

2019 EE Annual Plan First Draft

nationalgrid



RI EERMC

August 23, 2018

- Plan Overview
- Residential Highlights
 - Strategic Electrification
- ConnectedSolutions (Demand Response)
- Pilots and Demonstrations
- Commercial and Industrial Highlights
- Main Text New Highlights
 - PST, Testing metrics
- Savings, Costs, and Benefits
- Evaluation second draft updates
- Changes for second draft
- Next Steps

- The proposed 2019 Annual Energy Efficiency Plan is a product of a collaborative process that engaged stakeholders and Councilmembers while integrating feedback from members of the public. The Plan:
 - Offers more value to residents such as renters and deliverable fuel customers.
 - Invests in the future with new initiatives and measures contributing to greater greenhouse gas reductions.
 - Commits to the deployment of mini-split heat pumps to support strategic electrification.
 - Recognizes the importance of investing in measures and strategies that benefit the Rhode Island income eligible community.

- 2019 Plan Increases savings targets from 2018.
- Annual net MWh Electric goals increase by 3% and Annual Net MMBTU gas goals increase by 4%
- Plan meets 90% of the additional 25,000 MWh identified in the 3YP
- Reduces electric sales 2.56% and gas sales 1.05% from 2015 base load
- Plan is Cost-effective
- Savings will generate \$634 million in direct benefits over life of projects.
 - Will add \$87.6 million to RI GDP
 - Avoids over 1.1 million tons of carbon
- Continues with nation-leading EE programs and innovates for the future.

- Increased focus on deployment of cold climate heat pumps to support beneficial electrification goals through HVAC, Income Eligible, and Multifamily programs.
- Community Initiative targets 4 new municipalities for 2019 and introduces new promotions and metrics such as Demand Response program enrollment.
- Removing EnergyWISE barriers to participation:
 - EnergyWISE online scheduling
 - Online assessment communicated in 2019
 - Landlords receive 100% incentive
 - Deliverable fuel customer incentive parity

- The Residential HVAC, Income Eligible and Multifamily programs have all committed to an increased focus on the deployment of cold climate heat pumps for 2019.
- The Income Eligible Multifamily Program has committed an increase in electric program funds to accommodate heat pump projects at several medium size facilities in 2019. Targeted sites are a mix of electric resistance replacement and delivered fuel displacement.
- HVAC has increased quantities by ~30% to offer 65 units.
- The income eligible single family program will target 10 unit installations in order to better understand delivery and costs within this hard-to-reach segment.

After successfully demonstrating the technology for 3 years, demand response is transitioning from demonstration to a standard program.

Lessons Learned

- C&I is the largest potential for DR at a better BCR
- Substantial cost reductions in resi DR through competitive procurement

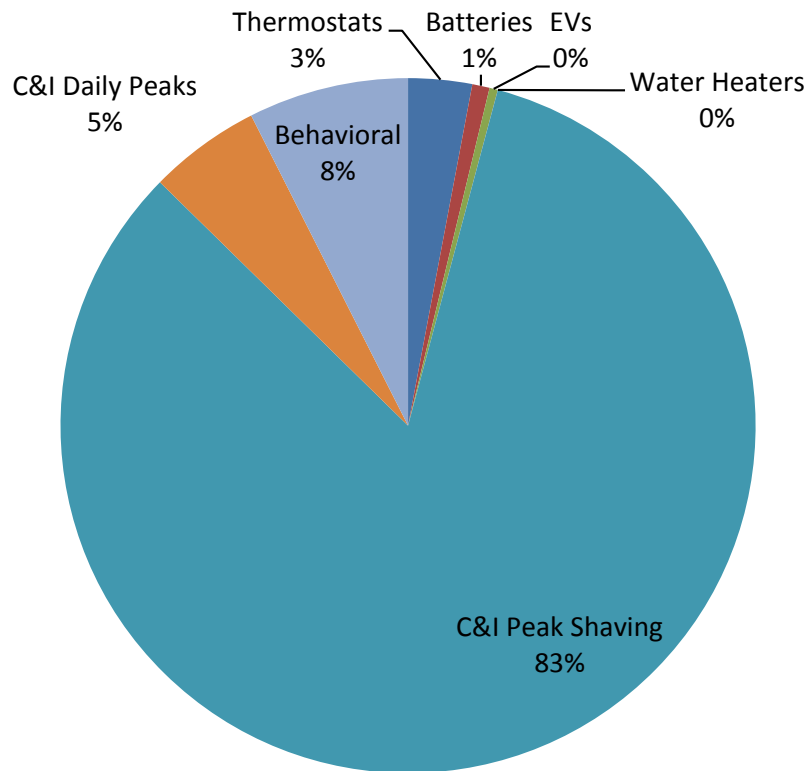
Improvements for 2019

- Adding residential and C&I battery storage
- Adding Electric Vehicles
- Adding Water Heaters

Continued Testing for 2019

- Gas DR

Breakout of MW Savings for 2019



Pilots (In compliance with requirements put forth in Docket 4600)

- Gas demand response
- Zero Net Energy (ZNE) buildings (Resi and C&I)

Demonstrations

- Cold Climate Heat Pumps (CCHP) for Small Business delivered fuel customers
- Continuous Energy Improvement (CEI)
 - New name for SEM to better reflect what the program aspires to accomplish and so that it not confused with SEMP

- Expansion of the Industrial Initiative
- Changes to the Small Business/Direct Install program
- Integration of large C&I into the Community Initiative
- Performance Based Procurement (PBP) for new construction
- Restaurant initiative
- Investigation of a hotel/lodging initiative w/ MA
- Roll out of the Rhode Island Digital Application Portal (RIDAP)

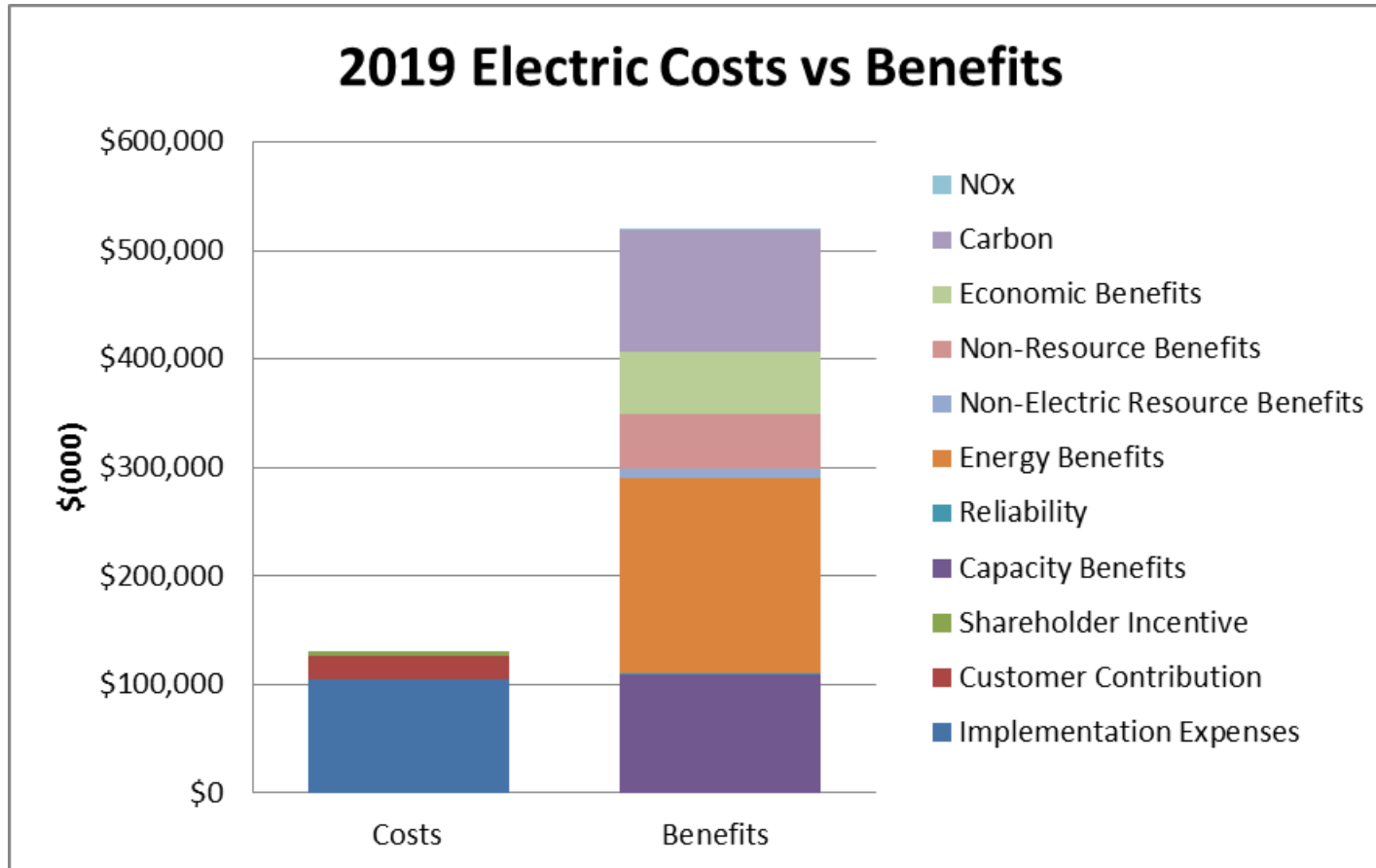


- Fund balance update and EE Charge adjustment
- Coordination with Power Sector Transformation
 - Demand Response
- Testing Performance Metrics
 - Carbon Reductions
 - Lifetime MWh and MMBtu Savings
 - Program costs per energy savings
 - Customer Satisfaction

Comparison to 3 Year Plan Illustration

Electric Programs	2019 3 Year Plan	2019 Annual Plan	% Change
Annual MWh Savings	194,677	192,036	-1%
Lifetime MWh Savings	1,904,592	1,678,632	-13%
Annual Peak kW Savings	35,188	28,967	-21%
Total Benefits	\$ 438,942,301	\$ 513,523,782	15%
Total Spending	\$ 124,932,991	\$ 113,080,974	-10%
Benefit Cost Ratio (RI Test)	2.88	3.97	27%
Cost/Lifetime kWh	\$ 0.077	\$ 0.075	-2%
EE Program Charge per kWh	\$ 0.01390	\$ 0.01192	-17%

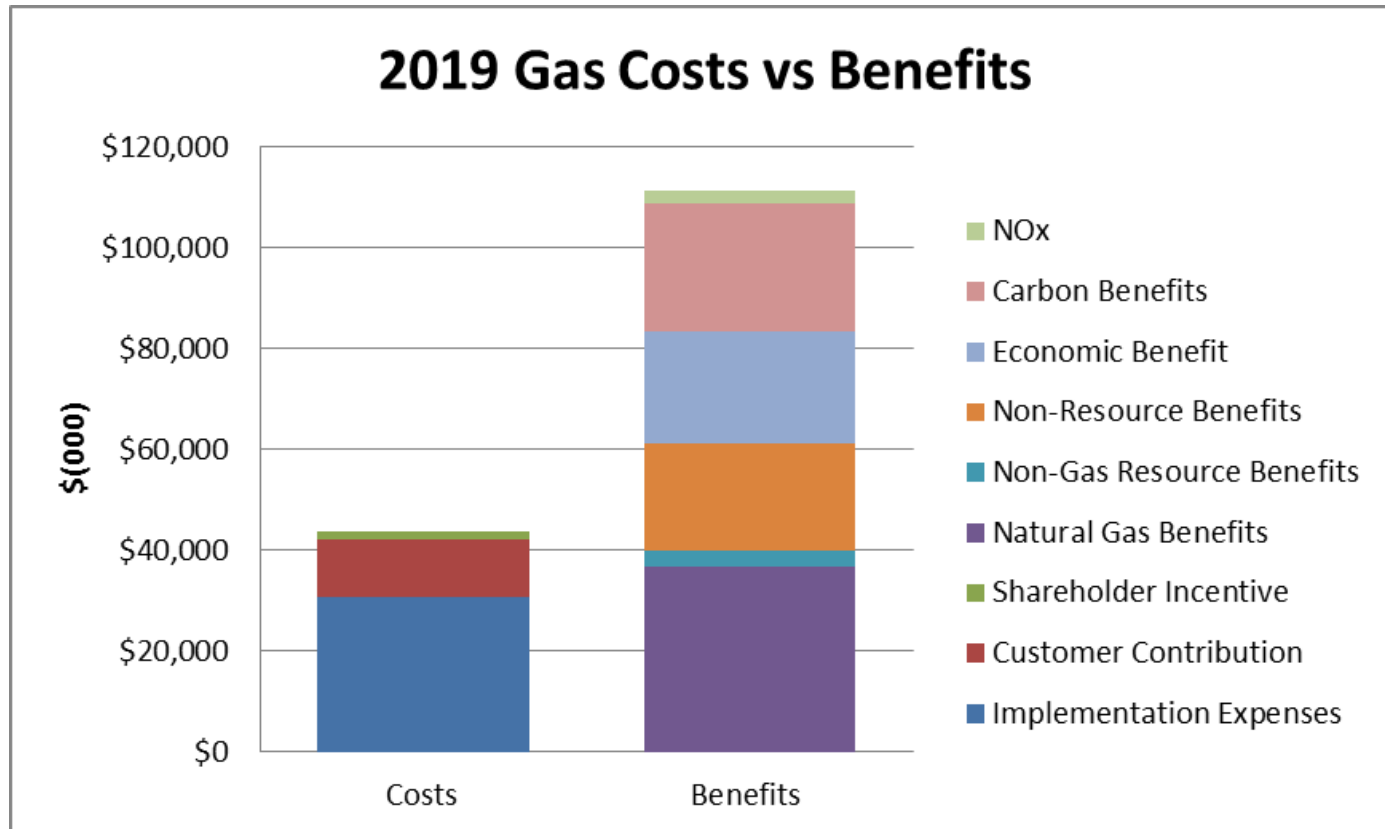
Gas Programs	2019 3 Year Plan	2019 Annual Plan	% Change
Annual MMBtu Savings	408,100	432,369	6%
Lifetime MMBtu Savings	4,709,195	4,418,408	-7%
Cost/Lifetime MMBtu	\$ 8.33	\$ 9.53	13%
Total Benefits	\$ 101,369,221	\$ 111,316,015	9%
Total Spending	\$ 30,776,029	\$ 32,272,049	5%
Benefit Cost Ratio (RI Test)	2.49	2.55	2%
C&I EE Program Charge per Dth	\$ 0.739	\$ 0.536	-38%
Residential EE Program Charge per Dth	\$ 0.903	\$ 0.857	-5%



EE Program Charge Per kWh	2017 Actual	2018 Actual	2019 3YP	2019 Annual Plan Draft
All Customers	\$ 0.01124	\$ 0.00972	\$ 0.01390	\$ 0.01168

- Charge differs from 3 Year Plan due to lower cost of measures proposed vs. cost assumed for Future Innovation in the 3 Year Plan
- Charge Differs from 2018 due to decreases in \$/kwh savings from programs like EnergyStar Lighting.
- Additionally, several programs which provide benefits but do not contribute to Annual MWh Savings (Demand Response, Electrification)
- \$3 Million included for Navy CHP, MWh savings will be realized in 2020.

- Savings:
 - Savings is increasing by 3% from 2018, primary driver is EnergyStar Lighting which is adding over 10,000 MWh from 2018.
- Costs:
 - Electric EE Implementation Budget is increasing by 16% from 2018.
 - 50% of increase in implementation budget is driven by EnergyStar Lighting with the main driver being a 75% increase in lightbulbs sold from 1.6 M in 2018 to nearly 2.8M in 2019.
 - Other areas contributing to this include: Low Income program cost increases, Navy CHP project, electrification, and new Demand Response programs.
- Benefits
 - Total Benefits increase in 2018 due to the application of updated avoided cost values from the “Avoided Energy Supply Components in New England: 2018 Report” (2018 AESC Study). Study found higher avoided costs for fuel oil and values for electric capacity DRIPE and oil DRIPE. New benefits including NOx and reliability.



EE Program Charge Per Dth	2017 Actual	2018 Actual	2019 3YP	2019 Annual Plan Draft
Residential	\$ 0.88800	\$ 0.86900	\$ 0.90300	\$ 0.85700
C&I	\$ 0.72600	\$ 0.67100	\$ 0.73900	\$ 0.53600

- While program costs are increasing, increased gas use in 2018 from a cold and prolonged winter contributed to a positive projected year-end fund balance that lowered the EE charge.

- Savings
 - Company increased savings goals across all Multifamily programs (market rate, low income and C&I). In addition, Home Energy Reports also saw large increase in savings.
 - Savings from C&I Retrofit program are being corrected due to evaluation results in 2018.
- Costs
 - Gas EE Implementation Budget is increasing by 14% from 2018.
 - The increases in budget are primarily driven by increases from the Multifamily programs, EnergyStar HVAC, and Income Eligible Single Family program.
- Benefits
 - Total Benefits increase from 2018 due to the application of updated avoided cost values from the “Avoided Energy Supply Components in New England: 2018 Report” (2018 AESC Study). Study found higher avoided costs for fuel oil and values oil DRIPE. New benefits of NOx.

Program		Impact	Expected Effect on Net Savings
Commercial & Industrial	Upstream Lighting	Realization Rate	TBD
		In-Service Rate	TBD
	Upstream HVAC and WH	Net-to-Gross	Decrease
	Small Business	Realization Rate	TBD
	Comprehensive Design	Realization Rate	Decrease
Residential	Income Eligible Single Family	Deemed Savings	Little change
	HVAC	NTG	Decrease

- Updated electric sales forecast
- Incorporating feedback and comments
- Updated fund balance projections
- Ongoing QA/QC and TRM & BC model consultant review
- Bill impacts analysis
- Participation Counts added
- Customer Listening Forum Report added

- Important Dates
 - August 30th – All first draft comments due
 - Sept. 5th – Collaborative Call to further discuss first draft
 - Sept. 20th – Second and final draft circulated
 - Sept. 20th – EERMC meeting
 - Sept. 24th – Collaborative Meeting on second draft
 - Oct. 4th – EERMC meeting and vote
 - Oct. 5th – Collaborative call to review EERMC vote
 - October 8th – Final version circulated for signature
 - October 15th – Plan filed with PUC
- Discuss Next Steps