

Rhode Island Energy Efficiency

Third Quarter 2019 | National Grid

November 14, 2019

Overview

During the third quarter, National Grid made continued progress towards achieving the 2019 annual energy savings goals. National Grid and a number of the Company's implementation partners also received national recognition for the Company's leadership in energy efficiency program design and implementation, while continuing to engage federal government and non-governmental entities around the continued evolution of the lighting market. Finally, the third quarter saw the results of the Company's ongoing commitment to the expansion of energy efficiency programs into complementary areas, including preliminary results showing that the Company exceeded its electric active demand reduction targets for 2019 through a combination of residential and commercial and industrial demand response programs as well as exceeding the Company's 2019 target for oil to electric air source heat pump installations.

- **Progress Towards Annual Savings Goals** - Through the first three quarters of the year, the Company has achieved 52.4% of the 2019 Energy Efficiency Plan's annual MWh savings goal, and 50.3% of the annual MMBtu gas savings goal. While this level of achievement relative to annual goals compares unfavorably to recent years, the Company is seeing the initial results of remediation measures put into place in recent months and remains confident that the Company will meet or exceed gas savings goals and see accelerated improvement towards meeting electric MWh savings and kW demand reduction goals.
- **Active Demand Reduction** – Preliminary results from the summer of 2019 show that over 3,100 residential thermostats enrolled in the Residential ConnectedSolutions Program. Over the course of 12 events this summer, these customers delivered an average of 1.8MW of active demand response curtailment. Combined with the Commercial ConnectedSolutions program implemented this summer through 115 customer accounts participating in one event, preliminary results suggest that 40MW of active demand reduction was achieved, exceeding the Company's target for 2019. Final savings from these programs will be validated for the 4th quarter and 2019 Year-End reports.
- **Heating Electrification** – The Rhode Island Heat Pump initiative has led to the installation of air source heat pumps (ASHPs) in 171 homes through September 30th, leading to the full or partial displacement of heating systems that would otherwise rely on delivered fuels (oil or propane) or electric resistance heat. This is more than double the full-year 2019 goal of 85 installations through the ENERGYSTAR[®] HVAC program, and represents early progress towards the Company's ongoing commitment to the decarbonization of Rhode Island's heating sector.
- **National Recognition**. On October 1, ACEEE (the American Council for an Energy-Efficient Economy) released its annual State Energy Efficiency Scorecard. For the third consecutive year, Rhode Island was ranked third in the nation, including receiving a perfect 20 out of 20 points on the "Utility and

Public Benefits and Programs and Policies” component of the overall scorecard. Additionally, during the third quarter seventeen of the Rhode Island-based Independent Insulation Contractors (IICs) that support the Company’s EnergyWise program were named to the Home Performance with Energy Star’s Century Club by the US Department of Energy. This designation recognizes each of those contractors’ implementation of energy efficiency improving insulation measures at more than 100 homes in Rhode Island.

Overall, the third quarter of 2019 demonstrated the Company’s continued progress towards achieving annual savings goals for 2019, while also demonstrating the growing impact of the Company’s programs in those areas of strategic importance to the future role of energy efficiency in producing financial and environmental benefits for all Rhode Islanders.

2019 Program & Initiative Updates

Residential New Construction (RNC)

- The Residential New Construction (RNC) program achieved 542 Annual MWh of electric savings (72% of goal) and 1,049 Annual MMBtu of gas savings (22% of goal) through the 3rd quarter.
- The program enrolled 176 customer residences in the third quarter and completed 186 customer residences.
- RNC team members met with RI Housing and the City of Providence to provide an overview of the Residential New Construction program and Zero Energy pilot offerings and the benefits of enrolling new construction projects in the RNC program.
- The Sheridan Small Homes Project will develop Passive House housing units to be used as prototypes for infill areas. The prototypes are designed by Rhode Island School of Design (RISD) graduate students and developed by ONE Neighborhood Builders. These housing units will try to achieve ENERGY STAR, DOE Zero Energy Ready and Passive House Institute US (PHIUS) certifications. Initial modeling shows the homes could produce more energy than they consume (HERS –8).

Challenges:

- Achieving the program’s MMBtu gas savings goal is becoming increasingly challenging as developers shift to different heating systems. Current metrics indicate that 40% of completed projects have gas heat compared to 90% of new homes using gas heat a few years ago. This trend is expected to continue and supports the State’s Greenhouse Gas goals since the majority of heating systems installed through the program are now high efficiency electric air source heat pump heating systems.

Income Eligible Services (IES)

- *“This program is a god send to the elderly low income. I thank everyone for all the work that was done. Everyone was professional and clear.” - Sandra, an IES program customer from Cranston, RI.*
- The National Grid Income Eligible Services program had a solid third quarter in 2019, achieving 1,761 annual MWh of electric savings (47% of goal) and 5,113 annual MMBtu of gas savings (56% of goal) through the third quarter.
- The Standardization Group consisting of Community Action Program (CAP) Executive Directors, Weatherization Directors, Department of Human Services (DHS,) and CLEAResult met three times to discuss streamlining of paperwork and a new Audit process. Training was held for all Auditors and a new evaluation process will soon be rolled out.
- Continued to implement the Cold Climate Air Source Heat Pump program for the IES program. Meetings were held with the Market Rate Cold Climate Air Source Heat Pump administrative team.

Challenges and Progress:

- Staffing at CAP agencies is an ongoing challenge with attrition impacting staffing levels.

EnergyWise

- EnergyWise had a solid third quarter in 2019, achieving 5,110 annual MWh of electric savings (63% of goal) and 22,223 annual MMBtu of gas savings (80% of goal) through the third quarter.
- The program completed over 8,014 audits and 3,512 weatherizations through the third quarter.
- 592 Heat Loans were used, financing customer costs of \$3.3 million. The Heat Loan is being used for weatherization, heating and water heating equipment, Air Source Heat Pumps (ASHP) for heating, and batteries.
- 881 renter audits with 221 weatherization projects have been completed through the third quarter in 2019.
- 134 Heat Pump projects have received Heat Loan authorizations and three battery storage applications have been approved.

EnergyWise Multifamily, Income Eligible Multifamily, C&I Multifamily

- The EnergyWise Multifamily program achieved 1,245 annual MWh of electric savings (35% of goal) and 5,772 annual MMBTU of gas savings (36% of goal) through the third quarter.
- The Income Eligible Multifamily program achieved 628 annual MWh of electric savings (20% of goal) and 13,583 MMBTU of annual gas savings (66% of goal) through the third quarter.
- The C&I Multifamily program achieved 1,972 MMBTU of annual gas savings (18% of goal) through the third quarter.
- Completed market rate projects in the third quarter include Condominium complexes in Warwick and West Greenwich which included upgrades on condensing boilers, water heating, recirculating pumps, lighting, water savings devices, Smart thermostats, and weatherization.

- Income Eligible Multifamily projects were completed in Providence (2 projects), Portsmouth, and Smithfield. Installed upgrades included demand circulator pumps, water savings devices, vending machine controls, lighting, hydronic pump replacements, insulation and air sealing, rooftop exhaust fans, constant airflow regulators (CARS), Heat Pumps, hot water storage tank, and heat pump water heaters.

ENERGYSTAR® HVAC (Heating and Cooling)

- The ENERGYSTAR® HVAC (Heating and Cooling) program had a mixed first three quarters of 2019, achieving 946 annual MWh of electric savings (35% of goal) and 23,599 annual MMBtu of gas savings (84% of goal).
- The Gas Heating & Water heating program continued to perform well in the off-season (summer months) and is projecting to exceed its annual net savings goal.
- The Rhode Island Heat Pump (Fuel Optimization) initiative has installed air source heat pumps (ASHP) in 171 homes for full displacement or partial displacement of electric resistance and oil or propane systems, more than doubling the goal of 85 homes.
- 103 technicians representing 60 RI contractor companies have completed the HVAC Check Classes and are listed as an approved ASHP installer. This certification enables the technician to participate in the RI Heat Pump program.
- Through a collaborative quality assurance and review process it was discovered that for the ENERGY STAR® HVAC electric program, some measures and their associated MWh energy savings program were not included when reporting energy savings in prior 2019 quarterly reports. This issue has been corrected and these measures and their associated MWh energy savings are now being counted for this third quarter report and moving forward. Note that values in quarterly reports are preliminary and subject to change. Data is finalized in the Year-End Report.

Challenges

- Lack of qualified Integrated Controls (ICs) prevented the HVAC program from requiring ICs. In the second half of the year, the IC qualified product list (QPL) has grown with new and improved products coming to market. These products are updated regularly on the program's QPL.
- The Home Depot limits stocking of large ticket item products such as Heat Pump Water Heaters. This can impact in store availability during large promotions.

ENERGYSTAR® Lighting and Residential Consumer Products

- ENERGYSTAR® Lighting had a solid third quarter, achieving 33,510 Annual MWh of electric savings (69% of goal) and 4,606 Annual kW of electric demand (69% of goal). Residential Consumer Products had a strong first 3 quarters, achieving 3,418 Annual MWh of electric savings (87% of goal) and 708 Annual kW of electric demand (106% of goal).
- Educational tables were staffed in Warwick, Johnston, Providence, Smithfield, and North Smithfield.

- A Dehumidifier turn-in event was held in Charlestown where 58 old dehumidifiers were collected for recycling.
- There was a large increase in lighting products sold in September which aligns with consumers settling into fall schedules, days becoming shorter, and customers addressing lights that need to be replaced.
- National Grid met with The Home Depot's Utility and Government rebate team to discuss product categories supported by the Company.



Tour of The Home Depot to discuss point-of-purchase marketing signage.

Challenges

- The Department of Energy (DOE) made a final ruling in July that rolls back the general service lamp (GSL) definition in EISA 2020. This ruling will allow different types of bulbs including: 3-ways, reflectors, globes and candles to be exempt from the EISA 2020 rule, meaning incandescent and halogen versions of these products can still be manufactured and sold after January 1st, 2020.

Home Energy Reports (HER)

- The Home Energy Reports electric and gas programs had a solid first three quarters of 2019 with the electric program achieving 19,295 annual MWh of electric savings (80% of goal) and the gas program achieving 77,513 annual MMBtu of gas savings (67% of goal).
- Context aware tips were added to summer emails highlighting why customers receive a particular tip. The goal is to drive them to take a further action based on information we have about the customer.
- A new customer wave of approximately 39,000 gas customers was added in September and those customers received a welcome module in their first reports.

Community Initiative

- During the third quarter, program promotions in the participating communities took place in many formats. Emails promoting Home Energy Assessments were sent to residents and material were distributed to towns for distribution from Town Hall. The Company's vendor, RISE Engineering, tabled at multiple events in August and September to bring awareness to the programs and sign customers up on-site.
- A "Main Streets" effort was designed in the third quarter for an October roll-out to small businesses in Newport and Westerly. This effort engaged businesses in the heart of town with direct install measures and energy assessments over the course of multiple days.

Code Compliance Enhancement Initiative (CCEI)

Trainings on Residential Airtightness Options

- One of the most significant elements of RI's new energy code is an envelope leakage limit that homes must be tested not to exceed. Code Compliance Enhancement Initiative (CCEI) presented different options for builders to achieve this target at two trainings.

Multi-family blower door hand-on training

- Attendees, including students from Youthbuild and Providence Career and Technical Academy, were able to learn about how to achieve the new airtightness levels with an on-site training at a real in-progress 30 unit multi-family project site.



Pictured: RNC Project Manager Jeremy Dagold setting up a blower door test in the multi-family building (left) and Instructor Robert Sherwood with his Residential HVAC-R & Plumbing Technology students from PCTA (right)

Volatile Code Updates Schedule

- RI's new energy code (2015 IECC), which was adopted this quarter and goes into effect in the fourth quarter of 2019, may be very short-lived according to the state's announced goal of making its next update (2018 IECC) as soon as the fourth quarter of 2020. CCEI will proceed with its full range of 2015 IECC training & outreach activities until there is certainty that a new code is coming.

Relevant KPIs

- Twelve training events that engaged 196 industry stakeholders were held during this quarter. Seven of these events were focused on residential construction (119 attendees), and five events were for commercial construction (77 attendees).



Commercial Energy Code Lighting training - State electrical inspectors and code officials attended a Commercial Energy Code Lighting training provided by CCEI at the request of the State Building Commissioner.

Large Commercial New Construction

- The Large Commercial New Construction program finished the third quarter of the year with 3,832 Annual MWh of electric savings (35% of goal) and 24,063 Annual MMBtu of gas savings (32% of goal) and anticipates a significant increase in savings achieved in the 4th quarter.
- Several large new construction projects are on-going and have been completed in this past quarter. They include both major renovations and ground up new construction projects.

Project Highlights

Industrial Facility

- A large Industrial Facility has five new buildings that will all be complete in 2024. Some of the work is ongoing and will be completed in 2019. This includes fume mitigation, LED Lighting, Compressors and performance lighting. Performance lighting savings with this project yielded 647,000 annual kWh savings in 2019. Fume mitigation measures yielded 124,342 annual kWh savings in 2019.

Rhode Island University New Construction Engineering Building Project

- The University of Rhode Island's new engineering building participated in the National Grid Energy Efficiency New Construction Whole Building program. This new 186,000 sqft. facility will open in January 2020 and has yielded savings of approximately 422,000 annual kWh.

Barrington Middle School Comprehensive Design New Construction project

- This 144,948 sqft., state of the art education facility encompasses science labs, an auditorium, athletic facilities, visual arts rooms and more. This comprehensive design project has savings of over 431,000 annual kWh. EE Highlights include building design, energy efficient building envelope, high efficiency lighting and controls, High Efficiency HVAC and controls, Variable Frequency Drives for Hot Water Pumps, Hood Controls, condensing boilers and condensing domestic hot water.

Challenges and Opportunities

- Challenges remain with changes in baseline due to code changes and program changes. Additionally, getting to projects at an early stage to make an impact is an on-going challenge with New Construction projects.
- Informing the building industry and educating the building industry on code changes and program changes remains important. Outreach to the building industry on National Grid's energy efficiency programs helps with getting projects through energy efficiency programs and reaching higher efficiency.

Large Commercial Retrofit

- In the first three quarters of 2019 the Large Commercial Retrofit program achieved 24,063 annual MWh of electric savings (33% of goal) and 49,114 Annual MMBtu of gas savings (32% of goal). As in past years, the Company anticipates a significant portion of customer savings will be realized during the

fourth quarter of 2019, and forecasts meeting the Commercial and Industrial sector's annual MMBtu gas energy savings goal for 2019. While the Company is seeing impacts from the implementation of remediation measures put in place to increase the realization of electric savings in 2019, the Company currently projects achieving 95% of the annual MWh savings goal for the Commercial and Industrial Electric sector.

Project Highlights

Grocery Initiative, A Market – Newport

- A Market, a staple for the Newport community for over 25 years, recently moved their store three doors down from their previous location. In making this move, they also implemented a comprehensive energy efficiency plan. Included in this upgrade were the store's lighting, HVAC, kitchen equipment, refrigeration equipment and backend refrigeration system.
- Most of the savings for this project came from the refrigeration upgrade including over 79,000 annual kWh from implementing floating controls with Variable Frequency Drives (VFDs) on condensers. The store also had the option to kept a few of their existing cases but elected to buy new more efficient cases. Overall, the refrigeration portion generated savings of over 158,000 annual kWh and 2,500 annual therms.



A Market, Newport



A Market's new cases with doors, Newport

Grocery Initiative, Dave's Marketplace - Cumberland

- Earlier this year, Dave's Marketplace in Cumberland completed a major overhaul of their store that included several energy efficiency refrigeration measures. After this project was completed, Dave's Marketplace identified the need to add six stand-alone coffin cases with lids. These cases are dual temperature which means they could be used as a freezer or cooler. The savings for this measure is from adding a lid to keep warm air out. These cases are expected to generate savings of over 22,000 annual kWh.

Industrial Initiative

- In the third quarter, the Company's industrial vendor completed many successful projects including an electric molding machine project at a packaging manufacturer and reducing pump power significantly at a healthcare products manufacturer.
- Aidan Carr Correll, a National Grid intern studying at URI, visited the Moore Company and shared energy efficiency improvements within the building with employees. This was in conjunction with the Community Initiative. Aiden also encouraged employees to sign up for energy audits in their homes or in small businesses with which they are affiliated.

Small Business Direct Install

- The Small Business Direct Install program has had a solid year through the third quarter of 2019, achieving 7,692 MWh of electric savings (63% of goal) and 2,231 MMBtu of gas savings (87% of goal).

Project Highlights

RI Society for the Prevention of Cruelty to Animals (SPCA) - Riverside

- RISE served the RI Society for the Prevention of Cruelty to Animals (SPCA) with a 100% incentive offer as a part of a special initiative to drive projects in the late summer months in RI. This project included a complete retrofit of the interior and exterior lighting, including controls (occupancy sensors), and five WiFi thermostats. This retrofit is expected to save over 24,300 annual kWh. This project is expected to save the SPCA approximately \$3,650 annually in energy costs, which is a significant impact for this type of organization. The SPCA was delighted with the installations and the impact it had on their space. The lighting will better highlight the adoptable pets, allow the vets to have better lighting conditions for the procedures they carry out, and the WiFi thermostats will allow for a more comfortable space.

Stateline Nissan – East Providence

- RISE provided a major lighting retrofit to Stateline Nissan, saving them over 107,000 annual kWh, or about \$16,000 per year on their electric bill. The customer was very impressed at the impact the upgrade had to their site, especially the showroom where their illumination of the dealer's inventory has been greatly improved – the pictures below show the before and after transformation.



Stateline Nissan, East Providence

Residential ConnectedSolutions

- Preliminary results for the Residential ConnectedSolutions program indicate that residential thermostats achieved an average of 1.8 MW of active demand response curtailment over 12 events over the summer with 3,100 thermostats enrolled in the program. The final performance value will be validated in the 4th quarter and 2019 Year-End reports.
- Preliminary results indicate the residential battery section of Residential ConnectedSolutions achieved an average of 0.04 MW of curtailment over 27 events during the summer. There were 32 customers enrolled in the program. The final performance values will be validated in the Year-End report.
- Residential Behavioral Demand response was called two times this summer with an average of 153,000 emails delivered to residential and small-medium business customers.

Challenges and Progress

- Savings for behavioral demand response is still being researched so curtailment can be measured. Currently an evaluation firm is leveraging residential AMI meters in Worcester, MA to test feasible savings estimates.

Commercial ConnectedSolutions

- Preliminary results for the Commercial ConnectedSolutions program, targeted dispatch, indicate that 40 MW of active demand response curtailment was achieved with 115 customer accounts participating in one event over the summer. The final performance value is not yet available and will be validated in the 4th quarter and 2019 Year-End Report.
- The Commercial ConnectedSolutions' - Daily Dispatch did not get any enrollments for the summer of 2019.

Challenges and Progress

- The current Net Metering rules do not allow battery storage. We are working on a proposal to update the Net Metering rules.

Pilots, Demonstrations, and Assessments

Pilots

Gas Demand Response (Commercial)

- The National Grid sales team has been recruiting new customers into the Gas Demand response pilot. The Company has two customers who have signed onto the pilot and is currently working with four additional customers who have shown interest in enrolling into the pilot.

Zero Energy Buildings (Commercial)

- Work continues with engaging the building community with information and education on Zero Energy Buildings. A webinar series has been planned with the first webinar on November 21st. Additionally, National Grid has planned a Zero Energy Buildings Forum to be held on November 15th, 2019. Speakers include, developers, architects and building professionals from across New England and National speakers.

Challenges and Progress

- National Grid plans to launch a website with clear information on the Zero Energy Pilot so that building stakeholders have clean information on participation. The website will include best practices and local and national case studies.

Demonstrations

Accelerated Performance (Large Commercial New Construction)

- Two customers have enrolled in this demonstration that includes a college building and an elementary school. The college is a 60,000 sqft. building and the elementary school facility is 176,000 sqft. Both projects are expected to be completed in 2021.

Strategic Energy Management (SEM/CEI): (Large Commercial Retrofit)

- The regression models are showing savings. However, the Company needs to make sure that it backs out application based O&M (Operation and Management) savings to ensure there is no double counting of savings.

Evaluation

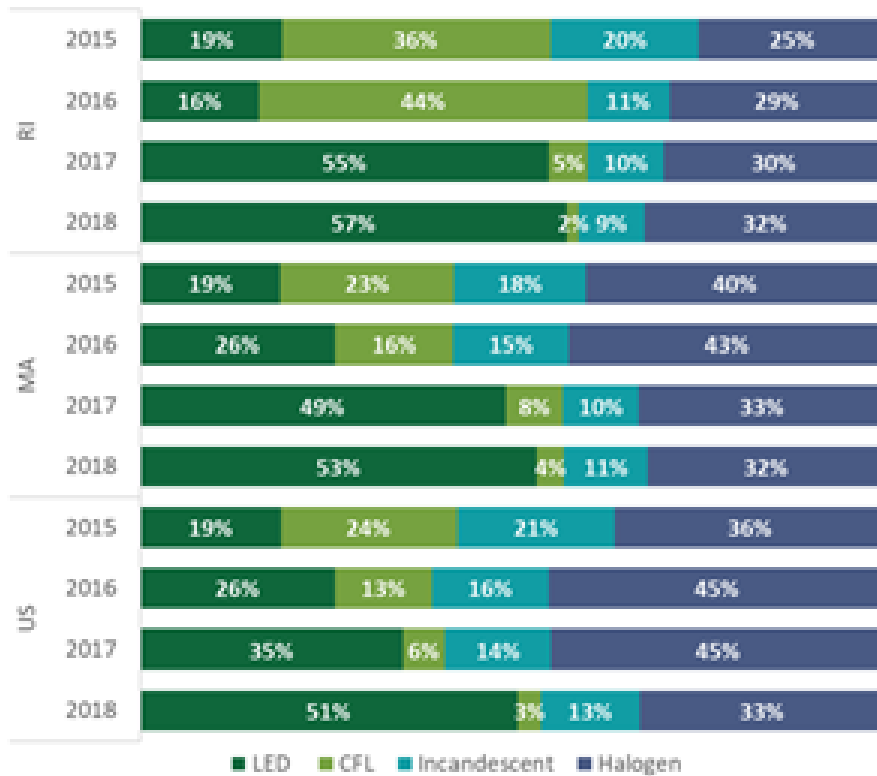
- All evaluation studies are conducted by 3rd party contractors and vetted and reviewed by the EERMC consulting team. All final evaluation executive summaries are made available on the EERMC's website.
- **Process Evaluation of Income Eligible Single Family Program.** This study assessed the Company's overall delivery of the IES program and identified nine key recommendations to improve program delivery and increase participation. The Company incorporated these recommendations in planning the program in 2020.

Recommendations

1. **Explore an expedited home assessment approach.** The current approach takes too long and limits the total number of customers National Grid can serve.
2. **Pilot Hancock mobile application.** It's possible an available mobile application could expedite assessors' data collection responsibilities and allow them to serve more customers.
3. **Set data-driven expectations about participation timelines.** Assessors are not consistently setting expectations with customers about the time between their home assessment and when they will receive their efficiency upgrades.
4. **Explore opportunities to reduce installation timelines and increase contactor capacity.** National Grid is not currently meeting its internal target for insulating participants' homes following their assessment and should identify opportunities to weatherize homes faster.
5. **Implement post-installation survey.** Changing the timing and focus of the current follow-up survey would help National Grid resolve issues associated with installed measures.
6. **Increase direct engagement with landlords.** Most IES participants own their home. To better serve renters, National Grid should explore more direct engagement with landlords.
7. **Prioritize rebuilding the state's home energy assessor capacity.** Statewide, IES lost six assessors last year; National Grid should take steps to encourage assessor retention.
8. **Clarify waiver process.** Some stakeholders expressed confusion about the waiver process and need more guidance from IES.
9. **Collect additional data.** National Grid should work with IES stakeholders to collect specific additional data that would improve future evaluations.

- Rhode Island 2017/2018 Lighting Sales Data Analysis.** This study examined the market shares obtained from retail locations in Rhode Island. The study compares market share and bulb prices in Rhode Island, the US and various comparison states. Rhode Island’s market share for efficient bulbs stood at 59% in 2018 with LEDs alone accounting for 57% of all bulb sales. LED market share grew by 200% in Rhode Island and 400% in non-program areas between 2015 and 2018. Overall, the study suggests that the ENERGY STAR Lighting program still has had an important effect on the long term evolution of the lighting market but impact may be dwindling down as transformation of the LED market progresses across the nation.

Figure 1: Rhode Island, Massachusetts, and US Market Share by Bulb Technology 2015-2018 – FCD^{1,2,3}



- 2018 Rhode Island Shelf Stocking Study.** This study assessed the total shelf share dedicated to the ENERGYSTAR® lighting program in 2016-2018. Based on the bulbs stocked during the latest round of shelf stocking visits, the fraction of bulbs considered exempt would decrease by more than one-half under the revised definition of GSL put forth by the DOE in 2017. Depending on the outcome of the EISA backstop, National Grid should continue program efforts to incentivize LEDs across channels, especially in Hardware, Home Improvement, and Grocery stores. These channels showed a high shelf share of EISA exempt bulbs in stock relative to other channels.

Upcoming Events

- Zero Energy Building Forum to be held at Tiverton Library on November 15, 2019.
<https://www.eventbrite.com/e/zero-energy-buildings-forum-new-england-tickets-75939484041>
- Webinar: Getting to Zero Energy Schools is Achievable! To be held on Nov 21st.
<https://attendee.gotowebinar.com/register/3266427345948989709>

NATIONAL GRID ENERGY EFFICIENCY PROGRAMS IN RHODE ISLAND

Table 1: Summary of Electric 2019 Target and Preliminary 3rd 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) Energy Savings (Lifetime MWh)			(16) (17) \$/Lifetime kWh			
	Year To		Pct Achieved	Year End Forecast kW	Year To		Pct Achieved	Year End Forecast MWh	Year To		Pct Achieved	Year To		Pct Achieved	Planned	Year to		Pct Achieved	Year to Date	Planned \$/kWh
	Target	Date			Target	Date			Target	Date		Budget	Date			Planned	Date			
Commercial and Industrial																				
Large Commercial New Construction	1,409	673	47.8%		10,863	3,832	35.3%		84	65	77.4%	\$ 5,036.1	\$ 2,299.4	45.7%	170,856	57,896	33.9%	\$ 0.040	\$ 0.029	
Large Commercial Retrofit	12,558	3,722	29.6%		73,013	24,063	33.0%		2,610	2,686	102.9%	\$ 21,356.5	\$ 9,400.3	44.0%	873,890	262,933	30.1%	\$ 0.036	\$ 0.024	
Small Business Direct Install	1,213	1,088	89.7%		12,163	7,692	63.2%		617	420	68.1%	\$ 8,712.8	\$ 4,089.0	46.9%	145,953	94,395	64.7%	\$ 0.043	\$ 0.060	
Commercial Connected Solutions												\$ 2,024.1	\$ 234.5	11.6%						
Commercial Pilots												\$ 197.9	\$ 17.8	9.0%						
Community Based Initiatives - C&I												\$ 40.1	\$ 4.4	11.0%						
Finance Costs												\$ 5,000.0	\$ 3,750.0	75.0%						
SUBTOTAL	15,180	5,483	36.1%	95.0%	96,038	35,588	37.1%	95.0%	3,311	3,171	95.8%	\$ 42,367.7	\$ 19,795.5	46.7%	1,190,669	415,224	34.9%	\$ 0.048	\$ 0.036	
Income Eligible Residential																				
Single Family - Income Eligible Services	815	484	59.3%		3,742	1,761	47.1%		3,000	2,985	99.5%	\$ 11,694.7	\$ 6,155.9	52.6%	42,940	20,045	46.7%	\$ 0.307	\$ 0.272	
Income Eligible Multifamily	223	24	10.7%		3,219	628	19.5%		5,000	1,481	29.6%	\$ 3,382.9	\$ 822.8	24.3%	30,589	8,794	28.7%	\$ 0.094	\$ 0.111	
SUBTOTAL	1,039	508	48.9%	95.2%	6,961	2,389	34.3%	99.5%	8,000	4,466	55.8%	\$ 15,077.6	\$ 6,978.7	46.3%	73,530	28,839	39.2%	\$ 0.242	\$ 0.205	
Non-Income Eligible Residential																				
Residential New Construction	112	77	69.2%		756	542	71.6%		550	567	103.1%	\$ 858.6	\$ 585.6	68.2%	12,935	11,036	85.3%	\$ 0.053	\$ 0.066	
ENERGY STAR® HVAC	590	144	24.4%		2,710	946	34.9%		2,187	1,042	47.6%	\$ 2,724.0	\$ 1,346.9	49.4%	39,365	14,398	36.6%	\$ 0.094	\$ 0.069	
EnergyWise	1,287	835	64.9%		8,182	5,110	62.5%		10,250	9,166	89.4%	\$ 15,777.5	\$ 10,528.3	66.7%	39,100	25,895	66.2%	\$ 0.407	\$ 0.404	
EnergyWise Multifamily	283	92	32.7%		3,593	1,245	34.6%		4,000	2,598	65.0%	\$ 3,064.9	\$ 861.0	28.1%	28,707	12,646	44.1%	\$ 0.068	\$ 0.107	
ENERGY STAR® Lighting	6,681	4,606	68.9%		48,381	33,510	69.3%		236,810	205,652	86.8%	\$ 14,968.2	\$ 9,226.5	61.6%	256,916	188,360	73.3%	\$ 0.049	\$ 0.058	
Residential Consumer Products	668	708	105.9%		3,925	3,418	87.1%		13,359	19,746	147.8%	\$ 2,124.5	\$ 1,604.3	75.5%	28,812	23,628	82.0%	\$ 0.068	\$ 0.074	
Home Energy Reports	4,278	2,958	69.1%		24,130	19,295	80.0%		291,149	290,914	99.9%	\$ 2,641.2	\$ 1,921.1	72.7%	24,130	19,295	80.0%	\$ 0.100	\$ 0.109	
Residential Connected Solutions												\$ 283.1	\$ 55.2	19.5%						
Energy Efficiency Education Programs												\$ 40.0	\$ 8.0	19.9%						
Residential Pilots												\$ 222.7	\$ 8.9	4.0%						
Community Based Initiatives - Residential												\$ 121.5	\$ 62.5	51.4%						
Comprehensive Marketing - Residential												\$ 556.5	\$ 45.4	8.2%						
SUBTOTAL	13,898	9,421	67.8%	97.1%	91,677	64,066	69.9%	102.3%	558,305	529,685	94.9%	\$ 43,382.8	\$ 26,253.8	60.5%	429,965	295,257	68.7%	\$ 0.089	\$ 0.101	
Regulatory																				
EERMC												\$ 783.6	\$ 334.1	42.6%						
OER												\$ 989.8	\$ 794.2	80.2%						
SUBTOTAL												\$ 1,773.4	\$ 1,128.3	63.6%						
TOTAL	30,117	15,412	51.2%	96.0%	194,677	102,043	52.4%	98.6%	569,615	537,322	94.3%	\$ 102,601.5	\$ 54,156.4	52.8%	1,694,164	739,320	43.6%	\$ 0.073	\$ 0.061	
Municipal LED Street Lights												\$ 350.0	\$ 58.9	16.8%						
System Reliability Procurement												\$ 84.0	\$ 42.6	50.7%						

NOTES
(1)(4)(7) Targets from Docket 4888 - 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 4888, Attachment 5 Table E-3 (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) The Rhode Island Infrastructure Bank (RIIB) received a one time payment of \$5,000,000 in 2019. National Grid amortizes this payment and it is recorded quarterly as \$1,250,000.
(16) Planned \$/lifetime MWh from Docket 4888 - Attachment 5, Table E-5 (electric) - adjusted to reflect format of quarterly report. Program Implementation Expenses/lifetime kWh.
System Reliability Procurement targets from Docket 4888 - Attachment 5, Table E-2 (electric), not included in Expenses Total
(17) 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 2019 Target and Preliminary 3rd 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) Energy Savings (Lifetime MMBtu)			(13) (14) \$/Lifetime MMBtu	
	Target	Year To Date	Pct Achieved	Year End Forecast MMBTU	Target	Year To Date	Pct Achieved	Budget	Year To Date	Pct Achieved	Planned	Year To Date	Pct Achieved	Year to Date	Planned
Commercial and Industrial															
Large Commercial New Construction	42,536	15,309	36.0%		187	28	15.0%	\$ 2,389.2	\$ 1,172.3	49.1%	708,462	214,072	30.2%	\$ 5.48	\$ 3.37
Large Commercial Retrofit	155,049	49,114	31.7%		70	48	68.9%	\$ 4,214.0	\$ 1,554.8	36.9%	1,385,654	381,180	27.5%	\$ 4.08	\$ 3.04
Small Business Direct Install	2,559	2,231	87.2%		65	74	113.0%	\$ 124.4	\$ 69.6	56.0%	21,163	25,790	121.9%	\$ 2.70	\$ 5.88
Commercial & Industrial Multifamily	10,829	1,972	18.2%		2,289	413	18.0%	\$ 918.4	\$ 161.8	17.6%	155,667	29,064	18.7%	\$ 5.57	\$ 5.90
Commercial Pilots								\$ 381.1	\$ 52.3	13.7%					
Community Based Initiatives - C&I								\$ 13.0	\$ -	0.0%					
SUBTOTAL	210,974	68,625	32.5%	100.0%	2,611	563	21.6%	\$ 8,040.1	\$ 3,010.8	37.4%	2,270,945	650,106	28.6%	\$ 4.63	\$ 3.54
Income Eligible Residential															
Single Family - Income Eligible Services	9,178	5,113	55.7%		820	427	52.1%	\$ 5,012.8	\$ 2,765.0	55.2%	183,560	102,252	55.7%	\$ 27.04	\$ 27.31
Income Eligible Multifamily	20,487	13,583	66.3%		3,500	1,144	32.7%	\$ 2,932.7	\$ 1,248.4	42.6%	359,611	207,354	57.7%	\$ 6.02	\$ 8.16
SUBTOTAL	29,665	18,696	63.0%	136.0%	4,320	1,571	36.4%	\$ 7,945.5	\$ 4,013.4	50.5%	543,171	309,606	57.0%	\$ 12.96	\$ 14.63
Non-Income Eligible Residential															
EnergyWise	27,806	22,223	79.9%		2,300	2,992	130.1%	\$ 8,466.3	\$ 6,402.8	75.6%	668,615	507,964	76.0%	\$ 12.60	\$ 12.66
Energy Star® HVAC	27,960	23,599	84.4%		1,830	2,199	120.1%	\$ 2,164.9	\$ 1,762.6	81.4%	476,141	389,365	81.8%	\$ 4.53	\$ 4.55
EnergyWise Multifamily	16,043	5,772	36.0%		4,000	425	10.6%	\$ 1,677.5	\$ 472.2	28.2%	255,276	94,134	36.9%	\$ 5.02	\$ 6.57
Home Energy Reports	115,520	77,513	67.1%		107,414	125,892	117.2%	\$ 447.9	\$ 315.0	70.3%	115,520	77,513	67.1%	\$ 4.06	\$ 3.88
Residential New Construction	4,741	1,049	22.1%		313	227	72.5%	\$ 737.6	\$ 379.4	51.4%	96,976	26,227	27.0%	\$ 14.47	\$ 7.61
Comprehensive Marketing - Residential								\$ 73.7	\$ 15.4	20.9%					
Community Based Initiatives - Residential								\$ 39.0	\$ 11.7	29.9%					
SUBTOTAL	192,069	130,156	67.8%	103.9%	115,858	131,735	113.7%	\$ 13,606.8	\$ 9,359.1	68.8%	1,612,528	1,095,202	67.9%	\$ 8.55	\$ 8.44
Regulatory															
EERMC								\$ 235.5	\$ 100.4	42.6%					
OER								\$ 304.2	\$ 245.5	80.7%					
SUBTOTAL								\$ 539.7	\$ 345.9	64.1%					
TOTAL	432,708	217,477	50.3%	104.2%	122,789	133,869	109.0%	\$ 30,132.2	\$ 16,729.2	55.5%	4,426,644	2,054,914	46.4%	\$ 8.14	\$ 6.81

NOTES
(1)(4) Targets from Docket 4888 - 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-3 (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 4888 - Attachment 6, Table G-5 (gas) - adjusted to reflect format of quarterly report. Program Implementation Expenses/lifetime MMBtu.
(13) Values in quarterly reports are preliminary and subject to change. Data is finalized in the Year-End Report.

NATIONAL GRID ELECTRIC ENERGY EFFICIENCY PROGRAMS IN RHODE ISLAND

Table 3: National Grid 2019 Revolving Loan Funds

Large C&I Electric Revolving Loan Fund			Small Business Electric Revolving Loan Fund		
<u>Income Statement</u>			<u>Income Statement</u>		
(1)	2019 Funds Available	\$10,018,017	(1)	2019 Funds Available	\$1,919,057
(2)	2019 Loan budget	\$10,000,000	(2)	2019 Loan Budget	\$3,000,000
(3)	Committed	\$4,255,725	(3)	Committed	\$1,238,566
(4)	Paid	\$1,485,914	(4)	Paid	\$1,238,566
(5)	Repayments	\$4,328,940	(5)	Repayments	\$1,697,771
(6)	Available 09/30/19	\$8,587,301	(6)	Available 09/30/19	\$2,220,638
<u>Program Impact</u>			<u>Program Impact</u>		
(7)	Number of loans	18	(7)	Number of loans	420
(7b)	Participants	13	(8)	Annual Savings (Net MWh)	7,692
(8)	Annual Savings (Net MWh)	2,071	(9)	Lifetime Savings (Net MWh)	94,395
(9)	Lifetime Savings (Net MWh)	26,714	(10)	Annual Savings (Net kW)	1,088
(10)	Annual Savings (Net kW)	463			
<u>Rhode Island Public Energy Partnership (RI PEP)</u>			<u>C&I Gas Revolving Loan Fund</u>		
<u>Income Statement</u>			<u>Income Statement</u>		
(1)	2019 Funds Available	\$66,060	(1)	2019 Funds Available	\$1,195,976
(2)	2019 Loan Budget	\$0	(2)	2019 Loan Budget	\$1,100,000
(3)	Committed	\$0	(3)	Committed	\$919,852
(5)	Repayments	\$204,801	(4)	Paid	\$286,447
(6)	Available 09/30/19	\$270,861	(5)	Repayments	\$503,684
			(6)	Available 09/30/19	\$397,385
<u>Program Impact</u>			<u>Program Impact</u>		
(7)	Number of loans	0	(7)	Number of loans	13
(7b)	Participants	0	(7b)	Participants	10
(8)	Annual Savings (Net MWh)	0	(8)	Annual Savings (Net MMBtu)	8,545
(9)	Lifetime Savings (Net MWh)	0	(9)	Lifetime Savings (Net MMBtu)	73,109
(10)	Annual Savings (Net kW)	0			

Notes

- 1 Amount available as of January 1, 2019.
- 2 Budget adopted by Sales Team for 2019 operations. Budget includes projections of repayments made during 2019.
- 3 As of September 30, 2019
- 4 As of September 30, 2019
- 5 As of September 30, 2019
- 6 Fund balance as of September 30, 2019
- 7 As of September 30, 2019. 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 September 30, 2019. Number is associated with paid loans.
- 9 As of September 30, 2019. Number is associated with paid loans.
- 10 As of September 30, 2019. Number is associated with paid loans.

**Table 4
National Grid
2019 Test Metrics**

2019 Plan Goal		2019 Q3		
ASHP Units	CO2e (Net Tons CO2e)	Q2 Units (YTD)	CO2e (Net Tons CO2e) ¹	% Goal
75	19.90	105	28.42	143%

Customer Satisfaction²

92.3%

NOTES

¹This metric is tracked using CO2e (carbon dioxide equivalents)

²The 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?