

Rhode Island Energy Efficiency

Third Quarter 2018 | National Grid

November 8, 2018

Overview

National Grid continued its strong performance in the third quarter of 2018 with the Company achieving 72.8% of the electric Annual MWh savings goal (136,040 MWh) and 63.2% of the Annual MMBTU gas savings goal (262,352 MMBTU). Both the electric and gas portfolios are on track to meet and exceed their overall goals for 2018 and post a strong year for Rhode Island customers. For the residential electric sector, lighting has led the way, driven by a transforming lighting market. For the residential gas sector, Home Energy Reports has seen ramped up savings, in part due to a 108% realization rate. The income eligible electric sector anticipates coming in slightly under goal while the income eligible gas sector anticipates a strong performance driven by the multifamily program. The C&I electric and gas sectors remain on track to meet their goals. Notable highlights this quarter include: new offerings of air source heat pumps, meetings and events for zero energy and passive homes, and seeing the transition of ConnectedSolutions from pilot to program in the 2019 EE Annual Plan.

The third quarter included heat pump technology integration into some of National Grid's programs. The Income Eligible Service program added Air Source Heat Pumps to its offerings and the HVAC program launched the new Heat Pump Initiative, aimed at displacing existing oil, propane, and electric resistance heating systems in 1-4 family houses. In addition, the Code Compliance Enhancement Initiative (CCEI) presented Cold Climate Air Source Heat Pump sizing, installation strategies, and operation tips to: code officials, low income weatherization contractors, energy auditors, and HVAC contractors. These steps encompass the efforts made by the Company to integrate this important technology moving forward.

Several Zero Energy and Passive Home events were held throughout the quarter including: a Zero Energy Advisory Group meeting, a Strategic planning session for marketing efforts, a Passive House Design Forum, a Passive House Conference, and a "Commercial High Performance & Zero Net Energy Buildings" presentation delivered by the CCEI program in August. These events and meetings highlight the company's focus on zero energy and passive home moving forward.

Looking to the future of energy efficiency, year three of the residential ConnectedSolutions pilot has proven that the technology is effective, customers are interested in the concept, and an overall program is cost effective. As such the Company proposed in the 2019 Annual Energy Efficiency plan to transition both the residential and C&I ConnectedSolutions pilots to programs starting in 2019, providing new benefits to Rhode Islanders. On the commercial side, for Small/Medium Business Demand Response the Company is in the process of launching an email marketing campaign to enroll customers into the direct load control program.

2018 Program & Initiative Updates

Residential New Construction (RNC)

- Residential New Construction had a solid third quarter, achieving 323 Annual MWh of electric savings (52% of goal) and 1,806 Annual MMBtu of gas savings (58% of goal).
- The program enrolled 180 customer residences in the third quarter and completed 207 customer residences, with 80 of the completed residences being for affordable housing.
- SWAP, Inc. (Stop Wasting Abandoned Property) enrolled 13 affordable housing residences. These are a mix of single family and duplexes on Plain, Millard, Comstock, Rugby, Pavilion and Lillian Streets in Providence.
- The "Central Falls Housing Prototype" is a three unit project that enrolled with a goal to achieve DOE's Zero Energy Ready certification and to build using Passive House guidelines.

Zero Energy and Passive House Initiatives:

- Five Case Studies were presented to approximately 50 attendees at the Passive House Design Forum.
- A Strategic Planning Session was held to develop a roadmap for Zero Energy Marketing efforts.
- Eight RI construction professionals met for the Zero Energy Advisory Group to collaborate on best practices, marketing opportunities and professional certifications.
- Twenty RI building professionals attended a Passive House Conference to learn more about high-performance passive building.



Kickoff of Zero Energy Advisory Group at the RI Energy Innovation Hub

Income Eligible Services (IES)

- “I feel the improvements to efficiency + savings in electricity + heating/cooling are important not only for momentary savings, but for the ecological benefits for us all.” – IES program customer from Foster, RI.
- The National Grid Income Eligible Services program had a solid third quarter, achieving 2,922 MWh of electric savings (70% of goal) and 8,478 Annual MMBtu of gas savings (67% of goal).
- An Appliance Management Program (AMP) Training was held at the National Grid Energy Innovation Hub. Twelve AMP Auditors participated and shared information about the program’s third quarter Best Practice meeting. The meeting also highlighted the 2019 EE Plan proposals and energy savings budget status to date. National Grid presented information about Income Eligible Customer Advocacy, Protections, Discount Rate, Payment and Budget Plans.
- In the third quarter, the program added Air Source Heat Pumps to its offerings. National Grid held a training with CLEARResult staff to confirm the goals and parameters of the program which CLEARResult shared with Community Action Agency staff. CLEARResult, in collaboration with the RI Dept. of Human Services, held a technical training with State Monitors, Agency Auditors and Qualified Contractors to better understand the selection and installation of Cold Climate Air Source Heat Pumps. The training was supported by CLEARResult.
- CLEARResult participated in five National Grid Customer Expos.
- The Department of Energy continued to evaluate the progress toward restoring the RI Audit Authorization. DOE continues to suspend the DHS audit and no DOE jobs have been done for over 15 months.
- The RI WAP/IES Field Guide is being updated.
- National Grid issued a Weatherization Contractor survey. Results from the survey have provided better insight to the needs of the IES program contractors and have created some action items for the IES Program.

EnergyWise

- “Have already recommended to others. This is second house we have participated in program and appreciate what a great deal it is, both for the environment and our bank balance.” – EnergyWise program customer.
- EnergyWise had a strong third quarter and has achieved 5,416 Annual MWh of electric savings (88% of goal) and 19,663 Annual MMBtu of natural gas savings (73% of goal).
- The program has completed 7,963 audits and 2,537 weatherizations through the third quarter, a 20% increase in audits and 14% increase in weatherizations when compared to the same point in 2017.
- The program has also completed 467 HEAT Loans totaling \$2.5 million in energy efficiency improvements through the year so far.
- In August the program began offering deliverable fuel customers a 75% incentive of up to \$4,000 for weatherizations, the same that other fuel customers also receive for weatherization projects.

- Two new independent insulation contractors also joined the program in the third quarter.

EnergyWise Multifamily, Income Eligible Multifamily, C&I Multifamily

- The Multifamily programs have had mixed performances through the third quarter.
- The EnergyWise Multifamily program achieved 1,848 Annual MWh of electric savings (44% of goal) and 10,115 MMBTU of natural gas savings (84% of goal).
- The Income Eligible Multifamily program achieved 1,180 Annual MWh of electric savings (36% of goal) and 7,989 MMBTU of natural gas savings (49% of goal).
- The C&I Multifamily program achieved 6,942 MMBTU of natural gas savings (104% of goal).
- The EnergyWise multifamily market rate program had 71 assessments completed in the third quarter and the income eligible program had 10 assessments completed.
- In a break from recent trends, the vast majority of facilities enrolled in the market rate program in third quarter were large complexes with over 20 units. As the program continues to mature the Company anticipates many more 5-20 unit buildings will participate in this market rate program.
- Several new opportunities arose during the quarter for facilities that do not necessarily meet the income eligible or market rate definition. The Company is currently working with these customers to learn how best to serve them and their residents. As such, the company in 2019 is committed to serving non-profit group homes seamlessly through the multifamily program.

ENERGYSTAR® HVAC (Heating and Cooling)

- The ENERGYSTAR® HVAC (Heating and Cooling) program continued a good year of performance, achieving 1,196 Annual MWh of electric savings (57% of goal) and 20,588 Annual MMBtu of natural gas savings (75% of goal) through the third quarter.
- The program conducted five contractor trainings in the second quarter, with 45 attendees from 17 companies. Outreach efforts focused on handing out the new rebate summary sheet to distributors.
- The program launched the new Heat Pump Initiative aimed at displacing existing oil, propane, and electric resistance heating systems in 1-4 family houses. This Initiative requires a customer to have completed their energy assessment and have completed any recommended air sealing and insulation. Four contractors will bring this Initiative to the market through data provided by the EnergyWise program.
- AC and heat pump testing activity included 26 AC check tests and 5 MS check tests in the quarter. AC Check and MS Check trainings for the quarter and to date:

Training Type	# of Sessions		# Contractors		# Technicians	
	Q3	YTD	Q3	YTD	Q3	YTD
ACcheck	0	1	0	4	0	8
MScheck	1	3	1	8	6	27
Refresher	0	2	0	2	0	11

ENERGYSTAR® Lighting

- ENERGYSTAR® Lighting continued its strong performance in 2018, achieving 43,809 Annual MWh of electric savings (113% of goal) and 4,946 Annual kW of electric demand (112% of goal), Driving this is that lighting is nearing a transformed market with consumers embracing high quality, energy efficient LEDs at a reasonable price.
- Educational customer events were held in Warwick and North Smithfield in July with customers at these events very interested in room air conditioner rebates.
- Looking forward through the remainder of the year and into 2019, lighting manufacturers are indicating price increases in the range of 6-10% due to recent U.S. tariffs on Chinese imports. Some manufacturers are shifting production to tariff-free countries, such as Vietnam, when possible.

Residential Consumer Products

- Residential Consumer Products had an excellent third quarter, achieving 3,231 Annual MWh of electric savings (112% of goal) and 563 Annual kW of electric demand (131% of goal).
- The program's strong success is a result of flash sales that have promoted tier 2 advanced power strips as well as dehumidifiers and air conditioners.
- The program's lead vendor attended Lowe's Utility Forum where they met a new, dedicated utility team focused on assisting energy efficiency service providers with promotions. Lowes is excited about developing instant rebate programs such as the one tested by National Grid in MA with dehumidifiers.
- In addition, pool pump distributors are very excited about the midstream program focused on providing incentives on variable speed pool pumps.

Home Energy Reports (HER)

- The Home Energy Reports program has seen continued solid performance for electric savings and very strong natural gas savings through the third quarter. The program achieved 17,388 MWh of electric savings (69% of goal) and 94,328 Annual MMBtu of gas savings (122% of goal). The gas savings for this program have continued to ramp up 2018 which has been unique to Rhode Island. Further, a 108% realization rate was put in place this year thus increasing the savings. As such, the proposed 2019 goal was adjusted accordingly.
- During the third quarter approximately 279,000 customers received print or email home energy reports, contributing to the 5,933 MWh and 9,631 MMBTU in electric and gas savings in the quarter. The high bill alert program sent 6,784 alerts to inform high energy usage customers that they were on track to exceed the prior month's usage by 30%.

Community Initiatives

- Both Warren and Woonsocket continued their community promotions throughout the third quarter with a special emphasis on recruiting households for home energy assessment sign ups.

- Both communities are approaching the baseline goal for measure adoption but still require efforts to ensure their stretch goals are achieved by year end. Special marketing promotions, radio ads, and events were scheduled in the third quarter to increase these metrics.
- Plans for the fourth quarter include participation in a Northern RI Chamber event being held at the Twin River Casino in November.

Code Compliance Enhancement Initiative (CCEI)

New Topic: Commercial Zero Net Energy Buildings

- To raise awareness and support the use of the commercial Stretch Codes, CCEI developed and delivered a “Commercial High Performance & Zero Net Energy Buildings” presentation in August.

New Industry Partnership: Viessmann Manufacturing

- CCEI partnered with Viessmann Manufacturing to deliver trainings at their location in West Warwick.

Stakeholder Engagement: Contractors & Trades

- CCEI presented Cold Climate Air Source Heat Pump sizing, installation strategies, and operation tips to code officials, low income weatherization contractors, energy auditors, and HVAC contractors.

Challenges and Next Steps

- One of the biggest challenges facing CCEI is the stalled adoption of a new energy code in Rhode Island. CCEI is in its’ sixth year of training and supporting compliance with the amended 2012 IECC.
- To prepare stakeholders for the next code while supporting compliance with the current code, CCEI broadened its reach through new dissemination channels and provided fresh training content on best practices, technology trends, and advanced code requirements.



During the trainings held at Viessman, attendees were offered a tour of the facility including boiler display room, warehouse, and training labs.

Large Commercial New Construction

- The Large Commercial New Construction program had a strong third quarter, achieving 6,935 MWh of electric savings (50% of goal) and 30,907 Annual MMBtu of gas savings (40% of goal) so far this year.

Large Commercial Retrofit

- The Large Commercial Retrofit program has posted solid results through the third quarter, achieving 42,988 MWh of electric savings (57% of goal) and 59,886 Annual MMBtu of gas savings (32% of goal).
- In 2018 the industrial program is projected to outperform 2017 in the electric sector by the end of the year despite being slightly behind 2017 in paid applications at the same time in the year.

Highlights of projects completed in the third quarter:

- Heat Exchanger Replacement Project - Aspen Aerogels (Industrial Initiative)
Aspen Aerogel utilizes high temperature heat in the process for the manufacturing of their insulation product. Their existing heat exchangers that were supplying heat to their process were replaced with larger units. The replacement heat exchangers allowed them to increase process temperatures that accelerated the process thereby reducing their total batch treatment time.
Project savings:
 - 146 kW electric demand savings
 - 1,133,090 annual kWh savings
 - 207,347 annual therm savings
 - \$356,000 annual savings
- Clement's Marketplace in Portsmouth and McQuade's Marketplace in Westerly (EnergySmart Grocer Initiative)
Anti-sweat heater controls were installed on the case doors (shown in picture) as well as electronically commutated motors (ECM) installed in display cases and walk-in boxes. Overall, these projects saved Clement's Marketplace over 100,000 kwh annually and McQuade's over 200,000 kWh.



Anti-sweat heater controls

Small Business Direct Install

- The Small Business Direct Install program has continued to perform well in 2018, achieving 8,804 MWh of electric savings (87% of goal) and 1,666 MMBtu of gas savings (55% of goal) through the third quarter.

Highlights of Projects Completed in the third quarter:

- Agawam Hunt Club – Rumford, RI – The vendor RISE has installed the first phase of energy efficiency measures at the Agawam Hunt Club, reflecting LED lighting, which will save the Club nearly 40,000 kWh annually (approx. \$6,000/yr.) The second phase of the project is being installed in the fourth quarter, focusing on installing additional LED lighting and WiFi thermostats. This phase will save another 34,000 kWh and 3,500 therms of energy use, equating to an additional \$8,600 of annual cost savings for the Club.
- St Martin's Church - Providence, RI – RISE completed a weatherization and insulation project at St Martin's Church, creating a more comfortable environment for the parishioners and saving the Church over 3,000 therms of gas use annually, or roughly \$3,000 off their annual energy bills.



St. Martin's Episcopal Church, Providence, RI

Finance

- National Grid, Ascentium Capital, and Energy Conservation presented a case study at National Grid's annual Energy Solution Summit on how Ascentium's rental offering helped a municipality in RI make energy efficiency improvements without taking on more debt.

Pilots and Demonstrations

Residential

Residential Connected Device Demonstration – ConnectedSolutions (Demand Response)

- ConnectedSolutions has had a busy year. A new demand response management system (DRMS) vendor was put out to bid and a new vendor was selected. This allowed the Company the potential to include participation

by eight thermostat manufactures versus three in the prior demonstration years. Year three of this demonstration has proven that the technology is effective, customers are interested in the concept, and an overall program is cost effective.

- In 2018, there were 14 Connected Solution events for residential customers. New for 2018 was a test of six behavioral demand response events. With behavioral demand response, the Company is not controlling any device within the home. There is an email sent to customers the day prior to a demand response event and customers are asked to conserve energy during the peak period.

Residential Energy Monitoring

- The Residential Energy Monitoring pilot focuses on real-time, disaggregated energy usage in customer homes. The residential home energy monitors were installed in almost 350 RI customer homes and monitoring began in the June/July timeframe. At the end of the first three months of monitoring, the Company is studying customer engagement, as measured by frequency of app usage, always on loads in customer homes, and differences that may exist between the populations of energy efficient users, low and moderate customers, and high bill call customers.

Commercial and Industrial

Overview

In the third quarter the Company's demonstrations and pilots are in various stages of development. While many have launched or are about to launch and the Company is actively seeking customer participants, many are still in early stages of design where the Company is exploring potential to scale the solution and researching vendors who may provide these solutions. The Company will be assessing our pilots to determine which ones have a feasible path forward.

- With the two industrial demonstrations, **Behavior Change through education of small/medium Plant Personnel** and for **Underutilized EE Technologies on Mechanical power transmission systems** the Company is looking to determine the market size for such technologies and the potential to bringing this to scale in RI.
- With the **Advanced Daylighting Design (Window Shades)** demonstration this is still in the early stages of determining potential projects for this demonstration.
- **Web based Training** has been developed and will launch in January of 2019.
- With **Small Medium Business DR** the Company is in the process of launching an email marketing campaign to enroll customers into the direct load control program.
- It was a successful year with the **C&I Demand Response DR demonstration** and this demonstration will transition to a full program next year.
- With the **Zero- Net Energy Buildings demonstration** the Company is actively seeking new construction projects that will be good candidates. The

Company recently sponsored 20 industry professional to get Passive House certification which is a path toward ultra-efficient buildings and zero net energy. The Company also organized a seminar in RI for industry professional where they learnt about Zero Net Energy buildings. This was done in conjunction with the residential Zero Net energy demonstration efforts.

- **Strategic Energy Management (SEM)** has been launched and the Company is actively seeking to enroll customers.
- **Performance Based Procurement** has been launched and the Company is actively seeking to enroll customers into this program.
- For **Gas Demand Response** the Company is actively engaging with customers to enroll in the program for the winter of 2018-2019. Many customers have shown interest in this program. In addition to enrollment efforts, the Company is also establishing plans with the two vendors that will be involved with enrolling customers into this demonstration program.

Evaluation

- All evaluation studies are conducted by 3rd party contractors, and vetted and reviewed by the EERMC consulting team. All final evaluation executive summaries are made available on the EERMC's website.
- The Impact Evaluation of plan-year (PY) 2015 C&I Upstream Lighting Initiative was finalized in August. The study provides updates to claimable savings and realization rates for C&I upstream lighting projects, which make up a significant portion of the C&I Retrofit's program's Annual MWh savings (20 - 30%).
- The On-Site Saturation Lighting Market Assessment was finalized, which assessed the lighting market in Rhode Island and updated Net-to-Gross for Residential Lighting.
- The Appliance Saturation Survey was finalized, which assessed penetration and characterized a variety of end-uses among customers in Rhode Island.
- The impact Evaluation for the Income Eligible Services Single Family Program was finalized, which updated gross savings for electric and gas measures offered through the Income Eligible Services Single Family program.

Upcoming Events

1. [Wednesday November 14th](#) – [RI Building Official](#) - ZEH & stretch code training, Lunch and meeting [Greenwood Inn, Warwick](#) (If interested please register)
2. (Tentative) [December 14th](#) Jamestown Library training & tour of a ZEH "New Construction" 10:30 – 1:30
3. [Wednesday December 19th](#) - [RI Building Owners](#) - NEW Commissioning, ZEB, Circuit Rider, Stretch Code & NGrid programs [Roma - 310 Atwells Ave. Providence](#)
4. Friday, December 7th – NEEP Helix Summit <https://neep.org/events/2018-helix-summit>

For more information of the above events, please contact Kevin Rose at kevin.rose@nationalgrid.com

NATIONAL GRID ENERGY EFFICIENCY PROGRAMS IN RHODE ISLAND

Table 1. Summary of Electric 2018 Target and Preliminary 3rd Quarter Results

ELECTRIC PROGRAMS Sector and Program	(1) Demand Reduction (Annual kW)				(5) Energy Savings (Annual MWh)				(8) Customer Participation			(11) Expenses (\$ 000)			(13)	(14)	(15)
	Target	Year To	Pct Achieved	Year End	Target	Year To	Pct Achieved	Year End	Target	Year To	Pct Achieved	Budget	Year To	Pct Achieved	Lifetime savings, MWh	\$/kWh	Planned \$/kWh
		Date		Forecast kW		Date		Forecast MWh		Date			Date				
Commercial and Industrial																	
Large Commercial New Construction	1,728	1,148	66.4%		13,959	6,935	49.7%		139	89	63.9%	\$6,111.7	\$3,128.9	51.2%	105,664	\$ 0.030	\$ 0.029
Large Commercial Retrofit	11,910	7,438	62.5%		75,616	42,988	56.9%		2,193	2,271	103.5%	\$24,030.7	\$12,065.9	50.2%	505,980	\$ 0.024	\$ 0.024
Small Business Direct Install	1,034	1,388	134.2%		9,940	8,804	88.6%		565	578	102.3%	\$6,924.5	\$4,994.7	72.1%	107,634	\$ 0.046	\$ 0.058
Commercial Demonstration and R&D												\$993.8	\$177.7	17.9%			
Community Based Initiatives - C&I												\$40.9	\$1.8	4.3%			
RI Infrastructure Bank												\$5,000.0	\$0.0	0.0%			
SUBTOTAL	14,673	9,973	68.0%	108.0%	99,515	58,727	59.0%	101.0%	2,897	2,937	101.4%	\$43,101.6	\$20,368.9	47.3%	719,277	\$ 0.028	\$ 0.033
Income Eligible Residential																	
Single Family - Income Eligible Services	696	598	85.9%		4,185	2,922	69.8%		2,750	2,869	104.3%	\$9,329.3	\$7,079.3	75.9%	30,611	\$ 0.231	\$ 0.261
Income Eligible Multifamily	170	69	40.7%		3,287	1,180	35.9%		4,800	687	14.3%	\$2,557.4	\$1,161.9	45.4%	12,058	\$ 0.096	\$ 0.106
SUBTOTAL	865	667	77.0%	115.0%	7,472	4,102	54.9%	95.0%	7,550	3,556	47.1%	\$11,886.7	\$8,241.2	69.3%	42,670	\$ 0.193	\$ 0.198
Non-Income Eligible Residential																	
Residential New Construction	49	42	86.6%		619	323	52.3%		501	271	54.1%	\$764.6	\$516.0	67.5%	6,252	\$ 0.083	\$ 0.103
ENERGY STAR® HVAC	433	539	124.5%		2,091	1,196	57.2%		1,794	1,974	110.0%	\$2,206.6	\$1,173.7	53.2%	17,499	\$ 0.067	\$ 0.084
EnergyWise	286	257	89.9%		6,157	5,416	88.0%		10,000	8,499	85.0%	\$14,916.3	\$8,905.1	59.7%	44,768	\$ 0.199	\$ 0.380
EnergyWise Multifamily	329	154	46.7%		4,207	1,848	43.9%		6,000	1,817	30.3%	\$3,062.6	\$1,394.7	45.5%	19,563	\$ 0.071	\$ 0.099
ENERGY STAR® Lighting	4,413	4,946	112.1%		38,891	43,809	112.6%		292,150	346,727	118.7%	\$6,768.6	\$8,642.1	127.7%	240,842	\$ 0.036	\$ 0.032
Residential Consumer Products	429	563	131.1%		2,849	3,231	113.4%		9,682	16,061	165.9%	\$1,831.1	\$1,487.0	81.2%	21,851	\$ 0.068	\$ 0.083
Home Energy Reports	3,325	2,031	61.1%		25,054	17,388	69.4%		213,750	212,204	99.3%	\$2,629.3	\$1,926.8	73.3%	17,388	\$ 0.111	\$ 0.105
Energy Efficiency Educational Programs												\$40.0	\$0.0	0.0%			
Residential Demonstration and R&D												\$922.6	\$206.1	22.3%			
Community Based Initiatives - Residential												\$163.0	\$43.3	26.6%			
Comprehensive Marketing - Residential												\$556.7	\$437.0	78.5%			
SUBTOTAL	9,264	8,531	92.1%	112.0%	79,868	73,211	91.7%	112.0%	533,877	587,553	110.1%	\$33,861.5	\$24,731.8	73.0%	368,162	\$ 0.067	\$ 0.094
Regulatory																	
EERMC												\$686.1	\$312.2	45.5%			
OER												\$686.1	\$514.5	75.0%			
SUBTOTAL												\$1,372.1	\$826.7	60.3%			
TOTAL	24,802	19,171	77.3%	109.0%	186,855	136,040	72.8%	105.0%	526,299	594,046	112.9%	\$ 90,221.9	\$ 54,168.6	60.0%	1,130,109	\$ 0.048	\$ 0.052
RGGI													\$ 0.1				
Municipal LED Street Lights													\$ 44.6				
System Reliability Procurement												\$ 399.3	\$194.6	48.7%			

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 MWh 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 3rd Quarter Results

GAS PROGRAMS Sector and Program	(1) (2) (3) (4)				(5) (6)			(7) (8) (9)			(10) (11) (12)		
	Energy Savings (MMBtu)				Customer Participation			Expenses (\$ 000)			Lifetime savings, MMBtu	\$/Lifetime MMBtu	Planned \$/Lifetime MMBtu
	Approved Target	Year To Date	Pct Achieved	Year End Forecast MMBTU	Approved Target	Year To Date	Pct Achieved	Approved Budget	Year To Date	Pct Achieved			
Commercial and Industrial													
Large Commercial New Construction	42,764	30,907	72.3%		105	61	58.1%	\$2,658.1	\$1,681.8	63.3%	435,318	\$ 3.86	\$ 3.33
Large Commercial Retrofit	186,780	59,886	32.1%		158	59	37.2%	\$3,643.3	\$2,266.4	62.2%	687,974	\$ 3.29	\$ 1.99
Small Business Direct Install	3,059	1,666	54.5%		30	66	216.7%	\$132.5	\$93.8	70.8%	15,206	\$ 6.17	\$ 4.45
Commercial & Industrial Multifamily	6,643	6,924	104.2%		1,698	771	45.4%	\$410.2	\$696.9	169.9%	95,041	\$ 7.33	\$ 4.40
Commercial Demonstration and R&D								\$482.1	\$4.4	0.9%			
Community Based Initiatives - C&I								\$9.8	\$0.0	0.0%			
SUBTOTAL	239,246	99,384	41.5%	100.0%	1,992	957	48.0%	\$7,335.9	\$4,743.3	64.7%	1,233,540	\$ 3.85	\$ 2.67
Income Eligible Residential													
Single Family - Income Eligible Services	12,620	8,478	67.2%		675	405	60.0%	\$4,032.4	\$2,813.3	69.8%	169,560	\$ 16.59	\$ 15.98
Income Eligible Multifamily	16,222	7,989	49.2%		3,500	1,831	52.3%	\$2,349.5	\$1,179.1	50.2%	125,871	\$ 9.37	\$ 8.20
SUBTOTAL	28,842	16,467	57.1%	126.0%	4,175	2,236	53.6%	\$6,382.0	\$3,992.3	62.6%	295,431	\$ 13.51	\$ 11.84
Non-Income Eligible Residential													
EnergyWise	26,787	19,663	73.4%		2,275	2,626	115.4%	\$8,370.8	\$5,744.7	68.6%	454,838	\$ 12.63	\$ 12.84
Energy Star® HVAC	27,513	20,588	74.8%		1,557	1,932	124.0%	\$1,730.4	\$1,430.0	82.6%	335,727	\$ 4.26	\$ 3.63
EnergyWise Multifamily	12,069	10,115	83.8%		2,500	1,737	69.5%	\$1,267.1	\$948.3	74.8%	157,591	\$ 6.02	\$ 6.39
Home Energy Reports	77,220	94,328	122.2%		104,250	89,176	85.5%	\$428.7	\$312.2	72.8%	94,328	\$ 3.31	\$ 5.55
Residential New Construction	3,117	1,806	57.9%		255	130	51.0%	\$587.4	\$408.9	69.6%	44,751	\$ 9.14	\$ 9.38
Residential Demonstration and R&D								\$19.6	\$0.0	0.0%			
Comprehensive Marketing - Residential								\$73.7	\$67.8	92.0%			
Community Based Initiatives - Residential								\$39.2	\$4.5	11.4%			
SUBTOTAL	146,706	146,501	99.9%	137.0%	110,837	95,600	86.3%	\$12,516.7	\$8,916.3	71.2%	1,087,235	\$ 8.20	\$ 8.53
Regulatory													
EERMC								\$279.8	\$129.1	46.1%			
OER								\$279.8	\$209.9	75.0%			
SUBTOTAL								\$559.6	\$339.0	60.6%			
TOTAL	414,795	262,352	63.2%	115.0%	117,004	98,793	84.4%	\$ 26,794.3	\$ 17,991.0	67.1%	2,616,205	\$ 6.88	\$ 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

Small Business Electric Revolving Loan Fund

<u>Income Statement</u>		
(1)	2018 Funds Available	\$9,283,015
(2)	2018 Loan budget	\$10,000,000
(3)	Committed	\$1,302,416
(4)	Paid	\$2,410,556
(5)	Repayments	\$4,717,907
(6)	Available 09/30/18	\$11,004,935
(7)	Outstanding loan volume	\$11,040,005
(8)	Loan defaults during period (\$)	\$0
(9)	Arrears over 120 days at period end (\$)	\$73,374
<u>Program Impact</u>		
(10)	Number of loans	44
(10b)	Participants	27
(11)	Savings (Gross MWh)	7,747
(12)	Savings (Net MWh)	6,727
(13)	Lifetime Savings (Gross MWh)	95,618
(14)	Lifetime Savings (Net MWh)	84,167
(15)	Savings (Gross kW)	981
(16)	Saving (Net kW)	865
(17)	Total associated incentive volume (\$)	\$1,596,259
(18)	Total annual estimated energy cost savings (\$)	\$1,015,936

<u>Income Statement</u>		
(1)	2018 Funds Available	\$1,919,057
(2)	2018 Loan Budget	\$2,800,000
(3)	Committed	\$709,514
(4)	Paid	\$2,109,676
(5)	Repayments	\$2,019,265
(6)	Available 09/30/18	\$2,000,075
(7)	Outstanding loan volume	\$2,082,233
(8)	Loan defaults during period (\$)	\$0
(9)	Arrears over 120 days at period end (\$)	\$89,664
<u>Program Impact</u>		
(10b)	Participants	643
(11)	Savings (Gross MWh)	8,799
(12)	Savings (Net MWh)	8,804
(13)	Lifetime Savings (Gross MWh)	105,586
(14)	Lifetime Savings (Net MWh)	107,634
(15)	Savings (Gross kW)	2,654
(16)	Saving (Net kW)	1,388
(17)	Total associated incentive volume (\$)	\$4,198,444
(18)	Total annual estimated energy cost savings (\$)	\$1,298,813

Rhode Island Public Energy Partnership (RI PEP)

C&I Gas Revolving Loan Fund

<u>Income Statement</u>		
(1)	2018 Funds Available	\$805,153
(2)	2018 Loan Budget	\$0
(3)	Committed	\$0
(4)	Funds returned to OER	\$700,000
(5)	Repayments	\$240,905
(6)	Available 09/30/18	\$346,058
(7)	Outstanding loan volume	\$516,140
(8)	Loan defaults during period (\$)	\$0
(9)	Arrears over 120 days at period end (\$)	\$8,854
<u>Program Impact</u>		
(10)	Number of loans	0
(10b)	Participants	0
(11)	Annual Savings (Gross MWh)	0
(12)	Annual Savings (Net MWh)	0
(13)	Lifetime Savings (Gross MWh)	0
(14)	Lifetime Savings (Net MWh)	0
(15)	Savings (Gross kW)	0
(16)	Saving (Net kW)	0
(17)	Total associated incentive volume (\$)	\$0
(18)	Total annual estimated energy cost savings (\$)	\$0

<u>Income Statement</u>		
(1)	2018 Funds Available	\$2,009,110
(2)	2018 Loan Budget	\$2,000,000
(3)	Committed	\$770,000
(4)	Paid	\$785,453
(5)	Repayments	\$576,934
(6)	Available 09/30/18	\$1,021,481
(7)	Outstanding loan volume	\$1,265,575
(8)	Loan defaults during period (\$)	\$0
(9)	Arrears over 120 days at period end (\$)	\$31,163
<u>Program Impact</u>		
(10b)	Participants	14
(11)	Annual Savings (Gross MMBtu)	23,237
(12)	Annual Savings (Net MMBtu)	19,147
(13)	Lifetime Savings (Gross MMBtu)	258,327
(14)	Lifetime Savings (Net MMBtu)	212,857
(17)	Total associated incentive volume (\$)	\$274,982
(18)	Total annual estimated energy cost savings (\$)	\$236,524

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 September 30, 2018.
- 4 As of September 30, 2018.
- 5 As of September 30, 2018.
- 6 Fund balance as of September 30, 2018. Committed funds are subtracted from this amount.
- 7 Total outstanding loan balance. Loans lent out that still need to be paid back. This includes loans from previous years.
- 8 Total loan value in default during period.
- 9 Total loan value in arrears for over 120 days as of September 30, 2018.
- 10 As of September 30, 2018.
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.
- 11 As of September 30, 2018. Number is associated with paid loans.
- 12 As of September 30, 2018. Number is associated with paid loans.
- 13 As of September 30, 2018. Number is associated with paid loans.
- 14 As of September 30, 2018. Number is associated with paid loans.
- 15 As of September 30, 2018. Number is associated with paid loans.
- 16 As of September 30, 2018. Number is associated with paid loans.
- 17 Incentives paid out with loans

Table 4
Efficient Buildings Fund
Rhode Island Infrastructure Bank / Office of Energy Resources

Efficient Buildings Fund (EBF)

Income Statement

(1)	Energy Efficiency Funds allocated to EBF - since inception	\$11,870,447
(2)	Total EBF Loans Outstanding	\$15,587,000
(3)	<i>Loans Paid Year-To-Date</i>	\$0
(4)	<i>Repayments Year-To-Date</i>	\$880,890
(5)	Projected Additional Loans by Year End 2018	\$5,700,000
(6)	Projected Additional Repayments by Year End 2018	\$0
(7)	<u>Total EBF Loans Outstanding</u>	<u>\$20,406,110</u>

(8)	Loans to Energy Efficiency Fund Contribution Ratio	1.7
-----	--	-----

Program Impact

(9)	Annual Savings (Gross MWh)	6,869
(10)	Annual Savings (Gross kW)	See Note (10)
(11)	Annual Savings (Gross MMBtu)	9,587
(12)	Lifetime Savings (Gross MMBtu)	See Note (12)
(13)	Total annual estimated energy cost savings (\$)	\$2,849,817

Notes

1 Funding injections since loan fund began.

2 Current Loan Fund Balance is through September 2018; it includes all loans and principal and interest repayments made by September 2018.

3 Projected Loans from September to Year-End 2018 is estimated based on projects currently under construction that are anticipated to be paid out by year-end. It is difficult to project this amount accurately due to the fact that projects could be delayed by a month or two resulting in payment occurring in 2019 instead of 2018.

4 Projected Repayments from September to Year-End 2018.

5 Equal to (2) - (4) + (5)

9, 11 Expected Savings from Projects In-Progress or Completed (All loans since inception of the program)

10 This data was not collected from early EBF participants but will be available from future rounds as more reports come in.

12 This data was not collected from early EBF participants but will be available from future rounds as more reports come in.