

Rhode Island Energy Efficiency

Third Quarter 2023 | Rhode Island Energy

November 8, 2023

Overview

Rhode Island Energy's energy-efficiency programs continued to deliver energy savings for Rhode Island customers through the third quarter of 2023 by achieving 287,969 net lifetime MWh of electric savings (43.1% of the net lifetime goal) and 1,378,920 net lifetime MMBtu of natural gas savings (39.0% of the net lifetime goal).

- **Residential New Construction:** The Wood Soup Way project in South Kingstown, Rhode Island has attained one of the highest efficiency vs Residential New Construction program baseline ratings to date. With a Home Energy Rating System score of 35, the project has also achieved DOE's Zero Energy Ready Homes Certification. Key home features include a measured airtightness of 0.56 ACH₅₀, a highly efficient ERV ventilation system, properly sized and installed air source heat pumps, a heat pump hot water heater, and all-electric Energy Star appliances.
- **EnergyWise:** Demand for Home Energy Assessments was somewhat volatile in the third quarter, with notable swings in the number of requests for Energy Audits on a week-to-week basis. The uptake of weatherization projects and electric savings continued to lag program forecasts. In response, a series of targeted e-mail campaigns focusing on Home Energy Assessments were implemented in the third quarter. The program has also implemented a number of enhanced incentives including: a limited time offer of an additional \$200 made to customers to assist with their co-pay; increasing the standard incentive from 50% to 75% and a 100% incentive for electrically heated homes. These customers make ideal candidates for upgrades to ASHP when their home is fully weatherized.
- **ENERGY STAR HVAC:** A total of seventeen contractor training courses and events were held during the third quarter. Trainings included HVAC Check testing, HVAC right sizing, System Design for Zero Energy Homes, Introduction to Heat Pump, and other related modules.
- **Small Business Main Street:** The Central Falls Main Street Event resulted in twenty-nine audits of which twenty converted to projects. Most of these projects were minority owned micro-businesses, resulting in an incentive spend of nearly \$66k and net KWH savings of 84,951.

2023 Program & Initiative Updates – Q3

Residential New Construction (RNC)

The Residential New Construction (RNC) program achieved 4,800 net lifetime MWh of electric savings (36.5% of the lifetime goal) and 19,165 net lifetime MMBtu of gas savings (32.8% of the lifetime goal) through the third quarter of 2023.

Q3 RNC Program Enrollments and Completed Units

- 36 housing units were built to RNC Program standards
 - 35 units were new construction/full gut rehab (97%)
 - 1 was renovation/rehab (3%)
 - 21 units were market rate (58%)
 - 15 were Income Eligible (42%)
 - 7 units had electric heat pumps (19%)
 - 15 units had gas heat (42%)
 - 14 units had either propane or hybrid heat pumps with propane (39%)
 - 6 homes achieved >35% savings over the Program baseline (17%), with 3 achieving >45%
 - 4 homes were DOE Zero Energy Ready certified
- 408 newly planned housing units enrolled in the RNC Program

Q3 RNC Program Challenges

- Completed Units Lower than Pre-Pandemic
 - Construction Delays
 - New construction projects in planning and design phases in 2020 and 2021 got off to late starts due to delays with permitting, labor, material shortages, funding, etc.
 - These delays resulted in fewer completed units than anticipated in 2022 and through the third quarter of 2023
- Signs of Improvement
 - Completed units have increased since 2022
 - Q1-Q3 (Jan-Sept)
 - 2022 – 168
 - 2023 - 237
 - Current Project Pipeline
 - In 2022 and 2023 the RNC Program Vendor enrolled a significant number of new projects in early planning and design into the program, including 873 in 2022, and 789 so far in 2023

- The pipeline of projects to support in 2023 and 2024 is large
- Many of these projects are multifamily affordable housing
- Over 400 units are seeking Zero Energy or Passive House certification
- The RNC Program has continued to provide training and perform inspections on projects currently under construction and is forecasted to exceed the number of completed units compared to 2022

Q3 RNC Program Zero Energy Project Highlights

Rhode Island PHIUS Chapter

- In Q3 the RNC Program Vendor partnered with local builders and designers to establish a local Passive House chapter
 - <https://passivehouseri.org/>
- The chapter's mission is to promote the Passive House Building Energy Standard in Rhode Island through public outreach, education, advocacy, and training
- Current members include architects, builders, consultants, designers, and the general public

Zero Energy Homes Pipeline

- The RNC Program Vendor continued to provide technical support for Zero Energy homes across the state, including 162 seeking Passive House certification and 240 seeking DOE Zero Energy Ready certification
- The number of Zero Energy Homes in the pipeline has increased by 100% since 2022
- Most homes in the pipeline are Income Eligible

Q3 Project - Cottrell Farms, Middletown

- Church Community Housing Corporation (CCHC), a non-profit housing developer based in Newport County, successfully completed the development of two affordable, net-zero energy homes in Middletown.
- Fifth-generation home builder Greg MacPherson of North Smithfield was contracted to build these homes to some of the highest standards of energy efficiency and building performance.
- Final certifications include RNC Program Tier 3, EPA ENERGY STAR Homes, DOE Zero Energy Ready Homes, and EPA Indoor Air Plus.
- The project was part of the Zero Energy for the Ocean State (ZEOS) demonstration program - a collaborative effort created to scale zero energy building in the low- and moderate-income residential sector.

- The plans and specifications were intentionally designed to be simple to follow and easily replicable.
- These homes feature <1 ACH50 air leakage, 33.1 SEER/13.49 HSPF Ductless Mini Split Heat Pumps, 3.45 EF Heat Pump Water Heaters, ERVs and ENERGY STAR rated appliances.
- These homes achieved HERS 31 and 32, and 40% savings over the RNC Program baseline.
- As part of CCHC's community land trust program, these homes will be affordable to low- and moderate-income homebuyers for generations to come.



Pictured: Cottrell Farms, Middletown

Q3 Project - Wood Soup Way, South Kingstown

- Wood Soup Way is a single-family residence in South Kingstown designed for maximum energy efficiency, health, comfort, durability, resiliency, and efficient use of materials.

- With a HERS Score of 35, the project has achieved DOE’s Zero Energy Ready Homes Certification.
- With savings of 65.9%, this home has one of the highest efficiency vs RNC Program baseline ratings to date.
- Project highlights:
 - The thermal enclosure includes:
 - R20 under the slab and against the interior of the foundation walls
 - R43 double-stud wall construction with dense pack cellulose
 - Triple pane tilt-turn style windows ranging from U.15 to U.19
 - R96 ceilings with loose-fill cellulose
 - The home achieved a measured airtightness of 0.56 ACH₅₀ which significantly increases energy efficiency and discourages water vapor and pollutants from moving through assemblies resulting in a healthy, more durable environment.
 - A highly efficient ERV ventilation system distributes filtered fresh air and removes stale air from the entire home 24/7.
 - Properly sized and installed air source heat pumps provide heating and cooling.
 - Hot water is supplied by a heat pump hot water heater which also helps with dehumidification in the basement.
 - All electric Energy Star appliances and an EV charging station provide the finishing touches for a home that is designed and constructed for the future of the 21st century.
- In comparison with the current Rhode Island Energy Conservation Code, this home reduces heating annual consumption by approximately 90% and total consumption by approximately 84%.



Pictured: Wood Soup Way, South Kingstown



Pictured: Wood Soup Way, South Kingstown

Income Eligible Services (IES)

The Rhode Island Energy Income Eligible Services program achieved 18,736 net lifetime MWh of electric savings (77.8% of the lifetime goal) and 82,898 net lifetime MMBtu of gas savings (49.0% of the lifetime goal) through the third quarter of 2023.

In Q3, the Company focused on the appliance replacement process and worked with the appliance oversight vendor to make sure customers were served and that invoicing was completed, which has resulted in an increase in productivity in this area.

Income Eligible Services has been involved in the transition of Moderate Income weatherization moving from a self-attestation process to income verification with the completion of RGGI funding. The new income verification vendor has indicated that many customers who they verify fall within the low-income rate income bracket. Those customers are then moved over to the CAP agencies so they can be entered on the RI Energy discount rate. What the Company has learned is that only 13% of the customers are then eligible for LIHEAP and subsequently the Rhode Island Energy discount rate. Customers are then moved back to the moderate-income program. For the customer, the interactions are seamless, but there will be additional discussion with the CAP agencies and the income verification vendor to determine why the initial list of customers do not qualify for LIHEAP services.

As the Company plans to transition to a more comprehensive assessment in 2024, the Lead Vendor has been working with DHS to arrange training that will upskill Tier 1, the basic appliance management program (AMP) assessment, program specialists to the comprehensive audit. DHS has funding available for this training and a contractor focused on training. Since the Company is relying on DHS for the weatherization and heating systems training, the timeline will be dependent on the state agency.

Challenges and Responses

RI DHS just completed a third-party comprehensive audit of all energy specialists participating in the WAP/IES program commissioned by the US Department of Energy. DHS used this opportunity to identify training needs based on the outcome. The audit has delayed planned training with RI Builders Association and Residential Construction Weatherization Program to upskill AMP energy specialists to comprehensive auditors.

Customer Highlight

“I’m sure my mother will see a big difference this winter with the professional insulation job performed by Eddy’s Insulation!” William, Cranston.

EnergyWise Single Family

The EnergyWise Single Family program achieved 5,354 net lifetime MWh of electric savings (31.6% of the lifetime goal) and 194,576 net lifetime MMBtu of gas savings (39.7% of the lifetime goal) through the third quarter of 2023.

The EnergyWise program conducted 3,066 home energy assessments and completed 1,116 weatherization projects in the third quarter.

Activities of interest include:

- The lead vendor hired two new Energy Specialists in the third quarter.
- The lead vendor conducted four Heat Pump Concierge visits in the third quarter.
- Two Heat Pump Concierge projects were sold in the third quarter and are scheduled for installation in the fourth quarter.
- Three Energy Specialists also received additional BPI Certifications including one Building Analyst and two BPI Proctor certifications.
- Moderate Income verification portal with Incline has processed 268 income qualification applications.
- The lead vendor participated in three Green & Healthy Homes working group meetings during the course of the third quarter.

Challenges and Responses

Demand for Home Energy Assessments was somewhat volatile in the third quarter, the uptake of weatherization projects and electric savings continues to lag. The downturn is likely due to ongoing inflationary pressures that are making customers reluctant to take on costs associated with weatherization projects and the change in the lighting offer for 2023.

In response, six targeted e-mail campaigns were undertaken in the third quarter, as well as a series of enhanced incentives including a limited time offer of an additional \$200 made to customers to assist with their co-pay: increasing the standard incentive from 50% to 75% and a 100% incentive for electrically heated homes.

Customer Highlights

Customer feedback themes from the HEA include:

- Many customers commented on the professionalism and technical knowledge exhibited by the auditor who conducted their HEA.

- Customer comments about the HEA include:
 - “Excellent way to promote energy efficiency”
 - “The company you used for the work was the BEST!!! VERY PROFESSIONAL!! Neat explained everything.”

Customer feedback themes from weatherization contractors included:

- Many customers had strong praise for their contractors and Rise Engineering as well as the Energy Wise program as a whole.
- Customer comments about the Program include:
 - “Great program. Good communication from RISE and contractors.”
 - “They did a great job and I am happy with the insulation and everything RISE did!”

EnergyWise Multifamily, Income Eligible Multifamily, C&I Multifamily

Colony House Apartments - Providence

Income Eligible heating and domestic hot water boiler project. Installed two 1754 MBH boilers for and one 725MBH DHW boiler for a 101-unit income eligible apartment complex. The project included the removal and replacement of the DHW hot water pumps, heat circulator pumps valves and expansion tanks, and in-unit programmable thermostats. The gas incentive for this project was \$290,290 and the estimated savings are 182,600 net lifetime therms and electric incentive of \$35,161 with an estimated 263,430 net lifetime kWh saved.

Regency Plaza Apartments – Providence

Standard income water source heat pumps, variable frequency drives, wall and pipe insulation project. Disconnected and removed one 250-ton chiller and 2 30-ton air-cooled winter chillers and installed new water source heat pumps. Installed 4,700 sq ft of 3.5" exterior wall insulation behind the HVAC enclosures and 3,800 sq ft of 1/2" foil-faced polyisocyanurate continuous insulation. Installed approximately 258' of 4", 3", 2.5" and 2" heat pipe insulation in the mechanical rooms. And furnish and installed four variable speed drive pumps. The electrical incentive for this project was \$110,463 with an estimated 1,171,500 net lifetime kWh savings, and the gas incentive was \$69,675.92 with an estimated 113,098 net lifetime therms savings.

Shadow Farm Condos - Wakefield

Standard income weatherization project. Installed attic insulation, duct sealing, attic air sealing, basement sill insulation, and programmable thermostats to participating units. In order to complete the attic weatherization, it was necessary to vent some bathrooms fans to the exterior. The gas incentive for this project was \$31,967 with an estimated 28,560 net lifetime therms savings.

Challenges and Responses

The lead vendor heat pump team reported that the high cost of site power upgrades (sites that currently have insufficient power) has hampered some electrification projects from moving forward.

Workforce Development

Members of the lead vendor heat pump team participated in the following trainings:

- Galetti heat pump chiller seminar
- Manufacture heat pump training at Mitsubishi
- BPI seminar for heat pump water heaters

ENERGYSTAR® HVAC (Heating and Cooling)

The ENERGYSTAR® HVAC (Heating and Cooling) program achieved 63,661 net lifetime MWh of electric savings (89.6% of the lifetime annual goal) and 202,271 net lifetime MMBtu of gas savings (39.2% of the lifetime goal) through the third quarter of 2023.

Q3 HVAC Contractor Trainings

A total of 17 trainings and events were held during the third quarter

- The HVAC Program offers several types of live virtual and on-site HVAC Check testing trainings and training modules
 - AC Check
 - MS Check (specifically for mini splits)
 - HVAC Check (which includes both MS Check and AC Check)
 - During Q3 the HVAC Program delivered 10 MS Check trainings
- The HVAC Program offers right sizing training
 - Manual D – Duct Design
 - Manual J – Load Calculations
 - During Q3 the HVAC Program delivered one Manual D and one Manual J training
- The HVAC Program offers Introduction to Heat Pump presentations
 - These are intended for a broad audience, including builders, contractors, homeowners, architects and building inspectors
 - They are aimed at raising general awareness of heat pump technology, understanding the importance of sizing, duct design and proper installation, and sharing best practices for operation

- These were delivered in partnership with Rhode Island Energy’s Codes and Standards Program
 - During Q3 the HVAC Program delivered 4 Introduction to Heat Pump presentations
- The HVAC Program offers training on System Design for Zero Energy Homes
 - This training was developed specifically to help project design teams, including HVAC contractors, understand the challenges with designing, selecting, and installing heat pumps in homes with very low loads
 - During Q3 this training was delivered through Rhode Island Energy’s Residential New Construction Program in partnership with the Rhode Island Builders Association’s Contractor Training Program
- 11 trainings were held via live webinar
- 6 trainings were held in person at the following locations:
 - The Granite Group, Lincoln
 - PuroClean, Providence
 - Rhode Island Building Officials Association, East Greenwich
 - Arnold Lumber, Wakefield
 - CLEAResult, Providence
 - Restivo’s Heating & Air, Johnston
- The HVAC Program Vendor has a working 9,000 btu ductless mini split on a Quik Sling portable stand available for training purposes in their Providence office
 - This equipment has been particularly valuable as a follow up to the virtual HVAC Check trainings and as refresher trainings for techs already active within the program

Q3 HVAC Check Testing

The Program Vendor actively reaches out to HVAC contractors to encourage them to perform HVAC Check testing on both new systems and existing systems during preventative maintenance visits to ensure proper operation

- HVAC Check testing can only be performed in warmer weather months and Q3 is typically the busiest season
- In Q3 HVAC contractors performed 331 HVAC Check tests
- Q3 HVAC contractor feedback on HVAC Check testing
 - ***“This procedure adjusting the refrigerant charge and efficiency of the mini splits in my opinion works great and leaves the customer with a system working the way it was designed. Well done!”*** – BR, 38 years of RI Master Refrigeration license experience.

Q3 HVAC Enhanced Rebate Quality Control Inspections

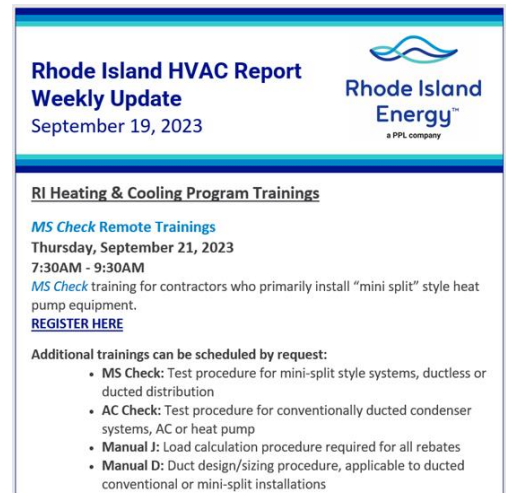
The HVAC Program Vendor regularly performs Quality Control (QC) inspections of rebate eligible equipment

- These inspections verify equipment eligibility and provide an opportunity to connect with residents to determine how well their systems are operating, and to share best practices for successful operation
- In Q3 75 QC inspections were performed on recently installed heat pumps that qualified for Enhanced Rebates

Q3 Weekly HVAC Contractor Newsletter

The HVAC Program Vendor prepares and distributes a weekly HVAC Program newsletter for 650+ HVAC companies, contractors, technicians, distributors, trade allies and other industry stakeholders.

- Q3 topics included:
 - Links to 2023 Rebate Forms
 - Links to upcoming HVAC Check trainings
 - Links to updated HVAC Check Test Forms
 - Industry best practices for successful installation and operation
 - FAQs on the transition from RGGI funded incentives for oil/propane displacement to Clean Heat RI
 - Availability of program support in Spanish



Q3 HVAC Program Highlights

MTTI Career Trade School Training <https://mtti.edu/programs/hvacr-technician/>

- In July the HVAC Program Vendor provided two sessions of evening trainings for 17 technicians at MTTI to satisfy their Journeyman Refrigeration licenses training requirements
 - All are currently employed as Apprentices

- The first session addressed AC Check and Manual D, the second session addressed MS Check and Manual J
- This was delivered in partnership with HVAC Program Participating Contractor Lawrence Air Systems Inc.
- Training feedback
 - ***“Thank you, Charlie! You’ve got these guys fired up to get out there and apply what they learned.”*** – JL, Lawrence Air Systems, Inc.

Q3 High Efficiency Gas Program Support

The HVAC Program Vendor continued to promote Rhode Island Energy’s high efficiency gas rebates to distributors, gas equipment factory representatives, and contractors through the weekly newsletter

Q3 HVAC Program Challenges

The HVAC Program continued to handle changes with the introduction of new equipment SEER2 and HSPF2 standards

- DOE released new standards effective January 1, 2023, for rating the efficiency of heat pumps
- Existing systems need to be tested and re-rated but can continue to be sold under previous standards through 2024
- There is now a mix of SEER/HSPF and SEER2/HSPF2 rated equipment in the marketplace, with different AHRI numbers, creating challenges for verifying rebate eligibility
- To ease the transition the HVAC Program is accepting both ratings in 2023
 - SEER2/HSPF2 standards equivalent to current SEER/HSPF HVAC Program standards are incorporated into the current rebate offering
- Feedback from distributors in Q3 indicates a significant volume of equipment has not yet been re-rated, which would put pressure on supply availability should the HVAC Program decide to switch to only accepting re-rated (SEER2/HSPF2) equipment beginning in January 2024.

In 2022 DOE released new ENERGY STAR 6.1 Cold Climate certification standards for heat pumps

- Qualifying systems must be rated under the new DOE guidelines (SEER2/HSPF2) and some system types have a higher minimum efficiency level than required currently by the HVAC Program


- Surrounding states such as MA and CT intend to incentivize only ENERGY STAR 6.1 certified systems beginning in 2024
- Demand for systems that are both rated to the new SEER2/HSPF2 standards AND meet the ENERGY STAR 6.1 standards will increase within the region which could put pressure on supply, resulting in challenges with meeting demand and HVAC Program goals
- The HVAC Program is considering allowing 2024 to be a transition year so manufacturers, distributors and contractors can adjust to both changes and avoid potential disruption to the supply of rebate eligible equipment in Rhode Island.

RGGI funded oil/propane displacement incentives offered through Rhode Island Energy ended in Q3

- Clean Heat RI, a new program offered by the RI Office of Energy Resources launched on September 1, now supports fossil fuel displacement
- The HVAC Program provided contractors and customers with information about the transition through weekly newsletters and website updates, which included FAQs and links to Clean Heat RI

The HVAC Program is actively encouraging contractors and customers to apply for incentives from both Rhode Island Energy and Clean Heat RI.

Special HVAC Announcement:
Clean Heat RI Launch



New Rebates Available for High Efficiency Heat Pumps

The Rhode Island Office of Energy Resources recently announced the launch of **Clean Heat RI**, offering rebates for high efficiency heat pumps that displace existing oil/propane/natural gas heating. These rebates are offered in addition to rebates currently being offered by Rhode Island Energy and must be applied for separately.

[Click here to see the press release.](#)

Important Information Regarding Rhode Island Energy's Oil/Propane Displacement Rebates

With the launch of Clean Heat RI, the enhanced rebates and financing for oil/propane displacement will no longer be offered through Rhode Island Energy. Customers and contractors can continue to apply for standard rebates from Rhode Island Energy for these systems and are now encouraged to apply for additional enhanced rebates from Clean Heat RI.

For more details about the transition, including important rebate submission deadlines, [please click here.](#)

Updated Oil/Propane Displacement Form with updated submission deadlines [here.](#)

Rhode Island Energy will continue to offer [standard rebates](#) for qualifying high efficiency heat pumps, as well as [enhanced rebates](#) and [0% financing](#) through the Heat Loan program for electric resistance heat displacement. We look forward to our continued partnership.

Residential Consumer Products

The Residential Consumer Products program achieved 11,869 net lifetime MWh of electric savings (37.5% of the lifetime goal) through the third quarter of 2023.

Recycling:

The Energy Star Products dehumidifier recycling events, through the end of the 3rd quarter, have already exceeded last year's record of 1,093 dehumidifiers recycled (13 events).

Thus far, Rhode Island Energy’s recycling program has already collected 1,344 old and inefficient dehumidifiers at 12 events. In Westerly a single event record was set on September 2nd with 241 dehumidifiers collected and recycled. RI Energy will finish up the year with two more events scheduled on October 21st and October 28th.

Customers continue to be delighted with the service provided by the events sponsored by Rhode Island Energy. During the event customers are also provided with materials covering other programs as well as appliance incentives.

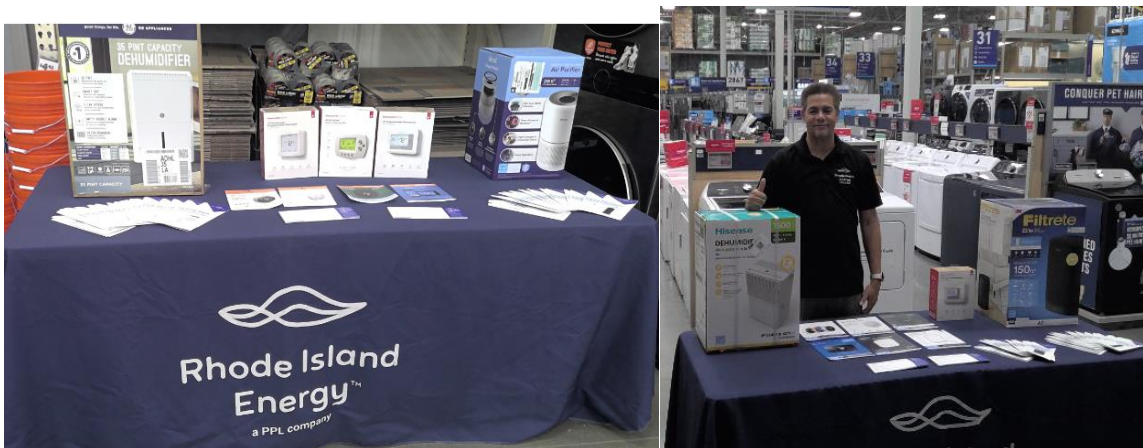
[The Home Dept: Westerly, Rhode Island 09/02/2023](#)



Consumer Education:

The lead vendor continues to promote the energy efficient products offered under the Rhode Island Energy program by staffing educational tables at Big Box Retailers such as Lowe’s, Home Depot, and Walmart. These informal events provide an opportunity for RIE customers to ask questions and gain information about a broad range of energy efficiency programs.

Below is a lead vendor staff member supporting an educational table at Home Depot in Coventry and Lowe’s, North Providence.



Promoting Energy Star “Most Efficient” (ESME) Products:

Building off the progress of the midstream offering at Home Depot, Rhode Island Energy along with lead vendor, have been working closely with Lowe’s and have executed a Memorandum of Understanding to offer the midstream program at the five (5) Lowe’s stores in RI. This program is expected to be up and running within the 4th quarter of 2023. With point of purchase materials in place to guide the consumer to these products, RI Energy is expecting a very positive response from retailers to stock Most Efficient equipment leading customers to make a better choice.

In addition, RI Energy is looking to add two new products, room ACs and dehumidifiers, to this offering in early 2024. These exciting new program offerings will make it easy for the consumer to select and purchase Energy Star Most Efficient appliances at the retail level.



Home Energy Reports (HER)

The Home Energy Reports (HER) program achieved 19,494 net lifetime MWh of electric savings (80.1% of the lifetime annual goal) and 81,908 net lifetime MMBtu of gas savings (89.4% of the lifetime goal) through the third quarter of 2023.

In July, Home Energy Reports featured air purifiers. August reports promoted smart thermostats and September messaging focused on home energy assessments.

Clear the air this summer with great rebates on air purifiers



Whether your family fights allergies or you just want to breathe cleaner, healthier air in your home, now is the time to buy a new air purifier. This month only, we're giving you an additional \$10 off our normal \$40 rebate on qualifying air purifiers. That's \$50 back in your pocket, and cleaner air in your home. Visit the Rhode Island Energy Marketplace below to shop for your purifier today.

[Explore Marketplace](#)

Save more this summer with a smart thermostat



When the temperature rises, you can make small changes for big savings! One is simply raising your thermostat by 5-8°F while you're away or asleep to reduce energy use and save money. Smart thermostats can even do this for you automatically. That's why we're offering savings on some of the latest models at the Rhode Island Energy Marketplace—start shopping today!

[Shop the marketplace](#)

Get a no-cost Home Energy Assessment



Your home could be full of hidden savings—a Home Energy Assessment will find them for you. During your appointment, one of our energy experts will lay out a personalized savings plan for your home. Save up to 75% or more on approved insulation (up to \$4,000) and no-cost air sealing.

[Sign up today](#)

Rhode Island Code & Standards Technical Support Initiative (CSTS) Quarterly Report - Quarter 3, 2023

Overview of Trainings

Q3 Trainings

- 11 training events with 236 attendees were held during the third quarter
 - 9 residential trainings, with 150 attendees
 - 2 commercial trainings, with 86 attendees

Q3 Training Topics

- Residential
 - Introduction to Heat Pumps*
 - Insulation and Wallboards
 - Advanced Framing
 - Residential Energy Code Update – 2024 IECC
 - Zero Energy Homes
 - MSHP Design for Low Load Homes - Warwick Case Study*
- Commercial
 - Commercial Solar for Building Inspectors
 - Commercial Energy Code Update – What’s Coming

*Delivered in partnership with the HVAC Program

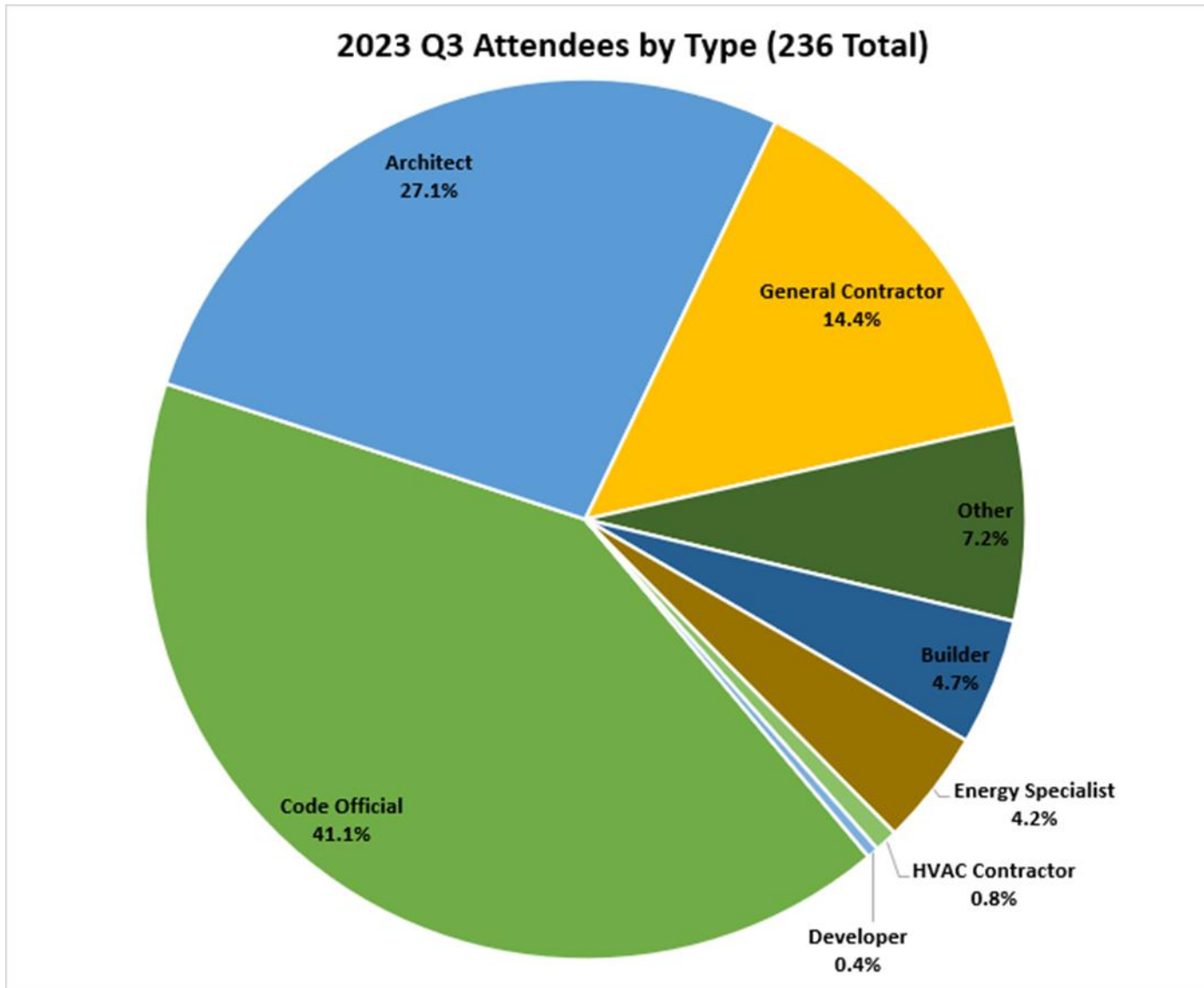
Q3 Training Locations

Some trainings continue to be delivered virtually, particularly those in partnership with AIA-RI, RIBA, and the RI Association of Realtors, who integrate these trainings into the education curriculum for their members

6 trainings were held in person (55%)

- In person training locations
 - RIBOA, Fireman’s’ Hall, East Greenwich
 - Puro Clean, Providence
 - Arnold Lumber, Wakefield
 - New England Institute of Technology, East Greenwich
 - Library, Tiverton
 - Town Hall, Lincoln

Q3 Training Participants



Q3 Industry Stakeholder Partnership Support, Engagement & Training Highlights

Rhode Island Builders Association (RIBA)

The CSTS Vendor continued to partner with RIBA to deliver energy code trainings as part of their Contractor Training & Development Program

- Q3 topics
 - July: Insulation & Wallboards
 - August: MSHP Design for Low Load Homes - Warwick Case Study
 - September: Advanced Framing
- These trainings are approved for RI Contractor Registration & Licensing Board CEUs

The CSTS Vendor continued to submit articles for RIBA's monthly magazine during the quarter

- Topics included:
 - Balanced Ventilation
 - Value of HERS Ratings
 - Zero Energy Home, Charlestown

American Institute of Architects - Rhode Island (AIA-RI)

CSTS continued to partner with AIA-RI to offer AIA accredited trainings as part of their monthly Continuing Education virtual Lunch and Learn series

- Q3 topics
 - July: Commercial Energy Code Update – What's Coming
 - August: Introduction to Heat Pumps

Rhode Island Building Officials Association

CSTS continued to partner with RIBOA to offer trainings as part of their membership's training curriculum

- CSTS held an Introduction to Heat Pumps training during Q3 as part of their July Association meeting in East Greenwich

Arnold Lumber Trainings

- In August CSTS held an event at Arnold Lumber with presentations from several of Rhode Island Energy's Programs.
- The HVAC Program presented on Air Source Heat Pumps, CSTS presented on the status and content of the next energy code and the Residential New Construction Program, in partnership with Steve DeMetrick from DeMetrick Housewrights, presented on Zero Energy Homes



- ***“Everyone involved should be commended! This was an excellently planned, executed, communicated and cleaned-up event. Thank you for all the professionalism from A-Z”.*** AJ, Arnold Lumber Company

New England Institute of Technology Commercial Solar Training

- In August CSTS coordinated an event for the Rhode Island Building Code Commission to provide building officials and code inspectors with training on commercial solar installations
 - The training was held at New England Institute of Technology in partnership with the RI Office of Energy Resources, Rhode Island Commerce and Ridgeline Energy Analytics
- ***“Thanks to all for making this event happen. Much appreciated”*** JC, Building Code Commission

2024 IECC Trainings

To help prepare the industry for the anticipated adoption of 2024 IECC in Rhode Island next year CSTS developed a training outlining the content currently being reviewed and finalized by the International Code Council.

- 2 trainings were held in Q3
 - Lincoln Town Hall
 - Tiverton Library


CSTS Updates, Challenges & Solutions

Code Update – Moving from 2018 IECC with RI Amendments to 2024 IECC

- 2021 IECC was under committee review for adoption as the next base code in Rhode Island
 - However, new legislature now requires the state to adopt 2024 IECC, without weakening amendments
 - RI General Assembly passed H6101/S0855 Sub A: <http://webserver.rilegislature.gov/BillText/BillText23/SenateText23/S0855A.pdf>
 - The building commissioner indicated they will consider forgoing adoption of the 2021 IECC and move straight to 2024 IECC once it has been published
- 2024 IECC will likely be published and adopted in Rhode Island by mid-2024
 - The weakening residential amendments, which have been in place since the state’s adoption of 2012 IECC in 2013, will finally be removed
 - The removal of these amendments, as well as the adoption of the new base code, will result in a steep learning curve for the industry
- CSTS is working closely with key industry stakeholders including the Building Commissioner and RIBA to support the transition
- In advance of adoption, CSTS developed new presentations to prepare the industry for significant changes in the residential energy code, including how designers, builders, and contractors will need to comply with 2024 IECC, as well as changes for code inspectors to verify compliance
- CSTS began delivering these new trainings in Q3 with more scheduled in Q4

CLEAResult®

RI Energy Code Events



Rhode Island Energy™
a PPL company

Free Residential 2024 IECC Update Training

The Rhode Island House of Representatives just passed [H6101/S0855 Sub A](#) which requires the state to adopt the [2024 IECC](#) within 3 months of publication. The 2024 IECC, which is currently under review by the ICC Consensus Committees, contains significant changes for Rhode Island. The presentations listed below will provide an overview of anticipated changes to the residential energy code and what to expect in advance of official publication.

This course will identify significant changes from the current [RI-SBC 8](#) to the [2024 IECC](#).

Date and Time	Location	How to Register
Thursday, September 21 10:30 AM - 3:00 PM	Tiverton Library 34 Roosevelt Ave, Tiverton, RI	Register HERE
Thursday, September 28 10:00 AM - 2:00 PM	Lincoln Town Hall 100 Old River Rd, Lincoln, RI	Register HERE
Tuesday, October 10 10:00 AM - 2:00 PM	Taco Comfort Solutions 1160 Cranston St, Cranston, RI	Register HERE
Tuesday, November 14 10:00 AM - 2:00 PM	Taco Comfort Solutions 1160 Cranston St, Cranston, RI	Register HERE

Additional Free Trainings

Air Source Heat Pumps - Virtual Lunch and Learn

Wednesday, September 20
12:00 PM - 1:00 PM [Register HERE](#)

This session will provide an overview of Air Source Heat Pumps, including how proper sizing, installation and operation can affect the indoor air quality along with the occupants' health and wellbeing.



Pictured above: 2024 IECC Training at Tiverton Library

Large Commercial New Construction

The Large Commercial New Construction program achieved 40,489 net lifetime MWh of electric savings (25.7% of goal) and 587,650 net lifetime MMBtu of gas savings (82.0% of goal) through the third quarter of 2023.

There are currently 76 active projects in Q3 2023, of which 35 leads we are working to obtain more information for project qualification.

- **76 Active Projects**

1. **43 of 76 project represent 4,817,087 SF** of building space
 - § 43 projects waiting on building size details
2. **50 of 76 have a TA Study “in progress”**
3. **35 of 76 “TBD”** for Program Pathway
4. **15 of 76 “Path 1/Path 2”**
 - § 9 of 15 Path 1/ZNE/low-EUI
5. **24 of 76 Path 3/Path/non-EUI**
6. **7** have applications in tech review (i.e., est. incentive and “uncommitted”)

Challenges and Responses

1. Limited technical resources - Timely tech reviews and tech rep engagement with TA vendor and lack of experience with TR for NC type projects and understanding of incremental costs as it pertains to whole buildings versus by measure
2. Limited bandwidth for TA Vendors to take on new projects

Large Commercial Retrofit

The Large Commercial Retrofit program achieved 102,602 net lifetime MWh of electric savings (41.9% of goal) and 179,578 net lifetime MMBtu of gas savings (17.7% of goal) through the third quarter of 2022.

Industrial Initiative

A manufacturer of dispensing systems underwent a major renovation. Prior to the renovation the facility consisted of (1) 100 HP fixed speed air compressor (load /no load) and (1) 75 HP VSD rotary screw air compressor providing compressed air to the mold injection machines. These two compressors operated in lead lag based on the plant CFM demand. There were two 400 CFM non-cycling refrigerated air dryers, one for each compressor to handle the compressed air. The customer is installing new compressors to increase plant productivity and meet increased

product demand. The entire 100 HP air compressor system and the corresponding air dryer will be removed. The customer operates 24/7 throughout the year (8,400 hrs) with 2 weeks of maintenance shutdowns and holidays. Energy savings are realized from the improved air compressor efficiency, better part load operation of the new VSD compressor compared with the baseline compressor (load/no load) and improved dryer operation.

EnergySmart Grocer Initiative

A grocery store chain initiated on Monitoring Based Commissioning (“MBCx”) energy efficiency improvements in four stores located in Cranston, Barrington, Wakefield, and Middletown. The work is being staged in two “phases”, with the first phase occurring in Q3 2023 and the second phase planned for 2024. Total project savings are estimated at approximately 270,000 kWh.

The Aerofoil measure was installed at three big-box retail stores located in Warwick and Smithfield, thereby reducing air infiltration on open refrigerator cases and reducing the volume of refrigerated air escaping from the case. While refrigerator case doors are more efficient, the retailer was unwilling to introduce a barrier between customers and the retailer’s products. Total projects savings are estimated at approximately 17,000 kWh and 1,000 therms.



Strategic Energy Management Partnerships (SEMP)

In Q3, the Company renewed Strategic Energy Management Partnership Memorandums of Understanding with the State of Rhode Island and a large University customer, extending the partnership for an additional three more years.

Small Business Direct Install

The Small Business Direct Install (SBDI) program achieved 20,692 net lifetime MWh of electric savings (30% of goal) and 22,419 lifetime MMBtu of gas savings (17% of goal) through the second quarter of 2023.

Enhanced reporting

To show progress on priority initiatives, the Company is reporting the number of weatherization projects and LED retrofit kits and luminaires (with and without controls).

There were 4 gas weatherization projects in Q2 2023, leveraging RGGI funds provided by OER to supplement the system benefits charge (SBC) funds to enhance customer economics for these projects.

The table below shows the number of luminaires and retrofit kits with controls for 2020, 2021, 2022 and through Q3 of 2023.

Period	Luminaires	Luminaires with controls	Retrofit kits	Retrofit kits with controls
2020	13,032	149	17,260	450
2021	12,804	246	15,932	908
2022	9,918	2,256	8,675	856
2023	5079	231	3763	328

Project Highlights

The Central Falls Main Street Event resulted in 29 audits of which 20 converted to projects. Most of these projects were minority owned micro-businesses, resulting in an incentive spend of almost \$66k and net KWH savings of 84,951.

A florist shop in East Providence installed reach-in glass door heaters and upgraded the store's lighting. The total project cost was approximately \$9,500 with gross annual savings of approximately 10,000 kWh per year.

Challenges and Responses

RISE alleviated labor and material shortages in Q3 by contracting with new sub-contractors and distributors and have caught up with the backlog with all projects signed in Q3 expected to be installed by end of year. Also, a new Energy Specialist local to RI with energy and weatherization experience was hired and has completed seven audits after two weeks of rigorous training.

Evaluation, Measurement, and Verification

Many studies were completed in the third quarter including the Small Business Process Evaluation, Comprehensive Measure Life Review, Impact Evaluation of PY 2021 Custom Gas Installations, Impact Evaluation of PY2021 Custom Electric Installations, Participant Study Dashboard Update, EnergyWise PY2021 Impact Evaluation Study, and Commercial Cooking Gas and Electric Impact Evaluation. Study results were incorporated into the annual plan and three-year plan, where applicable.

The *Small Business Process Evaluation* assessed program activities and identified opportunities for program enhancement. The evaluation found that participants are satisfied with their program experience and sought to improve the efficiency of their spaces. Nonparticipants face barriers such as the cost of upgrades, especially for leased spaces, but are interested in comprehensive upgrades like weatherization and HVAC. RIE is adopting several of the recommendations from the evaluation including deploying strategies to expand the effectiveness of the Main Street initiatives and expand marketing and collateral tools to support a range of communications and promotion of measure packages.

The *Comprehensive Measure Life Review Study* ensured all measure life assumptions for prescriptive measures aligned with recent research and evaluation efforts in RI as well as industry standard practice. The study consisted of a prioritization of measures based on lifetime savings to determine which measure lives and measure life sources to review. The study recommended new measure life sources and values for 22 measure groups and new measure life sources for 6 measure groups, which results in an approximately 0.3% increase in lifetime savings across all fuels and sectors.

The *Impact Evaluation of PY2021 Custom Gas Installations* provided verification of energy (therms) savings for a sample of custom gas projects through site-specific inspections, end-use monitoring, and analysis. RIE adopted the recommendation of the three-year rolling realization rate (RR) of 84.4% to be applied for custom gas measures excluding steam traps.

The *Impact Evaluation of PY2021 Custom Electric Installations* provided verification of energy (kWh) savings for a sample of custom electric projects through site-specific inspections, end-use monitoring, and analysis. RIE adopted the results of the study which includes 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 to be applied to the appropriate custom electric measures.

The *Participant Study Dashboard Update* added 2021-2022 program data to the already existing participation dashboard that previously only included 2016-2020 data. This update kept the tool relevant for planning purposes and additional user experience filter improvements were added including seasonal consumption data, length of residency, flagging for solar customers, and building program participation history.

The *EnergyWise PY2021 Impact Evaluation Study* evaluated the weatherization energy impacts associated with primary heating fuel, and when relevant, secondary heating, cooling, and furnace fan usage. The study found higher weatherization savings for participants that heat their home with natural gas or a delivered fuel and slightly lower savings for participants who electrically heat their home compared to the 2017-2018 evaluation. The study also observed a small decrease in participants' use of secondary electric heating sources post weatherization.

The *Commercial Cooking Gas and Electric Impact Evaluation* characterized industry standard practice (ISP) in RI for commercial kitchen equipment by incorporating the 2023 Appliance Standards and the prevalence of used equipment in the marketplace. The study developed weighted baseline adjustments based on the prevalence of used equipment in the marketplace for commercial fryers, ovens, steam cookers, hot food cabinets, and dishwashers.

A few studies remain in progress at the end of the quarter; an asterisk indicates studies currently expected to be completed by the end of the fourth quarter:

- Small Business Process Evaluation
- C&I New Construction Baseline Study
- Automated RTU Optimization Demonstration Evaluation
- Impact Evaluation of Program Year (PY) 2021 Custom Gas Installations
- Impact Evaluation of PY2021 Custom Electric Installations
- Comprehensive Measure Life Review
- Participant Study Dashboard Update
- EnergyWise PY2021 Impact Evaluation Study
- Commercial and Industrial Free Ridership and Spillover Study*
- Commercial Cooking Gas and Electric Impact Evaluation

The Company will provide further updates on these studies throughout 2023.

ConnectedSolutions

ConnectedSolutions for Batteries

Over 680 residential batteries are enrolled in the ConnectedSolutions Program. The ConnectedSolutions battery program offers homeowners a way to get paid for doing their part in reducing peak energy use, reduce air pollution, and lower electricity costs. This summer season saw 28 events. Events took place between 4pm and 8pm, during which RIE activated customer batteries for up to 3 hours. The incentive payment depends on the average rate of discharge of the energy storage system during the entire season of peak time events. The payment is currently set at \$400 per kilowatt (kW). We are in the process of analyzing customer performance data to calculate demand response curtailment and customer incentives.

ConnectedSolutions for Thermostats

Over 10,000 residential thermostats are enrolled in the ConnectedSolutions Program. The ConnectedSolutions thermostat program allows homeowners to enroll and earn annual payments based on participation in several annual peak events. During the events, RIE remotely controls customer thermostats by adjusting the temperature by a few degrees to reduce energy consumption. All events are for 3 hours between 4pm and 8pm. Some thermostats allow for “pre-cooling” to the home on event days so that when usage of the grid is at its highest point, it can turn cooling set point up a few degrees and reduce the need for grid energy during the critical evening peak demand period. The program operates during the summer months, and enrolled thermostats must be connected to central air conditioning systems. Over the course of 18 events this summer, these customers delivered on average 6.9MW of active demand response curtailment.

ConnectedSolutions for Commercial and Industrial (C&I) Customers

Nearly 140 C&I customers are enrolled in the ConnectedSolutions Program. Participating in the Commercial ConnectedSolutions program allows large customers and businesses to receive an annual incentive for reducing their energy usage during the highest peak load hours of the summer. Participation in ConnectedSolutions events helps reduce emissions, infrastructure costs, and utility prices. C&I customers may opt to participate in either the Daily Dispatch or Targeted Dispatch programs, or they may participate in both (dual enrollment). Of the enrolled ConnectedSolutions customers, 10 participate in Daily Dispatch only, 84 participate in Targeted Dispatch only, and 45 participate in both options. All dispatched events took place between 4pm and 8pm. Daily Dispatch events lasted 2-3 hours, and customers will receive \$300/kW of average reduced load. Targeted Dispatch events lasted 3 hours, and customers will receive \$40/kW of average reduced load. There were 25 Daily Dispatch events, 3 Targeted Dispatch events, and 3 combined Daily + Targeted Dispatch events this season for a total of 31 C&I ConnectedSolutions events. We are currently processing customer interval data to analyze the average load reduced per event and payout customer incentives.

Demonstrations, Pilots, Assessments

PDA Name		Q1-Q3 2023 Updates
<u>Final Gas Appliances - Assessment - Resi</u>	Date	8/7/2023
	Stage	Final
	Recent Activity	Study report finalized.
	Next steps	Apply study results to program design
<u>Gas DR - Pilot - C&I</u>	Date	11/6/2023
	Stage	Demonstrate
	Recent Activity	Analyzed winter program performance

	Next steps	Prepare for Winter 2023-24
<u>Gas Leak Survey - Demonstration - C&I</u>	Date	5/9/2023
	Stage	Demonstrate
	Recent Activity	Working with vendors to determine savings calculation assumptions and post-verification procedures.
	Next steps	Test post verification procedures at sites.
<u>Rightsizing RTUs - Assessment - C&I</u>	Date	5/5/2023
	Stage	Plan
	Recent Activity	Completed assessment, which ID'd strategies for RTU right-sizing
	Next steps	Integrate strategies into program design and implementation
<u>Automated RTU Optimization - Demonstration - C&I</u>	Date	11/6/23
	Stage	Demonstrate
	Recent Activity	Measured winter performance
	Next steps	Measure summer performance
<u>Commercial Weatherization - Assessment - C&I</u>	Date	5/5/2023
	Stage	Demonstrate
	Recent Activity	Completed Wx Training with Vendors, gathering feedback and research ongoing for offering development
	Next steps	Develop Express Tool
<u>Air Curtains - Demonstration - C&I</u>	Date	1/26/2023
	Stage	Qualify
	Recent Activity	Opted to develop measure offering, in line with MA PA's.
	Next steps	Collaborate with MA develop program offering and develop go-to-market plan
<u>Smart Valves for Chilled Water Systems - Demonstration - C&I</u>	Date	7/28/2023
	Stage	Plan
	Recent Activity	Final reported submitted
	Next steps	Review report and develop plan on next steps

Rhode Island Energy Third Quarter Equity Update

Rhode Island Energy will continue tracking and reporting the following 2022 Equity metrics and activities in Q4 of 2023:

- Assessment and Weatherization participation by town
- Single family participation in EnergyWise and Income Eligible Services programs by town
- EnergyWise and Income Eligible Services single family owner versus renter information
- Energy Efficiency outreach and education with community organizations

Please refer to the RIE Energy Efficiency Q2 2023 report for the latest metrics updates.

The Equity Working Group (EWG), hosted jointly by Rhode Island Energy and the Office of Energy Resources, and coordinated by the Green & Healthy Homes Initiative, met three times throughout the third quarter.

- **Meeting 1:** presentation from RIE on Q2 equity updates, discussions around improving outreach strategies and identifying potential community partners; RISE Engineering presentation on EnergyWise participation barriers; EERMC C-Team presentation on equity-related priorities for RIE's 2024-2026 Three Year Energy Efficiency Plan
- **Meeting 2:** presentation from RIE on Residential Equity Outreach Assessment proposed in 2024 Annual Plan; National Grid presentation on MA Energy Efficiency Workforce Development efforts; discussion on EWG's draft recommendations for the Company to consider
- **Meeting 3:** In-depth review of the EWG's recommendations for the Company; RIE presentation on its initial response to and assessment of the recommendations

These meetings resulted in fourteen key equity-related recommendation across six distinct categories for the Company to focus on in 2024:

1. **Participation barriers:** Increase participation rates from residents living in the 5 Equity Communities across the EnergyWise and IES Programs
2. **Participation barriers:** Offer Home Energy Assessments (HEAs) in at least 4 languages other than English with the resulting Home Energy Reports translated in the household's primary spoken language by the end of 2024
3. **Multifamily barriers:** Increase participation rates among EnergyWise Multifamily and Income Eligible Multifamily Programs statewide, with a focus on the 5 Equity Communities and/or Justice 40/EJ Communities
4. **Multifamily barriers:** Increased focus on renter-specific resources, including but not limited to information on what is available for renters and renter-friendly DIY home improvements. While noted that it can be difficult to distinguish who is a renter or owner at the property level, the Company should investigate ways to better track this
5. **Weatherization deferrals:** Close the gap in the Conversion to Weatherization ratio between EnergyWise and IES programs by XX% over the next XX months

6. **Weatherization deferrals:** Continue to leverage and provide additional funding for pre-weatherization barrier remediation
7. **Weatherization deferrals:** Engage with the new State Department of Housing, cities/towns code officers, and/or housing courts. Better coordination between agencies can potentially address the pre-Wx issue
8. **Workforce Development/Training:** Increase the % of BIPOC workforce training participants and contractors that reside in the 5 Equity Communities (or Justice 40/EJ Communities) year over year by XX%
9. **Workforce Development/Training:** Increase # of and capacity of minority contractors by XX% in 2024 (create multi-year targets)
10. **Workforce Development/Training:** Increase the # and size of contracts awarded to MWBEs who conduct energy audits and weatherization services by XX% in 2024
11. **Microbusinesses and Small Businesses:** Leverage findings from the 2023 Small Business Process Evaluation to improve program strategy
12. **Microbusinesses and Small Businesses:** Conduct Main Street efforts in all five communities identified in the 2024-2026 EE Plan Narrative
13. **Microbusinesses and Small Businesses:** Develop translated program materials, as suggested in the SBDI Process Evaluation
14. **Metrics Tracking/Reporting:** Through Q4 2023, work with the RI EWG and the Company to come to an agreement on 2024 metrics and targets the Company can commit to tracking and achieving

RHODE ISLAND ENERGY ENERGY-EFFICIENCY PROGRAMS IN RHODE ISLAND

Table 1: Summary of Electric 2023 Target and Preliminary 3rd Quarter Results

ELECTRIC PROGRAMS Sector and Program	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(18)	(13)	(14)	(15)	(19)	(16)	(17)
	Demand Reduction (Annual kW)			Energy Savings (Annual MWh)			Customer Participation			Expenses (\$ 000)				Energy Savings (Lifetime MWh)				\$/Lifetime kWh	
	Target	Year To Date	Pct Achieved	Target	Year To Date	Pct Achieved	Target	Year To Date	Pct Achieved	Budget	Year To Date	Pct Achieved	Year End Forecast	Target	Year to Date	Pct Achieved	Year End Forecast	Target \$/kWh	Year to Date
Commercial and Industrial																			
Large Commercial New Construction	1,306	326	24.9%	10,481	2,786	26.6%	45	22	49.2%	\$ 8,269.2	\$ 2,332.2	28.2%	78.6%	157,598	40,489	25.7%	78.8%	\$ 0.052	\$ 0.058
Large Commercial Retrofit	6,143	2,107	34.3%	35,260	14,076	39.9%	2,142	1,853	86.5%	\$ 22,176.2	\$ 6,148.7	27.7%	81.6%	244,962	102,602	41.9%	101.9%	\$ 0.091	\$ 0.060
Small Business Direct Install	708	422	59.6%	9,260	2,731	29.5%	339	195	57.5%	\$ 7,552.2	\$ 1,778.5	23.5%	99.1%	57,778	20,056	34.7%	109.0%	\$ 0.131	\$ 0.089
Commercial Connected Solutions										\$ 5,666.8	\$ 416.1	7.3%	144.8%						
Community Based Initiatives - C&I										\$ 93.5	\$ 9.9	10.6%	100.0%						
Financing										\$ 2,000.0	\$ -	0.0%	100.0%						
Commercial Workforce Development										\$ 157.5	\$ 9.3	5.9%	100.0%						
SUBTOTAL	8,157	2,855	35.0%	55,001	19,592	35.6%	2,525	2,070	82.0%	\$ 45,915.5	\$ 10,694.7	23.3%	92.6%	460,338	163,147	35.4%	94.9%	\$ 0.100	\$ 0.066
Income Eligible Residential																			
Single Family - Income Eligible Services	367	268	73.0%	2,539	1,532	60.4%	3,111	3,427	110.1%	\$ 11,843.2	\$ 7,641.7	64.5%	92.9%	24,080	18,736	77.8%	100.0%	\$ 0.492	\$ 0.408
Income Eligible Multifamily	90	1	1.1%	1,298	8	0.6%	2,786	0	0.0%	\$ 3,335.8	\$ 180.1	5.4%	71.9%	17,632	21	0.1%	65.2%	\$ 0.189	\$ 8.581
SUBTOTAL	457	269	58.9%	3,837	1,540	40.1%	5,897	3,427	58.1%	\$ 15,179.0	\$ 7,821.7	51.5%	88.3%	41,712	18,757	45.0%	85.3%	\$ 0.364	\$ 0.417
Non-Income Eligible Residential																			
Residential New Construction	16	43	275.9%	689	206	29.8%	410	237	57.9%	\$ 1,592.0	\$ 702.6	44.1%	95.0%	13,144	4,800	36.5%	85.0%	\$ 0.121	\$ 0.146
ENERGY STAR® HVAC	640	129	20.2%	4,175	3,642	87.2%	6,371	2,827	44.4%	\$ 5,340.8	\$ 2,954.7	55.3%	95.0%	71,055	63,661	89.6%	140.0%	\$ 0.075	\$ 0.046
EnergyWise	466	165	35.3%	3,147	998	31.7%	9,465	6,372	67.3%	\$ 15,585.3	\$ 6,637.9	42.6%	100.0%	16,940	5,354	31.6%	83.0%	\$ 0.920	\$ 1.240
EnergyWise Multifamily	108	28	25.6%	680	125	18.4%	1,744	51	2.9%	\$ 1,341.2	\$ 401.5	29.9%	60.4%	9,493	887	9.3%	65.3%	\$ 0.141	\$ 0.453
Residential Consumer Products	885	388	43.9%	4,473	1,737	38.8%	26,274	19,474	74.1%	\$ 2,489.1	\$ 1,300.9	52.3%	100.0%	31,684	11,869	37.5%	45.0%	\$ 0.079	\$ 0.110
Home Energy Reports	3,348	2,680	80.1%	24,350	19,494	80.1%	276,390	244,296	88.4%	\$ 2,145.8	\$ 1,487.3	69.3%	100.0%	24,350	19,494	80.1%	80.1%	\$ 0.088	\$ 0.076
Residential Connected Solutions										\$ 1,963.1	\$ 1,154.5	58.8%	77.4%						
Energy Efficiency Education Programs										\$ -	\$ -	0.0%	0.0%						
Community Based Initiatives - Residential										\$ 280.6	\$ -	0.0%	0.0%						
Comprehensive Marketing - Residential										\$ 310.5	\$ 266.4	85.8%	100.0%						
SUBTOTAL	5,462	3,433	62.9%	37,513	26,201	69.8%	320,654	273,257	85.2%	\$ 31,048.3	\$ 14,905.8	48.0%	94.8%	166,665	106,065	63.6%	98.8%	\$ 0.186	\$ 0.141
Regulatory																			
EERMC										\$ 594.3	\$ 217.5	36.6%	100.0%						
OER										\$ 891.4	\$ 764.9	85.8%	100.0%						
RI Infrastructure Bank										\$ 3,737.5	\$ 2,801.3	75.0%	100.0%						
SUBTOTAL										\$ 5,223.2	\$ 3,783.6	72.4%	100.0%						
TOTAL	14,076	6,557	46.6%	96,351	47,334	49.1%	329,076	278,754	84.7%	\$ 97,365.9	\$ 37,205.8	38.2%	93.1%	668,715	287,969	43.1%	95.3%	\$ 0.146	\$ 0.129

NOTES

- (1)(4)(7) Targets from Docket 22-33-EE - Attachment 5, Table E-7, Refiled January 23, 2023.
 - (3) Pct Achieved is Column (2)/ Column (1).
 - (6) Pct Achieved is Column (5)/ Column (4).
 - (7) Participation was planned and is reported in 'net' terms which takes into account free-ridership and spillover.
 - (9) Pct Achieved is Column (8)/ Column (7).
 - (10) Approved Implementation Budget from Docket 22-33-EE, Attachment 5 Table E-3 (electric), Refiled January 23, 2023.
 - (11) Year To Date Expenses include Implementation expenses.
 - (12) Pct Achieved is Column (11)/ Column (10).
 - (16) Planned \$/lifetime MWh from Docket 22-33-EE - Attachment 5, Table E-5, Refiled January 23, 2023 - adjusted to reflect format of quarterly report. Program Implementation Expenses/lifetime kWh.
 - (17) \$/lifetime kWh = Column (11)/Column (14)
 - (18) (19) Year End Spending and Energy Savings forecasts are best estimates based on the information available and may change throughout the year.
- Values in quarterly reports are preliminary and subject to change. Data is finalized in the Year-End Report.

RHODE ISLAND ENERGY EFFICIENCY PROGRAMS IN RHODE ISLAND
Table 2: Summary of Gas 2023 Target and Preliminary 3rd Quarter Results

GAS PROGRAMS	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(16)	(10)	(11)	(12)	(17)	(13)	(14)	(15)
	Energy Savings (Annual MMBtu)			Customer Participation			Expenses (\$ 000)				Energy Savings (Lifetime MMBtu)				\$/Lifetime MMBtu		Peak Hour Gas Demand Savings (MMBtu)
Sector and Program	Target	Year To Date	Pct Achieved	Target	Year To Date	Pct Achieved	Budget	Year To Date	Pct Achieved	Year End Forecast	Planned	Year To Date	Pct Achieved	Year End Forecast	Planned	Year to Date	Year to Date
Commercial and Industrial																	
Large Commercial New Construction	48,823	48,408	99.1%	62	9	15.0%	\$ 2,818.7	\$ 2,436.0	86.4%	131.6%	716,705	587,650	82.0%	84.1%	\$ 3.93	\$ 4.15	24.20
Large Commercial Retrofit	94,766	18,196	19.2%	59	34	57.5%	\$ 4,639.6	\$ 846.1	18.2%	70.2%	1,016,519	179,578	17.7%	102.6%	\$ 4.56	\$ 4.71	9.10
Small Business Direct Install	9,723	1,130	11.6%	146	21	14.3%	\$ 689.8	\$ 122.0	17.7%	87.1%	130,193	22,252	17.1%	92.2%	\$ 5.30	\$ 5.48	0.56
Commercial & Industrial Multifamily	4,249	6	0.1%	488	1	0.2%	\$ 891.2	\$ 65.2	7.3%	85.0%	64,645	83	0.1%	85.1%	\$ 13.79	\$ -	0.00
Commercial Pilots							\$ -	\$ -	0.0%	0.0%							
Community Based Initiatives - C&I							\$ 31.2	\$ 3.5	11.1%	100.0%							
Commercial Workforce Development							\$ 67.5	\$ 3.6	5.3%	100.0%							
SUBTOTAL	157,561	67,739	43.0%	755	65	8.6%	\$ 9,138.0	\$ 3,476.4	38.0%	92.2%	1,928,063	789,563	41.0%	94.4%	\$ 4.74	\$ 4.40	33.87
Income Eligible Residential																	
Single Family - Income Eligible Services	8,230	4,145	50.4%	797	409	51.3%	\$ 5,429.0	\$ 2,754.2	50.7%	73.7%	169,180	82,898	49.0%	71.5%	\$ 32.09	\$ 33.22	2.07
Income Eligible Multifamily	11,075	123	1.1%	2,742	172	6.3%	\$ 3,215.4	\$ 94.3	2.9%	102.6%	172,464	1,854	1.1%	102.6%	\$ 18.64	\$ 50.85	0.06
SUBTOTAL	19,305	4,268	22.1%	3,539	581	16.4%	\$ 8,644.4	\$ 2,848.5	33.0%	84.4%	341,644	84,752	24.8%	87.2%	\$ 25.30	\$ 33.61	2.13
Non-Income Eligible Residential																	
EnergyWise	20,697	8,447	40.8%	1,716	1,351	78.8%	\$ 9,873.1	\$ 2,581.6	26.1%	90.0%	490,013	194,576	39.7%	100.0%	\$ 20.15	\$ 13.27	4.22
Energy Star® HVAC	27,030	10,231	37.8%	2,904	1,146	39.4%	\$ 3,586.9	\$ 1,495.9	41.7%	82.0%	517,571	202,721	39.2%	77.0%	\$ 6.93	\$ 7.38	5.12
EnergyWise Multifamily	5,358	272	5.1%	3,453	21	0.6%	\$ 1,485.4	\$ 146.6	9.9%	44.8%	110,428	6,236	5.6%	45.3%	\$ 13.45	\$ 23.51	0.14
Home Energy Reports	91,640	81,765	89.2%	130,585	134,131	102.7%	\$ 360.5	\$ 248.8	69.0%	100.0%	91,640	81,908	89.4%	96.5%	\$ 3.93	\$ 3.04	40.88
Residential New Construction	3,287	811	24.7%	460	85	18.5%	\$ 621.5	\$ 373.9	60.2%	100.0%	58,476	19,165	32.8%	85.0%	\$ 10.63	\$ 19.51	0.41
Comprehensive Marketing - Residential							\$ 69.1	\$ 54.4	78.7%	100.0%							
Community Based Initiatives - Residential							\$ 93.5	\$ -	0.0%	0.0%							
SUBTOTAL	148,013	101,526	68.6%	139,117	136,734	98.3%	\$ 16,090.0	\$ 4,901.1	30.5%	84.2%	1,268,128	504,605	39.8%	84.9%	\$ 12.69	\$ 9.71	50.76
Regulatory																	
EERMC							\$ 396.9	\$ 145.0	36.5%	100.0%							
OER							\$ 595.3	\$ 375.4	63.1%	100.0%							
RI Infrastructure Bank							\$ 1,262.5	\$ 948.8	75.1%	100.0%							
SUBTOTAL							\$ 2,254.7	\$ 1,469.2	65.2%	100.0%							
TOTAL	324,879	173,532	53.4%	143,411	137,379	95.8%	\$ 36,127.1	\$ 12,695.1	35.1%	87.2%	3,537,835	1,378,920	39.0%	90.3%	\$ 10.21	\$ 9.21	86.77

NOTES

- (1)(4) Targets from Docket 22-33-EE- Attachment 6, Table G-7, Refiled January 23, 2023.
 - (3) Pct Achieved is Column (2)/ Column (1).
 - (4) Participation was planned and is reported in 'net' terms which takes into account free-ridership and spillover.
 - (6) Pct Achieved is Column (5)/ Column (4).
 - (7) Approved Implementation Budget from Docket 22-33-EE, Attachment 6 Table G-3, Refiled January 23, 2023.
 - (8) Year To Date Expenses include Implementation expenses.
 - (9) Pct Achieved is Column (8)/ Column (7).
 - (13) Planned \$/lifetime MMBtu from Docket 22-33-EE- Attachment 6, Table G-5, Refiled January 23, 2023 - adjusted to reflect format of quarterly report. Program Implementation Expenses/lifetime MMBtu.
 - (14) \$/lifetime MMBtu = Column (8)*1000/Column (11)
 - (15) Peak Hour Gas Demand Savings is a test metric in 2022 and represents a rough approximation of peak-hour gas demand impacts. Column(2) *0.01 *0.05
 - (16) (17) Year End Spending and Energy Savings forecasts are best estimates based on the information available and may change throughout the year.
- Values in quarterly reports are preliminary and subject to change. Data is finalized in the Year-End Report.

RHODE ISLAND ENERGY ELECTRIC ENERGY EFFICIENCY PROGRAMS IN RHODE ISLAND
Table 3: Rhode Island Energy 2023 Revolving Loan Funds

Large C&I Electric Revolving Loan Fund

Small Business Electric Revolving Loan Fund

<u>Income Statement</u>		<u>Income Statement</u>	
(1) 2023 Funds Available	\$10,419,391	(1) 2023 Funds Available	\$3,328,586
(2) 2023 Loan budget	\$14,000,000	(2) 2023 Loan budget	\$1,500,000
(3) Committed	\$2,343,191	(3) Committed	\$457,742
(4) Paid	\$2,843,711	(4) Paid	\$457,742
(5) Repayments	\$5,649,483	(5) Repayments	\$734,194
(6) Available 9/30/23	\$10,881,972	(6) Available 9/30/23	\$3,147,296
(7) Outstanding loan volume	\$12,082,073	(7) Outstanding loan volume	\$376,443
(8) Loan defaults during period (\$)	\$0	(8) Loan defaults during period (\$)	\$0
(9) Arrears over 120 days at period end (\$)	\$24,550	(9) Arrears over 120 days at period end (\$)	\$19,865
<u>Program Impact</u>		<u>Program Impact</u>	
(10) Number of loans	55	(10b) Participants	273
(10b) Participants	45	(11) Annual Savings (Gross MWh)	3,425
(11) Annual Savings (Gross MWh)	4,391	(12) Annual Savings (Net MWh)	2,731
(12) Annual Savings (Net MWh)	3,392	(13) Lifetime Savings (Gross MWh)	26,277
(13) Lifetime Savings (Gross MWh)	33,550	(14) Lifetime Savings (Net MWh)	20,056
(14) Lifetime Savings (Net MWh)	25,503	(15) Annual Savings (Gross kW)	577
(15) Annual Savings (Gross kW)	573	(16) Annual Saving (Net kW)	422
(16) Annual Saving (Net kW)	455	(17) Total associated incentive volume (\$)	\$1,263,543
(17) Total associated incentive volume (\$)	\$1,391,204	(18) Total annual estimated energy cost savings (\$)	\$483,318
(18) Total annual estimated energy cost savings (\$)	\$600,384		

Rhode Island Public Energy Partnership (RI PEP)

<u>Income Statement</u>	
(1) 2023 Funds Available	\$54,162
(2) 2023 Loan budget	\$0
(3) Committed	\$0
(4) Paid	\$0
(4a) Funds Returned to OER	\$0
(5) Repayments	\$0
(6) Available 9/30/23	\$54,162
(7) Outstanding loan volume	\$0
(8) Loan defaults during period (\$)	0
(9) Arrears over 120 days at period end (\$)	\$0
<u>Program Impact</u>	
(10) Number of loans	0
(10b) Participants	0
(11) Annual Savings (Gross MWh)	0
(12) Annual Savings (Net MWh)	0
(13) Lifetime Savings (Gross MWh)	0
(14) Lifetime Savings (Net MWh)	0
(15) Annual Savings (Gross kW)	0
(16) Annual Saving (Net kW)	0
(17) Total associated incentive volume (\$)	\$0
(18) Total annual estimated energy cost savings (\$)	\$0

Notes

- 1 Amount available as of January 1, 2023. Includes line (6) "Available 12/31/22" plus line (3) "Committed" in Table E-6 and G-6 of the 2022 Year End Report.
- 2 Budget adopted by Sales Team for 2023 operations. Budget includes projections of repayments made during 2023.
- 3 As of September 30, 2023.
- 4 As of September 30, 2023. This includes all projects paid through September 30, 2023 and the OBR associated with those projects. OBR payment are processed once the associated incentive has been paid, usually in batches.
- 4a Funds returned to RI OER.
- 5 As of September 30, 2023. This includes all projects paid through September 30, 2023 and the OBR associated with those projects. OBR payments are processed once the
- 6 Fund balance as of September 30, 2023. Committed funds are subtracted from this amount.
- 7 Total outstanding loan balance. Loans lent out that still need to be paid back. This includes loans from previous years.
- 8 Total loan value in default during period.
- 9 Total loan value in arrears for over 120 days as of September 30, 2023.
- 10 As of September 30, 2023
- Unique customer names for large business (one customer name can have multiple sub accounts as is in the case of a franchise). Customer accounts used for small business
- 10b (not adjusted for net-to-gross).
- 11 As of September 30, 2023
- 12 As of September 30, 2023
- 13 As of September 30, 2023
- 14 As of September 30, 2023
- 15 As of September 30, 2023
- 16 As of September 30, 2023
- 17 Incentives paid out with loans.
- 18 Estimated energy cost savings to loan fund participants.

Values in quarterly reports are preliminary and subject to change. Data is finalized in the Year-End Report.

RHODE ISLAND ENERGY GAS ENERGY EFFICIENCY PROGRAMS IN RHODE ISLAND
Table 4: Rhode Island Energy 2023 Revolving Loan Funds

Large C&I Gas Revolving Loan Fund

<u>Income Statement</u>		
(1)	2023 Funds Available	\$591,417
(2)	2023 Loan budget	\$2,500,000
(3)	Committed	\$391,104
(4)	Paid	\$107,841
(5)	Repayments	\$530,417
(6)	Available 9/30/23	\$622,890
(7)	Outstanding loan volume	\$1,130,521
(8)	Loan defaults during period (\$)	\$0
(9)	Arrears over 120 days at period end (\$)	\$53,433
<u>Program Impact</u>		
(10)	Number of loans	17
(10b)	Participants	13
(11)	Annual Savings (Gross MMBtu)	1,025
(12)	Annual Savings (Net MMBtu)	968
(13)	Lifetime Savings (Gross MMBtu)	74,337
(14)	Lifetime Savings (Net MMBtu)	103,867
(15)	Total associated incentive volume (\$)	\$323,180
(16)	Total annual estimated energy cost savings (\$)	\$19,846

Notes

- 1 Amount available as of January 1, 2023. Includes line (6) "Available 12/31/22" plus line (3) "Committed" in Table E-6 and G-6 of the 2022 Year End Report.
- 2 Budget adopted by Sales Team for 2023 operations. Budget includes projections of repayments made during 2023.
- 3 As of September 30, 2023. This includes all project paid through March 31, 2023 and the OBR associated with those projects. OBR payment are processed once the associated incentive has been paid usually in batches.
- 4 As of September 30, 2023. This includes all project paid through September 30, 2023 and the OBR associated with those projects. OBR payment are processed once the associated incentive has been paid usually in batches.
- 5 As of September 30, 2023
- 6 Fund balance as of September 30, 2023. Committed funds are subtracted from this amount.
- 7 Total outstanding loan balance. Loans lent out that still need to be paid back. This includes loans from previous years.
- 8 Total loan value in default during period.
- 9 Total loan value in arrears for over 120 days as of September 30, 2023.
- 10 As of September 30, 2023
- 10b Unique customer names for large business (one customer name can have multiple sub accounts as is in the case of a franchise).
- 11 As of September 30, 2023
- 12 As of September 30, 2023
- 13 As of September 30, 2023
- 14 As of September 30, 2023
- 15 Incentives paid out with loans.
- 16 Estimated energy cost savings to loan fund participants.

Values in quarterly reports are preliminary and subject to change. Data is finalized in the Year-End Report.

Table 2: Summary **Table 5**
Rhode Island Energy
2023 Test Metrics
Carbon Reduction¹

	CO2 (Electricity)	CO2 (Natural Gas)	CO2 (Oil)	CO2 (Propane)	CO2 (Total)
Residential	10,009	5,939	830	48	16,827
Income Eligible	588	250	350	16	1,204
C&I	7,484	3,963	(96)	-	11,351
Total	18,081	10,152	1,085	64	29,382

NOTES

¹ Carbon emissions values are from AESC 2021, Appendix G Table 159.

Values in quarterly reports are preliminary and subject to change. Data is finalized in the Year-End Report.