Rhode Island Energy Efficiency

First Quarter 2022 | National Grid

May 10, 2022

Overview

National Grid's energy efficiency programs continued to deliver energy savings for Rhode Island customers by achieving 75,479 net lifetime MWh of electric savings (9.1% of the net lifetime goal) and 404,653 net lifetime MMBtu of natural gas savings (10.0% of the net lifetime goal) while continuing to address the challenges faced due to the COVID-19 pandemic.

Continued supply shortages have increased costs and delayed implementation across the energy efficiency portfolio.

- Income Eligible Services (IES) is seeing continued supply shortages, particularly with appliances. In response, we have implemented an emergency appliance replacement program for customers whose refrigerator is no longer functioning. The new process allows the implementation vendor to contact the customer to facilitate delivery of an available model.
- EnergyWise Multifamily and Income Eligible Multifamily is seeing shortages in maintenance staff for multifamily properties. This is causing delays for measure installations that require escorts to enter individual units.
- Large Commercial Retrofit vendors have observed significant and growing delays in project timelines resulting from supply chain delays. Many measures require components with delays of several months, and delays are growing. The Company has also observed significant inflation in recent months, in part due to supply chain shortages, and to a lesser extent resulting from labor cost increases. The Company is monitoring the situation and seeking to quantify the impacts of these disruptions.

2022 Program & Initiative Updates – Q1

Residential New Construction (RNC)

The Residential New Construction (RNC) program achieved 505 net lifetime MWh of electric savings (3.4% of the lifetime goal) and 4,909 net lifetime MMBtu of gas savings (7.6% of the lifetime goal) through the first quarter of 2022.

77 housing units were built to RNC Program standards:

- 64 were new construction/gut rehab (83%)
- 13 were renovation/rehab (17%)
- 71 units were market rate (92%)

- Six units were income eligible (8%)
- 37 units had gas heat (48%)
- 16 units had electric heat (21%)
- 11 units had hybrid electric heat pumps and propane (14%)
- 1,546 LEDs were installed through the program

336 newly planned housing units enrolled in the RNC Program:

- 266 were income eligible (79%)
- 117 were renovations (35%)

The RNC program has a longstanding partnership with Rhode Island Housing (RIH). RIH requires all projects receiving funds to participate in the RNC program. In the first quarter, the RNC team provided a training to the RIH team. The training took place on 2/25 and there were nine attendees from RIH. The presentation included an overview of RNC program requirements and incentives, an introduction to building science (HVAC, envelope, air and duct leakage testing and reporting, lighting), an overview of energy modeling and green certifications (such as DOE ZER, Energy Star and Passive House), and an overview of energy code requirements.

The RNC team is currently working with RIH to update the Energy Efficiency & Sustainability requirements in their Construction Guidelines document to ensure affordable housing is designed and built to high energy efficiency standards.

NESEA's Building Energy Boston Conference 2022 brings together over 1,000 practitioners in the fields of high-performance building and design, energy efficiency, and renewable energy. National Grid offered free passes to RI-based Zero Energy Homes builders and had three people request passes.

Challenges and Responses

The industry is experiencing a shortage of construction materials and equipment such as windows, heating equipment and roofing. Pricing for materials such as insulation and lumber also continue to rise. This is affecting ongoing construction schedules. Fortunately, demand for housing continues to be high so these delays and price hikes should not cause long term issues for the program.

Customer Highlight

An affordable housing community in Narragansett successfully went through the program. The renovation is focused heavily on improving energy efficiency, sustainability and improved ventilation and will include new exterior siding, replacement and roof repair, improved insulation, and new ventilation.



Income Eligible Services (IES)

The National Grid Income Eligible Services program achieved 2,333 net lifetime MWh of electric savings (6.1% of the lifetime goal) and 21,674 net lifetime MMBtu of gas savings (9.9% of the lifetime goal) through the first quarter of 2022.

Field operations with COVID precautions continued in the first quarter with all six CAP agencies providing in-home services. One CAP continued virtual AMP program services at the request of their customers.

The first quarter IES Best Practice meeting was held virtually on March 24th, 2022. This meeting focused on ladder safety, 2021 program delivery performance, the Third-Party Referral Program, including Enhanced Referrals and the RIBA Residential Construction Workforce Program.

The KPI process was continued in the first quarter 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 RI Department of Human Services (DHS) representative. These meetings ensure that the CAPs are aware of their KPI goals, their pace to meet the goals and provide a dedicated time for constructive dialog.

Challenges and Responses

Continued supply shortages have increased costs and delayed implementation, particularly for appliances. In response we have implemented an emergency appliance replacement program for customers whose refrigerator is no longer functioning. The new process allows the implementation vendor to contact the customer to facilitate delivery of an available model.

Staffing at some of the CAPs continues to be a challenge to IES Program implementation. National Grid IES is implementing several approaches to reducing the impact of these barriers:

- Contracting for additional auditors providing freelance audit services to the agencies.
- The Enhanced Referral program where completed audits are referred by the CAP agencies to third party implementation services.
- Rhode Island Builders Association (RIBA) Auditor & Installer program, RWCP (Residential Construction Weatherization Program) is training its first cohort at a newly constructed training center in Coventry RI. The goal of the RWCP is to provide equity-based training & certification to local unemployed or underemployed people, providing skills to participate in all facets of the green energy economy. The Rhode Island Builders Association, Comprehensive CAP, TriCounty CAP, along with CLEAResult, are leading this effort. Comprehensive CAP has hired two program trainees.

• Virtual AMPs have slowed but continued with over 2,000 virtual AMPs completed since the program's inception.

Agency Audit Staffing:

- Blackstone Valley Community Action Agency 4 Auditors
- CAP of Providence 3 Auditors
- Comprehensive Community Action Agency 5 Auditors
- East Bay Community Action Agency 4 Auditors
- TriCounty Community Action Agency 9 Auditors
- Westbay Community Action Agency 7 Auditors
- Contract Auditors 3 Auditors

Customer Highlight

"Thank you for sending Insulation R Us to work at my house. They were professional, courteous, neat and did a wonderful job. I have had many repair people at my home but none so exacting and customer friendly." Elaine from Johnston

EnergyWise Single Family

The EnergyWise Single Family program achieved 2,927 net lifetime MWh of electric savings (21.7% of the lifetime goal) and 132,907 net lifetime MMBtu of gas savings (27.8% of the lifetime goal) through the first quarter of 2022.

The EnergyWise program conducted 1,978 home energy assessments and completed 1,106 weatherization projects in the first quarter. 154 customers financed their weatherization work with the HEAT loan. The program complete five single family income eligible weatherization projects that were referred over from the CAPs. The RGGI Moderate Income offering is actively being promoted and the customers have been signing up for weatherization work. Activities of interest include:

- Two customers were served on Prudence Island
- Coordination between the Income Eligible and market rate program is beginning to weatherize a non-profit community development corporation's housing stock for affordable and transitional housing
- Heat Pump Trainings occurred in preparation for the heat pump concierge service

Challenges and Responses

Pricing on materials and labor continue to increase. Independent insulation contractors have expressed a need to revisit pricing due to upward pressure on materials and more favorable pricing in Massachusetts. The program is awaiting the outcome of a pricing RFP for weatherization that was issued in MA. The results will be used as one data point for changes in regional pricing.

Customer Highlights

The average customer overall satisfaction ratings for the first quarter are:

- 8.61 out of 10 for in-person home energy assessments
- 9.5 out of 10 for virtual home energy assessments
- 9.01 out of 10 for weatherization

Customer feedback themes from weatherization contractors included:

- Appreciation of the weatherization services to help save energy.
- Long process but worth it in the end.

EnergyWise Multifamily, Income Eligible Multifamily, C&I Multifamily

The EnergyWise Multifamily program achieved 433 net lifetime MWh of electric savings (2.1% of the lifetime goal) and 9,380 net lifetime MMBtu of gas savings (6.4% of the lifetime goal) through the first quarter of 2022. The Income Eligible Multifamily program achieved 228 net lifetime MWh of electric savings (0.9% of the lifetime goal) and 6,654 net lifetime MMBtu of gas savings (2.4% of lifetime goal) through the first quarter of 2022. The C&I Multifamily program achieved 3,398 net lifetime MMBtu of gas savings (2.6% of the lifetime goal) in the first quarter.

Customer Highlights

Income Eligible project – Affordable housing apartment in Providence

There was replacement of two existing domestic hot water boilers. and installed two Lochinvar high efficiency condensing domestic hot water boilers. The installation included two 800.000 BTU Armor Water heaters at 99% efficiency, and two high efficiency boiler pumps with speed controls, as well as all power and control wiring as required. On the electric side, there were \$22,600 in program incentives with an estimated 107,750 net lifetime kWh saved. On the gas side, there were \$134,983 in program incentives with an estimated 110,375 net lifetime therms saved.



Commercial Gas project - standard income apartment building

101 hours of air sealing were completed to the open attic areas and basement chases. There was 9,370 square feet of R-38 blown cellulose added to attic flat. 720 square feet of R-13 fiberglass and rigid board was added to the common walls.1590 square feet of R-13 cellulose was added to the attic slope. Ten bath vent hoses with risers were added to roof mounted flapper vents, and two attic hatches were Insulated and weather stripped. There were \$25,469 in program incentives with an estimated 33,979 net lifetime therms saved.

Challenges and Responses

Material lead times continue to cause significant project delays, including mechanical parts for boiler replacements as well as fixtures. The lead time for some materials is 15-20 weeks.

Shortages in maintenance staff for multifamily properties are also causing delays for measure installations that require escorts to enter individual units. In some cases, sites have had to delay installs or spread them out over a couple of weeks to be able to supply the lead vendors installation staff with escorts. Rather than completing a site from start to finish on consecutive days the projects might need to be spread out over a week or two.

The Lead Vendor continues to follow up with customers and contractors regularly to keep projects moving forward and they are completing all other aspects of a project while awaiting necessary materials.

Workforce Development

Some of the Lead Vendor's staff have completed software product training for air source heat pumps with Fujitsu, Mitsubishi and LG. All of the Lead Vendor's mechanical staff completed a Combined Heat and Power (CHP) webinar presented by National Grid.

ENERGYSTAR® HVAC (Heating and Cooling)

The ENERGYSTAR® HVAC (Heating and Cooling) program achieved 1,034 net lifetime MWh of electric savings (1.3% of the lifetime annual goal) and 38,799 net lifetime MMBtu of gas savings (8.8% of the lifetime goal) during the first quarter of 2022.

Ten remote half-day contractor trainings were held during the first quarter, providing both refresher courses and new trainings for HVAC technicians. The program now offers two types of trainings, HVAC Check and one focused specifically on Minisplit Check.

193 on-site and remote Quality Control (QC) inspections were performed on recently installed heat pumps.

The weekly HVAC program newsletter, which launched in 2021 and is directed towards HVAC companies, contractors, technicians, distributors, and other trade allies, continued to be delivered throughout the guarter. Topics for the newsletter included reminders for HVAC vendor staff, MS/AC check testing tips, rebate submission reminders/deadlines and links to upcoming trainings.

The newsletter also continued to share information about programs such as EnergyWise and the HEAT Loan. offered technical support and assistance with data and rebate processing, and solicited feedback and communication from contractors. There are over 650 recipients on the current distribution list.

The Enhanced Heat Pump Rebates for Residential Oil and Propane Heating Customers, which launched in 2021 and are offered through a partnership between National Grid and the RI Office of Energy Resources, saw significant volume in the first guarter as the program processed rebate applications that were received in late 2021/early 2022. 160 customers were served, 211 systems were installed, and 64 HEAT Loans were processed.

There are currently 75 Rhode Island HVAC programapproved contractors that have participated in trainings and performed HVAC Check or MS Check testing. In the first quarter, the program team followed up with program



2022 National Grid Rhode Island H&C Rebates

The National Grid Rhode Island Residential Electric and Enhanced Electric ebate forms as well as the National Grid Rhode Island Natural Gas Rebate forms are now available. Rebate forms can be found HERE.

2022 National Grid and OER Rebate Update

- We continue to work with National Grid RI and the RI Office of Energy Resources (OER) to potentially re-launch the oil and Propane displacement rebates this year.
 We are working to streamline the rebate and QC inspection
- All customers interested in this rebate should begin the EnergyWise Home Energy Assessment and Weatherization (HEA and WZ) process, as these will remain a rebate requirement Please contact the EnergyWise Program at 888-633-7947 to get started.

Rhode Island H&C Program Trainings

All classes are free to RI HVAC contractors Only trained, active, participating contractors can offer the Enhanced rebates

Earn Extra Income on Every Heat Pump Maint

- All 2017 or newer heat pumps can be HVAC Check Service tested once every 5 years.
- · Schedule annual maintenance for heat pump customers later in
- the spring (60F or warmer weather needed) and do an AC/MS Check test while on-site. Extra money for the same trip
- Sign up for an HVAC Check or an AC/MS Check training below!

HVAC Check Live/Remote Training

For contractors that install and service both conventional ducted AC/HP and nini split" heat pumps. All MS Check content plus comprehensive duct and charging analysis

Thursday, March 31, 2022 8:00AM - 12:00PM REGISTER HERE

Thursday, April 14, 2022 8:00AM - 12:00PM REGISTER HERE

contractors to ensure that the required training and testing had been done to be listed on the updated Approved Contractor list that is posted on National Grid's website. To be eligible for Enhanced Rebates customers must select a program-approved contractor so the program team actively engaged with contractors to verify they meet and continue to meet the requirements for being listed. An updated Approved Contractor list was posted in mid-March.

Gas equipment distributors, factory representatives, and contractors are also included on the weekly HVAC newsletter distribution list, which included the promotion of 2022 Gas HVAC incentives. The HVAC program team also sent the 2022 Gas Rebate form directly to distributors and contractors.

Challenges and Responses

Due to high participation levels and limited remaining funding, the Enhanced Heat Pump Rebates for Residential Oil and Propane Heating Customers were paused and no longer accepting new customer applications. The Office of

Energy Resources is working on supplementary RGGI funding to support continued enhanced incentives for this cohort of customers through the remainder of 2022. Contractors were notified that equipment had to be installed by December 31, 2021, and rebate applications received by January 31, 2022, to secure the Enhanced Rebate for their customers. The intent is to relaunch the Enhanced Rebate offering in the second quarter of 2022.

Ongoing equipment supply issues have created delays in the purchase and installation of equipment, and HVAC companies are experiencing employee shortages both short term (due to illness, or family illness) and longer term (due to career shifts).

Workforce Development

The Program team was invited by Lawrence Air Systems Inc., a Barringtonbased HVAC contractor, to provide additional trainings at MTTI, a technical career training school based in Seekonk MA and East Providence. <u>https://www.mtti.edu/programs/hvacr-technician.</u>

Training took place in the evenings and was divided into two sections

- Day 1 Program overview, AC Check with charge & airflow for conventional systems, duct diagnostics, Manual J
- Day 2 MS Check charging and best practices, Manual D duct design for low static MSHP air handlers

Load calcs and duct designs were done live at the end of each session, and attendees received free laminated charts and ductulators. 12 technicians attended, all of whom were currently or recently hired by HVAC companies.

"Great class, thank you! Manual J and D training is definitely a great addition to their education" - Jason T. Lawrence, Owner/General Manager, Lawrence Air Systems Inc.

Residential Consumer Products

The Residential Consumer Products program achieved 2,528 net lifetime MWh of electric savings (5.3% of the lifetime goal) during the first quarter of 2022.

The informal start to the pool season began with the Annual Baystate Pool Distributors Opportunity Days meeting with close to 1,200 pool installers from New England And New York attending. The Company presented the change to the pool pump offering with 2022 support applying to pool pumps that meet the ENERGY STAR 3.0 specification.

Home Energy Reports (HER)

The Home Energy Reports (HER) program achieved 8,290 net lifetime MWh of electric savings (30.9% of the lifetime annual goal) and 47,064 net lifetime

MMBtu of gas savings (50.3% of the lifetime goal) during the first quarter of 2022.

In the first quarter, Home Energy Reports provided messaging on Heat Pump water heaters and cold climate heat pump technology.

Is your water heater wasting energy?

It may be time for an upgrade

If you're not using a heat pump water heater, chances are you're wasting energy and money. Upgrade to a high-efficiency, electric heat pump water heater and start saving more. Plus, get a \$600 rebate.

Get started today at ngrid.com/riheatpump.



Save with rebates on a new coldclimate heat pump



Got a heating and/or cooling system that's starting to get old? It might be time to upgrade to the all-in-one convenience of a cold-climate heat pump. No matter the season, heat pump technology helps you stay coo in the summer and warm in the winter. Plus, we offer a variety of generous rebates, so you'll save even more when you upgrade.

Find heat pump rebates

Making a difference together—you and your community



By taking steps to reduce energy consumption, you and other Home Energy Report recipients saved more than 35 million units of energy over the last 12 months. That's equivalent to the CO₂ emissions of 2.7 million gallons of gasolinel



Prepare for a year of energy savings

Start the new year off right-try these tips



Take an online home energy survey

It can be difficult to know how to make the biggest impact on your energy bills. By answering a few questions about your home, you can learn about your energy use and view the most relevant tips for you.



Turn off lights when you leave the room

Help cut electricity costs by turning off lights when they're not needed, and make it a habit every time you leave a room. To help you remember, try leaving eye-catching reminders next to light switches and doorways.

Find more ways to save

Code Compliance Enhancement Initiative (CCEI)

The Company sponsored 17 CCEI training events engaging 348 industry participants during this quarter. This included 15 trainings focused on residential construction with 296 attendees and two commercial trainings with 52 attendees.



Q1 Training Participants – Attendees by Type

The Company and its vendor continued to partner with several organizations to sponsor and promote trainings in the first quarter. Organizations include Rhode Island Builders Association (RIBA), Rhode Island Building Officials Association (RIBOA), AIA-Rhode Island, Rhode Island Association of Realtors (RIAR), and Rhode Island Plumbing & Mechanical Inspectors Association (RIPMIA). Topics included:

- Weatherization & Insulation
- Healthy Homes & Indoor Air Quality
- Blower Door & Duct Leakage Testing
- Home Comfort
- Green Building Fundamentals
- Heating, Cooling & Ventilation
- Building Science & the Energy Code

- Mechanical Ventilation in the Energy Code
- Ventilation & Duct Leakage in the Energy Code
- Virtual Tour of High of Efficiency Building
- RI Commercial Stretch Code

These trainings are approved for RI Contractor Registration and Licensing Board continuing education units. Most trainings were held virtually, which typically increases attendance. In-person trainings were held at the RIBOA expo, the RIPMIA Education Meeting, and for a residential construction preapprenticeship program.

Challenges and Responses

The RI Building Code Commission officially approved a new energy code during the fourth quarter, and the Legislature adopted this code. The new code is based upon 2018 IECC and went into effect on 2/1/2022. The CCEI team has updated training materials to reflect recent code changes.

RI code still contains several weakening amendments. National Grid, CCEI, OER, and other stakeholders will support work to remove these amendments and may provide support to proposals for strengthening amendments in future codes that result in energy savings for RI residents. The state is beginning its review of IECC 2021, along with development of a stretch code.

Large Commercial New Construction

The Large Commercial New Construction program achieved 6,027 net lifetime MWh of electric savings (3.1% of goal) and 38,868 net lifetime MMBtu of gas savings (4.9% of goal) through the first quarter of 2022.

There are 36 active projects. A large Zero Net Energy (ZNE) high school project is close to meeting the initiative's established EUI target, and program staff expect the building will qualify for the ZNE program.

In the first quarter, program staff engaged a private university that is designing a large new science building. Staff are working with the customer and design team to influence the project toward total electrification. Program staff are also working with a state university and its design team to influence the design of a science center towards total electrification.

In the fourth quarter of 2021, the State of Rhode Island voted to adopt a new building energy code, and the new code took effect Feb 1, 2022. The Company is updating the program savings calculations to account for any resulting baseline changes. The baseline increase has resulted in smaller savings for efficiency projects.

Cross-Pollination with Communities Initiative: In the first quarter, program staff continue to engage Quonset Industrial Park, owned by QDC. Program staff are working with three new projects at the Park. Early engagement in the building design process has opened the opportunity to influence the design teams for these facilities to adopt high-efficiency practices.

Challenges and Responses

Large new construction projects often require several years to engage and influence. COVID-related financial and supply chain disruptions extend the already lengthy construction timeline for these projects, which further increases the amount of engagement needed over the project lifetime.

Potential participants have expressed concerns about the Company's longterm commitment to the programs with the announcement of the PPL merger. The Company continues to communicate that energy efficiency programs are expected to proceed as normal, which has generally alleviated this concern.

Large Commercial Retrofit

The Large Commercial Retrofit program achieved 34,592 net lifetime MWh of electric savings (11.1% of goal) and 68,893 net lifetime MMBtu of gas savings (5.2% of goal) through the first quarter of 2022.

Industrial Initiative: A customer uses steam for a curing process to cross link coating over electrical wires. The curing process had operated at an internal setpoint of 200°F for a 24-hour period. Under the new process, the setpoint will be reduced to 165°F and operated for a 12-hour period, resulting in 873 therms of annual savings. The customer has determined this is sufficient to support the cross-linking process. This project is an example of a low-cost measure.

Telecommunications Initiative:

Two data center projects were submitted to National Grid's system of record and are going through the pre-approval process. In addition, assessments were completed at four locations on three university/college campuses. The reports will be delivered early in the second quarter of 2022.

EnergySmart Grocer Initiative: A national grocery store chain has been pursuing energy efficiency improvements across their portfolio of stores in Rhode Island under the Equipment Systems Performance Optimization (ESPO) initiative. This effort started mid-2021, with many of the projects concluding in the first quarter of 2022. This effort encompassed several measures including condenser and RTU coil cleanings and space temperature setbacks. The projects rolled out across nine stores in Rhode Island, resulting in 248 gross annual MWh in electric savings and 1,363 gross annual MMBtu savings. A regional supermarket in Providence upgraded Self-Contained Cases as well as installing new refrigeration doors and vertical night covers. These projects are expected to save 27 gross annual MWh and 546 gross annual MMBtus.

Strategic Energy Management Partnership (SEMP): The Company has created a library of technical assistance studies completed for the State of Rhode Island SEMP. Additionally, the Company has created a new process and form for new construction projects that will allow the Office of Energy Resources and State Agencies to better engage with developers during the early stages of the design process.

Challenges and Responses

The Company has observed significant and growing delays in project timelines resulting from supply chain delays. Many measures require components with delays of several months, and these delays are growing. The Company has also observed significant inflation in recent months, in part due to supply chain shortages, and to a lesser extent resulting from labor cost increases. The Company is monitoring the situation and seeking to quantify the impacts of these disruptions.

The Company's Energy Smart Grocer vendor made the following statement for the first quarter:

"The biggest issue affecting project timelines is problems with the global supply chain. Customers and contractors are facing delays in receiving ordered equipment that range from 2 months to an entire year, depending upon the equipment ordered. We are also seeing **significan**t price increases across all channels. These delays are affecting project timelines significantly, pushing many projects out to the end of the year. Supporting materials for installation of some EE equipment (pipe, boxes, wiring) are also delayed, so it's possible the equipment is in hand, but supporting materials that facilitate installation are still unavailable. The result of these various factors is a great deal of difficulty in predicting installation times, construction start dates, and completion dates. There are concerns that any projects started after mid-year may not conclude until 2023."

Small Business Direct Install

The Small Business Direct Install program achieved 16,582 net lifetime MWh of electric savings (25.8% of goal) and 32,106 lifetime MMBtu of gas savings (35.0% of goal) through the first quarter of 2022.

Enhanced reporting

The Company will be reporting the number of weatherization projects and the number of LED retrofit kits and luminaires with controls in 2022 to show National Grid's progress in these priority areas.

There were 31 gas weatherization projects in the first quarter of 2022. This is a dramatic increase from the previous quarter. It is due to using RGGI funds to supplement the system benefits charge (SBC) funds which enhance customer economics for these types of projects.

The table below shows the number of luminaires and retrofit kits with controls for Q1 2022 and 2020 and 2021 as entire years.

# Luminaire	S	# Luminaire	s with control	S
All 2020	13,032	All 2020	149	
All 2021	12,804	All 2021	246	
Q1 2022	2,327	Q1 2022	41	

# Retrofit kit	S	# Retrofit kits with controls					
All 2020	17,260	All 2020	450				
All 2021	15,932	All 2021	908				
Q1 2022	2,305	Q1 2022	332				

Equity Notes

In the first quarter, our vendor put together an event which took place on April 29th in Pawtucket.



Evaluation, Measurement, and Verification

No studies were completed in the first quarter of 2022. Several studies are in progress, including the following:

Impact Evaluation of PY2020 Custom Gas Installations in Rhode Island and Impact Evaluation of PY2020 Custom Electric Installations in Rhode Island by DNV will quantify, respectively, natural gas and electric savings for custom gas and electric projects completed during the 2020 program year (PY). This will be done through site-specific inspections, end-use monitoring, and analysis. Site-specific results will be aggregated to determine realization rates for National Grid's custom gas and electric installations in RI. The studies will also recommend potential improvements to the custom program.

Community Initiatives

The Company continued its partnership with Quonset Development Corporation (QDC) under a three-year memorandum of understanding to provide EE services to businesses at the Quonset industrial park. QDC and National Grid co-hosted the first 2022 workshop on January 12. All Quonset companies were invited to the virtual event titled *Rhode Island Renewable Energy: Opportunities & How to Evaluate Them.* About 15 attendees participated in the presentation and discussion led by Julian Dash of Copacity. Participants had an opportunity to learn about renewable energy and financing options. The presentation emphasized the role of energy efficiency in preparing a facility for solar or other renewables.



Connected Solutions

Design of the new pool pump-based offering for Connected Solutions is underway. The Company has begun working with one connected pool pump manufacturer, but it appears the earliest they will be able to complete an integration with the distributed energy resource management system will be in the fall of 2022. Customers will be encouraged to participate as soon as the integration process is completed.

PDA Name		Q1 2022 Updates						
	Date	4/18/2022						
	Stage	Develop or Demonstrate						
<u>New Air Sealing &</u> <u>Insulation -</u> <u>Demonstration -</u> Resi	Recent Activity	Air sealing opportunity determined to have been sufficiently evaluated in residential programs. Injection insulation vendor contacted for kickoff, weatherization vendor identifying sites.						
	Next steps	Working with lead weatherization vendor to identify sites and scheduling insulation work with the injection vendor.						
	Date	4/18/2022						
	Stage	Develop or Demonstrate						
<u>Solar Inverter DLC</u> - Demonstration - <u>Resi</u>	Recent Activity	The 3rd party EM&V vendor is now calculating the savings related to this demonstration and preparing a report. The Company has provided initial comments on the draft.						
	Next steps	The evaluation vendor will be concluding the writeup in Q2 2022.						
	Date	4/8/2022						
Final Gas	Stage	Plan						
<u>Appliances -</u> Assessment - Resi	Recent Activity	Scoped workplan with vendor for research.						
	Next steps	Project kick off						
	Date	4/8/2022						
	Stage	Parking lot						
<u>Gas HPs -</u> <u>Demonstration -</u> <u>Resi</u>	Recent Activity	Limited demand and potential for gas heat pumps. Detailed performance monitoring and analysis required to determine savings and cost effectiveness, particularly due to prototype stage of existing products. Poor cost-effectiveness outcome unchanged. Given reductions to M&V budget, these funds are no longer available. Thus, the Company is putting this effort on hold.						
	Next steps	Demonstration on hold indefinitely. If market conditions change significantly, funding for additional research may be proposed in future EE plans.						
	Date	4/8/2022						
	Stage	Develop or Demonstrate						
HVAC Lighting Controls Plus - Demonstration -	Recent Activity	Developed M&V plan for participating site. Requested set up of BAS monitoring. Provided information on M&V plans for customer's security review.						
	Next steps	Follow up regarding potential second site; discontinuing outreach to additional sites. Determine if first site can move forward or not (customer bandwidth challenges)						

	Date	12/14/2021					
Kitchen Exhaust -	Stage	Retire					
Demonstration - C&I	Recent Activity	Demonstration retired due to lack of available products and eligible customers.					
	Next steps	None					
	Date	4/18/2022					
	Stage	Develop or Demonstrate					
Building Flexibility through DR - Assessment - C&I	Recent Activity	DNV GL has been contracted to perform this assessment through a combination of interviews and research.					
	Next steps	Finalizing scope of work.					
	Date	4/8/2022					
Refrigeration Leak	Stage	Develop or Demonstrate					
Survey & Repair - Demonstration -	Recent Activity	Metering installed at participating facility in February.					
<u>C&I</u>	Next steps	Complete pre-metering and schedule refrigerant leak detection survey and repairs.					
	Date	4/11/2022					
	Stage	Develop or Demonstrate					
Gas DR - Pilot - C&I	Recent Activity	Close out of 2021-22 winter season. Collect and analyze year-end customer data					
	7 10117109	analyze year one eactemer data.					
	Next steps	Finalize Q1 2022 customer payments.					
	Next steps Date	Finalize Q1 2022 customer payments. 4/8/2022					
	Next steps Date Stage	Finalize Q1 2022 customer payments. 4/8/2022 Retire					
<u>Gas HPs -</u> Demonstration - <u>C&I</u>	Next steps Date Stage Recent Activity	Finalize Q1 2022 customer payments. 4/8/2022 Retire Given limited demand and limited opportunities for cost-effective C&I applications (which would need to pursue the Custom pathway), this demonstration is unnecessary. C&I gas heat pumps can use the existing custom pathway. This demonstration will be closed.					
<u>Gas HPs -</u> Demonstration - C&I	Next steps Date Stage Recent Activity Next steps	Finalize Q1 2022 customer payments. 4/8/2022 Retire Given limited demand and limited opportunities for cost-effective C&I applications (which would need to pursue the Custom pathway), this demonstration is unnecessary. C&I gas heat pumps can use the existing custom pathway. This demonstration will be closed. N/A					
<u>Gas HPs -</u> Demonstration - <u>C&I</u>	Next steps Date Stage Recent Activity Next steps Date Date	Finalize Q1 2022 customer payments. 4/8/2022 Retire Given limited demand and limited opportunities for cost-effective C&I applications (which would need to pursue the Custom pathway), this demonstration is unnecessary. C&I gas heat pumps can use the existing custom pathway. This demonstration will be closed. N/A 4/8/2022					
<u>Gas HPs -</u> <u>Demonstration -</u> <u>C&I</u> Rightsizing RTUs -	Next steps Date Stage Recent Activity Next steps Date Stage	Finalize Q1 2022 customer payments. 4/8/2022 Retire Given limited demand and limited opportunities for cost-effective C&I applications (which would need to pursue the Custom pathway), this demonstration is unnecessary. C&I gas heat pumps can use the existing custom pathway. This demonstration will be closed. N/A 4/8/2022 Plan					
<u>Gas HPs -</u> <u>Demonstration -</u> <u>C&I</u> <u>Rightsizing RTUs -</u> <u>Assessment - C&I</u>	Next steps Date Stage Recent Activity Next steps Date Stage Recent Activity	Finalize Q1 2022 customer payments. 4/8/2022 Retire Given limited demand and limited opportunities for cost-effective C&I applications (which would need to pursue the Custom pathway), this demonstration is unnecessary. C&I gas heat pumps can use the existing custom pathway. This demonstration will be closed. N/A 4/8/2022 Plan Scoped workplan with vendor for research.					
<u>Gas HPs -</u> <u>Demonstration -</u> <u>C&I</u> <u>Rightsizing RTUs -</u> <u>Assessment - C&I</u>	Next steps Date Stage Recent Activity Next steps Date Stage Recent Activity Next steps Next steps Next steps Recent Activity Next steps	Finalize Q1 2022 customer payments. 4/8/2022 Retire Given limited demand and limited opportunities for cost-effective C&I applications (which would need to pursue the Custom pathway), this demonstration is unnecessary. C&I gas heat pumps can use the existing custom pathway. This demonstration will be closed. N/A 4/8/2022 Plan Scoped workplan with vendor for research. Project kick off					
Gas HPs - Demonstration - C&I Rightsizing RTUs - Assessment - C&I	Next stepsDateStageRecentActivityNext stepsDateStageRecentActivityNext stepsDateDateDateDateDateDateDate	Finalize Q1 2022 customer payments. 4/8/2022 Retire Given limited demand and limited opportunities for cost-effective C&I applications (which would need to pursue the Custom pathway), this demonstration is unnecessary. C&I gas heat pumps can use the existing custom pathway. This demonstration will be closed. N/A 4/8/2022 Plan Scoped workplan with vendor for research. Project kick off 4/8/2022					
Gas HPs - Demonstration - C&I Rightsizing RTUs - Assessment - C&I Automated RTU Optimization -	Next stepsDateStageRecentActivityNext stepsDateStageRecentActivityNext stepsDateStageStageDateStageStage	Finalize Q1 2022 customer payments. 4/8/2022 Retire Given limited demand and limited opportunities for cost-effective C&I applications (which would need to pursue the Custom pathway), this demonstration is unnecessary. C&I gas heat pumps can use the existing custom pathway. This demonstration will be closed. N/A 4/8/2022 Plan Scoped workplan with vendor for research. Project kick off 4/8/2022 Plan					
Gas HPs - Demonstration - C&I Rightsizing RTUs - Assessment - C&I Automated RTU Optimization - Demonstration - C&I	Next stepsDateStageRecentActivityNext stepsDateStageRecentActivityNext stepsDateStageRecentActivityNext stepsDateStageRecentActivity	Finalize Q1 2022 customer payments. 4/8/2022 Retire Given limited demand and limited opportunities for cost-effective C&I applications (which would need to pursue the Custom pathway), this demonstration is unnecessary. C&I gas heat pumps can use the existing custom pathway. This demonstration will be closed. N/A 4/8/2022 Plan Scoped workplan with vendor for research. Project kick off 4/8/2022 Plan Evaluation scoped with DNV. Plan for customer recruitment completed.					
Gas HPs - Demonstration - C&I Rightsizing RTUs - Assessment - C&I Automated RTU Optimization - Demonstration - C&I	Next stepsDateStageRecentActivityNext stepsDateStageRecentActivityNext stepsDateStageRecentActivityNext stepsDateStageRecentActivityNext stepsDateStageRecentActivityNext stepsNext steps	Finalize Q1 2022 customer payments. 4/8/2022 Retire Given limited demand and limited opportunities for cost-effective C&I applications (which would need to pursue the Custom pathway), this demonstration is unnecessary. C&I gas heat pumps can use the existing custom pathway. This demonstration will be closed. N/A 4/8/2022 Plan Scoped workplan with vendor for research. Project kick off 4/8/2022 Plan Evaluation scoped with DNV. Plan for customer recruitment completed. Customer recruitment					
Gas HPs - Demonstration - C&I Rightsizing RTUs - Assessment - C&I Automated RTU Optimization - Demonstration - C&I	Next stepsDateStageRecentActivityNext stepsDateStageRecentActivityNext stepsDateStageRecentActivityNext stepsDateStageRecentActivityNext stepsDateStageRecentActivityNext stepsDateDateStageRecentActivityNext stepsDate	Finalize Q1 2022 customer payments. 4/8/2022 Retire Given limited demand and limited opportunities for cost-effective C&I applications (which would need to pursue the Custom pathway), this demonstration is unnecessary. C&I gas heat pumps can use the existing custom pathway. This demonstration will be closed. N/A 4/8/2022 Plan Scoped workplan with vendor for research. Project kick off 4/8/2022 Plan Evaluation scoped with DNV. Plan for customer recruitment completed. Customer recruitment 4/18/2022					

<u>SEM/CEI -</u> Demonstration -	Recent Activity	The Company has concluded this demonstration and is currently working with Cascade to determine the remaining gas and electric savings. The final CEI/SEM workshop will take place on 4/21/2022.					
	Next steps	The Company intends to process the remaining gas and electric savings in Q2.					
	Date	4/18/2022					
Air Curtains -	Stage	Measure Creation					
Demonstration - C&I	Recent Activity	Proposed measure has been developed and is under review					
	Next steps	Working to add Air Curtain measure to the programs					
	Date	4/11/2022					
	Stage	Develop or Demonstrate					
<u>Smart Valves for</u> <u>Chilled Water</u> <u>Systems -</u> Demonstration -	Recent Activity	Continued to view monitored data and followed up on chiller repairs at a higher education location. Continued outreach for additional sites.					
<u>C&I</u>	Next steps	Begin developing analysis framework once chiller upgrades are complete. Discontinue outreach for additional sites.					

NATIONAL GRID ENERGY EFFICIENCY PROGRAMS IN RHODE ISLAND Table 1: Summary of Electric 2022 Target and Preliminary 1st Quarter Results

ELECTRIC PROGRAMS	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	D)	(11)	(12)	(18)	(13)	(14)	(15)	(19)	(16)	(17)
Sector and Program	Demand R	eduction (A	nnual kW)	Energy Sav	/ings (Annua	l MWh)	Custo	mer Particip	ation			Expenses (\$ 000)		Energy	Savings (Li	fetime MWh)		\$/Lifet	ime kwh
		Year To	Pct		Year To	Pct		Year To	Pct			Year To	Pct	Year End		Year to	Pct	Year End	Target	Year to
Commercial and Industrial	Target	Date	Achieved	Target	Date	Achieved	Target	Date	Achieved	Budg	get	Date	Achieved	Forecast	Target	Date	Achieved	Forecast	\$/kŴh	Date
Large Commercial New Construction	1,745	66	3.8%	12,589	419	3.3%	96	36	37.9%	\$ 9,0	,034.1	504.3	5.6%	58.2%	192,343	6,027	3.1%	51.5%	\$ 0.047	\$ 0.084
Large Commercial Retrofit	8,490	613	7.2%	41,132	3,141	7.6%	2,239	402	18.0%	\$ 25,	,010.5	783.6	3.1%	89.3%	312,931	34,592	11.1%	136.4%	\$ 0.080	\$ 0.023
Small Business Direct Install	904	246	27.2%	9,976	1,357	13.6%	490	114	23.3%	\$ 8,8	,883.3	896.0	10.1%	100.0%	64,394	16,582	25.8%	127.5%	\$ 0.138	\$ 0.054
Commercial ConnectedSolutions										\$ 4,3	,393.6	49.4	1.1%	100.0%						
Community Based Initiatives - C&I										\$	85.0	0.0	0.0%	100.0%						
Financing										\$ 2,0	,000.0	0.0	0.0%	100.0%						
Commercial Workforce Development										\$	157.5	0.0	0.0%	100.0%						
SUBTOTAL	11,139	925	8.3%	63,696	4,917	7.7%	2,825	553	19.6%	\$ 49,	,564.1	2,233.3	4.5%	87.0%	569,668	57,201	10.0%	106.7%	\$ 0.087	\$ 0.039
Income Eligible Residential																				
Single Family - Income Eligible Services	480	41	8.6%	3,314	295	8.9%	3,583	1,200	33.5%	\$ 13,2	,275.3	1,596.8	12.0%	100.0%	38,506	2,333	6.1%	100.0%	\$ 0.345	\$ 0.684
Income Eligible Multifamily	49	18	35.9%	1,538	131	8.5%	3,600	605	16.8%	\$ 3,	,538.9	113.3	3.2%	100.0%	24,309	228	0.9%	100.0%	\$ 0.146	\$ 0.496
SUBTOTAL	529	59	11.1%	4,851	426	8.8%	7,183	1,805	25.1%	\$ 16,	,814.3	1,710.1	10.2%	100.0%	62,816	2,561	4.1%	100.0%	\$ 0.268	\$ 0.668
Non-Income Eligible Residential																				
Residential New Construction	74	7	9.3%	867	30	3.5%	462	77	16.7%	\$ 1,0	,617.0	167.7	10.4%	101.5%	14,947	505	3.4%	100.0%	\$ 0.108	\$ 0.332
ENERGY STAR® HVAC	240	12	4.8%	4,620	69	1.5%	5,229	1,363	26.1%	\$ 4,0	,684.4	308.3	6.6%	100.0%	77,717	1,034	1.3%	100.0%	\$ 0.060	\$ 0.298
Energy Wise	424	99	23.4%	2,789	577	20.7%	12,000	4,135	34.5%	\$ 15,	,557.0	3,002.8	19.3%	100.0%	13,472	2,927	21.7%	100.0%	\$ 1.155	\$ 1.026
EnergyWise Multifamily	143	13	9.4%	1,424	106	7.4%	3,600	715	19.9%	\$ 3,2	,238.3	198.0	6.1%	100.0%	20,783	433	2.1%	100.0%	\$ 0.156	\$ 0.457
Residential Consumer Products	1,118	110	9.8%	6,885	346	5.0%	34,692	579	1.7%	\$ 2,	,796.0	318.8	11.4%	100.0%	47,554	2,528	5.3%	79.9%	\$ 0.059	\$ 0.126
Home Energy Reports	3,692	1,140	30.9%	26,852	8,290	30.9%	323,248	267,762	82.8%	\$ 2,0	,639.1	656.1	24.9%	100.0%	26,852	8,290	30.9%	100.0%	\$ 0.098	\$ 0.079
Residential ConnectedSolutions										\$ 1,8	,822.6	96.4	5.3%	100.0%						
Energy Efficiency Education Programs										\$	-	0.0	0.0%	0.0%						
Community Based Initiatives - Residential										\$	255.1	0.0	0.0%	49.0%						
Comprehensive Marketing - Residential										\$	247.9	8.2	3.3%	99.6%						
SUBTOTAL	5,691	1,381	24.3%	43,435	9,417	21.7%	379,231	274,631	72.4%	\$ 32,	,857.4	4,756.4	14.5%	99.7%	201,325	15,717	7.8%	95.3%	\$ 0.163	\$0.303
Regulatory																				
EERMC										\$	766.2	0.0	0.0%	100.0%						
OER										\$ 1,	,541.7	0.0	0.0%	100.0%						
Rhode Island Infrastructure Bank										\$ 3,	,737.5	0.0	0.0%	100.0%						
SUBTOTAL										\$ 6,	,045.4	\$ -	0.0%	100.0%						
TOTAL	17,359	2,365	13.6%	111,983	14,761	13.2%	389,239	276,989	71.2%	\$ 105,2	,281.1	\$ 8,699.7	8.3%	93.8%	833,808	75,479	9.1%	103.5%	\$ 0.126	\$0.115
Municipal LED Street Lights											485.9	573.7	118.1%							

NOTES

(1)(4)(7) Targets from Docket 5189 - Attachment 5, Table E-7 (electric), Refiled January 27, 2022.
 (3) Pct Achieved is Column (2)/ Column (1).

(6) Pct Achieved is Column (5)/ Column (4).

(7) Participation was planned and is reported in 'net' terms which takes into account free-ridership and spillover.

(9) Pct Achieved is Column (8)/ Column (7).

(10) Approved Implementation Budget from Docket 5189, Attachment 5 Table E-3 (electric), Refiled January 27, 2022.

(11) Year To Date Expenses include Implementation expenses. \$532 is currently allocated to Energy Star Lighting, which ended in 2021. This amount has been omitted from the total year to date expenses, and will be reallocated to the correct programs and updated in Q2 2022.

(12) Pct Achieved is Column (11)/ Column (10).

(17) \$/lifetime kWh = Column (11)/Column (14)

(16) Planned \$/lifetime MWh from Docket 5189 - Attachment 5, Table E-5 (electric), Refiled January 27, 2022 - adjusted to reflect format of quarterly report. Program Implementation Expenses/lifetime kWh.

(18) (19) Year End Spending and Energy Savings forecasts are best estimates based on the information available and may change throughout the year.

NATIONAL GRID ENERGY EFFICIENCY PROGRAMS IN RHODE ISLAND Table 2: Summary of Gas 2022 Target and Preliminary 1st Quarter Results

GAS PROGRAMS	(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)	(9)	(16)	(10)	(11)	(12)	(17)	(13)	(14)	(15) Peak Hour Gas Demand Savings
Sector and Program	Energy Sav	vings (Annua	l MMBtu)	Custo	mer Participatio	n		Exp	enses (\$ 000)		Energ	y Savings (Lif	etime MMB	tu)	\$/Lifetime MMBtu		(MMBtu)
		Year To	Pct			Pct				Pct	Year End		Year To	Pct	Year End		Year to	
Commercial and Industrial	Target	Date	Achieved	Target	Year To Date	Achieved	Budge	: Ye	ear To Date	Achieved	Forecast	Planned	Date	Achieved	Forecast	Planned	Date	Year to Date
Large Commercial New Construction	52,956	2,871	5.4%	94	8	8.3%	\$ 3,14	0.9 \$	397.5	12.7%	92.8%	788,763	38,868	4.9%	110.0%	\$ 3.9	3 \$ 10.23	1.44
Large Commercial Retrofit	142,888	8,290	5.8%	62	5	8.6%	\$ 4,6	2.1 \$	142.6	3.1%	124.7%	1,332,508	68,893	5.2%	113.1%	\$ 3.5	\$ 2.07	4.15
Small Business Direct Install	6,113	1,578	25.8%	170	30	17.7%	\$ 3	64.1 \$	148.4	41.9%	100.0%	91,700	32,106	35.0%	103.6%	\$ 3.8	\$ \$ 4.62	0.79
Commercial & Industrial Multifamily	8,803	155	1.8%	729	1	0.1%	\$ 95	57.0 \$	46.3	4.8%	100.0%	131,220	3,398	2.6%	100.0%	\$ 7.2	\$ 13.64	0.08
Commercial Pilots							\$ 2	5.8 \$	23.5	10.9%	100.0%							
Community Based Initiatives - C&I							\$	8.3 \$	-	0.0%								
Commercial Workforce Development							\$ (67.5 \$	-	0.0%	100.0%							
SUBTOTAL	210,760	12,894	6.1%	1,056	44	4.2%	\$ 9,43	5.7 \$	758.4	8.0%	109.8%	2,344,192	143,266	6.1%	111.0%	\$ 4.03	\$ 5.29	6.45
Income Eligible Residential																		
Single Family - Income Eligible Services	10,942	1,084	9.9%	1,098	102	9.3%	\$ 6,3	0.0 \$	766.1	12.0%	100.0%	218,847	21,674	9.9%	100.0%	\$ 29.1	\$ 35.35	0.54
Income Eligible Multifamily	14,700	350	2.4%	3,150	408	13.0%	\$ 2,94	7.5 \$	193.6	6.6%	100.0%	273,085	6,654	2.4%	100.0%	\$ 10.79	\$ 29.10	0.18
SUBTOTAL	25,642	1,434	5.6%	4,248	510	12.0%	\$ 9,3 [.]	7.6 \$	960	10.3%	100.0%	491,932	28,328	5.8%	100.0%	\$ 18.94	\$ 33.88	0.72
Non-Income Eligible Residential																	-	
Energy <i>Wise</i>	20,850	5,595	26.8%	1,761	1,028	58.4%	\$ 8,5	5.0 \$	2,200.5	25.7%	100.0%	478,550	132,907	27.8%	100.0%	\$ 17.92	\$ 16.56	2.80
Energy Star® HVAC	26,740	2,341	8.8%	3,062	799	26.1%	\$ 3,6	50.5 \$	284.0	7.8%	95.9%	439,717	38,799	8.8%	80.0%	\$ 8.3	\$ 7.32	1.17
EnergyWise Multifamily	8,279	409	4.9%	4,000	36	0.9%	\$ 1,48	8.6 \$	48.4	3.3%	100.0%	147,064	9,380	6.4%	100.0%	\$ 10.12	\$ 5.16	0.20
Home Energy Reports	93,548	47,064	50.3%	152,324	147,752	97.0%	\$ 44	1.5 \$	94.5	21.4%	100.0%	93,548	47,064	50.3%	100.0%	\$ 4.72	2 \$ 2.01	23.53
Residential New Construction	3,610	196	5.4%	289	35	12.1%	\$ 56	6.4 \$	74.3	13.1%	100.0%	64,899	4,909	7.6%	83.1%	\$ 8.73	\$ 15.14	0.10
Comprehensive Marketing - Residential							\$ (\$ 0.8	0.9	1.4%	100.0%							
Community Based Initiatives - Residential							\$ 8	\$5.0 \$	0.0	0.0%	47.1%							
SUBTOTAL	153,027	55,605	36.3%	161,436	149,650	92.7%	\$ 14,8	5.0 \$	2,702.6	18.2%	98.7%	1,223,778	233,059	19.0%	91.9%	\$ 12.1	\$ 11.60	27.80
Regulatory																		
EERMC							\$ 25	9.5 \$	-	0.0%	100.0%							
OER							\$ 75	5.6 \$	-	0.0%								
Rhode Island Infrastructure Bank							\$ 1,20	\$2.5	-	0.0%	100.0%							
SUBTOTAL							\$ 2,2	7.6 \$	-	0.0%	100.0%							
TOTAL	389,430	69,933	18.0%	166,740	150,204	90 .1%	\$ 35,9	6.0 \$	4,420.8	12.3%	102.0%	4,059,902	404,653	10.0%	103.9%	\$ 8.84	\$ 10.92	34.97

NOTES

(1)(4) Targets from Docket 5189 - Attachment 6, Table G-7 (gas), Refiled January 27, 2022.
(3) Pct Achieved is Column (2)/ Column (1).
(4) Participation was planned and is reported in 'net' terms which takes into account free-ridership and spillover.

(6) Pct Achieved is Column (5)/ Column (4).
(7) Approved Implementation Budget from Docket 5189, Attachment 6 Table G-3 (gas), Refiled January 27, 2022.
(8) Year To Date Expenses include Implementation expenses.

(9) Pct Achieved is Column (8) Column (7). (13) Planned \$/lifetime MMBtu from Docket 5189 - Attachment 6, Table G-5 (gas), Refiled January 27, 2022 - adjusted to reflect format of quarterly report. Program Implementation Expenses/lifetime MMBtu.

(14) \$/iffeime MMBtu e Column (8)*1000/Column (11)
 (15) Peak Hour Gas Demand Savings is a test metric in 2022 and represents a rough approximation of peak-hour gas demand impacts. Column(2) *0.01 *0.05

(16) (17) Year End Spending and Energy Savings forecasts are best estimates based on the information available and may change throughout the year.

NATIONAL GRID ELECTRIC ENERGY EFFICIENCY PROGRAMS IN RHODE ISLAND Table 3: National Grid 2022 Revolving Loan Funds

Large C&I Electric Revolving Loan Fund

	Income Statement	
(1)	2022 Funds Available	\$5,202,855
(2)	2022 Loan budget	\$12,000,000
(3)	Committed	\$6,665,910
(4)	Paid	\$1,282,278
(5)	Repayments	\$1,565,251
(6)	Available 3/31/22	-\$1,180,082
(7)	Outstanding loan volume	\$15,503,711
(8)	Loan defaults during period (\$)	\$0
(9)	Arrears over 120 days at period end (\$)	\$22,181
	Program Impact	
(10)	Number of loans	21
(10b)	Participants	14
(11)	Annual Savings (Gross MWh)	2,844
(12)	Annual Savings (Net MWh)	2,307
(13)	Lifetime Savings (Gross MWh)	29,853
(14)	Lifetime Savings (Net MWh)	24,181
(15)	Annual Savings (Gross kW)	670
(16)	Annual Saving (Net kW)	248
(17)	Total associated incentive volume (\$)	\$870,833
(10)		¢ 400.000

Small I	Business	Electric	Revolving	Loan	Fund
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	Income Statement	
(1)	2022 Funds Available	\$3,137,538
(\mathbf{a})	2022 Leas hudset	£1 500 000
(2)		\$1,500,000
(3)	Committed	\$0
(4)	Paid	\$89,245
(5)	Repayments	\$205,561
(6)	Available 3/31/22	\$3,253,855
(7)	Outstanding loan volume	\$576,673
(8)	Loan defaults during period (\$)	\$0
(9)	Arrears over 120 days at period end (\$)	\$27,510
	Program Impact	
(10b)	Participants	146
(11)	Annual Savings (Gross MWh)	1,514
(12)	Annual Savings (Net MWh)	1,355
(13)	Lifetime Savings (Gross MWh)	18,416
(14)	Lifetime Savings (Net MWh)	16,557
(15)	Annual Savings (Gross kW)	297
(16)	Annual Saving (Net kW)	246
(17)	Total associated incentive volume (\$)	\$809,250
(18)	Total annual estimated energy cost savings (\$)	\$239,835
· · ·	5, 5, 5, (1)	,

Rhode Island Public Energy Partnership (RI PEP)

	Income Statement	
(1)	2022 Funds Available	\$46,895
(2)	2022 Loan budget	\$0
(3)	Committed	\$0
(4)	Paid	\$0
(4a)	Funds Returned to OER	\$0
(5)	Repayments	\$4,322
(6)	Available 3/31/22	\$51,216
(7)	Outstanding loan volume	\$2,946
(8)	Loan defaults during period (\$)	0
(9)	Arrears over 120 days at period end (\$)	0
	Program Impact	
(10)	Number of loans	0
(10b)	Participants	0
(11)	Annual Savings (Gross MWh)	0
(12)	Annual Savings (Net MWh)	0
(13)	Lifetime Savings (Gross MWh)	0
(14)	Lifetime Savings (Net MWh)	0
(15)	Annual Savings (Gross kW)	0
(16)	Annual Saving (Net kW)	0
(17)	Total associated incentive volume (\$)	\$0
(18)	Total annual estimated energy cost savings (\$)	\$0

Notes

1 Amount available as of January 1, 2022. Includes line (6) "Available 12/31/21" plus line (3) "Committed" in Table E-6 and G-6 of the 2021 Year End Report.

2 Budget adopted by Sales Team for 2022 operations. Budget includes projections of repayments made during 2022. 3 As of March 31, 2022

4 As of March 31, 2022. This includes all projects paid through March 31, 2022 and the OBR associated with those projects. OBR payment are processed once the associated incentive has been paid, usually in batches.

4a Funds returned to RI OER.

5 As of March 31, 2022. This includes all projects paid through March 31, 2022 and the OBR associated with those projects. OBR payment are processed once the associated incentive has been paic

6 Fund balance as of March 31, 2022. Committed funds are subtracted from this amount.
 7 Total outstanding loan balance. Loans lent out that still need to be paid back. This includes loans from previous years.

8 Total loan value in default during period.

9 Total loan value in arrears for over 120 days as of March 31, 2022.

10 As of March 31, 2022

Unique customer names for large business (one customer name can have multiple sub accounts as is in the case of a franchise). Customer accounts used for small business

10b (not adjusted for net-to-gross).

11 As of March 31, 2022 12 As of March 31, 2022

13 As of March 31, 2022

14 As of March 31, 2022

15 As of March 31, 2022 16 As of March 31, 2022

17 Incentives paid out with loans.

18 Estimated energy cost savings to loan fund participants.

NATIONAL GRID GAS ENERGY EFFICIENCY PROGRAMS IN RHODE ISLAND Table 4: National Grid 2021 Revolving Loan Funds

Large C&I Gas Revolving Loan Fund

	Income Statement	
(1)	2022 Funds Available	\$1,035,330
(2)	2022 Loan budget	\$2,000,000
(3)	Committed	\$1,091,123
(4)	Paid	\$80,212
(5)	Repayments	\$96,629
(6)	Available 3/31/22	-\$39,376
(7)	Outstanding loan volume	\$1,095,231
(8)	Loan defaults during period (\$)	\$0
(9)	Arrears over 120 days at period end (\$)	\$61,815
	Program Impact	
(10)	Number of loans	6
(10b)	Participants	5
(11)	Annual Savings (Gross MMBtu)	6,451
(12)	Annual Savings (Net MMBtu)	5,194
(13)	Lifetime Savings (Gross MMBtu)	54,112
(14)	Lifetime Savings (Net MMBtu)	46,596
(17)	Total associated incentive volume (\$)	\$183,789
(18)	Total annual estimated energy cost savings (\$)	\$106,501

Notes

1 Amount available as of January 1, 2022. Includes line (6) "Available 12/31/21" plus line (3) "Committed" in Table E-6 and G-6 of the 2021 Year End Report.

2 Budget adopted by Sales Team for 2022 operations. Budget includes projections of repayments made during 2022.

3 As of March 31, 2022

4 As of March 31, 2022. This includes all project paid in 2021 and the OBR associated with those projects. OBR payment are processed once the associated incentive has been paid usually in batches.

5 As of March 31, 2022

 $6\,$ Fund balance as of March 31, 2022. Committed funds are subtracted from this amount.

7 Total outstanding loan balance. Loans lent out that still need to be paid back. This includes loans from previous years.

8 Total loan value in default during period.

9 Total loan value in arrears for over 120 days as of March 31, 2022.

10 As of March 31, 2022

10b Unique customer names for large business (one customer name can have multiple sub accounts as is in the case of a franchise).

11 As of March 31, 2022

12 As of March 31, 2022

13 As of March 31, 2022

14 As of March 31, 2022

15 As of March 31, 2022

16 As of March 31, 2022

17 Incentives paid out with loans.

18 Estimated energy cost savings to loan fund participants.

Table 5 National Grid 2022 Test Metrics Carbon Reduction ²					
	CO2 (Electricity)	CO2 (Natural Gas)	CO2 (Oil)	CO2 (Propane)	CO2 (Total)
Residential	3,597	3,253	1,188	(38)	8,000
Income Eligible	163	84	196	7	450
C&I	1,878	754	(227)	-	2,405
Total	5,639	4,091	1,157	(31)	10,856

² Carbon emissions values are from AESC 2021, Appendix G Tabe 159.
 Values in quarterly reports are preliminary and subject to change. Data is finalized in the Year-End Report.