

# Recommended Targets for Energy Efficiency and Active Peak Demand Reduction Savings for 2027-2029

Prepared for the Rhode Island Energy Efficiency and Resource Management Council



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**March xx, 2026**

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## I. INTRODUCTION

This report presents proposed Three-Year Savings Targets (“Targets”) for Rhode Island Energy’s upcoming 2027-2029 Energy Efficiency Procurement Plan (“Three-Year Plan”). These recommendations are based on the Energy Efficiency & Resource Management Council’s (“EERMC”) Consultant Team’s *focused update* to the findings of the EERMC-funded 2021-2026 Rhode Island Market Potential Study (“2021-2026 Study”) and its subsequent refresh for the 2024-2026 period (“MPS Refresh”), conducted by Dunsky Energy + Climate Advisors; discussions with stakeholders and EERMC members; and review and alignment with relevant legislative and regulatory guidance on Target setting. Upon EERMC approval of the Targets, as recommended or with modification, the EERMC’s counsel will file the proposed Targets with the Rhode Island Public Utilities Commission (PUC).

This will be the sixth submittal of triennial Targets by the EERMC to the PUC since the promulgation of the 2006 Comprehensive Energy Conservation, Efficiency and Affordability Act, or “Least-Cost Procurement (LCP) Law.” This process has also served to meet the EERMC’s legislated requirement in R.I. Gen. Laws § 39-1-27.7(d)(1):

*“The commissioner of the office of energy resources and the energy efficiency and resources management council, either jointly or separately, shall provide the commission findings and recommendations with regard to system reliability and energy efficiency and conservation procurement on or before March 1, 2008, and triennially on or before March 1<sup>1</sup> thereafter through March 1, 2028. The report shall be made public and be posted electronically on the website of the office of energy resources.”*

The proposed Targets presented are for Electric and Natural Gas energy efficiency energy savings, as well as active electric peak demand reductions (ADR), in each of the three years from 2027 to 2029. During the development of the 2021-2023 Targets, stakeholders recommended, and the Council approved, a shift towards presenting energy savings targets in lifetime instead of annual savings units. The Targets proposed herein continue the approach of using lifetime savings targets.

### Purpose of the Targets

The purpose of energy efficiency targets as recommended by the EERMC to the PUC has been consistent in the five previous Target submittals, as clearly articulated in the September 1, 2014 filing when the EERMC stated:

*The EERMC and the parties understand that the efficiency savings targets are intended to serve as guideposts as the utility develops its Three-Year EE Procurement Plan and more detailed annual EE Program plans. As the parties described in a joint brief filed with the Commission in Docket 4202 on April 1, 2011:<sup>2</sup> “It is important to note that the energy efficiency savings targets*

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<sup>1</sup> Due to time required to complete the associated analysis, the EERMC vote on Targets was moved to March 19, which was communicated to the PUC.

<sup>2</sup> The joint brief is available at: [http://www.ripuc.org/eventsactions/docket/4202-EEMRC-JointRR\(4-1-11\).pdf](http://www.ripuc.org/eventsactions/docket/4202-EEMRC-JointRR(4-1-11).pdf)

*are just that, targets of what the EERMC assessment estimates is potentially available for cost-effective efficiency...*

*...The 2010 legislation recognizes that the energy savings targets themselves do not constitute a plan, but rather **the targets are just high-level estimates of the potentially available cost-effective efficiency**, whose function is to guide the development of actual Three-year LCP and annual efficiency plans.”*

The purpose of the Targets is clear in its focus on establishing what is “potentially available cost-effective efficiency.” It is meant to guide the ensuing purpose of establishing savings goals in Three-Year EE Procurement Plans and Annual EE Plans<sup>3</sup>, which also require the consideration of additional analysis covering factors such as prudence and reliability, as directed in the PUC’s LCP Standards<sup>4</sup>.

In 2019 the EERMC solicited via a competitive RFP process a Market Potential Study for Rhode Island to provide an objective estimate of all potentially available cost-effective energy efficiency resources during the 2021-2026 period. The 2021-2026 Study was completed in 2020 and was used to inform Targets for the 2021-2023 period. In 2022 and 2023, the Council worked with the same study vendor<sup>5</sup> to conduct a refresh of the 2024-2026 period from the 2021-2026 Study with the objective of updating key study parameters to reflect new information made available since the 2021-2026 Study. The achievable electric energy efficiency, natural gas energy efficiency, and electric active demand response estimated in the MPS Refresh were used to establish the Targets for the 2024-2026 period. As described in Section III, the EERMC’s Consultant Team performed a focused update to the MPS Refresh (referred to as the “Extended MPS Refresh” throughout this document), to develop the recommended 2027-2029 Targets presented in Section IV.

This report presents the EERMC’s recommendations for 2027–2029 savings targets for Rhode Island Energy’s upcoming Three-Year Plan and ensuing Annual Plans for consideration by the EERMC in their deliberations regarding the savings targets they will recommend to the PUC. These proposed targets are derived primarily from a *focused update* to the MPS Refresh conducted by the EERMC’s Consultant Team, which provided a streamlined, analytical process to determine all cost-effective energy savings. Additionally, we built on prior submittals of Targets to the PUC; reviewed the LCP legislation and current LCP Standards; considered input from stakeholders; and factored input from the EERMC during Council meetings and during individual meetings held with council members and OER to inform our recommendation.

Further, to support consideration of the distinction between Targets and the goals associated with Three-Year EE Procurement Plans and Annual EE Plans, we acknowledge that while the 2027-2029 electric and natural gas savings targets have been developed using the best information and data

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<sup>3</sup> It is possible that as a result of upcoming legislative changes and/or changes to the LCP Standards that energy efficiency plans will be binding three-year plans going forward and that there will not be annual plans. We keep reference to annual plans because as of the drafting of this report those change(s) have not been finalized.

<sup>4</sup> [https://ripuc.ri.gov/sites/g/files/xkgbur841/files/2024-03/23-07-EE\\_LCP%20Standards\\_final%20w%20header.pdf](https://ripuc.ri.gov/sites/g/files/xkgbur841/files/2024-03/23-07-EE_LCP%20Standards_final%20w%20header.pdf)

<sup>5</sup> The same vendor was selected twice through independent competitive RFP processes.

available at this time, additional relevant information is likely to be learned as time passes. Consequently, the lifetime savings targets, including considerations such as their associated budgets as estimated during the planning process, should be reviewed during the development of 2027-2029 Three Year Plan and its ensuing Annual Plans. Following this review, the plan goals should document how the Targets were considered and applied and clearly explain any deviations from the Targets as described further in Section II of this report. The parties participating in the development of the energy efficiency plan goals should agree that deviations from the lifetime energy savings Targets should be based only on clearly documented changes in cost-effective resource availability, or unforeseeable and/or unavoidable constraints to their full pursuit and achievement.

## **II. OVERVIEW OF TARGETS' RELATION TO PLANNING PROCESS**

In 2010, the legislature adopted the ratemaking concept of revenue decoupling, in R.I. Gen. Laws § 39-1-27.7.1. Pursuant to § 39-1-27.7.1(f). The EERMC was required to submit proposed energy savings targets to the PUC by September 1, 2010. The purpose of these targets was to give the utility guidance on the potentially available cost-effective efficiency resources in the state that would feed into the normal LCP Three-Year and Annual energy efficiency program planning processes under § 39-1-27.7.

During the Three-Year and Annual planning processes required by Rhode Island law, the efficiency strategies, programs, and budgets are developed by the utility and the cost-effectiveness of the budgets and programs is reviewed and considered for approval by the EERMC before being filed with the PUC for their consideration and action. It is during these planning activities that a wide range of factors are considered and fully vetted, in a transparent way with significant stakeholder engagement, to inform what percentage of the total cost-effective energy savings potential could be realized during the three year period, and more accurately in ensuing annual plans based on evolving market trends and other factors. In particular, this is where “prudent and reliable” portion of the LCP law, which directs Rhode Island Energy (“RIE”) to secure all cost-effective energy efficiency that is less than the cost of supply and is prudent, reliable, and environmentally responsible, should be applied.

Appropriately, the Council anticipates that once the impacts of a full consideration of prudence and reliability are documented, there will be gaps between the Targets and Three-Year and Annual Plan Goals, which represent the portion of Targets that will be proposed as Plan savings goals with associated budgets. The process for understanding the size of this difference includes a full review and vetting of all barriers that preclude reaching the full achievable savings. This is a collaboration between Rhode Island Energy, the EERMC and its Consultant Team, the Office of Energy Resources, and other stakeholders, and takes the form of a well-documented, transparent process involving full stakeholder engagement and input. At the end of this process, Rhode Island Energy’s Annual Plans will be able to clearly detail the various reasons that Plan goals are below Targets and justify the magnitude of the gap.

Factors that typically are analyzed during this process include overall costs, rate and bill considerations, workforce factors, environmental, equity, other non-energy considerations, market characteristics such as energy efficiency equipment supply chains and consumer education and awareness, and State policy objectives including carbon emissions reductions and associated clean energy goals, among others.

Many of these factors represent constraints on the achievable potential reflected in the Targets, which can be alleviated over time through program design innovation, capacity building, and policies to support growth and competition in efficiency products and service markets. As a result, even when Targets are set consistently from year to year, as is the case for the Targets presented in Section IV, it is very reasonable for the detailed, granular planning process to generate Plan savings goals which ramp toward those Targets over time in the Three-Year and associated Annual Plans, while also supporting the removal of barriers for future Three-Year Plans.

### **III. MARKET POTENTIAL STUDY SCOPE AND APPLICATION**

#### **Context and Industry Overview**

Market Potential Studies are widely used as a best-in-class, data-driven resource to inform efficiency program targets, as they represent a quantitative estimate of the efficiency resource that is available for efficiency programs to pursue. As examples, efficiency boards and/or utility commissions in nearby states including Massachusetts, New Jersey, New Hampshire, Pennsylvania, and Delaware, among others, have used market potential studies conducted to help inform efficiency program targets in their respective jurisdictions. This section summarizes how the results of the 2024-2026 Rhode Island Market Potential Study Refresh were updated to inform the recommended targets presented in Section IV.

#### **“Extended” Market Potential Study Refresh**

In 2019, through the work of a vendor, the EERMC completed the 2021-2026 Market Potential Study for Rhode Island. The results of the 2021-2026 Study were integral in the development of Council recommended Targets for the 2021-2023 period. In 2022 and 2023, the Council worked with the same study vendor to conduct a refresh of the 2024-2026 period from the 2021-2026 Study to inform its development of these targets. The objective of the MPS Refresh was to update key study parameters to reflect new information made available since the 2021-2026 Study, including updated codes and standards, evaluated measure savings, and avoided cost estimates.

As the MPS Refresh remains the most recent, regionally applicable assessment of the energy efficiency and active demand response potential in Rhode Island, the EERMC directed the Consultant Team to perform a focused update to this analysis to inform the 2027-2029 Targets. Similar to the original scope of the MPS Refresh, the Extended MPS Refresh included forecasting participation, incorporating TRM-driven changes to measure input assumptions, incorporating the impacts of new state energy codes and federal appliance standards, accounting for other impactful changes in market conditions, and updating avoided cost assumptions. Because the Consultant Team did not have access to the vendor’s underlying models, implementing these adjustments required performing higher level, simplified approaches as further discussed in this section.

## Key Measure Input Updates

### *Participation Forecast*

Because the MPS Refresh only modeled achievable potential through 2026, it was first necessary to extrapolate the modeled participation to cover the period of interest—2027 to 2029. Preliminary participation estimates for this period were first derived using simple linear extrapolation of the 2024–2026 data. Next, we compared the resulting estimates (in terms of the implied lifetime savings using the original MPS Refresh savings assumptions) to recent RIE program activity in 2024 and 2025 to identify any cases where actual savings were approaching or exceeding the modeled potential. Such a situation might indicate that the potential was being captured more quickly than previously modeled and may warrant further adjustment to the forecasted participation estimates to account for exhausted potential. However, the savings comparison did not suggest such adjustments were necessary.<sup>6</sup>

### *TRM-Driven Measure Updates*

Next, for cost efficiency and to ensure our efforts were focused on the most impactful measures, we identified the highest impact measures in the MPS Refresh that contributed 80 percent of the cumulative net lifetime electric energy and natural gas savings in aggregate. This set consists of 57 electric measures and 17 gas measures. For reference, the next highest impact measures falling outset this set accounted for 0.5 and 2.0 percent of net lifetime electric and gas savings, respectively.

We next updated relevant input assumptions for this set of highest impact measures consistent with the updates to the Rhode Island Technical Reference Manual (“RI TRM”) implemented in the TRMs for 2024 through 2026 program years. Updated parameters included:

- Gross Annual Electric Energy Savings
- Gross Annual Summer Peak Demand Savings
- Gross Annual Natural Gas Savings
- Gross Annual Fuel Oil Savings
- Gross Annual Propane Savings
- Effective Useful Lives (“EUL”)
- Realization Rates (“RR”)
- Net-To-Gross Ratios (“NTG”)

This was achieved by first reviewing each of the three program year TRMs and developing a consolidated list of measure updates. Next, because measures were not structured in the same way across the MPS Refresh data and the RIE Benefit-Cost Models, we developed a consistent mapping between the highest impact measures from the MPS Refresh as described above to the RI TRM measures. For each measure modeled in the MPS Refresh with relevant RI TRM updates, we updated the affected input assumptions. Because the MPS Refresh measure characterizations were not entirely consistent with the RI TRM when originally modeled, in some cases, we applied parameter updates in

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<sup>6</sup> Because of structural differences in the characterization of measures between the MPS Refresh and the RIE Benefit-Cost Models, these comparisons were conducted at the end-use level.

relative terms. For example, if a RI TRM update changed the deemed energy savings for a given measure from 100 kWh to 90 kWh, we reduced the originally modeled savings value in the MPS Refresh by 10 percent. Any updates to EULs, RRs, and NTGs were made in absolute terms.

#### ***Mercury Reduction and Education Act***

As of January 1, 2025, Rhode Island General Laws § 23-24.9-6.1 (2025) bans the sale of most compact and linear fluorescent lamps. The MPS Refresh originally assumed a fluorescent lamp baseline for several measures; therefore, the baseline assumptions were updated to account for the impacts of the mercury ban. Because the ban applies to the *sale* of fluorescent lamps, it only impacts measures installed due to the failure of existing equipment (i.e., “replace-on-failure” or “replace-on-burnout” measures). In other words, savings from the early replacement of existing, functioning legacy lighting technologies are not impacted by the ban. The MPS Refresh data did not clearly differentiate the savings from replace-on-failure from early replacement measures, so we first apportioned the measure savings by market using data from 2019 C&I Lighting Inventory and Market Model Updates report.<sup>7</sup> This study found that replace-on-failure made up 29 percent lighting replacements for program participants in Massachusetts—an assumption that has been adopted by RIE for the last several program planning cycles. This assumption was used to apportion non-residential lighting savings from the MPS Refresh by early replacement and replace-on-failure. It was assumed that early replacement savings would be unaffected by the ban. To adjust the savings for replace-on-failure measures, we updated the baseline to assume an early generation LED product. To achieve this, we adopted assumptions from the National Renewable Energy Laboratory’s (NREL) ComStock commercial buildings analysis platform, assuming that replace-on-failure lighting measures installed in 2027-2029 would achieve the incremental savings of going from first to second generation LED lighting products as defined in ComStock.<sup>8</sup> The result of these adjustments was that savings for affected LED luminaire and linear lamp replace-on-failure measures were reduced to, on average, 19 percent of their original values as modeled in the MPS Refresh.

#### ***Non-Residential Lighting Controls Measure Updates***

Several of the highest saving electric measures in the MPS Refresh data were non-residential lighting controls measures. The documentation available does not explicitly specify the assumed baseline aside from providing a generic “no controls” description, but the magnitude of the assumed savings suggests that the measures are characterized assuming that legacy, non-LED lighting technologies are being controlled. Given the scale of these measures in the modeled portfolio and the continued evolution of the non-residential lighting market since the MPS Refresh was originally conducted, we have adjusted the savings for these to reflect the increased saturation of LED lighting. Referencing the 2022 Rhode Island C&I Lighting Market Characterization and Adjusted Measure Life Study, we assume that LED saturation will reach 76 percent by 2027.<sup>9</sup> Therefore, we assume that for 76 percent of the modeled lighting controls savings in the MPS Refresh, savings are reduced to 19 percent of their original values

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<sup>7</sup> DNV GL. April 6, 2020. MA19C14-E-LGHTMKT– 2019 C&I Lighting Inventory and Market Model Updates.

<sup>8</sup> NREL. November 2025. ComStock Reference Documentation: 2025 Release 3.

[https://natlabrockies.github.io/ComStock.github.io/assets/files/comstock\\_reference\\_documentation\\_2025\\_3.pdf](https://natlabrockies.github.io/ComStock.github.io/assets/files/comstock_reference_documentation_2025_3.pdf)

<sup>9</sup> DNV. August 24, 2022. Rhode Island C&I Lighting Market Characterization and Adjusted Measure Life Study. Prepared for Rhode Island Energy. Figure 3-5, p.12.

(using the savings sources noted in the preceding section) to approximate controls savings when installed with first generation LED products. We made no related adjustments to the remaining 24 percent of modeled lighting controls savings assuming that the originally modeled baseline was still applicable.

#### ***Non-Residential Lighting Net-To-Gross Updates***

Because non-residential lighting is a significant contributor to both the electric efficiency potential identified in the MPS Refresh and the historical electric savings in RIE programs, we used an alternative approach to update NTG factors for non-residential lighting measures to ensure consistency with planning values. First, we mapped all non-residential lighting measures from the RIE 2026 Plan to representative measures in the MPS Refresh. Next, we aggregated the lifetime net and gross electric energy savings from the RIE 2026 Plan by MPS Refresh measure category and divided the two values to yield effective NTG factors. Finally, the resulting NTG factors were applied to the appropriate MPS Refresh measures.

Lastly, the forecasted measure participation assumptions and updated measure parameters were used to calculate lifetime energy and demand impacts.

#### **Codes and Standards Updates**

Next, we investigated the impacts from any relevant state energy codes and federal appliance standards.

#### ***State Energy Code Updates***

In November 14, 2024, Rhode Island officially adopted the 2024 International Energy Conservation Code (IECC) in full with no state amendments. The 3-month grace period ended on February 14, 2024, and all new construction must comply with this updated energy code. According to analyses published by the Pacific Northwest National Laboratory (PNNL), these updated codes will save 7.3 percent and 17.4 percent of site energy consumption for residential and commercial buildings in Rhode Island's climate zone, respectively.<sup>10,11</sup> As the MPS Refresh was modeled relative to an IECC 2021 baseline for new construction measures, we adjusted the savings for new construction measures downward to account for the more stringent energy codes. This was achieved by uniformly reducing the savings for all new construction measures by 7.3 percent and 17.4 percent for the residential and commercial sectors, respectively. We note that this simplified approach may underestimate the impacts of the increased baseline, particularly if the previously modeled new construction measures and the code changes in IECC 2024 reflect similar improvements. However, the overall new construction savings in both the MPS Refresh and in the revised analysis are relatively minor, accounting for less than two percent of total lifetime savings for both electric and gas and therefore have little impact on overarching conclusions.

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<sup>10</sup> PNNL. December 2024. Energy Savings Analysis: 2024 IECC for Residential Buildings. PNNL. December 2024. [https://www.energycodes.gov/sites/default/files/2024-12/2024\\_IECC\\_Determination\\_TSD.pdf](https://www.energycodes.gov/sites/default/files/2024-12/2024_IECC_Determination_TSD.pdf)

<sup>11</sup> PNNL. 2024. 2024 IECC Interim Energy Savings Analysis and Progress Indicator for Commercial Buildings. [https://www.iccsafe.org/wp-content/uploads/2024-IECC\\_Commercial\\_Interim-Progress-Indicator-Results-11072022.pdf](https://www.iccsafe.org/wp-content/uploads/2024-IECC_Commercial_Interim-Progress-Indicator-Results-11072022.pdf)

### Federal Standards Updates

Because the Targets only address the three-year period from 2027 to 2029, we only needed to consider federal standards with compliance dates falling within this time period. We first reviewed the Code of Federal Regulations (“CFR”) and recent federal rulemaking activity to compile a list of covered product categories with impending standards updates. The relevant standards are summarized in Table 1 below.

TABLE 1 | SUMMARY OF APPLICABLE FEDERAL STANDARDS

Sector	Product Category	Compliance Date	Compliance Date Before Late 2028	Top 80% Lifetime Savings in MPS Refresh	Federal Rulemaking Docket Link
All	Dedicated-purpose pool pump motors	9/28/2027	Y	N	<a href="#">Link</a>
All	Pool Heaters	5/30/2028	Y	N	<a href="#">Link</a>
Com	Commercial CAC and HP (65,000 Btu/hr to 760,000 Btu/hr)	1/1/2029	N	N	<a href="#">Link</a>
Com	Distribution Transformers	4/23/2029	N	N	<a href="#">Link</a>
Com	Electric Motors	6/1/2027	Y	N	<a href="#">Link</a>
Res	Clothes Dryer	3/1/2028	Y	Y	<a href="#">Link</a>
Res	Clothes Washer	3/1/2028	Y	Y	<a href="#">Link</a>
Res	Cooking Products	1/31/2028	Y	N	<a href="#">Link</a>
Res	Dishwashers	4/23/2027	Y	N	<a href="#">Link</a>
Res	Furnaces	12/18/2028	N	Y	<a href="#">Link</a>
Res	General Service Lamps	7/25/2028	Y	N	<a href="#">Link</a>
Res	Misc. Refrigeration Products	1/31/2029	N	N	<a href="#">Link</a>
Res	Refrigerators and Freezers	1/31/2029	N	Y	<a href="#">Link</a>
Res	Water Heaters	5/6/2029	N	Y	<a href="#">Link</a>

As with the key measure parameter updates discussed in the previous section, the assessment of codes and standards impacts was limited to only those measures making up a cumulative 80 percent of lifetime electric energy and gas savings. As shown in Table 1, only five product categories with impending standards updates meet this criterion. Further, because federal standards apply only to the manufacture of new equipment, it is legal to sell existing stock that do not meet the new standards if manufactured prior to the compliance date. This analysis assumes an approximate sell-through period of twelve months meaning that any standards with compliance dates near January 1, 2029 will not impact the identified potential. As indicated by the shaded rows in the table above, only federal standards affecting residential clothes dryers and washers resulted in changes to the estimated potential. To simplify the analysis, related efficiency measures for these equipment types were omitted in 2029—a

conservative assumption since it is likely that products exceeding the new federal standards will be available.

### Avoided Cost Updates

Next, to demonstrate the cost-effectiveness of the modified portfolio, we updated the modeled benefits for consistency with the most recent available avoided cost data. Most of the avoided costs used in the MPS Refresh were sourced from the Avoided Energy Supply Components in New England: 2021 Report (“2021 AESC”).<sup>12</sup> As of March 2026, the most recent version of this study available is the Avoided Energy Supply Components in New England: 2024 Report (“2024 AESC”).<sup>13</sup> The values from this study also underpin Rhode Island Energy’s most recent cost-effectiveness analyses.

The MPS Refresh only presented benefits consistent with the Rhode Island Test (“RI Test”) in aggregate at the measure level. In other words, benefits were not presented by avoided cost component (e.g., avoided electric energy generation, avoided electric generation capacity, avoided natural gas). As previously noted, we did not have access to the vendor’s models. Therefore, applying the updated avoided cost values first required disaggregating the benefits by savings component.

To achieve this, we performed multivariable regression analyses on the MPS Refresh data to derive the implied average benefits rates. To capture underlying differences in the measure performance, the regression analysis was performed for each “segment” defined as the combination of fuel, sector, and end-use. Because savings within a given fuel type are typically dominated by a limited number of end-uses, the approach was further simplified to only explicitly assess the top two end-uses within a given fuel type. Results for all other end-uses were aggregated into an “Other” category. The goal was to create, for each segment  $s$ , a simple linear model of the form:

$$B_s \approx a_s \cdot kWh_s + b_s \cdot kW_s + c_s \cdot Gas_s + d_s \cdot Oil_s + e_s \cdot Propane_s$$

where  $B_s$  are the aggregate RI Test benefits,  $kWh_s$  are the net lifetime electric energy savings in kWh,  $kW_s$  are the net annual summer peak demand reductions in kW,  $Gas_s$  are the net lifetime gas savings in MMBtu,  $Oil_s$  are the net lifetime fuel oil savings in MMBtu,  $Propane_s$  are the net lifetime propane savings in MMBtu, and the coefficients  $a_s$ ,  $b_s$ ,  $c_s$ ,  $d_s$ , and  $e_s$  are the implied benefit per unit for that segment.<sup>14</sup> The coefficients resulting from the regression analysis for each segment are summarized in Table 2 below.

TABLE 2 | IMPLIED BENEFITS RATES REGRESSION RESULTS BY SEGMENT

Segment	$a_s$	$b_s$	$c_s$	$d_s$	$e_s$
Electric_Commercial_HVAC	0.100	4227.897	20.926	0.000	0.000
Electric_Commercial_Lighting	0.280	2741.135	333.388	0.000	0.000
Electric_Commercial_Other	0.092	5489.027	5.218	30.732	-202.871

<sup>12</sup> <https://www.synapse-energy.com/aesc-2021-materials>

<sup>13</sup> <https://www.synapse-energy.com/aesc-2024-materials>

<sup>14</sup> Note that because the MPS Refresh did not explicitly report non-energy impacts (“NEI”) assumptions, this regression-based approach implicitly assumes that all NEIs scale with savings.

Segment	$a_s$	$b_s$	$c_s$	$d_s$	$e_s$
Electric_Industrial_HVAC	0.081	5622.656	27.598	0.000	0.000
Electric_Industrial_Lighting	0.168	1023.479	-23.659	0.000	0.000
Electric_Industrial_Other	0.121	3916.473	-6.347	66.556	0.000
Electric_Residential Low Income_HVAC	0.106	4507.679	0.000	0.000	0.000
Electric_Residential Low Income_Lighting	0.141	0.000	0.000	0.000	0.000
Electric_Residential Low Income_Other	0.114	2590.177	0.000	19.864	0.000
Electric_Residential_HVAC	0.106	5078.130	0.000	0.000	0.000
Electric_Residential_Lighting	0.130	0.000	-7.703	0.000	0.000
Electric_Residential_Other	0.060	3459.580	0.000	-135.182	0.000
Gas_Commercial_Envelope	0.051	0.000	8.404	0.000	0.000
Gas_Commercial_HVAC	0.130	3653.771	7.612	0.000	0.000
Gas_Commercial_Other	0.080	0.000	13.828	0.000	0.000
Gas_Industrial_Envelope	0.000	0.000	8.405	0.000	0.000
Gas_Industrial_HVAC	0.054	4176.055	9.739	0.000	0.000
Gas_Industrial_Other	0.082	0.000	4.752	0.000	0.000
Gas_Residential Low Income_Envelope	1.967	189377.882	22.608	0.000	0.000
Gas_Residential Low Income_HVAC	0.406	-93867.065	12.001	0.000	0.000
Gas_Residential Low Income_Other	-0.105	8182.819	9.657	0.000	0.000
Gas_Residential_Envelope	-0.772	-17896.891	50.935	0.000	0.000
Gas_Residential_HVAC	0.372	-20006.710	11.381	0.000	0.000
Gas_Residential_Other	-0.096	8060.875	9.188	0.000	0.000
Oil_Commercial_Envelope	0.554	0.000	0.000	21.217	0.000
Oil_Commercial_HVAC	0.055	0.000	0.000	24.600	0.000
Oil_Industrial_Envelope	0.536	0.000	0.000	20.305	0.000
Oil_Industrial_HVAC	-0.022	0.000	0.000	23.545	0.000
Oil_Residential Low Income_Envelope	1.281	330244.326	0.000	49.314	0.000
Oil_Residential Low Income_HVAC	0.297	140716.502	0.000	28.638	0.000
Oil_Residential Low Income_Other	-0.188	6354.866	0.000	21.462	0.000
Oil_Residential_Envelope	3.635	-98537.368	0.000	11.678	0.000
Oil_Residential_HVAC	0.408	-40577.318	0.000	30.418	0.000
Oil_Residential_Other	-0.226	6340.904	0.000	26.796	0.000
Propane_Residential Low Income_Envelope	3.696	0.000	0.000	0.000	0.000
Propane_Residential Low Income_HVAC	-1.302	0.000	0.000	0.000	36.786
Propane_Residential_Envelope	2.194	0.000	0.000	0.000	0.000
Propane_Residential_HVAC	-1.007	0.000	0.000	0.000	36.357

Note that because the MPS Refresh did not explicitly report non-energy impacts (“NEI”) assumptions, this regression-based approach implicitly assumes that all NEIs scale with savings.

The values in Table 2 are the implied benefits rates consistent with the 2021 AESC. Next, we developed simple multipliers to translate the 2021 AESC benefits rates to values consistent with the 2024 AESC. To achieve this, we reviewed the 2021 and 2024 AESC reports and extracted representative 15-year levelized values for electric energy (\$/kWh), electric capacity (\$/kW-yr), natural gas (\$/MMBtu), fuel oil (\$/MMBtu), and propane (\$/MMBtu). The relevant avoided cost components according to the RI Test were aggregated per unit energy or demand reduction. For example, the \$/kWh values for electric energy reflect all cost components inclusive of avoided generation, energy demand reduction induced price effects (“DRIPE”), and avoided greenhouse gas costs.<sup>15</sup> Finally, the ratio of the 2024 and 2021 values were calculated and are presented in Table 3 below.

TABLE 3 | AESC 2021 TO 2024 BENEFITS MULTIPLIERS

Savings Unit	Benefits Multiplier
kWh, $a_{2024}$	1.165
kW, $b_{2024}$	0.690
Gas, $c_{2024}$	0.998
Oil, $d_{2024}$	1.155
Propane, $e_{2024}$	1.317

To estimate the new benefits, the following equation was used with the new energy and demand impacts for each measure (denoted by the superscript “new”) within each segment  $s$ :

$$B_s = a_s \cdot a_{2024} \cdot kWh_s^{new} + b_s \cdot b_{2024} \cdot kW_s^{new} + c_s \cdot c_{2024} \cdot Gas_s^{new} + d_s \cdot d_{2024} \cdot Oil_s^{new} + e_s \cdot e_{2024} \cdot Propane_s^{new}$$

#### IV. RECOMMENDED EFFICIENCY SAVINGS TARGETS AND COST-EFFECTIVENESS

As discussed above, the Council engaged in a streamlined process to identify the achievable potential of electric energy efficiency, natural gas energy efficiency, and electric active demand response opportunities in Rhode Island for the 2027-2029 period. As the results are generally based on the MPS Refresh, the process undertaken estimates the achievable cost-effective potential energy efficiency savings and active demand response opportunities according to accepted industry practices for Market Potential Studies.

Table 4 shows the recommended energy efficiency savings targets associated with each of electric and natural gas, as well as the electric active demand response targets. These targets are denominated in their respective energy units; are not additive; represent targets for the full portfolio of efficiency

<sup>15</sup> The AESC studies differentiate electric energy generation avoided costs by period (i.e., winter peak, winter off-peak, summer peak, summer off-peak). To simplify the analysis, these period-specific costs were weighted by the portfolio average electric energy load shape from Rhode Island Energy’s 2026 Plan.

measures across all sectors, building types, and end uses within each fuel; and correspond to the achievable energy savings estimated in the Extended MPS Refresh for each fuel.

TABLE 4 | RECOMMENDED ELECTRIC AND GAS ENERGY EFFICIENCY AND ELECTRIC ACTIVE DEMAND RESPONSE TARGETS

Year	Electric Energy (Lifetime MWh)	Natural Gas Energy (Lifetime MMBtu)	Electric Active Demand Response (MW)
2027	1,336,355	7,023,507	94.6
2028	1,369,188	7,053,153	94.6
2029	1,371,613	7,082,800	94.6

Implementing the modifications discussed in Section III yields recommended energy efficiency Targets for 2027-2029 that are only very slightly below those for 2024-2026. Active electric peak demand reductions are held fixed at the 2026 Target levels as none of the implemented modifications to the MPS Refresh analysis impacted ADR savings.

As raised in stakeholder comments during the development of the 2025 Rhode Island Climate Action Strategy, it has been suggested that RIE should discontinue incentivizing new equipment powered by natural gas as this would generally lock in gas consumption for the life of the new equipment and run counter to the goals of Rhode Island’s 2021 Act on Climate.<sup>16</sup> A similar policy was enacted in Massachusetts in 2024.<sup>17</sup> To illustrate the impact of eliminating new gas equipment from the Targets, Table 6 presents the lifetime gas savings by year for equipment and non-equipment measures. In total, gas equipment measures represent nearly 44% of total lifetime savings for measures installed over the three-year period.

TABLE 5 | RECOMMENDED GAS ENERGY EFFICIENCY TARGETS BY EQUIPMENT AND NON-EQUIPMENT MEASURES

Year	Natural Gas Energy (Lifetime MMBtu)	
	Non-Equipment	Equipment
2027	3,948,256	3,075,251
2028	3,968,355	3,084,799
2029	3,988,453	3,094,346

Finally, to demonstrate the cost-effectiveness of the modified portfolio, we updated the modeled benefits as described in Section III. As shown in Table 6 below, the RI Test benefits significantly exceed the costs with benefit-cost ratios at or above 2.90 for all years. In other words, every dollar invested in

<sup>16</sup> See <https://webserver.rilegislature.gov/Statutes/TITLE42/42-6.2/INDEX.htm>

<sup>17</sup> See <https://www.masssave.com/blog/residential/discontinuation-of-rebates-and-incentives-natural-gas-oil-propane-heating-equipment>

the modeled portfolio of energy efficiency and active demand response will yield nearly three dollars in benefits to Rhode Island.

TABLE 6 | RHODE ISLAND COST TEST RESULTS FOR RECOMMENDED TARGETS<sup>18</sup>

Year	PV Benefits, RI Test (Million 2026\$)	PV Costs, RI Test (Million 2026\$)	BCR, RI Test
2027	\$478.4	\$163.4	2.93
2028	\$484.9	\$166.0	2.92
2029	\$483.2	\$166.8	2.90

## V. COMPARISON OF RECOMMENDED TARGETS TO OTHER BENCHMARKS

This section places the recommended 2027-2029 electric and natural gas energy efficiency savings targets into context by comparing them against three relevant reference points:

1. Rhode Island Energy’s recent actual and planned performance,
2. Energy efficiency achievements in the top-performing states identified in the latest ACEEE State Energy Efficiency Scorecard, and
3. Energy savings implied by modeled emissions-reduction trajectories under the State’s Current Policy and Act on Climate scenarios.

These comparisons help illustrate the relative ambition of the recommended targets and provide additional insight into how the proposed levels of savings align with historical performance, national best practice, and long-term decarbonization goals.

### Comparison to Rhode Island Energy Actual and Planned Performance

To assess the recommended 2027-2029 efficiency savings targets in Table 4, it is informative to compare them to Rhode Island Energy’s most recent program performance and plans.

#### Electric Energy Efficiency

Figure 1 below presents Rhode Island Energy’s lifetime electric energy savings for 2025 and planned values for 2026 along with the recommended Targets for 2027–2029.

<sup>18</sup> Values are inclusive of electric and gas efficiency and active demand response.

### Electric Energy (Lifetime MWh)

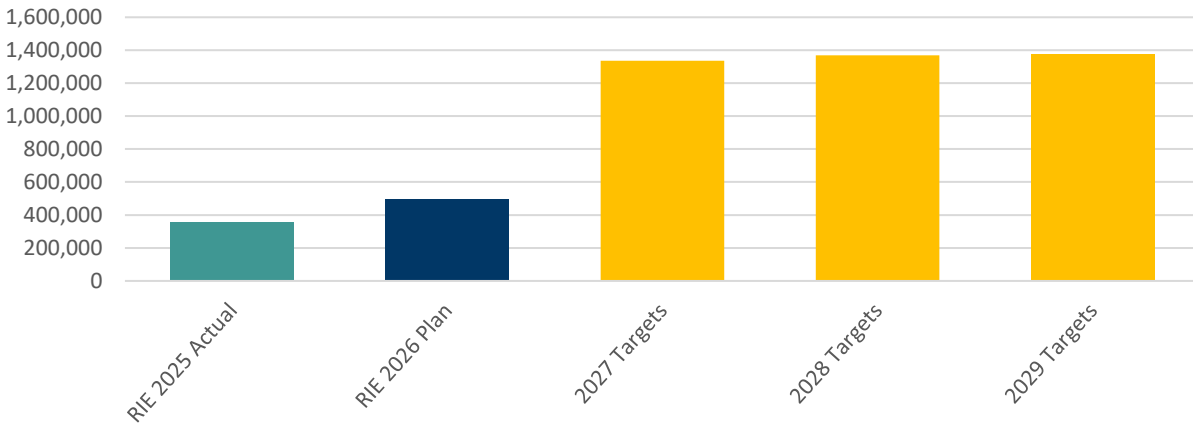


FIGURE 1 | RECOMMENDED TARGETS COMPARED TO RIE ACTUALS AND PLAN, ELECTRIC

The recommended Targets represent a significant increase over both recent historical achievement and planned savings. On average, the 2027-2029 Targets represent a 176 percent increase over the RIE 2026 Plan values. The comparison suggests that there are still significant available cost-effective electric efficiency opportunities well in excess of recent program attainment, even considering foundational changes to the lighting market.

### Natural Gas Energy Efficiency

Figure 2 below presents Rhode Island Energy’s lifetime gas savings for 2025 and planned values for 2026 along with the recommended Targets for 2027–2029.

### Natural Gas Energy (Lifetime MMBtu)

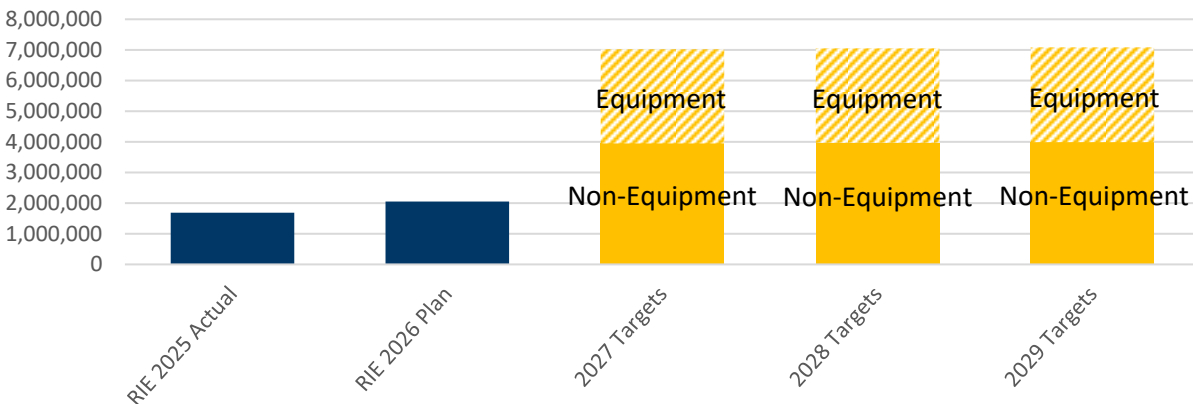


FIGURE 2 | | RECOMMENDED TARGETS COMPARED TO RIE ACTUALS AND PLAN, GAS

On average, the 2027-2029 Targets represent a 244 percent increase over the RIE 2026 Plan values. To an even larger extent than on the electric side, the comparison suggests that there are still significant

available cost-effective gas efficiency opportunities beyond historical program achievement. Even when excluding opportunities for new gas-fired equipment, the average lifetime potential still exceeds the RIE 2026 Plan values by 94 percent.

### Comparison to Top States in the ACEEE State Energy Efficiency Scorecard

The ACEEE State Energy Efficiency Scorecard (“Scorecard”) provides a national benchmark for identifying top-performing states based on a variety of metrics, including utility electric and gas program savings.<sup>19</sup> Comparing Rhode Island’s recommended Targets to these savings levels offers insight into how the ambitions the Targets are relative to the *actual achievement* of national leaders in efficiency.

In the most recent version of the Scorecard, top-performing states achieved electric savings levels on the order of 1.55-2.56 percent of retail sales annually, as shown in Table 7. While Rhode Island’s Targets are expressed in lifetime savings rather than annual savings, translating the Targets into annual savings consistent with the results of the Extended MPS Refresh analysis suggests that achieving Rhode Island’s recommended 2027-2029 Targets would place the state within the range of national leaders, and likely toward the upper half of the top-five grouping for electric savings.

TABLE 7 | RECOMMENDED TARGETS COMPARED TO ACEEE STATE SCORECARD LEADING STATES, ELECTRIC

State	2023 Net Annual Electric Energy Savings as a Percentage of Retail Sales
Maryland	2.56%
New Jersey	2.01%
Michigan	1.74%
Illinois	1.56%
California	1.55%
<b>2027-2029 RI Target (Avg.)<sup>20</sup></b>	<b>1.83%</b>

On the natural gas side, top-performing states achieved gas savings of 0.71 to 0.95 percent of retail sales annually, as shown in Table 8. The recommended Targets are considerably above the achievement of the highest performing states. When excluding opportunities for new gas-fired equipment, the average lifetime potential drops to 1.22 percent but still exceeds the highest performing states by a significant margin.

<sup>19</sup> ACEEE. March 18, 2025. 2025 State Energy Efficiency Scorecard. <https://www.aceee.org/research-report/u2502>

<sup>20</sup> RI Targets presented relative to 2024 statewide electric sales from the U.S. EIA. See <https://www.eia.gov/electricity/data/browser/#/topic/5?agg=0,1&geo=000g&endsec=vg&freq=A&start=2001&end=2024&ctype=linechart&ltype=pin&rtype=s&pin=&rse=0&maptype=0>

TABLE 8 | RECOMMENDED TARGETS COMPARED TO ACEEE STATE SCORECARD LEADING STATES, GAS

State	2022 Net Annual Gas Savings as Percentage of Retail Sales
Michigan	0.95%
California	0.90%
Massachusetts	0.81%
Minnesota	0.79%
Rhode Island	0.71%
<b>2027-2029 RI Target (Avg.)<sup>21</sup></b>	<b>1.65%</b>

When comparing the recommended Targets to the Scorecard data, it is important to note that the Scorecard represents the actual performance of leading programs whereas the Targets are intended to reflect the available cost-effective savings potential. In reality, because of policy, program, and budget constraints, programs typically do not achieve (or even pursue) all cost-effective potential; therefore, it is not surprising for the Targets to exceed the achievement of actual programs.

Conversely, we note that the Scorecard dataset is somewhat dated, reflecting program performance in 2023 and 2022 for electric and gas, respectively. In some jurisdictions, savings achievement in recent years has fallen due to evolving priorities such as an increased emphasis on decarbonization and reduced emphasis on the non-residential lighting market.

### Comparison to Energy Efficiency Embedded in the RI Climate Action Strategy Scenarios

The 2025 Rhode Island Climate Action Strategy<sup>22</sup> (CAS) analyzed two primary scenarios. The Current Policy Scenario (CPS) reflects emissions outcomes under laws, regulations, and programs currently in place. The Act on Climate Scenario (AOC) examines a possible pathway of additional actions across all sectors required to meet the economy-wide greenhouse gas reduction requirements established under the Act on Climate. Per the CAS report, the Current Policy Scenario assumed “efficiency levels for the residential, commercial, and industrial sectors are modeled using the annual measures and energy savings outlined in the Third Draft of the 2026 [RIE] Annual Energy Efficiency Plan.”<sup>23</sup> The Act on Climate Scenario assumed that 11,000 homes would be weatherized annually instead of the 5,500 homes assumed in the CPS. All other assumptions with respect to energy efficiency in the AOC scenario were maintained from the CPS scenario. Using data from the Third Draft of the RIE 2026 Plan, we estimated the implied energy efficiency savings embedded in each scenario and compared these to the recommended 2027-2029 Targets. The resulting comparison is presented in Table 9 below.

<sup>21</sup> RI Targets presented relative to 2024 statewide electric sales from the U.S. EIA. See [http://www.eia.gov/dnav/ng/ng\\_cons\\_sum\\_dcu\\_sri\\_a.htm](http://www.eia.gov/dnav/ng/ng_cons_sum_dcu_sri_a.htm).

<sup>22</sup> RI Executive Climate Change Coordinating Council. December 2025. Rhode Island 2025 Climate Action Strategy. <https://climatechange.ri.gov/media/2221/download?language=en>

<sup>23</sup> Ibid, p.22.

TABLE 9 | RECOMMENDED TARGETS COMPARED TO CLIMATE ACTION STRATEGY SCENARIOS

Scenario	Electric Energy (Lifetime MWh)	Natural Gas Energy (Lifetime MMBtu)
Current Policy	499,920	2,129,706
Act on Climate	524,822	2,828,014
Average Annual RI 2027-2029 Target	1,359,052	7,053,153

Note that for ease of comparison to the CAS data, Table 9 presents the lifetime savings for a single year of program activity. The value for the 2027-2029 Target is calculated as the simple three-year average of the total lifetime savings for the entire three-year period. As shown, the Target values exceed the AOC scenario requirements by 159 percent and 149 percent for electric and gas, respectively.

## VI. CONCLUSION AND RECOMMENDED EFFICIENCY TARGETS

As discussed above, the Council engaged in an extensive process to identify the achievable potential of electric energy efficiency, natural gas energy efficiency, and electric active demand response opportunities in Rhode Island for the 2027-2029 period. The process undertaken estimates the achievable cost-effective potential energy efficiency savings and active demand response opportunities according to accepted industry practices for Market Potential Studies.

Table 10 shows the recommended energy efficiency savings targets associated with each of electric and natural gas, as well as the electric active demand response targets. These targets are denominated in their respective energy units; are not additive; represent targets for the full portfolio of efficiency measures across all sectors, building types, and end uses within each fuel; and correspond to the achievable energy savings estimated in the MPS Refresh for each fuel.

TABLE 10 | RECOMMENDED ELECTRIC AND GAS ENERGY EFFICIENCY AND ELECTRIC ACTIVE DEMAND RESPONSE TARGETS

Year	Electric Energy (Lifetime MWh)	Natural Gas Energy (Lifetime MMBtu)	Electric Active Demand Response (MW)
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**APPENDIX A: RELEVANT MEETING MINUTES**

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**APPENDIX B: RELEVANT MEETING MATERIALS**