

**2022 EERMC Annual Report
FIRST DRAFT**

March 2022

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EXECUTIVE SUMMARY
(Forthcoming)

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MIKE GUERARD MEMORIAL PAGE

(Forthcoming)

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LETTER FROM THE CHAIR

(Forthcoming)

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LETTER FROM THE EXECUTIVE DIRECTOR

(Forthcoming)

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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

Anthony Hubbard, Acting Chair

*Voting Member Representing Low Income Energy Consumers
Director, YouthBuild Providence*

Peter Gill Case, Acting Vice Chair

*Voting Member Representing Expertise in Energy Design and Code
Principal, Truth Box, Inc.*

Joe Garlick

*Voting Member Representing Small Non-Profit Institutions
Executive Director, NeighborWorks Blackstone River Valley*

Thomas Magliocchetti

*Voting Member Representing Large Non-Profit Users
Former Vice President, Facilities Management, Rhode Island Hospital*

Kurt Teichert

*Voting Member Representing Expertise in Environmental Issues
Senior Lecturer in Environmental Studies, Brown University*

Nicholas Ucci

Ex-Officio Member - Executive Director, EERMC

Acting Commissioner, Office of Energy Resources

Karen Verrengia

*Voting Member Representing Energy Efficiency Education and Employment Tracking
Building Operator Certification Course Manager, CLEAResult*

Appointment Pending

Voting Member Representing Small Commercial & Industrial Users

Appointment Pending

Voting Member Representing Residential Users

Appointment Pending

Voting Member Representing Municipalities

Appointment Pending

Ex-Officio Member Representing Expertise in Delivered Fuels

Appointment Pending

Ex-Officio Member Representing Utilities

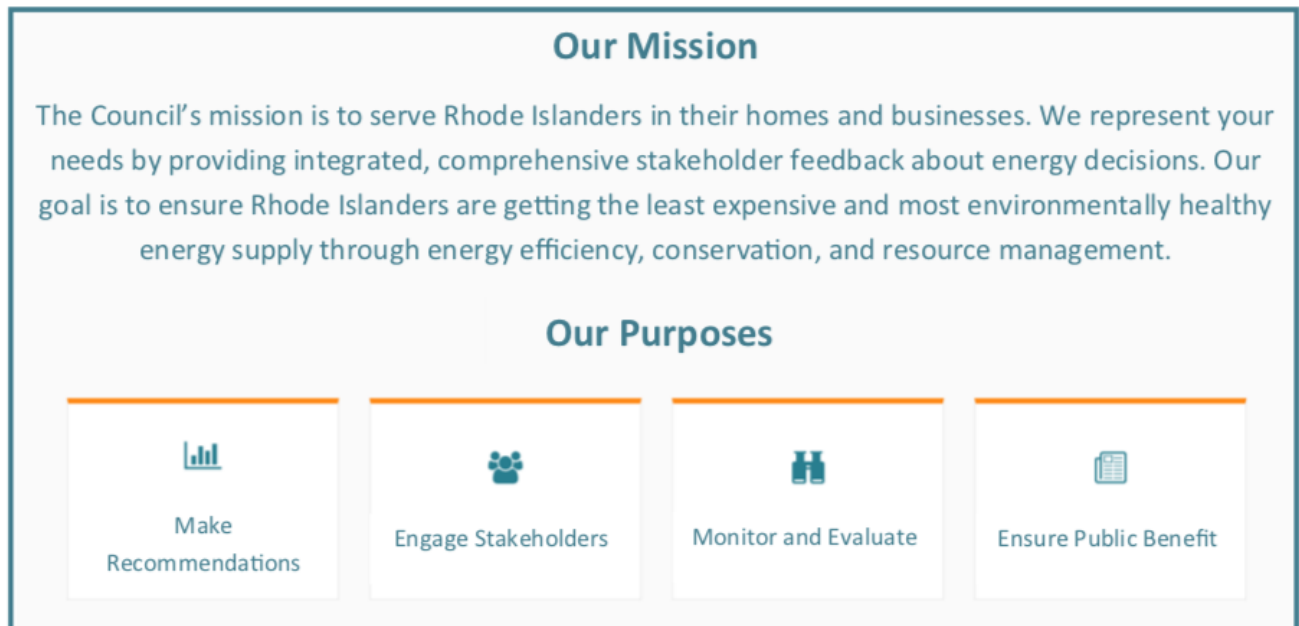
Appointment Pending

Ex-Officio Member Representing Utilities

WHO WE ARE & WHAT WE DO

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.

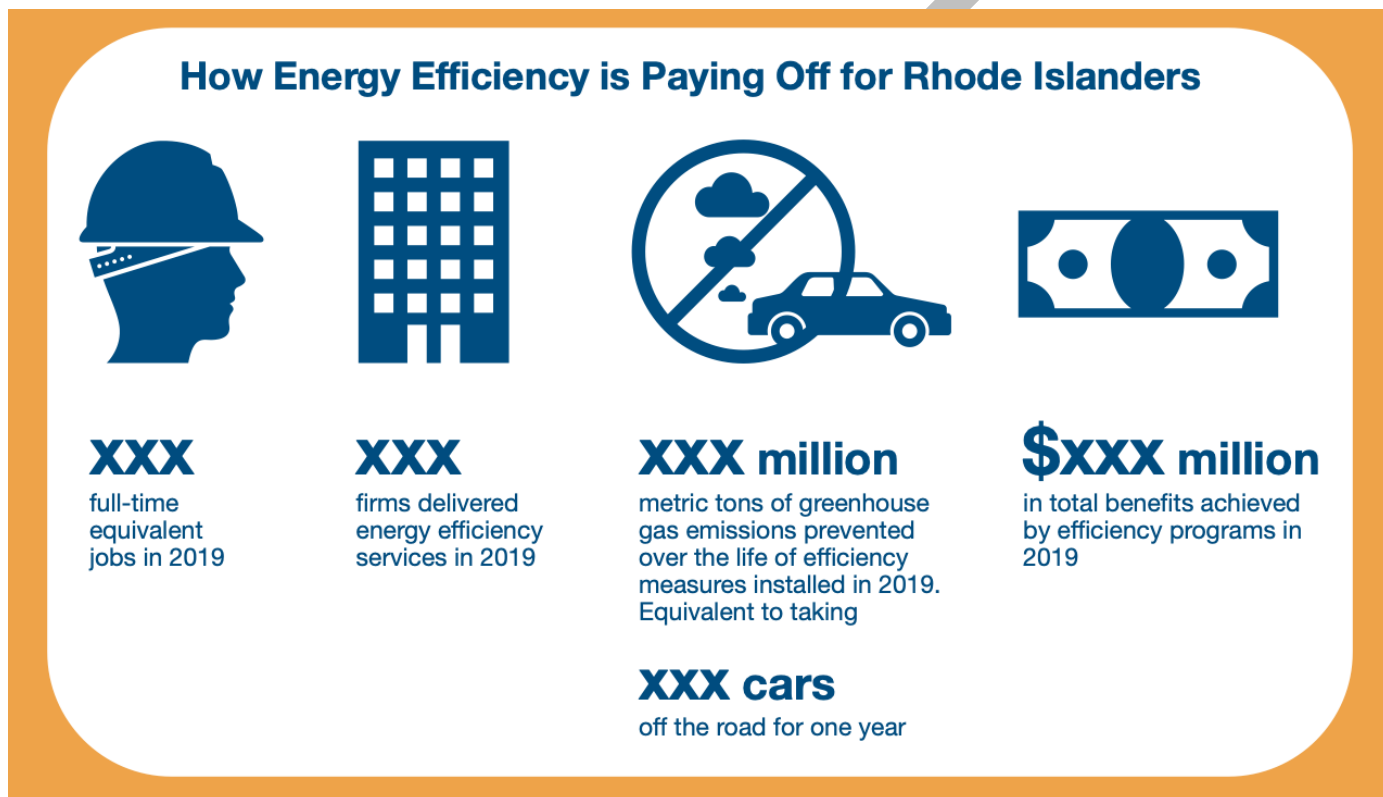


The effects of energy efficiency in the last decade now cumulatively account for approximately 20% of Rhode Island's electricity needs. Without the cost-effective energy efficiency investments made over time, which cost on average about 4 cents per kilowatt-hour saved, we would now be paying more than 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 National Grid'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 energy saving targets and then establish implementation plans that are equitable, cost-efficient and cost-effective to maximize benefits for all Rhode Islanders.

2021 ACHIEVEMENTS AND HIGHLIGHTS

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 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.



(Graphs forthcoming)

Figure 3. Value of Energy Efficiency Program Benefits Actual (2010-2021) and Goal (2022). Since 2009, National Grid's Energy Efficiency Programs have provided about \$X.X Billion in realized benefits. Achievement of the 2021 Plan goals will nush the total realized value to near \$X.X Billion.

2021 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. COORDINATE EFFICIENCY PROGRAMMING WITH ACT ON CLIMATE MANDATES:** The passage of the Act on Climate legislation in 2021 sets mandatory Greenhouse Gas emission reduction targets that Rhode Island must meet. As stated in the law, “Addressing the impacts on climate change shall be deemed to be within the powers, duties, and obligations of all state departments, agencies, commissions, councils, and instrumentalities, including quasi-public agencies” and this lens should be used by all involved in developing future energy efficiency plans. 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 to help achieve these Act on Climate mandates.
- 2. CONCENTRATE SUPPORT ON CLEAN ENERGY WORKFORCE DEVELOPMENT:** If Rhode Island is to achieve its economy-wide greenhouse gas emissions targets, it will require a well-trained workforce to install robust energy efficiency measures and modernize heating and transportation equipment. In particular, the energy efficiency workforce will be rapidly changing in the coming years and requires a retooling of existing skillsets to meet these new and growing equipment needs. 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, coordination with existing clean energy programs should be encouraged. This is particularly true for historically marginalized communities which may offer unique opportunities to both train new workers in fields ripe for employment growth and to better serve these marginalized communities moving forward.
- 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.
- 4. ENCOURAGE & EMBED EQUITY IN ENERGY PROGRAMMING:** Ensuring that all of our energy programs have an emphasis on, and embed equity into, their design and delivery will be critical to ensuring that all Rhode Islanders benefit from our clean energy future. Making sure that efforts to incorporate the voices and experiences of those most impacted by the energy system, such as the Energy Efficiency Equity Working Group and other similar initiatives, continue to be supported and integrated into the decision making will be paramount to the achievement of equitable outcomes.

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

(Forthcoming)

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2021 PROGRAMS & INITIATIVES

Residential Energy Efficiency Programs

National Grid 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. 2021 was an unusual year which saw the continuation of innovation and program enhancements that accommodate shifting rules associated with the COVID-19 pandemic.

In 2021, more than X residential thermostats and X residential battery systems were enrolled in the Residential Connected Solutions program. Over the course of X events in the summer of 2021, these customers delivered an average of X MW from thermostats, and X MW from batteries, of active demand response curtailment, helping to lower peak load on the grid.

The residential lighting program continued to progress in 2021, its final year. In 2020, the heating electrification program to replace or displace oil or propane heating sources with high-efficiency air source heat pumps was discontinued with the use of energy efficiency funding due to a determination that, under the Least Cost Procurement Law, using electric ratepayer funds to conduct fuel switching was not within the intent of the Law. However, the air source heat pump incentive for electric resistance heating customers remained effective and participation of XXXXXXXX exceeded the goals for 2021. Additionally, enhanced incentives were offered to oil or propane heating sources with the additional Regional Greenhouse Gas Initiative funding.

In its ninth 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. X Rhode Island customers received reports in 2021.

The Energy Innovation Hub was not open during 2021 due to the COVID-19 pandemic. The Hub has helped customers to understand their own energy use as well as how participation in energy efficiency programs contributes to the State's greenhouse gas and energy reduction goals. Located in the lobby of Dunkin' Donuts Center, prior to the COVID-19 pandemic the Hub drew walk-in customers and groups of customers from local businesses and schools.

In 2021, through the ongoing COVID-19 pandemic, the Energy Innovation Hub adopted a hybrid approach for customers by leveraging our updated virtual pathways of communication and the physical Hub space. By utilizing newsletters, social media, virtual presentations, and our networks, the Innovation

2021 RESIDENTIAL RESULTS

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

Tell us about your home for a better comparison.

To see a more accurate comparison and helpful tips, update your home profile. It won't take long—just 2-3 minutes.

<input checked="" type="checkbox"/>	Home type	Single family
<input checked="" type="checkbox"/>	Home size	1400 sq. ft.
<input type="checkbox"/>	Own or rent	Unknown
<input type="checkbox"/>	Heating type	Unknown
<input checked="" type="checkbox"/>	Pool	Yes
<input type="checkbox"/>	Dryer	Unknown
<input checked="" type="checkbox"/>	Second fridge	Yes
<input checked="" type="checkbox"/>	Fireplace	No

Sign in to your account and visit Track Usage.
Go to What Uses Most to update your profile.

UPDATE HOME PROFILE

Hub was able to host approximately 250 in-person visitors within the Hub, approximately 50 customers via virtual presentations, and countless others via other electronic means. The Energy Innovation Hub at its current location is planned to close in March 2022 due to lower than anticipated use by the public.

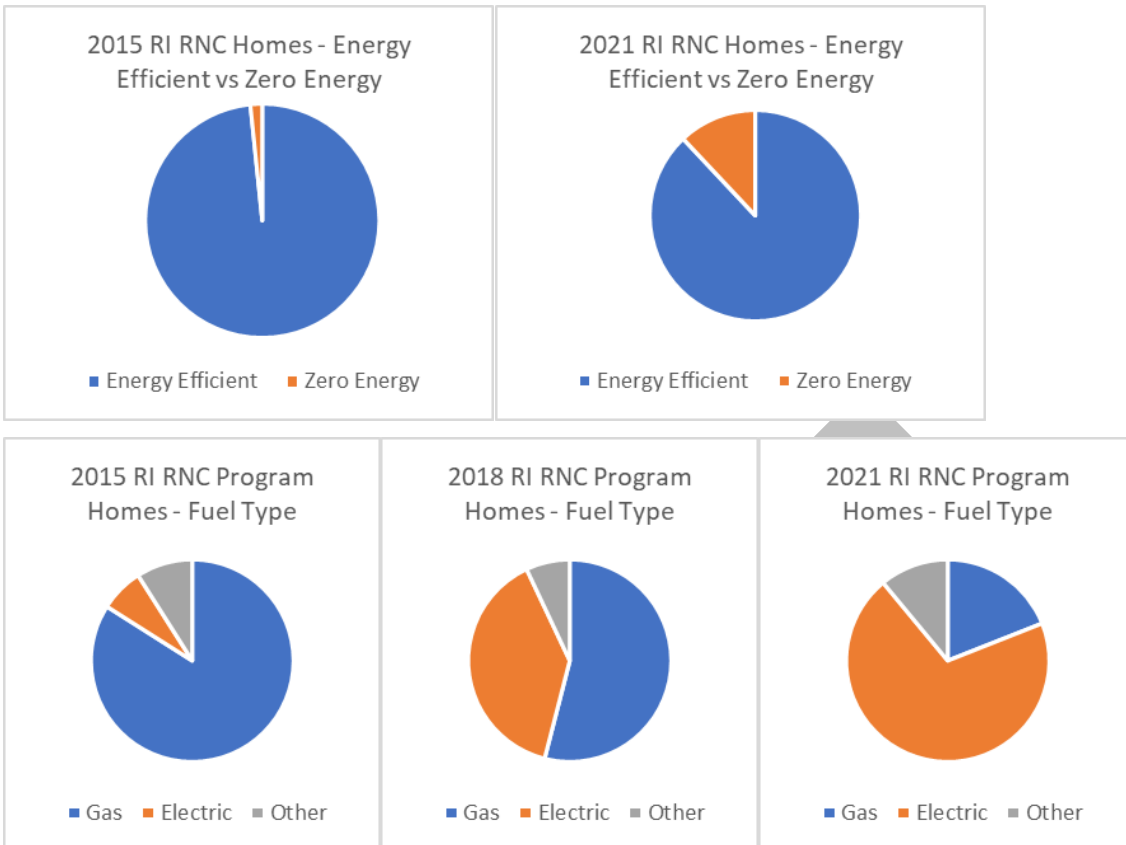
National Grid continued its core residential energy efficiency programs in 2021:

- ◆ **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, technical assistance, and education, and offers for financial incentives to replace inefficient lighting, appliances, thermostats, heating and cooling systems, and insulation with technologies that are more energy efficient. In 2021, EnergyWise won the ENERGY STAR® Partner of the Year (Sustained Excellence Award from the U.S. Environmental Protection Agency and the U.S. Department of Energy) for the fourth year in a row. It's also the sixth year that National Grid Rhode Island has been recognized as Partner of the Year in Energy Efficiency Program Delivery for EnergyWise. The program also celebrated 25 Century Club recipients who are insulation contractors that have weatherized 100 or more residential homes in Rhode Island. Furthermore, Rhode Island garnered the ENERGY STAR Excellence in Marketing award for its successful promotion of the ENERGY STAR® brand. Program achievements in 2021 include providing assessments and weatherization services to the Narragansett Indian Tribe and partnering with the Rhode Island Office of Energy Resources to design the Regional Greenhouse Gas Initiative Moderate Income offering. The EnergyWise program faced increased participation in 2021 which resulted in an overspending situation. Customers that were not be served in 2020 due to the program being suspended for several months and a reduced workforce as a result of the suspension created a large influx of customers this year. In 2021, the EnergyWise Single Family program achieved 20,494 net lifetime MWh of electric savings and 786,836 net lifetime MMBtu of gas savings.

- ◆ **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 (compared to the 2017 baseline), 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. Construction continued throughout 2021 as RI deemed it an essential business, and technical support continued via remote means. In 2021, 540 housing units were built to the RNC standards, and 512 newly planned units enrolled in the Program. Of the 540 units, 65% were market rate and 35% were affordable housing. In 2021, RNC offered a new High Efficiency Electric Homes incentive that provided an additional \$1,000 per unit for 1-4 unit buildings, and \$500 per unit for 5+ unit buildings that were high efficiency all-electric (fossil-fuel-free) homes with approved, and accurately sized, heating and cooling equipment. 2021 Program trends continue to demonstrate market transformation in electrically heated homes compared to gas heated homes and zero-energy ready and Passive House homes. In 2021, the Residential New Construction (RNC) program achieved 14,677 net lifetime MWh of electric savings and 31,532 net lifetime MMBtu of gas savings.

Locations of homes completed in the RNC program in 2021

<p>Zero Energy Homes 2015: 2% Zero Energy Ready 2021 Pipeline: 12% Zero Energy Ready</p>
<p>2018: 54% gas, 39% electric 2021: 19% gas, 70% electric</p>



- ◆ **The ENERGY STAR® Consumer Products Program** promotes the purchase of high efficiency household appliances and electronics. 2021 produced strong results with high consumer interest in refrigerator and freezer recycling, room air cleaners, dehumidifiers, room air conditioners, dryers, pool pumps, and advanced power strips. In 2021, the Residential Consumer Products program achieved 35,285 net lifetime MWh of electric savings.
- ◆ **The ENERGY STAR® Lighting Program** provides negotiated pricing to customers for the purchase of ENERGY STAR® qualified lighting, retail store promotions, and/or pop-up stores, and limited online flash sales. Notably, 2021 is the final year of the program. All in-store incentives concluded on September 30th to allow for adequate time for final invoice processing. In 2021, the ENERGYSTAR® Lighting program achieved 26,542 net lifetime MWh of electric savings.
- ◆ **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 gas heating program continued to see a strong consumer purchase of the energy-efficient combination boiler/hot water systems (1,229 systems) verses a much lower purchase of the stand-alone energy efficient boilers (225). The HVAC electric program continued to promote the replacement of old electric resistance heating systems with high-efficiency cold climate electric air source heat pumps (ASHP) which resulted in 603 rebates processed. The HVAC electric program launched a new HVAC Check reporting portal V2.0, which was used to collect, review and report 647 passing HVAC Check tests by program approved contractors. 22 HVAC Check trainings were offered, resulting in 74 contractors being included on the list of Approved Contractors to ensure that ASHP systems are sized accurately, installed correctly, and the equipment is working properly. A weekly newsletter was developed and distributed to HVAC companies, contractors, technicians, distributors, and other trade allies to provide ongoing communication about the HVAC Program. In 2021, the ENERGYSTAR® HVAC (Heating and Cooling) program achieved 76,687 net lifetime MWh of electric savings and 514,514 net lifetime MMBtu of gas savings.

- ◆ **The Home Energy Reports (HER) Program** continued in 2021 with a specific focus on COVID messaging and billing options for customer at the beginning of the year. In mid-2021 the program pivoted back to more traditional messaging. In April, an updated version of home energy reports was distributed to customers in print and by email. This update, called Home Energy Report 3.0, is designed to keep customers engaged in behavioral energy efficiency. In 2021, The Home Energy Reports program achieved 29,975 net lifetime MWh of electric savings and 88,159 net lifetime MMBtu of gas savings.
- ◆ **The Multifamily Program** The Multifamily Retrofit program provides comprehensive energy efficiency solutions to market rate and income eligible gas and electric customers as well as commercial gas customers. In 2021 the program conducted 266 assessments in market rate and 86 assessments in income eligible. Despite the challenges the COVID-19 pandemic created for this customer segment the program performed well. The Market Rate Multifamily Retrofit program achieved 10,294 net lifetime MWh of electric savings and 148,623 net lifetime MMBtu of gas savings. The Income Eligible Multifamily Retrofit program achieved 23,636 net lifetime MWh of electric savings and 186,932 net lifetime MMBtu of gas savings. The C&I Multifamily Gas program achieved 57,808 net lifetime MMBtu of gas savings. Much of the program's success in market rate can be attributed to increased penetration of the 5–20-unit segment of the multifamily market. This has historically been the most underserved multifamily customer segment and the increase in participation can be attributed to consistent direct outreach to prospective multifamily customers by the program's lead vendor. Another achievement for the program has been the adoption of combined heat and power (CHP) technology for Income Eligible multifamily facilities. In 2021, the program facilitated the installation and interconnection of four 24kW micro CHP systems at income eligible properties. These systems were installed at no-cost to the customers and in total will save an estimated 540,518 kWh annually.

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 are currently on the electric A-60 or the gas 11, 13 rates; qualify for LIHEAP funds from the State; or whose 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, 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 2021, the IES program conducted 3,349 energy assessments – 69% in-home, and 31% virtual assessments due to Covid-19 restrictions. Compared to 2020, 2021 **did/did not** see overall reductions in the installation of insulation, appliances, and heating system replacements.

Field operations with COVID precautions continued in 2021 with all six CAP agencies providing in-home services. Lead Vendor staff participated in Technical Working Group meetings (IES Deep Dive), the WAP Policy Advisory Council Meeting for the State of Rhode Island PY 2021 WAP plan, and the IREC Green Building Career MAP launch. Each quarterly IES Best Practice meeting was held virtually. These meetings focused on 2020 year-end results, 2021 program delivery updates, COVID-19 updates, and the Third-Party Referral Program (including enhanced referrals and a marketing update). The key performance indicator (KPI)

2021 INCOME ELIGIBLE RESULTS

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

process was implemented throughout all of 2021, to improve communications between CAPs and the Lead Agency. KPI meetings were held with each CAP, the Company's lead vendor and at least one Rhode Island Department of Human Services (DHS) representative. These meetings ensure that the CAPs are aware of their KPI goals and that they are on pace to meet the goals and provide a dedicated time for constructive dialog. A total of five CAP Executive Directors Meetings were held in 2021. In attendance were most CAP Executive Directors, National Grid, and the lead vendor. The discussion focused on performance, challenges/opportunities, customer communications, sharing of consistent information across all CAPs and opportunity for open discussion.

Overall, in 2021 the IES program achieved 21,500 net lifetime MWh of electric savings and 132,704 net lifetime MMBtu of gas savings.

Income Eligible Program/WAP Collaborative

National Grid'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.

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 the thermal comfort. These funds provide the most advanced technologies and testing protocols available in the industry to improve the energy performance of income eligible housing.

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.

Commercial, Industrial & Public Program and Initiatives

Large Commercial and Industrial Programs

National Grid 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.

2021 LARGE C&I RESULTS

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

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, National Grid leverages a Market Sector approach. This approach allows National Grid to provide customized efficiency solutions that align with the customers' needs, thereby increasing program participation. The following Market Sectors were incentivized through targeted initiatives in 2021: Grocery, Municipal and State Buildings (including K-12 schools), Strategic Energy Management Planning, Manufacturing/Industrial, Restaurants, and Farm/Agriculture, and Multifamily. 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.

In 2021, National Grid reimagined the Program, which is now structured around three whole building pathways, including:

- Zero Net Energy – For buildings designed to minimize energy use
- Whole Building Energy Use Intensity (EUI) - Uses EUI as a benchmark to determine performance and energy efficiency incentives
- Streamlined

Customers can also opt to participate in the Systems pathway, which provides for efficient systems and equipment rather than conducting a whole-building analysis.

At year-end, the Company had a pipeline of nearly 30 new buildings and major renovations that are likely to participate in the Commercial New Construction Program. Foremost among these are warehouse facilities to support e-commerce, a major mixed-use development project, and several buildings at the Quonset Business Park. In 2021, the New Construction program performed well, achieving 203,779 net lifetime MWh of electric savings (107.6% of goal) and 699,081 net lifetime MMBtu of gas savings (159.8% of goal). An example of a successful project is an industrial customer that installed two new injection-molding units used to manufacture personal protection equipment. The vendor worked with the customer to select high-efficiency units that saved the customer 38,368 gross annual kWh while reducing operations and maintenance costs by \$2,400 per year (non-energy benefits).

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.

In 2021, the Large Commercial Retrofit program achieved 450,961 net lifetime MWh of electric savings and 718,401 net lifetime MMBtu of gas savings.

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 National Grid to implement energy efficiency opportunities for industrial customers across Rhode Island.

In 2021, the Industrial Initiative resulted in 89 electric applications resulting in 17,257 gross annual MWh of savings and 30 gas applications amounting to 27,047 gross annual MMBtu of savings. One major project was for a customer installing a fume mitigation system, which reduced energy use by 1,217 gross annual MWh. The project involved 83 primary fans and 38 assist fans to help meet the state's indoor air quality requirement of removing at least 70% of air contaminants.

EnergySmart Grocer Initiative

The EnergySmart Grocer (ESG) initiative delivered cost effective, comprehensive energy savings in the grocery market segment in 2021 by providing nearly X net MWh and X net MMBtus in annual savings. The Company would like to highlight three projects completed in 2021 for grocery customers.

1. A national chain grocer installed coffin case freezers with glass lids and self-contained medium temperature case with doors across 12 locations in Rhode Island, yielding 93 gross annual MWh in savings.
2. A new location of a regional grocery chain in Johnston installed a wide range of energy-efficient measures including night covers, destratification fans, variable frequency drives (VFDs), heat reclaim, lighting, and kitchen equipment. These measures are predicted to save 690 gross annual MWh and 2,300 gross annual MMBtu.
3. A local supermarket in Pawtucket participated in the Company's Performance Lighting offering as well as installing night covers. These measures are predicted to save 50 gross annual MWh and 84 gross annual MMBtu.

Serve Up Savings (Regional and national chain restaurant) Initiative

This initiative worked with six national chain restaurants and one regional chain restaurant to save gross annual MWh and X gross annual 1,992 MMBtu.

Telecommunications Initiative

This initiative launched in early 2021. Throughout the year, seven assessments were completed and six were delivered. The remaining assessment will be delivered in 2022. National Grid has been working with the vendor to clarify processes and lay the groundwork for success in 2022.

Combined Heat and Power Program

Combined heat and power (CHP) systems are a cost-effective way for customers to achieve energy savings and improve resiliency. Customers who install CHP generate electricity on-site and capture the thermal load for process-related needs, thereby eliminating the requirement to procure additional non-electric energy. While the total energy savings from CHP can be substantial, the CHP installation process can be challenging due to the long lead times, complex technical requirements, and substantial capital investments.

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Solid State Street Light Initiative

The National Grid Solid-State Street Light Initiative provided 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 National Grid. Incentives are being offered for solid state lighting and controls, as funding allows. In addition to the funding offered by National Grid, the Office of Energy Resources continues to accept applications for street lighting grant funding from communities.
- Company Owned Street Lighting – National Grid filed a company owned street lighting tariff in 2016. If the municipal customer prefers to continue leasing their streetlights from National Grid, the customer will receive the incentive and the Company will claim the savings.

In 2021, the Solid-State Street Lighting Initiative awarded over \$X in incentives to X different municipalities, resulting in approximately X MWh of annual electric energy savings.

Commercial ConnectedSolutions

The Company implemented an active demand reduction program in 2021, 2020, and 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 2021, the Targeted Dispatch measure of the Commercial ConnectedSolutions program curtailed an average of X gross MW with X customer accounts participating in six events over the summer. In 2021, the Daily Dispatch measure of the Commercial ConnectedSolutions program curtailed an average of X MW with X customer accounts participating.

Small Business Direct Install Program

National Grid'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. National Grid then completes retrofit installations at the customer's convenience. In 2021, the program served small businesses of all types including car dealerships, non-profits, and small offices.

National Grid 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 2021, the Small Business Direct Install (SMB/DI) program achieved 118,133 net lifetime MWh of electric savings and 64,537 lifetime MMBtu of gas savings.

The Company would like to highlight several projects that were completed in 2021 for small business customers.

1. The Small Business program completed a project at a facility that serves adults with developmental disabilities. Lighting was converted to LED fixtures and WiFi thermostats with temperature sensors were installed. These thermostats will allow the customer to better balance the heating within the space. The customer is expected to save 10.5 gross annual MWh.

2021 SMALL C&I RESULTS

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

2. The program retrofitted a health care office in Cranston. New LED fixtures were installed, and duct insulation was applied to ductwork running through unconditioned spaces. The customer can expect to save 5.2 gross annual MWh.
3. The program completed an installation of wirelessly controlled LED fixtures with program grouping capabilities and occupancy sensors for an insurance company. These luminaires are projected to save 169 net annual MWh per year.
4. LED fixtures were installed inside and outside a diner in East Greenwich. Gas saving measures such as kitchen aerators, pipe insulation, and ductwork insulation to ducts running through unconditioned spaces. This customer will save five net annual MWh per year and 42 net annual MMBtu per year.
5. The program completed projects at two family-owned restaurants. The first restaurant received CoolTrol refrigeration controls and high efficiency EC motors in the evaporators. Interior and exterior LED fixtures were installed throughout the second restaurant as well as several low-flow kitchen spray valves. The combined savings of the two restaurants is 2.2 net annual MWh per year and 11.4 net annual MMBtu.
6. The Providence branch of Boys & Girls Club of America (a non-profit that provides safe and inclusive environments for youth and teens) was retrofitted with new LED fixtures and domestic hot water controls at zero cost to the organization. This retrofit is projected to save 52.7 gross annual MWh and 195 gross annual MMBtus in gas.

In 2021, National Grid continued to utilize the existing contractor/electrician base through the Customer Directed Option (CDO) where customers are allowed to use their own contractors in conjunction with the expertise of the lead vendor in the Small Business Program. These additional “feet on the street” are helping the program maintain its success even as some segments continue to be successfully served through other paths. In 2021, 36% of savings in the SMB/DI program came from CDO contractors.

Farm Energy Efficiency Program

The Farm Energy Efficiency 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 National Grid's on-bill payment system, provided that funds are available.

In 2021, X Rhode Island farms received no-cost, farm-specific energy assessments. With help from a University of Rhode Island Energy Fellow, additional outreach was conducted virtually through online webinars, email, attendance at farmer's markets, and one-on-one phone calls. A video profile of Verde Vineyards 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 profile is the second one developed and helps supplement written energy profiles to share the success stories of agribusinesses tackling clean energy projects. 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. As of Date, Rhode Island State agencies have reduced their energy consumption by X% (2014 baseline), saved \$X million (FY 2019) from competitive energy procurement processes, and as of DATE are procuring 100% of their electricity supply from renewable energy sources. 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 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 and National Grid to better manage their energy bills through Portfolio Manager (a free online tool from the U.S. Environmental Protection Agency), 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. Significant work in 2021 was done to expand Lead by Example best practices to Rhode Island public schools through the launch of the School LED Lighting Accelerator program through the Office of Energy Resources, which provides technical, procurement, and financial support to qualified school districts for LED lighting upgrades.

Key 2021 Lead by Example accomplishments include:

Commercial, Industrial & Public Finance

Large C&I Revolving Loan Fund

Through the electric Large C&I revolving loan fund, the Company offered \$X million in on-bill financing to X large C&I customers through X loans resulting in electric savings of X annual MWh. At the end of 2021, the fund had a balance of \$X million, money that will be available for more loans in 2022 and in the future.

Through the gas LC&I revolving loan fund, the Company offered \$X million in loans to X Large Commercial customers resulting in gas savings of X net annual MMBtu. At the end of 2021, the fund had a balance of \$X million, money that will be available for more loans in 2021 and in the future.

The Company continued to manage a revolving loan fund in support of the Rhode Island Public Energy Partnership (RIPEP). X customers participated in this offering in 2021. At the end of 2021, the fund had a balance of \$X million.

Small Business Revolving Loan Fund

The Small Business Revolving Loan fund was able to provide \$X million in loans that led to more than XXXXX MWh in annual energy savings. At year end, the fund had a balance of \$X million.

Efficient Buildings Fund (EBF)

Since 2015, National Grid, 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 2021, the EBF helped support streetlight conversion from legacy technologies to LEDs across two fire districts in Coventry. The EBF also helped support energy efficiency projects across a handful of facilities owned and operated by the Providence Water Supply Board, that will greatly improve their efficiency and operations.

Since inception, the EBF has supported projects across 14 municipalities, loaning out \$60.9 million dollars to support a variety of energy efficiency projects. These investments have resulted in energy reductions of 212,500 MWh and will deliver \$82.6 million in cash savings over the lifetime of the installed measures.

With the update to Least Cost Procurement law in 2021, a Clean Energy Fund was established at RIIB to support the implementation of a variety of clean energy projects supported by an annual transfer of \$5.0 million dollars beginning in 2022.

Commercial Property Assessed Clean Energy (C-PACE)

National Grid has one C-PACE project in progress with the City of Providence. However, no gas or electric savings were claimed related to this project in 2021. Outreach by the Rhode Island Infrastructure Bank and National Grid will continue in 2022.

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 2021, the Company continued or started fourteen Pilots, Demonstrations, or Assessments. The Company completed six projects and will continue the remaining eight into 2022. The efforts continuing into 2022 will be detailed in the 2022 Look Forward section below.

These research and development efforts ranged from multiyear efforts to pilot Demand Response to smaller research projects assessing the

feasibility of HVAC Automation for Demand Response. The Company updated the EERMC and PUC of the progress, findings, and next steps of all Pilots, Demonstrations, and Assessments over the course of 2021 in the subsequent Quarterly Reports.

The following table outlines the objectives, brief findings, and next steps of the 14 Pilots, Demonstrations, or Assessments active in 2021.

Pilot, Demonstration, or Assessment	Objectives	Findings	Next Steps
Gas Demand Response Pilot C&I Pilot	Target hourly peak reduction from Extended Demand Response (EDR) pilot offering, and Peak Period Gas Demand Response (PPDR) pilot offering	Limited C&I customer participation on Aquidneck Island. If needed, more hourly load reductions may need to come from Resi thermostat programs.	Continue program operations for Q1 2022. Determine future need for program on Aquidneck.
Continuous Energy Improvement C&I Demonstration	The primary objective of the Continuous Energy Improvement (CEI) demonstration is to activate industrial and manufacturing customers through a multiplicity of interventions, to address operation and maintenance measures in the short-term, to pursue capital measures in the medium-term, and establish a culture of continuous improvement in its energy performance over the long-term.	The Company encountered issues related to scalability, recruitment, savings distribution, and the composition of savings. Due to these shortcomings, the Company has determined not to extend this demonstration or include CEI in the C&I portfolio beyond 2022.	The Company will look to claim CEI gas savings in spring of 2022. This will mark the end of the contracted CEI demonstration engagement.

<p>Network Lighting + HVAC Control C&I Demonstration</p>	<p>Recruit up to four customers for system installation and integration. What are the energy and non-energy benefits of projects, pain points in commissioning the projects, and knowledge gaps that may hinder fully realizing expected HVAC savings?</p>	<p>Customer recruitment has taken longer than anticipated for a number of reasons- high saturation of LEDs, delays due to covid, and long project lead times.</p>	<p>Complete system installations and M&V for demonstration participants.</p>
<p>Kitchen Exhaust Controls C&I Demonstration</p>	<p>Recruit up to five customers to install electrostatic filtration and energy recovery. What are the realized energy savings for each technology? What barriers exist for measure adoption?</p>	<p>Electrostatic filtration is only a good option for customers with existing requirements for pollution control, which are not widely required in Rhode Island. The energy recovery product became unavailable during the demonstration.</p>	<p>This demonstration has concluded due to lack of product availability and eligible customers.</p>
<p>Gas Heat Pumps C&I and Residential Demonstration</p>	<p>Validate performance of newer absorption gas HPs for C&I & Residential</p>	<p>Residential products have limited commercial availability; commercial products exist but are not typically cost-effective.</p>	<p>Pivot residential demonstration to test gas heat pump hot water heaters, recommended to close out commercial demonstration due to custom fit.</p>
<p>Enzyme-based HVAC Coil Cleaning C&I Demonstration</p>	<p>Recruit several sites across hospital and education for an enzyme coil cleaning, and measure cooling savings, comparing to conventional pressure washing, and investigating a possible higher tier to our coil cleaning offering.</p>	<p>The demonstration only was able to recruit hospital sites, which had significant ventilation requirements, resulting in negligible savings even after cleaning, as systems continued at full capacity due to under sizing and inefficient distribution.</p>	<p>The demonstration revealed that savings will vary significantly based on ventilation requirements; the offering should continue in a custom framework.</p>
<p>HVAC Automation for Demand Response C&I Assessment</p>	<p>Investigate opportunities and roadblocks to seeding an improved and expanded HVAC asset DR portfolio through EE incentivization of controls.</p>	<p>Prescriptive adherence to a specific automation standard such as OpenADR is not recommended, incentivizing HVAC DR through controls is most effective at the new construction stage, and sector-by-sector priorities means that DR incentivization must</p>	<p>The assessment is concluded; further work for investigating whole building DR (not just HVAC) has been included in the 2022 plan as the “Building Flexibility through Demand Response” assessment.</p>

		also consider loads outside of HVAC.	
Shared Laundry Facilities C&I Assessment	What is the feasibility, potential, and possible measure offering for commercial laundry equipment in multifamily and laundromats?	Commercial clothes washers are a cost-effective measure. The offering is complicated by the equipment leasing structure, revenue model, and lack of building owner insight into utility costs.	Add measure to Multifamily offerings, directing program activity to building owner and operators.
Submetering to Support Energy Efficiency C&I Assessment	Should the Company reassess its policy of not paying for submetering? When is submetering effective in reducing energy consumption?	Monitoring based commissioning software can reliably result in energy reductions for customers who can commit action and work with a knowledgeable service provider.	The Company will launch an updated Monitoring Based Commissioning offering in the ESPO offering.
Smart Valves for Chilled Water Systems C&I Demonstration	What is the savings potential of Smart Valves on chilled water systems? What are best practices for installation and commissioning of these products?	Smart valves may be a good option for customers with chilled water systems and air handlers. Existing systems should be in good working order to realize full savings potential of the smart valves.	Continue customer recruitment and M&V activity
Refrigerant Leak Detection Survey and Repair C&I Assessment	What are the regulatory and standard practice behaviors around refrigerant management in grocery stores? Are GHG reductions related to refrigerants a viable benefit for the RI programs? What is the overall potential for energy and GHG reductions in RI?	Grocery stores can have significant refrigerant leaks, often around 25% on an annual basis. The leaks are themselves a source of GHG, but also reduce energy efficiency. Frequent refrigerant leak detection surveys and repairs are not required for most locations.	The Company will include this measure as a demonstration in 2022. The demonstration will include one grocery store to participate in M&V activity in 2022.
Pre-Fab Whole House Energy Refurbishment Residential Assessment	Is there a market and supply chain in Rhode Island to support these projects at scale? Assess industry capability to design and deliver pre-fabricated exterior improvements while residents continue to live in the home.	The market cannot currently support this approach at scale, but pilot programs are underway in other territories to develop the capabilities.	The Company will track progress in market development.

<p>New Air Sealing and Insulation Residential Demonstration</p>	<p>Evaluate effectiveness of novel air sealing (sprayed acrylic for new construction) and insulation (injection foam for wall cavities) products for single family homes.</p>	<p>The approaches are potentially viable for new construction and existing buildings, respectively, but demonstration must continue.</p>	<p>The Company will identify customer sites in 2022 and implement the products.</p>
<p>Solar Inverter Direct Load Control Residential Demonstration</p>	<p>Successfully implemented new power factor correction settings on customer-owned solar inverter and collected data from the solar inverters and Company operated substations to assist the 3rd party evaluator in quantifying the savings and verifying the method of calculating savings.</p>	<p>Preliminary results from the evaluation show kVA and kVAh savings.</p>	<p>The Company will contract with an AESC vendor to translate the kVA and kVAh savings into equivalent AESC economic kW and kWh savings.</p>

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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. In 2021, the Company continued its partnership with Quonset Development Corporation (QDC), under a three-year memorandum of understanding, to provide EE services to the Quonset Industrial Park. QDC achieved 215% of its electric savings target for the year, with projects totaling 7.5 million kWh of savings versus a 3.5 million kWh target. Roughly \$1.8 million in incentives was approved to fund these energy efficiency projects and associated technical assistance / education. The Company continued to partner with QDC to promote energy efficiency and other clean energy alternatives to customers at the Park.

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.

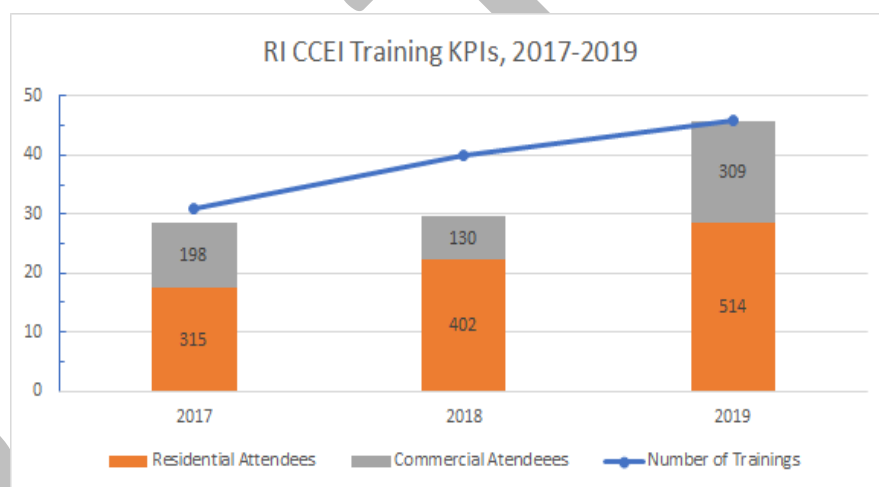
Overview of Performance

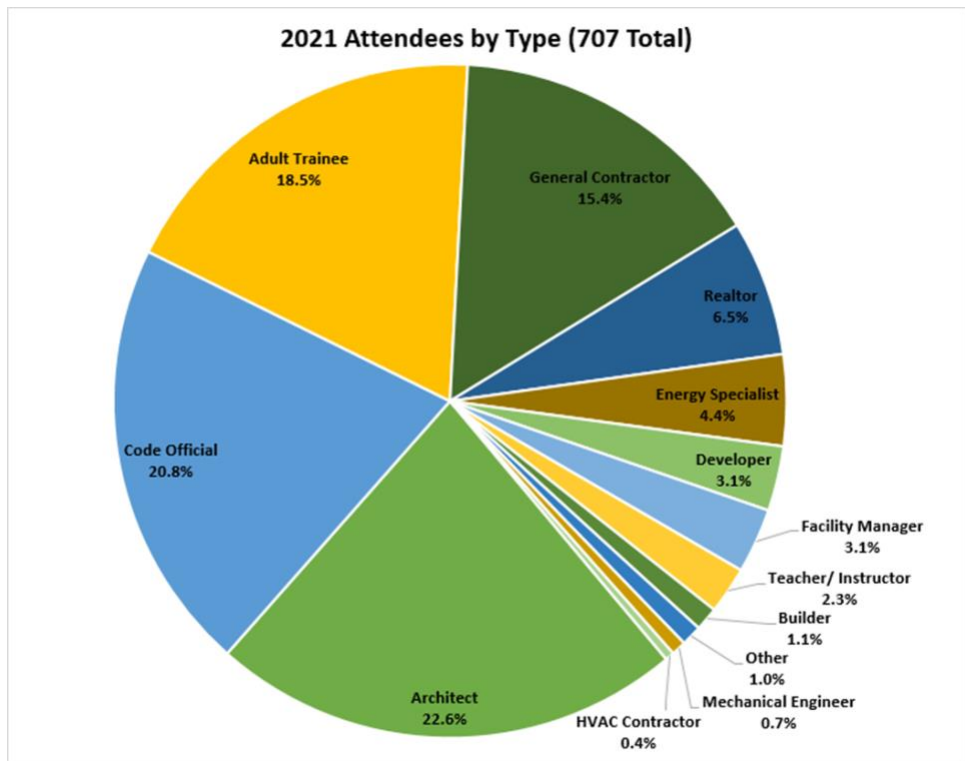
In 2021, the Code Compliance Enhancement Initiative (CCEI) conducted 54 training events across the state with 707 total attendees, a 38% increase in both number of trainings and participation levels compared to 2020.

National Grid 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

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.

Block Island Energy Efficiency Program

Through the Regional Greenhouse Gas Initiative (RGGI), proceeds were allocated to the Block Island Utility District (BIUD) to support the development and delivery of cost-effective energy efficiency programs and incentives to customers over three years (2020-2022). As a result of this RGGI investment, BIUD partnered with OER to develop a full-scale energy efficiency program. The initial energy efficiency program plan was approved by the Utility District’s Board and filed with the Public Utilities Commission (PUC), ultimately receiving approval in May of 2020. Once vendors were hired the program was launched in the fall of 2020 and saw immediate demand from residents for home energy assessments, both in-person and virtually.

The program provides no-cost energy assessments and direct install measures and provides rebates to emphasize important cost-effective savings measures like weatherization, heat pump heating and cooling systems, and programmable thermostats. The goals of the efficiency program are to continue empowering customers to make clean energy decisions that lower their energy usage and costs, reduce energy burdens, and help provide grid stability and reduce challenging peak loads during the summer tourist season.

The second program plan was approved by the PUC in May of 2021 and continues the offerings made available in the initial program year with a focus on increasing awareness and uptake of audit services for both residential and business customers to build a pipeline of projects. The current program plan seeks to leverage partnership with on-island resources, such as local businesses and other energy outreach and communication efforts to cross-promote programs, build interest and uptake of efficiency services, and ultimately attract contractors to the island to serve the growing efficiency project pipeline. Creative

partnerships, leveraging existing networks, and strong communication will be critical to support the growing efficiency plan and overcome geographic barriers the island community can face.

Details about the energy efficiency program can be found on Block Island Utility District's website.

Energy Efficiency in Pascoag Utility District

Through the Regional Greenhouse Gas Initiative, proceeds were allocated to support the accelerated adoption and delivery of cost-effective energy efficiency measures by customers located in the Pascoag Utility District (PUD). OER worked with Pascoag Utility District management to begin implementing elements of the multi-year strategy they jointly developed in 2018, starting with a significant increase in home energy audits. In conjunction with OER and their efficiency consultant, Pascoag staff began optimizing program incentive levels and streamlining program delivery to better encourage and facilitate the adoption of energy efficiency in homes and businesses.

With the support of OER and their efficiency consultant, Pascoag has managed to grow their efficiency program nearly ten times and continued to safely provide critical energy efficiency programming to customers despite the challenges of COVID-19. Working with their lead vendor, Pascoag was able to begin offering virtual home energy assessments to continue serving customers while also protecting public health. Recognizing the financial strain, the pandemic was having on customers, PUD increased incentive levels for key efficiency measures like weatherization to allow all customers realize critical energy savings even in tighter financial times. These adaptive strategies and lessons learned were incorporated in their 2021 DSM plan as well to ensure they can continue to provide important efficiency services safely and accessibly to their customers. PUD also introduced a pilot program focused on providing home energy assessments and weatherization services specifically to rental units in their territory, as they felt this customer segment had been underserved historically by their existing programs and wanted to try to better reach and serve these customers.

The growth and success of Pascoag's efficiency program led the Office of Energy Resources to make an additional multi-year investment of RGGI funds in 2021. This additional investment will continue to support the robust and critically important efficiency work taking place in Pascoag across the 2022-2024 program years. This investment will allow the efficiency programs to maintain and build on their current offerings and service levels while transitioning to being fully sustainable and ratepayer supported by the end of the engagement.

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

In 2021, the "Path to Zero Ready" program continued with a focus on training and providing technical support and incentives for projects under construction and in the design stage. The Working Group did not convene as the program shifted to project-specific technical support.

2020 Path to Zero Ready Program key elements:

1) Education and Awareness

To raise awareness of the design, construction, and benefits of zero energy homes in RI, X trainings, were held in 2021 with over X attendees. Due to Covid-19, tours of zero energy homes were not conducted.

2) Project Incentives

In addition to the technical support and financial incentives provided through the RNC program, a project that commits to zero energy ready can receive additional technical support as well as additional incentives for meeting the RI Stretch Code or being PV and EV ready.

Building Operator Certification

In 2021, National Grid continued its long-standing sponsorship of Building Operator Certification (BOC) training that is discounted or free for building operators in Rhode Island. One course was run in the summer. 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.

Rhode Island Energy Innovation Hub

The Energy Innovation Hub (Hub) has served as a community engagement destination designed to provide a hands-on opportunity for customers to learn about energy efficiency, renewable technologies, electric vehicles, state energy goals, and a vision for a clean energy future. The Energy Innovation Hub at its current location is planned to close in March 2022 due to lower than anticipated use by the public.

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COUNCIL PUBLIC EDUCATION EFFORTS

2021-22 EERMC Energy Lecture Series

In 2021, the EERMC was proud to host its first EERMC Energy Lecture Series. The three virtual lectures were designed to promote public understanding and stakeholder dialog around key energy efficiency issues relevant to Rhode Islanders today. This series featured local leaders and covers an array of topics – from tips on how to lower your energy bills at home, to innovative solutions from the Rhode Island business community, to training our workforce amidst a rapidly changing energy landscape.

The first lecture, held on October 28, 2021, was titled *Show Me the Money: How to Save on Your Utility Bills through Energy Efficiency* and featured Brian Kearney from RISE Engineering and Council member Karen Verrengia. The second lecture was held on December 20, 2021 and was titled *Innovative Energy Solutions: A Rhode Island Business Round Table*. Speakers included Laurie White, president of the Greater Providence Chamber of Commerce, Julian Dash, founder and CEO of Copacity, and Tom Giordano, executive director of the Partnership for Rhode Island. The final lecture was held on January 25, 2022 and was themed *Ready to Apply: Preparing Rhode Island's Workforce for Clean Energy Jobs*. Speakers included Nina Pande, executive director of Skills for Rhode Island, and Mark Kravatz, executive director of Habitat for Humanity of Greater Providence.

There were over 100 virtual attendees between to the three events, including professionals in energy, workforce, business, state and local government, and members of the public. Another 75 viewers have watched the recorded lectures on YouTube. More information, including lecture recordings, can be found at <https://rieermc.ri.gov/energy-lecture-series/>.

Energy Training for K-12 Teachers

The National Energy Education Development (NEED) Project provides energy curriculum and training to K-12 teachers and students throughout the United States with over 30 years of programming in Rhode Island with OER and National Grid. In 2020 and 2021, the EERMC supported the expansion and enhancement the NEED energy efficiency and conservation curriculum and training with content on energy justice and climate science. Building on NEED's portfolio of energy curriculum resources and training processes, this new curriculum module brings together energy efficiency and conservation (both school and residential), building science, climate science, energy justice, and health for Rhode Island teachers, students and families. The project seeks to include additional components for healthy outdoor spaces, urban landscapes and heat islands as related to energy, efficiency, climate and health. These components will strengthen the use of the curriculum in Rhode Island schools, especially Environmental Science, and nonformal education programs. Workshop to train educators on the new module were held in March and October of 2021. Over 2,000 Rhode Island students are expected to be taught this curriculum as a result of these training efforts.

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 low. Conversations with stakeholders, energy program administrators, and National Grid suggest low participation is due, in part, to a lack of knowledge of available programs. The Farm Energy Efficiency Program offers Rhode Island agribusinesses incentives for prescriptive energy efficiency measures.

In 2021, 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 online webinars, email, attendance at farmer's markets, and one-on-one phone calls. A video profile of Verde Vineyards 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 is the second video profile completed and helps supplement written energy profiles to share the success stories of agribusinesses tackling clean energy projects. Presentations were also given at several workshops and further outreach was conducted through the program's growing social media presence: Facebook and Instagram (@RIFarmEnergyResources).

2021 Combined Heat and Power Public Meeting

On Wednesday, June 2, 2021, the EERMC hosted the Annual Rhode Island Combined Heat and Power (CHP) Stakeholder Meeting. For the second consecutive year, meeting was held 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 National Grid'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 40 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), National Grid, the EERMC and its Consultant Team, and the Rhode Island Infrastructure Bank (RIIB) were also present.

EERMC member Tom Magliocchetti welcomed attendees and framed the conversation, referencing his experience with CHP in the healthcare industry. Daniel Tukey and John Karlin discussed the details of National Grid'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. 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 2021 the EERMC took steps to increase awareness of energy justice and improve the understanding of equity as it relates to energy efficiency.

- **EE Equity Working Group:** As a part of National Grid's 2021 Annual Energy Efficiency Program, National Grid committed to working with OER to co-host an Equity Working Group. The goal of this working group was to provide National Grid with written recommendations to advance equity in the planning, design, and delivery of its Energy Efficiency Programs. The Equity Working Group

was comprised of representatives from state agencies, community-based organizations, advocacy organizations, and local subject matter experts in equity. The Equity Working Group met six times in 2021 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. The key topic areas that were discussed during the Equity Working Group meetings included defining equity, marketing and outreach, metrics and data collection, workforce development and training, and program budgets. Following the series of working group meetings, members aligned on a series of recommendations for National Grid to consider in the development of their 2022 Annual Energy Efficiency Plan¹. In their 2022 Annual Energy Efficiency Plan, National Grid highlighted each of the Equity Working Group's recommendations, described their current activity related to the recommendation and provided commitments to enhancements related to each recommendation that are planned for 2022².

- **Presentation to the EERMC on Advancing Equity in RI EE Programs:** In the May 28th Council Retreat meeting, the EERMC received a presentation from their technical consultants on advancing equity in Rhode Island's energy efficiency programs. The presentation included an overview of equity in energy efficiency, lessons learned from similar and recent equity in energy efficiency efforts in Massachusetts, and a preview of the Equity Working Group's planned activities.³ Councilors then engaged in an open conversation around equity and its importance in future energy efficiency planning considerations. environmental justice, its history relating to segregation and redlining, and the ways in which energy injustice manifests itself today in Rhode Island. It concluded with OER's current actions towards addressing energy justice. Additional presentations and conversations surrounding the topic are expected in 2021.

¹ Please see the Equity Working Group's final report for 2021 for additional information, available at: http://rieermc.ri.gov/wp-content/uploads/2021/09/11_2022-national-grid-2021-ewg-final-report.pdf

² For more information on National Grid's planned enhancements related to the Equity Working Group recommendations, please see Section 2.5.1 – Cross-Cutting Programs – Equity of the 2022 Annual Energy Efficiency Plan, available at: <http://rieermc.ri.gov/wp-content/uploads/2022/02/5189-ngrid-energy-efficiency-plan-2022-puc-10-1-21.pdf>

³ The presentation is available on the Council's website at: <http://rieermc.ri.gov/wp-content/uploads/2022/03/202021-eermc-retreat-session-1-advancing-equity-in-ri-ee-programs-final-5-28-21.pdf>

INCENTIVES BY TOWN

Table 1. National Grid Gas and Electric Energy Efficiency Incentives Provided to Residential, Commercial and Industrial Customers in 2020

Barrington	\$TBD	New Shoreham	\$TBD
Bristol	\$TBD	Newport	\$TBD
Burrillville	\$TBD	North Kingstown	\$TBD
Central Falls	\$TBD	North Providence	\$TBD
Charlestown	\$TBD	North Smithfield	\$TBD
Coventry	\$TBD	Pawtucket	\$TBD
Cranston	\$TBD	Portsmouth	\$TBD
Cumberland	\$TBD	Providence	\$TBD
East Greenwich	\$TBD	Richmond	\$TBD
East Providence	\$TBD	Scituate	\$TBD
Exeter	\$TBD	Smithfield	\$TBD
Foster	\$TBD	South Kingstown	\$TBD
Glocester	\$TBD	Tiverton	\$TBD
Hopkinton	\$TBD	Warren	\$TBD
Jamestown	\$TBD	Warwick	\$TBD
Johnston	\$TBD	West Greenwich	\$TBD
Lincoln	\$TBD	West Warwick	\$TBD
Little Compton	\$TBD	Westerly	\$TBD
Middletown	\$TBD	Woonsocket	\$TBD
Narragansett	\$TBD	Grand Total	\$TBD

NATIONAL GRID 2021 ENERGY EFFICIENCY WORKFORCE STUDY

National Grid hired Guidehouse, Inc. (formerly Navigant) to conduct a study of the job impacts from National Grid’s energy efficiency programs in 2021. The study estimates the number of full-time equivalent (FTE) employees engaged in all aspects of energy efficiency programs where National Grid provided funding support in 2021.

The FTE counts cover a wide range of energy efficiency services, including independent contractors and plumbers, rebate processors, engineers, and National Grid Staff. The study also includes counts of Weatherization Assistance Program (WAP) FTEs that are employed by the Community Action Program agencies that deliver low-income energy efficiency services. A complete list of all contractors and subcontractors involved in 2021 Rhode Island energy efficiency programs is included in Appendix B of this report.

The study’s findings were developed through interviews with energy services and equipment vendors and National Grid contractors, as well as through a detailed review of National Grid’s records of all energy efficiency measures installed in homes, apartment buildings, businesses, and industries throughout the state in 2021. Guidehouse calculated the labor hours required for each installation based on industry standards and discussions with contractor experts.

Guidehouse determined that TK full-time equivalent (FTE) employees had work in 2021 supported by investments by National Grid in energy efficiency programs provided to its Rhode Island electricity and natural gas customers. One FTE equals 1,760 work hours, or the total of one person working 8 hours a day for 220 workdays in an average year. Because a “full-time equivalent” employee often represents the labors of more than one person over the course of a year, the number of individual workers employed as result of Rhode Island energy efficiency programs funded by National Grid is far larger than the total of FTEs. Most of the jobs supported by energy efficiency investments were local because they were tied to installation of equipment and other materials.

The study also identified TK companies and agencies involved in National Grid’s 2021 energy efficiency programs, TK% of which were located in Rhode Island. The companies identified include those whose employees are counted in the FTE analysis, as well as additional companies who assisted customers to secure equipment rebates, for example through the New Construction, Commercial Upstream Lighting, or High Efficiency HVAC programs.

The study fulfills General Law 39-2-1.2, which was enacted by the General Assembly in 2012. The study will benefit those who work in workforce development, training or those interested in the state’s green jobs.

PLANNING INITIATIVES

State Goals: State Energy Plan & GHG Reduction Goals

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

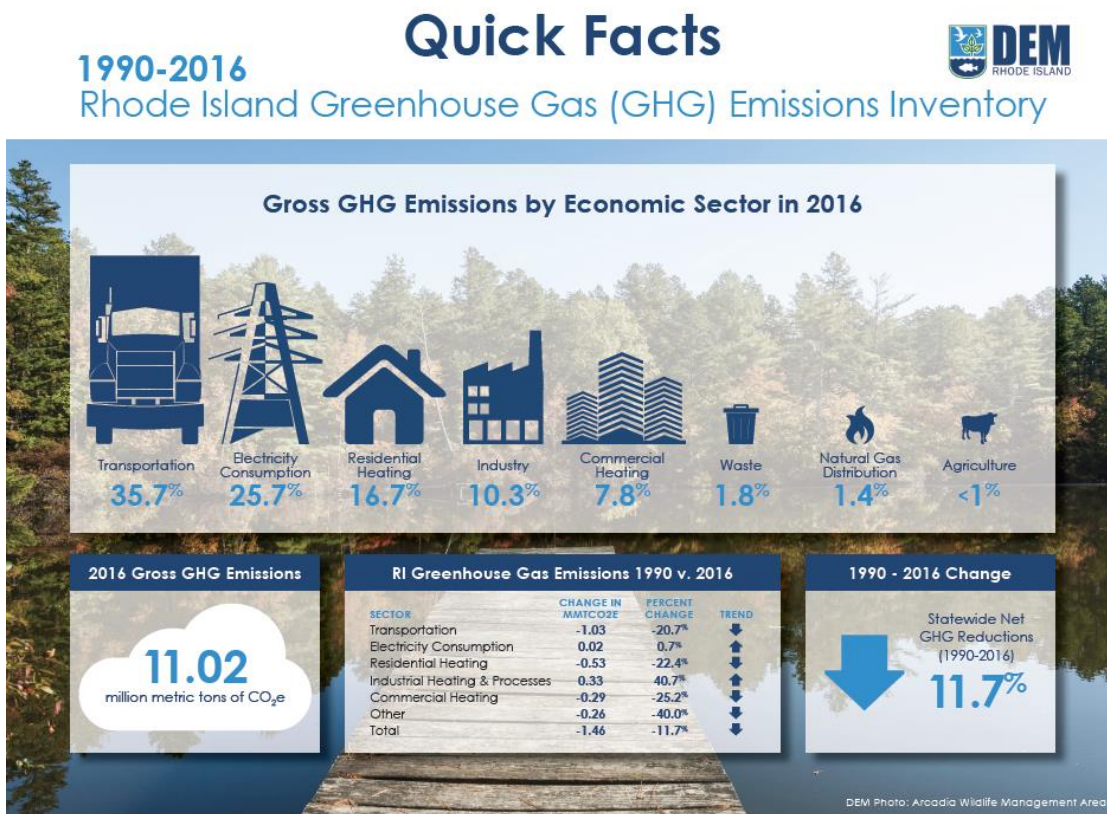
Full-Time Equivalent Employment Associated with Energy Efficiency Programs in Rhode Island in 2021

Programs	Total FTEs
Electric Programs	
Commercial and Industrial	TK
Residential Income Eligible	TK
Residential Non-Income Eligible	TK
Gas Programs	
Commercial and Industrial	TK
Residential Income Eligible	TK
Residential Non-Income Eligible	TK
National Grid EE Staffing	TK
WAP/LIHEAP Income Eligible Programs	TK
Total 2021 Rhode Island FTEs	TK

across all sectors—electricity, thermal, and transportation—using a secure, cost-effective, and sustainable energy system. The Plan demonstrates that Rhode Island can increase sector fuel diversity, produce net economic benefits, and reduce greenhouse gas emissions by 45 percent by the year 2035. The Plan proposes state-of-the-art policies and strategies to achieve those goals.

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.

After the development of the State’s Energy Plan, Governor Raimondo passed multiple Executive Orders focused on reducing greenhouse gas emissions across the state. Her Executive Order 19-06 tasked the



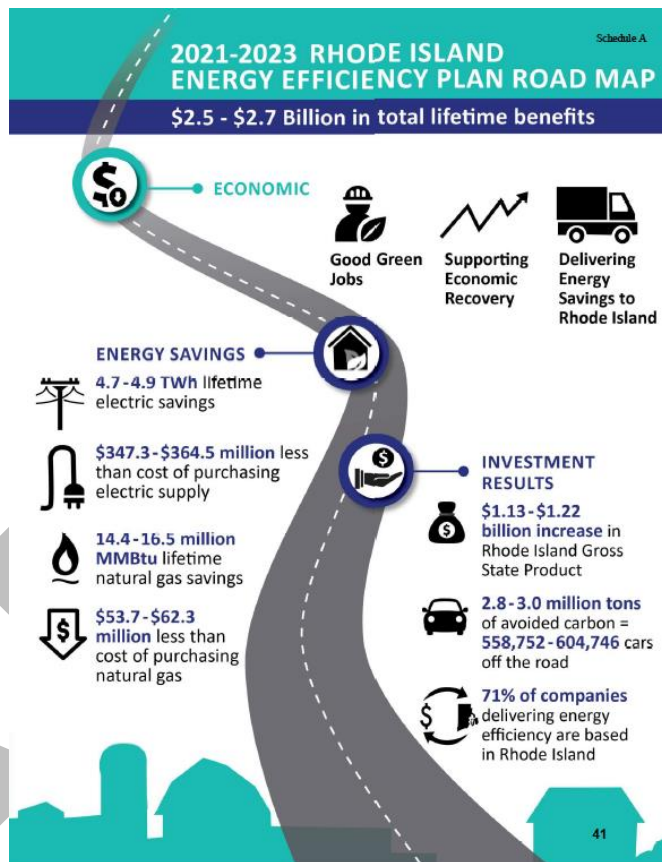
Office of Energy Resources and the Division of Public Utilities & Carriers to create a strategy to support the decarbonization of Rhode Island’s heating sector, the findings of which can be viewed in the [Heating Sector Transformation Report](#). In 2020, Executive Order 20-01 also committed the state to 100% renewable electricity by 2030, and a roadmap to achieve this goal is contained in the [100% Renewable by 2030 report](#).

With the passage of the landmark Act on Climate legislation in 2021, the Executive Climate Change Coordinating Council (EC4) will also play a large role in moving Rhode Island forward to these new mandatory GHG reduction targets and energy efficiency will continue to be a foundational resource in meeting these goals.

To achieve the objectives of these Executive Orders 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.

2021-2023 Energy Efficiency Program Plan (Three-Year Plan)

As part of the legislated triennial process to develop Three-Year Energy Efficiency and System Reliability Plans, the EERMC worked with National Grid, 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. National Grid 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 National Grid 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.



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Annual Energy Efficiency Program Plan

In addition to the Three-Year plan, Annual Energy Efficiency Program Plans (Annual Plans) are developed by National Grid 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 reviewed and ruled on by the PUC. Work on the 2023 Annual Plan will commence in summer 2022.

System Reliability Procurement

Through System Reliability Procurement (SRP), the Company identifies targeted alternative solutions, through customer-side and grid-side opportunities, that are safe and reliable, prudent, environmentally responsible, cost-effective, and provide a path to lower supply and delivery costs for customers in Rhode Island. The EERMC worked with National Grid to keep all seven 2021-2023 SRP commitments on track.

As part of meeting this purpose, the Company develops and implements non-wires alternative (NWA) solutions. “Non-Wires Alternatives” is the inclusive term for any targeted investment or activity that is intended to defer, reduce, or remove the need to construct or upgrade components of an electric system, or “wires investment”. NWAs use clean energy technologies to address electric grid needs. Clean energy technologies can include, but are not limited to, solar PV, energy efficiency and conservation, demand response, storage, and other types of renewable energy systems. NWAs can help the grid deliver electricity to homes and businesses when electricity demand is highest, sometimes at a lower cost than upgrading the wires, transformers, and substations through capital investment. NWAs can also provide clean renewable energy, which may reduce net greenhouse gas emissions.

In 2021, National Grid continued to analyze its screening criteria and development processes for NWAs generally, including specific discussion of uncertainty and expected valuation, and beginning the development of a formal methodology for assessing internally sourced EE, DR, and solar solutions to identified NWA opportunities. Continuing to evaluate and improve the process for implementing an NWA is ongoing into 2022.

Similar to NWA, non-pipes alternatives (NPAs) are cost-effective projects that maintain safe and reliable natural gas delivery while limiting traditional infrastructure investment in the pipeline system. In 2020 and through 2021, National Grid conducted background research on NPAs, explored how NPA solutions fit into company policy and regulatory standards, and engaged with stakeholders to discuss and understand opportunities and challenges to implementing NPAs. The EERMC will continue to work with National Grid to develop an NPA program in 2021-2023.

SRP activities are cross-functional in nature. Through 2021, National Grid continued synchronization and coordination with other programs and initiatives, including Power Sector Transformation; National Grid’s Grid Modernization Plan and Advanced Metering Business Case; the Energy Efficiency program; the Infrastructure, Safety, and Reliability program; and calculations of shareholder incentives across all programs. The EERMC was represented at each meeting of National Grid’s SRP Technical Working Group throughout 2021 to monitor program implementation and inform 2022 program development.

National Grid further enhanced the Rhode Island System Data Portal⁴ (Portal) in 2021. The Portal is an interactive, publicly accessible, online mapping tool developed by the Company. The purpose of the Portal is to provide the market with information about grid-beneficial locations for siting cost-effective grid solutions and distributed energy resources (DERs), like solar and energy storage. The goal of the Portal is to reduce costs for Rhode Island customers through such market engagement. In 2018, National Grid initiated the Portal with maps that include characteristics of the distribution system, approximate levels of load on distribution lines and substations, and an annual snapshot of how much distributed generation (DG) can be hosted on each distribution feeder (called “hosting capacity”).

⁴ “Rhode Island System Data Portal.” *Business Partners | National Grid*, National Grid, 2018, www.nationalgridus.com/Business-Partners/RI-System-Portal.

In 2021, National Grid configured the Portal to display nodal analysis for the Hosting Capacity Map. Hosting Capacity is an estimate of the amount of DER that may be accommodated without adversely impacting power quality or reliability under current configurations and without requiring infrastructure upgrades. Nodalization of hosting capacity information allows for data of specific sections of each feeder to be analyzed instead of the more general feeder-level view and which provides a significantly more refined assessment of hosting capacity. The Company also uploaded the most recent relevant Company filings to the Company Reports tab and performed general maintenance on the Portal throughout the calendar year.

National Grid has continued to improve and streamline the NWA website, providing information to the market on the NWA definition, process and sourcing, and open RFP opportunities.

Additional details on 2021 SRP activities can be found in National Grid's 2021 System Reliability Procurement Year-End Report to be filed in Commission Docket 5080⁵ on June 1, 2022. Additional details on planned activities for 2021-2023 can be found in National Grid's 2021-2023 Three-Year System Reliability Procurement Plan filed in Docket 5080 with the PUC on November 20, 2020. Both reports are also available on National Grid's System Data Portal.

Power Sector Transformation

In March of 2017, Governor Gina M. Raimondo charged the Public Utilities Commission (PUC), the Office of Energy Resources (OER), and the Division of Public Utilities and Carriers (DPUC) with developing recommendations to advance power sector transformation (PST) in Rhode Island. The goal of the PST Initiative is to transition to a more dynamic utility regulatory framework in order to achieve a cleaner, more affordable, and reliable energy system for the 21st century and beyond. The three agencies partnered to solicit input from Rhode Island stakeholders and national experts, submitting a final Phase One Power Sector Transformation report with recommendations to the Governor in November 2017. The final report drew upon previous work to date by the EERMC, the Distributed Generation Board, the Systems Integration Rhode Island Working Group, and the PUC's Docket 4600 Investigation of the Changing Distribution System.

Following the submission of the PST report, National Grid filed an electric distribution rate case with the PUC, which addressed several topics identified in the PST report. In May 2018, National Grid, the DPUC, OER, and several other parties submitted a settlement agreement relative to National Grid's rate case at the PUC.

Among other items, the approved multiyear rate plan settlement includes Power Sector Transportation related initiatives related to electric transportation, energy storage, grid modernization and advanced metering functionality. Through the Electric Transportation Initiative, National Grid is currently conducting a pilot to understand how rebates can encourage electric vehicle drivers to charge off peak, providing advisory services to fleet managers to understand the value proposition for transition to an electric fleet, and providing incentives for customers to install electric vehicle charging stations. Through the Energy Storage Initiative, National Grid is installing two battery energy storage facilities, one of which will be paired with electric vehicle charging infrastructure. With the help of the PST Advisory Group, National Grid developed and filed a longer-term proposal for grid modernization and a business case for advanced metering functionality (AMF) in January 2021. The Public Utilities Commission stayed the review these filings throughout 2021 due to the pending sale of Narragansett Electric to PPL.

For more information on the Power Sector Transformation Initiative, please visit: www.ripuc.ri.gov/utilityinfo/electric/PST_home.html.

⁵ "Docket No. 5080 - The Narragansett Electric Co. d/b/a National's System Reliability Procurement 2021-2023 Three-Year Plan (Filed 11/20/2020)." *State of Rhode Island Public Utilities Commission and Division of Public Utilities and Carriers*, The Narragansett Electric Company d/b/a National Grid, 2020, www.ripuc.ri.gov/eventsactions/docket/5080page.html.

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LOOKING FORWARD: 2022 ENERGY EFFICIENCY PROGRAM PLAN HIGHLIGHTS

2022 Residential Programs

Residential New Construction

In 2022, the company will provide a new HVAC consulting support service (in coordination with ENERGY STAR HVAC) that targets high performance projects. Additionally, program content related to codes and standards will be refreshed to reflect the State of Rhode Island's expected code update.

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

For 2022, the company has added the heat loan to the HVAC Program budget (electric and gas). In the gas HVAC program, the lower efficiency boiler and combo condensing measures were removed to increase participation in the higher efficiency boiler and combo condensing measures. The electric HVAC program will work to develop and implement an HVAC contractor training that guides the design and installation of heating, cooling, and ventilation systems in projects striving to meet Zero Net Energy and Passive House.

Income Eligible Enhancements

In 2022, the company will expand the Community Action Program (CAP) to include the completion of weatherization jobs. Additionally, the number of qualified Appliance Management Program (AMP) / weatherization and heating assessors will be reassessed and stabilized. The Income Eligible Services (IES) Program will prioritize assisting CAPs to train, hire and retain new assessors. The company will also implement a workforce development program with a clear pathway to IES workforce opportunities. Through focused communication and engagement with landlords on behalf of interested tenants, the company aims to increase renter participation, thereby improving the equitable share of program resources.

Home Energy Reports

The company will continue 1-click promotion opportunities that were started in 2021. This enables the collection of additional customer data that will help inform future marketing strategies.

Multifamily Program

In 2022, the company will re-launch a tiered incentive approach that encourages building owners and facility managers to include more residential unit owners in multifamily projects. Additionally, the company will provide greater choice in the condominium market by enabling customers to choose their own air source heat pump (ASHP) contractor. Results from the 2021 Multifamily Census and the Nonparticipant Study will be used to implement targeted marketing to newly identified 5 to 20-unit multifamily owners not currently served. The multifamily program will utilize customer research to further explore new motivators that increase customer participation, such as Non-Energy Impacts (NEIs). The program will also explore financing opportunities for property managers and landlords that will help reduce upfront co-payment burdens. The company plans to explore different tactics that provide customer more personalized feedback through updated website pages, community events, and content hubs. Furthermore, professional development opportunities for multifamily energy auditors and sub-contractors will be continued. The company will also examine new technologies, such as monitoring-based commissioning, that will address the unique needs of multifamily buildings. For the income eligible portion of the program, the company will launch a specific marketing/outreach campaign and leverage the Multifamily Census to identify new prospective income eligible properties.

2022 Commercial and Industrial Programs

Given the high level of saturation in the lighting market, in 2022, the Commercial and Industrial sector will focus on program enhancements that drive progress toward greater adoption of non-lighting opportunities and deeper, more comprehensive measure adoption, while continuing to harvest remaining lighting opportunities. The specific priority measures vary by customer, but in general the priority measures are reflective of the opportunities highlighted in the Market Potential Study.

The Commercial and Industrial New Construction program will continue to build a pipeline from the four-path program structure launched in 2022. The two paths targeting the deepest savings introduce a focus on establishing an energy use intensity (EUI) target early in the design process and is designed to provide support during the design, construction, and occupancy periods to achieve this goal. Another new path introduces a streamlined spreadsheet-based approach to reduce barriers to program participation for smaller projects. This four-path approach was designed through regional collaboration and has been rolled out in neighboring states.

The Large Commercial Retrofit Program will offer a new Monitoring-Based Commissioning pathway that will provide customers with an opportunity to use fault detection and diagnostics systems to achieve continuous building performance improvements and persistent savings. There will also be an increased focus on improving and expanding offerings related to HVAC controls and energy management systems.

The Small Business Direct Install Program is available to commercial customers who have less than 1,000,000 kWh in annual usage. After a Small Business Energy Specialist conducts a no-cost site assessment, the Specialist works with the customer to identify strategies to pursue the appropriate energy efficiency measures. In 2022, the Company will be working on the following enhancements –

1. The Company and its vendor will be actively working towards the goal of increased controls on lighting projects which includes a doubling of luminaires and retrofits kits with one or more control strategies.
2. National Grid has budgeted and planned for increased HVAC savings in 2022. Rooftop units and kitchen exhaust control are two areas that the Company feels have potential in the small business space.
3. The Company has increased outreach and marketing to the women and minority owned business communities.
4. National Grid will be increasing efforts to weatherize small businesses of all fuel types with a combination of SBC and RGGI funds. This not only allows a customer to save money now but prepares them for the coming era of more efficient electric heating through heat pumps. (Only RGGI funds will be used for delivered fuel weatherizations.)

Innovating for Future Energy Efficiency Savings for Rhode Island Customers: Pilots, Demonstrations, and Assessments (Grid)

For 2022, the Company intends to continue or start twelve 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 2022 in the Quarterly Reports.

The following table outlines the objectives, planned activity, and next steps of the 12 Pilots, Demonstrations, or Assessments underway in 2022.

New and Continued in 2022

2018-2020	2021	2022
		Pilot – Gas Demand Response
		Demo – Continuous Energy Improvement
		Demo – Network Lighting Controls +
		Demo – Gas Heat Pumps
		Demo – Smart Valves for CW Systems
		Demo – New Air Sealing and Insulation
		Demo – Refrigerant Leak Survey and Repair
		Demo – Air Curtain
		Demo – RTU Optimization
		Assessment – Building Flex. through DR
		Assessment – Software and Hardware solutions for rightsizing RTUs
		Assessment – Closing the gap for all electric homes

Pilot, Demonstration, or Assessment	Objectives	Planned 2022 Activity	Next Steps
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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	Determine future need for program on Aquidneck.	Continue program operations for Q1 2022.
Continuous Energy Improvement <i>C&I Demonstration</i>	The primary objective of the Continuous Energy Improvement (CEI) demonstration is to activate industrial and manufacturing customers through a multiplicity of interventions, to address operation and maintenance measures in the short-term, to pursue capital measures in the medium-term, and establish a culture of continuous improvement in its energy performance over the long-term.	The demonstration will end early 2022	The Company will look to claim CEI gas savings in March of 2022.
Network Lighting + HVAC Control <i>C&I Demonstration</i>	Recruit up to four customers for system installation and integration. What are the energy and non-energy benefits of projects, pain points in commissioning the projects, and knowledge gaps that may hinder fully realizing expected HVAC savings?	Begin M&V and integration activity at selected customer facilities.	Finalize M&V plan, begin pre-metering period.
Kitchen Exhaust Controls <i>C&I Demonstration</i>	Recruit up to five customers to install electrostatic filtration and energy recovery. What are the realized energy savings for each technology? What barriers exist for measure adoption?	Although included in the plan, this demonstration has concluded due to lack of product availability and eligible customers.	N/A
Gas Heat Pumps <i>C&I and Residential Demonstration</i>	Validate performance of newer absorption gas HPs for C&I & Residential	Will close out commercial demonstration due to custom fit. Due to cut of M&V budget for residential demonstration, will also close residential demonstration.	N/A
Smart Valves for Chilled Water Systems	What is the savings potential of Smart Valves on chilled water systems? What are best practices for installation and commissioning of these products?	Complete metering period and analysis for	Complete the post-installation

<i>C&I Demonstration</i>		participating buildings.	metering period.
Refrigerant Leak Detection Survey and Repair <i>C&I Assessment</i>	What are the regulatory and standard practice behaviors around refrigerant management in grocery stores? Are GHG reductions related to refrigerants a viable benefit for the RI programs? What is the overall potential for energy and GHG reductions in RI?	The demonstration will include one grocery store to participate in M&V activity in 2022.	Perform on site work after completion of pre-metering period.
New Air Sealing and Insulation <i>Residential Demonstration</i>	Evaluate effectiveness of novel air sealing (sprayed acrylic for new construction) and insulation (injection foam for wall cavities) products for single family homes.	The Company will identify customer sites in 2022 and implement the products.	Customer recruitment and vendor contracting.
Air Curtains <i>C&I Demonstration</i>	After internal review with MTAC and other PAs, we are confident in proceeding to measure creation based on the analysis that has been completed and current understanding of the technology	Create new measure	Implement new measure
Building Flexibility through Demand Response <i>C&I Assessment</i>	The assessment will investigate the incentive-based approaches that can create DR capacity across a building's various loads. This assessment will consider building DR outside of conventional HVAC and lighting loads. Questions include: <ul style="list-style-type: none"> • What are the load types (i.e. refrigeration, process, appliance, etc.) in Rhode Island with both the highest potential and under-represented current participation in our DR programs? • What are the barriers to participation for these load types (i.e. systems integration, downtime concerns, low financial return)? 	Interview and secondary research to investigate the stated objectives.	Contract with vendor to begin research.
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?	Conduct assessment of RTU market by early fall to include any appropriate next steps in the 2023 EE plan.	If the assessment proves that there is a market appetite for RTU rightsizing and there are available savings to

			claim, a demonstration will be considered
<p>Closing the Gap for All Electric Homes</p> <p><i>Residential Assessment</i></p>	<p>What types of program enhancements can encourage all electric new construction homes, considering the value and draw of gas appliances like fireplaces and cooktops. The research may point to measure specific rebates, such as an incentive for electric fireplaces and/or induction cooktops, or it may point to incentives for all-electric homes regardless of the appliances installed, or an all-electric home without a gas line to the home.</p>	<p>Complete research by end of the summer to consider any recommendations in the RI 2023 EE Plan.</p>	<p>Work with Residential New Construction vendor to perform research.</p>

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