

Rhode Island Energy Efficiency

Fourth Quarter 2018 | National Grid

February 14, 2018

Overview

National Grid had a solid 2018 with the Company achieving 110.3% of the electric Annual MWh savings goal (206,115 MWh) and 119.1% of the Annual MMBTU gas savings goal (494,032 MMBTU). Both the electric and gas portfolios achieved and exceeded their overall goals for 2018 and posted a strong year for Rhode Island customers. For the electric portfolio, 2018 saw strong performance driven by ENERGYSTAR® Lighting and a transforming market. On the gas side, Home Energy Reports saw continued growth and a strong performance in the treatment group. For 2019, the EnergyStar Lighting and Home Energy Reports' respective program goal were increased, taking into account the success in 2018.

The fourth quarter saw several notable achievements. On the residential side, a Jamestown home renovated through the Residential New Construction program was featured on the 40th season anniversary of This Old House as the Little Green Giant. The Energywise program launched a language line on November 9th to accommodate Rhode Island's diverse customers and languages in addition to Spanish and Portuguese. The ENERGYSTAR® HVAC program launched the Beneficial Electrification program for Air Source Heat Pumps (AHSP) to encourage the replacement or displacement high CO₂ heating fuels. For the Community Initiative, Warren surpassed their stretch goal for assessments at 140%, their weatherization goal at 106%, and Air Source Heat Pump installations goal at 88%, helping the Company learn more about promoting heat pumps in the coming years.

On the Commercial side, due to Community Initiative being expanded to include small businesses, there was a joint effort with the Northern RI Chamber of Commerce for Woonsocket to educate small business customers about energy efficiency. Forty projects were completed in Woonsocket and Warren resulting in an annual reduction of 525 MWh, saving approximately \$73,500 in energy annually. For the Commercial New Construction program, a large financial institution built a new campus using the Comprehensive Design approach. The total project included nine Energy Conservation Measures (ECMs) with over 1,200 MWh saved.

The fourth quarter saw the completion of several pilots and learnings identified. 2018 concluded a three-year pilot project for residential customers that tested participation in a demand response offering called ConnectedSolutions. This was a successful example of a pilot that is transitioned to a new program. At year end there were 1,100 thermostats in the program with 600 new customers participating. On the commercial side, email outreach to enroll small business customers into the demand response direct control demonstration was sent out in December and outreach will continue in 2019. For Zero Energy Buildings, the Company continues to reach out to the building community to engage with owners, developers and customers on the value of Zero Energy Buildings. The Company is finalizing details on the Zero Energy Building incentive and technical support offering for large commercial buildings.

2018 Program & Initiative Updates

Residential New Construction (RNC)

- Residential New Construction had a great 2018, achieving 959 Annual MWh of electric savings (155% of goal) and 9,017 Annual MMBtu of gas savings (289% of goal).
- The program's overperformance can be attributed to successful execution of a new incentive structure in response to an updated program baseline. The RNC program's 2018 savings targets were based on the assumption that the program's traditional three tier incentive structure would continue unchanged despite a significant program baseline update set to take effect in 2018. However, National Grid designed and deployed a new four tier incentive structure for 2018 to better align with the new program baseline. This four-tier incentive structure was especially successful in encouraging builders of single family homes, more than 90% of which heat with gas or propane, to achieve levels of performance beyond the new program baseline comparable to their previous projects relative to the previous baseline.
- The program enrolled 100 customer residences in the fourth quarter and completed 187 customer residences, with 29 of the completed residences being for affordable housing.

Project Highlight: Station Row Apartments

- The first 74 units at this 169-unit project were completed during the fourth quarter.
- This is a high visibility project located in Providence, next to the train station.
- The project is eligible for both residential in-unit incentives and commercial incentives for the garage and common area lighting.
- The units scored an average HERS Index of 65 and has a LEED® certification goal.



Station Row Apartments, Providence

Project Highlight: This Old House - Jamestown

- A tour was held at a century-old 1,000 square foot New England beach cottage in Jamestown that underwent extensive renovations. The renovation was documented extensively by “This Old House” for their 40th television season and was heralded as the Little Green Giant in the accompanying “This Old House” October issue.
- Multiple energy efficiency measures were incorporated in the building design to achieve Zero Net Energy, including the use of AeroBarrier® to seal air leaks in the envelope, high efficiency heating and hot water equipment and the installation of a PV solar array on the barn roof.



This Old House Renovation, Jamestown



Income Eligible Services (IES)

- *“Mr. Depasquale was really helpful, explained everything very clearly. Taught me things about energy I didn't know.”* - IES program customer from Riverside, RI.
- The National Grid Income Eligible Services program had a solid 2018, achieving 4,177 MWh of electric savings (100% of goal) and 13,201 Annual MMBtu of gas savings (105% of goal).
- In the fourth quarter the program completed 823 audits, 323 weatherizations, and 171 heating systems.
- Development of the Cold Climate Air Source Heat Pump program for Income Eligible Services customers continued. Project reviews from Auditors and Contractors that had attended the third quarter training proved the value of the trainings. An additional training was scheduled for the first quarter of 2019. Additional meetings were held with the Market Rate Cold Climate Air Source Heat Pump administrative team.
- The RI WAP/IES (Weather Assistance Program/Income Eligible Services) Field Guide has been updated and approved. Jules Junker of Thermal Works Vermont has been contacted by the RI Department of Human Services (DHS) to provide update training to Agencies, Contractors, DHS and CLEAResult.

EnergyWise

- EnergyWise had a strong year, achieving 6,862 Annual MWh of electric savings (111% of goal) and 28,878 Annual MMBtu of natural gas savings (108% of goal).
- The program completed over 10,500 audits and more than 3,500 weatherizations in 2018.
- For weatherizations, the program finished the year with deliverable fuel incentives at the same level as other fuels.
- The program also showed very strong customer satisfaction with 97.5% of fourth quarter Home Energy Assessment (audit) customers and 98.8% of fourth quarter weatherization customers saying they would recommend the program.
- Energywise also launched a language line on November 9th so a broader range of languages can be accommodated beyond Spanish and Portuguese.
- Energywise began designing 2019 program enhancements so a 100% landlord incentive would be ready on January 1, 2019.

EnergyWise Multifamily, Income Eligible Multifamily, C&I Multifamily

- The Multifamily programs had mixed performances in 2018.
- The EnergyWise Multifamily program achieved 2,825 Annual MWh of electric savings (67% of goal) and 10,831 MMBTU of natural gas savings (90% of goal).
- The Income Eligible Multifamily program achieved 2,473 Annual MWh of electric savings (75% of goal) and 23,645 MMBTU of natural gas savings (146% of goal).
- The C&I Multifamily program achieved 9,462 MMBTU of natural gas savings (142% of goal).

- The electric multifamily programs were challenged in 2018 due to declining opportunities for lighting savings which make up a significant portion of the programs' savings. On the gas side, the income eligible multifamily gas program saw the completion of several large projects in the fourth quarter which increased program savings from 49% in the third quarter to 146% at year end. The Income Eligible and C&I multifamily programs saw an increase in their savings goals for 2019 to more closely align with 2018 actuals.

ENERGYSTAR® HVAC (Heating and Cooling)

- The ENERGYSTAR® HVAC (Heating and Cooling) program had a good year with some mixed results, achieving 1,918 Annual MWh of electric savings (92% of goal) and 28,962 Annual MMBtu of natural gas savings (105% of goal) in 2018.
- The program officially launched the Beneficial Electrification program for Air Source Heat Pumps (AHSP) to encourage the replacement or displacement high CO2 heating fuels.
- HVAC Check contractor activity included 16 Air Conditioning (AC) check tests and seven Mini-Split (MS) check tests.
- Due to expressed interest and demand, the program offered an additional Mini Split Check training the fourth quarter, certifying four RI based companies, for a total of 13 technicians, in Mini-Split Check testing. RI based Trainings for the quarter and YTD date are:

Training Type	# of Sessions		# of Contractors		# of Technicians	
	Q4	YTD	Q4	YTD	Q4	YTD
AC Check	0	1	0	4	0	8
MS Check	1	4	4	12	13	40
AC Check Refreshers	0	2	0	2	0	11

ENERGYSTAR® Lighting and Residential Consumer Products

- ENERGYSTAR® Lighting had a very strong year 2018, achieving 54,211 Annual MWh of electric savings (139% of goal) and 6,141 Annual kW of electric demand (139% of goal). Residential Consumer Products also had a very good 2018, achieving 4,078 Annual MWh of electric savings (143% of goal) and 735 Annual kW of electric demand (171% of goal).
- The ENERGYSTAR® lighting program continued to benefit from a transforming lighting market and the products program benefited from surpassing goals on such measures as room air conditioners and smart strips. Both programs increased their savings goals in 2019 to more closely align with 2018 actuals.
- Redesigned school fundraiser packages were well received by schools. Fundraisers with 18 schools resulted in 11,684 students learning about energy efficiency and earning funds for their school activities.
- The energy efficiency marketplace continues to be worked on prior to its launch in 2019. The marketplace will make the customer experience easier and more appealing. By offering a broader range of items, the Company hopes that customers will be interested in returning to the marketplace when they need to purchase energy related items. This aligns with having automatic

rebates with retailers in 2019 which was tested with heat pump water heaters in 2018. The marketplace will also be promoted as the conduit for seasonal check ins so consumers can make sure the heating/cooling needs are ready as the weather changes.

- EISA, the Energy Independence and Security Act has allowed the United States government to set minimum efficiency standards on many products. In the lighting area, a timeline for three phases of standards for general service lighting was established with a backstop provision on lighting set at 45 lumens per watts to take effect on 1/1/2020. As of 2/6/2019 DOE announced a plan to roll back the general service lamp definition that would take effect on 1/1/2020 meaning incandescent and halogen versions of lamps can still be viable after 2020. The Company is following these definition changes and will update stakeholders as the changes evolve.

Home Energy Reports (HER)

- The Home Energy gas program ended the year overachieving on goal at 132,562 MMBTU (171% of goal) while electric program slightly underachieved at 23,537 MWh (94% of goal). The gas program goal was increased for 2019 to more closely align with 2018 actuals.
- There were several unique report experiences utilized in the fourth quarter. These report modules included a “prep for winter” experience encouraging efficient thermostat set points and a “Happy New Year” module asking customers to take a resolution to be more efficient in 2019 through small behavioral changes.
- Through the final three months of the year, 87,079 high use email alerts were sent, notifying customers they were on track for increased bills due to the approaching winter months and allowing them to plan accordingly.

Get ready for winter



See your breath in the air? Time to prepare!

The first time you step outside and see your breath, take this as a signal that winter—and possibly higher energy use—is on the way. Start getting ready to save now by remembering these recommended winter thermostat settings:

- 68°F when you're home
- 60°F when you're away or asleep

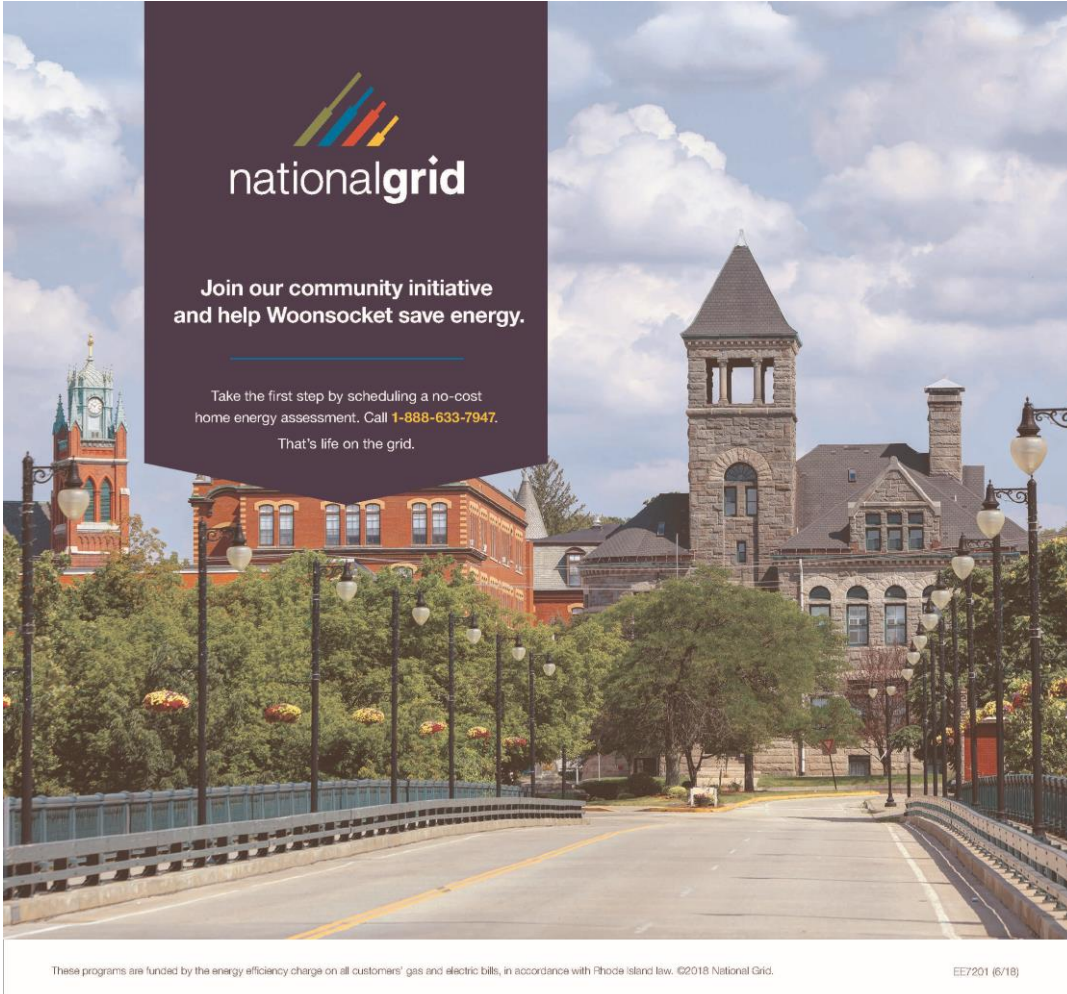


Find more winter savings tips online at ngrid.com/ri-reports.

Prep for winter module utilized in the fourth quarter

Community Initiatives

- The communities of Warren and Woonsocket completed their participation in the Community Initiative in 2018 and were tremendously successful. In the fourth quarter, Woonsocket ran ads on two local radio stations as well as in the local paper. This culminated in the city achieving 147% of its stretch goal for assessments and 134% of its stretch goal for weatherizations.
- The town of Warren hosted events at Autumn fest, mailed flyers through the Department of Public Works, and hosted a “walkabout” event. These actions resulted in Warren surpassing their stretch goal for assessments at 140% and their weatherization goal at 106%.
- Notably, Warren also set an ambitious goal for Air Source Heat Pump installations and came in at 88%, helping the Company learn more about promoting these products in the coming years.
- For 2019, the Company will be reassessing KPIs for the small business component, based on the experience of 2018 in Woonsocket and Warren.



The advertisement features a dark purple semi-transparent overlay on a background image of a street in Woonsocket, Rhode Island. The street is lined with trees and streetlights, leading towards a large, historic stone building with a prominent clock tower. The National Grid logo is centered at the top of the overlay. Below the logo, the text reads: "Join our community initiative and help Woonsocket save energy." A thin blue line separates this from the next section: "Take the first step by scheduling a no-cost home energy assessment. Call 1-888-633-7947." Below that, it says "That's life on the grid." At the bottom left of the ad, small text states: "These programs are funded by the energy efficiency charge on all customers' gas and electric bills, in accordance with Rhode Island law. ©2018 National Grid." At the bottom right, the code "EE7201 (6/18)" is visible.

nationalgrid

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and help Woonsocket save energy.

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These programs are funded by the energy efficiency charge on all customers' gas and electric bills, in accordance with Rhode Island law. ©2018 National Grid.

EE7201 (6/18)

Woonsocket Community Ad

Code Compliance Enhancement Initiative (CCEI)

New Topic: Commercial Building Commissioning

- Building commissioning was identified as an area of improvement in a recent evaluation, so a new training program was developed and delivered to construction industry stakeholders and building owners.

Relevant KPIs

- Ten energy code compliance trainings with 124 attendees were held during the fourth quarter: five focused on residential buildings (61 attendees) and five targeted commercial buildings (63 attendees).

Challenges and Next Steps

- The stalled Rhode Island energy code update continues to limit the scope of this program. The program continues to create new partnerships to engage new groups and individuals.



The new commercial building commissioning training delivered at Viessmann included a tour of the boiler manufacturer's facility.

Large Commercial New Construction

- The Large Commercial New Construction program had a solid year, achieving 13,700 MWh of electric savings (98% of goal) and 55,639 Annual MMBtu of gas savings (130% of goal) so far this year.
- A large financial institution built a new campus using the Comprehensive Design approach. The total project included nine Energy Conservation Measures (ECMs) with over 1,200 MWh saved and an incentive of approximately \$468,000.
- After a successful marketing campaign, 85 electric & gas high efficiency food service equipment products were sold via the upstream channel, saving 17,313 gross annual therms & 27,506 gross annual kWh.



Pulsing doors on low temperature cases for supermarket chain.

Large Commercial Retrofit

- The Large Commercial Retrofit program has a strong 2018, achieving 80,658 MWh of electric savings (107% of goal) and 178,576 Annual MMBtu of gas savings (96% of goal).

Highlights of projects completed in the fourth quarter:

- Towns installing LED street lighting included W. Warwick, Westerly, N. Providence, Central Falls, Hopkinton & Cumberland. Close to \$800,000 in incentives were awarded resulting in energy savings of nearly 4,000 MWh.
- In November a \$250,000,000 school building improvement bond was approved.
- A college completed a boiler upgrade including burner replacements, a stack economizer, and heat recovery resulting in 20,000 therms saved.

Challenges and Next Steps

- Gathering post inspection data from the vendor installing LED street lighting was a challenge. Controls associated with these street lighting apps are expected to be completed in 2019. There was a settlement between the town of Johnston and National Grid regarding the payment of electricity for street lights on state owned roads. Although this settlement only affects the town of Johnston, many other towns in the process of purchasing their street lights have paused the process due to this issue.
- The internal team will focus on ensuring there is an EE component to the school renovations associated with the school improvement bond.

Small Business Direct Install

- The Small Business Direct Install program had a very solid 2018, achieving 10,727 MWh of electric savings (108% of goal) and 3,260 MMBtu of gas savings (107% of goal) this year.
- Because of the Community Initiative being expanded to include small businesses, there was a joint effort with the Northern RI Chamber of Commerce for Woonsocket to educate small business customers about energy efficiency. Forty projects were completed in Woonsocket and Warren resulting in an annual reduction of 525 MWh, saving approximately \$73,500 in energy.

Highlights of Projects Completed in the fourth quarter:

- The vendor RISE installed both gas and electric energy efficiency measures at the Brewed Awakenings coffee shop in Cranston. LED lighting was upgraded that will save the nearly 7,400 kWh annually (or \$1,300/yr.) Simple water saving measures were installed, saving 500 therms of energy use, equating to an additional \$700 of annual cost savings for the shop. Other Brewed Awakening sites in Johnston and Wakefield were also upgraded.



Brewed Awakening, Cranston, RI

Finance

- In the fourth quarter, National Grid had several large projects close with the assistance of On Bill Repayment (OBR). Three were projects at the state's largest hospital group and included lighting, controls, and various mechanical improvements. The projects totaled over 2,000 net MWh of savings.
- Another project included lighting and controls at a health care technology company and fixed some long-term lighting issues the company had been experiencing.

Pilots and Demonstrations

Residential

Residential Connected Device Pilot – ConnectedSolutions (Demand Response)

- 2018 concluded a three-year pilot project for residential customers that tested participation in a demand response offering called ConnectedSolutions. Customer interest was focused on enrolling Wi-Fi enabled thermostats that would be controlled by the Company during peak summer periods. In 2018, National Grid engaged in a competitive procurement process strategically focused on reducing the cost of the residential connected device pilot.

Connected Solutions was shown to be cost effective with an estimated benefit cost ratio in 2019 of 3.24. ConnectedSolutions is a successful example of a pilot that transitioned to a new customer offering. At year end there were 1,100 thermostats in the program with 600 new customers participating. Average curtailment savings of 0.6 MW occurs during the events and in 2018 there were fourteen demand response events initiated.

- National Grid also completed the demand response load potential study in 2018 for Massachusetts. These results were scaled for Rhode Island and were used for setting goals for demand response in the 2019 Energy Efficiency plan. National Grid is updating the study on the applicability of various residential appliances for demand response with values from the new Avoided Cost Study and Load Shape Study. The final report will be ready by the end of February 2019. The Company has expanded the ConnectedSolutions program to include batteries and electric vehicles. Both of these technologies were included in the 2019 Annual Energy Efficiency Plan and are projected to be cost effective. Also new in 2018 was a streamlined enrollment and incentive payment process under one vendor which will reduce the processing time before customers are paid.

Energy Storage

- The Company ran a battery-enabled demand response pilot with seven customers in 2018. The demonstration allowed the Company to design incentives associated with this technology and test the ability for batteries to export stored power to the grid, thereby unlocking the benefits of batteries. The Company also paid for the installation of a battery in Rhode Island from a new, New England battery vendor. This will be used for communications testing so that the vendor can be added to the pilot. Energy Storage will be included in the Residential Connected Solutions program in 2019.

Emerging Lighting Controls

- National Grid completed the Emerging Lighting Controls research in 2018 with 85 customers in RI and MA. Participants in the pilot received a smart hub that would coordinate the controllable devices including approximately 15 smart lamps per home, motion sensors, and geo-fencing sensors. The smart lamps allowed customers to remotely control lighting while the sensors captured other characteristics such as: lighting levels, occupancy levels, room temperature, motion, and remaining battery life of equipment. The pilot was conducted in two phases. Phase one lasted from October 2017 through January 2018 and captured a baseline activity period where the equipment was installed, but consumers operated their lights manually as they would with non-connected lights. Phase two began in February 2018 when customers were trained in how to operate the automatic controls of their “smart” lights and concluded in December 2018 when data was no longer captured from the pilot activities.
- The research found that during the baseline period, rooms with smart lamps were occupied 55% of the time while during the occupant-controlled period occupancy increased to 65%. 83.5% of pilot participants activated the smart lighting controls during phase two of the pilot and 96% of the active

participants had smart lights turn off when a geo-fencing sensor indicated that occupants were away from the home. Lighting savings from the research were estimated to be over 200 kWh per year when extrapolating to the whole home. The savings include moving customers from inefficient lighting to controllable lights.

Residential Energy Monitoring

- In 2018 National Grid began to pilot a residential energy monitoring study to investigate customer insights from real-time disaggregated energy usage. Three hundred and thirty-nine devices were installed into customer homes in early summer. The monitors will be studied for a full year with an evaluation of the pilot beginning in 2019. One interesting insight is there is an always on load of 23% of electricity consumption in the pilot.

Zero Energy Pilot and Passive House Initiatives

- Five Zero Energy presentations were held during the fourth quarter (11 total in 2018) and 68 attendees attended these presentations (166 total in 2018).
- A series of three infield trainings were held at a development in North Kingstown to demonstrate Zero Energy construction techniques.
- A nine-unit Zero Energy development supported by the pilot is currently underway and scheduled to be completed in 2019. This project will be open for educational tour in the spring of 2019.

Commercial and Industrial

Behavior Change through education of small/medium plant personnel

- Stage: Exploratory
- Update: For this demonstration the Company is in the process of designing an offering for customers and identifying customer sites for executing on this solution.

Underutilized EE Technologies on Mechanical Power Transmission Systems

- Stage: Exploratory

Secure Lighting Spec

- Stage: Exploratory
- Update: The Company will continue to develop the solution design for this concept in 2019.

Turn Key Light Design and Secure Lighting Spec

- Stage: Exploratory
- Update: For both these demonstrations the Company is in the process of identifying manufactures and contractors with who to implement this solution.

Advanced Daylight Design

- This solution is now part of the Company's existing program offering now and will not continue in 2019.

Web based Lighting Training

- Stage: Build
- Update: For this demonstration training materials for online training have been developed and the training will commence beginning of 2019.

Performance Lighting Plus App

- This solution will be part of the online application plus portal that was deployed in Oct 2018 and the Company will no longer develop this application process as a demonstration.

Lighting as a Service

- Stage: Concept
- Update: For this demonstration the Company will continue to engage with Lighting manufacturers to determine a business model and continue to engage with customers to determine interest in such a solution. The Company will continue to develop this demonstration in 2019

Power over Ethernet

- Stage: Discontinued
- Due to lack of customer interest in this solution at the moment the Company does not propose to continue this solution in 2019. The Company will however continue to explore customer interest in such a solution for the future.

Demand Response

- Stage: In-Flight
- Update: The Company called six demand response events in 2018 and saw a reduction of an average of 18 MW per event. The Company currently has 49 customers enrolled in the Demand Response C&I Connected Solutions program. All customers have been paid their performance incentive for in 2018. The Company is working on batteries with vendors and on setting up communication protocols for batteries for participation in DR events.

Demand Response SMB (Small Business)

- Stage: In-Flight
- Update: This direct load control small business program is in the process of enrolling customers. Email outreach to enroll small business customers into the demand response direct control demonstration was sent out in December 2018. This outreach will continue in 2019.

Zero Energy Buildings

- Stage: Launch
- Update: The Company continues to reach out to the building community to engage with owners, developers and customers on the value of Zero Energy Buildings. The Company is finalizing details on the Zero Energy Building incentive and technical support offering for large commercial buildings.

Strategic Energy Management (SEM)

- Stage: In-Flight
- Update: The Company is in the process of enrolling customers into this initiative. This initiative and enrollments will continue in 2019. The first cohort meeting for SEM is slated for the first quarter of 2019.

Accelerate Performance

- Stage: Launch
- Update: This demonstration is in the customer recruitment phase.

Gas Demand Response

- Stage: Launch
- Update: This demonstration is in the customer recruitment phase. The team has enrolled one customer into this program as of December 2018.

Evaluation

- HEAT Loan Assessment was finalized and studied the extent to which the 0% interest HEAT Loan enabled EnergyWise and HVAC projects. The study found that the 0% interest HEAT Loan generated energy savings that would not have otherwise occurred and offered recommendations to further increase uptake of measures offered through the EnergyWise and HVAC programs.
- Commercial and Industrial Impact Evaluation of 2013-2015 Custom CDA Installations was finalized and studied the Comprehensive Design Approach (CDA) program that assists customers in holistically improving the efficiency of their new construction buildings.
- Customer recruitment has begun for the evaluation of custom gas projects completed in 2017. This study will provide feedback on program performance and will update the realization rate applied to custom gas projects.

Other

- The RI Digital Application Portal (RIDAP) went live. Some vendors are reluctant to give up paper forms and additional training will be provided to the sales team on Feb 20th.

Upcoming Events

RI Home Show and Energy Expo will be held April 4 – 7, 2019 at the RI Convention Center (<http://rihameshow.com/>)

NATIONAL GRID ENERGY EFFICIENCY PROGRAMS IN RHODE ISLAND
Table 1. Summary of Electric 2018 Target and Preliminary 4th Quarter Results

ELECTRIC PROGRAMS Sector and Program	(1) (2) (3) Demand Reduction (Annual kW)			(4) (5) (6) Energy Savings (Annual MWh)			(7) (8) (9) Customer Participation			(10) (11) (12) Expenses (\$ 000)			(13)	(14)	(15)
	Target	Year To Date	Pct Achieved	Target	Year To Date	Pct Achieved	Target	Year To Date	Pct Achieved	Budget	Year To Date	Pct Achieved	Lifetime savings, MWh	\$/kWh	Planned \$/kWh
Commercial and Industrial															
Large Commercial New Construction	1,728	2,099	121.4%	13,959	13,700	98.1%	139	149	107.3%	\$6,111.7	\$5,177.1	84.7%	213,864	\$ 0.024	\$ 0.029
Large Commercial Retrofit	11,910	12,471	104.7%	75,616	80,658	106.7%	2,193	3,299	150.4%	\$24,030.7	\$22,657.6	94.3%	952,429	\$ 0.024	\$ 0.024
Small Business Direct Install	1,034	1,692	163.6%	9,940	10,727	107.9%	565	679	120.2%	\$6,924.5	\$5,982.5	86.4%	131,421	\$ 0.046	\$ 0.058
Commercial Demonstration and R&D										\$993.8	\$924.7	93.1%			
Community Based Initiatives - C&I										\$40.9	\$2.0	4.8%			
RI Infrastructure Bank										\$5,000.0	\$5,000.0	100.0%			
SUBTOTAL	14,673	16,262	110.8%	99,515	105,086	105.6%	2,897	4,127	142.5%	\$43,101.6	\$39,744.0	92.2%	1,297,714	\$ 0.031	\$ 0.033
Income Eligible Residential															
Single Family - Income Eligible Services	696	948	136.2%	4,185	4,177	99.8%	2,750	3,850	140.0%	\$9,329.3	\$9,872.2	105.8%	44,060	\$ 0.224	\$ 0.261
Income Eligible Multifamily	170	211	124.2%	3,287	2,473	75.2%	4,800	3,875	80.7%	\$2,557.4	\$2,590.6	101.3%	28,733	\$ 0.090	\$ 0.106
SUBTOTAL	865	1,158	133.9%	7,472	6,650	89.0%	7,550	7,725	102.3%	\$11,886.7	\$12,462.9	104.8%	72,793	\$ 0.171	\$ 0.198
Non-Income Eligible Residential															
Residential New Construction	49	68	139.4%	619	959	155.0%	501	458	91.4%	\$764.6	\$767.1	100.3%	14,636	\$ 0.052	\$ 0.103
ENERGY STAR® HVAC	433	816	188.7%	2,091	1,918	91.7%	1,794	3,057	170.4%	\$2,206.6	\$1,857.1	84.2%	27,606	\$ 0.067	\$ 0.084
EnergyWise	286	362	126.6%	6,157	6,862	111.4%	10,000	11,838	118.4%	\$14,916.3	\$13,331.2	89.4%	51,302	\$ 0.260	\$ 0.380
EnergyWise Multifamily	329	239	72.6%	4,207	2,825	67.1%	6,000	2,415	40.3%	\$3,062.6	\$2,196.0	71.7%	29,646	\$ 0.074	\$ 0.099
ENERGY STAR® Lighting	4,413	6,141	139.1%	38,891	54,211	139.4%	292,150	430,649	147.4%	\$6,768.6	\$10,705.1	158.2%	304,000	\$ 0.035	\$ 0.032
Residential Consumer Products	429	735	171.2%	2,849	4,078	143.1%	9,682	19,026	196.5%	\$1,831.1	\$1,906.6	104.1%	29,633	\$ 0.064	\$ 0.083
Home Energy Reports	3,325	2,748	82.6%	25,054	23,527	93.9%	213,750	208,594	97.6%	\$2,629.3	\$2,568.7	97.7%	23,527	\$ 0.109	\$ 0.105
Energy Efficiency Educational Programs										\$40.0	\$0.0	0.0%			
Residential Demonstration and R&D										\$922.6	\$493.2	53.5%			
Community Based Initiatives - Residential										\$163.0	\$70.6	43.3%			
Comprehensive Marketing - Residential										\$556.7	\$456.5	82.0%			
SUBTOTAL	9,264	11,109	119.9%	79,868	94,380	118.2%	533,877	676,037	126.6%	\$33,861.5	\$34,352.1	101.4%	480,349	\$ 0.072	\$ 0.094
Regulatory															
EERMC										\$686.1	\$686.1	100.0%			
OER										\$686.1	\$686.0	100.0%			
SUBTOTAL										\$1,372.1	\$1,372.1	100.0%			
TOTAL	24,802	28,529	115.0%	186,855	206,115	110.3%	526,299	687,889	130.7%	\$ 90,221.9	\$ 87,931.0	97.5%	1,850,856	\$ 0.048	\$ 0.052
Municipal LED Street Lights										\$ 802.3	\$ 861.3	107.3%			
System Reliability Procurement										\$ 399.3	\$ 237.3	59.4%			

NOTES
(1)(4)(7) Targets from Docket 4755 - Attachment 5, Table E-7 (electric)
(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 4755, Attachment 5 Table E-2 (electric).
(11) Year To Date Expenses include Implementation expenses.
(12) Pct Achieved is Column (11)/ Column (10).
(14) \$/lifetime kWh = Column (11)/Column (13)
(15) Planned \$/lifetime kWh from Docket 4755 - Attachment 5, Table E-5 (electric) - adjusted to reflect format of quarterly report. Program Implementation Expenses/lifetime kWh.
System Reliability Procurement targets from Docket 4755 - Attachment 5, Table E-7 (electric), not included in Expenses Total

NATIONAL GRID ENERGY EFFICIENCY PROGRAMS IN RHODE ISLAND
Table 2. Summary of Gas 2018 Target and Preliminary 4th Quarter Results

GAS PROGRAMS Sector and Program	(1) (2) (3) Energy Savings (MMBtu)			(4) (5) (6) Customer Participation			(7) (8) (9) Expenses (\$ 000)			(10)	(11)	(12)
	Approved Target	Year To Date	Pct Achieved	Approved Target	Year To Date	Pct Achieved	Approved Budget	Year To Date	Pct Achieved	Lifetime savings, MMBtu	\$/Lifetime MMBtu	Planned \$/Lifetime MMBtu
Commercial and Industrial												
Large Commercial New Construction	42,764	55,639	130.1%	105	105	99.4%	\$2,658.1	\$2,787.6	104.9%	967,065	\$ 2.88	\$ 3.33
Large Commercial Retrofit	186,780	178,576	95.6%	158	112	70.6%	\$3,643.3	\$4,257.5	116.9%	2,218,766	\$ 1.92	\$ 1.99
Small Business Direct Install	3,059	3,260	106.6%	30	81	265.2%	\$132.5	\$143.0	107.9%	27,813	\$ 5.14	\$ 4.45
Commercial & Industrial Multifamily	6,643	9,462	142.4%	1,698	921	54.2%	\$410.2	\$814.9	198.7%	122,564	\$ 6.65	\$ 4.40
Commercial Demonstration and R&D							\$482.1	\$5.3	1.1%			
Community Based Initiatives - C&I							\$9.8	\$0.1	0.6%			
SUBTOTAL	239,246	246,936	103.2%	1,992	1,218	61.1%	\$7,335.9	\$8,008.3	109.2%	3,336,208	\$ 2.40	\$ 2.67
Income Eligible Residential												
Single Family - Income Eligible Services	12,620	13,201	104.6%	675	615	91.1%	\$4,032.4	\$4,224.7	104.8%	264,024	\$ 16.00	\$ 15.98
Income Eligible Multifamily	16,222	23,645	145.8%	3,500	3,010	86.0%	\$2,349.5	\$2,420.1	103.0%	358,090	\$ 6.76	\$ 8.20
SUBTOTAL	28,842	36,847	127.8%	4,175	3,625	86.8%	\$6,382.0	\$6,644.8	104.1%	622,114	\$ 10.68	\$ 11.84
Non-Income Eligible Residential												
EnergyWise	26,787	28,878	107.8%	2,275	3,684	161.9%	\$8,370.8	\$7,935.9	94.8%	654,996	\$ 12.12	\$ 12.84
Energy Star® HVAC	27,513	28,962	105.3%	1,557	2,741	176.0%	\$1,730.4	\$1,980.5	114.5%	472,218	\$ 4.19	\$ 3.63
EnergyWise Multifamily	12,069	10,831	89.7%	2,500	1,811	72.4%	\$1,267.1	\$1,036.0	81.8%	168,286	\$ 6.16	\$ 6.39
Home Energy Reports	77,220	132,562	171.7%	104,250	88,062	84.5%	\$428.7	\$417.1	97.3%	132,562	\$ 3.15	\$ 5.55
Residential New Construction	3,117	9,017	289.3%	255	249	97.6%	\$587.4	\$640.3	109.0%	135,530	\$ 4.72	\$ 9.38
Residential Demonstration and R&D							\$19.6	\$0.0	0.0%			
Comprehensive Marketing - Residential							\$73.7	\$73.3	99.5%			
Community Based Initiatives - Residential							\$39.2	\$10.6	27.0%			
SUBTOTAL	146,706	210,249	143.3%	110,837	96,547	87.1%	\$12,516.7	\$12,093.7	96.6%	1,563,593	\$ 7.73	\$ 8.53
Regulatory												
EERMC							\$279.8	\$280.2	100.1%			
OER							\$279.8	\$279.9	100.0%			
SUBTOTAL							\$559.6	\$560.0	100.1%			
TOTAL	414,795	494,032	119.1%	117,004	101,390	86.7%	\$ 26,794.3	\$ 27,306.8	101.9%	5,521,915	\$ 4.95	\$ 5.63

NOTES
(1)(4) Targets from Docket 4755 - Attachment 6, Table G-7 (gas).
(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 4755, Attachment 6 Table G-2 (gas).
(8) Year To Date Expenses include Implementation expenses.
(9) Pct Achieved is Column (8)/ Column (7).
(11) \$/lifetime MMBtu = Column (8)*1000/Column (10)
(12) Planned \$/lifetime MMBtu from Docket 4755 - Attachment 6, Table G-5 (gas) - adjusted to reflect format of quarterly report. Program Implementation Expenses/lifetime MMBtu.

Table 3
National Grid
Revolving Loan Funds

Large C&I Electric Revolving Loan Fund

<u>Income Statement</u>	
(1) 2018 Funds Available	\$9,283,015
(2) 2018 Loan budget	\$10,000,000
(3) Committed	\$0
(4) Paid	\$5,128,530
(5) Repayments	\$6,067,670
(6) Available 12/31/18	\$10,939,140

<u>Program Impact</u>	
(7) Number of loans	77
(7b) Participants	65
(8) Savings (Net MWh)	11,542
(9) Lifetime Savings (Net MWh)	140,258
(10) Saving (Net kW)	1,495

Small Business Electric Revolving Loan Fund

<u>Income Statement</u>	
(1) 2018 Funds Available	\$1,919,057
(2) 2018 Loan Budget	\$2,800,000
(3) Committed	\$0
(4) Paid	\$2,437,812
(5) Repayments	\$2,588,902
(6) Available 12/31/18	\$2,951,090

<u>Program Impact</u>	
(7) Number of loans	759
(8) Savings (Net MWh)	10,727
(9) Lifetime Savings (Net MWh)	131,421
(10) Saving (Net kW)	1,692

Rhode Island Public Energy Partnership (RI PEP)

<u>Income Statement</u>	
(1) 2018 Funds Available	\$805,153
(2) 2018 Loan Budget	\$0
(3) Committed	\$0
(4) Funds returned to OER	\$1,046,058
(5) Repayments	\$306,965
(6) Available 12/31/18	\$66,060

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

C&I Gas Revolving Loan Fund

<u>Income Statement</u>	
(1) 2018 Funds Available	\$2,009,110
(2) 2018 Loan Budget	\$2,000,000
(3) Committed	\$0
(4) Paid	\$1,171,476
(5) Repayments	\$750,560
(6) Available 12/31/18	\$1,579,084

Notes

1 Amount available as of January 1, 2018.

2 Budget adopted by Sales Team for 2018 operations. Budget includes projections of repayments made during 2018.

3 As of December 31, 2018

4 As of December 31, 2018

5 As of December 31, 2018

6 Fund balance as of June 30, 2018.

7 As of December 31, 2018. 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 December 31, 2018. Number is associated with paid loans.

9 As of December 31, 2018. Number is associated with paid loans.

10 As of December 31, 2018. Number is associated with paid loans.

Efficient Buildings Fund
Rhode Island Infrastructure Bank / Office of Energy Resources
January 1, 2018 to December 31, 2018 Report

Financing Program Income Statement

Funds Available (1/1/18)	\$5 million SBC is equal to \$15mm - \$25mm in loans
Loans Paid Out (disbursements)	\$4,708,618
Loans Repayments (principal only)	\$1,252,000
Loans Defaults	\$0
Outstanding Loan Value (principal balance as of 12/31/18)	\$30,011,000
Funds Available (12/31/18)	\$5 million SBC is equal to \$15mm - \$25mm in loans

Financing Program Impacts

<i>Participation</i>	
Number of Loans (# - since inception)	14
Number of Participants (# - since inception)	12
<i>Projects</i>	
Total Loan Volume (\$ - since inception)	\$31,322,570
Total Associated Incentive Volume (\$ - since inception)	\$1,935,585.65
<i>Savings (2018) ^{Note (1)}</i>	
Gross Annual Electricity Savings Supported (MWh)	6,869 MWh
Gross Annual Capacity Reductions Supported (kW) (1)	See Note (2)
Gross Annual Thermal Energy Saving Supported (therms)	95,869 therms
Lifetime Gross Energy Savings Supported (MMBTU) (2)	See Note (3)
Total Annual Estimated Cost Savings (\$)	\$2,849,817.32

Note (1): Savings values only represent savings from projects that have been started or completed. There may be loans that have been approved that have not yet started project construction.

Note (2): This data was not collected from early EBF participants but will be available from future rounds as more reports come in.

Note (3): This data was not collected from early EBF participants but will be available from future rounds as more reports come in.