	Quantified	\$212,046,709	Energy efficiency measures: The Company is treating the economic benefits category qualitatively in the primary RI Test and are presented separately in an additional table. Economic benefits are calculated by multiplying program spending by a set of multipliers calculated in accordance with a methodology developed in the report: "Brattle Group Review of RI Test and Proposed Methodology Final"	Benefit

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Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost
	31	Innovation and knowledge spillover (Related to demonstration projects and other RD&D preceding larger scale deployment)	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs. The portfolio of programs includes pilots, demonstrations and assessments and these likely generate benefits to further program and market development. The value of these innovation and knowledge spillover benefits is unknown but is estimated to be small in comparison to the overall magnitude of benefits currently included in the screening of the electric portfolio.	Benefit
	32	Societal Low-Income Impacts	Not Quantified or Qualified	See Notes	Participant Low-Income Benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the Annual Plan and TRM. Societal low-income impacts are not included. Participant NEIs are aggregated with other Non-Energy Impacts and shown in the Program participant / prosumer benefits / costs category.	Undetermined
	33	Public Health	Not Quantified or Qualified	See Notes	Participant health benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the Annual Plan, societal public health benefits are not monetized. Participant NEIs are aggregated with other Non-Energy Impacts and shown in the Program participant / prosumer benefits / costs category.	Benefit
	34	National Security and US international influence	Quantified	See Notes	National Security due to avoided oil imports are monetized for residential and income eligible measures that save oil in accordance with the Rhode Island TRM. The value of this NEI is aggregated with other Non-Energy Impacts and shown in the Program participant / prosumer benefits / costs category.	Benefit

Table 2. Alignment of RI Test to Docket 4600 Framework for 2023 Natural Gas Energy Efficiency Portfolio

Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)
Power System Level	1	Energy Supply & Transmission Operating Value of Energy Provided or Saved	Quantified	\$28,377,765	Natural gas energy efficiency measures. Value of natural gas supply monetized by the AESC 2021 study avoided costs. Natural Gas Benefits are based on Appendix C of the 2018 AESC study. Includes avoided cost of delivering gas (retail margin) and the avoided cost of the gas.	Benefit	Yes
			Quantified	\$77,235	Energy Efficiency Measures: Winter peak electric energy (kWh) savings associated with natural gas efficiency are monetized for winter peak by multiplying savings during this period by the avoided retail cost of winter peak energy from Appendix B of the avoided cost schedules in the AESC 2021 study.	Benefit	No
			Quantified	\$88,935	Energy Efficiency Measures: Winter off-peak electric energy (kWh) savings associated with natural gas efficiency are monetized for winter peak by multiplying savings during this period by the avoided retail cost of winter off-peak energy from Appendix B of the avoided cost schedules in the AESC 2021 study.	Benefit	No
			Quantified	\$91,891	Energy Efficiency Measures: Summer peak electric energy (kWh) savings associated with natural gas efficiency are monetized for winter peak by multiplying savings during this period by the avoided retail cost of Summer peak energy from Appendix B of the avoided cost schedules in the AESC 2021 study.	Benefit	No
			Quantified	\$79,478	Energy Efficiency Measures: Summer off-peak electric energy (kWh) savings associated with natural gas efficiency are monetized for winter peak by multiplying savings during this period by the avoided retail cost of Summer off-peak energy from Appendix B of the avoided cost schedules in the AESC 2021 study.	Benefit	No
			Quantified	\$124,249	Energy Efficiency Measures: Value of avoided summer generation capacity benefit is monetized by the AESC 2021 study avoided costs.	Benefit	No

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Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)
	2	Renewable Energy Credit Cost / Value	Quantified	See Notes	Wholesale cost of RECs is included in the winter peak, winter off-peak, summer peak, and summer off-peak retail energy costs from the preceding category.	Benefit	No
	3	Retail Supplier Risk Premium	Quantified	See Notes	Wholesale Risk Premium is built into the retail costs of electric energy and electric capacity sourced from the AESC 2021 study and used to calculate the benefits of avoided energy and capacity.	Benefit	No
	4	Forward Commitment: Capacity Value	Quantified	See Notes	Forward capacity avoided costs are included in capacity benefits.	Benefit	No
	5	Forward Commitment: Avoided Ancillary Services Value	Not applicable	See Notes	Not applicable to energy efficiency	Not Applicable	No
	6	Utility / Third Party Developer Renewable Energy, Efficiency, or DER costs	Quantified	\$33,255,011	Rhode Island Energy costs to implement the natural gas energy efficiency portfolio. Total budget includes costs for Program Planning & Administration; Marketing; Customer Incentives; Sales Technical Assistance and Training; Evaluation & Market Research; Performance Incentive Mechanism.	Cost	Yes
	7	PTF Electric Transmission Capacity Costs / Value	Quantified	\$229,230	Energy Efficiency: Electric transmission capacity benefits are quantified by multiplying a Pooled Transmission Facility (PTF) transmission value from AESC 2021 study by the summer kW saved from efficiency measures.	Benefit	No
		Non-PTF Electric Transmission Capacity Costs / Value	Quantified	\$19,012	Energy Efficiency: Electric transmission capacity benefits are quantified by multiplying a Non-Pooled Transmission Facility (Non-PTF) transmission value from AESC 2021 study by the summer kW saved from efficiency measures.	Benefit	No

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Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)
	8	Electric transmission infrastructure costs for Site Specific Resources	Not applicable	See Notes	Currently no location-specific energy efficiency included, all measures offered across service territory.	Not Applicable	No
	9	Net risk benefits to utility system operations (generation, transmission, distribution)	Quantified	See Notes	Value of Improved Reliability benefit calculated based on reliability value from the AESC 2021 study multiplied by the avoided summer kW savings. Values included in the row "Distribution system and customer reliability / resilience impacts".	Benefit	No
	10	Option value of individual resources	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined	Undetermined
	11	Investment under Uncertainty: Real Options Cost / Value	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined	Undetermined
	12	Energy Demand Reduction Induced Price Effect	Quantified	\$5,286	Energy Efficiency measures: Electric Energy (kWh) Intrastate DRIPE values quantified based on the energy DRIPE values included in the AESC 2021 study. Calculated for each of winter peak, winter off-peak, summer peak, and summer off-peak.	Benefit	No
Quantified			\$63,123	Energy Efficiency measures: Electric Energy (kWh) Rest-of-Pool DRIPE values quantified based on the energy DRIPE values included in the AESC 2021 study. Calculated for each of winter peak, winter off-peak, summer peak, and summer off-peak.	Benefit	No	
Quantified			\$891	Energy Efficiency measures: Electric Energy (kWh) Cross-DRIPE values quantified based on the energy DRIPE values included in the AESC 2021 study. Calculated for each of winter peak, winter off-peak, summer peak, and summer off-peak.	Benefit	No	
Quantified			\$82,477	Energy Efficiency measures: Electric Generation Capacity (kW) DRIPE value quantified by multiplying avoided summer kW by applicable capacity DRIPE values (\$/kW) from the AESC 2021 study.	Benefit	No	

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Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)
			Quantified	See Fuel benefits	Additional DRIPE benefits for oil fuel savings from energy efficiency measures are quantified by multiplying oil fuel savings (MMBtu) by applicable oil DRIPE values (\$/MMBtu) from the AESC 2021 study. These benefits are included in the category "Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water". Natural Gas measures do not have delivered fuel savings, so no value for the natural gas portfolio.	Benefit	No
			Quantified	\$226,265	Gas Supply DRIPE monetized by multiplying the gas savings attributable to the electric portfolio measures by applicable avoided cost series from the AESC 2021 study. These benefits are included in the category "Participant non-energy costs/benefits: Oil, Gas, Water, Waste Water".	Benefit	Yes
	13	Greenhouse gas compliance costs	Quantified	See notes	Cost of compliance with criteria air pollutant regulations are included in the wholesale electric energy commodity costs from the AESC 2021 study and are included in the calculation of the electric energy benefits in the category "Energy Supply & Transmission Operating Value of Energy Provided or Saved"	Benefit	No
	14	Criteria air pollutant and other environmental compliance costs	Quantified	See notes	Cost of compliance with criteria air pollutant regulations are included in the wholesale electric energy commodity costs from the AESC 2021 study and are included in the calculation of the electric energy benefits in the category "Energy Supply & Transmission Operating Value of Energy Provided or Saved"	Benefit	No
	15	Innovation and Learning by Doing	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs. Likely a minimal value in comparison to other benefits included in RI Test, but possible value due to pilots, demonstrations, and assessments included in programs.	Undetermined	Undetermined
	16	Distribution capacity costs	Quantified	\$282,031	Energy Efficiency: Electric distribution capacity benefits are quantified by multiplying a Company-generated distribution value (\$/kW) by the summer kW saved from efficiency measures.	Benefit	Undetermined
	17	Distribution delivery costs	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined
	18	Distribution system safety loss/gain	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined

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Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)
	19	Distribution system performance	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined
	20	Utility low income	Quantified	See Notes	Reduced arrearages; bad debt write-offs; terminations and reconnections; notices; safety related emergency calls; customer calls and collections; and rate discounts are included as NEIs for income eligible programs. Aggregated with other NEIs in row "Program participant / prosumer benefits / costs"	Benefit	No
	21	Distribution system and customer reliability / resilience impacts	Quantified	\$1,010	Value of Improved Reliability benefit calculated based on reliability value from the AESC 2021 study multiplied by the avoided summer kW savings. Applies to energy efficiency measures.	Benefit	No

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Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)
Customer Level	22	Program participant / prosumer benefits / costs	Quantified	\$6,854,409	Energy Efficiency measures: Participant contribution cost is the direct cost of the measure that is not covered by the customer rebate/incentive for energy efficiency measures.	Cost	No
			Quantified	\$27,818,033	Quantifiable non-resource, non-energy impacts are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the Annual Plan. Non resource, non-energy impacts may include but are not limited to labor, material, facility use, health and safety, materials handling, national security, property values, and transportation. Includes quantified utility NEIs noted elsewhere in this table, and national security NEI value.	Benefit	No

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Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)
	23	Participant non-energy costs/benefits: Oil, Water, Waste Water	Quantified	\$512,053	Energy Efficiency measures: Quantification of Resource Benefits from: Oil, Propane, Water & Sewage. Oil and Propane Benefits are based on Appendix D of the 2021 AESC study, Water & Sewage Benefits are derived from an internet survey of rates posted to the RI PUC website.	Benefit	No
	24	Low-Income Participant Benefits	Quantified	See Notes	Low-Income Participant Benefits benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the Annual Plan. See the category "Program participant / prosumer benefits / costs" for these benefits	Benefit	No
	25	Consumer Empowerment & Choice	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs.	Undetermined	No

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Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)
	26	Non-participant (equity) rate and bill impacts	Quantified	See Notes	External to cost effectiveness analysis. Bill Impacts model the effects of efficiency programs on annual customer bills by aggregating rate and consumption changes, including non-participants. Electric and natural gas rate and bill impact models included in Attachment 7 of the Annual Plan	Benefit (but not included in BCA screening)	No
Societal Level	27	Greenhouse gas externality costs	Quantified	\$19,820,251	Energy Efficiency measures: Quantified Non-embedded Greenhouse gas reduction benefits obtained from the 2021 AESC Study. Non-embedded CO2 values are sourced from the following tables in the 2021 AESC Study Appendix B for electric savings and Appendix G for gas savings, oil savings, and propane savings.	Benefit	No
	28	Criteria air pollutant and other environmental externality costs	Quantified	\$2,389,919	Quantified Non-embedded NOx reduction benefits obtained from the 2021 AESC Study. Additional research would be required to determine other benefit streams from air pollutants and other environmental externalities	Benefit	No
	29	Conservation and community benefits	Not Quantified or Qualified	See Notes	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of natural gas energy efficiency programs.	Undetermined	Undetermined

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Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)
	30	Non-energy costs/benefits: Economic Development	Qualified	\$66,899,831	Energy efficiency measures: The Company is treating the economic benefits category qualitatively in the primary RI Test and presenting economic benefits in a separate table. Economic benefits are calculated by multiplying program spending by a set of multipliers calculated in accordance with a methodology developed in the report: "Brattle Group Review of RI Test and Proposed Methodology Final"	Benefit	No

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Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)
	31	Innovation and knowledge spillover (Related to demonstration projects and other RD&D preceding larger scale deployment)	Qualified	Likely minimal value	Additional research necessary to determine applicability and qualitative/quantitative impacts for cost effectiveness screening of energy efficiency programs. The portfolio of programs includes pilots, demonstrations and assessments and these likely generate benefits to further program and market development. The value of these innovation and knowledge spillover benefits is unknown but is estimated to be small in comparison to the overall magnitude of benefits currently included in the screening of the electric portfolio.	Benefit	Undetermined
	32	Societal Low-Income Impacts	Not Quantified or Qualified	See Notes	Participant Low-Income Benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the Annual Plan and TRM. Societal low-income impacts are not included. Participant NEIs are aggregated with other Non-Energy Impacts and shown in the Program participant / prosumer benefits / costs category.	Undetermined	Undetermined

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Category Level	Cat. #	Mixed Benefit-Cost, Cost, or Benefit Category	Treatment in Benefit-Cost Analysis (Quantified, Qualified, Not Treated)	Present Value or Qualitative Description	Description and Notes	Benefit or Cost	Related to Gas Utility Service (Yes/No)
	33	Public Health	Quantified	See Notes	Participant health benefits are included within the calculation of Non-Energy Impacts as described within the Non-Energy Impacts section of the Annual Plan, societal public health benefits are not monetized. Participant NEIs are aggregated with other Non-Energy Impacts and shown in the Program participant / prosumer benefits / costs category.	Benefit	No
	34	National Security and US international influence	Quantified	See Notes	National Security due to avoided oil imports are monetized for residential and income eligible measures that save oil in accordance with the Rhode Island TRM. The value of this NEI is aggregated with other Non-Energy Impacts and shown in the Program participant / prosumer benefits / costs category.	Benefit	Undetermined

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Table E-1
Rhode Island Energy
2024 DSM Funding Sources by Sector (\$000)

	Residential	Income Eligible Residential	Commercial & Industrial	Portfolio	
(1) Projected Budget	\$32,892,268	\$16,215,084	\$47,201,141		\$96,308,493
Sources of Other Funding	\$0	\$0	\$0		\$0
(2) Projected DSM Commitments from Previous Year	\$0	\$0	\$0		\$0
(3) Projected Fund Balance and Interest from Previous Year	-\$8,648,681	\$0	\$17,286,681		\$8,638,000
(4) Projected FCM Net Revenue from ISO-NE	\$4,579,259	\$381,407	\$6,525,614		\$11,486,280
(5) Total Other Funding	-\$4,069,422	\$381,407	\$23,812,295		\$20,124,280
(6) Customer Funding Required	\$36,961,690	\$15,833,677	\$23,388,846		\$76,184,213
(7) Forecasted kWh Sales	2,921,692,939	243,348,090	4,163,521,503		7,328,562,532
(8) Energy Efficiency Program Charge per kWh (Excluding Uncollectible Recovery)					\$0.01039
(9) Proposed SRP Opex Factor per kWh (Excluding Uncollectible Recovery)					\$0.00000
(10) Total Proposed Energy Efficiency Charge per kWh (Excluding Uncollectible Recovery)					\$0.01039
(11) Currently Effective Uncollectible Rate					1.3%
(12) Proposed Energy Efficiency Program Charge per kWh (Including Uncollectible Recovery)					\$0.01052
(13) Previous Year's Energy Efficiency Program Charge per kWh					\$0.00960
(14) Adjustment to Reflect Fully Reconciling Funding Mechanism per kWh					\$0.00092

Notes:

- (1) Projected Budget includes regulatory costs which are allocated by forecasted kWh sales to each sector.
- (2) Projected FCM Net Revenue from ISO-NE is allocated by forecasted kWh sales to each sector.
- (3) Total Other Funding equals Line (2) + Line (3) + Line (4)
- (4) Customer Funding Required equals Line (1) - Line (5)
- (5) Energy Efficiency Program Charge per kWh (Excluding Uncollectible Recovery) equals Line (6) ÷ Line (7), truncated to five decimal places.
- (6) Total Proposed Energy Efficiency Charge per kWh (Excluding Uncollectible Recovery) equals Line (8) + Line (9)
- (7) Uncollectible rate approved in Docket No. 4770.
- (8) Proposed Energy Efficiency Program Charge per kWh (Including Uncollectible Recovery) equals Line (10) ÷ (1-Line (11)), truncated to five decimal places.
- (9) Adjustment to Reflect Fully Reconciling Funding Mechanism per kWh equals Line (12) - Line (13)

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Table E-2
Rhode Island Energy
2024 Energy Efficiency Program Budget (\$000)

	Program Planning & Administration	Marketing	Rebates and Other Customer Incentives	Sales, Tech Assist & Training	Evaluation & Market Research	Performance Incentive	Grand Total
Residential							
Residential New Construction	\$122.3	\$24.3	\$525.0	\$592.7	\$48.3		\$1,312.7
Residential HVAC	\$358.1	\$282.1	\$5,014.6	\$849.7	\$59.2		\$6,563.6
EnergyWise Single Family	\$450.2	\$362.4	\$13,469.9	\$1,816.9	\$178.3		\$16,277.7
EnergyWise Multifamily	\$117.1	\$68.7	\$923.3	\$166.5	\$16.3		\$1,291.9
Home Energy Reports	\$28.1	\$13.4	\$0.0	\$2,061.9	\$19.8		\$2,123.3
Residential Consumer Products	\$112.8	\$432.0	\$718.1	\$699.6	\$24.9		\$1,987.4
Comprehensive Marketing - Residential	\$0.7	\$325.8	\$0.0	\$0.0	\$0.0		\$326.5
Community Based Initiatives - Residential	\$0.0	\$139.4	\$0.0	\$0.0	\$0.0		\$139.4
Residential Performance Incentive						\$546.5	\$546.5
Subtotal	\$1,189.3	\$1,648.2	\$20,650.9	\$6,187.3	\$346.8	\$546.5	\$30,569.0
Income Eligible Residential							
Income Eligible Single Family	\$361.4	\$135.7	\$9,701.2	\$1,911.6	\$127.4		\$12,237.4
Income Eligible Multifamily	\$232.4	\$15.1	\$2,929.0	\$551.4	\$56.3		\$3,784.2
Income Eligible Performance Incentive						\$0.0	\$0.0
Subtotal	\$593.8	\$150.8	\$12,630.2	\$2,463.0	\$183.7	\$0.0	\$16,021.6
Commercial & Industrial							
Large C&I New Construction	\$247.4	\$216.9	\$6,526.9	\$1,637.7	\$598.3		\$9,227.2
Large C&I Retrofit	\$748.0	\$161.0	\$16,982.1	\$4,241.7	\$665.1		\$22,797.9
Small Business Direct Install	\$282.2	\$181.6	\$7,070.7	\$271.0	\$394.5		\$8,199.9
C&I Financing	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0		\$0.0
Community Based Initiatives - C&I	\$2.5	\$46.5	\$0.0	\$9.0	\$0.0		\$57.9
Commercial Workforce Development	\$0.0	\$0.0	\$0.0	\$74.9	\$0.0		\$74.9
Commercial & Industrial Performance Incentive						\$3,532.6	\$3,532.6
Subtotal	\$1,280.1	\$605.9	\$30,579.7	\$6,234.2	\$1,657.9	\$3,532.6	\$43,890.4
Portfolio							
EERMC	\$702.3	\$0.0	\$0.0	\$0.0	\$0.0		\$702.3
OER	\$1,387.7	\$0.0	\$0.0	\$0.0	\$0.0		\$1,387.7
Rhode Island Infrastructure Bank	\$0.0	\$0.0	\$3,737.5	\$0.0	\$0.0		\$3,737.5
Subtotal	\$2,090.0	\$0.0	\$3,737.5	\$0.0	\$0.0	\$0.0	\$5,827.5
Grand Total	\$5,153.2	\$2,404.9	\$67,598.3	\$14,884.5	\$2,188.5	\$4,079.1	\$96,308.5

Notes:

- (1) For more information on finance costs, please refer to Attachment 2, Section 9.
- (2) OER budget is equal to 3% of 60% of SBC collections.
- (3) Demonstrations and assessments budgets are included in specific program level budgets listed above. More information on demonstration and assessments can be found in Attachment 8.

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Table E-3
Rhode Island Energy
2024 PIM Budget (\$000)

	Proposed Budget From E-2	Commitments	Regulatory Costs	Performance Incentive	Eligible Sector PIM Budget for Performance Incentive on E-8B	Implementation Expenses for Cost-Effectiveness on E-5
Residential						
Residential New Construction	\$1,312.7					\$1,312.7
Residential HVAC	\$6,563.6					\$6,563.6
EnergyWise Single Family	\$16,277.7					\$16,277.7
EnergyWise Multifamily	\$1,291.9					\$1,291.9
Home Energy Reports	\$2,123.3					\$2,123.3
Residential Consumer Products	\$1,987.4					\$1,987.4
Comprehensive Marketing - Residential	\$326.5					\$326.5
Community Based Initiatives - Residential	\$139.4					\$139.4
Residential Performance Incentive	\$546.5			\$546.5		
Subtotal	\$30,569.0	\$0.0	\$0.0	\$546.5	\$29,996.5	\$30,022.5
Income Eligible Residential						
Income Eligible Single Family	\$12,237.4					\$12,237.4
Income Eligible Multifamily	\$3,784.2					\$3,784.2
Income Eligible Performance Incentive	\$0.0			\$0.0		
Subtotal	\$16,021.6	\$0.0	\$0.0	\$0.0	\$15,996.2	\$16,021.6
Commercial & Industrial						
Large C&I New Construction	\$9,227.2					\$9,227.2
Large C&I Retrofit	\$22,797.9					\$22,797.9
Small Business Direct Install	\$8,199.9					\$8,199.9
C&I Financing	\$0.0					\$0.0
Community Based Initiatives - C&I	\$57.9					\$57.9
Commercial Workforce Development	\$74.9					\$74.9
Commercial & Industrial Performance Incentive	\$3,532.6			\$3,532.6		
Subtotal	\$43,890.4	\$0.0	\$0.0	\$3,532.6	\$40,357.8	\$40,357.8
Portfolio						
EERMC	\$702.3			\$702.3		\$702.3
OER	\$1,387.7			\$1,387.7		\$1,387.7
Rhode Island Infrastructure Bank	\$3,737.5			\$3,737.5		\$3,737.5
Subtotal	\$5,827.5	\$0.0	\$0.0	\$5,827.5	\$702.3	\$5,827.5
Grand Total	\$96,308.5	\$0.0	\$0.0	\$9,906.6	\$87,052.8	\$92,229.4

Notes:

- (1) Eligible spending budget equals total budget minus commitments, regulatory costs, pilots, assessments, and performance incentive.
- (2) Implementation expenses equal total budget minus commitments and performance incentive.

Table E-4
Rhode Island Energy
Proposed 2024 Budget Compared to Approved 2023 Budget (\$000)

	Proposed Implementation Budget 2024	Approved Implementation Budget 2023	Difference
Residential			
Residential New Construction	\$1,312.7	\$1,592.0	-\$279.2
Residential HVAC	\$6,563.6	\$5,340.8	\$1,222.8
EnergyWise Single Family	\$16,277.7	\$15,585.3	\$692.4
EnergyWise Multifamily	\$1,291.9	\$1,341.2	-\$49.3
Home Energy Reports	\$2,123.3	\$2,145.8	-\$22.5
Residential Consumer Products	\$1,987.4	\$2,489.1	-\$501.6
Comprehensive Marketing - Residential	\$326.5	\$310.5	\$16.0
Community Based Initiatives - Residential	\$139.4	\$280.6	-\$141.2
Subtotal	\$30,022.5	\$29,085.1	\$937.4
Income Eligible Residential			
Income Eligible Single Family	\$12,237.4	\$11,843.2	\$394.2
Income Eligible Multifamily	\$3,784.2	\$3,335.8	\$448.4
Subtotal	\$16,021.6	\$15,179.0	\$842.5
Commercial & Industrial			
Large C&I New Construction	\$9,227.2	\$8,269.2	\$958.0
Large C&I Retrofit	\$22,797.9	\$22,176.2	\$621.7
Small Business Direct Install	\$8,199.9	\$7,552.2	\$647.7
C&I Financing	\$0.0	\$2,000.0	-\$2,000.0
Community Based Initiatives - C&I	\$57.9	\$93.5	-\$35.5
Commercial Workforce Development	\$74.9	\$157.5	-\$82.6
Subtotal	\$40,357.8	\$40,248.6	\$109.2
Portfolio			
EERMC	\$702.3	\$594.3	\$108.0
OER	\$1,387.7	\$891.4	\$496.3
Electric Resistance to Heat Pump Conversions	\$0.0	\$1,707.6	-\$1,707.6
Rhode Island Infrastructure Bank	\$3,737.5	\$3,737.5	\$0.0
Subtotal	\$5,827.5	\$6,930.7	-\$1,103.2
Total Implementation Budget	\$92,229.4	\$91,443.5	\$785.9
Other Expenses			
Company Incentive	\$4,079.1	\$3,359.2	\$719.9
Subtotal	\$4,079.1	\$3,359.2	\$719.9
Grand Total	\$96,308.5	\$94,802.7	\$1,505.8

Notes:

- (1) Program implementation budget excludes commitments and company incentive.
- (2) Total budget includes implementation and commitments.
- (3) Approved Implementation Budget 2023 column is sourced from the January 2023 Compliance Filing.
- (4) Approved Implementation Budget 2023 column excludes ConnectedSolutions budgets for comparison purposes.

**Table E-5 Primary
Rhode Island Energy
Calculation of 2024 Program Year Cost-Effectiveness (\$000)**

	RI Test Benefit / Cost	Total Benefit	Program Implementation Expenses	Participant Cost	Performance Incentive	¢ / Lifetime kWh
Residential						
Residential New Construction	2.83	\$4,831.7	\$1,312.7	\$392.7		¢10.7
Residential HVAC	1.86	\$17,424.9	\$6,563.6	\$2,780.0		¢8.3
EnergyWise Single Family	1.31	\$24,962.9	\$16,277.7	\$2,802.9		¢127.3
EnergyWise Multifamily	2.21	\$3,161.2	\$1,291.9	\$140.5		¢17.6
Home Energy Reports	2.71	\$5,756.3	\$2,123.3	\$0.0		¢9.1
Residential Consumer Products	1.80	\$4,016.5	\$1,987.4	\$247.3		¢14.6
Comprehensive Marketing - Residential			\$326.5			
Community Based Initiatives - Residential			\$139.4			
Subtotal	1.63	\$60,153.4	\$30,022.5	\$6,363.3	\$546.5	¢19.1
Income Eligible Residential						
Income Eligible Single Family	1.47	\$17,977.8	\$12,237.4	\$0.0		¢33.2
Income Eligible Multifamily	1.23	\$4,641.0	\$3,784.2	\$0.0		¢20.4
Subtotal	1.41	\$22,618.8	\$16,021.6	\$0.0	\$0.0	¢28.9
Commercial & Industrial						
Large C&I New Construction	3.51	\$35,869.3	\$9,227.2	\$1,000.6		¢5.6
Large C&I Retrofit	2.03	\$64,622.6	\$22,797.9	\$9,049.0		¢13.1
Small Business Direct Install	1.08	\$10,022.9	\$8,199.9	\$1,082.8		¢16.0
C&I Financing			\$0.0			
Community Based Initiatives - C&I			\$57.9			
Commercial Workforce Development			\$74.9			
Subtotal	2.01	\$110,514.7	\$40,357.8	\$11,132.4	\$3,532.6	¢10.7
Portfolio						
EERMC			\$702.3			
OER			\$1,387.7			
Rhode Island Infrastructure Bank			\$3,737.5			
Subtotal			\$5,827.5			
Grand Total	1.70	\$193,286.9	\$92,229.4	\$17,495.8	\$4,079.1	¢15.0

Notes:

(1) RI Test = total benefits from excluding economic benefits / program implementation expenses and customer contribution.

**Table E-5A Secondary
Rhode Island Energy
Calculation of 2024 Program Year Intrastate Cost-Effectiveness (\$000)**

	RI Test Benefit / Cost	Total Benefit	Program Implementation Expenses	Participant Cost	Performance Incentive	¢ / Lifetime kWh
Residential						
Residential New Construction	2.68	\$4,568.1	\$1,312.7	\$392.7		¢10.7
Residential HVAC	1.58	\$14,778.7	\$6,563.6	\$2,780.0		¢8.3
EnergyWise Single Family	1.27	\$24,320.3	\$16,277.7	\$2,802.9		¢127.3
EnergyWise Multifamily	2.05	\$2,941.7	\$1,291.9	\$140.5		¢17.6
Home Energy Reports	2.22	\$4,707.2	\$2,123.3	\$0.0		¢9.1
Residential Consumer Products	1.43	\$3,200.8	\$1,987.4	\$247.3		¢14.6
Comprehensive Marketing - Residential			\$326.5			
Community Based Initiatives - Residential			\$139.4			
Subtotal	1.48	\$54,516.8	\$30,022.5	\$6,363.3	\$546.5	¢19.1
Income Eligible Residential						
Income Eligible Single Family	1.37	\$16,751.1	\$12,237.4	\$0.0		¢33.2
Income Eligible Multifamily	1.14	\$4,318.1	\$3,784.2	\$0.0		¢20.4
Subtotal	1.32	\$21,069.3	\$16,021.6	\$0.0	\$0.0	¢28.9
Commercial & Industrial						
Large C&I New Construction	2.92	\$29,832.7	\$9,227.2	\$1,000.6		¢5.6
Large C&I Retrofit	1.66	\$53,017.7	\$22,797.9	\$9,049.0		¢13.1
Small Business Direct Install	0.84	\$7,791.1	\$8,199.9	\$1,082.8		¢16.0
C&I Financing			\$0.0			
Community Based Initiatives - C&I			\$57.9			
Commercial Workforce Development			\$74.9			
Subtotal	1.65	\$90,641.5	\$40,357.8	\$11,132.4	\$3,532.6	¢10.7
Portfolio						
EERMC			\$702.3			
OER			\$1,387.7			
Rhode Island Infrastructure Bank			\$3,737.5			
Subtotal			\$5,827.5			
Grand Total	1.46	\$166,227.6	\$92,229.4	\$17,495.8	\$4,079.1	¢15.0

Notes:

(1) Rest-of-pool DRIPE and PTF transmission are excluded from the "Total Benefit" column.

**Table E-5B Economic
 Rhode Island Energy
 Calculation of 2024 Economic Benefits and Job Years (\$000)**

	Program Implementation Expenses	RI Economic Multiplier	Economic Benefits	RI Job Years Multiplier	Job Years
Residential					
Residential New Construction	\$1,312.7	1.66	\$2,179.1	14.8	19
Residential HVAC	\$6,563.6	1.45	\$9,517.2	12.2	80
EnergyWise Single Family	\$16,277.7	1.17	\$19,044.9	12.3	200
EnergyWise Multifamily	\$1,291.9	1.97	\$2,545.0	14.8	19
Home Energy Reports	\$2,123.3	2.17	\$4,607.5	13.6	29
Residential Consumer Products	\$1,987.4	1.76	\$3,497.9	8.5	17
Comprehensive Marketing - Residential	\$326.5				
Community Based Initiatives - Residential	\$139.4				
Subtotal	\$30,022.5		\$41,391.6		365
Income Eligible Residential					
Income Eligible Single Family	\$12,237.4	1.67	\$20,436.4	10.9	133
Income Eligible Multifamily	\$3,784.2	2.37	\$8,968.5	13.4	51
Subtotal	\$16,021.6		\$29,405.0		184
Commercial & Industrial					
Large C&I New Construction	\$9,227.2	4.76	\$43,921.4	19	175
Large C&I Retrofit	\$22,797.9	2.06	\$46,963.6	51.4	1,172
Small Business Direct Install	\$8,199.9	1.97	\$16,153.9	12.3	101
C&I Financing	\$0.0				
Community Based Initiatives - C&I	\$57.9				
Commercial Workforce Development	\$74.9				
Subtotal	\$40,357.8		\$107,038.9		1,448
Portfolio					
EERMC	\$702.3				
OER	\$1,387.7				
Rhode Island Infrastructure Bank	\$3,737.5				
Subtotal	\$5,827.5				
Grand Total	\$92,229.4		\$177,835.5		1,997

Schedule B

Table E-6
 Rhode Island Energy
 Summary of 2024 Energy Efficiency Benefits by Program

	Total	Total (Economic Excluded)	Benefits (000s)																
			Energy					Capacity					Non Electric				Societal		
			Summer Peak	Summer Off Peak	Winter Peak	Winter Off Peak	Electric Energy DRIPE	Summer Generation	Capacity DRIPE	Transmission	Distribution	Reliability	Natural Gas	Oil	Other Resource	Non Resource	Carbon	NOx	Economic
Residential																			
Residential New Construction	\$7,663	\$4,832	\$233	\$175	\$376	\$525	\$253	\$17	\$11	\$35	\$55	\$0	\$0	\$892	\$1,520	\$35	\$661	\$45	\$2,831
Residential HVAC	\$30,973	\$17,425	\$151	\$128	\$3,944	\$5,141	\$2,632	\$113	\$79	\$234	\$364	\$1	\$0	\$1,183	\$9	\$241	\$3,101	\$104	\$13,548
EnergyWise Single Family	\$47,287	\$24,963	\$250	\$217	\$314	\$315	\$326	\$186	\$141	\$385	\$600	\$2	\$0	\$13,189	\$2,488	\$2,944	\$3,109	\$497	\$22,324
EnergyWise Multifamily	\$5,983	\$3,161	\$128	\$112	\$176	\$204	\$159	\$40	\$27	\$83	\$129	\$0	\$0	\$404	\$53	\$1,351	\$275	\$19	\$2,822
Home Energy Reports	\$10,364	\$5,756	\$214	\$164	\$555	\$476	\$791	\$236	\$956	\$365	\$568	\$66	\$0	\$0	\$0	\$0	\$1,345	\$20	\$4,607
Residential Consumer Products	\$7,950	\$4,016	\$222	\$198	\$250	\$259	\$494	\$181	\$380	\$412	\$641	\$5	\$0	\$44	\$106	\$0	\$811	\$13	\$3,933
Subtotal	\$110,219	\$60,153	\$1,198	\$993	\$5,616	\$6,920	\$4,655	\$773	\$1,595	\$1,514	\$2,357	\$74	\$0	\$15,712	\$4,175	\$4,572	\$9,302	\$697	\$50,066
Income Eligible Residential																			
Income Eligible Single Family	\$38,414	\$17,978	\$343	\$343	\$985	\$1,161	\$834	\$247	\$198	\$515	\$802	\$2	\$51	\$2,576	\$566	\$7,734	\$1,551	\$119	\$20,436
Income Eligible Multifamily	\$13,610	\$4,641	\$143	\$123	\$520	\$510	\$325	\$13	\$15	\$27	\$42	\$0	\$-41	\$276	\$60	\$2,210	\$404	\$15	\$8,969
Subtotal	\$52,024	\$22,619	\$486	\$466	\$1,506	\$1,671	\$1,158	\$260	\$213	\$542	\$844	\$3	\$11	\$2,802	\$625	\$9,944	\$1,955	\$134	\$29,405
Commercial & Industrial																			
Large C&I New Construction	\$84,554	\$35,869	\$3,164	\$1,901	\$5,288	\$3,255	\$4,090	\$1,233	\$931	\$2,564	\$3,991	\$11	\$-289	\$0	\$7	\$4,684	\$4,950	\$88	\$48,684
Large C&I Retrofit	\$130,227	\$64,623	\$3,739	\$2,643	\$5,042	\$4,166	\$8,017	\$2,158	\$3,763	\$4,815	\$7,495	\$46	\$-186	\$-27	\$0	\$11,450	\$11,349	\$154	\$65,605
Small Business Direct Install	\$28,310	\$10,023	\$936	\$499	\$1,411	\$861	\$1,900	\$254	\$431	\$564	\$878	\$5	\$-84	\$-426	\$0	\$304	\$2,480	\$9	\$18,287
Subtotal	\$243,091	\$110,515	\$7,839	\$5,043	\$11,742	\$8,282	\$14,007	\$3,644	\$5,126	\$7,942	\$12,364	\$63	\$-559	\$-453	\$7	\$16,438	\$18,779	\$251	\$132,576
Grand Total	\$405,334	\$193,287	\$9,524	\$6,503	\$18,863	\$16,873	\$19,821	\$4,678	\$6,933	\$9,998	\$15,564	\$139	\$-549	\$18,061	\$4,807	\$30,954	\$30,036	\$1,082	\$212,047

Schedule B

Table E-6A
 Rhode Island Energy
 Summary of 2024 Energy Efficiency Impacts by Program

	Electric Energy Savings						Load Reduction (kW)		Gas Savings			Oil Saved			Propane Saved			Total Savings				
	MWh		MMBtu		CO2 (Short Tons)			Summer	Winter	MMBtu	CO2 (Short Tons)	MMBtu	CO2 (Short Tons)	MMBtu	CO2 (Short Tons)	MMBtu	CO2 (Short Tons)	MMBtu	CO2 (Short Tons)	MMBtu	CO2 (Short Tons)	
	Annual	Lifetime	Annual	Lifetime	Annual	Annual	Annual	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	Annual	Lifetime	
Residential																						
Residential New Construction	735	15,904	2,507	54,263	342	18	52	0	0	0	1,521	33,089	133	1,517	35,789	128	5,545	123,141	603			
Residential HVAC	6,614	112,919	22,566	385,278	2,876	128	1,655	-2	-30	0	4,146	45,688	337	13	224	1	26,723	431,139	3,214			
EnergyWise Single Family	1,264	14,991	4,313	51,149	643	228	164	0	0	0	25,278	493,919	2,411	2,780	54,261	219	32,370	599,329	3,273			
EnergyWise Multifamily	505	8,122	1,723	27,714	270	44	34	0	0	0	650	14,963	75	27	426	2	2,399	43,103	347			
Home Energy Reports	23,359	23,359	79,700	79,700	9,206	2,212	4,964	0	0	0	0	0	0	0	0	0	79,700	79,700	9,206			
Residential Consumer Products	2,815	15,323	9,606	52,231	1,936	631	239	0	0	0	102	1,677	8	65	977	5	9,771	54,935	1,949			
Subtotal	35,292	190,617	120,415	650,386	15,274	4,261	7,108	-2	-30	0	31,696	589,316	2,964	4,402	91,677	355	156,511	1,331,348	18,592			
Income Eligible Residential																						
Income Eligible Single Family	2,466	36,840	8,415	125,699	972	320	390	531	7,437	31	4,683	94,351	377	344	6,576	24	13,973	234,063	1,404			
Income Eligible Multifamily	1,230	18,518	4,161	63,183	481	45	63	291	-5,813	-17	434	10,206	35	42	736	3	4,347	68,312	502			
Subtotal	3,696	55,358	12,576	188,882	1,453	364	453	240	1,624	14	5,117	104,558	412	387	7,312	27	18,320	302,376	1,906			
Commercial & Industrial																						
Large C&I New Construction	12,019	182,346	41,010	622,163	6,547	1,505	1,407	-2,351	-32,874	-182	0	0	0	0	0	0	38,660	589,289	6,365			
Large C&I Retrofit	34,670	242,966	118,293	828,998	21,309	6,162	5,598	-8,245	-21,971	-621	-198	-1,189	-24	0	0	0	169,850	865,838	20,664			
Small Business Direct Install	8,522	58,089	29,111	197,923	3,560	696	624	-1,765	-9,744	-117	-3,448	-19,038	-215	0	0	0	23,899	169,141	3,529			
Subtotal	55,211	483,319	188,415	1,649,084	31,817	8,363	7,629	-12,360	-64,589	-920	-3,646	-20,227	-339	0	0	0	172,409	1,564,268	30,558			
Grand Total	94,198	729,294	321,405	2,488,352	48,543	12,988	15,190	-12,122	-62,995	-906	33,167	673,646	3,037	4,789	98,989	382	347,239	3,197,992	51,656			

Notes:
 (1) Lifetime savings are equal to annual savings multiplied by the expected life of measures expected to be installed in each program.
 (2) Annual short tons CO2 savings is based on gross annual energy savings in Year 1. The 2021 AFSC study was used to inform the electric emissions factor, taking the average of summer/winter on/off-peak.

Schedule B

The Narragansett Electric Company
 d/b/a Rhode Island Energy
 RIPUC Docket No. 23-35-EE
 2024 Annual Energy Efficiency Plan
 Attachment 5
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Table E-6B
 Rhode Island Energy
 Summary of 2024 Intrastate Energy Efficiency Benefits by Program

	Total	Total (Economic Excluded)	Benefits (000's)																
			Energy					Capacity					Non Electric				Societal		
			Summer		Winter		Electric Energy DRUPE	Summer Generation	Capacity DRUPE	Transmission	Distribution	Reliability	Natural Gas	Oil	Other Resource	Non Resource	Carbon	NOx	Economic
Peak	Off Peak	Peak	Off Peak																
Residential																			
Residential New Construction	\$7,399	\$4,568	\$233	\$175	\$376	\$525	\$21	\$17	\$11	\$4	\$55	\$0	\$0	\$892	\$1,520	\$35	\$661	\$45	\$2,831
Residential HVAC	\$28,327	\$14,779	\$151	\$128	\$3,944	\$5,141	\$195	\$113	\$79	\$25	\$364	\$1	\$0	\$1,183	\$9	\$241	\$3,101	\$104	\$13,548
EnergyWise Single Family	\$46,645	\$24,320	\$250	\$217	\$314	\$315	\$28	\$186	\$141	\$41	\$600	\$2	\$0	\$13,189	\$2,488	\$2,944	\$3,109	\$497	\$22,324
EnergyWise Multifamily	\$5,763	\$2,942	\$128	\$112	\$176	\$204	\$13	\$40	\$27	\$9	\$129	\$0	\$0	\$404	\$53	\$1,351	\$275	\$19	\$2,822
Home Energy Reports	\$9,315	\$4,707	\$214	\$164	\$555	\$476	\$68	\$236	\$956	\$39	\$568	\$66	\$0	\$0	\$0	\$0	\$1,345	\$20	\$4,607
Residential Consumer Products	\$7,134	\$3,201	\$222	\$198	\$250	\$259	\$46	\$181	\$380	\$44	\$641	\$5	\$0	\$44	\$106	\$0	\$811	\$13	\$3,933
Subtotal	\$104,583	\$54,517	\$1,198	\$993	\$5,616	\$6,920	\$372	\$773	\$1,595	\$161	\$2,357	\$74	\$0	\$15,712	\$4,175	\$4,572	\$9,302	\$697	\$50,066
Income Eligible Residential																			
Income Eligible Single Family	\$37,188	\$16,751	\$343	\$343	\$985	\$1,161	\$67	\$247	\$198	\$55	\$802	\$2	\$51	\$2,576	\$566	\$7,734	\$1,551	\$119	\$20,436
Income Eligible Multifamily	\$13,287	\$4,318	\$143	\$123	\$520	\$510	\$26	\$13	\$15	\$3	\$42	\$0	\$-41	\$67	\$60	\$2,210	\$404	\$15	\$8,969
Subtotal	\$50,474	\$21,069	\$486	\$466	\$1,506	\$1,671	\$93	\$260	\$213	\$57	\$844	\$3	\$11	\$2,802	\$625	\$9,944	\$1,955	\$134	\$29,405
Commercial & Industrial																			
Large C&I New Construction	\$78,517	\$29,833	\$3,164	\$1,901	\$5,288	\$3,255	\$345	\$1,233	\$931	\$272	\$3,991	\$11	\$-289	\$0	\$7	\$4,684	\$4,950	\$88	\$48,684
Large C&I Retrofit	\$118,622	\$53,018	\$3,739	\$2,643	\$5,042	\$4,166	\$716	\$2,158	\$3,763	\$511	\$7,495	\$46	\$-186	\$-27	\$0	\$11,450	\$11,349	\$154	\$65,605
Small Business Direct Install	\$26,078	\$7,791	\$936	\$499	\$1,411	\$861	\$172	\$254	\$431	\$60	\$878	\$5	\$-84	\$-426	\$0	\$304	\$2,480	\$9	\$18,287
Subtotal	\$223,217	\$90,642	\$7,839	\$5,043	\$11,742	\$8,282	\$1,234	\$3,644	\$5,126	\$843	\$12,364	\$63	\$-559	\$-453	\$7	\$16,438	\$18,779	\$251	\$132,576
Grand Total	\$378,274	\$166,228	\$9,524	\$6,503	\$18,863	\$16,873	\$1,699	\$4,678	\$6,933	\$1,061	\$15,564	\$139	\$-549	\$18,061	\$4,807	\$30,954	\$30,036	\$1,082	\$212,047

Notes:
 (1) Rest-of-pool DRUPE and PTF transmission are excluded.

Schedule B

Table E-7
Rhode Island Energy
Comparison of 2024 and 2023 Goals and Tracking

	Proposed 2024 Goal	Proposed 2024 Tracking				Approved 2023			Difference		
	Lifetime Electric Energy Savings (MWh)	Annual Electric Energy Savings (MWh)	Annual Passive Summer Demand Savings (kW)	Total Net Lifetime Energy Savings (MMBtu)	Planned Unique Participants	Lifetime Electric Energy Savings (MWh)	Annual Electric Energy Savings (MWh)	Annual Passive Summer Demand Savings (kW)	Lifetime Electric Energy Savings (MWh)	Annual Electric Energy Savings (MWh)	Annual Passive Summer Demand Savings (kW)
Residential											
Residential New Construction	15,904	735	18	54,263	415	13,144	689	16	2,759	45	2
Residential HVAC	112,919	6,614	128	385,278	6,457	71,055	4,175	640	41,864	2,439	-512
EnergyWise Single Family	14,991	1,264	228	51,149	9,592	16,940	3,147	466	-1,949	-1,883	-237
EnergyWise Multifamily	8,122	505	44	27,714	1,768	9,493	680	108	-1,370	-175	-64
Home Energy Reports	23,359	23,359	3,212	79,700	280,116	24,350	24,350	3,348	-991	-991	-136
Residential Consumer Products	15,323	2,815	631	52,281	26,628	31,684	4,473	885	-16,361	-1,657	-254
Subtotal	190,617	35,292	4,261	650,386	324,977	166,665	37,513	5,462	23,952	-2,222	-1,201
Income Eligible Residential											
Income Eligible Single Family	36,840	2,466	320	125,699	3,153	24,080	2,539	367	12,760	-72	-48
Income Eligible Multifamily	18,518	1,220	45	63,183	2,823	17,632	1,298	90	886	-79	-45
Subtotal	55,358	3,686	364	188,882	5,976	41,712	3,837	457	13,646	-151	-93
Commercial & Industrial											
Large C&I New Construction	182,346	12,019	1,505	622,163	46	157,598	10,481	1,306	24,748	1,538	199
Large C&I Retrofit	242,966	34,670	6,162	828,998	2,170	244,962	35,260	6,143	-1,996	-590	19
Small Business Direct Install	58,008	8,532	696	197,923	343	57,778	9,260	708	230	-728	-12
Subtotal	483,319	55,221	8,363	1,649,084	2,559	460,338	55,001	8,157	22,981	220	205
Grand Total	729,294	94,198	12,988	2,488,352	333,513	668,715	96,351	14,076	60,580	-2,153	-1,089

Schedule B

Table E-8A
 Rhode Island Energy
 2024 PIM Benefits, Allocations, and Categorizations (\$000)

	Energy					Capacity					Utility NEIs	Non Electric				Social		
	Summer		Winter		Electric Energy DRPE	Summer Generation	Capacity DRPE	Transmission	Distribution	Reliability		Natural Gas	Oil	Other Resource	Non Resource	Carbon	NOx	Economic
	Peak	Off Peak	Peak	Off Peak														
Residential																		
Residential New Construction	\$233	\$175	\$376	\$525	\$253	\$17	\$11	\$35	\$55	\$0	\$0	\$0	\$992	\$1,230	\$35	\$661	\$45	\$2,831
Residential HVAC	\$151	\$128	\$3,944	\$5,141	\$2,632	\$113	\$79	\$234	\$364	\$1	\$0	\$0	\$1,183	\$9	\$241	\$3,101	\$104	\$15,548
EnergyWise Single Family	\$250	\$217	\$314	\$315	\$326	\$186	\$141	\$385	\$600	\$2	\$0	\$0	\$13,189	\$2,488	\$2,944	\$3,109	\$497	\$22,324
EnergyWise Multifamily	\$128	\$112	\$176	\$204	\$159	\$40	\$27	\$83	\$129	\$0	\$0	\$0	\$404	\$53	\$1,351	\$275	\$19	\$2,822
Home Energy Reports	\$214	\$164	\$555	\$476	\$791	\$236	\$956	\$365	\$568	\$66	\$0	\$0	\$0	\$0	\$0	\$1,345	\$20	\$4,607
Residential Consumer Products	\$222	\$198	\$250	\$259	\$494	\$181	\$380	\$412	\$641	\$5	\$0	\$0	\$44	\$106	\$0	\$811	\$13	\$3,933
Subtotal	\$1,198	\$993	\$5,616	\$6,920	\$4,655	\$773	\$1,595	\$1,514	\$2,357	\$74	\$0	\$0	\$15,712	\$4,175	\$4,572	\$9,302	\$697	\$50,066
Income Eligible Residential																		
Income Eligible Single Family	\$343	\$343	\$985	\$1,161	\$834	\$247	\$198	\$515	\$802	\$2	\$220	\$51	\$2,526	\$566	\$7,734	\$1,551	\$119	\$20,436
Income Eligible Multifamily	\$143	\$125	\$520	\$510	\$325	\$13	\$15	\$27	\$42	\$0	\$4	-\$41	\$276	\$60	\$2,210	\$404	\$15	\$8,969
Subtotal	\$486	\$468	\$1,506	\$1,671	\$1,159	\$260	\$213	\$542	\$844	\$2	\$224	\$11	\$2,802	\$625	\$9,944	\$1,955	\$134	\$29,405
Commercial & Industrial																		
Large C&I New Construction	\$3,164	\$1,901	\$5,288	\$3,255	\$4,090	\$1,233	\$931	\$2,564	\$3,991	\$11	\$0	-\$289	\$0	\$7	\$4,684	\$4,950	\$88	\$48,684
Large C&I Retrofit	\$3,739	\$2,643	\$5,042	\$4,166	\$8,017	\$2,158	\$3,763	\$4,815	\$7,495	\$46	\$0	-\$186	-\$27	\$0	\$11,450	\$11,349	\$154	\$65,605
Small Business Direct Install	\$936	\$499	\$1,411	\$861	\$1,900	\$254	\$431	\$564	\$878	\$5	\$0	-\$84	-\$426	\$0	\$304	\$2,480	\$9	\$18,287
Subtotal	\$7,839	\$5,043	\$11,742	\$8,282	\$14,007	\$3,644	\$5,126	\$7,942	\$12,364	\$63	\$0	-\$559	-\$453	\$7	\$16,438	\$18,779	\$251	\$122,576
Grand Total	\$9,524	\$6,503	\$18,863	\$16,873	\$19,821	\$4,678	\$6,933	\$9,998	\$15,564	\$139	\$224	-\$549	\$18,061	\$4,807	\$30,954	\$30,036	\$1,082	\$212,047
Benefit is PIM Eligible	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Percent Application in PIM	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	50%	50%	0%	0%	0%	0%

Table E-8B
Rhode Island Energy
2024 PIM Costs (\$000)

	Eligible PIM Budget	Regulatory Costs	Total PIM-Eligible Costs
Residential	\$29,997	\$234	\$30,231
Income Eligible Residential	\$15,996	\$234	\$16,230
Commercial & Industrial	\$40,358	\$234	\$40,592

Notes:

(1) Regulatory costs allocated equally to each sector. OER and RIIB expenses are omitted from regulatory costs.

Table E-8C
Rhode Island Energy
2024 PIM and SQA (\$000)

	Performance Incentive								
	Eligible Benefits		Eligible Costs	Eligible Net Benefits	Design Performance Achievement	Design Payout Rate	Design Performance Payout	Payout Cap	Service Quality Adjustment Applied
	100% Utility System Benefits	50% Resource Benefits							
Residential	\$25,695	\$9,943	\$30,231	\$5,408	\$5,408	10.1%	\$546	\$683	FALSE
Income Eligible Residential	\$7,372	\$1,719	\$16,230	-\$7,139	\$2,000	25.0%	\$500	\$625	TRUE
Commercial & Industrial	\$76,053	-\$503	\$40,592	\$34,958	\$34,958	10.1%	\$3,533	\$4,416	FALSE

	Service Quality Adjustment (SQA)				
	Eligible Benefits		Eligible Costs	Design Service Achievement	Maximum SQA
	100% Utility System Benefits	50% Resource Benefits			
Residential	\$25,695	\$9,943	\$30,231	\$35,639	\$0
Income Eligible Residential	\$7,372	\$1,719	\$16,230	\$9,091	\$352
Commercial & Industrial	\$76,053	-\$503	\$40,592	\$75,550	\$0

Table E-9
Rhode Island Energy
2024 Revolving Loan Fund Projections

	Large C&I Revolving Loan Fund	Small Business Revolving Loan Fund	Public Sector Revolving Loan Fund	Efficient Buildings Fund
(1) Total Loan Fund Deposits Through Previous Year	\$22,547,780	\$3,303,570	\$53,994	
(2) Current Loan Fund Balance	\$9,776,373	\$2,868,843	\$53,994	
<i>Loans Paid Year-To-Date</i>	\$3,282,857	\$369,584	\$0	
<i>Repayments Year-To-Date</i>	\$4,597,622	\$587,752	\$0	
(3) Projected Additional Loans from Previous Year	\$4,588,065	\$412,211	\$0	
(4) Projected Additional Repayments from Previous Year	\$3,533,532	\$380,451	\$0	
(5) Projected Year End Loan Fund Balance from Previous Year	\$8,721,839	\$2,837,083	\$53,994	
(6) 2024 Fund Injection	\$0	\$0	\$0	
(7) Projected Loan Fund Balance Beginning of Year	\$8,721,839	\$2,837,083	\$53,994	
(8) Projected Repayments Throughout 2024	\$8,480,476	\$893,074	\$0	
(9) Estimated Loans in 2024	\$7,900,000	\$800,000	\$0	
(10) Projected Year End Loan Fund Balance 2024	\$9,302,316	\$2,930,158	\$53,994	
(11) Energy Efficiency Funds Allocated to EBF Through Previous Year				\$22,087,113
(12) Total EBF Loans Outstanding				\$55,075,045

Notes:

- (1) Funding injections present since loan funds began. Net of any adjustments.
- (2) Current Loan Fund Balance is through July 2023; it includes all loans and repayments made by July 2023. Public Sector Revolving Loan Fund reduced by transfers to RI PEP Incentives. EBF reports in terms of loans outstanding.
- (3) Projected Loans from August to Year-End 2023 are estimated based on projects currently under construction that are anticipated to be paid out by year-end. It is difficult to project this amount accurately due to the fact that projects could be delayed by a month or two resulting in payment occurring in 2024 instead of 2023.
- (4) Projected Repayments from August to year-end 2023 are estimated based on average repayments over previous 12 months; repayments accumulate over time and may vary widely.
- (5) Line (5) equal to line (2) - line (3) + line (4).
- (6) Fund injections for the Large C&I Revolving Loan Fund are included under the Finance Cost line in Table E-2.
- (7) Line (7) equal to line (5) + line (6).
- (8) Assumption based on average over previous 12 months; repayments accumulate over time and may vary widely.
- (9) Amount projected to be lent to customers in 2024.
- (10) Line (10) equal to line (7) + line (8) - line (9).
- (11) The 2024 Annual Plan only includes two values for Efficient Buildings Fund (EBF): 1) The Energy Efficiency Funds allocated to EBF through 2021. 2) Total EBF Loans Outstanding as of July 2022. Additional information is not available because RIIB has informed the Company that, commencing with the 2022 Plan, it will not be providing forward-looking projections to the Company regarding EBF. The Company is therefore unable to provide any future projections regarding EBF.

Schedule B

Table E-10
Rhode Island Energy
Rhode Island Energy Efficiency 2007-2024

Electric	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Energy Efficiency Budget (\$ Million)	\$22.5	\$21.0	\$32.4	\$37.6	\$59.2	\$61.4	\$77.5	\$87.0	\$86.6	\$87.5	\$94.6	\$94.6	\$107.5	\$111.1	\$116.8	\$108.7	\$102.4	\$96.3
Spending Budget (\$ Million)	\$16.4	\$14.7	\$23.5	\$28.8	\$45.3	\$55.3	\$64.8	\$80.6	\$77.3	\$77.6	\$88.5	\$88.7	\$98.1	\$101.1	\$104.8	\$93.0	\$84.5	\$87.1
Actual Expenditures (\$ Million)	\$21.9	\$19.2	\$31.7	\$29.7	\$40.0	\$50.7	\$72.9	\$85.3	\$87.4	\$78.4	\$94.8	\$93.0	\$100.7	\$88.2	\$94.6	\$80.9		
Incentive Percentage	4.4%	4.4%	4.4%	4.4%	4.4%	4.4%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%				
Target Incentive	\$723,000	\$647,689	\$1,035,943	\$1,267,043	\$1,992,513	\$2,434,131	\$3,240,747	\$4,032,000	\$3,867,400	\$3,878,087	\$4,425,528	\$4,436,023	\$4,905,009	\$5,054,448	\$5,500,000	\$3,390,165	\$3,359,161	\$4,079,089
Earned Incentive	\$716,075	\$675,282	\$1,085,888	\$1,333,996	\$1,929,273	\$2,469,411	\$2,997,681	\$4,223,321	\$4,533,360	\$4,128,034	\$4,829,847	\$4,940,402	\$3,290,237	\$3,242,675	\$3,464,590	\$3,393,827		
Pct Achieved Annual Summer Demand kW Savings	106%	113%	142%	78%	71%	83%	114%	78%	112%	101%	103%	116%	98%	79%	83%	85%		
Pct Achieved Annual MWh Energy Savings	102%	111%	115%	107%	94%	93%	99%	105%	115%	107%	115%	110%	98%	88%	95%	94%		
Energy Efficiency Program Charge (\$/kWh)	\$0.0020	\$0.0020	\$0.0032	\$0.0032	\$0.0053	\$0.0059	\$0.0088	\$0.0091	\$0.0095	\$0.0108	\$0.0112	\$0.0097	\$0.0112	\$0.0132	\$0.0111	\$0.0121	\$0.0096	\$0.0105
Annual Cost to 500 kWh/Month Residential Customer w/o Tax	\$12.00	\$12.00	\$19.20	\$19.20	\$31.56	\$35.32	\$52.56	\$54.66	\$57.18	\$64.62	\$67.44	\$53.32	\$67.26	\$79.38	\$66.78	\$72.78	\$57.60	\$63.12
Annual Cost to 500 kWh/Month Residential Customer w/ Tax (1)	\$12.50	\$12.50	\$20.00	\$20.00	\$32.88	\$37.00	\$54.75	\$56.94	\$59.56	\$67.31	\$70.25	\$60.75	\$70.06	\$82.69	\$69.56	\$75.81	\$60.00	\$65.75

Notes:
(1) Assumes Tax Rate of 4%.

Table G-1
Rhode Island Energy
2024 DSM Funding Sources by Sector (\$000)

	Residential	Income Eligible Residential	Commercial & Industrial	Portfolio	
(1) Projected Budget	\$16,206,780	\$7,689,894	\$10,263,309		\$34,159,984
Sources of Other Funding	\$0	\$0	\$0		\$0
(2) Projected Fund Balance and Interest from Previous Year	-\$3,666,118	\$0	\$2,192,010		-\$1,474,108
(3a) Low Income Weatherization in Base Rates	\$0	\$0	\$0		\$0
(3b) Previous Year Investigation Credit	\$0	\$0	\$0		\$0
(4) Total Other Funding	-\$3,666,118	\$0	\$2,192,010		-\$1,474,108
(5) Customer Funding Required	\$19,872,898	\$7,689,894	\$8,071,299		\$35,634,092
(6) Forecasted Firm Dth Volume	18,559,751	1,741,026	19,340,629	39,641,406	
(7) Forecasted Non-Firm Dth Volume			231,819	231,819	
(8) Exempt DG Customers			-1,553,294	-1,553,294	
(9) Forecasted Dth Volume	18,559,751	1,741,026	18,019,154	38,319,931	
(10) Proposed Energy Efficiency Program Charge per Dth (Excluding Uncollectible Recovery)	\$1.074	\$1.074	\$0.768	\$0.930	
(11) Currently Effective Uncollectible Rate	1.91%	1.91%	1.91%		
(12) Proposed Energy Efficiency Program Charge per Dth (Including Uncollectible Recovery)	\$1.094	\$1.094	\$0.782	\$0.947	
(13) Previous Year's Energy Efficiency Program Charge per Dth	\$1.136	\$1.136	\$0.620		
(14) Adjustment to Reflect Fully Reconciling Funding Mechanism per Dth	-\$0.042	-\$0.042	\$0.162		

Notes:

- (1) Projected Budget includes regulatory costs which are allocated by forecasted Dth volume to each sector.
- (2) Total Other Funding equals Line (2) + Line (3a) + Line (3b)
- (3) Customer Funding Required equals Line (1) - Line (4)
- (4) 25% of Income Eligible Residential Funding Allocated to Standard Income Residential. 75% of Income Eligible Residential Funding Allocated to Commercial & Industrial.
- (5) Uncollectible rate approved in Docket No. 4770.
- (6) Proposed Energy Efficiency Program Charge per Dth (Including Uncollectible Recovery) equals Line (10) + (1-Line (11)), truncated to five decimal places.
- (7) Adjustment to Reflect Fully Reconciling Funding Mechanism per Dth equals Line (12) - Line (13)

Schedule B

Table G-2
Rhode Island Energy
2024 Energy Efficiency Program Budget (\$000)

	Program Planning & Administration	Marketing	Rebates and Other Customer Incentives	Sales, Tech Assist & Training	Evaluation & Market Research	Performance Incentive	Grand Total
Residential							
Residential New Construction	\$58.0	\$2.2	\$327.6	\$175.0	\$17.0		\$579.9
Residential HVAC	\$83.5	\$209.5	\$1,099.0	\$104.9	\$19.3		\$1,516.2
EnergyWise Single Family	\$274.1	\$64.5	\$9,258.4	\$1,394.4	\$93.3		\$11,084.8
EnergyWise Multifamily	\$66.8	\$51.5	\$1,130.6	\$183.7	\$7.2		\$1,439.8
Home Energy Reports	\$4.4	\$0.0	\$0.0	\$348.2	\$2.3		\$354.9
Comprehensive Marketing - Residential	\$0.0	\$79.6	\$0.0	\$0.0	\$0.0		\$79.7
Community Based Initiatives - Residential	\$0.0	\$46.5	\$0.0	\$0.0	\$0.0		\$46.5
Residential Performance Incentive						\$0.0	\$0.0
Subtotal	\$486.9	\$453.8	\$11,815.6	\$2,206.2	\$139.1	\$0.0	\$15,101.6
Income Eligible Residential							
Income Eligible Single Family	\$167.7	\$22.8	\$3,419.5	\$842.8	\$56.8		\$4,509.6
Income Eligible Multifamily	\$112.0	\$9.3	\$2,498.4	\$416.6	\$40.4		\$3,076.6
Income Eligible Performance Incentive						\$0.0	\$0.0
Subtotal	\$279.7	\$32.1	\$5,917.8	\$1,259.4	\$97.2	\$0.0	\$7,586.2
Commercial & Industrial							
Large C&I New Construction	\$98.0	\$116.1	\$1,382.5	\$402.8	\$136.1		\$2,135.6
Large C&I Retrofit	\$206.0	\$174.3	\$2,300.4	\$1,666.0	\$130.0		\$4,476.7
Small Business Direct Install	\$17.7	\$20.3	\$639.6	\$56.2	\$23.5		\$757.4
C&I Multifamily	\$37.2	\$25.9	\$656.8	\$155.6	\$4.4		\$879.9
C&I Financing	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0		\$0.0
Community Based Initiatives - C&I	\$2.9	\$0.0	\$0.0	\$0.8	\$0.0		\$3.7
Commercial Workforce Development	\$0.0	\$0.0	\$0.0	\$32.1	\$0.0		\$32.1
Commercial & Industrial Performance Incentive						\$905.0	\$905.0
Subtotal	\$361.7	\$336.5	\$4,979.3	\$2,313.7	\$294.1	\$905.0	\$9,190.3
Portfolio							
EERMC	\$376.5	\$0.0	\$0.0	\$0.0	\$0.0		\$376.5
OER	\$642.8	\$0.0	\$0.0	\$0.0	\$0.0		\$642.8
Rhode Island Infrastructure Bank	\$0.0	\$0.0	\$1,262.5	\$0.0	\$0.0		\$1,262.5
Subtotal	\$1,019.4	\$0.0	\$1,262.5	\$0.0	\$0.0	\$0.0	\$2,281.9
Grand Total	\$2,147.6	\$822.5	\$23,975.2	\$5,779.3	\$530.4	\$905.0	\$34,160.0

Notes:

- (1) For more information on finance costs, please refer to Attachment 2, Section 9.
- (2) OER budget is equal to 3% of 60% of SBC collections.
- (3) Demonstrations and assessments budgets are included in specific program level budgets listed above. More information on demonstration and assessments can be found in Attachment 8.

Schedule B

Table G-3
Rhode Island Energy
2024 PIM Budget (\$000)

	Proposed Budget From G-2	Commitments	Regulatory Costs	Performance Incentive	Eligible Sector PIM Budget for Performance Incentive on G-8B	Implementation Expenses for Cost-Effectiveness on G-5
Residential						
Residential New Construction	\$579.9					\$579.9
Residential HVAC	\$1,516.2					\$1,516.2
EnergyWise Single Family	\$11,084.8					\$11,084.8
EnergyWise Multifamily	\$1,439.8					\$1,439.8
Home Energy Reports	\$354.9					\$354.9
Comprehensive Marketing - Residential	\$79.7					\$79.7
Community Based Initiatives - Residential	\$46.5					\$46.5
Residential Performance Incentive	\$0.0			\$0.0		
Subtotal	\$15,101.6	\$0.0	\$0.0	\$0.0	\$15,084.3	\$15,101.6
Income Eligible Residential						
Income Eligible Single Family	\$4,509.6					\$4,509.6
Income Eligible Multifamily	\$3,076.6					\$3,076.6
Income Eligible Performance Incentive	\$0.0			\$0.0		
Subtotal	\$7,586.2	\$0.0	\$0.0	\$0.0	\$7,586.2	\$7,586.2
Commercial & Industrial						
Large C&I New Construction	\$2,135.6					\$2,135.6
Large C&I Retrofit	\$4,476.7					\$4,476.7
Small Business Direct Install	\$757.4					\$757.4
C&I Multifamily	\$879.9					\$879.9
C&I Financing	\$0.0					\$0.0
Community Based Initiatives - C&I	\$3.7					\$3.7
Commercial Workforce Development	\$32.1					\$32.1
Commercial & Industrial Performance Incentive	\$905.0			\$905.0		
Subtotal	\$9,190.3	\$0.0	\$0.0	\$905.0	\$8,285.3	\$8,285.3
Portfolio						
EERMC	\$376.5			\$376.5		\$376.5
OER	\$642.8			\$642.8		\$642.8
Rhode Island Infrastructure Bank	\$1,262.5			\$1,262.5		\$1,262.5
Subtotal	\$2,281.9	\$0.0	\$0.0	\$2,281.9	\$376.5	\$2,281.9
Grand Total	\$34,160.0	\$0.0	\$0.0	\$3,186.8	\$31,332.4	\$33,255.0

Notes:

- (1) Eligible spending budget equals total budget minus commitments, regulatory costs, pilots, assessments, and performance incentive.
- (2) Implementation expenses equal total budget minus commitments and performance incentive.

Table G-4
Rhode Island Energy
Proposed 2024 Budget Compared to Approved 2023 Budget (\$000)

	Proposed Implementation Budget 2024	Approved Implementation Budget 2023	Difference
Residential			
Residential New Construction	\$579.9	\$621.5	-\$41.7
Residential HVAC	\$1,516.2	\$3,586.9	-\$2,070.7
EnergyWise Single Family	\$11,084.8	\$9,873.1	\$1,211.6
EnergyWise Multifamily	\$1,439.8	\$1,485.4	-\$45.7
Home Energy Reports	\$354.9	\$360.5	-\$5.6
Comprehensive Marketing - Residential	\$79.7	\$69.1	\$10.6
Community Based Initiatives - Residential	\$46.5	\$93.5	-\$47.0
Subtotal	\$15,101.6	\$16,090.0	-\$988.4
Income Eligible Residential			
Income Eligible Single Family	\$4,509.6	\$5,429.0	-\$919.4
Income Eligible Multifamily	\$3,076.6	\$3,215.4	-\$138.8
Subtotal	\$7,586.2	\$8,644.4	-\$1,058.2
Commercial & Industrial			
Large C&I New Construction	\$2,135.6	\$2,818.7	-\$683.1
Large C&I Retrofit	\$4,476.7	\$4,639.6	-\$162.9
Small Business Direct Install	\$757.4	\$689.8	\$67.6
C&I Multifamily	\$879.9	\$891.2	-\$11.4
C&I Financing	\$0.0	\$0.0	\$0.0
Community Based Initiatives - C&I	\$3.7	\$31.2	-\$27.5
Commercial Pilots	\$0.0	\$12.4	-\$12.4
Commercial Workforce Development	\$32.1	\$67.5	-\$35.4
Subtotal	\$8,285.3	\$9,150.4	-\$865.1
Portfolio			
EERMC	\$376.5	\$396.9	-\$20.3
OER	\$642.8	\$595.3	\$47.5
Rhode Island Infrastructure Bank	\$1,262.5	\$1,262.5	\$0.0
Subtotal	\$2,281.9	\$2,254.7	\$27.2
Total Implementation Budget	\$33,255.0	\$36,139.5	-\$2,884.5
Other Expenses			
Company Incentive	\$905.0	\$792.0	\$113.0
Subtotal	\$905.0	\$792.0	\$113.0
Grand Total	\$34,160.0	\$36,931.5	-\$2,771.5

Notes:

- (1) Program implementation budget excludes commitments and company incentive.
- (2) Total budget includes implementation and commitments.

**Table G-5 Primary
 Rhode Island Energy
 Calculation of 2024 Program Year Cost-Effectiveness (\$000)**

	RI Test Benefit / Cost	Total Benefit	Program Implementation Expenses	Participant Cost	Performance Incentive	\$ / Lifetime MMBtu
Residential						
Residential New Construction	1.97	\$1,737.5	\$579.9	\$304.1		\$12.06
Residential HVAC	1.09	\$3,672.8	\$1,516.2	\$1,861.4		\$15.27
EnergyWise Single Family	1.06	\$12,924.0	\$11,084.8	\$1,053.0		\$19.78
EnergyWise Multifamily	3.29	\$4,927.9	\$1,439.8	\$57.6		\$14.36
Home Energy Reports	4.05	\$1,439.1	\$354.9	\$0.0		\$4.14
Comprehensive Marketing - Residential			\$79.7			
Community Based Initiatives - Residential			\$46.5			
Subtotal	1.34	\$24,701.2	\$15,101.6	\$3,276.1	\$0.0	\$16.74
Income Eligible Residential						
Income Eligible Single Family	1.61	\$7,255.0	\$4,509.6	\$0.0		\$37.17
Income Eligible Multifamily	3.14	\$9,649.1	\$3,076.6	\$0.0		\$18.52
Subtotal	2.23	\$16,904.1	\$7,586.2	\$0.0	\$0.0	\$26.39
Commercial & Industrial						
Large C&I New Construction	5.38	\$12,997.6	\$2,135.6	\$281.3		\$3.68
Large C&I Retrofit	2.45	\$17,763.2	\$4,476.7	\$2,764.0		\$6.73
Small Business Direct Install	2.17	\$2,026.1	\$757.4	\$178.1		\$7.88
C&I Multifamily	4.78	\$5,896.9	\$879.9	\$354.8		\$18.82
C&I Financing			\$0.0			
Community Based Initiatives - C&I			\$3.7			
Commercial Workforce Development			\$32.1			
Subtotal	3.03	\$38,683.8	\$8,285.3	\$3,578.3	\$905.0	\$6.19
Portfolio						
EERMC			\$376.5			
OER			\$642.8			
Rhode Island Infrastructure Bank			\$1,262.5			
Subtotal			\$2,281.9			
Grand Total	1.96	\$80,289.1	\$33,255.0	\$6,854.4	\$905.0	\$12.14

Notes:

(1) RI Test = total benefits from excluding economic benefits / program implementation expenses and customer contribution.

**Table G-5A Secondary
 Rhode Island Energy
 Calculation of 2024 Program Year Intrastate Cost-Effectiveness (\$000)**

	RI Test Benefit / Cost	Total Benefit	Program Implementation Expenses	Participant Cost	Performance Incentive	\$ / Lifetime MMBtu
Residential						
Residential New Construction	1.97	\$1,737.5	\$579.9	\$304.1		\$12.06
Residential HVAC	1.09	\$3,677.5	\$1,516.2	\$1,861.4		\$15.27
EnergyWise Single Family	1.05	\$12,790.9	\$11,084.8	\$1,053.0		\$19.78
EnergyWise Multifamily	3.28	\$4,918.3	\$1,439.8	\$57.6		\$14.36
Home Energy Reports	4.05	\$1,439.1	\$354.9	\$0.0		\$4.14
Comprehensive Marketing - Residential			\$79.7			
Community Based Initiatives - Residential			\$46.5			
Subtotal	1.34	\$24,563.3	\$15,101.6	\$3,276.1	\$0.0	\$16.74
Income Eligible Residential						
Income Eligible Single Family	1.60	\$7,227.1	\$4,509.6	\$0.0		\$37.17
Income Eligible Multifamily	3.13	\$9,631.7	\$3,076.6	\$0.0		\$18.52
Subtotal	2.22	\$16,858.8	\$7,586.2	\$0.0	\$0.0	\$26.39
Commercial & Industrial						
Large C&I New Construction	5.34	\$12,895.9	\$2,135.6	\$281.3		\$3.68
Large C&I Retrofit	2.45	\$17,763.2	\$4,476.7	\$2,764.0		\$6.73
Small Business Direct Install	2.17	\$2,026.1	\$757.4	\$178.1		\$7.88
C&I Multifamily	4.77	\$5,889.4	\$879.9	\$354.8		\$18.82
C&I Financing			\$0.0			
Community Based Initiatives - C&I			\$3.7			
Commercial Workforce Development			\$32.1			
Subtotal	3.02	\$38,574.6	\$8,285.3	\$3,578.3	\$905.0	\$6.19
Portfolio						
EERMC			\$376.5			
OER			\$642.8			
Rhode Island Infrastructure Bank			\$1,262.5			
Subtotal			\$2,281.9			
Grand Total	1.95	\$79,996.8	\$33,255.0	\$6,854.4	\$905.0	\$12.14

Notes:

(1) Rest-of-pool DRIPE and PTF transmission are excluded from the "Total Benefit" column.

**Table G-5B Economic
Rhode Island Energy
Calculation of 2024 Economic Benefits and Job Years (\$000)**

	Program Implementation Expenses	RI Economic Multiplier	Economic Benefits	RI Job Years Multiplier	Job Years
Residential					
Residential New Construction	\$579.9	1.19	\$690.0	2.4	1
Residential HVAC	\$1,516.2	1.06	\$1,607.1	6.9	10
EnergyWise Single Family	\$11,084.8	0.87	\$9,643.8	11.9	132
EnergyWise Multifamily	\$1,439.8	2.30	\$3,311.4	16.5	24
Home Energy Reports	\$354.9	2.77	\$983.1	7.5	3
Comprehensive Marketing - Residential	\$79.7				
Community Based Initiatives - Residential	\$46.5				
Subtotal	\$15,101.6		\$16,235.4		170
Income Eligible Residential					
Income Eligible Single Family	\$4,509.6	1.53	\$6,899.7	12.1	55
Income Eligible Multifamily	\$3,076.6	2.31	\$7,107.0	16.0	49
Subtotal	\$7,586.2		\$14,006.7		104
Commercial & Industrial					
Large C&I New Construction	\$2,135.6	5.28	\$11,275.7	1.2	3
Large C&I Retrofit	\$4,476.7	1.92	\$8,595.3	16.4	73
Small Business Direct Install	\$757.4	2.50	\$1,893.5	13.4	10
C&I Multifamily	\$879.9	3.46	\$3,044.4	11.0	10
C&I Financing	\$0.0				
Community Based Initiatives - C&I	\$3.7				
Commercial Workforce Development	\$32.1				
Subtotal	\$8,285.3		\$24,808.9		96
Portfolio					
EERMC	\$376.5				
OER	\$642.8				
Rhode Island Infrastructure Bank	\$1,262.5				
Subtotal	\$2,281.9				
Grand Total	\$33,255.0		\$55,051.0		370

Schedule B

Table G-6A
Rhode Island Energy
Summary of 2024 Energy Efficiency Impacts by Program

	Gas Savings			Electric Energy Savings					Total Savings			
	MMBtu		CO2 (Short Tons)	MWh		MMBtu		CO2 (Short Tons)	MMBtu		CO2 (Short Tons)	
	Annual	Lifetime		Annual	Lifetime	Annual	Lifetime		Annual	Lifetime		
Residential												
Residential New Construction	3,239	73,327	217	0	0	0	0	0	3,239	73,327	217	
Residential HVAC	11,329	221,257	844	-8	-167	-28	-569	-4	11,301	220,688	840	
EnergyWise Single Family	31,871	613,643	2,157	173	3,428	591	11,697	82	32,463	625,341	2,239	
EnergyWise Multifamily	5,061	104,240	414	8	140	26	477	6	5,087	104,717	420	
Home Energy Reports	85,663	85,663	5,011	0	0	0	0	0	85,663	85,663	5,011	
Subtotal	137,163	1,098,130	8,643	173	3,401	589	11,606	84	137,752	1,109,736	8,727	
Income Eligible Residential												
Income Eligible Single Family	5,992	121,326	351	36	727	124	2,481	14	6,117	123,807	365	
Income Eligible Multifamily	10,375	166,156	607	13	256	46	875	5	10,421	167,031	612	
Subtotal	16,367	287,482	957	50	984	170	3,356	20	16,537	290,839	977	
Commercial & Industrial												
Large C&I New Construction	44,443	657,560	4,669	0	0	0	0	0	44,443	657,560	4,669	
Large C&I Retrofit	100,812	1,075,167	5,420	0	0	0	0	0	100,812	1,075,167	5,420	
Small Business Direct Install	9,857	118,655	639	0	0	0	0	0	9,857	118,655	639	
C&I Multifamily	4,205	65,609	270	6	111	20	378	4	4,225	65,987	275	
Subtotal	159,317	1,916,991	10,999	6	111	20	378	4	159,337	1,917,369	11,003	
Grand Total	312,846	3,302,603	20,599	229	4,496	780	15,340	108	313,626	3,317,943	20,707	

Notes:

- (1) Lifetime savings are equal to annual savings multiplied by the expected life of measures expected to be installed in each program.
- (2) Annual short tons CO2 savings is based on gross annual energy savings in Year 1. The 2021 AESC study was used to inform the electric emissions factor, taking the average of summer/winter on/off-peak.

Schedule B

Table G-6B
 Rhode Island Energy
 Summary of 2024 Intrastate Energy Efficiency Benefits by Program

	Total	Total (Economic Excluded)	Natural Gas	Benefits (000s)										Non Gas / Electric			Societal			
				Electric Energy				Electric Energy DRIPE	Electric Capacity		Reliability	Oil	Other Resource	Non Resource	Carbon	NOx	Economic			
				Summer		Winter			Summer Generation	Capacity DRIPE								Transmission	Distribution	
			Peak	Off Peak	Peak	Off Peak														
Residential																				
Residential New Construction	\$2,789	\$1,737	\$691	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3	\$637	\$356	\$51	\$1,052
Residential HVAC	\$7,258	\$3,678	\$1,995	-\$2	-\$1	-\$7	-\$5	\$0	-\$1	\$0	\$0	-\$2	\$0	\$0	\$0	\$71	\$320	\$1,156	\$154	\$3,580
EnergyWise Single Family	\$23,351	\$12,791	\$5,713	\$66	\$57	\$66	\$75	\$5	\$45	\$26	\$7	\$102	\$0	\$0	\$123	\$2,731	\$3,346	\$429	\$10,560	
EnergyWise Multifamily	\$8,362	\$4,018	\$966	\$5	\$4	\$1	\$0	\$0	\$4	\$3	\$1	\$10	\$0	\$0	\$40	\$3,200	\$533	\$72	\$3,444	
Home Energy Reports	\$2,422	\$1,439	\$710	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$669	\$60	\$983
Subtotal	\$44,182	\$24,563	\$10,075	\$69	\$60	\$60	\$70	\$5	\$49	\$29	\$7	\$110	\$0	\$0	\$237	\$6,967	\$6,059	\$766	\$19,619	
Income Eligible Residential																				
Income Eligible Single Family	\$14,127	\$7,227	\$1,141	\$11	\$10	\$15	\$17	\$1	\$10	\$6	\$1	\$22	\$0	\$0	\$0	\$5,263	\$647	\$85	\$6,900	
Income Eligible Multifamily	\$16,739	\$9,632	\$1,550	\$9	\$7	\$1	\$1	\$0	\$8	\$5	\$1	\$18	\$0	\$0	\$23	\$6,911	\$927	\$116	\$7,107	
Subtotal	\$30,866	\$16,859	\$2,691	\$19	\$17	\$16	\$18	\$1	\$17	\$10	\$3	\$39	\$0	\$0	\$23	\$12,174	\$1,628	\$201	\$14,007	
Commercial & Industrial																				
Large C&I New Construction	\$25,657	\$12,896	\$5,247	\$0	\$0	\$0	\$0	\$0	\$55	\$42	\$8	\$125	\$1	\$0	\$95	\$2,824	\$4,013	\$486	\$12,761	
Large C&I Retrofit	\$31,665	\$17,763	\$9,035	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$932	\$6,996	\$800	\$13,902	
Small Business Direct Install	\$4,365	\$2,026	\$980	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$154	\$73	\$730	\$88	\$2,339	
C&I Multifamily	\$10,161	\$5,889	\$576	\$4	\$3	\$1	\$0	\$0	\$3	\$2	\$1	\$8	\$0	\$0	\$2	\$4,846	\$394	\$49	\$4,272	
Subtotal	\$71,849	\$38,575	\$15,838	\$4	\$3	\$1	\$0	\$0	\$58	\$44	\$9	\$133	\$1	\$0	\$252	\$8,676	\$12,133	\$1,423	\$33,274	
Grand Total	\$146,897	\$79,997	\$28,604	\$92	\$79	\$77	\$89	\$6	\$124	\$82	\$19	\$282	\$1	\$0	\$512	\$27,818	\$19,820	\$2,390	\$66,900	

Notes:
 (1) Rest-of-pool DRIPE and PTF transmission are excluded.

Table G-7
Rhode Island Energy
Comparison of 2024 and 2023 Goals and Tracking

	Proposed 2024 Goal	Proposed 2024 Tracking		Approved 2023		Difference	
	Lifetime Energy Savings (MMBtu Gas)	Annual Energy Savings (MMBtu Gas)	Planned Unique Participants	Lifetime Energy Savings (MMBtu Gas)	Annual Energy Savings (MMBtu Gas)	Lifetime Energy Savings (MMBtu Gas)	Annual Energy Savings (MMBtu Gas)
Residential							
Residential New Construction	73,327	3,239	466	58,476	3,287	14,851	-49
Residential HVAC	221,257	11,329	2,943	517,571	27,030	-296,313	-15,700
EnergyWise Single Family	613,643	31,871	1,739	490,013	20,697	123,630	11,174
EnergyWise Multifamily	104,240	5,061	3,499	110,428	5,358	-6,188	-298
Home Energy Reports	85,663	85,663	132,345	91,640	91,640	-5,978	-5,978
Subtotal	1,098,130	137,163	140,993	1,268,128	148,013	-169,998	-10,850
Income Eligible Residential							
Income Eligible Single Family	121,326	5,992	808	169,180	8,230	-47,854	-2,238
Income Eligible Multifamily	166,156	10,375	2,779	172,464	11,075	-6,308	-700
Subtotal	287,482	16,367	3,587	341,644	19,305	-54,162	-2,939
Commercial & Industrial							
Large C&I New Construction	657,560	44,443	63	716,705	48,823	-59,144	-4,380
Large C&I Retrofit	1,075,167	100,812	59	1,016,519	94,766	58,647	6,046
Small Business Direct Install	118,655	9,857	148	130,193	9,723	-11,538	134
C&I Multifamily	65,609	4,205	495	64,645	4,249	963	-44
Subtotal	1,916,991	159,317	765	1,928,063	157,561	-11,072	1,756
Grand Total	3,302,603	312,846	145,345	3,537,835	324,879	-235,232	-12,033

Schedule B

Table G-8A
 Rhode Island Energy
 2024 PIM Benefits, Allocations, and Categorizations (\$000)

	Natural Gas	Utility NEIs	Electric Energy										Non Electric			Societal					
			Summer		Winter		Electric Energy DRIPE	Summer Generation	Capacity DRIPE	Electric Capacity			Oil	Non Resource	Non Resource	Carbon	NOx	Economic			
			Peak	Off Peak	Peak	Off Peak				Transmission	Distribution	Reliability									
Residential																					
Residential New Construction	\$691	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3	\$637	\$356	\$51	\$1,052			
Residential HVAC	\$1,995	\$0	-\$2	-\$11	-\$7	-\$5	-\$4	-\$1	\$0	-\$1	-\$2	\$0	\$0	\$71	\$320	\$1,156	\$154	\$3,380			
EnergyWise Single Family	\$5,713	\$0	\$66	\$57	\$66	\$75	\$55	\$45	\$26	\$90	\$102	\$0	\$0	\$123	\$2,731	\$3,346	\$429	\$10,560			
EnergyWise Multifamily	\$966	\$0	\$5	\$4	\$1	\$0	\$2	\$4	\$3	\$8	\$10	\$0	\$0	\$40	\$3,280	\$533	\$72	\$3,444			
Home Energy Reports	\$710	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$669	\$60	\$983			
Subtotal	\$10,075	\$0	\$69	\$60	\$60	\$70	\$53	\$49	\$29	\$97	\$110	\$0	\$0	\$237	\$6,967	\$6,859	\$766	\$19,619			
Income Eligible Residential																					
Income Eligible Single Family	\$1,141	\$36	\$11	\$10	\$15	\$17	\$11	\$10	\$6	\$19	\$22	\$0	\$0	\$0	\$5,263	\$647	\$85	\$6,900			
Income Eligible Multifamily	\$1,550	\$0	\$9	\$7	\$1	\$1	\$3	\$8	\$5	\$16	\$18	\$0	\$0	\$23	\$6,911	\$982	\$116	\$7,107			
Income Eligible Services	\$2,691	\$36	\$19	\$17	\$16	\$18	\$15	\$17	\$10	\$35	\$39	\$0	\$0	\$23	\$12,174	\$1,628	\$201	\$14,007			
Subtotal	\$2,691	\$36	\$19	\$17	\$16	\$18	\$15	\$17	\$10	\$35	\$39	\$0	\$0	\$23	\$12,174	\$1,628	\$201	\$14,007			
Commercial & Industrial																					
Large C&I New Construction	\$5,247	\$0	\$0	\$0	\$0	\$0	\$0	\$55	\$42	\$110	\$125	\$1	\$0	\$95	\$2,824	\$4,013	\$486	\$12,761			
Large C&I Retrofit	\$9,035	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$932	\$6,996	\$800	\$13,902			
Small Business Direct Install	\$980	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$154	\$73	\$730	\$88	\$2,339			
C&I Multifamily	\$576	\$0	\$4	\$3	\$1	\$0	\$1	\$3	\$2	\$7	\$8	\$0	\$0	\$2	\$4,846	\$394	\$49	\$4,272			
Subtotal	\$15,838	\$0	\$4	\$3	\$1	\$0	\$1	\$88	\$44	\$117	\$133	\$1	\$0	\$252	\$8,676	\$12,133	\$1,423	\$33,274			
Grand Total	\$28,604	\$36	\$92	\$79	\$77	\$89	\$69	\$124	\$82	\$248	\$282	\$1	\$0	\$512	\$27,818	\$19,820	\$2,390	\$66,900			
Benefit is PIM Eligible	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE		
Percent Application in PIM	100%	100%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	0%	0%	0%	0%			

Table G-8B
Rhode Island Energy
2024 PIM Costs (\$000)

	Eligible PIM Budget	Regulatory Costs	Total PIM-Eligible Costs
Residential	\$15,084	\$126	\$15,210
Income Eligible Residential	\$7,586	\$126	\$7,712
Commercial & Industrial	\$8,285	\$126	\$8,411

Notes:

(1) Regulatory costs allocated equally to each sector. OER and RIIB are omitted from regulatory costs.

Table G-8C
Rhode Island Energy
2024 PIM and SQA (\$000)

	Performance Incentive								
	Eligible Benefits		Eligible Costs	Eligible Net Benefits	Design Performance Achievement	Design Payout Rate	Design Performance Payout	Payout Cap	Service Quality Adjustment Applied
	100% Utility System Benefits	50% Resource Benefits							
Residential	\$10,075	\$417	\$15,210	-\$4,718	\$2,000	25.0%	\$500	\$625	TRUE
Income Eligible Residential	\$2,726	\$105	\$7,712	-\$4,880	\$2,000	25.0%	\$500	\$625	TRUE
Commercial & Industrial	\$15,838	\$306	\$8,411	\$7,734	\$7,734	11.7%	\$905	\$1,131	FALSE

	Service Quality Adjustment (SQA)				
	Eligible Benefits		Eligible Costs	Design Service Achievement	Maximum SQA
	100% Utility System Benefits	50% Resource Benefits			
Residential	\$10,075	\$417	\$15,210	\$10,492	\$306
Income Eligible Residential	\$2,726	\$105	\$7,712	\$2,831	\$110
Commercial & Industrial	\$15,838	\$306	\$8,411	\$16,145	\$0

Table G-9
Rhode Island Energy
2024 Revolving Loan Fund Projections

	Large C&I Revolving Loan Fund
(1) Total Loan Fund Deposits Through Previous Year	\$3,590,440
(2) Current Loan Fund Balance	\$2,347,542
(3) Projected Additional Loans from Previous Year	\$183,170
(4) Projected Additional Repayments from Previous Year	\$379,270
(5) Projected Year End Loan Fund Balance from Previous Year	\$2,543,641
(6) 2024 Fund Injection	\$0
(7) Projected Loan Fund Balance Beginning of Year	\$2,543,641
(8) Projected Repayments Throughout 2024	\$910,247
(9) Estimated Loans in 2024	\$297,000
(10) Projected Year End Loan Fund Balance 2024	\$3,750,888

Notes:

- (1) Funding injections present since loan funds began. Net of any adjustments.
- (2) Current Loan Fund Balance is through July 2023.
- (3) Projected Loans from August to Year-End 2023 are estimated based on projects currently under construction that are anticipated to be paid out by year-end. It is difficult to project this amount accurately due to the fact that projects could be delayed by a month or two resulting in payment occurring in 2024 instead of 2023.
- (4) Projected Repayments from August to year-end 2023 are estimated based on average repayments over previous 12 months; repayments accumulate over time and may vary widely.
- (5) Line (5) equal to line (2) - line (3) + line (4).
- (6) Fund Injection, as budgeted on Table G-2.
- (7) Line (7) equal to line (5) + line (6).
- (8) Assumption based on average over previous 12 months; repayments accumulate over time and may vary widely.

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Table G-10
Rhode Island Energy
Rhode Island Energy Efficiency 2007-2024

Gas	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Energy Efficiency Budget (\$ Million)	\$7.3	\$7.6	\$4.8	\$7.3	\$13.7	\$19.5	\$23.5	\$24.5	\$27.7	\$29.7	\$28.1	\$31.6	\$34.3	\$35.0	\$36.9	\$36.9	\$36.9	\$34.2
Spending Budget (\$ Million)	\$6.6	\$6.1	\$4.5	\$6.2	\$12.9	\$17.9	\$21.8	\$22.4	\$25.0	\$27.8	\$26.2	\$29.2	\$31.6	\$32.4	\$33.4	\$33.8	\$33.8	\$31.3
Actual Expenditures (\$ Million)	\$7.4	\$6.3	\$5.5	\$4.9	\$13.3	\$19.6	\$21.5	\$21.5	\$24.6	\$29.1	\$28.8	\$29.5	\$24.6	\$35.7	\$31.4			
Incentive Percentage	4.4%	4.4%	4.4%	4.4%	4.4%	4.4%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%					
Target Incentive	\$288,734	\$266,980	\$199,743	\$274,460	\$570,382	\$898,285	\$1,089,700	\$1,119,800	\$1,251,654	\$1,387,550	\$1,309,076	\$1,460,570	\$1,578,601	\$1,700,000	\$1,000,000	\$792,002	\$904,972	
Earned Incentive	\$288,734	\$262,121	\$231,310	\$239,863	\$586,036	\$968,229	\$1,362,108	\$1,387,079	\$1,496,869	\$1,633,531	\$1,541,255	\$1,580,119	\$347,732	\$996,123	\$720,084			
Pct Achieved Annual Gas MMBtu Savings		109%	139%	127%	117%	99%	109%	124%	111%	106%	113%	120%	104%	71%	99%			
System Benefits Charge (\$/Therm) (All Non-Exempt Customers)	\$0.0071	\$0.0107	\$0.0150	\$0.0150	\$0.0411	\$0.0384	\$0.0417											
Residential System Benefits Charge (\$/Therm)							\$0.0600	\$0.0781	\$0.0748	\$0.0888	\$0.0869	\$0.0715	\$0.1011	\$0.0871	\$0.1271	\$0.1136	\$0.1094	
C&I System Benefits Charge (\$/Therm)							\$0.0492	\$0.0637	\$0.0487	\$0.0726	\$0.0671	\$0.0420	\$0.0704	\$0.0596	\$0.0846	\$0.0620	\$0.0782	
Annual Cost to 846 Therm/Year Residential Customer w/o Tax							\$50.76	\$66.07	\$63.28	\$75.12	\$73.52	\$60.49	\$85.53	\$73.69	\$107.53	\$96.11	\$92.55	
Annual Cost to 846 Therm/Year Residential Customer w/ Tax (1)							\$52.33	\$68.11	\$65.24	\$77.44	\$75.79	\$62.36	\$88.18	\$75.97	\$110.86	\$99.08	\$95.41	

Notes:
(1) Assumes Tax Rate of 3%.

2024 Bill and Rate Impacts

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1 Summary

Rhode Island Energy has performed analyses of the electric and gas bill impacts resulting from the proposed 2024 Energy Efficiency Program Plan pursuant to the Least Cost Procurement Standards approved by the RI PUC in Docket 23-07-EE. Bill impacts are distinct from rate impacts because they model the effects of efficiency programs on annual customer bills by aggregating rate and consumption changes. In the electric and gas bill impact analysis, rate changes are modeled by mapping energy efficiency (EE) programs to groupings of customers approximating rate classes and estimating changes in both delivery service rates and supply costs due to the proposed EE program charge. Consumption impacts are predicted from proposed participation and energy efficiency savings. In both models, other effects of energy efficiency beyond direct energy savings such as price suppression (both) and avoided infrastructure investments (electric) are also included.

1.1 Key Findings

In this 2024 analysis, Rhode Island Energy used the same methods as those employed in 2023 for the natural gas and electric analysis. The key takeaways of the bill impact analyses are:

- Most customers are participating in at least one EE program. This is partially attributable to the residential Home Energy Reports program reaching nearly all gas and electric residential customers.
- In the electric portfolio, high participation means that over the lifetimes of the programs proposed for 2024, the average Rhode Island customer's (participants and non-participants combined) bill will be slightly lower than or equal to a scenario with no programs, ranging from a decrease of 0.20% to a decrease of 1.30%, depending on the sector and scenario. Overall, rates may increase in the short term, but energy savings from participation in electric EE programs results in long term bill savings that offset the costs of the EE program charge and revenue recovery.
- In the gas portfolio, participants in all programs and customer segment groupings see reductions in their long-term bills due to their 2024 participation, ranging from 0.01% to 24.51%. Across average customers, including participants and non-participants, the bill impacts are very close to zero depending on the sector and scenario. The analysis shows slight long-term average rate increases of between 0.02% and 0.56% depending on sector due to the 2024 annual plan.

2 Electric Bill Impacts

2.1 Methodology

The bill impact analysis used to generate the electric results was determined using a model¹ originally built by Synapse Energy Economics on behalf of the Division of Public Utilities and Carriers in 2013. This analysis is distinct from the traditional electric bill impacts models the Company presented in Rates proceedings before the PUC. The analysis examines two cases: the fulfillment of the 2024 Plan and the absence of an efficiency plan in 2024. This comparison isolates the effects of the proposed 2024 EE program charge and Fully Reconciling Funding Mechanism. It assumes energy efficiency plans have been implemented before 2024 but will not be offered starting in 2024. As a result of this approach, the calculated impacts on long-term rates are not designed to reflect the net increase or decrease to the EE charge from the prior/current EE plan. The analysis also incorporates how system-wide reduction in energy consumption affects the different elements of rates such as transmission, distribution, and commodity charges.

The key model inputs are the net planned participation and savings numbers from Table E-7 in Attachment 5.² The model combines these data with rate class information to determine the benefits to customer bills from program participation. [Table 1](#) below shows the mapping of efficiency programs to rate classes.³ The diversity seen within the commercial customer profile indicates that customers from multiple rate classes can participate in any commercial program. Assumptions for these rate classes were made based on historical program participation data.⁴ For the 2024 Bill Impact Analysis, commercial participation by rate class is assumed to be similar to historical participation from calendar year 2022.

¹ New for the 2024 planning cycle, one consolidated workbook models bill and rate impacts for each rate class analyses; previously, there were separate workbooks.

² The 2024 Annual Plan analysis maintains the approach of modeling five rate class groupings as used in the last year's annual plan to allow for a more realistic depiction of bill impacts because there is a wide array of usage among commercial customers and having more groupings helps illustrate typical impacts.

³ Delivery service rate tariffs is R.I.P.U.C. Tariff No. 2095 for rates A-16 (basic residential rate), A-60 (low-income residential rate), C-06 (small C&I rate), G-02 (medium C&I rate), G-32 (large C&I rate). Standard Offer Service rates used in the analysis are R.I.P.U.C. No. 2096 and R.I.P.U.C. No. 4809 A-16 & A-60 total commodity charge for standard income and income eligible residential rate group, C-06 total commodity charge for small C&I rate group, G-02 total commodity charge for medium C&I rate group and G-32 total commodity charge for large C&I rate group.

⁴ Savings and participation modeled by C&I rate classes is partitioned and estimated based on historical data.

Table 1. Electric Rate and Program Mapping

Electric Bill Impact Model	Rate Class(es)	Efficiency Programs
Residential Electric	A-16	Home Energy Reports
		EnergyStar HVAC
		EnergyWise Multifamily
		Residential Consumer Products
Income Eligible Electric	A-60	Income Eligible Single Family
		Income Eligible Multifamily
		Home Energy Reports
Small Commercial	C-06	Small Business Direct Install
		Large Commercial New Construction
		Large Commercial Retrofit
Medium Commercial	G-02	Small Business Direct Install
		Large Commercial New Construction
		Large Commercial Retrofit
Large Commercial	G-32, G-62	Small Business Direct Install
		Large Commercial New Construction
		Large Commercial Retrofit

Annual savings and participants reflect the phasing-out of individual programs. For example, HERs is a one-year program that only covers 2024. The savings and participants attributed to HERs are removed from annual savings and participants calculations starting in 2024. Long-term average changes in rates and bills include zero and non-zero values in the 20-year study period (2024-2043). Bills are calculated based on average annual consumption of a typical customer in Rhode Island in each class, using the values in Table 2.

Table 2. Average Annual Consumption per Customer in Modeled Customer Classes⁵

Modeled Customer Class	Average Annual Per-Customer Consumption (kWh/year)
Residential (A-16) All Programs	6,872
Income Eligible (A-60) All Programs	5,776
Small C&I (C-06)	37,402
Medium C&I (G-02)	177,350
Large C&I (G-32 and G-62)	5,062,434

⁵ Average per-customer annual consumption is calculated based on the forecast electric consumption for each rate class for 2024 and the latest customer counts, for all classes except small business C-06. The small business (C-06 rate) average customer consumption has been refined to better estimate customers based on best data currently available to the Company for both count of customers and their annual consumption. The number of accounts on the C-06 rate is greater than the number of customers, for example there are many accounts for cell towers, pumps, etc. that belong to one customer.

2.2 Summary of Electric Results

The results of the models are shown in Table 3 through Table 11, followed by general highlights. The Table captions also indicate the rate used to model the rate impacts. The columns in the tables are as follows:

- Long-term rate impacts, defined as the percentage change in average rates over the study period, 2024 to 2043 (positive numbers indicate rate increases)
- Typical energy savings, which refer to the average percentage of energy savings to total annual consumption over the study period (negative numbers indicate electricity consumption reduction)
- Typical bill savings, defined as the percentage change in average customer bills over the study period (negative numbers indicate electricity bill reduction)

Long-term rate impacts, typical energy savings, and typical bill savings are shown for average participants in energy efficiency programs, non-participants, and average customers within each of the five main customer segments.⁶ Average customers combine the bill impacts of EE participants and non-EE customers to show the impacts of all customers combined. For the 2024 Bill Impact analysis, the key finding is that over the proposed lifetimes of 2024 programs, the average participant's bill and the average customer's bill will not be higher than a scenario with no programs.

Table 3. Residential All Programs – Rate and Bill Impact Analysis – A-16 (2024 EE Plan vs. No EE)

Residential (All Programs)	Long-Term Rate Impacts ⁷ (% of Total Rate)	Typical Energy Savings (% per Participant)	Typical Bill Impact (% of Total Bill)
Average Participant	0.06%	-5.05%	-4.94%
Non-Participant	0.06%	0.00%	0.03%
Average Customer	0.06%	-0.23%	-0.20%

Table 4. Residential All Programs w/o HERs – Rate and Bill Impact Analysis – A-16 (2024 EE Plan vs. No EE)

Residential (All Programs w/o HERs)	Long-Term Rate Impacts ⁷ (% of Total Rate)	Typical Energy Savings (% per Participant)	Typical Bill Impact (% of Total Bill)
Average Participant	0.05%	-5.13%	-5.04%
Non-Participant	0.05%	0.00%	0.02%
Average Customer	0.05%	-0.20%	-0.18%

⁶ As alluded to in section 2.1, residential and income eligible results are split into all programs, all programs without HERs, and HERs only.

⁷ Note that long term rates decrease despite the presence of an EE charge. These decreases are caused by avoided transmission and distribution charges. In other words, the cumulative avoided transmission and distribution charges are larger than the EE charge.

Table 5. Residential All Programs HERs Only – Rate and Bill Impact Analysis – A-16 (2024 EE Plan vs. No EE)

Residential (HERs Only)	Long-Term Rate Impacts (% of Total Rate)	Typical Energy Savings (% per Participant)	Typical Bill Impact (% of Total Bill)
Average Participant	-0.07%	-0.05%	-0.11%
Non-Participant	-0.07%	0.00%	-0.06%
Average Customer	-0.07%	-0.03%	-0.09%

Table 6. Income-Eligible All Programs – Rate and Bill Impact Analysis – A-60 (2024 EE Plan vs. No EE)⁸

Income-Eligible (All Programs)	Long-Term Rate Impacts (% of Total Rate)	Typical Energy Savings (% per Participant)	Typical Bill Impact (% of Total Bill)
Average Participant	-0.27%	-6.25%	-6.45%
Non-Participant	-0.27%	0.00%	-0.28%
Average Customer	-0.27%	-1.03%	-1.30%

Table 7. Income-Eligible All Programs w/o HERs – Rate and Bill Impact Analysis – A-60 (2024 EE Plan vs. No EE)

Income-Eligible (All Programs w/o HERs)	Long-Term Rate Impacts (% of Total Rate)	Typical Energy Savings (% per Participant)	Typical Bill Impact (% of Total Bill)
Average Participant	-0.26%	-6.55%	-6.76%
Non-Participant	-0.26%	0.00%	-0.27%
Average Customer	-0.26%	-0.99%	-1.25%

Table 8. Income-Eligible HERs Only – Rate and Bill Impact Analysis – A-60 (2024 EE Plan vs. No EE)

Income-Eligible (HERs Only)	Long-Term Rate Impacts (% of Total Rate)	Typical Energy Savings (% per Participant)	Typical Bill Impact (% of Total Bill)
Average Participant	-0.10%	-0.06%	-0.15%
Non-Participant	-0.10%	0.00%	-0.09%
Average Customer	-0.10%	-0.04%	-0.13%

⁸ HERs participation and savings are split between standard residential and income-eligible customers because this measure reaches all residential customers. For analysis purposes, HERs participation and savings are allocated based on the percent of residential customers in standard income and income-eligible rates.

Table 9. Small Commercial – Rate and Bill Impact Analysis – C-06 (2024 EE Plan vs. No EE)⁹

Small Commercial	Long-Term Rate Impacts (% of Total Rate)	Typical Energy Savings (% per Participant)	Typical Bill Impact (% of Total Bill)
Average Participant	-0.03%	-20.70%	-21.25%
Non-Participant	-0.03%	0.00%	-0.04%
Average Customer	-0.03%	-0.48%	-0.54%

Table 10. Medium Commercial – Rate and Bill Impact Analysis – G-02 (2024 EE Plan vs. No EE)

Medium Commercial	Long-Term Rate Impacts (% of Total Rate)	Typical Energy Savings (% per Participant)	Typical Bill Impact (% of Total Bill)
Average Participant	-0.12%	-8.43%	-9.31%
Non-Participant	-0.12%	0.00%	-0.13%
Average Customer	-0.12%	-0.46%	-0.63%

Table 11. Large C&I – Rate and Bill Impact Analysis – G-32, G-62 (2024 EE Plan vs. No EE)

Large Commercial	Long-Term Rate Impacts (% of Total Rate)	Typical Energy Savings (% per Participant)	Typical Bill Impact (% of Total Bill)
Average Participant	-0.33%	-0.17%	-0.51%
Non-Participant	-0.33%	0.00%	-0.33%
Average Customer	-0.33%	-0.76%	-1.16%

2.2.1 Discussion and Interpretation of Electric Results

For all residential and income eligible customers – whether considering all programs, HERs participants only, or all programs without HERs – the average participant is projected to receive bill savings. Long-term rates are projected to decrease when considering HERs only residential customers. When considering all residential programs or all residential programs without HERs, long term rates are projected to increase. For income eligible customers, long-term rates are projected to decrease or remain level – whether considering all programs, HERs only, or all programs without HERs.

For all commercial customers, long-term rates and non-participant bills are projected to decrease while average participant and average customer bills are projected to decrease. The consistent reduction in average customer bills demonstrates that the energy savings associated with participation in EE programs outweighs the incremental costs required for implementation.

⁹ For 2024, as in the 2023 Plan analysis, the small business (C-06 rate) customer count has been refined to better estimate customers. The number of accounts on the C-06 rate is greater than the number of customers, for example there are many accounts for cell towers, pumps, etc. that belong to one customer. This is an estimate based on the best data currently available to the Company.

- *Residential long-term rate impact:* EE programs bring system benefits by way of avoided infrastructure investment in generation, transmission, and distribution. These avoided investments will ultimately flow through rates and offset the short-term contribution of the 2024 EE program charge. Long-term rates will drop over time to the values shown in Tables 2-8.
- *Small, medium, and large commercial long-term rate impact:* Avoided infrastructure costs flow through rates and offset the 2024 EE program charge, leading to long-term rate decreases of 0.03%, 0.12%, and 0.33% for small, medium, and large commercial customers, respectively.
- *Average participant bill savings:* The proposed EE programs will provide bill savings to participants in all rate groups.
- *Average customer typical bill impact:* The proposed EE programs will provide bill savings to customers in all rate groups.

2.3 Delivered Fuel Bill Impacts Associated with Electric Programs

For both residential and income eligible electric customers participating in EE programs, a separate analysis is used to calculate delivered fuel bill impacts associated with those EE projects. The primary inputs for this calculation are annual MMBTUs of delivered fuels per home, annual fuel savings from EE, and the number of EE participants and non-participants with delivered fuels. While the number of customers with delivered fuels is likely to decrease over time due to the expansion of electrification initiatives, this has not been factored into the analysis. For C&I customers, delivered fuel bill impacts are not calculated. Water bill impacts are not calculated for either residential, income eligible, or C&I customers. See Table 12 below for average fuel savings and average bill savings per customer (in dollars and as a percentage) over the 20-year study period.

Table 12. Residential and Income Eligible EE Participants Delivered Fuel Bill Impacts

	Annual Fuel Savings		Annual Bill Savings	
	Gallons	Dollars	Dollars	% Total Bill Impact
Residential	46.9	\$227.98		-7.94%
Income Eligible	21.8	\$106.05		-3.70%

For electric residential and income eligible customers, the 2024 rate and bill impact analysis provides insights on bill savings attributable to electric and delivered fuels energy efficiency programs. Table 13 below illustrates the average total energy bill savings over the study period for these customers in dollars and as a percentage.

Table 13. Residential and Income Eligible EE Participants Total Bill Savings

	Annual Bill Savings	
	Dollars	% Total Bill Impact
Residential	\$319.39	-6.77%
Income Eligible	\$108.33	-2.48%

3 Gas Bill and Rate Impacts

3.1 Model Background

The modeling tool developed by Synapse is designed to analyze long-term rate and bill impacts from energy efficiency programs implemented over a course of three years, or one year.¹⁰ The model used in this plan provides a long-term perspective on the impact of one year of gas energy efficiency programs compared to a counterfactual where there is no energy efficiency program in that year. The model considers the upward pressure on rates and bills due to the energy efficiency surcharge in the first year, the upward pressure of lost revenue collection in the first year and future years in which energy efficiency measures create savings, and the downward pressure on rates and bills due to the avoided costs generated by those savings as they persist into the future. As a result of this approach, the calculated impacts on long-term rates are not designed to reflect the net increase or decrease to the EE charge from the prior/current EE plan.

For the analysis presented in this plan and section, the 2024 proposed programs are analyzed. The model assesses four categories of customers. These categories include all the programs offered in the gas portfolio:

- Residential
 - EnergyWise
 - EnergyStar HVAC
 - EnergyWise Multi-family
 - Home Energy Reports
 - Residential New Construction
- Income Eligible
 - Single Family
 - Multi-family

¹⁰ The Synapse study introducing this modeling tool is filed in [Docket 5076](http://www.ripuc.ri.gov/eventsactions/docket/5076%20National%20Grid%20EEP%20&%203-Yr%20EEP/1%20Synapse%20RI%20Gas%20RBI%20Report%2010_2_20.pdf): http://www.ripuc.ri.gov/eventsactions/docket/5076%20National%20Grid%20EEP%20&%203-Yr%20EEP/1%20Synapse%20RI%20Gas%20RBI%20Report%2010_2_20.pdf

- Small Commercial and Industrial
 - Small Business Direct Install
- Large Commercial and Industrial
 - Commercial New Construction
 - Commercial Retrofit
 - Commercial Multi-family

The model outputs of interest are the forecast changes in rates and the forecast changes in bills due to the proposed energy efficiency investments. The model compares two scenarios: (1) a scenario in which no efficiency resources are implemented over the next three years, and (2) a scenario that reflects the proposed investments in efficiency over the same period.

- *Rate impacts* indicate the extent to which rates change for all customers due to utility energy efficiency programs. This includes upward pressure on rates from program cost and lost revenue recovery, as well as downward pressure on rates from avoided utility system costs.
 - *Long-term rate impacts.* The model includes all avoided costs that might exert downward pressure on rates, as well as any factors that might exert upward pressure on rates. It estimates rate impacts over the long-term to capture the full period over which the efficiency savings occur. The resulting impacts are provided in terms of annual net change in rates in dollars per therm, annual percent change in rates, and long-term net change in levelized rates over a 25-year period.
- *Bill impacts* indicate the extent to which customer bills might be reduced for those customers that participate in efficiency programs and how bills will be impacted for non-participating customers.
 - *Typical bill impacts.* The model calculates average annual bill impacts for program participants, all customers, and non-participants. It considers the long-term rate impacts and energy savings for each program and the four customer types. The resulting bill impacts are shown in terms of levelized long-term average dollar change in bills, net-present value of long-term dollar change in bills, and long-term average percent change in bills.

3.2 Model Inputs

For all models, the key inputs are the net planned participation and savings numbers from Table G-7 in Attachment 6.¹¹ The model takes as input the following categories of information:

- Energy Efficiency Program Savings (MMBTU). The model takes as input the planned savings for each program in both annual and lifetime savings.
- Participation (#). Rhode Island Energy projects participation for each program across each year of the plan.
- Avoided Costs (\$). The model takes as input the avoided cost of natural gas and natural gas demand reduction induced price effect (DRIPE) due to gas energy efficiency.
 - The portion of the natural gas avoided cost that impacts rates is limited to the avoided retail margin costs, and price suppression benefits (DRIPE).
 - The model has the capability to be further refined in the future if other components of avoided costs are quantified and monetized, such as gas transmission and distribution values. Those types of costs are included in the electric bill and rate impact but are not included in the gas analysis.
- Programmatic Costs (\$). The costs planned for each program are input to the model on an annual basis based on Rhode Island Energy's budget and benefit cost analysis models. Sector or portfolio levels costs are also included and allocated to customer groupings proportionally to program specific costs.
- Rates (\$/Therm): Natural Gas rates for customer classes modeled: residential, income eligible, small C&I and large C&I. The proposed rates starting in November 2023 are used.
 - The Residential sector is modeled using rates from Rate Class 12, Residential Heating.
 - The Income Eligible sector is modeled using rates from Rate Class 13, low-income residential heating.
 - The Small Commercial and Industrial sector is modeled using rates from Rate Class 21, Small (< 5,000/yr).
 - The Large Commercial and Industrial sector is modeled using rates from Rate Classes 22, 33, 23, 34, and 24.
- Customer Count (#). The customer population is modeled using latest customer counts as of May 2022: for residential, 223,220 accounts; for income eligible, 24,278 accounts; for small business, 19,070 accounts; and for large commercial and industrial, 5,854 accounts. Future counts are projected based on observed compound annual growth rate of customers in each rate class between 2017 and 2022.

¹¹ The 2024 Annual Plan analysis maintains the approach of modeling five rate class groupings as used in the last year's annual plan to allow for a more realistic depiction of bill impacts because there is a wide array of usage among commercial customers and having more groupings helps illustrate typical impacts.

- Sales Forecast (\$, %). A sales forecast that omits future natural gas energy efficiency savings is utilized in the model to properly characterize the counterfactual state of the world with no energy efficiency programs.
- Consumptions (Therms).
 - The residential sector is modeled using an annual consumption figure of 874 therms per year, of which 730 therms are winter usage and 143 therms are summer usage. These values were determined by dividing sales for the sector by meter counts in 2024.
 - The income eligible sector is modeled using an annual consumption figure of 772 therms per year, of which 632 therms are winter usage and 141 therms are summer usage determined by dividing sales for the sector by meter counts in 2024.
 - The Small Commercial and Industrial sector is modeled using an annual consumption figure of 1,369 therms per year, of which 1,164 therms are winter usage and 205 therms are summer usage determined by dividing sales for the sector by meter counts in 2024.
 - The Large Commercial and Industrial sector is modeled using an annual consumption figure of 544,429 therms per year, of which 300,304 therms are winter usage and 244,125 therms are summer usage determined by dividing sales for the sector by meter counts. Consumption among participants is modeled using usage observed among the large C&I program participants and for the medium C&I class for C&I multifamily participants using the FY2021 Gas ISR Plan.

3.3 Summary of Results

The following subsections summarize the results of the rate and bill impact modeling for each of the four modeled customer segments. The overall results for the 2024 plan at the sector level are presented in the table below with additional detail provided in subsections and figures below. This analysis projects that each modeled customer sector will see a levelized net increase in long term rates of between 0.02% and 0.56% due to the 2024 energy efficiency programs. The first-year cost of the programs combined with the recovery of lost revenue put upward pressure on rates, while avoided costs as detailed earlier generate downward pressure on rates.

The 2024 gas portfolio will result in long term average bill decreases for program participants in the income eligible, small C&I, and large C&I sectors of between 3.0% and 24.5%.

The residential sector is unique in that it includes the Home Energy Report (HER) program. This behavioral program provides recommendations for residential customers to save energy by taking actions in their home, rather than by installing more-efficient equipment. This results in the program having a measure life of only one year, as the evaluated results show that behavioral efficiency of this type has relatively short persistence compared to other residential programs that install longer-lived

measures. The HER program also reaches nearly all residential customers through either mail or email, meaning that nearly all residential customers are participants.¹²

It is therefore instructive to view the rate and bill impacts for the residential sector in three separate modeling analyses:

- 1) Results of the HER program in isolation
- 2) Results of all other residential programs together (EnergyWise, EnergyStar HVAC, EnergyWise Multi-family, Residential New Construction)
- 3) Results with HER and all other residential programs

It is important to note that each of these three parts of the residential sector analysis have been developed using a separate instance of the gas rate and bill impacts model. In the model, the period covered by the analysis is determined by the average measure life of the longest program included. For the 2024 plan, this period was determined to be 22 years due to EnergyWise having an average measure life of 21-years plus the inclusion of an additional buffer year. The same value of 22 years is applied to each sector and each program within a sector. This is not to suggest that all measures have a measure life of 22 years. Each measure has its own measure life assumption. However, as the study period assumption is applied to all programs, a period is selected that is long enough to capture all the savings from all measures in all sectors. Consequently, the model instance analyzing the Home Energy Report program in isolation models savings only over one year (a much shorter period compared to the other two model instances as mentioned earlier). Therefore, the three instances are not directly comparable, and the first two model instances do not additively result in the third instance.

Additionally, in the model instance that assesses all programs together, HER participants incur costs associated with the non-HER programs, such as lost revenue recovery. These costs are not captured in the model instance analyzing the Home Energy Report program in isolation. Income eligible customers also participate in the HERs that is modeled as part of the residential sector in this analysis.

The HER program in isolation shows a decrease in bills for participants of 0.02% and 0.01% for average customers, and a small increase for non-participants of 0.01%. This is to be expected because the number of participants is high enough that the per-participant savings is less than 1 net MMBtu per participant, resulting in minimal change to bills. Taken at the individual level, the savings results are modest, however in aggregate the HER program generates significant net annual savings by reaching most residential customers and doing so at relatively low cost.

¹² Customers who are not served by the HER program are only excluded due to reasons of evaluability, that is, to assess the savings in a statistically valid way, a control group of sufficient size is required.

When the remaining four residential programs are assessed together (excluding HERs), the results show that participants see an average reduction of 5.35% on their bills over the long term, while average customers see a 0.15% increase, and non-participants see an increase of 0.36%. The EnergyWise, EnergyStar HVAC, EnergyWise Multifamily, and Residential New Construction programs have fewer participants than the HERs program, have longer-lived average measure lives (between 19 and 22 years), and generate deeper savings per participant than the HER program, all resulting in deeper bill savings for participants.

Lastly, when all residential programs are modeled together (HER, EnergyWise, EnergyStar HVAC, EnergyWise Multifamily, Residential New Construction), the modeling shows participants realizing a slight decrease of 0.01% in their long-term bills. This result is a byproduct of the way that the model considers participants for the residential sector when all residential programs are considered together. To calculate impacts for total participants, the model considers the count of participants in the first year, which involves including the large pool of HER participants, through the duration of the modeling period (22 years). The savings for all the residential programs are therefore spread across a large group of participants, minimizing their impact, and resulting in a conservative assessment of participants' bill impacts.

Because of the truly unique nature of the HER program in terms of its measure life, distribution to most customers, and relatively small per-customer savings relative to other residential programs, the Company believes that in the context of this analysis it is also appropriate to consider the results of the HER program in isolation from the remaining four residential programs. Therefore, the residential programs are modeled with three separate modeling instances as shown below.

Summary results for of the analysis are shown in Table 14 below. In the table,

- Long-term rate impacts are the levelized net change in rates over the study period, 2024 to 2043, due to the 2024 programs (positive numbers indicate rate increases)
- Long term average change in bills are the typical bill savings, defined as the percentage change in average customer bills over the study period (negative numbers indicate electricity bill reduction)

Table 14. Summary of Rate and Bill Changes due to the 2024 Proposed Natural Gas Energy Efficiency Portfolio¹³¹⁴

Sector	Levelized net change in rates due to 2024 Programs	Long Term Average Change in Bills		
		Non-Participants	Average Customer	Average Participant
Residential (Model 1: HERs only)	0.02%	0.01%	-0.01%	-0.02%
Residential (Model 2: All Programs Except HERs)	0.37%	0.36%	0.15%	-5.35%
Residential (Model 3: All Programs)	0.38%	0.37%	0.14%	-0.01%
Income Eligible	0.56%	0.57%	0.11%	-3.84%
Small C&I	0.26%	0.26%	0.08%	-24.51%
Large C&I	0.31%	0.30%	-0.04%	-3.01%

3.3.1 Discussion and Interpretation of Natural Gas Results

For each customer segment the modeling shows reductions in long-term bills due to customer participation in the programs.

For purposes of characterizing the bill impacts from the residential programs, the results of the first model illustrate that, for the HER program in isolation, there is minimal change in long-term average bills, with only a 0.02% reduction for participants. This result is reasonable given the short duration of savings for the HERs program and the small per-participant savings generated by this program.

The 2024 programs’ impact to rates is larger for the Income Eligible customer group partially because the energy efficiency charge represents a larger portion of the overall per-therm cost because distribution adjustment charges (DAC) are lower for income eligible customers than residential customers.

For comparing the results of the rate and bill impacts analysis with the analyses of cost-effectiveness and the cost of supply,¹⁵ note that the RBI model excludes several key benefits of energy efficiency. For example, the price of carbon is not fully accounted for in Rhode Island Energy’s natural gas rates. Efficiency programs reduce carbon and other greenhouse gas emissions, which is not accounted for in

¹³ Rate impact is the same as the non-participant bill impact, since non-participants have no savings to offset the change in rates. Some values for these two categories differ slightly due to rounding in the model.

¹⁴ Note that positive values in this chart denote increases in the rate or bill, and negative values indicate decreases.

¹⁵ The portfolio of programs is highly cost effective per the RI Test analysis and less than the cost of supply.

this model but is accounted for in the BCA as a non-embedded benefit. Likewise, the gas efficiency programs create non-energy benefits that are not accounted for in this model but are included in the BCA.

As noted earlier, a key distinction between the gas model and the related electric model is the limited set of gas avoided costs. The portion of the natural gas avoided cost that impacts rates is limited to the avoided retail margin costs, and price suppression benefits (Demand Reduction Induced Price Effects or “DRIPE”). In contrast, in the electric model there are embedded RGGI costs in rates and the electric model also accounts for T&D avoided costs. The gas model has the capability to incorporate a T&D avoided cost in the future should one be developed in the future, but it is not currently accounted for in the calculation of long-term rates in the present analysis.

The Company will reassess the inputs and assumptions in this analysis for each subsequent annual efficiency plan filing and make updates to the analysis and model as appropriate to continue to incorporate latest information and understanding of the impacts of the gas programs on long-term energy costs and customer bills.

2024 Demonstrations, Pilots, and Assessments

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Section One: Introduction

Rhode Island Energy (RI Energy or the Company) invests in demonstrations, pilots and assessments that support the development of new offerings and, more generally, expand energy efficiency choices for customers. Based on the Public Utility Commission's (PUC) budget guidance during the 2023 planning process, the Company is scaling back its direct application of demonstrations, pilots and assessments. For the 2024 program year, the Company is investigating several demonstrations, pilots and assessments and expects to offer one-to-two Residential and Commercial & Industrial (C&I) projects as detailed below.

To cost effectively assess the marketplace for new technologies and program models, the Company intends to use two PPL (RI Energy's parent company) memberships: Electric Power Research Institute (EPRI) and ESource.

[Electric Power Research Institute](#)

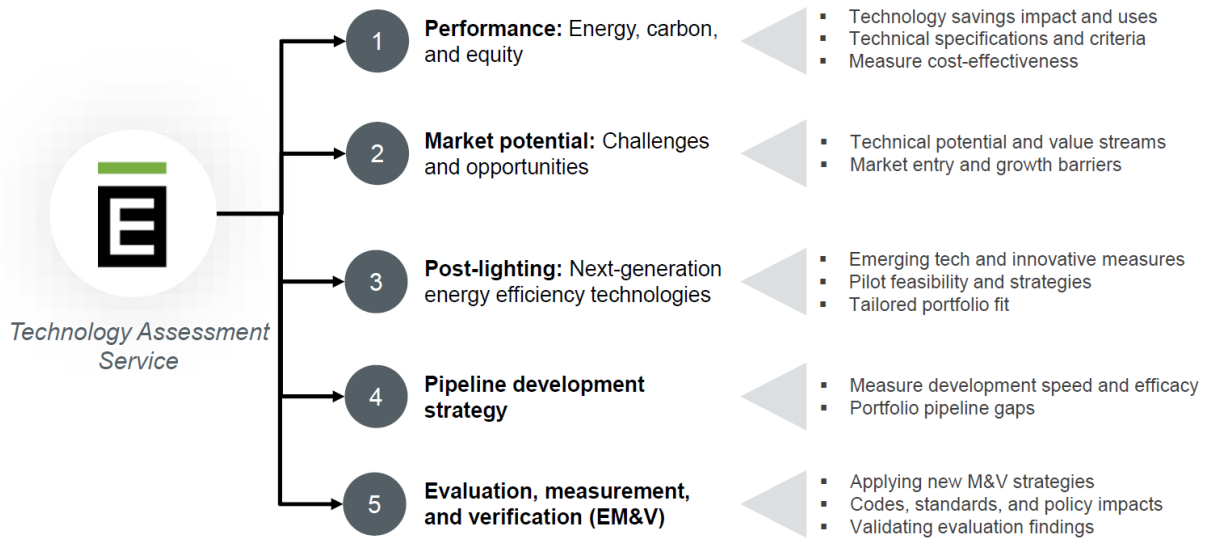
EPRI is an independent non-profit energy research, development and deployment organization with a membership of utilities and other energy companies worldwide. PPL has a long-standing relationship with EPRI, and PPL's CEO is the incoming EPRI Board Chair for 2024. Power Delivery and Utilization, one 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

In 2024, RI Energy will join PPL's EPRI membership and conduct an analysis of its research to see if there are relevant opportunities to add to its energy efficiency program portfolio. Once RI Energy has access, the Company will perform an initial assessment of past reports to determine if there are demonstrations, pilots and assessments it should pursue. Then, the Company will initiate a quarterly process to review new studies and also engage with EPRI as much as possible to influence future topic areas that may be of interest to Rhode Island consumers.

[ESource](#)

PPL also has a corporate membership with ESource, a utility member organization providing deep market research on energy efficiency and distributed energy programs, policy and technology. One of ESource'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 the Company'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. ESource's Technology Assessment Services are detailed below.



For ESource, the Company will employ a similar analysis process to what was outlined for EPRI above. Using PPL’s corporate memberships in EPRI and ESource will allow RI Energy to cost share with other PPL affiliates in order to access world-class technology research in a very cost-efficient manner.

Section Two: Definitions

The Company, 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.

The Company 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 Company 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	<ul style="list-style-type: none"> • May result in independent program • Long-term, comprehensive engagement required to test and develop offering • Market capabilities may need to be developed 	<ul style="list-style-type: none"> • Technology requires information gathering and field installations 	<ul style="list-style-type: none"> • 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, the Company 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 the Company’s core energy efficiency programs and that could potentially become a new, standalone program.

Pilots enable the Company 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 to the Company 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, the Company proposes the following definitions for demonstrations and assessments:

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

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 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 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.

The Company 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. The Company 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 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. The Company typically relies on external resources for pilots and demonstrations in order 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 ESource).

Section Three: Summary of Demonstrations, Pilots and Assessments

3.1 2023 Demonstrations, Pilots, and Assessments

Here is a status list of current/recent demonstrations, pilots, and assessments from the Company’s Q2 2023 Energy Efficiency Quarterly Report:

Demonstration, Pilot and Assessment Name		Q1 2023 Updates
<u>Final Gas Appliances - Assessment - Residential</u>	Date	08/07/2023
	Stage	Final
	Recent Activity	Study report finalized
	Next Steps	Apply study results to program design
<u>Gas DR - Pilot - C&I</u>	Date	08/02/2023
	Stage	Demonstrate
	Recent Activity	Active for Winter 2022-23
	Next Steps	Moved to System Reliability Procurement
<u>Gas Leak Survey - Demonstration - C&I</u>	Date	05/09/2023
	Stage	Demonstrate
	Recent Activity	Working with vendors to determine savings calculation assumptions and post-verification procedures.

Demonstration, Pilot and Assessment Name	Q1 2023 Updates	
	Next steps	Test post verification procedures at sites.
<u>Rightsizing Remote Terminal Units - Assessment - C&I</u>	Date	05/05/2023
	Stage	Plan
	Recent Activity	Completed assessment, which identified strategies for RTU right-sizing
	Next Steps	Integrate strategies into program design and implementation
<u>Automated Remote Terminal Unit Optimization - Demonstration - C&I</u>	Date	08/02/23
	Stage	Demonstrate
	Recent Activity	Recruited customers; installed product and monitoring equipment
	Next Steps	Measure summer performance
<u>Commercial Weatherization - Assessment - C&I</u>	Date	05/05/2023
	Stage	Demonstrate
	Recent Activity	Completed weatherization training with vendors, gathering feedback and research ongoing for offering development
	Next Steps	Develop Express Tool
<u>Air Curtains - Demonstration - C&I</u>	Date	01/26/2023
	Stage	Qualify
	Recent Activity	Opted to develop measure offering, in line with MA PAs
	Next Steps	Collaborate with MA to develop program offering and develop go-to-market plan
<u>Smart Valves for Chilled Water Systems - Demonstration - C&I</u>	Date	07/28/2023
	Stage	Plan
	Recent Activity	Final reported submitted
	Next Steps	Review report and develop plan on next steps

3.2 2024-2026 Commercial & Industrial Demonstrations, Pilots and Assessments

3.2.1 C&I Weatherization Demonstration

Demonstration Stage

The C&I Weatherization Demonstration is a concept.

Innovation Overview

The C&I Weatherization demonstration will explore opportunities to expand on historical weatherization efforts. Although weatherization has not historically constituted a major portion of the C&I Portfolio, the Company will seek to explore cost-effective opportunities to expand in this area. Any weatherization expansion will be evaluated for cost effectiveness within the existing C&I program framework (i.e., based on electric and gas savings only). However, improved building envelope and insulation are often seen as prerequisites to electrification, and weatherization will also be viewed in the broader context of its potential to contribute to electrification efforts.

Residential weatherization solutions are relatively standardized, with similar solutions applicable at a broad range of facilities while large commercial buildings incorporate a more complex and varied range of construction techniques and heating, ventilation, and air conditioning (HVAC) systems. This complexity makes it more difficult to apply standardized techniques for site identification and savings calculation. Therefore, this C&I Weatherization demonstration is designed to test the feasibility of this offering for inclusion in existing C&I programs.

Target Customer and Program Fit

Potential commercial buildings for presenting standardized opportunities may include:

- “Butler buildings,” which are prefabricated steel structures with limited insulation (usually fiberglass).
- Wood frame buildings, similar to residential buildings and can apply residential energy-saving techniques.
- Customers with portfolios of standardized buildings, such as chain restaurants.

Prior Efforts

During the 2021 and 2022 program years, RI Energy collaborated with the Office of Energy Resources (OER) and the Company’s Small Business Direct Install Program vendor to undertake a weatherization expansion effort, which leveraged Regional Greenhouse Gas Initiative (RGGI) funds to support additional weatherization measures at small businesses. The focus of this effort was on wood frame buildings. The Company captured significant cost data from this effort. In 2023, The Company completed weatherization training with vendors, and gathered feedback and research that will be incorporated for demonstration deployment. Demonstration Delivery

The Company plans to use a third-party vendor to assist in developing and implementing the C&I Weatherization demonstration. This effort will begin with a characterization of likely target facilities and potential solutions may include but are not limited to:

- Training for facility auditors and engineers.
- Identification of swathes of buildings with standardized opportunities (e.g., construction techniques and poor insulation).
- Integration of weatherization into other pathways (e.g., Equipment and Systems Performance Optimization Initiative).
- Program-approved savings calculator.
- Integration with statewide electrification efforts (provided that measures are cost effective under the Company's current energy efficiency program regulations and practices).
- Bundled incentives for weatherization at sites undergoing HVAC retrofits or replacements.

Evaluation

The C&I Weatherization Demonstration will be evaluated through the Company's Internal Review process (see Section 2).

3.3 2024-2026 Residential Demonstrations, Pilots and Assessments

3.3.1 Residential Equity Outreach Assessment

Demonstration Stage

The Residential Equity Outreach Assessment is a concept.

Innovation Overview

The Residential Equity Outreach Assessment will engage and incentivize non-profit organizations to provide direct energy efficiency education and outreach to landlords in one or more of the Company's five equity communities. These communities include the cities of Central Falls, East Providence, Pawtucket, Providence, and Woonsocket.

This assessment was developed to address and better understand the challenges with reaching landlords and renters in the Company's equity communities. Non-profit organizations are well-positioned within these communities to conduct creative, responsive, and community-grown energy efficiency outreach and education efforts. At the same time, the Equity Working Group (EWG) has apprised the Company of increasing demands on non-profits to provide community outreach while receiving no additional funding. To address this, The Company will provide participating non-profits with a total of \$40,000 of incentives to complete outreach and education efforts.

The incentives will be distributed to a small number of non-profits through an application process that selects participants based on their impact potential. Applications will be open to non-profits that are either based in or operate in one of our equity communities, with a stated preference for organizations with multilingual staff and existing landlord relationships. Application requirements may include, but are not limited to:

- A commitment to the assessment through the plan year
- An outreach, marketing, and communication plan
- A budget of how funds will be spent
- Support from or communication with local municipality(ies)

To enable selected organizations to best perform their outreach and education efforts, The Company may provide trainings in energy efficiency offerings, support the creation of co-branded multilingual marketing materials designs, share best outreach practices, and provide local event support as necessary.

Target Customer and Program Fit

This assessment is designed to reach both single-family and multifamily residential customers in the Company's equity communities who may experience barriers in accessing and adopting energy efficiency offerings. These communities include the cities of Central Falls, East Providence, Pawtucket, Providence, and Woonsocket. The

Company is committed to ensuring customers across Rhode Island have equitable access to energy efficiency, regardless of their income, geographic location, primary language, business size, home ownership status, or other relevant barriers.

Prior Efforts

This assessment builds upon equity outreach efforts pursued in the 2023 program year. In collaboration with the EWG, the Company gathers feedback on its efforts to continuously improve and scale impact. In 2023, the Company provided enhanced outreach, promotion, and education of all EE offerings in underserved communities. Outreach efforts included partnering with and cross training home visiting programs and community organizations/resource groups to expand the reach and impact of energy efficiency programs. The Company also promoted energy efficiency programs at community gathering places and events. Outreach efforts focused on English and Spanish languages and included additional languages where possible.

Assessment Delivery

The Company is working with the EWG to vet assessment funding structures and options to promote maximum impact. It is also collaborating with the group to develop an equitable and robust application process for non-profit organizations to participate. Beyond these items, the EWG is providing feedback on assessment metrics that are being developed to track progress, performance, and outcomes of the assessment.

Evaluation

The Residential Equity Outreach Assessment will be evaluated through the Company's Internal Review process (see Section 2).

3.3.2 Multifamily Financing Assessment

Demonstration Stage

This Multifamily Financing Assessment is a concept.

Innovation Overview

BlocPower is a climate technology company based in Brooklyn, NY. They offer a financing structure for multifamily building energy efficiency and electrification projects. BlocPower structures its financing as a fifteen-year lease, with \$0 money down options. The lease can be used to fund a wide variety of energy efficiency and electrification measures, from HVAC upgrades, air & ground source heat pumps, heat pump hot water heaters, appliances, smart meters, solar photovoltaic systems, battery storage, EV chargers, smart thermostats, and building air sealing and insulation work. Financing can be used to cover related remediation measures ranging from the removal of knob and tube wiring, lead, mold, or asbestos to repairs for a leaky roof.

BlocPower's financing can be paired with local, state, and federal incentives, including rebates and credits from the Inflation Reduction Act, to provide maximum savings to customers. BlocPower's lease includes twice-yearly system maintenance. At the end of the fifteen-year lease, customers can either buy the system for one dollar, or sign up for a new lease with BlocPower.

BlocPower has developed a program for building owners to easily access critical upgrades at no upfront cost. These building upgrades, which can save money, reduce energy usage, improve local health, and mitigate unsafe conditions are bundled together under a 15-year lease agreement, with the option for a full warranty for the duration. This financing structure, which builds upon the strong track record of similar agreements in the solar energy industry, has been shown to increase adoption by reducing complexity, helping manage risk, and critically, by providing ready access to the capital needed to put these important improvements in place. The structure is unique to BlocPower, having been developed over several years in partnership with Goldman Sachs, Inclusive Prosperity Capital (an outgrowth of the Connecticut Green Bank) and various public and private sector finance organizations.

BlocPower has facilitated the financing and installation of over 1,200 green retrofits, largely in low- and moderate-income communities. BlocPower's financing is part of formal city/utility programmatic offerings in New York, Massachusetts, New Hampshire, Colorado, and California. BlocPower focuses financing on single family residential, small and large multi-family properties, small commercial buildings, and community institutions. When financing, BlocPower underwrites the customer's credit risk, then organizes, manages, and pays for the construction of the project.

The financial structure BlocPower utilizes overcomes many of the challenges that currently hinder building efficiency upgrade financing. These challenges include the mixed creditworthiness of building owners and tenants, the multifaceted and complex nature of the financing process for building owners, and the potentially high financing rates for these upgrades. All these place limitations on who can access upgrades.

Target Customer and Program Fit

This assessment is designed to test an alternative financing model to fund projects at residential multifamily buildings with a particular focus on smaller buildings with two to twenty units. The Non-Participant Market Barrier

Study found that even with rebates, upfront costs are a barrier to program participation for both customers and landlords/property managers. The BlocPower program overcomes this barrier by offering a solution that does not require an upfront monetary investment.

Prior Efforts

Financing for multifamily buildings is currently offered through the HEAT loan program. Even with the favorable interest rate available, the longest HEAT loan term available is seven years and the loan is capped at \$25,000 per unit. This has not proven sufficient to incentivize project implementation in the multifamily market in Rhode Island. BlocPower offers a longer term (15 years) and does not require a lien on the underlying building and property. The lease is secured by the installed equipment.

Assessment Delivery

The Company will work with its program delivery vendor, RISE Engineering, to incorporate the BlocPower option into project proposals as well as work with BlocPower to educate contractors on the lease offering. BlocPower will provide marketing materials, including case studies from their work in other jurisdictions, to help augment existing outreach to the market in Rhode Island.

The Company will subsidize the expenses associated with BlocPower's underwriting. As with any financial instrument, the capital provider, in this case BlocPower, will assess the creditworthiness of building owners and gauge their ability to honor the obligations of the fifteen-year lease agreement. Defraying these expenses will cost approximately \$39,000.

Evaluation

The Multifamily Financing Assessment will be evaluated through the Company's Internal Review process (see Section 2).

2023 Cross-Program Summary

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1 Introduction

The Cross-Program Summary documents how the proposed 2024 Energy Efficiency Annual Plan programs relate to other specific RI Energy programs outside of the energy efficiency docket. The questions are based on Public Utility Commission Information Requests 1-8 and 1-9, from the 2019 Energy Efficiency Annual Plan, Docket 4888.

2 Programs with no interaction with other program proposals

The descriptions in this section apply to the following programs:

- a. Residential New Construction
 - b. Energy Wise
 - c. EnergyWise Multifamily
 - d. Home Energy Reports
 - e. Energy Star HVAC
 - f. Residential Consumer Products
 - g. Single Family Income Eligible Services
 - h. Income Eligible Multifamily
 - i. Large Commercial New Construction
 - j. Small Business Direct Install
 - k. Commercial and Industrial Multifamily
1. Is the program being moved from, consolidated with, or split between another program proposal?
 - a. No
 2. Does the program have a component funded in other programs?
 - a. No
 3. Does the primary purpose of the project or program fall into one of the following categories?
 - a. DR: local system
 - i. No
 - b. DR: bulk system/transmission
 - i. No
 - c. DG: adoption/interconnection
 - i. No
 - d. DG: load reduction
 - i. No
 - e. Storage: grid side

- i. No
 - f. Storage: customer side
 - i. No
 - g. Grid Mod: physical infrastructure/grid-facing data
 - i. No
 - h. Grid Mod: customer-facing data
 - i. No
 - i. Electrification: vehicles
 - i. No
 - j. Electrification: heating
 - i. No
- 4. If the response to part of question 3 is in the affirmative, please respond to the following:
 - a. N/A

Standardized Definitions for the 2024 Annual Efficiency Plan

Assessment

An assessment 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.

Customer Contribution/Customer Cost

The financial cost of a measure and/or service that is not covered by the customer incentive.

Customer Incentive

Financial support and/or services (e.g., rebates, on-bill repayment) provided to participants in attempt to motivate the installation of measures and/or changes in behavior to achieve energy savings.

On-Bill Repayment (OBR)

A financial mechanism that allows customers to pay back the customer contribution/customer cost of a measure and/or service on their energy bill.

Demonstration

A demonstration will test the feasibility of a new product or offering for inclusion in existing programs. It is generally expected that 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.

Evaluation

Independent Evaluation: An independent evaluation uses a third-party evaluation vendor selected via a competitive Request for Proposals process for the specified evaluation or selected in the recent past for

evaluation services of efficiency programs. An independent evaluation can be both a process and an impact evaluation.

Vendor Evaluation: A vendor evaluation is conducted by a vendor installing a technology, measure, strategy, or solution. A vendor evaluation can also be conducted by a Technical Assistance vendor who conducts a savings analysis for the installed technology, measure, or an energy saving strategy. A vendor evaluation can only be an impact evaluation.

Goals

Goals refer to Rhode Island Energy's annual plan energy efficiency savings goals.

Non-Energy Impacts

Non-energy impacts (NEIs) are those other than the energy and demand savings generated by efficiency programs. Non-energy impacts accrue to program participants (e.g. increased comfort and health, improved property values), society at large (e.g. greenhouse gas reductions, improved air quality), and the utility system (e.g. Reduced arrearages).

Non-Participant

A customer that does not directly participate in an efficiency program.

Participant

A customer that reduces or otherwise modifies their energy end use patterns due to involvement in an efficiency program. Participation is measured differently in different programs. For several programs, a participant is defined as a customer account (electric or gas). In contrast, the Residential Consumer Products program measures participation by the number of rebates processed.

Pilots

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. Pilots are designed to explore technologies and approaches to energy management not included in the core energy efficiency programs (Residential, Commercial and Industrial, and Multifamily) and that could potentially become a new, standalone program.

Pilots enable the Company 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 to the Company portfolio. Savings associated with Pilots will not contribute to shareholder incentives. Pilots may be evaluated with either an independent or a vendor evaluation.

Portfolio

A collection of programs. The electric portfolio contains programs that primarily focus on delivering electricity savings and the natural gas portfolio contains programs that primarily focus on delivering natural gas savings. Per the Least Cost Procurement Standards, as updated in RI PUC Docket 5015, a portfolio is required to be cost-effective.

Program

A collection of defined services and/or measures carried out by Rhode Island Energy and/or its vendors and subcontractors that: target a specific market segment, customer class, or defined end use; are designed to influence customer behavior to achieve changes in energy usage, equipment preferences, investment, and maintenance practices; and are guided by a specific savings goal and have a benefit-cost ratio. Programs are typically made up of the following categories that contribute to the overall program savings goals and benefit-cost ratios. Per the Least Cost Procurement Standards, as updated in RI PUC Docket 5015, a program is required to be cost-effective.

Sub-Program

Within the Commercial and Industrial Sector, a sub-program is a further grouping of measures within a program. An example is the upstream lighting sub-program within the Commercial and Industrial Sector.

Measure Group or Category

A group of measures with similar characteristics within a program. For example, the measure group LED in the Residential lighting program includes several types of LED light bulbs and the Compressed Air measure group within the Large Commercial New Construction program contains all the compressed air measures within that program.

Measure

A piece of equipment or customer action that reduces or otherwise modifies energy end use patterns. This is the most granular level of categorization. For example, an LED light bulb.

Comprehensive Measures: When a customer employs multiple pieces of equipment or actions that reduce or otherwise modify energy use at the same time, more fully taking advantage of energy savings opportunities at one time rather than completing piecemeal projects.

Services

A range of activities to support customer awareness, education, and adoption of energy saving and energy modification opportunities including free technical assistance, training, analysis, and reports.

Initiative

A “go to market” strategy within a program that promotes a subset of measures or services within that program and/or targets a certain segment of customers. For example, the Grocery Initiative within the Large Commercial and Industrial Retrofit Program.

Standardized **Definitions for the 2024 Annual Efficiency Plan**

Assessment

Refer to the definition above. Included in this section again to indicate that assessments can be a component of programs.

Demonstration

Refer to the definition above. Included in this section again to indicate that assessments can be a component of programs.

Performance Incentive

A financial incentive that the Company has an opportunity to earn based on performance in fulfilling the savings goals of the approved Annual Plan. The Performance Incentive is authorized and established through Annual Energy Efficiency Plans by R.I. Gen. Laws § 39-1-27.7(e) and § 39-1-27.7.1.

Rebate

A financial incentive paid to a participant in order to obtain a specific action, typically the installation of equipment. A rebate can also be paid to manufacturers and suppliers of measures to lower the price at the point of sale to the customer.

Savings

Annual Savings: Energy savings accrued annually from the installed measure(s).

Lifetime Savings: Energy savings accrued over the functional lifetime of the installed measure(s).

Sector

A grouping of participants by customer rate class. Programs are organized by these groupings. There are three sectors: Residential, Income-Eligible, and Commercial and Industrial.

Technical Assistance (TA) Study

A technical assistance study assesses a measure or group of measures for savings and costs and is performed by a third-party technical assistance vendor. A TA study quantifies electric and gas savings, along with delivered fuel and non-energy impacts. TA studies include some or all of the following activities: facility benchmarking and/or walkthrough, equipment metering or analysis of building energy management system data, determination of measure baseline, engineering analysis of the operation of the baseline, and proposed measures and building energy simulations. The TA vendor performs a benefit-cost screening to assess the estimated payback for the customer along with the impact of costs and savings. A TA study report is presented to the customer which outlines the methodology followed to determine estimated project savings, cost, and project payback, along with the results of the study.

Technical Assessment

A technical assessment is engineering research conducted to determine the savings of a new technology or measure that may not be widely adopted in the market.

2023 Rhode Island Energy Efficiency Equity Working Group Report

Attachment 11 will be filed at a later date.