

2023 EERMC Annual Report

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April 2023

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**Rhode Island Energy Efficiency and Resource Management Council
One Capitol Hill, Providence, RI 02908
rieermc.ri.gov**

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2022 ANNUAL REPORT EXECUTIVE SUMMARY

Energy Efficiency is Paying Off for Rhode Islanders



XXX

full-time equivalent jobs in 2021



XXXX

firms delivered energy efficiency services in 2021



X million

metric tons of greenhouse gas emissions prevented over the life of efficiency measures installed in 2021. Equivalent to taking

XXX cars

off the road for one year



\$XXX million

in total benefits achieved by efficiency programs in 2021

2022 Policy Recommendations



Coordinate efficiency programming with Act on Climate mandates



Concentrate support on clean energy workforce development



Encourage and embed equity in energy programming



Continued emphasis and investment in energy program accessibility

The Rhode Island Energy Efficiency & Resource Management Council (EERMC) is a group of stakeholders that represents all Rhode Islanders to ensure the utility is investing in the least expensive energy resource - energy efficiency. Learn more at www.rieermc.ri.gov

LETTER FROM THE CHAIR

To Governor Daniel McKee, Leaders and Members of the General Assembly, and all Rhode Island energy consumers:

The energy landscape around the world continues to change, forcing us all to adapt and find solutions to keep utility costs affordable. Energy efficiency programs, such as weatherization, can help all Rhode Islanders reduce both our energy consumption and our carbon footprint.

My name is Harry Oakley and I am the new chair of the Energy Efficiency and Resource Management Council (EEMRC). As Chair, I intend to elevate the effectiveness and accessibility of Rhode Island's energy efficiency programs, making it easy and convenient for all ratepayers to participate in these opportunities.

As a Rhode Islander, I have committed my career to learning how to navigate and enhance energy efficiency resources that benefit us all, with a focus on equity and energy justice.

In my role as the Director of Energy & Sustainability for Ocean State Job Lot, I also understand the challenges around Small Business and Commercial & Industrial programs, which can help drive major positive change across the state. In partnership with other stakeholders engaged in Rhode Island's energy efficiency programs, including Rhode Island Energy, the EERMC will foster new and more accessible pathways to help both residents and businesses in Rhode Island identify the programming available to them.

I also understand the foundational role energy efficiency needs to play for Rhode Island to meet our commitments under the Act on Climate. For our state to achieve these critical milestones, we need to ensure that all Rhode Islander's benefit from our efficiency programs. To that end, the EERMC has a clear mandate to ensure information on efficiency is widely available. Recently, we developed and published a series of educational videos on our website in support of this responsibility (<https://rieermc.ri.gov/energy-videos/>).

I look forward to navigating the future of energy efficiency in Rhode Island and believe that if we all work together toward these goals, we will be able to achieve them.

In closing, I'd like to thank the EERMC members for their dedication and public service in helping pave the way for a better future for all Rhode Islanders.

Sincerely,

Harry Oakley

Chair, Energy Efficiency and Resource Management Council

LETTER FROM THE EXECUTIVE DIRECTOR

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ABOUT THE EERMC

COUNCIL MEMBERSHIP

The EERMC consists of fourteen members appointed by the Governor with the advice and consent of the Senate. Ten members are voting members with knowledge of energy regulation and law, environmental issues pertaining to energy, energy design and codes, energy efficiency education and employment tracking, and energy users in the following sectors: large commercial and industrial, small commercial and industrial, large non-profit, residential, low income, and municipal. Four members are ex-officio, non-voting members including the Commissioner of the Office of Energy Resources and others representing an electric distribution entity, a gas distribution entity and the fuel oil or heating fuel industry. Members serve voluntarily and meet year-round.

COUNCIL MEMBERS

Harry Oakley, Chair

Voting Member Representing Small Commercial and Industrial Users

Director of Energy, Sustainability, Procurement, & Corporate Facilities, Ocean State Job Lot

Peter Gill Case, Vice Chair

Voting Member Representing Expertise in Energy Design and Code

Principal, Truth Box, Inc.

Sue AnderBois

Voting Member Representing Expertise in Environmental Issues

Climate & Energy Program Manager, The Nature Conservancy

Dave Caldwell

Voting Member Representing Energy Efficiency Education and Employment Tracking

Building Operator Certification Course Manager, CLEARResult

Brett Feldman

Ex-Officio Member Representing Utilities

Manager, Customer Energy Management, Rhode Island Energy

Joe Garlick

Voting Member Representing Small Non-Profit Institutions

Executive Director, NeighborWorks Blackstone River Valley

Kate Grant

Ex-Officio Member Representing Utilities

Rhode Island Regulatory Affairs, Rhode Island Energy

Bob Izzo

Voting Member Representing Large Commercial & Industrial Users

Director, Energy & Utility Management, CVS Health

Christopher Kearns

Ex-Officio Member - Executive Director, EERMC

Interim Commissioner, RI Office of Energy Resources

Thomas Magliocchetti

Voting Member Representing Large Non-Profit Users

Former Vice President, Facilities Management, Rhode Island Hospital

John Santoro

Ex-Officio Member Representing Expertise in

Delivered Fuels

Kurt Teichert

Voting Member Representing Energy Regulation and Law

Senior Lecturer in Environmental Studies, Brown University

Appointment Pending

Voting Member Low Income Users

Appointment Pending

Voting Member Representing Residential Users

Appointment Pending

Voting Member Representing Municipalities

COUNCIL PURPOSE

Maximizing Program Benefits for All Rhode Islanders

The Energy Efficiency and Resource Management Council (EERMC) has been providing an integrated, comprehensive, public, stakeholder-driven organizational structure to secure for Rhode Island's energy consumers the economic and environmental benefits of energy efficiency since the Council's formation in 2006 under amendments to R.I.G.L. § 42-140.1.

In representing small and large businesses, non-profit organizations, homeowners and renters, and municipalities and government, the EERMC oversees highly successful programs that allow Rhode Islanders to access energy efficiency instead of having to purchase more costly energy supply. A valuable outcome of these programs is to also support a growing industry of Rhode Island energy efficiency service and product suppliers, which support local job growth and in-state financial investments.

The effects of energy efficiency in the last decade now cumulatively account for approximately 20% of Rhode Island's electricity needs. Without the cost-effective energy efficiency investments made over time, which cost on average about 5 cents per lifetime kilowatt-hour saved, we would now be paying more than twice that amount to supply that energy.

Rhode Island consumers are the focus of Least Cost Procurement, so ensuring the consumer voice in energy efficiency procurement decisions is critically important. The EERMC, assisted by its expert consultant team, provides meaningful input into the Company's efficiency procurement plans and adds significant stability to investment decisions. The EERMC's model for structured stakeholder participation has been successfully deployed annually in a nationally recognized process to set appropriate targets for energy savings and then establish implementation plans that are equitable, cost-efficient, and cost-effective to maximize benefits for all Rhode Islanders.

Protecting the System Benefits Fund

Energy efficiency is the most cost-effective way to reduce energy use and address climate change in Rhode Island. The funds that enable the implementation of the state's efficiency programs are collected from ratepayers via the System Benefits Charge (SBC) on electric and natural gas bills. Thorough and careful evaluation, planning, and oversight ensure the funds support cost-effective energy efficiency that is less than the cost of supply, as required by the Least Cost Procurement law.

2022 ACHIEVEMENTS AND HIGHLIGHTS

2021 Energy Efficiency Program Results



Total Participants:
820,284



Cost Per Lifetime kWh of Electricity Saved: \$0.064



Utility Program Cost:
\$134.2 million



Cost Per Lifetime MMBTU of Natural Gas Saved: \$6.66



Total Benefits:
\$605.03 million



Electric Savings as a Percent of 2015 Electric Load: 2.54%

NATION LEADING RESULTS

Rhode Island remains a nationally recognized leader in implementing high-quality energy efficiency programs. Since 2009, Rhode Island has consistently ranked among the top 10 states according to the American Council for an Energy Efficient Economy's State Energy (ACEEE) State Scorecard.

In 2021, ACEEE did not complete an official ranking due to impacts of the pandemic. Nonetheless, Rhode Island received recognition in the organization's 2021 Progress Report for progress in appliance and equipment efficiency standards, clean vehicle rules, public transit, finance mechanisms, and electric energy savings.

Energy Efficiency is Paying Off for Rhode Islanders



XXX
full-time equivalent jobs
in 2021



XXX
firms delivered energy efficiency services in 2021



\$XXX million
in total benefits achieved by efficiency programs in 2021



X million
metric tons of greenhouse gas emissions prevented over the life of efficiency measures installed in 2021.
Equivalent to taking **XXX cars** off the road for one year

Rhode Island remains a nationally recognized leader in implementing high-quality energy efficiency programs. Since 2009, Rhode Island has consistently been in the top 10 states ranked by the American Council for an Energy Efficient Economy's (ACEEE) State Energy Scorecard. In 2022, Rhode Island ranked #7 overall, #1 in state-led initiatives, #1 in investment per capita in income eligible programs, and #4 in utility programs. The state also received recognition for its Zero Energy for the Ocean State (ZEOS) program and the Energy Efficiency Equity Working Group.

ENERGY EFFICIENCY AS A RESOURCE

In general, there are two options for meeting the energy needs of consumers, businesses, and institutions: producing energy supply or reducing energy demand. In other words, energy efficiency is capable of displacing energy supply. Because efficiency programs are generally significantly cheaper to implement than acquiring conventional supply (e.g. buying electricity), efficiency is now widely considered to be not only a resource, but often the “first fuel” of choice. Efficiency programs can also defer expensive upgrades to utility infrastructure, improve system reliability, reduce peak demand, and increase energy security.

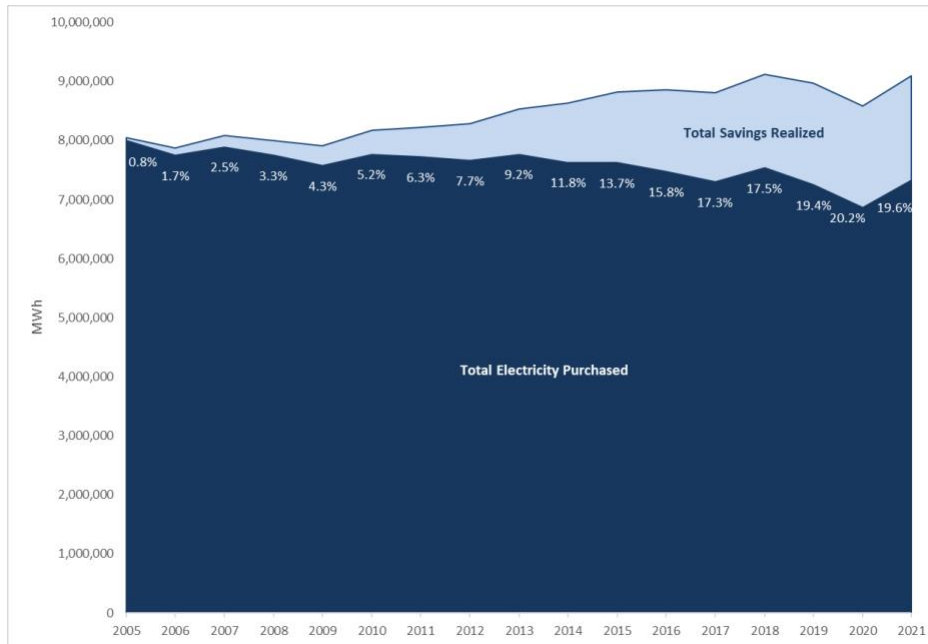


Figure 1. Cumulative Impact of Efficiency Investments on RI Electric Supply Requirements (2005-2022). Percentages represent the percent of load that cumulative electric savings since 2005 are covering.

Since 2005, Rhode Island consumers in the Company’s service territory have purchased over **136,000 GWhs** of electricity. In that same period of time, ratepayer funded energy efficiency programs have saved Rhode Island consumers about **15,400 GWhs** of electricity.

The impact of these savings means that instead of Rhode Island’s electric load being **XX%** higher than it was in 2005, it is actually **XX%** lower. Additionally, because savings persist over the lifetime of the measures installed, the cumulative savings realized in 2022 account for over **XX%** of what the electric load would have been absent the energy efficiency programs.

ACHIEVING EFFICIENCY GOALS

Every three years, the EERMC is required to develop targets for annual electric and natural gas reductions as a result of energy efficiency programs administered by the Company. The targets support the development of the Company’s triennial and annual energy efficiency program plans by providing guidance on potentially available cost-effective efficiency resources in the state.

The EERMC works with its consultant team to conduct in-depth analysis, research, and stakeholder engagement to establish achievable, cost-effective levels of energy efficiency, which are then used to inform proposed energy savings targets. Once approved by the Council, the targets are submitted to the PUC for final review and approval. Once established, the targets are used to guide the development of the ensuing triennial and annual energy efficiency program plans.

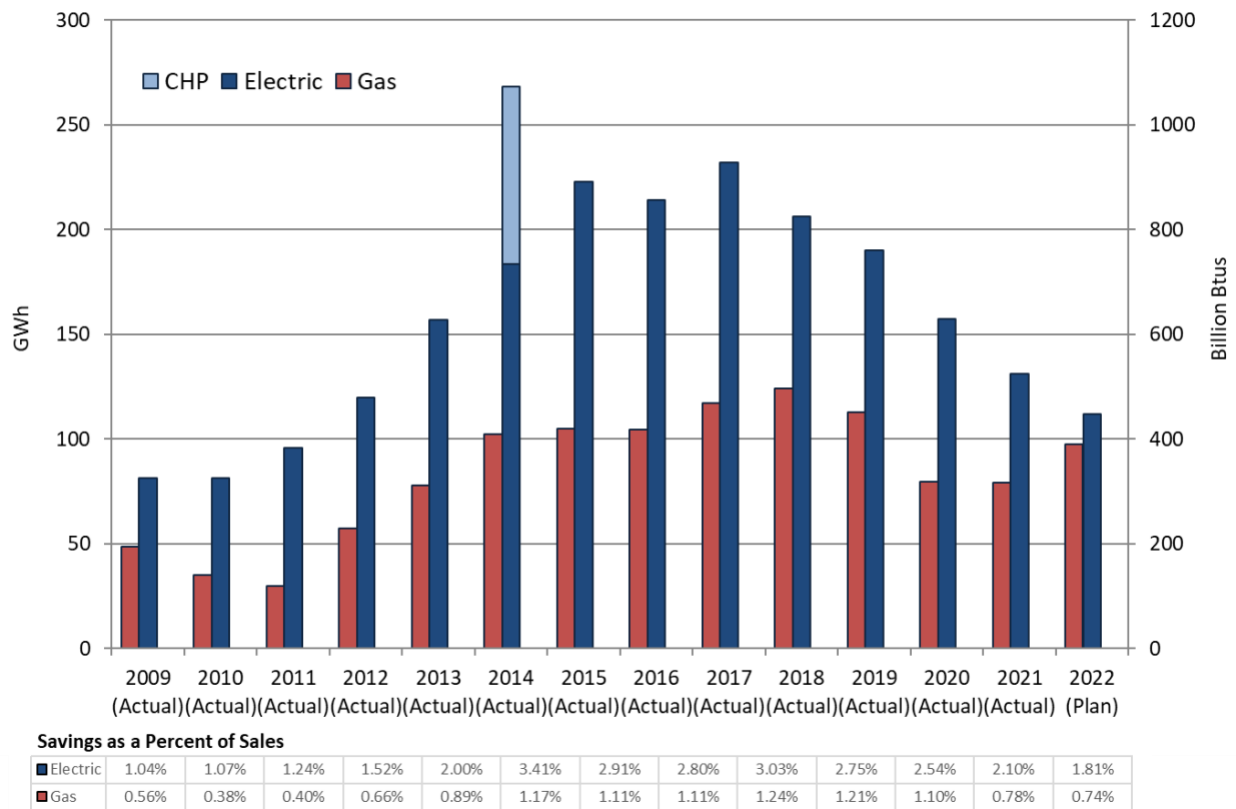


Figure 2. Actual Energy Savings (2009-2022) and Goals (2023). Electric and natural gas energy savings over time shown in annual GWh and Billion Btus, respectively. Savings as a Percent of Sales is based on forecasted sales for 2009-2014 and reference loads thereafter. 2015-2017 is based on the 2012 reference load and 2018-2021 is based on the 2015 reference load. 2021-2023 is based on the 2019 reference load.

Since 2009, Rhode Island’s ratepayer funded energy efficiency programs have provided over **\$4.5 billion** in realized benefits. This compares to total program costs of about **\$1.6 billion**, resulting in a cumulative benefit-cost ratio of **2.8**. Achievement of the 2023 Plan goals will push the total realized benefits to over **\$5.2 billion**.

THE VALUE OF ENERGY EFFICIENCY

Energy efficiency can directly lower energy bills for consumers who participate in programs, but it also has much broader benefits. Efficiency is one of the easiest and most cost-effective ways to reduce energy costs for all consumers, support the local economy, and combat climate change.

When we use less energy, we actually lower energy costs for everyone. By reducing the state's demand for power, for example, we reduce the impact of increasing energy prices, and those savings are passed on to all electric customers. Additionally, using less energy results in less strain on energy generation and distribution infrastructure, which lowers the costs of maintaining and expanding it – costs that the utility passes on to ratepayers. This effect also increases the energy system's reliability and security.

Another important benefit is that, because energy efficiency programs are typically implemented by local workforces, it supports jobs and the economy. Just as importantly, efficiency is a critical tool for addressing climate change and the resulting economic, health, and environmental impacts.

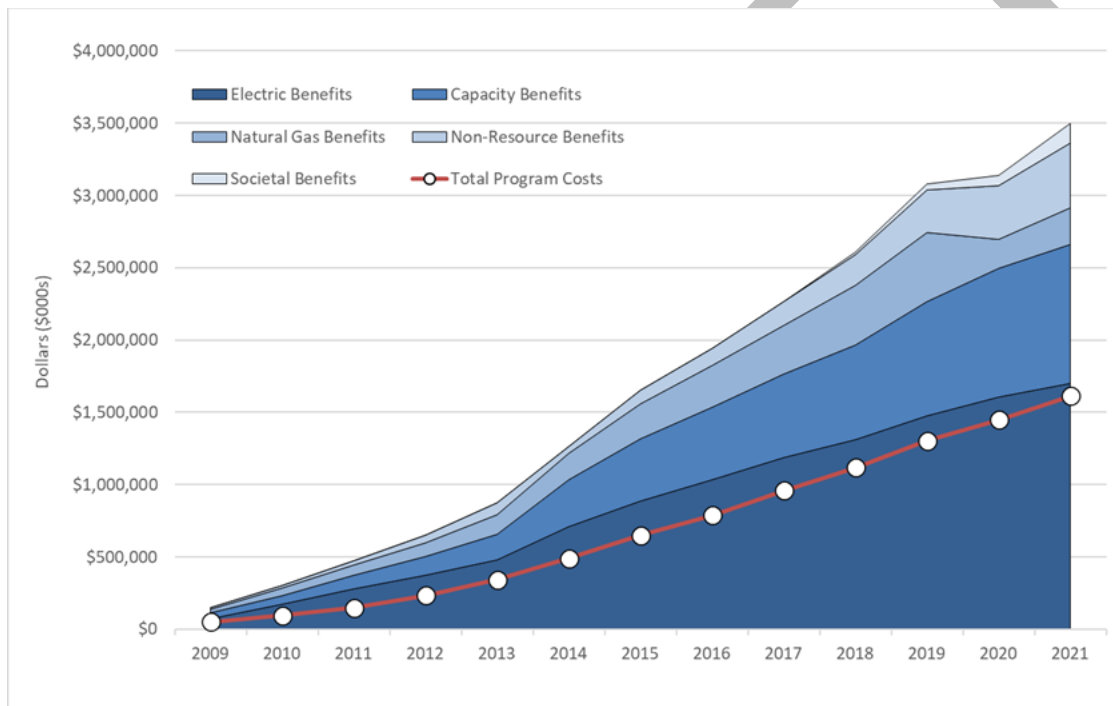


Figure 3. Cumulative Value of Energy Efficiency Program Benefits vs. Costs.

Figure 3 illustrates how these benefits of energy efficiency programs stacked up over time far outweigh the costs of implementation. Electric and Natural Gas benefits represent reduced consumption. Capacity benefits are made up of those benefits from the reduced need to generate, transmit, and distribute electricity and natural gas. Non-resource benefits result from reduction in need for heating fuels such as oil and propane, as well as water and sewer benefits from reduced water consumption. Finally, societal benefits are made up of economic developments that are generated in the local economy, as well as reductions in greenhouse gases.

2023 POLICY RECOMMENDATIONS

R.I.G.L. § 42-140.1-5 requires that the EERMC “(s)ubmit to the joint committee on energy an annual report regarding the activities of the Council, its assessment of energy issues, the status of system reliability, energy efficiency and conservation procurement, and its recommendations regarding any improvements which might be necessary or desirable.” The EERMC submits the following recommendations that will support energy and utility cost reductions for Ocean State residents and businesses; support industry and employment across the state’s clean energy sector; and further Rhode Island’s position as a national leader in energy efficiency and resource conservation.

- 1. INTEGRATE EFFICIENCY PROGRAMMING WITH ACT ON CLIMATE MANDATES:** Energy Efficiency is a key, foundational strategy to achieving the Act on Climate mandates and every effort must be made to coordinate the delivery and expand the programming of our energy efficiency portfolio. The EERMC should be integrated with Act on Climate initiatives to help achieve these Act on Climate mandates.
- 2. CONCENTRATE SUPPORT ON CLEAN ENERGY AND EFFICIENCY WORKFORCE DEVELOPMENT:** A well-trained workforce to install robust energy efficiency measures and modernize heating and transportation equipment will be necessary to achieve the statewide decarbonization goals. Therefore, current efforts by the RI Department of Labor & Training, the Governor’s Workforce Board, and others should be ramped up and focused on training for this work. Where possible, federal funding should be pursued in coordination with existing clean energy programs should be encouraged. Historically marginalized communities may offer unique opportunities to both train new workers in fields ripe for employment growth and to better serve these marginalized communities moving forward. Supporting businesses in disadvantaged communities can create virtuous cycles as these businesses provide services to their neighbors and colleagues.
- 3. CONTINUED EMPHASIS & INVESTMENT IN ENERGY PROGRAM ACCESSIBILITY:** Rhode Island energy efficiency programs should constantly work to ensure that all customers and segments of the market have access to the benefits of energy efficiency savings. There should be a concerted effort to reach those who are economically vulnerable and those who are currently above poverty guidelines but need significant assistance to make efficiency investments. Specifically, continued focus and resources should be placed on implementing strategies and providing new and different customer support mechanisms to realize increased participation in energy efficiency offerings from the Income Eligible and Multifamily sectors. Efficiency improvements in these sectors can have significant impacts on household living expenses and improve quality of life for Rhode Islanders. Increased engagement with the commercial and industrial sector will also help drive emissions and energy reductions in the state.
- 4. EMBED EQUITY IN ENERGY PROGRAMS:** Emphasizing and embedding equity considerations in the design and delivery of all state energy programs is critical to ensuring that all Rhode Islanders receive the maximum possible benefits. Barriers to equitable participation in energy programs must be examined and addressed as priorities. Such barriers, as well as recommendations, are identified in the RI Energy Efficiency Equity Working Group’s 2022 Report and the RI Nonparticipant Market Barriers Study. Particular attention should be paid towards programs that serve under-represented and disenfranchised communities, such as the income-eligible and multifamily energy efficiency programs. Efforts to incorporate the voices and experiences of those most impacted by energy system inequities must continue to be supported and integrated into decision making in order to achieve equitable outcomes.

5. **COORDINATE AND SUPPLEMENT EFFICIENCY PROGRAMMING WITH FEDERAL FUNDING:** With the passing of the historic Bipartisan Infrastructure Law and the Inflation Reduction Act, there is once-in-a-generation investment in energy efficiency, decarbonization, and workforce development. These funding opportunities should be maximized for Rhode Islanders to provide a significant boost to the clean energy economy and expand upon the existing programming in the state.
6. **IDENTIFY AND MAXIMIZE OPPORTUNITIES FOR WEATHERIZATION AND ADDRESSING PRE-WEATHERIZATION BARRIERS:** Weatherization, including improving insulation and air sealing, is an essential component for improving energy efficiency in Rhode Island. Weatherization reduces energy burdens on the energy grid, improves the comfort of homes and buildings for occupants, and saves money for residents and building owners. Pre-weatherization barriers such as health and safety concerns including asbestos, vermiculite, and knob-and-tube wiring, can all prevent weatherization projects from moving forward. These issues are particularly prominent in Rhode Island, which has one of the oldest housing stocks in the nation. Identifying funding and supporting a workforce to address these barriers will be essential for weatherizing homes and buildings in Rhode Island and to help decarbonize the building sector.
7. **ALIGN PROGRAMMING WITH FEDERAL JUSTICE40 EQUITY GUIDELINES:** President Biden’s Executive Order 14008 set a goal that a minimum of 40% of the overall benefits of federal investments flow to disadvantaged communities overburdened by pollution. Aligning state energy programming with this goal can provide a framework for ensuring that disadvantaged and historically marginalized communities are able to access and benefit from state energy programs.
8. **EVALUATE THE STATE’S ENERGY FUTURE:** At the writing of this report, there is a conversation in the state hosted by the Public Utilities Commission exploring analyzing the future of the natural gas distribution system and the EERMC looks forward to reviewing the results of this analysis. The Executive Climate Change Coordinating Council is also developing plans for decarbonizing the statewide economy by 2050. These economy-wide analyses will be critical for guiding the future of the energy systems in Rhode Island. Evaluation and alignment of the delivered fuels sector will also be essential for achieving the mandates of the 2021 Act on Climate.

EERMC PRIORITIES FOR THE 2023 ENERGY EFFICIENCY AND SYSTEM RELIABILITY PROCUREMENT ANNUAL PLANS

As part of its fulfillment of the roles and responsibilities legislated in R.I.G.L. §42-140.1, the Energy Efficiency & Resource Management Council (EERMC or Council) provides the following input and direction in the form of Priorities to support development of the 2024-2026 Three-Year (2024-2026 Plan) and ensuing 2024 Annual Energy Efficiency Program Plans (2024 Plan) for submittal to the RI Public Utilities Commission (PUC) by October 15, 2023 by the Company. The EERMC also has clearly defined responsibilities in the PUC-issued Least Cost Procurement Standards (LCP Standards) to both support the development of the plans and to vote on whether to endorse the plans to the PUC. Should the EERMC vote not to endorse the plans, the EERMC is then directed to document reasons for that decision and submit them to the PUC for its consideration.

Comply with Least Cost Procurement Standards

- The 2024-2026 EE Plans will comply with the LCP Standards, including any updates to the LCP Standards as may be approved by the PUC, which lay out a clear structure and process for achieving the goals of least cost procurement and define the roles and responsibilities for the different program administration and oversight entities, including clear direction for strategy and planning of annual and three-year plans.
- Given the clear, outcome-oriented direction provided in the LCP Standards, the 2024-2026 EE Plans should clearly indicate how each Standard is applied.

Give Due Consideration to Act on Climate

- 2024-2026 EE Plan savings goals will be set consistently with the Act on Climate to ensure EE programs contribute an appropriate share of carbon emissions reductions.
- The Company will reduce investment in fossil fuel heating equipment and increase investment in weatherization.
- The Company will set specific goals for replacing electric resistance heating and hot water equipment with heat pump technologies.

Incorporate Stakeholder Input

- The Priorities indicated by the members of the EE TWG and Equity Working Group will be appropriately reflected throughout the 2024-2026 EE Plans, and that the Company's documentation and response to the proposed Priorities will be presented in a transparent and comprehensive format.
- The Company's proposed customer feedback activities will be sufficiently robust and capture actionable customer-driven input, and it will be appropriately reflected in the 2024-2026 EE Plans, and that the Company's documentation of the activities and their responses to customer input will be presented in a transparent and comprehensive format as a Plan Appendix.

Ensure an Effective and Efficient Development and Review Process

- The Key Deliverables and Schedule developed in collaboration by the EERMC Consultant Team, Rhode Island Energy, and OER, and discussed by the EERMC, will be followed by all relevant parties to assure necessary time is afforded to the EERMC and stakeholders reviewing and reaching a clear understanding of the content of the 2024-2026 EE Plans, sufficient to make informed decisions on whether to endorse the Plan.
- The 2024 Annual EE Plan should include key metrics that will be documented and reported to the EERMC and stakeholders at minimum as part of the standard Quarterly Program Performance Reports. Metrics will be identified through a collaborative process between the EERMC, RI Energy, and other stakeholders. Metrics identified through this process will be defined in the Plans and included in Quarterly Reports.

Set Ambitious Three-Year and Annual Plan Savings Goals

- The Company will set ambitious Three-Year and Annual Plan goals for 2024-2026 that meet EERMC-recommended targets or explain any gaps between the goals and targets, and signal to the industry the intent to grow energy efficiency programs and participation.

Increase Participation in Underserved Communities

- The Company will work with relevant parties to discuss, vet, and if deemed appropriate, propose a performance incentive mechanism that includes a discrete equity component in the performance incentive mechanism, such as a service quality adjustment tied to equity goals.
- The Company will implement recommendations of the Equity Working Group
- The Company will identify clear and objective determinations of success, and regularly report progress in achieving EWG recommendations and other strategies to increase participation by historically underserved customers.
- The Company will set ambitious savings goals for Income Eligible Single Family and Multifamily and EnergyWise Multifamily programs.
- The Company will increase financial investments in serving historically underserved populations, including enhanced financial incentives to those customers across efficiency offerings
- The Company will identify and implement program improvements that will facilitate ease of participation, including through streamlining of participation steps, documentation requirements, and income verification processes.
- The Company will enhance marketing and outreach to underserved populations
- The Company will develop and implement a targeting framework that focuses on all communities with high proportions of underserved and environmental justice populations and historical participation lower than average statewide participation levels.
- The Company will enhance and increase municipal and other community-based partnerships, particularly to include partnerships with underserved communities.
- The Company will conduct a Nonparticipant Study for small businesses and microbusinesses in 2024.
- The Company will contract a qualified third-party vendor to develop a Language Access Plan (LAP) that sets forth how the Company will provide services to individuals who are non-English speaking or have limited English proficiency at each step of the customer journey
- The Company will target workforce development efforts to serving contractors in underserved communities (detailed recommendations on workforce development covered in separate priority). RI Energy should actively coordinate with state entities to leverage available state/federal funds and workforce development offerings.

Conduct Targeted Workforce Development

- The Company will implement recommendations of the Equity Working Group
- The Company will deliver targeted workforce development for small/minority- and women-owned business enterprise (MWBE) contractors.
- The Company will deliver workforce development focused on new and important technologies for meeting statewide climate goals, maximizing ratepayer benefits, and controlling ratepayer costs.
- The Company will complete a Workforce Needs Assessment in time to incorporate results into the 2024-2026 Three-Year Plan.
- The Company will increase investment in workforce development to expand training for existing workers, mitigate barriers to entry for new workers, and advertise training/job opportunities for workers.

System Reliability Procurement (SRP) Plan Priorities:

- To ensure responsiveness to Council input, the Company will demonstrate continued responsiveness to Council and other stakeholder input, including during the development of the 2024-2026 SRP Three Year Plan.

- To support stakeholder engagement, the Company will ensure sufficient opportunities for stakeholder engagement and substantive contributions during SRP planning and implementation, including but not limited to SRP Technical Working Group meetings.
- To achieve continued methodological development, the Company will actively pursue further development of benefit cost analysis and assessment of internal energy efficiency and distributed energy resource solutions to grid needs.

To complete Non-Pipes program design and other 2021-2023 Three-Year Plan commitments, the Company will ensure Non-Pipes Alternative (NPA) program design is complete within the planned timeline, and ensure that the results of this program design work, and any other learnings from the 2021-2023 Three-Year Plan, are appropriately incorporated and build upon in the 2024-2026 Three-Year Plan.

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2022 PROGRAMS & INITIATIVES

RESIDENTIAL ENERGY EFFICIENCY PROGRAMS

The Company offers comprehensive energy efficiency solutions for all Rhode Island residential customers. The goals of these offerings and services are to educate residents on saving energy and reducing energy bills while improving the comfort in their homes. The energy efficiency solutions concentrate on creating energy efficient homes through education and energy-efficient products; facilitating market transformation for efficient products and zero-energy homes and buildings; and educating Rhode Islanders on energy efficiency.

RI Energy continues its work to get the word out about the residential programs available to customers. In 2022 the company attended a number of local events to promote efficiency, including:

- Rhode Island Navy Salute to Summer
- Back to School Celebration of Rhode Island
- East Providence Touch a Truck
- Latina 100.3 Latin Festival
- WaterFire Salute to Veterans

In the summer (June through September) of 2022, XX thermostat events and XX battery events were called. In 2022, XX customers registered for the thermostat measure, XX customers registered for the battery measure, and XX customers registered for the solar inverter power quality demonstration.

The air source heat pump incentive for electric resistance heating customers remained effective and participation of exceeded the goals for the EnergyStar HVAC program. Additionally, enhanced incentives were offered to oil or propane heating sources with additional Regional Greenhouse Gas Initiative funding.

In its tenth year, the Rhode Island Home Energy Reports (HER) program continues to encourage 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. Rhode Island customers received XX? reports in 2021.

The Company continued its core residential energy efficiency programs in 2021:

EnergyWise offers single family customers no-cost home energy assessments, weatherization, and information on their actual energy usage. Participants in this program receive personalized recommendations to reduce their energy consumption and improve the comfort in their home. In addition, this program offers technical assistance, education, and financial incentives to replace and upgrade inefficient lighting, appliances, thermostats, heating and cooling systems, and insulation. In 2022, XX? in-person and virtual assessments were offered. EnergyWise works with single family customers of one-to-four-unit buildings in a two-pronged approach. During the initial visit (known as the home energy assessment) an energy specialist spends one-to-three hours providing educational materials and evaluating the customer's home. Instantly recognizable savings opportunities (such as pipe insulation) are installed during this first visit. At the completion of the assessment, the customer receives an Energy Action Plan that recommends additional energy savings opportunities and any accompanying incentives / financing options. Customers that proceed to the next phase of EnergyWise

receive weatherization upgrades that provide savings for twenty years regardless of fuel type used. Overall, customers that install EnergyWise weatherization upgrades increase comfort while saving money on energy. In 2022, the EnergyWise Single Family program achieved electric savings of 0 net lifetime MWh (0% of target) and gas savings of 0 net lifetime MMBtu (0% of target).

The Residential New Construction Program (RNC) benefits new construction and major renovation of single-family and multi-family homes for market rate and income eligible customers. The program elements include plan review, energy modeling, in-field technical assistance, insulation and air sealing inspection, third-party blower-door and duct-blaster testing (building performance testing), a HERS (Home Energy Rating System) Index rating and certification, energy performance-based incentives, complimentary ENERGY STAR® bulbs and WaterSense® showerheads, and optional support for projects seeking additional certifications such as ENERGY STAR® Homes, DOE Zero Energy Ready, Passive House/PHIUS, LEED-H and Living Building Challenge. In 2022, 431 housing units were built to program standards.

- 196 units were new construction / full gut rehab (45%)
- 235 units were renovation / rehab (55%)
- 169 units were market rate (39%)
- 262 units were income eligible (61%)
- 282 units are gas-heated (65%)
- 61 units are electric-heated (heat pumps) (14%)
- 55 units feature hybrid electric and propane heat pumps (13%)
- 3,842 LEDs were installed throughout all units
- 10 units are EnergyStar certified
- 4 units are DOE Zero Energy Ready
- 6 units are Passive House

In May 2022, ONE Neighborhood Builders, the developer of Sheridan Small Homes, RI's first DOE Zero Energy Ready certified affordable housing neighborhood, invited Jon Erickson from the RNC Program to speak at a panel. The panel, which addressed Zero Energy Affordable Housing, was the first in a series of virtual gatherings for community development practitioners to learn about and share emerging topics and ideas. Jon, the certified DOE ZER verifier for the project, spoke about some of the interesting and unusual aspects of the project, as well as some of the challenges.

Recording of the panel presentation can be found here: <https://oneneighborhoodbuilders.org/first-fresh-fridays-session-focuses-on-sheridan-small-homes/>

In 2022, the Residential New Construction program achieved 0 net lifetime MWh of electric savings (0% of target) and 0 net lifetime MMBtu of gas savings (0% of target).

The ENERGY STAR® Consumer Products Program promotes the purchase of high efficiency household appliances and electronics. In 2022, the Residential Consumer Products program achieved 0 net lifetime MWh of electric savings (0% of target). In 2022, the Company made significant progress on supporting pool pump upgrades to the EnergyStar 3.0 specification. In total, customers received incentives on 364 variable speed drives. The Company finished 2022 with over 1,000 dehumidifiers recycled (far exceeding 2021 results). The continued success of this dehumidifier recycling campaign has further enhanced the Company's reputation as a strong community partner. In 2022, the Company launched two new

initiatives under Residential Consumer Products:

- **Most Efficient Appliance Initiative:** The Company partnered with Home Depot to offer EnergyStar Most Efficient refrigerators and clothes washers. Across 8 Rhode Island Home Depot locations, 143 Most Efficient refrigerators and 11 Most Efficient clothes washers were sold to Rhode Island Energy customers.
- **Advanced Power Strips Initiative:** The Company signed an agreement with Ocean State Job Lot to provide incentivized advanced power strips. Across 18 Ocean State Job Lot stores, approximately 4,200 strips were sold to Rhode Island Energy customers.

ENERGY STAR® HVAC Programs (Gas and Electric Heating, Cooling and Water Heating Program) promote the installation of high-efficiency equipment for gas and electric space heating and cooling, water heating, and controls via tiered customer rebates. The program provides contractor training and incentives to ensure best practices for the proper design of distribution system improvements, equipment sizing and quality installation.

The Company has continued the HVAC program's weekly newsletter. Featured topics include rebate submission reminders/deadlines, promotion of upcoming trainings, SEER2 requirement updates, and HEAT Loans. There are over 650 recipients currently on the newsletter's distribution list. In 2022, the Company was invited by Lawrence Air Systems (an HVAC contractor) to teach a class for students at MTI (a technical career training school). In 2022, the lead program vendor attended a meeting sponsored by Mitsubishi. The vendor provided information on rebate applications, training opportunities, installation best practices, and more. This meeting allowed the vendor to connect further with industry colleagues. In 2022, The EnergyStar HVAC program achieved 0 net lifetime MWh of electric savings (0% of target) and 0 net lifetime MMBtu of gas savings (0% of target).

The Home Energy Reports (HER) Program encourages energy efficient actions through personalized print and email reports. Each communication channel displays energy consumption patterns, energy reduction goals, and comparisons to similarly sized and heated homes. In 2022, Home Energy Reports provided energy efficiency messaging on the following topics: heat pump water heaters and cold climate heat pump technology, room air conditioners, fridge recycling, gas heating equipment, and the Company's online marketplace (e.g., Black Friday pricing on smart thermostats). In 2022, The Home Energy Reports program achieved 0 net lifetime MWh of electric savings (0% of target) and 0 net lifetime MMBtu of gas savings (0% of target).

The Multifamily Program provides comprehensive energy efficiency solutions to market rate and income eligible gas and electric multifamily (properties with five or more units) customers. In 2022, the EnergyWise Multifamily achieved 0 net lifetime MWh of electric savings (0% of target) and 0 net lifetime MMBtu of gas savings (0% of target). Below are a couple examples of projects completed in 2022:

- **Boiler Replacement in Providence** - Two domestic hot water boilers were replaced with two Lochinvar high efficiency condensing domestic hot water boilers. The installation included two 800,000 BTU_h Armor water heaters at 99% efficiency and two high efficiency boiler pumps with speed controls. The gas incentive for this project was \$134,983 with an estimated net lifetime savings of 110,000 therms (\$1.23 / therm). The electric incentive was \$22,600 with an estimated net lifetime savings of 108,000 kWh (\$0.21 / kWh).

- **Boiler Replacement in Riverside** - Three 300 MBH heat boilers were replaced with two 600 MBH high efficiency condensing boilers. The existing DHW and heating circulator pumps were also replaced with new high efficiency circulator pumps. Also included was a complete relamp and rebalast of common area strip fixtures. The gas incentive for this project was \$234,605 with an estimated net lifetime savings of 367,000 therms (\$0.64 / therm). The electric incentive was \$23,512 with an estimated net lifetime savings of 282,000 kWh (\$0.08 / kWh).

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INCOME ELIGIBLE SERVICES

The Income Eligible Services (IES) program offers no-cost energy assessments and energy efficiency upgrades to residential income eligible customers without any financial contribution from the customer. Income Eligible Services are delivered by Rhode Island's six local Community Action Program (CAP) agencies to customers who meet one of the following criteria:

- currently on the electric A-60 or the gas 11/13 rates; or
- qualify for LIHEAP funds from the State; or
- household income level falls below 60% of the Area Median Income (AMI).

Income eligible customers are eligible for a full energy assessment of their home including lighting, appliances, weatherization (insulation and air sealing), and if deemed necessary, may receive replacement of inefficient or unsafe heating systems and/or appliances. All IES customers receive all services and equipment upgrades at no cost. In 2022, the IES program conducted 3,685 energy assessments, as compared to 3,349 in 2021.

CLEAResult (the IES Lead Vendor) has improved communication across the Income Eligible Single Family program with assistance from the local appliance vendor (the South Middlesex Opportunity Council) and other local agencies. As an example of the recognition this improved communication has received, the Interstate Renewable Energy Council published an article describing the cooperative development of the Residential Construction Weatherization Program. CLEAResult also participated in the Policy Advisory Committee (PAC) meeting to develop the Bipartisan Infrastructure Law state plan application.

On another front, the WiFi Smart Thermostat program is moving from theoretical to applied. Virtual and in-person equipment selection trainings have been completed. The next phase of training will focus on equipment installation.

The Company achieved 0% of target net lifetime electric energy savings and 0 of target electric net annual demand savings. The Company spent 0% of its gas income eligible implementation budget. The Company achieved 0% of target gas net lifetime energy savings.

Collaborative Efforts

The Company's Income Eligible Services are administered along with related and complementary federal, state, and local programs in collaboration with Rhode Island Department of Human Services (DHS), the Community Action Program (CAP) agencies, and other local agencies. This collaboration leverages funds that provide energy services to income eligible customers in Rhode Island. The programs discussed below allow more customers to receive comprehensive energy assessments.

An IES Best Practice meeting was held at Westbay CAP, and was available with hybrid web participation, on September 29, 2022. This meeting focused on residential fire safety, the best practice process using the WiFi Smart thermostat installations as an example, educated all parties on the Moderate Income Offering for customers that make too much to qualify for LIHEAP, year-to-date program delivery performance, and appliance delivery update.

The Interstate Renewable Energy Council (IREC) published an [article](#) describing the Rhode Island Builder Association, Rhode Island Energy, CLEAResult, and CAP agency cooperation in developing and implementing the Residential Construction Weatherization Program (RCWP). Specifically, the article focused on the use of the IREC Green Buildings Career map. The goal of the RWCP is to provide equity-based training & certification to local unemployed or underemployed people, providing skills to participate in all facets of the green energy economy. The article can be found here:

<https://irecusa.org/blog/workforce-development-training/how-career-maps-can-support-energy-efficiency-job-training-outcomes/>

Low Income Home Energy Assistance Program (LIHEAP)

The Low-Income Home Energy Assistance Program (LIHEAP) block grant is funded through the U.S. Department of Health and Human Services. The purpose of LIHEAP is to assist Rhode Island’s income eligible households in meeting the increasing costs of home energy and reduce the severity of any energy-related crisis. Rhode Island’s LIHEAP is administered by the Rhode Island Department of Human Services (DHS) Individual and Family Support/Community Services Division. LIHEAP outreach, intake and income-verification are provided by the six local CAP agencies. Households are determined eligible for LIHEAP assistance according to income guidelines established by DHS.

Weatherization Assistance Program

The Weatherization Assistance Program (WAP) provides funds for income eligible families to insulate and air seal their homes to reduce their energy bills, improve potential health and safety concerns and improve thermal comfort. WAP is funded through annual appropriations from the U.S. Department of Energy’s Weatherization Assistance Program and the U.S. Department of Health and Human Services. The state allocates 15% of its annual LIHEAP funding to weatherization.

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COMMERCIAL, INDUSTRIAL & PUBLIC PROGRAMS

LARGE COMMERCIAL AND INDUSTRIAL PROGRAMS

The Company offered five Commercial and Industrial (C&I) energy efficiency programs. Depending on a customer's energy consumption and demand, they could be eligible to participate in one or more of the five main C&I energy efficiency programs.

1. **Large Commercial and Industrial New Construction:** Provided offerings that targeted ground up new construction, major renovations, tenant fit-outs, and end-of-life replacement equipment.
2. **Large C&I Retrofit:** Focused on all services and technologies towards retrofits needed for existing buildings.
3. **Small Business/ Direct Install:** Offered turn-key solutions to many types of small businesses. (Note: restricted to customers who consume less than 1,000,000 kWh per year)
4. **Active Demand Response Program:** Aimed at reducing peak electric demand and associated costs for large and small commercial customers.
5. **C&I Multifamily Program:** Provided joint residential and commercial energy services to condominiums and apartment complexes for energy efficiency upgrades.

The C&I sector encompasses a diverse and complex set of customers. Each large C&I customer is assigned a dedicated account representative who helps connect customers with energy efficiency resources, vendors, and incentives. To better serve customers in several market segments, the Company leverages a Market Sector approach. This approach allows the Company to provide customized efficiency solutions that align with the customers' needs, thereby increasing program participation. Customers that in market segments not targeted through industry-specific initiatives are still served by dedicated account representatives (Hospitals, Colleges and Universities, Commercial Real Estate, Retail, etc.).

Commercial New Construction Program

The Commercial New Construction Program encourages energy efficiency in new buildings and major renovations as well as new equipment installed to replace aging or failed equipment, through financial incentives and technical assistance to customers, developers, manufacturers, contractors, and design professionals.

There were 40 active projects in the program as of the end of 2022. Examples within the program include:

- The Company is working with a university on the construction of a new arena and dining hall
- The Company is working with the State of Rhode Island on a study of a state laboratory facility and a plan for a new 60,000 square foot state police barracks.
- The Company is engaging four new schools about targeting the Path 1 Zero Net Energy program.

2022 LARGE C&I RESULTS

- xx Annual MWh Saved (xx% of goal)
- xx Lifetime MWh Saved (xx% of goal)
- xx Annual MMBtu Saved (xx% of goal)
- xx Lifetime MMBtu Saved (xx% of goal)
- xx Metric Tons of Greenhouse Gas Emissions Avoided
- xx Program Participants
- \$xx Million in Lifetime Electric Bill Savings
- \$xx Million in Lifetime Gas Bill Savings
- \$xx Million in Total Economic Benefits

- The Company is reviewing a new stadium complex in Pawtucket

In 2022, the Large C&I New Construction program achieved 0 net lifetime MWh of electric savings (0% of target) and 0 net lifetime MMBtu of gas savings (0% of target).

Large Commercial Retrofit Program

The Large Commercial Retrofit Program incentivizes the replacement of existing equipment and systems with energy-efficient alternatives, as well as enhancements that reduce energy consumption such as advanced controls and variable-frequency drives, when the customer might otherwise not plan on making efficiency investments. The program offers three distinct pathways that aim to address specific market barriers:

1. **Prescriptive Pathway:** Prescriptive incentives supported trade allies in advancing energy efficiency sales and provide signals to customers to make direct purchases that encouraged the adoption of more efficient and cost-effective options.
2. **Custom Pathway:** Custom incentives provided services to investigate opportunities to increase efficiency and support the steps needed to implement the upgrades.
3. **Upstream Pathway:** Upstream incentives provided an efficient way for customers to receive reduced pricing at the point of sale for energy efficiency equipment.

Building Analytics

In Q4, Rhode Island Energy officially kicked off the new Building Analytics Program (BAP) with its implementation vendor and several service providers. This initiative will provide funding for implementation of software platforms and associated services to identify opportunities to improve the performance and longevity of HVAC and other equipment managed using building automation systems.

BAP is part of the Equipment and Systems Performance Optimization (ESPO) initiative and builds on the prior monitoring-based commissioning (MBCx) offering. Like MBCx, the new BAP offering will provide incentives for savings achieved using analytics platforms; however, the new offering also mitigates customer risk and workload by offering incentives for:

- Up-front installation (not just savings)
- Enhanced technical assistance
- Streamlined reporting requirements
- A list of Qualified Service Providers vetted by the Company's implementation vendor

In 2022, the Large C&I Retrofit program achieved 0 net lifetime MWh of electric savings (0% of target) and 0 net lifetime MMBtu of gas savings (0% of target).

Industrial Initiative

The Industrial Initiative targets manufacturers and other industrial customers. These customers often use specialized equipment for industrial processes and consume large amounts of energy. The initiative is implemented by a world-renowned engineering firm with expertise in this sector. The firm partners with the Company to implement energy efficiency opportunities for industrial customers across Rhode Island.

As an example of an Industrial initiative project, a customer replaced an old nitrogen (N₂) generator that was used to heat-treat ovens with a newer, more efficient nitrogen generator system. The upgraded N₂ system requires 895 cubic feet per minute (CFM) of compressed air load, with a new 2,400 CFM cycling dryer providing additional compressed air capacity. The upgraded system accounted for over 279,000 kWh of savings, with demand reduction of 33.2 kW in 2023 Program Year.

EnergySmart Grocer Initiative

The EnergySmart Grocer (ESG) initiative delivered cost effective, comprehensive energy savings in the grocery market segment.

Below are five examples of completed projects under the EnergySmart Grocer Initiative

- A grocery chain replaced gaskets on medium and low temperature refrigerator cases at six Rhode Island locations. This project will result in annual savings of 36,000 kWh and 2,000 therms. The grocery chain also received \$21,672 in rebates.
- A grocery chain added a variable speed drive on the motors of a rooftop condenser at a Providence store location. This project will reduce electricity consumption by 29,000 kWh.
- A convenience store chain performed coil cleaning on rooftop condensers and HVAC units at 12 Rhode Island Locations. This project will result in annual savings of approximately 10,000 kWh with very little cost to the stores.
- A grocery chain installed anti-sweat heating controls at seven Rhode Island locations. This project will result in annual savings of nearly 1,000,000 kWh.
- A grocery chain added glass doors to refrigerated food display cases wherever possible at four Rhode Island locations. This project will result in annual savings of 257,000 kWh and 23,000 therms. The grocery chain also received in \$123,423 in rebates.

Work with Public Schools

The Company has partnered the Office of Energy Resources (OER) and Department of Education (DOE) to provide technical, procurement, implementation, and financial resources for public schools seeking to implement more energy-efficient equipment and practices at their facilities. In addition to the standard energy efficiency pathways, OER and DOE have partnered with the Company on two initiatives:

- **School Lighting Accelerator Program** - Part of the state's Lead by Example initiative, this program helps schools to upgrade to LED lighting with controls
- **Energy Improvements for Rhode Island Schools** - This program was funded by the U.S. Department of Energy in response to COVID-19 concerns. The program helps schools upgrade their HVAC systems and building controls to improve indoor air quality while reducing energy consumption.

The Company's work with public schools is focused on ten priority communities: Central Falls, Providence, Pawtucket, Woonsocket, West Warwick, East Providence, North Providence, Cranston, Coventry, and Burrillville. To date, \$20 million has been allocated to these efforts.

Company and Customer-Owned Street Light Initiative

The Company's Street Light Initiative provides energy efficiency incentives for street lighting and controls to municipal customers. There are two options for participating in this initiative, customer owned, and Company owned.

- **Customer Owned Street Lighting**- Rhode Island municipal customers are now eligible to purchase their own streetlights from the Company. Incentives are being offered for solid state lighting and controls, as funding allows. In addition to the funding offered by the Company, the Office of Energy Resources continues to accept applications for street lighting grant funding from communities.
- **Company Owned Street Lighting** – the Company filed a company owned street lighting tariff in 2016. If the municipal customer prefers to continue leasing their streetlights from the Company, the customer will receive the incentive and the Company will claim the savings.

The majority of Rhode Island’s municipal and state streetlights have been converted to LED’s 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.

In 2022, the Street Lighting Initiative awarded over \$TK million in incentives to TK municipalities, resulting in approximately TK million kWh of annual electric energy savings.

Commercial ConnectedSolutions

The Company implemented an active demand reduction program in 2019 after having run the program as a demonstration in 2017 and 2018. Under the active demand reduction approach, customers agree to reduce their electric use during the system peak.

In the summer of 2022 (June through September) the number of called events were the following: XX targeted dispatch, XX daily dispatch, XX thermostat, and XX battery. In 2022, there were XX and XX gross MW of capacity commitments in targeted and daily dispatch respectively. XX and XX customers registered for the thermostat and battery measures respectively. XX customers registered for the solar inverter power quality demonstration.

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SMALL COMMERCIAL AND INDUSTRIAL PROGRAMS

Small Business Direct Install Program

The Company's Small Business Direct Install program is a retrofit program that provides turnkey services 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. The Company then completes retrofit installations at the customer's convenience.

The Company typically 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 electric bill, interest free, using the Small Business Revolving Loan Fund, provided funds are available. In 2022, the Small Business Direct Install program achieved 0 net lifetime MWh of electric savings (0% of target) and 0 net lifetime MMBtu of gas savings (0% of target).

There were 82 weatherization projects in 2022 leveraging RGGI funds provided by OER to supplement the system benefits charge (SBC) funds to enhance customer economics for these projects. Thanks to this partnership with OER, over eighty small business received incentives up to 100% for air sealing, insulation, and ventilation in 2022. These measures will help reduce emissions and improve building comfort during cold winter and hot summer months.

The Company would like to highlight several projects that were completed in 2022 for small business customers.

- **Brewery Project** - A local microbrewery installed energy-efficient refrigeration thermostat controls on its coolers. This installation enables the coolers to optimize scheduling / setpoints and ensures the evaporator fans cycle as needed rather than running continuously. This project will result in annual savings of 17,000 kWh.
- **Progreso Latino** - In collaboration with Progreso Latino, the program vendor met with local business owners to share information on the Small Business Direct Install program. Follow-ups led to multiple completed jobs. Marketing collateral was created along with dedicated web pages in English and Spanish to remove barriers and ensure comprehension.
- **Office Building in Providence** - An office building that hosts several small businesses installed LED fixtures with integrated controls along with exterior lighting upgrades. This project cost \$109,520 and will result in annual savings of 155,000 kWh.
- **Pawtucket Businesses Development Corporation** - The SBDI vendor worked with the Pawtucket Businesses Development Corporation (PBDC) on a new initiative targeted to low/moderate income building owners whose property is "public facing" or is located in designated low/moderate income census tracts. The program provides grants to supplement RI Energy SBDI assistance for HVAC-related projects that will result in indoor air quality improvements. An SBDI assessment is the first step in qualifying. Projects up to \$50,000 can be funded in full, with the PBDC picking up the customer's share of the project cost after the RI Energy incentive is applied. The PBDC has roughly \$300,000 available, and the SBDI vendor began accepting applications in Q3. This is an excellent opportunity to fund comprehensive mechanical improvement for targeted owners and to utilize the

2022 SMALL C&I RESULTS

- xx Annual MWh Saved (xx% of goal)
- xx Lifetime MWh Saved (xx% of goal)
- xx Annual MMBtu Saved (xx% of goal)
- xx Lifetime MMBtu Saved (xx% of goal)
- xx Metric Tons of Greenhouse Gas Emissions Avoided
- xx Program Participants
- \$xx Million in Lifetime Electric Bill Savings
- \$xx Million in Lifetime Gas Bill Savings
- \$xx Million in Total Economic Benefits

RGGI Weatherization initiative to ensure that the building envelope is properly weatherized at the same time.

RI Agricultural Energy Program

Recognizing the vital role that farmers play in Rhode Island's economic and environmental framework, OER, in consultation with the Department of Environmental Management (DEM) aims to improve the accessibility of resources for farmers that will offset agricultural electric load through cost-saving energy efficiency measures and on-site renewable energy projects. Historically, farmers make use of older and traditional infrastructure, and often rely heavily on delivered fuels. These challenges have traditionally made agribusiness a hard-to-reach sector for standard energy efficiency and renewable energy programs.

The RI Agricultural Energy Program offers Rhode Island agribusinesses incentives for prescriptive energy efficiency measures. Program participants receive a free on-site energy assessment and a report detailing recommended energy-efficient improvements. Farmers or agribusiness owners can then choose to install any number of recommended electric or delivered fuels measures. Electric efficiency incentives vary depending on the application, but any approved electric measure cost not covered by an incentive can be paid back, interest free, through the Company's on-bill payment system, provided that funds are available.

The RI Agricultural Energy Program (RI AgEP) offers financial incentives to farms in Rhode Island of up to \$20,000 for energy efficiency and renewable energy projects. The program has continuously held two funding rounds each year, in spring and fall. This program has helped fund 55 total projects since 2016. The spring 2022 funding round awarded six farms for solar projects, with one farm undertaking a solar & battery storage project.

OER continues to streamline the ability for farmers to leverage the RI Agricultural Energy program with other farm-related programs and grants. By establishing and maintaining open lines of communication with the Department of Environmental Management, Commerce RI, Rhode Island Energy and USDA Rural Development, OER does not limit its outreach work to the RI AgEP, but also promotes all financial incentives available to farmers at the federal and state level. With help from a University of Rhode Island Energy Fellow, additional outreach is conducted virtually and in-person through attendance at farmers markets, online webinars, email, and one-on-one phone calls. Outreach materials and the RI AgEP page on the OER website were also updated to be easier for farmers and agribusiness owners to navigate. The Farm Energy Fellow also helps to create video profiles that are posted to the OER website to spread awareness about program benefits and success stories. The 2022 video is currently still in production and will be released in 2023. Presentations were also given at several workshops and further outreach was conducted through the program's growing social media presence: Facebook and Instagram (@RIFarmEnergyResources).

Lead by Example: State and Municipal Entities

In December 2015, Governor Gina Raimondo issued an Executive Order directing State agencies to 'Lead by Example' by achieving robust clean energy targets and developing clean energy practices. The Lead by Example initiative is also promoting interdepartmental cooperation, unlocking opportunities to invest in comprehensive energy efficiency and renewable measures that can reduce and stabilize public sector energy costs, shrink the government's carbon footprint, and support Rhode Island's burgeoning clean energy economy.

The programs and initiatives spurred by the Lead by Example executive order are also available for municipalities and quasi-public agencies. Specifically, public entities can receive technical assistance, and in some cases financial support, from Rhode Island's Office of Energy Resources to improve the energy efficiency of their buildings, install renewable energy systems and electric vehicle charging infrastructure, and purchase all-electric or hybrid fleet vehicles. Lead by Example efforts are meant to serve as a model for businesses, organizations, and citizens as we all work together to move Rhode Island toward a more secure, cost-effective, and sustainable energy future.

In 2022, the School LED Lighting Accelerator through the Office of Energy Resources was expanded from a two community pilot into a program supporting 10 school districts with a budget of \$10 million dollars. Through the end of 2022, 7 schools had completed lighting upgrades, with an additional 17 in the implementation phase. The School LED Lighting Accelerator program provides technical, procurement, and financial support to qualified school districts for LED lighting upgrades. It will also leverage utility-administered energy efficiency funding and municipal funding streams/on-bill repayment.

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COMMERCIAL, INDUSTRIAL & PUBLIC FINANCE

Large C&I Revolving Loan Fund

Through the electric large C&I revolving loan fund, the Company offered \$1 million through one loan in on-bill financing to one large commercial customer. At the end of 2022, the fund had a balance of \$1 million (including committed 2022 dollars). After accounting for the approved \$1 injection, the electric Large C&I revolving loan fund begins 2023 with a balance of \$1. This amount will be available for loans in 2023 and beyond.

Through the gas large C&I revolving loan fund, the Company offered \$1 million in loans to 1 large commercial customer. At the end of 2022, the fund had a balance of \$1 million (including committed 2022 dollars). The gas large C&I revolving loan fund begins 2023 with a balance of \$1. This amount will be available for loans in 2023 and beyond.

The Company continues to wind down the revolving loan fund in support of the RI Public Energy Partnership (RIPEP). Zero customers participated in this offering in 2022. At the end of 2022, the fund had a balance of \$. The Company anticipates that the final loans will be repaid in 2023, allowing for the remaining funds to be returned to RI OER.

Small Business Revolving Loan Fund

All Small Business Direct Install program participants receive financing to cover 30% of project costs, either over 24 months at 0% interest or a lump sum payment with a 15% discount. Through the small business revolving loan fund, the Company offered \$1 million in loans to 1 small business customer. At the end of 2022, the fund had a balance of \$1 million.

Efficient Buildings Fund (EBF)

Since 2015, the Company, the Rhode Island Office of Energy Resources (OER), and the Rhode Island Infrastructure Bank (RIIB) have been working together to leverage system benefit charge (SBC) funds and drive energy improvements in facilities in cities and towns across Rhode Island.

In 2022, the EBF approved projects to help the Town of Hopkinton install solar on Town facilities and for the Town of Smithfield to make efficiency improvements to two of its school buildings. These projects will help these communities reduce both their energy costs and their emissions.

Since inception, the EBF has supported 22 projects to municipalities, loaning out over \$69 million dollars to support a variety of energy efficiency projects. These will deliver \$109 million in savings over the lifetime of the installed measures.

Commercial Property Assessed Clean Energy (C-PACE)

Since the program was adopted in Rhode Island in 2015, 33 projects have been completed, totaling over \$87 million in energy efficiency and renewable energy for businesses. Outreach by the Rhode Island Infrastructure Bank and the Company will continue in 2023.

INCENTIVES BY TOWN

Table 1. The Company's Gas and Electric Energy Efficiency Incentives Provided to Residential, Commercial and Industrial Customers in 2022.

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2021 PILOTS, DEMONSTRATIONS, AND ASSESSMENTS (Residential and Commercial and Industrial)

2018-2019	2020	2021
Pilot – Gas Demand Response		
Demo – Continuous Energy Improvement		
	Demo – Network Lighting Controls +	
	Demo – Kitchen Exhaust	
	Demo – Gas Heat Pumps	
		Demo – New Air Sealing and Insulation
		Demo – Solar Inverter Direct Load Control
		Assessment – Pre-Fab Energy Retrofit
		Demo – Enzyme-based HVAC Coil Cleaning
		Assessment – Refrig. Leak Survey and Repair
		Assessment – HVAC Automation for DR
		Assessment – Shared Laundry Facilities
		Assessment – Submetering to Support EE
		Demo – Smart Valves for CW Systems

In 2022, the Company continued or started 15 pilots, demonstrations, or assessments. The Company completed XX projects and will continue the remaining XX into 2023 (see table below for specifics).

The following table outlines the objectives, brief findings, and next steps of the 15 Pilots, Demonstrations, or Assessments active in 2022.

Pilot, Demonstration, or Assessment	Objectives	Findings	Next Steps
New Air Sealing & Insulation - Demonstration - Residential	Demonstrate air sealing opportunity in residential programs. Connect with injection insulation vendor and identify target homes / customers.	Air sealing opportunity exists for residential customers.	Demonstration has been retired. The Company is working with lead weatherization vendors to identify new sites and complete additional installations.
Solar Inverter DLC - Demonstration - Residential	Demonstrate solar inverter technology. Prepare a report detailing savings associated with solar inverters.	Solar inverter technology successfully demonstrated.	Demonstration has been completed. EM&V vendor is preparing the report. Solar Inverter program is set to launch in 2023.
Final Gas Appliances - Assessment - Residential	Assess opportunities for electric appliances at new homes.	Findings in progress.	Assessment has been finalized.
Gas HPs - Demonstration - Residential	Monitor and analyze performance / determine cost effectiveness of gas HPs for residential customers.	Cost effectiveness is poor. Observed limited project interest and slow payback period.	Demonstration has been retired. Given reductions in the EM&V budget, funds are no longer available. If market conditions change significantly, funding for additional research may be proposed.

HVAC Lighting Controls Plus - Demonstration - C&I	Demonstrate HVAC lighting controls plus. Develop M&V plan for demonstration site.	Limited potential for HVAC lighting controls. No other potential customers successfully contacted.	Demonstration completed and retired. No additional potential customers will be contacted.
Kitchen Exhaust - Demonstration - C&I	Demonstrate kitchen exhaust offering.	Lack of available products and customers.	Demonstration retired.
Building Flexibility Through DR - Assessment - C&I	Conduct interviews and research to determine building flexibility through DR.	Findings in progress.	Assessment procedure complete. Analysis still in progress.
Refrigeration Leak Survey & Repair - Demonstration - C&I	Monitor refrigerant leakage and energy consumption at participating facility. Install metering at facility.	Findings in progress.	Complete savings and cost effectiveness analysis.
Gas DR - Pilot - C&I	Collect and analyze gas customer data. Conduct gas DR pilot in the winter of 2022-23.	Findings in progress.	Engage with potential gas DR customers. Conduct winter 2022-23 gas DR pilot.
Gas HPs - Demonstration - C&I	Demonstrate cost-effectiveness of HPs for gas customers. Recruit potential customers.	Limited demand and opportunities for this demonstration. Demonstration not necessary.	Demonstration closed and retired.
Rightsizing RTUs - Assessment - C&I	Identify strategies for rightsizing RTUs. Implement strategies into program design and implementation.	Findings in progress.	Assessment completed. The Company will incorporate findings into future program offerings.
Automated RTU Optimization - Demonstration - C&I	Recruit customers and install / monitor equipment. Demonstrate optimized automated RTUs.	Findings in progress.	Continue recruitment of customers and installations. Measure winter performance of RTUs.
SEM/CEI - Demonstration - C&I	Conduct workshops demonstrating energy savings of SEM / CEI projects.	Gas and electric savings produced by demonstrations of SEM / CEI projects.	Demonstration completed and retired. Energy savings are still being fully determined.
Air Curtains - Demonstration - C&I	Review similar air curtains measures in other regions, and develop / demonstrate a RI-specific offering,	RI-specific measure can be developed in conjunction with MA. Findings in progress.	Continue collaboration with MA to develop the program offering and market plan.
Smart Valves for Chilled Water Systems - Demonstration - C&I	Demonstrate smart valves for chilled water systems. Recruit customers, monitor installed systems, develop analysis framework, and assess savings / cost-effectiveness.	Findings in progress.	Outreach for additional sites has been discontinued. Analysis of savings / cost-effectiveness is

			being finalized. Market strategy is in progress.
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CROSS-SECTOR PROGRAMS

Community Initiative

The Rhode Island Community Initiative is the Company's energy efficiency awareness campaign that drives program participation by engagement with communities ranging from residents and small businesses to business parks or other types of communities and local officials.

The Quonset Development Corporation (QDC) and Rhode Island Energy (RI Energy) have signed a new three-year agreement continuing the energy efficiency partnership begun in 2020. Building on the success to date, this partnership provides continued access to technical assistance and enhanced incentives to identify and implement energy-savings projects. In support, QDC and RI Energy will continue to provide workshops to introduce energy programs and technologies to the Quonset community.

The goal is helping all Quonset companies, as well as sites working with QDC and the RI Ready Program, participate in RI Energy customer programs. Over the next three-years, we also hope to engage the 13,000 Quonset employees in residential energy efficiency programs.

Since this partnership began, Quonset businesses have:

- Received over \$4 million in incentives for completed energy efficiency improvements
- Saved over \$3 million annually on their energy bills
- Saved over 17 million kWh of electricity
- Saved more than 300,000 gas therms
- Green House Gas emissions reductions equivalent to removing 2600 gas powered vehicles for one year¹

Also in 2022, the Company signed a Community Solutions MOU with the City of East Providence, our first partnership with a Rhode Island municipality. This MOU establishes a SEMP for city-owned buildings. It also establishes goals and priorities for partnering with the City to reach commercial and residential customers. The three-year partnership began on Nov. 1, 2022, which is the start of the City's Fiscal Year.

Building Energy Codes and Appliance Standards

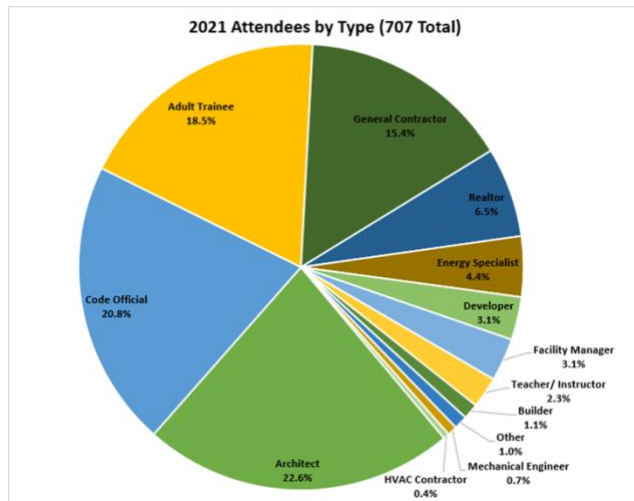
The Codes and Standards initiative provides targeted stakeholder outreach and technical guidance to improve compliance with minimum energy efficiency policies currently in effect and accelerate the improvement of these minimum efficiency requirements. In 2021 the Company continued to expand its energy code compliance support services to a variety of stakeholder groups.

In 2021, the Code Compliance Enhancement Initiative (CCEI) conducted 54 training events across the state with 707 total attendees, a 38% increase in both number of trainings and participation levels compared to 2020.

The Company partnered with several local organizations to promote and deliver trainings, including:

- Rhode Island Builders Association
- Rhode Island Building Officials Association
- American Institute of Architects – Rhode Island

¹ <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>



CCEI also launched a new 15-week Residential Construction pre-apprentice training course. Trainings sponsored through this initiative engaged a diverse range of participants. While code officials have historically been CCEI’s most targeted audience, reaching design professionals was a major focus in 2021, with architects constituting 23% of attendees. Code officials accounted for 21%.

In addition to classroom and on-site trainings, CCEI also provides project-specific technical assistance as well as development and dissemination of energy code documentation/compliance assistance tools. The Company also continues to support awareness and use of the RI Stretch Code through

CCEI, including promotion at training events and through fundamental technical guidance.

The state’s Building Code Commission approved adoption of the 2018 International Energy Conservation Code (IECC) in 2021 and received legislative approval for adoption February 1, 2022. CCEI plans developing trainings on the updated code cycle to be delivered during 2022.

With the adoption of the Appliance and Equipment Energy and Water Efficiency Standards Act of 2021 by the Rhode Island General Assembly, minimum efficiency standards for 15 household and commercial products, including gas fireplaces, restaurant equipment, water coolers, and showerheads were established. These new requirements went into effect as of January 1, 2023 and are expected to reduce greenhouse gas emissions by 256,000 metric tons between 2023 and 2035, an amount equivalent to taking 56,000 cars off the road for a year. Consumers and businesses will save \$10 million on utility bills annually beginning in 2025, growing to \$44 million per year in 2035.

Block Island Energy Efficiency Program

Block Island Utility District (BIUD), with the support of OER and funding from RGGI auction proceeds, launched its first utility-run energy efficiency program with PUC approval in 2020. The efficiency program aims to educate and engage BIUD customers and deliver energy conservation measures including energy efficiency assessments, and upgrades to LED lighting, insulation and weatherization, and more efficient HVAC equipment. The utility district started the energy efficiency program to provide its customers with more information about, and control over, their energy usage and to help manage the extreme peaks experienced on its grid due to the seasonal nature of operations on Block Island.

The 2022-2023 energy efficiency plan seeks to build on the initial customer interest for residential energy assessments, while also serving more business customers and working to facilitate greater contractor interest in serving the growing pipeline of customers on the island for weatherization and HVAC related services. The program year runs from June through the following May and BIUD expects to have its 2023-2024 plan in front of the PUC for review and approval in April of 2023. Further details about the new energy efficiency program can be found on Block Island Utility District’s [website](#).

Energy Efficiency in Pascoag Utility District

The 2022 energy efficiency plan continued to deliver significant energy and cost savings to PUD customers through energy efficiency audits, LED lighting, and strong incentives for insulation and HVAC equipment upgrades. The utility also conducted a customer survey to inform future program development and investment opportunities throughout 2022. Based on the results of this survey, continued customer demand for efficiency programming, and the prior success of this effort, PUD proposed a modest increase in its energy

efficiency charge for the first time. This increase, approved by the PUC to take effect in 2023, will help support continued investment in the core efficiency strategies that Pascoag customers have enjoyed for the past 5+ years and will position them to have a robust and self-sustaining efficiency program for years to come.

Zero-Energy Buildings (ZEB) Task Force and Working Group

In 2022, the Company provided technical support for several Residential New Construction (RNC) Program zero energy and Passive House projects, which included contractor training, in-field support, and design review. We have also developed and delivered a presentation on Designing HVAC for Large Spaces with Low Loads. The RNC Program Vendor continues to provide technical support for Zero Energy homes across the state, including 194 seeking Passive House certification and 6 seeking DOE Zero Energy Ready certification.

In June 2022 the RNC Program held tours of a DOE Zero Energy Ready (ZER) renovation on Boylston Ave in East Providence:

- The owner/architect opened their single-family home to the public and shared their experience with meeting DOE ZER standards without increasing costs or using unconventional construction techniques
- Attendees were given a presentation featuring the owner/architect; the builder, who gave an overview of the construction, insulation, and air sealing details; and Jon Erickson from CLEAResult representing Rhode Island Energy’s RNC Program, who discussed how the home will not only have reduced energy use and operating costs but will have optimal indoor air quality and improved comfort and resilience. The HVAC contractor for the project, was also in attendance and fielded questions on heat pumps.
- More than 40 people attended, including local building code inspectors, architects, realtors, students and professors from RISD and Brown, representatives from the International Code Council, Rhode Island Housing, the City of Providence Office of Sustainability, Rhode Island Energy, as well as neighbors curious to learn about the renovation project.

**The “Pretty Good House”:
Zero Energy Ready Renovation**



Project Background

The objective of the project, from an energy perspective, was to achieve Net Zero energy performance, without adding significantly to the cost of construction or using unusual building practices and materials. Learn more about the Pretty Good House concept at: www.prettygoodhouse.org

Location: Providence, RI
 Architect: Chris Royer
 Website: www.roverarchitects.com
 Contractor: Halmac Construction
 Website: www.halmacri.com

Project Highlights

Simple Compact Design

- The home’s design minimizes the area of thermal envelope in relation to interior living space

Reduced Carbon Inputs

- No structural steel was used, and the use of concrete was minimized
- Over 50% of the foundation is from the old structure
- 8” thick concrete foundation walls used instead of 10” thick
- No basement or crawlspace slabs

Tight Building Envelope

- Preliminary blower door test was 0.16 ACH50
- Minimized unnecessary holes and gaps in the thermal envelope and sealed all required penetrations

Pretty Good Insulation

- Roughly followed the 10-20-40-60 rule of thumb for cold climates
- Minimized thermal bridging of insulation
- Insulation is primarily dense pack cellulose in the cavity with 1” Zip R exterior sheathing

Electric HVAC and Domestic Hot Water

- 2.5 tons ducted Mitsubishi mini split heat pump
- Panasonic FV-10EV2 100 cfm ERV – to ensure fresh air while minimizing energy loss
- Electric heat-pump domestic hot water heater

Solar Ready

- The south roof is ready for the installation of photovoltaic solar panel

Questions?
 Call: 855-343-0105



Zero Energy for the Ocean State

Since 2019, the Office of Energy Resources, RI Housing, and Rhode Island Energy (formerly National Grid) have partnered together for the Zero Energy for the Ocean State (ZEOS) program. This program provides grants to builders to create innovative, replicable, zero energy housing for low- and moderate-income Rhode Islanders. To date, six residential projects have been supported through this program and in 2023, a third round of funding was announced to continue this program.

Zero Energy for the Ocean State (ZEOS) Award

- ZEOS, a partnership between RI Office of Energy Resources, RI Housing and Rhode Island Energy which provides funding to support the development of local zero energy affordable housing, received a national award for program excellence from the National Council for State Housing Agencies (NCSHA).
- The NCSHA Annual Awards for Program Excellence were created to identify and elevate industry best practices as well as encourage continued Housing Finance Agency (HFA) innovation.
- The competitors for the national awards, which are given out annually at NCSHA's national conference, were each of the 50 states' HFAs plus four territories and districts.
- www.ncsha.org/wp-content/uploads/Rhode-Island-Rental-Housing-Multifamily-Management-2022.pdf

RNC Program Passive House Tour & Training

- 1492 Westminster Street, Providence, recently participated in the RNC Program and was certified for Energy Star, DOE Zero Energy Ready and Passive House.
- It is the first mixed-use, multifamily building in Rhode Island built to the exacting Passive House standards administered by the Passive House Institute US (PHIUS).
- Located on a narrow, vacant, urban infill site, it consists of a ground floor commercial space and seven one-bedroom apartment units, including an accessible unit on the ground floor.
- A tour of the project was held in December 2022, with 22 attendees, including several graduates from the [RCWP](#) pre-apprentice program.
- Attendees gathered in the commercial space, which is currently occupied by Lucky Enough Eat and Drink, for a presentation on the project delivered by the RNC Program Vendor and the project team.

Building Operator Certification

In 2022, the Company continued its long-standing sponsorship of Building Operator Certification (BOC) training that is discounted or free for building operators in Rhode Island. Those that completed the course are expected to benefit by learning to better communicate with occupants about maximizing facility efficiency, identify low-cost energy conservation opportunities, and implement best practices in preventative maintenance.

COUNCIL PUBLIC EDUCATION EFFORTS

“Energy Explained RI” Video Series

In 2022, the EERMC and the RI Office of Energy Resources produced the “Energy Explained RI” video series, which takes a closer look at some of the energy issues that impact our lives here in Rhode Island. The series covers five important topics for Rhode Island residents to understand about energy. The videos can be viewed at <https://rieermc.ri.gov/energy-videos/>.

- *“Understanding Your Electric Bill and How to Lower It”* - Do you ever look at your electric bill and wonder what exactly you’re paying for? It can be confusing, so we’ll break it down for you. In Rhode Island, your utility – the company sending you the bill – doesn’t create the electricity. It buys the power from generation companies and sells it to you at the same rate they pay. Electricity supply rates are affected by many factors that are out of our control — like resource availability, geopolitical conflict, global markets, and financial speculation. The most effective tool we have to reduce prices is reducing our demand.
- *“Lowering Your Energy Bills with Energy Efficiency”* - Every year, energy efficiency in Rhode Island prevents over 700,000 metric tons of greenhouse gas emissions from entering the atmosphere, generates around \$600 million dollars in economic activity, and creates over a thousand jobs. Energy efficiency upgrades can lower your energy bills, enhance the comfort of your space, and increase your property value. Whether you’re a homeowner, renter, business owner, non-profit, farmer, or municipality – there’s a program for you! The first step is to schedule a free energy assessment through Rhode Island Energy.
- *“Using Demand Response for Clean, Affordable Power”* - The goal of demand response is to avoid extreme peaks in electricity usage by leveling out *when* it’s being used and reducing the overall amount being used. Demand response minimizes the need for expensive and dirty peak energy and can help keep electric rates lower for everyone. You can take simple steps like running your dishwasher or doing laundry early in the morning or late at night when there is less demand for electricity. On hot summer afternoons, consider turning your air conditioner thermostat up a couple degrees when demand is peaking.
- *“Changing the Way We Use Energy”* - Climate change is having serious consequences, and it’s on track to get worse in the years ahead. In Rhode Island, we’re seeing sea level rise, shorter winters, longer summers, and more extreme weather events like intense storms and rainfall. It might sound like just weather, but these effects pose significant risks to our infrastructure, economy, environment, and public health. Communities of color and low-income populations are disproportionately harmed – both by the pollution from fossil fuel infrastructure and from the effects of climate change.
- *“Transitioning to All Electric Everything”* - As we use them today, fossil fuels are dirty and prone to significant price increases. Every time we start our gas-powered cars or turn on our oil heat, we release carbon and other gases into the air that warm the planet and drive climate change. We need to *decarbonize* our energy use by shifting away from fossil fuels and by transitioning to clean, renewable sources of energy. The transition is already underway, and you can help. Make your home as energy efficient as possible, replace fossil fuel vehicles and appliances with electric ones, and choose renewable energy.

EERMC Annual Public Forum

In April 2022, the EERMC organized a virtual public forum titled “RISING TO THE CHALLENGE: A Turning Point for Rhode Island’s Energy Future.” As we navigate into a new era of tackling the complex issues surrounding energy and climate change, Rhode Island is poised for action through bold decision-making and coordinated efforts. This virtual public forum brought together expert panelists in a variety of roles to discuss the future of our energy landscape – from state goals to regional collaboration and national leadership.

From her leadership position at the United States Department of Energy, keynote speaker Whitney Muse kicked off the event with a national perspective on America's energy future, discussing the country's most pressing challenges and opportunities related to energy efficiency, environmental justice and more.

The first panel focused on the role of cross-state cooperation in New England's energy future. New England's six states face unique challenges, as relatively small geographic jurisdictions that must approach energy issues both individually and together. This panel featured energy experts in regional roles for a broad conversation on New England's most pressing energy challenges. How does Rhode Island energy policy compared to that of other New England states? What regional, collaborative policy work is underway? What roles should energy efficiency, demand response, and grid modernization play in regional energy markets?

The second panel looked at implementing Rhode Island's ambitious 2021 Act on Climate Law. In 2021, the Rhode Island General Assembly passed the Act on Climate, described by lawmakers as "one of the most influential environmental bills approved in decades." The bill, signed into law by Governor McKee last April, will create a statewide plan to reduce climate emissions and address areas such as environmental injustices and public health inequities across the state. This panel brought together the two co-sponsors of the Act on Climate, as well as energy efficiency and sustainability leaders in the public and private sectors to discuss: Now that the ink is dry on the law, what's next?

The recording of the session can be viewed at <https://rieermc.ri.gov/eermc-annual-public-forum/>

Energy Expo at the Rhode Island Home Show

Each year since 2014, the EERMC, along with Rhode Island Energy, sponsors the [Energy Expo at the Rhode Island Home Show](#). The goal of the Energy Expo is to partner with the Rhode Island Builders Association (RIBA) to connect Rhode Islanders with resources to help reduce energy usage, save money, and increase the comfort of their homes. At the Energy Expo, residents can interact with dozens of energy related companies and organizations, sign-up for a free home energy assessment, and purchase energy efficiency kits to start saving money immediately. In 2022, RIBA produced its first Home Show since the pandemic. It saw 15,000 attendees, 77% from Rhode Island and 23% from Massachusetts. The Energy Expo featured dozens of energy-related vendors throughout the show floor, a student-built energy efficient home demonstration, no-cost home energy assessment sign-ups, and information on clean energy programs available in Rhode Island.

Energy Training for K-12 Educators

In 2022, the EERMC partnered with GBRI to provide free continuing education training for educators in Rhode Island around the topics of energy efficiency, renewable energy, climate science, energy equity, and more. A total of 10 three-hour workshops were offered based on a K-12 curriculum developed by the National Energy Education Development (NEED) Project for Rhode Island. The ["Energy, Climate, and You" curriculum](#) is a multidisciplinary unit that introduces students to energy consumption, energy efficiency, conservation, and energy burden in Rhode Island, and how energy use can impact the climate and the health of Rhode Islanders. In addition to the free K-12 energy curriculum developed by [The NEED Project](#) for Rhode Island, workshop participants also received a fully customizable PowerPoint presentation, short educational videos for classroom learning, interactive activities, and student engagement ideas. Over 300 educators were reached through this initiative in 2022.

Farm Energy Outreach

Due to the volatile nature and seasonality of many farm businesses, keeping costs low is vital to their success. However, participation in the half-dozen available farm energy programs has remained relatively low in comparison with other small-scale programs. Conversations with stakeholders, energy program administrators, and the Company suggest low participation is due, in part, to a lack of knowledge of available programs.

In 2022, the EERMC and the Office of Energy Resources co-funded an Energy Fellow (University of Rhode Island student) from February through December to assist with outreach to the farm community regarding energy management. The Energy Fellow conducted outreach virtually through, email, attendance at farmer's markets, and one-on-one phone calls. The 2022 Energy Fellow placed her focus on increasing awareness about thermal decarbonization options available to farmers, such as air source heat pumps and heat pump water heaters. She developed flyers to promote heat pump technologies through RI AgEP, and visited nearly every farmers market open in Rhode Island during the busy season. These efforts were successful in engaging farmers for the Fall 2022 round, which saw the first heat pump applications come through the program. A video profile for Sweet and Salty Farm in Little Compton was written, filmed, and produced describing the benefits of several clean energy projects on the farm's operations and the programs utilized to implement that work. This video will be published to the OER website in 2023, along with the other Energy Profile Videos. These video profiles help supplement written energy profiles to share the success stories of agribusinesses tackling clean energy projects. Social Media outreach was conducted through the program's growing online presence: Facebook and Instagram (@RIFarmEnergyResources).

2021 Combined Heat and Power Public Meeting

On Wednesday, June 22, 2022, the EERMC hosted the Annual Rhode Island Combined Heat and Power (CHP) Stakeholder Meeting virtually. As a legislative mandate, this meeting gives stakeholders the opportunity to provide feedback on the state's CHP programs and policies. The meeting also serves to inform CHP developers and potential customers about program details and updates for the upcoming year. The meetings are timed to allow for any recommendations to be incorporated, as appropriate, into the Three-Year and Annual Energy Efficiency Program Plans.

Invitations were distributed to the Company's database of CHP vendors as well as past and potential program participants. The Rhode Island Office of Energy Resources also sent the invitation to a variety of contacts, including potential Efficient Buildings Fund borrowers as well as legislative, municipal, quasi and school contacts. There were 22 participants, the majority of which were CHP developers or vendors that provide related technical assistance or financing. Representatives of the Division of Public Utilities and Carriers (DPUC), the Company, the EERMC and its Consultant Team, and the Rhode Island Infrastructure Bank (RIIB) were also present.

Michael O'Brien Crayne discussed the details of the Company's CHP program in Rhode Island. The current program direction includes increased focus on leveraging renewable natural gas and small/micro CHP systems. Toby Ast from the RI Infrastructure Bank presented on financing opportunities available through RIIB, which include the Efficient Buildings Fund, the Clean Water State Revolving Fund and C-PACE. Additional stakeholder discussion focused on some of the common challenges to completing CHP projects in Rhode Island. To close the meeting, Rachel Sholly of the Consultant Team reminded attendees of the Council's purpose and invited ongoing stakeholder participation in the energy efficiency conversation through monthly Council meetings. The complete slide deck from the CHP meeting can be found on the EERMC's website at www.rieermc.ri.gov.

ENERGY JUSTICE & EQUITY EFFORTS

In 2022 the EERMC continued to take steps to increase awareness of energy justice and improve the understanding of equity as it relates to energy efficiency.

Energy Efficiency Equity Working Group

As a part of the Company's 2022 Annual Energy Efficiency Program, they committed to continuing work with the Office of Energy Resources (OER) to co-host an Equity Working Group. The goal of this working group was to provide the Company with written recommendations to advance equity in the planning, design, and delivery of its Energy Efficiency Programs. The Equity Working Group was comprised of over twenty-five representatives from state agencies, community-based organizations, advocacy organizations, and local subject matter experts in equity. The Equity Working Group met five times in 2022 and provided a space where voices and concerns of impacted communities could inform discussions on equity issues and to help identify areas of importance and focus around issues of equity for the energy efficiency programs.

In addition to the Equity Working Group itself, its members prioritized two topics to focus on in 2022 – Outreach and Engagement and Workforce Development and Training. To address these two topic areas, the Equity Working Group created subgroups which each met three times during the course of 2022. Following the series of working group and subgroup meetings, members aligned on a series of recommendations for the Company to consider in the development of their 2023 Annual Energy Efficiency Plan². In its 2023 Annual Energy Efficiency Plan, the Company highlighted the Equity Working Group's recommendations and provided commitments that aim to be responsive to each recommendation³.

EERMC Activities on Advancing Equity in RI Energy Efficiency Programs

In 2023 the EERMC held two Councilor Learning, Education and Advancement Discussions (LEAD), each of which including topics related to advancing equity in Rhode Island's energy efficiency programs. At its first LEAD meeting on June 30th, the EERMC received a presentation⁴ and held discussion on the results of the Nonparticipant Market Barriers and Participation and Multifamily Census studies. At its second LEAD meeting on November 28th, the EERMC's Consulting Team gave a presentation⁵ on Massachusetts energy efficiency equity targets, metrics and reporting and lessons learned that may be transferable to Rhode Island. During each of the LEAD sessions, Councilors followed the presentations with an open conversation around equity and its importance in future energy efficiency planning considerations. Additional presentations and conversations surrounding the topic are expected in 2023.

Equity in EERMC Priorities and Policy Recommendations

This year the Council has once again included equity considerations in its stated priorities for the 2024-2026 Three Year and 2024 Annual Energy Efficiency Program Plans, as well as in its 2023 Policy Recommendations (pages 17 and 18 of this report). Emphasizing and embedding equity considerations in the design and delivery

² For more information on the Equity Working Group's recommendations, as well as a full report of its activities, please see Attachment 11 of the Company's 2023 Annual Energy Efficiency Plan, available at:

³ For more information on the Company's planned commitments related to the Equity Working Group recommendations, please see Section 2.7 – Equity of the 2023 Annual Energy Efficiency Plan. A full report of the Equity Working Group's activities can also be found in Attachment 11 of the Company's 2023 Annual Energy Efficiency Plan, available at: <https://ripuc.ri.gov/sites/g/files/xkgbur841/files/2022-10/2233-EE-RIE-2023EEPlan%209-30-22.pdf>

⁴ Available at: <http://rieermc.ri.gov/wp-content/uploads/2022/06/participant-and-non-participant-study-summary.pdf>

⁵ Available at: http://rieermc.ri.gov/wp-content/uploads/2022/11/ma-equity-targets-presentation_2022.11.22.pdf

of all state energy programs is critical to ensuring that all Rhode Islanders receive the maximum possible benefits.

In 2021, the Company conducted two relevant studies – the “Nonparticipant Market Barriers Study” and the “Participation and Multifamily Census Study”, the results of which were recently completed and are available on the Council’s website⁶. The Council will continue to hold the Company accountable for sufficiently applying the results of these studies, as well as demonstrating progress on – and building upon – recommendations from the Equity Working Group. The barriers and recommendations identified through these efforts should be utilized to develop detailed remediation strategies to assure corrective action on underperforming programs, including the income-eligible and multifamily programs.

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⁶ See the EM&V Studies section of the Council’s Resources page at: <https://rieermc.ri.gov/resources/>

PLANNING INITIATIVES

State Goals: State Energy Plan & GHG Reduction Goals

2022 was the first full year of efficiency programming since the signing of the landmark 2021 Act on Climate. The 2021 Act on Climate sets a requirement that Rhode Island must achieve net-zero carbon emissions economy-wide by 2050.

The Act on Climate required that the RI Executive Climate Change Coordinating Council (EC4) provide an update on the state's greenhouse gas emissions reduction plan⁷, which was published December 15th, 2022. This report showed that as of 2019, the state's economy-wide emissions are estimated to be 10.82 MMTCo_{2e}, 1.8 percent below 2016 emissions. Electric power consumption emissions decreased by 28 percent and industrial emissions decreased by 9.2 percent, but residential heating emissions increased by 13.5 percent and commercial heating emissions increased by 8.8 percent. This report identified energy efficiency as a priority action for reducing emissions from the electric sector and the next comprehensive emissions reduction plan will be published by the EC4 in 2025.

In 2022, Rhode Island also signed into law a requirement to achieve a 100 percent renewable energy standard by 2033. This is the most aggressive renewable energy standard in the country, and meeting this requirement will be a vital element for achieving the goals set by the 2021 Act on Climate.

Energy 2035: The Rhode Island State Energy Plan, formally adopted in October 2015, lays out a long-term, comprehensive energy strategy for Rhode Island. The vision of the Plan is to provide energy services across all sectors—electricity, thermal, and transportation—using a secure, cost-effective, and sustainable energy system. The Plan identifies energy efficiency as the state's "first fuel" and a centerpiece strategy for achieving the Rhode Island Energy 2035 Vision. The State Energy Plan identifies energy efficiency as the lowest-risk, lowest-cost, and arguably, the most sustainable energy resource available for Rhode Island. The Plan also lists Least-Cost Procurement as one of Rhode Island's cornerstone energy policies, and the primary vehicle for delivering the benefits of energy efficiency to Rhode Island consumers and businesses.

[RI 2030](#) was released in 2021 as a working document of the State's priorities for the next decade. This plan identifies climate objectives including examining opportunities for a renewable thermal standard, replacing fossil fuel electricity generation with renewable resources, and continuing investment in energy efficiency as a foundational climate strategy.

To achieve the objectives of these plans and the Act on Climate, the Energy Efficiency and Resource Management Council is working closely with the Office of Energy Resources and the EC4 to ensure that Rhode Island's energy efficiency programs continue to provide a strong foundation for the necessary energy demand reduction.

Market Potential Study & Energy Efficiency Savings Targets

In preparation for the development of the 2021-2023 Three-Year Energy Efficiency and System Reliability Procurement Plans, the EERMC commissioned a Rhode Island Market Potential Study (RI MPS) to quantitatively assess the level of energy savings that can be achieved over the next several years. The EERMC selected Dunsy Energy + Climate Advisors to conduct the study, which covered energy efficiency, demand response, heating electrification, combined heat and power, and behind-the-meter distributed generation and renewable energy. The MPS covered calendar years 2021-2026 and was used as a key input in the process of setting three-year Energy Savings Targets, which are developed by the EERMC and approved by the PUC.

To inform the Energy Savings Targets for the 2024-2026 period, the EERMC contracted with the RI MPS vendor to conduct an update to the original study. The update to the RI MPS for the 2024-2026 period made

⁷ <https://climatechange.ri.gov/media/1261/download?language=en>

considerations for updated codes and standards, evaluation results, and avoided cost estimates. The update was also more limited in scope to only included energy efficiency and demand response, as well as a single achievable scenario. The results of this update informed the Council's recommended Energy Savings Targets for the 2024-2026 period, which were filed with the PUC on XX date.

Three-Year Energy Efficiency Program Plans

As part of the legislated triennial process to develop Three-Year Energy Efficiency and System Reliability Plans, the EERMC worked with the Company, the Office of Energy Resources, the Division of Public Utilities and Carriers, and other key stakeholders to develop the 2021-2023 Energy Efficiency Program Plan for Rhode Island. The Company filed the Three-Year Plan with the Public Utilities Commission on October 15, 2020. The purpose of this Three-Year Plan was to establish an overarching strategy for the next three years that will enable the Company to successfully meet the goals of Least Cost Procurement and meet the Energy Savings Targets developed by the EERMC and approved by the Public Utilities Commission. The Three-Year Plan met the objectives of being cost-effective and less than the cost of supply, and is grounded in economics, flexible to changing market conditions, and designed to maximize consumer benefit. The Public Utilities Commission formally adopted the Three-Year plan in a written Order that was issued on September 21, 2021.

While the 2021-2023 Energy Efficiency Plan has guided the work of the annual plans for the past three years, work is already underway in 2023 to set the stage for the next three-year period of 2024-2026. An initial outline of the 2024-2026 plan was delivered to stakeholders on April 6th and the first draft is slated to be delivered in June. It is anticipated that the final draft of the 2024-2026 Plan will be considered by the Council in September with the Company filing the Plan in October.

Annual Energy Efficiency Program Plan

In addition to the Three-Year plan, Annual Energy Efficiency Program Plans (Annual Plans) are developed by the Company with significant stakeholder input. These Annual Plans clearly define how the energy efficiency programs will be implemented and specify how the programs will be cost-effective. The Annual Plans are considered by the Council and are ultimately reviewed and ruled on by the PUC. Work on the 2024 Annual Plan is already underway and is expected to follow a similar timeline as the 2024-2026 Plan described above.

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LOOKING FORWARD: 2023 ENERGY EFFICIENCY PROGRAM PLAN HIGHLIGHTS

2023 RESIDENTIAL PROGRAMS

In 2023, the Company will continue all residential programs offered in 2022 and will additionally focus on changes that improve equity and access and that leverage findings from the non-participant and participant studies.

Residential New Construction

Rhode Island Energy is currently conducting research on new all-electric construction called Closing the Gas Gap for All Electric Homes that was detailed in the 2022 plan. The goal of this assessment is to examine how the programs can promote new construction of all-electric buildings (without a gas connection) in part through incentivizing the electric alternative of these appliances. The assessment will examine high-efficiency options for electric appliances as alternatives to less-efficient electric equipment or gas equipment. The Company plans to use the results of this assessment, together with the results of the Residential New Construction and Code Compliance study also underway, to consider a transition to electric-only new construction.

The High-Efficiency Heating, Cooling, and Hot Water Programs

The HVAC Electric and Gas Program is cross-promoted through the EnergyWise, Residential New Construction, Community-Based Initiative, and Home Energy Reports Programs. The Electric HVAC Program and the Residential New Construction and the Major Renovations component of Residential New Construction will work closely together to develop and implement an HVAC contractor training for the design and installation of heating/cooling/ventilation/hot water systems in projects striving to meet Zero Net Energy and Passive House.

Income Eligible Enhancements

In recent years, some CAP agencies have had difficulty meeting their budget goals due to insufficient staffing, while others have flourished and exceeded their goals. To improve the efficiency of this program, the Lead Vendor will facilitate the Interagency Referral program in 2023. This referral program will enable well-performing CAPs to take on more work in underperforming CAP territories to leverage those underutilized budgets. Doing so is expected to improve access to the program, increase participation, and improve equity by ensuring that underserved territories are better able to meet their goals and serve more customers.

Multifamily Program

In the multifamily program, the Company will increase focus and outreach on landlords and non-participants that have high propensity scores. Propensity scores were based on how similar nonparticipant customers were to participants in terms of home ownership, age, income, and other factors. The study found that customers that were similar to customers who had participated in programs would be more likely to participate themselves, and therefore outreach to those customers would likely be the most effective. In addition to focusing on customers with high propensity scores, the Company will also concentrate efforts on other historically underserved participant groups, such as renters through landlord outreach. These changes are expected to improve and expand access to the Company's programs and better serve communities in RI who historically have not participated in these programs.

2023 COMMERCIAL AND INDUSTRIAL PROGRAMS

In 2023, the Company is focused on building a program ecosystem that supports a more diversified mix of electric measures, while harvesting remaining lighting savings, controlling program costs, and promoting equity among small business owners and within the workforce. Although the Company anticipates that lighting will continue to constitute the largest single source of electric savings in the C&I programs, its efforts are focused on driving non-lighting program enhancements that encourage deeper, more comprehensive measure adoption and build for long-term program success. There is a particular focus on high-efficiency heating, cooling, ventilation, and air conditioning (HVAC) measures, as well as controls to improve the performance of HVAC equipment.

In 2023, some highlights of the Company's efforts will be to:

1. Scale up the Building Analytics initiative to help customers optimize the performance of HVAC and other systems.
2. Improve technical processes by streamlining savings calculators, revisiting burdensome data collection practices, and better leveraging site visits to identify EE opportunities.
3. Expand on equity efforts begun in recent years.
 - Conduct targeted training activities to upskill the program delivery workforce on specific focus areas, such as HVAC, building controls and automation, and building envelope.
 - Monitor and help mitigate supply chain disruptions and inflation impacts.
 - Streamline the Large Commercial and Industrial New Construction pathways, required documentation, and savings calculations.
 - Sunset efforts that have failed to demonstrate the potential to generate significant cost-effective savings, including the Telecommunications Initiative and various demonstrations to reduce costs and focus on efforts with greater savings potential.
 - Investigate promising new measure offerings, including gas leak detection and repair.

INNOVATING FOR FUTURE ENERGY EFFICIENCY SAVINGS FOR RHODE ISLAND CUSTOMERS: PILOTS, DEMONSTRATIONS, AND ASSESSMENTS

For 2023, the Company intends to continue or start five Pilots, Demonstrations, or Assessments. The Company will continue to update the EERMC and PUC of the progress, findings, and next steps of all Pilots, Demonstrations, and Assessments over the course of 2023 in the Quarterly Reports.

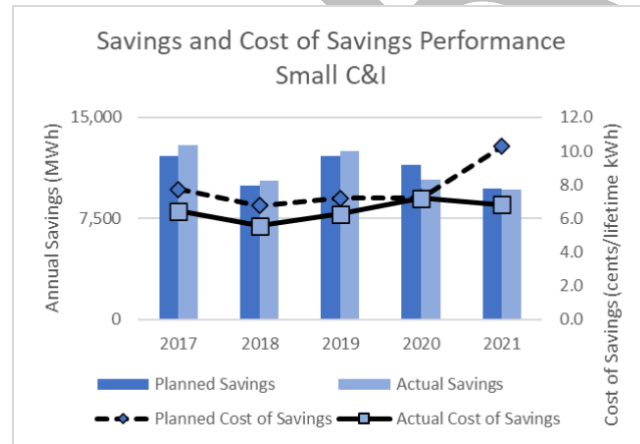
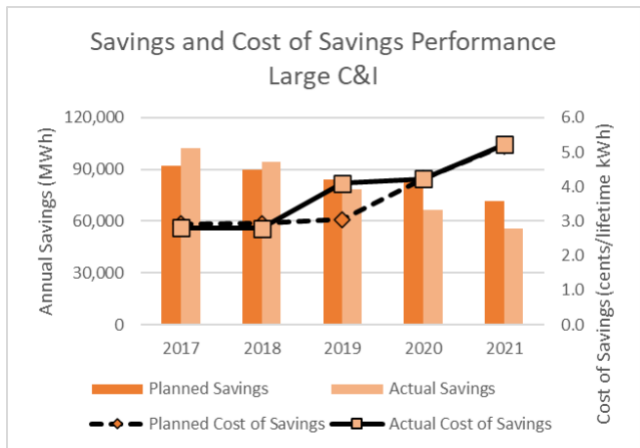
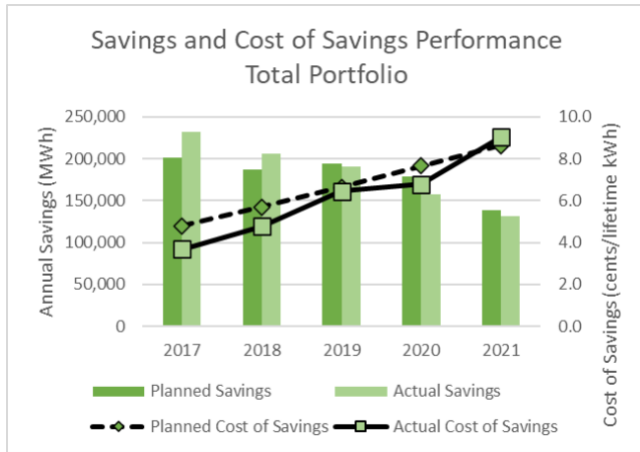
The following table outlines the objectives, planned activity, and next steps of the five Pilots, Demonstrations, or Assessments underway in 2023.

Pilot, Demonstration, or Assessment	Objectives	Planned 2023 Activity	Next Steps
Gas Demand Response Pilot <i>C&I Pilot</i>	Target hourly peak reduction from Extended Demand Response (EDR) pilot offering, and Peak Period Gas Demand Response (PPDR) pilot offering	Retain current levels of enrollment in the EDR offering and the PPDR pilot offering	Continue program operations for Q1 2023.
Automated RTU Optimization C&I Demonstration	This demonstration project will examine the SwarmStat™ product, which can be deployed for smaller customers with 2 or more RTUs controlled by smart thermostats and no existing EMS. This product is of particular interest since it allows simple, enhanced controls for small to medium customers with minimal upfront investment.	Work with an independent evaluator to assess gas and electric savings realized by automated optimization software. The Company expects the demonstration to include a pre/post analysis of energy consumption for 10-15 customers.	Recruit additional participants for this demonstration.
Gas Leak Survey & Repair C&I Demonstration	Investigate the program potential of providing customers with gas leak detection and repair services. Vendors will survey customers' internal gas infrastructure to identify and quantify leaks, which will be repaired by vendors or internal customer labor, reducing overall customer gas purchase.	Identify additional leak survey vendors and coordinate survey with two to four customer facilities.	Identify two to four customers whose facilities are a good fit for this demonstration.
Weatherization C&I Assessment	Explore opportunities to expand on historical weatherization (Wx) efforts. Although Wx has not historically constituted a major portion of the C&I	Seek a third-party vendor to assist in this	Characterize likely target facilities.

	portfolio, the Company seeks to explore cost-effective opportunities to expand in this area. Any Wx expansion will be evaluated for cost-effectiveness within the existing program framework	effort. Identify potential customer facilities for weatherization.	
Software and Hardware Solutions for Rightsizing RTUs <i>C&I Assessment</i>	The purpose of this assessment is to develop an understanding of the available market for a commercial RTU rightsizing measure in Rhode Island. How many current commercial RTUs are oversized? When RTUs are replaced, what is the methodology used to determine the replacement or replacements?	Assessment will establish a protocol for when and how rightsizing should be considered.	The assessment will make recommendations on whether rightsizing should be considered within the prescriptive HVAC offerings or only on a custom basis.

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APPENDIX B: Electric Program Trends Over Time



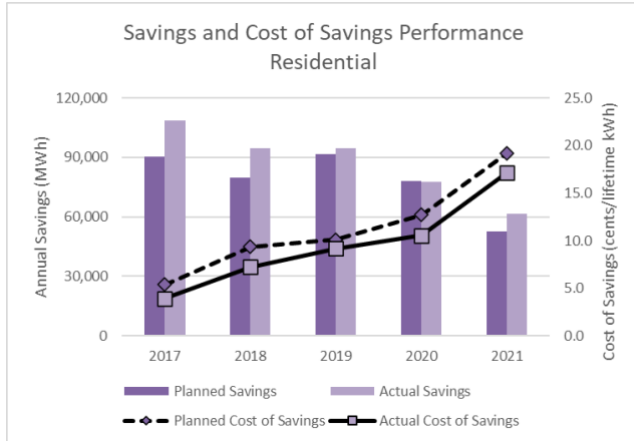
Graphs 1-5 show the cost per lifetime savings (cents/lifetime kWh) achieved by the electric energy efficiency programs each year over the past five years. They also depict planned versus achieved net annual electric savings. Graph 1 shows trends for the total portfolio of electric programs while graphs 2-5 highlight specific market sectors: Large Commercial & Industrial (C&I), Small C&I, Residential, and Income Eligible.

There are three main trends that the Council feels is important to highlight in this section. First, there has been a trend over the past three years of not achieving the portfolios electric savings goals. Part of this is attributable to the impacts of COVID-19 over the past couple of years. In particular, the Income-Eligible programs have struggled to meet its annual savings goal in each of the past four years. Second, there has been a downward trend in planned and achieved annual electric savings across the portfolio. This is in part due to recent evaluation studies which have found that the saving attributable to the program offerings are lower than they have been in the past. Finally, there has been a noticeable trend of increased costs across the programs. The two main drivers of the increased costs are increases in material and labor costs, as well as the fact that much of the savings that used to be inexpensive lighting is in the process of being replaced with more costly (though still cost-effective) measures that achieve deeper energy savings.

Each year, the EERMC works in coordination with the Company to continue to enhance program delivery strategies and optimize energy efficiency benefits for all ratepayers. Maximizing the cost-efficiency of the programs is a top priority for the Council.

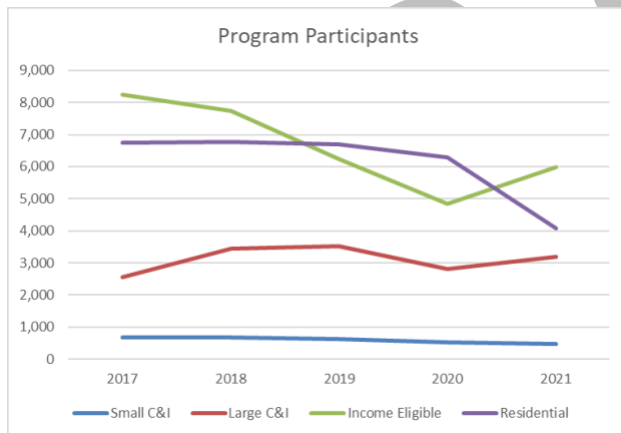
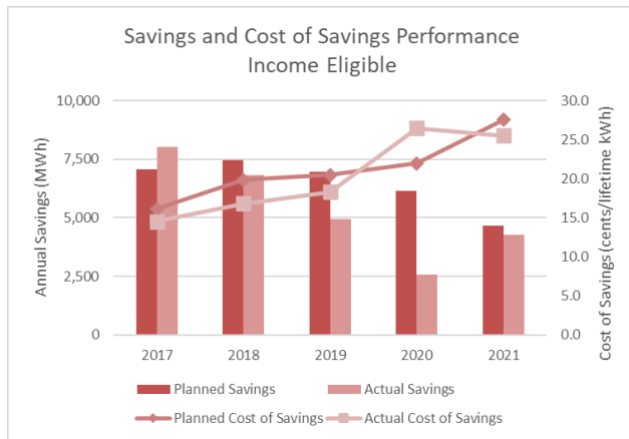
Through the programs, lighting upgrades have historically provided significant amounts of lower-cost energy efficiency savings. Both in RI and

across the nation energy efficiency programs have played a critical role in transforming the lighting market from incandescent bulbs and other inefficient lighting to energy-efficient LEDs. With the lighting market transforming to LED technologies, it means homeowners will be able to choose from energy efficient lighting options without need for program funding. This represents a great success story for energy efficiency.



Graph 6 shows program participation over time from 2017 through 2021. Please note that Residential program participation numbers are shown in hundreds. The residential electric programs have the largest participation numbers of all the market sectors.

Over the past five years participation levels have increased for large C&I customers, remained relatively consistent for small C&I customers, and has decreased for all residential customers. It remains a priority of the EERMC and the Company to continue expanding access to energy efficiency programs for all ratepayers.



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APPENDIX C: 2022 Energy Efficiency Vendors

The following list includes contractors and subcontractors performing work directly for the Company's Energy Efficiency programs in 2022 that were counted in the FTE analysis and additional companies who assisted customers to secure equipment rebates, for example through the New Construction, High Efficiency HVAC programs, and upstream lighting. The list also includes the Community Action Program agencies and their subcontractors involved with the delivery of the low-income program, whether under the Company's funding or WAP/LIHEAP/ARRA funding.

The list is organized by state, with companies then listed alphabetically. Rhode Island firms are listed first. Of the 1,152 companies, agencies, contractors and sub-contractors listed here, 59% are either headquartered in Rhode Island or have a physical presence in Rhode Island, 19% are Massachusetts-based companies, and 3% of companies are Connecticut firms. The remaining firms have offices in the other New England states or outside of New England. The list is organized with Rhode Island companies first, then other states in alphabetical order. Within each state, the firms are listed alphabetically.

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