



STATE OF RHODE ISLAND

ENERGY EFFICIENCY & RESOURCE MANAGEMENT COUNCIL

Report on 2017 EE Program & 1st Quarter 2018 Results

EERMC Council Meeting June 21, 2018
Presentation by EERMC Consultant Team



Core Factor 3

Previous year's results

- The Past does inform the future
- A key first step in annual planning is to revisit how previous year unfolded.
 - Trends
 - Market conditions
 - Infrastructure / Delivery capacity
 - Post-filing EMV results
- Final National Grid “Year-end Report” not filed until May 1



Core Factor 3

Previous year's results

	2017 Goal/Benchmark ⁴	2017 Actual ⁵	% of Goal
Electric			
Annual MWh Savings	201,347	232,023	115.2%
Annual kW Savings	28,543	29,363	102.9%
Lifetime Benefits (\$Mil)	\$247.9	\$250.0	101%
Benefit/Cost Ratio	2.00	1.91	96%
Gas			
Annual MMBtu	414,606	468,211	112.9%
Lifetime Benefits (\$Mil)	\$66.6	\$70.9	107%
Benefit/Cost Ratio	1.63	1.86	114%
	2017 Budget (\$Mil) ⁶	2017 Actual (\$Mil) ⁷	% of Goal
Electric			
Total Expenditures ⁸	\$94.6	\$94.8	100%
Total Implementation Expenses ⁹	\$90.1	\$90.0	100%
Gas			
Total Expenditures	\$29.7	\$29.1	98%
Total Implementation Expenses ¹⁰	\$28.4	\$27.5	97%

http://www.ripuc.org/eventsactions/docket/4654-NGrid-YearEndRept2017_5-1-18.pdf



NATIONAL GRID ENERGY EFFICIENCY PROGRAMS IN RHODE ISLAND
Table E-1: Summary of 2017 Target and Year End Results

Sector and Program	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Demand Reduction (Annual kW)		Pct	Energy Savings (Annual MWh)		Pct	Customer Participation		Pct	Implementation Expenses (\$ 000)		Pct	Lifetime	
	Target	Actual	Achieved	Target	Actual	Achieved	Approved	Actual	Achieved	Budget	Actual	Achieved	MWh	\$/kWh
Commercial & Industrial														
Large Commercial New Construction	1,276	1,582	123.9%	14,270	13,141	92.1%	201	144	71.8%	\$5,121.4	\$5,183.2	101.2%	224,195	\$0.023
Large Commercial Retrofit	13,317	11,973	89.9%	77,611	89,378	115.2%	2,188	2,416	110.4%	\$22,708.4	\$24,964.6	109.9%	1,124,598	\$0.022
Small Business Direct Install	2,815	1,860	66.1%	12,136	12,956	106.8%	744	666	89.6%	\$8,431.4	\$8,184.6	97.1%	158,975	\$0.051
Commercial Demonstration and R&D										\$874.4	\$298.6	34.1%		
RI Infrastructure Bank										\$4,900.0	\$4,900.0	100.0%		
Finance Costs										\$4,500.0	N/A	N/A		
SUBTOTAL	17,409	15,414	88.5%	104,017	115,476	111.0%	3,133	3,227	103.0%	\$46,535.6	\$43,531.0	93.5%	1,507,768	\$0.029
<i>Subtotal with Finance</i>										\$46,535.6	\$48,031.0	103.2%	1,507,768	\$0.032
Income Eligible Residential														
Single Family - Income Eligible Services	652	825	126.6%	4,350	4,050	93.1%	2,625	3,074	117.1%	\$9,268.1	\$8,210.7	88.6%	47,332	\$0.173
Income Eligible Multifamily	145	195	134.6%	2,726	3,970	145.6%	2,894	5,162	178.4%	\$2,708.4	\$2,858.6	105.5%	28,814	\$0.099
SUBTOTAL	797	1,020	128.1%	7,076	8,020	113.3%	5,519	8,236	149.2%	\$11,976.5	\$11,069.3	92.4%	76,147	\$0.145
Non-Income Eligible Residential														
Residential New Construction	54	128	238.2%	1,065	1,390	130.5%	561	680	121.2%	\$1,045.3	\$1,142.2	109.3%	23,440	\$0.049
ENERGY STAR® HVAC	330	785	237.6%	1,376	1,642	119.3%	1,900	2,699	142.1%	\$1,669.5	\$1,587.1	95.1%	22,613	\$0.070
EnergyWise	376	385	102.6%	6,545	6,892	105.3%	9,000	10,159	112.9%	\$9,630.0	\$9,371.2	97.3%	66,123	\$0.142
EnergyWise Multifamily	288	203	70.4%	3,519	2,670	75.9%	4,000	3,557	88.9%	\$3,443.5	\$2,039.1	59.2%	26,887	\$0.076
Home Energy Reports	3,119	3,557	114.0%	26,184	30,451	116.3%	208,063	208,427	100.2%	\$2,447.0	\$2,389.8	97.7%	30,451	\$0.078
ENERGY STAR® Lighting	5,466	7,115	130.2%	46,856	60,993	130.2%	279,425	435,656	155.9%	\$7,612.4	\$8,965.9	117.8%	540,707	\$0.017
Residential Consumer Products	705	756	107.4%	4,708	4,491	95.4%	14,700	14,502	98.7%	\$2,125.0	\$2,307.4	108.6%	33,780	\$0.068
Energy Efficiency Education Programs										\$40.0	\$49.8	124.5%		
Residential Demonstration and R&D										\$1,179.5	\$719.0	61.0%		
Community Based Initiatives - Residential										\$270.8	\$199.7	73.7%		
Comprehensive Marketing - Residential										\$535.4	\$476.7	89.0%		
SUBTOTAL	10,337	12,929	125.1%	90,254	108,528	120.2%	517,648	675,678	130.5%	\$29,998.4	\$29,247.9	97.5%	744,001	\$0.039



NATIONAL GRID ENERGY EFFICIENCY PROGRAMS IN RHODE ISLAND
Table G-1: Summary of 2017 Target and Year End Results

Sector and Program	(1) (2) (3)			(4) (5) (6)			(7) (8) (9)			(10)	(11)
	Energy Savings (MMBtu)			Customer Participation			Implementation Expenses (\$ 000)			Lifetime MMBtu	\$/Lifetime MMBtu
	Approved Target	Actual	Pct Achieved	Approved Target	Actual	Pct Achieved	Approved Budget	Actual	Pct Achieved		
Commercial & Industrial											
Large Commercial New Construction	53,516	35,932	67.1%	149	195	130.8%	\$ 1,877.7	\$ 2,082.5	110.9%	629,341	\$ 3.31
Large Commercial Retrofit	187,938	200,732	106.8%	147	108	73.3%	\$ 5,247.5	\$ 4,608.1	87.8%	1,629,023	\$ 2.83
Small Business Direct Install	3,639	4,273	117.4%	86	117	135.9%	\$ 268.7	\$ 125.0	46.5%	31,519	\$ 3.97
Commercial & Industrial Multifamily	4,434	9,442	213.0%	806	1,997	247.9%	\$ 738.9	\$ 794.8	107.6%	132,079	\$ 6.02
Commercial Demonstration and R&D							\$ 73.8	\$ 2.6	3.6%		
RI Infrastructure Bank							\$ 100.0	\$ 100.0	100.0%		
Finance Costs							\$ 1,291.7	N/A	N/A		
SUBTOTAL	249,527	250,379	100.3%	1,188	2,417	203.5%	\$ 9,598.1	\$ 7,713.1	80.4%	2,421,962	\$ 3.18
<i>Subtotal with Finance</i>							\$ 9,598.1	\$ 9,004.8	93.8%	2,421,962	\$ 3.72
Income Eligible Residential											
Single Family - Income Eligible Services	11,032	14,641	132.7%	590	700	118.6%	\$ 3,640.6	\$ 3,925.3	107.8%	292,816	\$ 13.41
Income Eligible Multifamily	15,810	17,601	111.3%	2,709	3,840	141.7%	\$ 2,216.6	\$ 1,916.1	86.4%	261,772	\$ 7.32
SUBTOTAL	26,842	32,242	120.1%	3,299	4,540	137.6%	\$ 5,857.2	\$ 5,841.4	99.7%	554,588	\$ 10.53
Non-Income Eligible Residential											
Energy Star® HVAC	27,393	29,680	108.3%	2,104	2,620	124.5%	\$ 1,803.5	\$ 1,584.3	87.8%	475,160	\$ 3.33
EnergyWise	28,587	28,024	98.0%	2,250	3,387	150.5%	\$ 6,917.2	\$ 7,742.8	111.9%	659,612	\$ 11.74
EnergyWise Multifamily	11,518	13,143	114.1%	4,101	3,984	97.1%	\$ 1,823.6	\$ 1,145.5	62.8%	198,819	\$ 5.76
Home Energy Reports	59,164	103,087	174.2%	99,001	94,902	95.9%	\$ 497.0	\$ 504.7	101.6%	103,087	\$ 4.90
Residential New Construction	11,575	11,656	100.7%	373	353	94.6%	\$ 840.7	\$ 920.2	109.5%	201,805	\$ 4.56
Comprehensive Marketing - Residential							\$ 69.8	\$ 99.9	143.1%		
Community Based Initiatives - Residential							\$ 79.6	\$ 54.7	68.7%		
Residential Demonstration and R&D							\$ 264.4	\$ 32.3	12.2%		
SUBTOTAL	138,237	185,591	134.3%	107,829	105,246	97.6%	\$ 12,295.7	\$ 12,084.4	98.3%	1,638,484	\$ 7.38
Regulatory											
EERMC							\$ 304.3	\$ 304.2	100.0%		
OER							\$ 304.3	\$ 278.7	91.6%		
SUBTOTAL							\$ 608.5	\$ 582.9	95.8%		
TOTAL	414,606	468,211	112.9%	112,316	112,202	99.9%	\$ 28,359.5	\$ 26,221.8	92.5%	4,615,034	\$ 5.68
<i>TOTAL With Finance</i>							\$ 28,359.5	\$ 27,513.4	97.0%	4,615,034	\$ 5.96



2017 Results -Most programs at or above goal

- For 2019 Planning, the question is whether these are sustainable and/or indicative of new trends upward
 - **Example A:** Residential New Construction – 130% of electric savings & 121% of participant goal
 - If this is due to growing economy and increasing housing production, what is the future growth curve? Effect of code compliance?
 - **Example B:** Income Eligible Multifamily – electric savings 145% of goal & 178% of participation
 - What are the trends and/or program enhancements that led to such over-performance? A trend or unique set of large projects?



2017 Results - few programs under goal

- For Programs below targets (Savings, participation) or above/below planned budget, what were the causes... were they sufficiently adjusted in 2018 plan... do they need further revision?
 - **Example A:** Electric Home Energy Reports – 76% of electric savings & 89% of participant goal –
 - What were the variables that caused this and are they reversible?
 - **Example B:** Many programs came in at goal and appreciable under budget (Small business, E* HVAC & Lighting, Gas multifamily) AND a few were over budget and under savings goal (Large C&I, gas EnergyWise, Consumer Products)
 - What were the conditions to cause variances, and will they persist?



2018 First Quarter Report



Core Factor 4

Current implementation experience

- Comparing 2017 – 2018 1st Quarters

Gas (MMBtu)	2017	2018	Variance	Reasons
C&I	22.80%	5.60%	-17.2%	Large Retro slow
Income Eligible	11.90%	10.20%	-1.7%	Single on pace; MF slow
Residential	36.70%	50.60%	13.9%	Strong start, esp. HER
Portfolio	26.70%	21.80%	-4.9%	Large projects pending

Electric (MWh)	2017	2018	Variance	Reasons
C&I	20.40%	17.40%	-3.0%	Large Retro slow; SBDI strong
Income Eligible	21.50%	12.90%	-8.6%	Single on pace; MF slow
Residential	24.20%	33.40%	9.2%	Strong start, minus MF
Portfolio	22.10%	24.10%	2.0%	On track



Core Factor 4

Current implementation experience

- Early “take-aways” ... still a little too early from significant facts
 - Programs that are slower mainly due to the expected larger projects not hitting yet
 - Evidence of growing CHP market
 - Residential lighting market still holding strong, exceeding goal
 - Residential consumer products moving quicker, still bears watching



Questions / Comments?