

# Rhode Island Energy Efficiency

First Quarter 2021 | National Grid

May 13, 2021

## Overview

National Grid's energy efficiency programs continued to deliver energy savings for Rhode Island customers by achieving 132,096 net lifetime MWh of electric savings (10.2% of the lifetime goal) and 595,466 lifetime MMBtu of natural gas savings (14.6% of the lifetime goal) while continuing to address the challenges faced due to the COVID-19 pandemic.

[In the first quarter, the new "Path to Zero Net Energy" was added to the RNC program structure.](#) The Company drew upon results and experience from the Zero Energy Pilot conducted from 2018-2020 to redesign this program. This Path includes additional project-level financial performance incentives and technical support, as well funding to promote certification for both projects and Rhode Island professionals seeking this distinction, which were tested during the Pilot. This redesign will help the Company continue to accelerate market adoption of ultra-high efficiency and fossil fuel free zero energy homes.

The EnergyWise program won the [2021 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 this program.

For the electric EnergyStar HVAC program, HVAC Check reporting portal version 2.0 was launched in February. This new portal offers improved functionality for the HVAC contractors to report and track their HVAC Check tests and results. Seven remote half-day HVAC Check trainings were held during the first quarter to provide both refresher courses and new trainings for 63 technicians. In addition, the RGGI-Funded Enhanced Heat Pump Rebates for Residential Oil or Propane Heating Customers was launched on March 1, 2021 with funding provided via the Rhode Island Office of Energy Resources.

For the Large Commercial New Construction program, The Company continues to engage the RI school districts that are in the early design phases for new/renovated buildings. The City of Cranston is building a new elementary School and has signed an MOU to participate. The City of Newport is planning for a new high school, for which they are considering Zero Net Energy, as well as an addition to the Pell Elementary School. Finally, Brown University is in the final stages of reviewing the program's new ZNE pathway and will be making decisions in this next quarter.

Relating to the future of energy efficiency, the solar inverter power factor correction demonstration is now active. The Company sent emails to all interconnected residential customers in Rhode Island to make them aware of this new offering and to encourage participation.

## 2021 Program & Initiative Updates

### **Residential New Construction (RNC)**

The Residential New Construction (RNC) program achieved 2,597 net lifetime MWh of electric savings (14.4% of the lifetime goal) and 6,130 net lifetime MMBtu of gas savings (7.1% of the lifetime goal) through the first quarter of 2021.

The program completed 135 housing units this quarter and enrolled 108 more customer residences in the program. Of the 135 customer residences completed, 93 (69%) used electric heat and 17 (13%) had gas heat, demonstrating high demand for new construction homes with electric heat. 134 of completed residences were new construction/gut rehabs while only 1 was a renovation. Four units were certified as meeting U.S. DOE's Zero Energy Ready Home standard, and an additional 212 units of ZE Ready homes are in the program pipeline as of the end of the quarter.

*Program Redesign Incorporates Zero Energy Path:* [This quarter, the new "Path to Zero Net Energy" was added to the RNC program structure.](#) The Company drew upon results and experience from the Zero Energy Pilot conducted from 2018-2020 to redesign this program. This Path includes additional project-level financial performance incentives and technical support, as well funding to promote certification for both projects and Rhode Island professionals seeking this distinction, which were tested during the Pilot. This redesign will help the Company continue to accelerate market adoption of ultra-high efficiency and fossil fuel free zero energy homes.

### **Challenges and Responses**

Achieving past levels of savings and participation for gas projects is becoming increasingly difficult with the increased prevalence of all-electric residential new construction in Rhode Island.

### **Customer Highlight**

Rhode Island's first U.S. DOE Zero Energy Ready Home development is now complete. The last four units of a nine-unit townhouse development in Warwick, were officially certified this quarter.



### **Income Eligible Services (IES)**

The National Grid Income Eligible Services program achieved 4,181 net lifetime MWh of electric savings (11.3% of the lifetime goal) and 17,754 lifetime MMBtu of gas savings (8.8% of the annual goal) through the first quarter of 2021. Field operations with COVID precautions continued in the first quarter with all six CAP agencies providing in-home services. Two CAPs continued virtual services at the request of their customers.

The first quarter IES Best Practice meeting was held virtually on February 18<sup>th</sup>. This meeting focused on 2020 year-end results, COVID-19 updates, and the Third-Party Referral Program overview and a marketing update.

The KPI process was fully implemented 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.

The CAP Executive Directors Meeting was continued in the first quarter on February 17<sup>th</sup>. This meeting includes all CAP Executive Directors, National Grid, RI DHS, and the lead vendor and focuses on performance, challenges/opportunities, communications and sharing of consistent information across all CAPs.

### **Challenges and Responses**

Staffing at the CAPs continues to be a challenge to IES Program implementation. Customers wary of COVID-19, children schooling from home, and many more issues are stretching the time needed for each step in the IES process. 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 third-party referral program completed weatherization jobs for the CAP agencies.
- BPI Auditor & Installer program was developed in the first quarter 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 and TriCounty CAP, along with CLEAResult, are leading this effort.
- Virtual AMPs continued with over 1,500 virtual AMPs completed since the program's inception.

### **Customer Highlight**

*“Very much satisfied with total staff, all very professional.” – Nora from Cranston, RI discussing the Weatherization Program during COVID-19.*

### **EnergyWise Single Family**

The EnergyWise Single Family program achieved 4,263 net lifetime MWh of electric savings (29.6% of the lifetime goal) and 127,145 net lifetime MMBtu of gas savings (26.7% of the annual goal) through the first quarter of 2021.

EnergyWise won the 2021 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 this program.

[https://www.energystar.gov/about/awards/2021\\_energy\\_star\\_award\\_winners](https://www.energystar.gov/about/awards/2021_energy_star_award_winners)

Customers appear to be interested in receiving assessments with two-thirds preferring an in-person assessment over a virtual assessment.

### **Challenges and Responses**

Interest in assessments and weatherization has slowed down with improving weather. There is additional marketing planned for the second quarter.

### **EnergyWise Multifamily, Income Eligible Multifamily, C&I Multifamily**

The EnergyWise Multifamily program achieved 4,076 net lifetime MWh of electric savings (25.0% of the lifetime goal) and 6,002 net lifetime therms of gas savings (4.0% of the lifetime goal) through the first quarter of 2021. The Income Eligible Multifamily program did not achieve any savings in the first quarter of 2021, however there are currently 1,462 units with signed contracts currently in the income eligible pipeline for completion later in 2021. The C&I Multifamily program achieved 5,043 net lifetime therms of gas savings (3.6%

of the lifetime goal) in the first quarter, with 98 units with signed contracts currently in the C&I Multifamily gas pipeline.

In the first quarter, the EnergyWise Multifamily program launched the new tiered incentive offer, providing enhanced incentives for increased participation in condo facilities and to encourage uptake of deeper savings measures in apartment buildings. The program saw an increased interest from smaller apartment buildings as a result of this trial offer.

Ten energy specialists, project managers, and marketing specialists in both EnergyWise Multifamily and Income Eligible EnergyWise Multifamily programs also completed sales training during the first quarter. The training they received was designed to help them hone their ability to present and explain savings opportunities to customers.

### **Customer Highlights**

- **EnergyWise Multifamily Income Eligible electric: A 176 unit Housing Authority project**

The first phase of this project was completed in the first quarter of 2021, where electric resistance ventilators inside customer units were replaced with VRF/ERV ventilators controlled by a new centralized EMS system

### **Challenges and Responses**

The ongoing COVID-19 pandemic is still causing challenges for the EnergyWise Multifamily programs related to completing energy assessments and scheduling jobs, particularly for work inside units due to continued customer hesitation. This challenge is particularly acute in income eligible facilities. The program continues to engage with facilities on an ongoing basis to monitor their readiness to schedule assessments and work. Planned assessments for Q2 from contact with customers in Q1 are indicating that program participation is trending toward an increase as a greater percentage of the Rhode Island population becomes vaccinated.

### **ENERGYSTAR® HVAC (Heating and Cooling)**

The ENERGYSTAR® HVAC (Heating and Cooling) program achieved 9,715 net lifetime MWh of electric savings (18.9% of the lifetime goal) and 116,067 net lifetime MMBtu of gas savings (17.4% of the lifetime goal) during the first quarter of 2021.

On the electric side, the new HVAC Check reporting portal version 2.0 was launched in February. This new portal offers improved functionality for the HVAC contractors to report and track their HVAC Check tests and results. Seven remote half-day HVAC Check trainings were held during the first quarter to provide both refresher courses and new trainings for a total of 63 HVAC technicians. HVAC Check testing is generally done in warm weather, but three HVAC Check tests were completed early in Q1 before it got too cold. Twenty-two (22) onsite Quality Control (QC) inspections were performed on

recently installed heat pumps. On the gas side, 25 distributor or contractor meetings (virtual + onsite) were held to promote the Gas HVAC incentives.

Rhode Island 2021 HVAC program updates were presented to the HVAC stakeholders and trade allies on February 24, 2021 in a virtual meeting attended by approximately 100 participants. The event included presentations on changes to program incentives, updates on the full array of National grid efficiency offers in Rhode Island, including training opportunities for trade allies, code officials, builders and other stakeholders. The Regional Greenhouse Gas Initiative (RGGI)-Funded Enhanced Heat Pump Rebates for Residential Oil or Propane Heating Customers launch was also announced at the meeting.

In addition to the savings values noted previously, other KPIs include:

- 71 Rhode Island HVAC program-approved contractors that have participated in the HVAC Check or MS Check training and testing process.
- Seven HVAC Check or MS Check trainings were completed in Q1 of 2021.
- Five 1-hour training webinars were conducted for HVAC contractors on the following topics, and 21 technicians/contractors attended one or more of these training sessions.
  - Introduction to Load Calculation (Manual J),
  - Introduction to Duct Design,
  - Introduction to HVAC Check 2.0 Software.

## **Challenges and Responses**

The electric HVAC program is primarily driven by installation and testing that is generally completed during warmer weather. As such, Q1 is a slower time for the program. Similarly, Q1 is relatively slower for the gas HVAC program. Although Q1 is the height of the heating season, most installations occur in the fall in preparation of the coming winter. In response to this seasonality, staff focus on training and education of the contractors to prepare them for the coming installation and testing season. The annual trade ally meeting serves as a platform to present any program changes in the new year, promote other National Grid programs, and outline training opportunities.

## **Customer Highlight**

The RGGI-Funded Enhanced Heat Pump Rebates for Residential Oil or Propane Heating Customers was launched on March 1, 2021 with funding provided via the Rhode Island Office of Energy Resources. Below is the cover of the new RGGI-Funded Enhanced Heat Pump Rebate application form.

2021 Rhode Island

**Enhanced heat pump rebates for residential oil or propane heating customers**

1-844-615-8315 | [ngrid.com/rirebates](https://ngrid.com/rirebates)



### **ENERGYSTAR® Lighting and Residential Consumer Products**

The ENERGYSTAR® Lighting program achieved 3,855 net lifetime MWh of electric savings (14.4% of the lifetime goal) and the Residential Consumer Products program achieved 15,259 net lifetime MWh of electric savings (40.0% of the lifetime goal) during the first quarter of 2021.

2021 is the final year of the ENERGY STAR® lighting program. In preparation for smooth culmination of program activities, all incentives will conclude on September 30<sup>th</sup> to allow for adequate time for final invoicing.

Rhode Island garnered the ENERGY STAR Excellence in Marketing award for its successful promotion of the ENERGY STAR® brand.

School fundraiser promotions and in business pop-ups of lighting and consumer products education events have moved online for 2021.

Spanish promotion of fridge recycling began in February with an engaging video about the program. (<https://www.nationalgridus.com/RI-Home/Energy-Saving-Programs/Appliance-Recycling-Program-ES> or [¡Recicle su viejo refrigerador y reciba \\$50!](#))



Upcoming flash sales include air purifiers in April (over 1,240 units sold) and dehumidifiers in May. The following graphic shows information included with air purifiers that also promotes other energy efficiency opportunities.

## Cleaner air at home is here.

We're so excited to bring energy-efficient solutions and bigger savings to your home. Before you plug in your new ENERGY STAR® certified room air purifier, here are some tips to keep your product in tip-top shape.



### Keep the surrounding area clean.

Dust bunnies and dirt mean unnecessary work for your air purifier.



### Monitor your filters.

Clogged filters will hinder results, overwork the product and shorten its lifespan.



### Regularly clean your washable pre-filters.

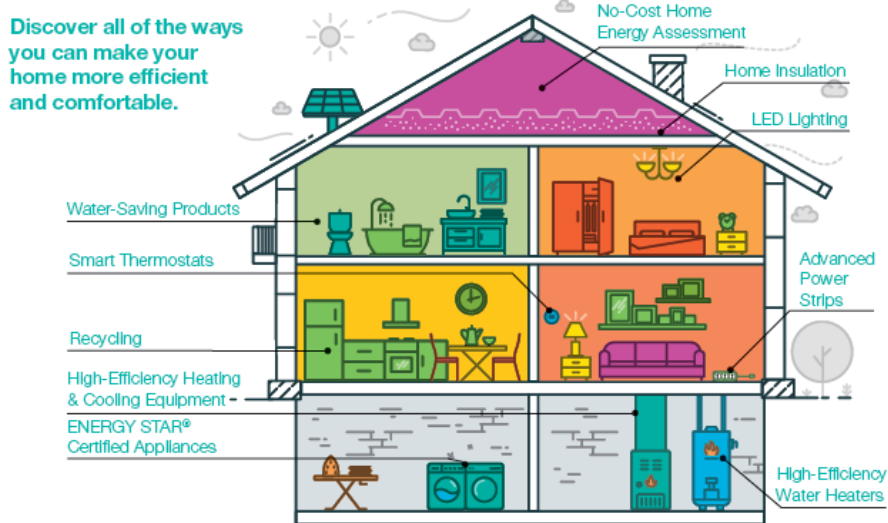
This will extend the lifespan of the inner filters and save you money.



### Give your air purifier room to "breathe."

Make sure your product has enough space for air intake and release.





Take the full tour of this energy-efficient home at [ngrid.com/ma-savemore](http://ngrid.com/ma-savemore).



## Home Energy Reports (HER)

The Home Energy reports program achieved 7,246 net lifetime MWh of electric savings (27.0% of the lifetime goal) and 24,575 net lifetime MMBtu of gas savings (26.3% of the lifetime goal) during the first quarter of 2021.

In March, a new one-question feature was rolled out to identify multifamily customers through the electronic Home Energy Reports.

Rhode Island – March 2021

**You can save energy even in a multi-unit building!**

Whether you rent an apartment, live in a condo, or own a single-family home, we offer energy saving rebates and services to help every residential customer reduce their energy use and costs.

Tell us more about your home so we can send personalized offers just for you.

Do you live in a multi-unit building with 5 or more units?

**Thanks for your response!**  
Here's a personalized recommendation just for you.

**Let's get you saving**  
Find an energy efficiency program that's right for your home.

Our exclusive offers for multi-unit building residents can save you energy and money when you need it most. From home energy assessments to incentives and instant rebates on everyday energy-saving products, we're here to help.

**Services & Rebates**

Explore instant rebates on the National Grid Marketplace

**Your home is full of hidden savings**  
A home energy assessment can find them for you.

With a no-cost home assessment, you can help you find ways to save energy while staying cozy and comfortable. You'll meet with an energy specialist for a live virtual discussion about your home, find opportunities to save energy and money, and receive a plan to help you stay on track.

**SCHEDULE AN ASSESSMENT**

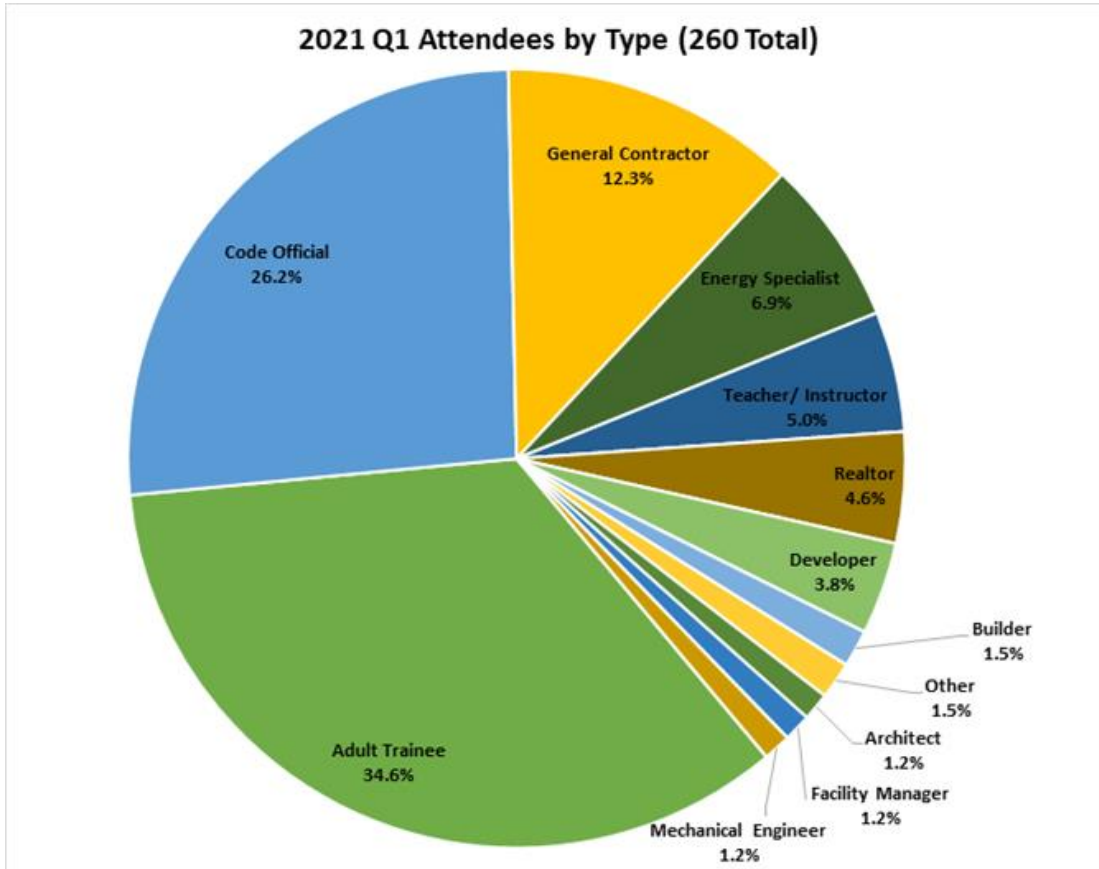
**Virtual Assessments**  
No-cost Home Energy Assessment

## Challenges and Responses

Gas Home Energy Reports is forecasting to come in below goal by year end. Discussions have already occurred to implement strategies that will maximize gas savings.

## Code Compliance Enhancement Initiative (CCEI)

17 training events engaging 260 industry stakeholders were held during this quarter. 15 of these events were focused on residential construction (238 attendees) and 2 were focused on commercial (22 attendees).



Q1 Training Participants – Attendees by Type

*Residential:* CCEI continued to leverage industry partnerships to create and maximize training opportunities in the residential sector. CCEI continued to deliver energy code trainings as part of RIBA’s Contractor Training & Development Program, including one session delivered each month. Next, the program continued to partner with the Governor’s Real Jobs/Back to Work Initiative targeting new entrants to the construction industry and reached over 100 individuals this quarter. CCEI also delivered multiple training sessions to the RI Building Officials Association and the RI Association of REALTORS, all of were pre-approved for the relevant continuing education units.

*Commercial:* This quarter, CCEI delivered its second virtual building tour aiming to adapt the learning experience of on-site building tours for the COVID era. The virtual tour featured the Fascitelli Center for Advanced Engineering at URI, which was designed to achieve the LEED Gold standard. CCEI also coordinated with AIA-RI on a series of Lunch and Learn trainings that will begin next quarter.

## Challenges and Responses

CCEI continues to deliver a full suite of interactive webinars while public health guidelines continue to limit in-person trainings. CCEI developed and delivered two new courses this quarter: the (Commercial) tour mentioned above and a (Residential) Introduction to Load Calcs.

## Customer Highlight

One apprentice construction trainee provided the following feedback:

*“A few months ago you spoke to my Pre-Apprenticeship Certificate Training program for carpentry. After listening to your presentation on home energy and the future for the building industry, it sparked an interest of what direction I would like to take after I complete the course in mid-June. I am an outdoor enthusiast, big believer in clean energy and better built homes. I am very passionate about going green and would like to know what I can do with my experience and training from PACT that will allow me to contribute to the Green Building Industry.”*

## Large Commercial New Construction

The Large Commercial New Construction program achieved 14,607 net lifetime MWh of electric savings (7.7% of the lifetime goal) and 98,718 net lifetime MMBtu of gas savings (22.6% of the lifetime goal) through the first quarter of 2020. As of the end of Q1 there were 19 active projects enrolled in the program and 7 additional leads that are being worked on.

*Program Redesigned to Promote Zero Net Energy and Focus on Reducing Energy Use Intensity (EUI): [This quarter, the Company launched a new four-path structure of this program](#)* informed by learnings from recent pilots and coordination with nearby states. Two new high-performance pathways (the more aggressive of which provides a pathway to Zero Net Energy) were added centered on setting an EUI target early in the design process, achieving this design, and maintaining this level of performance. An additional new path targeted to smaller projects employs a streamlined savings calculation approach that reduces the need for energy modeling, thereby reducing a cost barrier to program participation. This new program structure was developed in collaboration with other utility program administrators in New England, and these matching program models will provide a more consistent experience for firms working across states. This redesign will help the Company continue to accelerate market adoption of ultra-high efficiency and zero energy buildings.

*Schools Engage in New Program Pathways:* The Company continues to engage the RI school districts that are in the early design phases for new/renovated buildings. The City of Cranston is building a new elementary School and have signed an MOU to participate in our program. The City of Newport is planning for a new high school planned, for which they are

considering Zero Net Energy, as well as an addition to the Pell elementary school. Finally, Brown University is in the final stages of reviewing the program's new ZNE pathway and will be making decisions in this next quarter.

### **Challenges and Responses**

Financial impacts from COVID are still slowing progress in the Municipal Sector. The program continues to engage with communities to be ready once funding and resources can be committed.

### **Customer Highlight**

The Company continued to support Tidewater Landing, a large residential, retail, and professional sports development in Pawtucket when it released an RFP this quarter to investigate a site-wide EE plan. At the developer's request, the Company is reviewing the RFP responses for EE program EE opportunities on a broad scale.

### **Large Commercial Retrofit**

The Large Commercial Retrofit program achieved 42,426 net lifetime MWh of electric savings (5.7% of the lifetime goal) and 185,815 net lifetime MMBtu of gas savings (22.6% of the lifetime goal) through the first quarter of 2020.

In the first quarter of 2021, the Company was able to install high efficiency air purifiers in six schools and several state building. The total energy savings from the installation of the air purifiers amounted to 6,144 net lifetime MWh.

The EnergySmart Grocer initiative

A national retailer installed self-contained medium temperature cases at 8 locations in Rhode Island. This installation is expected to save 46 gross annual MWh.



The Industrial Initiative vendor is working with a customer to reduce compressed air (CAIR) consumption in an industrial casting process. The process currently involves continuous nitrogen flow, which is only shut off during extended shutdowns if personnel remember to shut it off. The Industrial vendor has proposed controls to automatically shut off flowing when the casting tables are not operating. Installing flow controls is likely to result in an estimated 32% reduction in energy use for this process, from 289 annual MWh to 197 annual MWh (and a corresponding reduction in demand).

### **Challenges and Responses**

Below are some comments from National Grid's GrocerSmart initiative vendor on how the COVID-19 pandemic is affecting our customers, their thinking, and allocation of resources.

*"The COVID-19 pandemic is having an impact on budgets for 2021. In 2020 when the pandemic hit, grocers pivoted quickly to e-commerce and curbside services, investing heavily in refrigeration that served the "to go" and grocer picking services that grew from limiting in-person visits. Now in the first quarter of 2021, customers are now more concentrated on developing or maintaining e-commerce strategies and are also very concerned with supply shortages. We have observed that budgets for the Energy Managers are being streamlined and/or released in stages instead of as an annual budget. This is limiting our sightline through the entire year to upcoming projects as grocers monitor their spending carefully in 2021."*

### **Small Business Direct Install**

The Small Business Direct Install program achieved 23,871 net lifetime MWh of electric savings (22.7% of the lifetime goal) and 8,217 lifetime MMBtu of gas savings (16.8% of the lifetime goal) through the first quarter of 2020.

### **Enhanced reporting**

From this point forward, the Company will be reporting the number of gas weatherizations and the number of LED retrofit kits and luminaires with controls to show the National Grid's progress in these priority areas.

There were no gas weatherizations in 2020, but 2 were completed in Q1 2020.

The table below shows the numbers of luminaires and retrofit kits with controls for Q1 compared to 2020. Please note the following:

1. Many jobs completed in Q1 were identified/sold in 2020. Therefore, they do not reflect the Company's increased focus on controls as described in the 2021 plan.
2. Several large projects with controls are on hold due to products that have been on back order for months.

# Luminaires		# Luminaires with controls		
All 2020	13,032	All 2020	149	
Q1 2021	3,425	Q1 2021	25	

# Retrofit kits		# Retrofit kits with controls		
All 2020	17,260	All 2020	450	
Q1 2021	4,372	Q1 2021	125	

### Equity Note

Collateral materials for the Woman and Minority owned business campaign have been developed. The campaign will launch in mid-May.

### Challenges and Responses

There have been supply chain delays for luminaires and retrofit kits with controls due to the ongoing pandemic.

### Customer Highlight

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.

The program also 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.

### Evaluation, Measurement, and Verification

The following studies were completed in Q1 of 2021:

- The *2020 C&I Gas Peak Demand Study* quantified, by end use and building type, the percentage of demand that occurs during a natural gas peak demand day. This information can be used to convert annual energy savings into a specific gas peak demand value by multiplying the energy savings by this percentage factor and would provide an estimate of how much National Grid's energy efficiency programs are helping to offset the nature gas usage on the highest usage peak day.
- The Sense Pilot evaluation was a process evaluation of National Grid's Rhode Island Residential Home Energy Monitoring System Pilot which started in 2018. The Pilot provided Sense Monitors, a device and app which can identify over 20 different electricity-consuming devices in a home, to a sample of National Grid residential customers. The study provided mixed evidence as to whether the Sense Monitor may be

encouraging energy-saving behaviors in the use of non-lighting and non-HVAC energy-using equipment.

### **Challenges and Responses**

Other Evaluation, Measurement and Verification studies are still in-progress and several data collection activities were temporarily paused due to COVID-19. Field work has restarted on a case-by-case basis and remote EM&V study work resumed as of the end of the third quarter of 2020. Many studies have been slowed and/or altered due to COVID-19 but are moving forward.

### **Customer Initiatives**

The Company continued to work with its new partner on the launch of its Telecom initiative. More than 10 customer contacts have been made and evaluations are being scheduled.

### **Community Initiatives**

In Q1, East Providence continued to work through a menu of options in order to earn a subsequent incentive of up to \$20,000 if all goals are achieved. The performance period will be complete at the end of April 2021, and East Providence is working with National Grid's Municipal Energy Specialist to identify potential energy efficiency specialist for a project that will benefit the community.

In 2020, Quonset Development Corporation (QDC) signed a three-year memorandum of understanding with National Grid to provide businesses at the Quonset industrial park with access to enhanced incentives and technical services to identify and implement energy efficiency projects. In 2020, these businesses received more than \$2 million in incentives, resulting in savings of over 8 million kWh and 120,000 therms per year, valued at over \$1.4 million in cost savings. National Grid continues to provide periodic EE customer trainings in collaboration with QDC to expand program participation.

### **Challenges and Responses**

Due to the COVID-19 pandemic, and the need for East Providence to focus on pandemic issues as well as vaccine distributions, the timeframe for this initiative was extended through April 30, 2021.

### **Connected Solutions**

The solar inverter power factor correction demonstration is now active. The Company has sent out emails to all interconnected residential customers in Rhode Island to make them aware of this new offering and to encourage participation. Enphase enrolled as a new participant within the Connected Solutions battery offerings.

## Rhode Island Pilots, Demonstrations and Assessments

PDA Name	Q1 2021 Updates	
<u>New Air Sealing &amp; Insulation - Demonstration - Resi</u>	Date	3/31/2021
	Stage	Demonstration
	Recent Activity	Screened both technologies for cost-effectiveness - limited cost and performance data is available, though interviews with vendors revealed some success with new construction. Retrofit validation and further screening will require in-field testing.
	Next steps	Contacting manufacturers/contractors, recruiting customers for retrofit testing.
<u>Solar Inverter DLC - Demonstration - Resi</u>	Date	3/31/2021
	Stage	Develop or Demonstrate
	Recent Activity	<ul style="list-style-type: none"> <li>- Finalized the contract with a leading solar inverter manufacturer to provide this service.</li> <li>- Updated our webpages to let customer know about this demonstration</li> <li>- The inverter manufacturer has sent out emails to ~10% of their RI customers to let the know about this demonstration</li> <li>- National Grid has sent emails to all interconnected residential solar customers in RI to let them know about this demonstration</li> </ul>
	Next steps	Customer recruitment, Once recruited make intervening change to customer's inverters.
<u>Pre-Fab Energy Retrofit - Assessment - Resi</u>	Date	3/31/2021
	Stage	Develop or Demonstrate
	Recent Activity	Discussions with RetrofitNY and RMI program managers to understand national activity in this space. Involvement in an ongoing National Grid project in MA to understand customer decision making, barriers, savings and costs associated with real customer projects.
	Next steps	Additional market readiness research & writeup observations. Comparison to existing suite of measures
<u>Gas HPs - Demonstration - Resi</u>	Date	3/31/2021
	Stage	Develop or Demonstrate



	Recent Activity	Screened with BCR methodology for various residential baselines. Gas heat pumps are not cost-effective for a gas space heating baseline, and only present a reasonable payback period for electric or propane heating baselines, where installing a new gas connection would be costly, and potentially adverse to emissions goals. Some promising gas HP technologies are sized for DHW, which at a lower price point and lower system integration cost could present a better fit for demonstration.
	Next steps	Contacting gas heat pump hot water heater (HPWH) vendors, identifying installation sites including SF and MF
<b><u>HVAC Lighting Controls Plus - Demonstration - C&amp;I</u></b>	Date	3/31/2021
	Stage	Develop or Demonstrate
	Recent Activity	Phase I research and analysis complete. Working with sales teams and lighting vendors to recruit 4 customers to participate in demonstrations.
	Next steps	Customer recruitment
<b><u>Kitchen Exhaust - Demonstration - C&amp;I</u></b>	Date	3/31/2021
	Stage	Develop or Demonstrate
	Recent Activity	Ongoing customer recruitment. One customer selected for a heat recovery installation this summer. Customer recruitment is significantly slowed by the pandemic. So far, no interest on electrostatic filtration.
	Next steps	Final push for customer recruitment through email communication and follow up on sales leads.
<b><u>Enzyme-based HVAC Coil Cleaning - Demonstration - C&amp;I</u></b>	Date	3/31/2021
	Stage	Demonstration
	Recent Activity	We have developed a calculator to determine coil-cleaning cost-effectiveness as part of the ESPO offering, which is agnostic to cleaning technique, and could be applied to an enzyme-based approach.
	Next steps	The enzyme cleaning technique vendor has been identified, developing M&V plan for cleaning process and sites.
<b><u>Refrigeration Leak Survey &amp; Repair - Assessment - C&amp;I</u></b>	Date	3/31/2021
	Stage	Plan
	Recent Activity	Researching policy of claiming direct refrigerant carbon cost value benefits and the status of HFC regulations in RI.
	Next steps	Discussion with vendor on experience with refrigerant leak repair and savings potential.

<b><u>Gas DR - Pilot - C&amp;I</u></b>	Date	3/31/2021
	Stage	Demonstration
	Recent Activity	All 4 customers that participated in 2019-20 were again enrolled for the 2020-21 program. No new customers were enrolled in the PPDR program for 2020-21. DR Events were called on 1/29/21 and 1/30/21. Barring performance adjustments, roughly \$74,000 in participant incentives will be paid after the conclusion of the 20/21 winter season.
	Next steps	Review 20/21 winter season performance and issue customer incentives
<b><u>Gas HPs - Demonstration - C&amp;I</u></b>	Date	3/31/2021
	Stage	Concept
	Recent Activity	Screened GHPs with BCR methodology and for customer cost-effectiveness for specific vendor products, and against future possible COPs and technical improvement; concluded that existing offerings and potential growth offer no route to feasibility, particularly with a gas heating baseline.
	Next steps	Screening pilot GHP vendors for possible cost improvements, evaluate gas heat pump water heaters for improved cost-effectiveness compared to space heating.
<b><u>HVAC Automation for DR - Assessment - C&amp;I</u></b>	Date	3/31/2021
	Stage	Plan
	Recent Activity	Interviewed curtailment service providers and HVAC controls vendors.
	Next steps	Finish interviews and compile a report of findings.
<b><u>Shared Laundry Facilities - Assessment - MF</u></b>	Date	3/31/2021
	Stage	Plan
	Recent Activity	Development of research questions and approach
	Next steps	Background research- summary of similar programs in other territories, upstream laundry initiatives, and Esource research.
<b><u>SEM/CEI - Demonstration - C&amp;I</u></b>	Date	3/31/2021
	Stage	Demonstration
	Recent Activity	SEM/CEI gas savings were claimed in March of 2021. Two of the seven customers in the Rhode Island Cohort claimed gas savings that amounted to ~49,700 gross annual therms. The SEM/CEI demonstration uses the IPMVP option C method for claiming savings, this involves using a regression-based model to determine savings levels.

	Next steps	The Company will process the savings application and provide incentive payments to the two customers that claimed gas savings.
<b><u>Submetering to Support EE - Assessment - C&amp;I</u></b>	Date	3/31/2021
	Stage	Develop or Demonstrate
	Recent Activity	Ongoing discussions with CEM, technical support, and vendors to understand how granular data can provide actionable insights to customer energy consumption and in what ways EE programs can cost effectively support those insights. Discussions have centered around using existing building data, such as data from a BAS, to provide building insights rather than the installation of additional submetering.
	Next steps	Targeted vendor discussions to understand program barriers.
<b><u>Smart Valves for Child Water Systems - Demonstration - C&amp;I</u></b>	Date	3/31/2021
	Stage	Demonstration
	Recent Activity	Finalize M&V plan for existing demonstration project. M&V to begin in Q2.
	Next steps	Begin M&V and recruit additional customers.

NATIONAL GRID ENERGY EFFICIENCY PROGRAMS IN RHODE ISLAND

Table 1: Summary of Electric 2021 Target and Preliminary 1st Quarter Results

ELECTRIC PROGRAMS Sector and Program	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
	Demand Reduction (Annual kW)			Energy Savings (Annual MWh)			Customer Participation			Expenses (\$ 000)			Energy Savings (Lifetime MWh)			\$/Lifetime kWh	
	Year To Target	Date	Pct Achieved	Year To Target	Date	Pct Achieved	Year To Target	Date	Pct Achieved	Budget	Year To Date	Pct Achieved	Target	Year to Date	Pct Achieved	Target \$/kWh	Year to Date
<b>Commercial and Industrial</b>																	
Large Commercial New Construction	1,856	160	8.6%	11,837	1,007	8.5%	145	33	22.9%	\$ 8,188.2	721.8	8.8%	189,441	14,607	7.7%	\$ 0.043	\$ 0.049
Large Commercial Retrofit	11,648	605	5.2%	59,496	4,391	7.4%	2,882	951	33.0%	\$ 31,565.2	1,899.8	6.0%	744,562	42,426	5.7%	\$ 0.042	\$ 0.045
Small Business Direct Install	1,134	330	29.1%	9,696	1,952	20.1%	571	118	20.6%	\$ 8,883.6	1,322.3	14.9%	105,134	23,871	22.7%	\$ 0.084	\$ 0.055
Commercial ConnectedSolutions										\$ 2,990.1	37.3	1.2%					
Community Based Initiatives - C&I Financing										\$ 74.5	0.0	0.0%					
										\$ 5,000.0	0.0	0.0%					
<b>SUBTOTAL</b>	<b>14,638</b>	<b>1,095</b>	<b>7.5%</b>	<b>81,029</b>	<b>7,350</b>	<b>9.1%</b>	<b>3,598</b>	<b>1,102</b>	<b>30.6%</b>	<b>\$ 56,701.6</b>	<b>3,981.2</b>	<b>7.0%</b>	<b>1,039,136</b>	<b>80,904</b>	<b>7.8%</b>	<b>\$ 0.055</b>	<b>\$ 0.049</b>
<b>Income Eligible Residential</b>																	
Single Family - Income Eligible Services	457	85	18.5%	3,120	487	15.6%	3,412	1,200	35.2%	\$ 12,846.1	1,449.7	11.3%	36,909	4,181	11.3%	\$ 0.348	\$ 0.347
Income Eligible Multifamily	70	0	0.0%	1,554	0	0.0%	3,600	0	0.0%	\$ 3,549.0	32.3	0.9%	22,545	0	0.0%	\$ 0.157	N/A
<b>SUBTOTAL</b>	<b>527</b>	<b>85</b>	<b>16.0%</b>	<b>4,674</b>	<b>487</b>	<b>10.4%</b>	<b>7,012</b>	<b>1,200</b>	<b>17.1%</b>	<b>\$ 16,395.1</b>	<b>1,482.0</b>	<b>9.0%</b>	<b>59,454</b>	<b>4,181</b>	<b>7.0%</b>	<b>\$ 0.276</b>	<b>\$ 0.354</b>
<b>Non-Income Eligible Residential</b>																	
Residential New Construction	66	23	35.2%	979	134	13.7%	417	135	32.4%	\$ 1,611.3	197.3	12.2%	18,088	2,597	14.4%	\$ 0.089	\$ 0.076
ENERGY STAR® HVAC	204	39	19.1%	3,181	576	18.1%	5,037	1,363	27.1%	\$ 3,487.8	623.2	17.9%	51,309	9,715	18.9%	\$ 0.068	\$ 0.064
EnergyWise	445	170	38.3%	2,841	1,071	37.7%	11,223	4,135	36.8%	\$ 15,692.2	4,716.4	30.1%	14,385	4,263	29.6%	\$ 1.091	\$ 1.106
EnergyWise Multifamily	158	68	42.8%	1,240	458	36.9%	3,600	251	7.0%	\$ 2,804.3	313.1	11.2%	16,307	4,076	25.0%	\$ 0.172	\$ 0.077
ENERGY STAR® Lighting	1,872	281	15.0%	11,533	1,772	15.4%	68,164	13,307	19.5%	\$ 5,274.8	170.9	3.2%	26,801	3,855	14.4%	\$ 0.197	\$ 0.044
Residential Consumer Products	1,019	416	40.8%	5,926	2,721	45.9%	33,111	24,521	74.1%	\$ 2,681.2	742.6	27.7%	38,130	15,259	40.0%	\$ 0.070	\$ 0.049
Home Energy Reports	3,692	996	27.0%	26,852	7,246	27.0%	323,248	264,622	81.9%	\$ 2,641.7	553.5	21.0%	26,852	7,246	27.0%	\$ 0.098	\$ 0.076
Residential ConnectedSolutions										\$ 1,920.5	92.1	4.8%					
Energy Efficiency Education Programs										\$ 40.0	0.0	0.0%					
Community Based Initiatives - Residential										\$ 226.2	15.5	6.9%					
Comprehensive Marketing - Residential										\$ 332.7	0.7	0.2%					
<b>SUBTOTAL</b>	<b>7,455</b>	<b>1,993</b>	<b>26.7%</b>	<b>52,553</b>	<b>13,978</b>	<b>26.6%</b>	<b>444,801</b>	<b>308,335</b>	<b>69.3%</b>	<b>\$ 36,712.7</b>	<b>7,425.3</b>	<b>20.2%</b>	<b>191,872</b>	<b>47,011</b>	<b>24.5%</b>	<b>\$ 0.191</b>	<b>\$0.158</b>
<b>Regulatory</b>																	
EERMC										\$ 738.5	75.8	10.3%					
OER										\$ 738.5	184.6	25.0%					
<b>SUBTOTAL</b>										<b>\$ 1,477.0</b>	<b>\$ 260.4</b>	<b>17.6%</b>					
<b>TOTAL</b>	<b>22,621</b>	<b>3,173</b>	<b>14.0%</b>	<b>138,256</b>	<b>21,815</b>	<b>15.8%</b>	<b>455,411</b>	<b>310,637</b>	<b>68.2%</b>	<b>\$ 111,286.3</b>	<b>\$ 13,148.9</b>	<b>11.8%</b>	<b>1,290,462</b>	<b>132,096</b>	<b>10.2%</b>	<b>\$ 0.086</b>	<b>\$0.100</b>
Municipal LED Street Lights										485.9	7.2	1.5%					

NOTES

- (1)(4)(7) Targets from Docket 5076 - Attachment 5, Table E-7 (electric), Refiled December 22, 2020
  - (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 5076, Attachment 5 Table E-3 (electric), Refiled December 22, 2020
  - (11) Year To Date Expenses include Implementation expenses.
  - (12) Pct Achieved is Column (11)/ Column (10).
  - (18) \$/lifetime kWh = Column (11)/Column (14)
  - (16) Planned \$/lifetime MWh from Docket 5076 - Attachment 5, Table E-5 (electric), Refiled December 22, 2020 - adjusted to reflect format of quarterly report. Program Implementation Expenses/lifetime kWh.
- Values in quarterly reports are preliminary and subject to change. Data is finalized in the Year-End Report.

**NATIONAL GRID ENERGY EFFICIENCY PROGRAMS IN RHODE ISLAND**  
**Table 2: Summary of Gas 2021 Target and Preliminary 1st Quarter Results**

GAS PROGRAMS	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
	Energy Savings (Annual MMBtu)			Customer Participation			Expenses (\$ 000)			Energy Savings (Lifetime MMBtu)			\$/Lifetime MMBtu		Peak Hour Gas Demand Savings (MMBtu)
Sector and Program	Target	Year To Date	Pct Achieved	Target	Year To Date	Pct Achieved	Budget	Year To Date	Pct Achieved	Planned	Year To Date	Pct Achieved	Planned	Year to Date	Year to Date
<b>Commercial and Industrial</b>															
Large Commercial New Construction	27,631	7,309	26.5%	61	8	12.8%	\$ 2,634.2	\$ 381.3	14.5%	437,398	98,718	22.6%	\$ 6.02	\$ 3.86	3.65
Large Commercial Retrofit	187,283	11,415	6.1%	98	5	5.5%	\$ 5,054.1	\$ 600.7	11.9%	1,455,776	185,815	12.8%	\$ 3.47	\$ 3.23	5.71
Small Business Direct Install	4,886	1,002	20.5%	183	30	16.5%	\$ 332.7	\$ 17.6	5.3%	48,861	8,217	16.8%	\$ 6.81	\$ 2.15	0.50
Commercial & Industrial Multifamily	9,444	294	3.1%	729	9	1.2%	\$ 953.2	\$ 62.9	6.6%	141,869	5,043	3.6%	\$ 6.72	\$ 12.47	0.15
Commercial Pilots							\$ 215.8	\$ 29.6	13.7%						
Community Based Initiatives - C&I							\$ 24.8	\$ -	0.0%						
<b>SUBTOTAL</b>	<b>229,243</b>	<b>20,021</b>	<b>8.7%</b>	<b>1,071</b>	<b>52</b>	<b>4.9%</b>	<b>\$ 9,214.8</b>	<b>\$ 1,092.0</b>	<b>11.9%</b>	<b>2,083,905</b>	<b>297,794</b>	<b>14.3%</b>	<b>\$ 4.42</b>	<b>\$ 3.67</b>	<b>10.01</b>
<b>Income Eligible Residential</b>															
Single Family - Income Eligible Services	10,055	888	8.8%	1,005	102	10.2%	\$ 5,952.3	\$ 553.8	9.3%	201,104	17,754	8.8%	\$ 29.60	\$ 31.19	0.44
Income Eligible Multifamily	14,399	0	0.0%	3,150	0	0.0%	\$ 3,009.4	\$ 20.0	0.7%	315,545	0	0.0%	\$ 9.54	N/A	-
<b>SUBTOTAL</b>	<b>24,454</b>	<b>888</b>	<b>3.6%</b>	<b>4,155</b>	<b>102</b>	<b>2.5%</b>	<b>\$ 8,961.8</b>	<b>\$ 574</b>	<b>6.4%</b>	<b>516,649</b>	<b>17,754</b>	<b>3.4%</b>	<b>\$ 17.35</b>	<b>\$ 32.32</b>	<b>0.44</b>
<b>Non-Income Eligible Residential</b>															
EnergyWise	20,869	5,517	26.4%	1,694	1,028	60.7%	\$ 8,117.6	\$ 2,746.2	33.8%	476,550	127,145	26.7%	\$ 17.03	\$ 21.60	2.76
Energy Star® HVAC	38,345	6,660	17.4%	4,348	799	18.4%	\$ 3,673.0	\$ 556.8	15.2%	667,485	116,067	17.4%	\$ 5.50	\$ 4.80	3.33
EnergyWise Multifamily	8,633	358	4.1%	4,000	39	1.0%	\$ 1,491.6	\$ 78.7	5.3%	148,675	6,002	4.0%	\$ 10.03	\$ 13.12	0.18
Home Energy Reports	93,548	24,575	26.3%	152,324	153,831	101.0%	\$ 450.9	\$ 238.7	52.9%	93,548	24,575	26.3%	\$ 4.82	\$ 9.71	12.29
Residential New Construction	4,445	245	5.5%	323	17	5.3%	\$ 674.8	\$ 68.1	10.1%	85,272	6,130	7.2%	\$ 7.91	\$ 11.11	0.12
Comprehensive Marketing - Residential							\$ 64.8	\$ 0.2	0.4%						
Community Based Initiatives - Residential							\$ 75.8	\$ 5.1	6.7%						
<b>SUBTOTAL</b>	<b>165,840</b>	<b>37,355</b>	<b>22.5%</b>	<b>162,689</b>	<b>155,714</b>	<b>95.7%</b>	<b>\$ 14,548.5</b>	<b>\$ 3,693.9</b>	<b>25.4%</b>	<b>1,471,530</b>	<b>279,918</b>	<b>19.0%</b>	<b>\$ 9.89</b>	<b>\$ 13.20</b>	<b>18.68</b>
<b>Regulatory</b>															
EERMC							\$ 275.1	\$ 28.2	10.3%						
OER							\$ 275.1	\$ 68.8	25.0%						
<b>SUBTOTAL</b>							<b>\$ 550.1</b>	<b>\$ 97.0</b>	<b>17.6%</b>						
<b>TOTAL</b>	<b>419,537</b>	<b>58,263</b>	<b>13.9%</b>	<b>167,915</b>	<b>155,869</b>	<b>92.8%</b>	<b>\$ 33,275.2</b>	<b>\$ 5,456.8</b>	<b>16.4%</b>	<b>4,072,084</b>	<b>595,466</b>	<b>14.6%</b>	<b>\$ 8.17</b>	<b>\$ 9.16</b>	<b>29.13</b>

**NOTES**

- (1)(4) Targets from Docket 5076 - Attachment 6, Table G-7 (gas), Refiled December 22, 2020.
  - (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 5076, Attachment 6 Table G-3 (gas), Refiled December 22, 2020.
  - (8) Year To Date Expenses include Implementation expenses.
  - (9) Pct Achieved is Column (8)/ Column (7).
  - (13) Planned \$/lifetime MMBtu from Docket 5076 - Attachment 6, Table G-5 (gas), Refiled December 22, 2020 - adjusted to reflect format of quarterly report. Program Implementation Expenses/lifetime MMBtu.
  - (14) \$/lifetime MMBtu = Column (8)\*1000/Column (11)
  - (15) Peak Hour Gas Demand Savings is a test metric in 2021 and represents a rough approximation of peak-hour gas demand impacts. Column(2) \*0.01 \*0.05
- Values in quarterly reports are preliminary and subject to change. Data is finalized in the Year-End Report.

**Table 3  
National Grid  
Revolving Loan Funds**

**Large C&I Electric Revolving Loan Fund**

**Small Business Electric Revolving Loan Fund**

<u>Income Statement</u>		
(1)	2021 Funds Available	\$7,010,036
(2)	2021 Loan budget	\$15,000,000
(3)	Committed	\$8,298,390
(4)	Paid	\$77,640
(5)	Repayments	\$1,365,459
(6)	Available 3/31/21	-\$535

<u>Income Statement</u>		
(1)	2021 Funds Available	\$3,144,530
(2)	2021 Loan budget	\$3,000,000
(3)	Committed	\$0
(4)	Paid	\$309,466
(5)	Repayments	\$257,840
(6)	Available 3/31/21	\$3,092,904

<u>Program Impact</u>		
(7)	Number of loans	4
(7b)	Participants	4
(8)	Annual Savings (Net MWh)	211
(9)	Lifetime Savings (Net MWh)	2,351
(10)	Annual Savings (Net kW)	16

<u>Program Impact</u>		
(7)	Number of loans	131
(8)	Annual Savings (Net MWh)	1,952
(9)	Lifetime Savings (Net MWh)	23,871
(10)	Annual Savings (Net kW)	330

**Rhode Island Public Energy Partnership (RI PEP)**

**C&I Gas Revolving Loan Fund**

<u>Income Statement</u>		
(1)	2021 Funds Available	\$462,477
(2)	2021 Loan budget	\$0
(3)	Committed	\$0
(5)	Repayments	\$21,632
(6)	Available 3/31/21	\$484,109

<u>Income Statement</u>		
(1)	2021 Funds Available	\$1,240,073
(2)	2021 Loan budget	\$2,200,000
(3)	Committed	\$206,599
(4)	Paid	\$0
(5)	Repayments	\$148,352
(6)	Available 3/31/21	\$2,141,753

<u>Program Impact</u>		
(7)	Number of loans	0
(7b)	Participants	0
(8)	Annual Savings (Net MWh)	0
(9)	Lifetime Savings (Net MWh)	0
(10)	Annual Savings (Net kW)	0

<u>Program Impact</u>		
(7)	Number of loans	0
(7b)	Participants	0
(8)	Annual Savings (Net MMBtu)	0
(9)	Lifetime Savings (Net MMBtu)	0

Notes

1 Amount available as of January 1, 2021. Includes line (6) "Available 12/31/20" plus line (3) "Committed" in Table E-6 and G-6 of the 2020 Year End Report.

2 Budget adopted by Sales Team for 2021 operations. Budget includes projections of repayments made during 2021.

3 As of March 31, 2021

4 As of March 31, 2021

5 As of March 31, 2021

6 Fund balance as of March 31, 2021

7 As of March 31, 2021. Number is associated with paid loans.

7b 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 (not adjusted for net-to-gross). Number is associated with paid loans.

8 As of March 31, 2021. Number is associated with paid loans.

9 As of March 31, 2021. Number is associated with paid loans.

10 As of March 31, 2021. Number is associated with paid loans.

**Table 4  
National Grid  
2021 Test Metrics**

<b>Customer Satisfaction<sup>1</sup></b>
94.8%

NOTES

<sup>1</sup>The Customer Satisfaction metric is based on an average across the EnergyWise, Single Family Income Eligible Services, and Residential Consumer Products Programs. The metric is based off customer responses to the following questions: Would you recommend this service to friend or family? How satisfied are you with the energy efficiency services you received?