

**COMMONWEALTH OF PUERTO RICO  
PUBLIC SERVICE REGULATORY BOARD  
PUERTO RICO ENERGY BUREAU**

**NEPR**

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**IN RE:**

ENERGY EFFICIENCY AND DEMAND  
RESPONSE TRANSITION PERIOD  
PLAN

**CASE NO.:** NEPR-MI-2022-0001

**SUBJECT:** Motion to Submit Revised TPP and  
Other Information Requested under the  
Resolution and Order of November 29, 2023

**MOTION TO SUBMIT REVISED TPP AND OTHER INFORMATION REQUESTED  
UNDER THE RESOLUTION AND ORDER OF NOVEMBER 29, 2023**

**TO THE HONORABLE PUERTO RICO ENERGY BUREAU:**

**COME** now **LUMA Energy, LLC** (“ManagementCo”), and **LUMA Energy ServCo, LLC** (“ServCo”), (jointly referred to as “LUMA”), and respectfully state and request the following:

**I. Relevant Procedural History**

1. On June 21, 2022, LUMA filed with this Puerto Rico Energy Bureau of the Public Service Regulatory Board (“Energy Bureau”), in Case No. NEPR-MI-2021-0006, *In Re: Demand Response Plan Review, Implementation and Monitoring*, a proposed Energy Efficiency (“EE”) and Demand Response (“DR”) Transition Period Plan containing the description of various EE and DR Programs to be implemented by LUMA during a Transition Period and associated budgets for Fiscal Years (“FY”) 2023 and 2024 (“Proposed TPP”). *See Motion Submitting Proposed EE/DR Transition Period Plan* of that date and its *Exhibit 1* (this Exhibit 1, the “Proposed TPP”).

2. On February 16, 2023, the Energy Bureau issued a Resolution and Order (the “February 16<sup>th</sup> Resolution and Order”) in the instant proceeding in which it considered, amended,

and approved the Proposed TPP (the Proposed TPP, as approved by the Energy Bureau, the “Approved TPP). Among others, and as pertinent to this Motion, in the February 16<sup>th</sup> Resolution and Order, the Energy Bureau established deadlines or milestones for various activities under the Approved TPP, including, among others, deadlines to submit quarterly and annual reports and, more specifically, the deadlines of December 2, 2023 to prepare a draft FY2025-2027 Three-Year Plan (*see id.* at page 27); December 2023, to conduct a stakeholder meeting to discuss the Three-Year Plan and the TPP annual report (for FY 2023); and March 1, 2024, to file the FY2025-2027 Three-Year Plan (*see id.* at page 18).

3. On October 30, 2023, LUMA filed a motion requesting this Energy Bureau to extend for an additional fiscal year the Approved TPP and to extend by one year the deadline to file the EE and DR Three-Year Plan, with the same cadence of quarterly and annual reporting as in the Approved TPP and associated one-year delays in other milestones for the preparation of a draft Three-Year Plan and stakeholder engagement regarding that plan. *See Request to Extend by One Additional Year the Deadline to File the Three-Year Plan, Concomitant Deadlines and Extend the Term of the Transition Period Plan for An Additional Fiscal Year* (“October 30<sup>th</sup> Motion”) of that date, pages 15-16 and Exhibit 1.

4. On November 29, 2023, the Energy Bureau issued a Resolution and Order (“November 29<sup>th</sup> Order”) in which, in what is pertinent to this motion, the Energy Bureau grants “LUMA’s request [in the October 30<sup>th</sup> Motion] to extend the [TPP] by one year, to June 30, 2025, and to delay the schedule (including all required drafts and stakeholder engagement processes) for the Three-Year EE and DR Plan by one year, so that the Three-Year EE and DR Plan shall be filed by March 1, 2025”. November 29<sup>th</sup> Order on page 7. In addition, “in order to evaluate LUMA’s

plans for the Extended [TPP]” the Energy Bureau orders LUMA to file by December 8, 2023, the following:

- A revised version of the Transition Period Plan document, reflecting the adjusted timeframe, LUMA’s most up to date program plans, and any other updates required to convey an accurate summary of LUMA’s current EE and DR plans.
- LUMA’s most recent available schedule for the launch of EE programs, including which measures and market sectors will be targeted by each program, extending through the extended TPP (June 30, 2025).
- EE and DR program expenditures for FY2023, categorized by market sector and purpose in accordance with Table 2-3 of LUMA's Proposed TPP filed June 21, 2022, namely: Low-Income Residential; Non -Low-Income Residential; Small Business; Government/Public; Other Commercial/Industrial and Agricultural; Education and Outreach Program; and Cross-Cutting Planning, Admin, & Startup.
- EE Program costs for FY2024 and FY2025, categorized by market sector and activity (where activities are programs such as rebates, in-store discounts, direct installations, or other program implementation strategies, as well as education/outreach and planning/admin/startup costs), similar to Table 3-3 of LUMA's Proposed TPP. For FY2024, LUMA shall distinguish between expended funds as of the most recent available date and expected expenditures for the remainder of the year.
- DR Program costs for FY2024 and FY2025, categorized by market sector and activity (where activities are programs such as rebates, in-store discounts, direct installations, or other program implementation strategies, as well as education/outreach and planning/admin/startup costs), similar to Table 3-3 of LUMA’s Proposed TPP. [...] For FY2024, LUMA shall distinguish between expended funds as of the most recent available date and expected expenditures for the remainder of the year.
- In each of its annual cost reports and projections, LUMA shall separate costs paid from the base rate from costs that have been or will be recovered through the PPCA. LUMA shall identify any expected shortfall of funds (and when it is expected to occur) as well as any funds that may be carried over from one fiscal year to the next (or which LUMA would desire to carry over from one year to the next).

*Id.* (footnote added).

5. On December 7, 2023, LUMA requested the Energy Bureau an extension until December 20, 2023 to present the updated TPP required in the November 29<sup>th</sup> Resolution and Order as well as comply with all other requirements of such order. *See Request for Extension to*

*Comply with the Order for LUMA to Provide Information Under the Resolution and Order of November 29, 2023* filed by LUMA on December 7, 2023.

6. On December 12, 2023, the Energy Bureau issued a Resolution and Order approving the extension requested by LUMA to submit the information required in the November 29<sup>th</sup> Resolution and Order until December 20, 2023.

## **II. Submittal of Revised TPP and Other Information**

7. LUMA hereby submits to this honorable Energy Bureau the revised version of the TPP required under the November 29<sup>th</sup> Resolution and Order. *See Exhibit 1* (“Revised TPP”). The Revised TPP incorporates the other information required of LUMA under the November 29<sup>th</sup> Resolution and Order, as follows: (a) the most recent available schedule for the launch of EE programs, including which measures and market sectors will be targeted by each program, extending through June 30, 2025, is included in Section 2.6; Table 2-4; Section 4.2, subsection titled “Program Timeframe” and Table 4-5; Section 4.3, subsection titled “Program Launch Timeframe” and Table 4-10; Section 4.4, subsection titled “Program Timeframe” and Table 4-14; Section 4.5, subsection titled “Program Launch Timeframe” and Table 4-19; Section 4.6, subsection titled “Program Launch Timeframe” and Table 4-24; Section 4.7, subsection titled “Program Timeframe” and Table 4-29; and Section 4.8, subsection titled “Program Implementation Timeframe” and Table 4-32 of the Revised TPP; (b) the EE and DR program expenditures for FY2023, categorized by market sector and purpose in accordance with Table 2-3 of the Approved TPP, are included in Table 8-1 of the Revised TPP; (c) the EE Program costs for FY2024 and FY2025, categorized by market sector and activity, similar to Table 3-3 of the Approved TPP, and distinguishing between expended funds as of the most recent available date and expected expenditures for the remainder of the year, are included in Tables 3-2, 3-3, and 8-3

of the Revised TPP; and (d) the DR Program costs for FY2024 and FY2025, categorized by market sector and activity, similar to Table 3-3 of the Approved TPP, and distinguishing between expended funds as of the most recent available date and expected expenditures for the remainder of the year, are included in Tables 3-2, 3-3 and 8-4 of the Revised TPP. In addition, information on the costs paid from the base rate and the costs that have been or will be recovered through the PPCA and on whether any shortfall or carry over of funds from one fiscal year to the next are anticipated is discussed in Section 8.0 of the Revised TPP.

**WHEREFORE**, LUMA respectfully requests that the Energy Bureau **take notice** of the aforementioned, **accept** and **approve** the Revised TPP submitted herein in Exhibit 1 as required under the November 29<sup>th</sup> Resolution and Order; **accept** the additional information included in Exhibit 1 in response to the information requested under the November 29<sup>th</sup> Resolution and Order; and **deem** LUMA in compliance with the information requirements of the November 29<sup>th</sup> Resolution and Order.

**RESPECTFULLY SUBMITTED.**

In San Juan, Puerto Rico, this 20<sup>th</sup> day of December 2023.

We hereby certify that we filed this Motion using the electronic filing system of this Energy Bureau and that we will send an electronic copy of this Motion to the attorney for PREPA at [jmarrero@diazvaz.law](mailto:jmarrero@diazvaz.law) and [lionel.santa@prepa.pr.gov](mailto:lionel.santa@prepa.pr.gov); the Independent Office for Consumer Protection at [hrivera@jrsp.pr.gov](mailto:hrivera@jrsp.pr.gov); and [agraitfe@agraitlawpr.com](mailto:agraitfe@agraitlawpr.com), [info@sesapr.org](mailto:info@sesapr.org), [bfrench@veic.org](mailto:bfrench@veic.org), [shanson@veic.org](mailto:shanson@veic.org), [evand@sunrun.com](mailto:evand@sunrun.com), [jordgraham@tesla.com](mailto:jordgraham@tesla.com), [forest@cleanenergy.org](mailto:forest@cleanenergy.org), [customerservice@sunnova.com](mailto:customerservice@sunnova.com), [javrua@sesapr.org](mailto:javrua@sesapr.org), [pjcleanenergy@gmail.com](mailto:pjcleanenergy@gmail.com), and [mrrios@arroyorioslaw.com](mailto:mrrios@arroyorioslaw.com).



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*Exhibit 1*

*Revised TPP*



# Transition Period Plan for Energy Efficiency and Demand Response

December 20, 2023  
NEPR-MI-2022-0001



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# 1.0 Introduction

LUMA is committed to working with the Puerto Rico Energy Bureau (Energy Bureau) to build a more reliable, and resilient energy system for the people of Puerto Rico. As the grid operator, LUMA is responsible for helping to implement Puerto Rico's public energy policy, including critical customer initiatives such as Energy Efficiency (EE) and Demand Response (DR) Programs, that are required by law and mandated by the Energy Bureau.

The information included in this report represents LUMA's Updated Transition Period Plan for EE and DR and summarizes LUMA's proposed portfolio of programs designed to achieve objectives established in the regulations for Energy Efficiency and Demand Response by the Energy Bureau.

## 1.1 Background

### WHY ENERGY EFFICIENCY PROGRAMS?

An important component of Puerto Rico's Recovery & Transformation is growing the market for EE and DR products and services. Investments in EE and DR can provide benefits to Puerto Rico by reducing electricity bills and business operating costs, creating local jobs, reducing dependence on imported fuel, bolstering grid reliability, reducing emissions, and eventually contributing to lower utility infrastructure costs.

However, there are widely known barriers to customer adoption and investment in energy efficiency technologies:

- **Lack of Information.** Customers often lack adequate information about how they consume energy and the best ways to reduce consumption within the limited resources customers have available to invest in building improvements.
- **Service Provider Expertise.** Customers have trouble finding local contractors with adequate knowledge and training in energy efficiency equipment and installation practices.
- **High Upfront Cost.** Customers often lack access to capital to cover the higher upfront cost of energy efficiency equipment and services.

Energy Efficiency Programs help overcome these barriers to adoption in several important ways, by providing:

- **Education** and information to raise awareness of energy use and opportunities to reduce electricity bills, leading to increased demand for energy efficiency products and services.
- **Training** and resources for contractors and service providers on efficient technologies and building practices.
- **Incentives** and financing that reduce the upfront cost of products and services.

In this Transition Period Plan, LUMA outlines the first steps in launching programs that will begin to address these barriers to customer adoption and advance the energy efficiency marketplace in Puerto Rico. However, in addition to the general barriers to adoption listed above, there are numerous additional local considerations and barriers to adoption in Puerto Rico. We discuss these considerations in the following section to provide greater context for stakeholders.

### Value of Energy Efficiency and Demand Response Programs

- Reduces electricity bills and business operating costs
- Helps improve grid reliability and reduce infrastructure costs
- Creates local jobs
- Reduces dependence on imported fuel
- Helps improve grid reliability and reduce infrastructure costs

## LOCAL CONSIDERATIONS AND BARRIERS

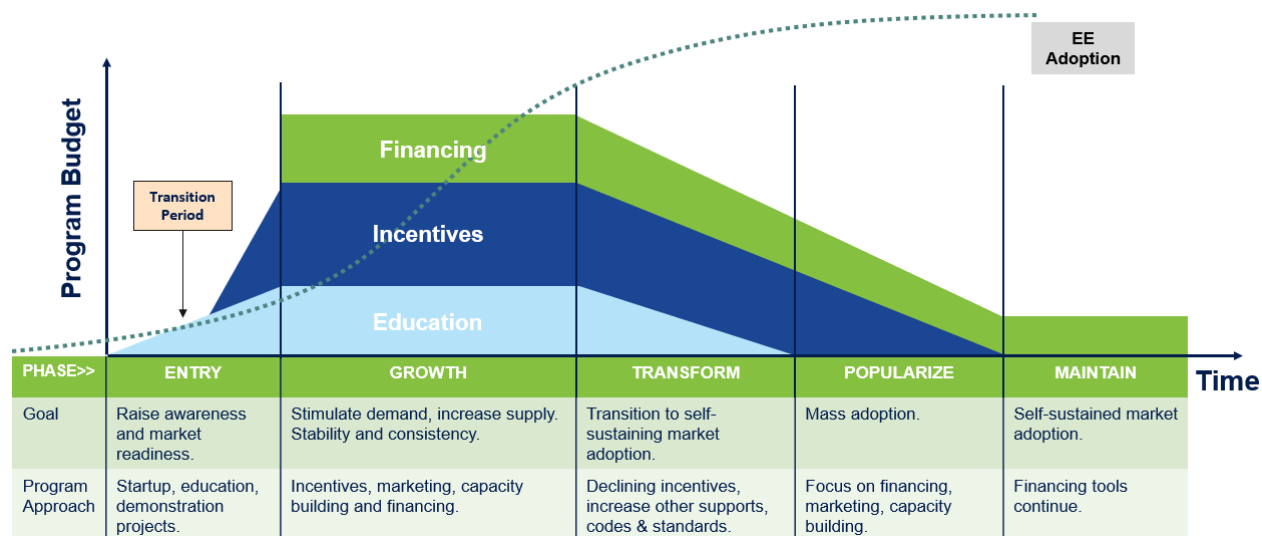
It is LUMA's goal to launch and deliver new programs for Puerto Rico that will increase economic activity, help create jobs and grow local businesses, while improving the bottom line of households, businesses, and industry. These are ambitious goals that will take significant time and investment to achieve in Puerto Rico. The size and scope of Puerto Rico's energy efficiency programs will be limited by practical considerations of program implementation during the next few years. These considerations are related to an additional set of unique barriers to EE adoption in Puerto Rico:

- **New Market.** The energy efficiency market in Puerto Rico is in its infancy. The market needs to be developed by first stimulating demand for products and services through customer education and incentives, which will in turn create the need for additional trained and certified energy-efficient products and service providers.
- **State of the T&D System.** The current and near-term state of reliability and generation resource adequacy of the electricity system leaves customers asking first-and-foremost for reliable power. This context creates challenges for LUMA in communicating about energy efficiency and demand response in a way that will resonate with customers who are experiencing frequent outages and load shedding events.
- **EE Program Delivery Experience.** Mass-market energy efficiency incentive programs are complex to administer and have never been offered in Puerto Rico. Because of this complexity, large-scale EE programs are typically delivered through "Implementation Contractors" that are experts in the design and delivery of EE programs; however, there are no experienced implementation contractors currently in operation on the island. LUMA has engaged an implementation contractor in the delivery of Transition Period Programs (TPP), however, these contractors require time to establish effective operations in Puerto Rico.
- **Information and Awareness.** Energy efficiency literacy in Puerto Rico needs improvement to understand the benefits of EE technologies to the degree necessary to motivate investments. EE incentive programs typically cover 30-50% of the incremental cost of EE equipment. Significant investment is still required from customers, who are less willing to invest if they do not fully understand the return on their investment. There are few widely available local resources for such energy information. Building and equipment characteristics and energy use patterns differ significantly from those in the mainland United States, meaning that solutions and resources that work in the mainland may not be applicable in Puerto Rico.
- **Local Workforce.** Energy efficiency programs rely on a network of trained, certified local contractors and engineers to conduct energy assessments, identify upgrade opportunities and properly install equipment. This is a significant opportunity for local jobs and workforce development. However, there are currently few Puerto Rican contractors with any type of energy assessment or building science training and certification. Customers often locate qualified contractors through training/credentialing organizations like LEED and Building Performance Institute (BPI), though these organizations show few if any contractors listed in their directories for Puerto Rico. The training and oversight provided by these organizations ensure that customers are not vulnerable to false-advertising and poor workmanship.
- **Availability of technology and materials.** Highly efficient equipment and appliances are not widely available in Puerto Rico. Many local stores do not carry energy efficiency appliances offered in the mainland US. It can also be difficult and expensive to ship equipment from the mainland.

- **Fuel Costs.** Puerto Rico relies on imported fossil fuels for power generation, which are subject to volatile global price dynamics, and are more than twice as high as average rates in the mainland U.S. Any increase in electricity cost feels extraordinarily burdensome for consumers, leaving little appetite for ratepayer funded EE programs, especially when customers do not fully understand the benefits.
- **Demographics.** Energy efficiency requires customer investment (even with incentive programs), however approximately 50% of housing units in Puerto Rico are living at or below the poverty line, with little disposable income to invest in EE.
- **Financial.** PREPA is still in bankruptcy with over \$9 billion in debt, and a viable plan for emerging from debt is still unclear. This has resulted in a lack of access to capital for upgrading LUMA's technology and systems.
- **Enabling Technology.** LUMA operates outmoded legacy IT OT and billing systems that do not allow for advanced EE/DR capabilities such as Time of Use (TOU) rates or on-bill financing. The utility does not have an advanced metering infrastructure (AMI) network or interval meters, which are important enabling technologies for many EE and demand response (DR) programs. The legacy IT and telecommunications systems and networks still face a level of damage, disrepair and underinvestment that severely limits data traffic and communications, impacting the utility's ability to provide enhanced customer service or control the grid.

All these factors present significant challenges to creating a robust market for EE products and services and must be addressed over time in order to achieve Puerto Rico's ambitious savings goals. Long-term solutions require collaborative approach and LUMA is committed to working with the Energy Bureau and the dedicated local stakeholders to accelerate adoption of EE technologies in Puerto Rico. Figure 1.1 depicts LUMA's vision for the long-term transformation of the EE products and services market in Puerto Rico, accelerated by education, incentive, and financing programs.

**Figure 1.1. Energy Efficiency Market Transformation Roadmap**





## 1.2 LUMA's Transition Period Plan Summary

In response to the Energy Bureau's Resolution and Order of November 29, in Docket NEPR-MI-2022-0001, LUMA is pleased to present the updated Transition Period Plan (TPP) for Energy Efficiency and Demand Response programs. To facilitate the smooth ramp-up of programs, a "Transition Period" has been established by the Energy Bureau to build market readiness prior to beginning a full-scale, comprehensive portfolio delivered on a standard 3-year program cycle.

### TPP UPDATE

The TPP was originally planned for delivery over a two-year Transition Period corresponding to LUMA fiscal years of July 1, 2022, to June 30, 2023 (Year 1) and July 1, 2023, to June 30, 2024 (Year 2). The launch and delivery of the rebate programs in Year 1 was conditional upon receiving funding for customer rebates. However, the EE Rider charge, which is a mechanism that provides for the cost recovery of all expenses associated with the implementation and administration of energy efficiency programs operated by or on behalf of PREPA to fund the program was not approved during Year 1. Instead, by Resolution and Order of July 31, 2023, the Energy Bureau determined that the cost of DR programs would not be part of the EE rider and ordered LUMA to contemplate the DR programs as part of the proposal of factors corresponding to the purchase power charge adjustment ("PPCA") mechanism and by Resolution and Order of August 1, 2023, ordered LUMA to submit certain costs of the Emergency DR program to be recovered through the PPCA. LUMA submitted these estimated costs on August 11, 2023, and the Energy Bureau approved them by Resolution and Order of August 29, 2023. In addition, by Resolution and Order of September 29, 2023, the Energy Bureau determined that the EE programs would be recovered through the base rate revenues rather than an EE rider and \$11,531,250 million were allocated by the Energy Bureau to LUMA for these programs in FY2024. Given this delay in program funding, LUMA was unable to launch programs or begin most of the activities required to prepare for program launch until August 2023. In November 2023 LUMA requested an additional one-year extension to the Transition Period in order to allow sufficient time to deliver the rebate programs and gain lessons learned prior to beginning the Three-Year Plan cycle. Approval of this request will help ensure the long-term success of the EE and DR programs to be included in the first Three-Year Plan, as well as attract more DR Aggregators and customers to enroll on the Customer Battery Energy Sharing (CBES) program.

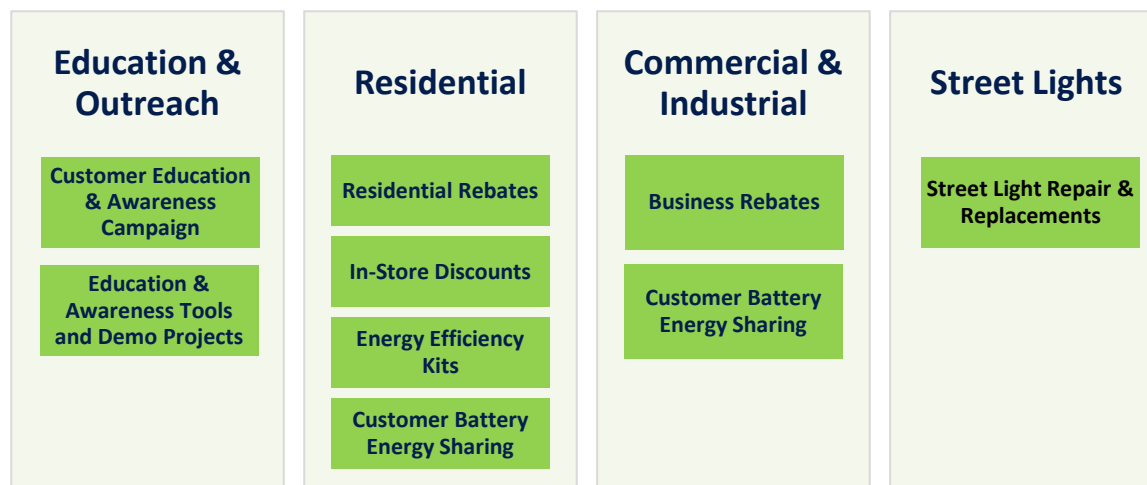
This Plan provides a revision to the TPP, reflecting the delayed start of Year 1 (now August 9, 2023 to June 30, 2024) and the extension of the Transition Period for an additional fiscal year from July 1, 2024 to June 30, 2025 (now Year 2).

### UPDATED TPP PORTFOLIO

LUMA's TPP proposed a portfolio of quick-launch programs that provide opportunities for customers to participate across sectors and have the potential to be scaled up and enhanced as funding is increased. Figure 1-2 below shows the breakdown of programs in the TPP. The EE/DR portfolio is composed of various quick-launch programs and initiatives, each of which is intended to be expanded after the Transition Period. The TPP quick-launch programs will provide a greater understanding of the Puerto Rico market, customer needs and preferences, and how best to address barriers to adoption across LUMA's broad customer mix.



Figure 1-2. Transition Period EE and DR Portfolio



LUMA plans to launch the Residential Rebates program in Q3 of FY24 alongside a new Energy Efficiency Kit program. The EE Kit program was added to the portfolio as an opportunity to provide basic EE measures free of charge to a larger number of customers. Based on consultation with LUMA's implementation contractor, it was determined that the EE Kit Program will be quicker to launch than the In-Store Discount Program for Year 1. The EE Kit Program will also reach a wider audience than the Residential Rebates program and may help to raise interest and awareness of the Residential Rebates program. LUMA will expand and enhance the Education & Outreach Program in FY24, which is designed to foster a culture of conservation and sustainability, while increasing customer knowledge and awareness of the opportunities and benefits of energy efficiency and demand response. The program will provide informational resources and demonstration projects to raise awareness of EE technologies and benefits such as energy bill savings. LUMA also plans to launch the Business Rebates Program in Q4 of FY24. LUMA will conduct program development and retailer recruiting activities for the In-Store Discount Program in Q4 of Program Year 1 in advance of program launch in Q1 of Program Year 2. Detailed program launch timelines are provided for each program in Section 4.

In selecting the programs for the TPP, LUMA was mindful of the overarching goal of 30% improvement in energy efficiency by 2040, from the Puerto Rico Energy Transformation and Relief Act and the Puerto Rico Energy Public Policy Act.<sup>1</sup> The TPP is designed as a starting point to begin contributing toward achieving these targets. This TPP portfolio was designed to include programs that could be launched quickly, to achieve savings at the scale of 0.25% per year. Table 1-1 below summarizes the estimated costs to reach the savings targets for years 1 and 2 of the TPP for both EE and DR programs.

Table 1-1. Summary of Program Savings and Cost Estimates

	Program Year 1 (FY24)	Program Year 2 (FY25)
Total Estimated Annual Savings (MWh)	33,219	38,961
Total Estimated Annual Peak Demand Savings (MW)	42.1	45.0

<sup>1</sup> Act No. 57-2014 and Act No.17-2019.

Total Estimated GHG Savings (MT CO <sub>2</sub> )	294,021	342,700
Total Energy Efficiency Program Cost (\$M)	\$11.5	\$13.7
Total Demand Response Program Cost (\$M)	\$5.0	\$5.0
<b>Total Program Costs (\$M)</b>	<b>\$16.5</b>	<b>\$18.8</b>

## 2.0 Overview of Transition Period Program

The objective of this section is to provide a high-level overview of LUMA's Transition Period Plan (TPP) and procedural history of the Energy Efficiency and Demand Response Proceeding.

### 2.1 Overview of “Transition Period”

The implementation of Energy Efficiency programs and Demand Response Programs requires a coordinated effort to train specialized contractors, engage vendors, raise customer awareness, and prepare the market and utility for program launch. To facilitate the ramp-up of programs, a “Transition Period” has been established in accordance with the Energy Bureau Resolutions and Orders and LUMA proposals described above to accommodate the required market transformation and learning efforts prior to beginning a full-scale, comprehensive portfolio delivered on a standard 3-year program cycle.

On December 10, 2020, the Energy Bureau issued a Resolution approving the Regulation for Demand Response (“Regulation for DR”). The Regulation for DR requires that PREPA or its successor, LUMA, file with the Energy Bureau a Three-Year Demand Response Plan (“Three-Year DR Plan”) within six months of its effective date of the regulation and provides that the Energy Bureau shall establish the filing deadline for the Three-Year DR Plan by order or resolution. See Regulation on DR, Section 3.02(C)(1)(a).

On April 21, 2021, the Energy Bureau issued a Resolution and Order in case NEPR-MI-2021-0006 (“DR Proceeding”) scheduling a Technical Conference to discuss the Three-Year DR Plan. After other procedural events, the Technical Conference was held on June 15, 2021, wherein the timeline for development and implementation of the Three-Year DR Plan was discussed. LUMA provided a presentation during the workshop in which it proposed an integrated EE-DR development approach and extended timeline for implementation given the lack of baseline and potential studies and unavailability of a PR Cost Test.

On January 21, 2022, the Energy Bureau issued a Resolution approving the Regulation for Energy Efficiency. The EE Regulation establishes orders for PREPA or its successor, LUMA, to design and implement energy efficiency programs to achieve the statutory efficiency goal. The EE Regulation requires that LUMA:

- Develop and file a Transition Period Plan to implement quick-launch transition programs during a two-year transition period (“Transition Period Plan”) with the Energy Bureau by March 1, 2021, to cover the period from July 1, 2022, through June 30, 2024 (see EE Regulation, Section 2.01); and
- Develop and file with the Energy Bureau a Three-Year Energy Efficiency Plan (“Three-Year EE Plan”) to be implemented over a three-year program implementation period following the undertaken in the Transition Period Plan, covering the period from July 1, 2024, through June 30, 2027, and each next three-year period (see EE Regulation, Sections 4.02 and 4.03).

On February 1, 2022, the Energy Bureau issued a Resolution and Order in case NEPR-MI-2021-0006 detailing the actions to follow the approval of the EE Regulation, establishing a revised schedule for the Three-Year DR Plan and the EE Transition Period Plan and addressing matters related the coordination of the processes to implement the EE Regulation and the Regulation for DR, while also expanding the scope of that proceeding to consider EE and DR together. The Energy Bureau established a deadline to submit the Three-Year DR Plan and the EE Transition Period Plan for June 6, 2022, both covering the period from October 1, 2022 to June 30, 2024. The Energy Bureau also scheduled a Technical Workshop to consider various actions, including to prepare a Transition Period Plan for EE and DR and provided a template for the Transition Period Plan. Accordingly, during the Technical Workshop, held on March 9, 2022, LUMA indicated it would be submitting an integrated EE and DR Transition Period Plan included in a joint filing to minimize redundancy and present integrated EE/DR portfolio structures.

On June 8, 2022, the Energy Bureau issued a Resolution and Order granting a request for extension to submit the EE and DR Transition Period Plan of fifteen days, until June 21, 2022, and scheduled a Workshop to discuss this Plan, obtain feedback from participants and answer Energy Bureau questions. This document was prepared as the proposed EE/DR Transition Period Plan to be filed by the June deadline and to be discussed in the Workshop.

On June 21, 2022, LUMA filed with the Energy Bureau, in the DR Proceeding, a proposed EE/DR Transition Period Plan ("Proposed TPP") containing the description of various EE and DR programs to be implemented by LUMA during the Transition Period and associated budgets for Fiscal Years ("FY") 2023 and 2024. In the Proposed TPP, LUMA informed that (i) the Proposed TPP was designed to build market readiness and customer awareness prior to the launch of full scale EE and DR programs (ii) quick start programs and initiatives would be expanded following the TPP when full scale program implementation begins and (iii) the Proposed TPP is meant to test and refine programs before full-scale implementation, to provide greater understanding of customer preferences and market readiness and help LUMA understand internal organization and operational requirements required to effectively administer EE and DR programs.

Following other procedural events, on February 16, 2023, the Energy Bureau issued a Resolution and Order (the "February 16<sup>th</sup> Resolution and Order") Docket NEPR-MI-2022-0001 where it considered, amended, and approved the Proposed TPP (the Proposed TPP, as approved by the Energy Bureau, the Approved TPP).

After the Energy Bureau approved the Proposed TPP, many procedural and other events ensued. LUMA and the Government of Puerto Rico collaborated in a joint effort to allocate the necessary funding for the implementation of EE/DR programs. By Resolution and Order of July 31, 2023, the Energy Bureau determined that the cost of DR programs would not be part of the EE Rider and ordered LUMA to contemplate the DR programs as part of the proposal of factors corresponding to the purchase power charge adjustment ("PPCA") mechanism and by Resolution and Order of August 1, 2023, ordered LUMA to submit costs of the Emergency DR program to be recovered through the PPCA. LUMA submitted these estimated costs on August 11, 2023, and the Energy Bureau approved them by Resolution and Order of August 29, 2023. In addition, by Resolution and Order of September 29, 2023, the Energy Bureau determined that the EE programs would be recovered through the base rate revenues rather than an EE rider. Also, on September 22, 2023, the Energy Bureau issued a Resolution and Order in Case In re LUMA's Initial Budgets, Case No. NEPR-MI- 2021-0004 whereby, in pertinent part, it decided that the

costs of the EE Programs of the Approved TPP would be recovered through base rate revenues, rather than through the EE Rider.

During this period, LUMA accomplished various milestones in compliance with the Energy Bureau's orders. LUMA executed five Master Aggregation Agreements with Demand Response Aggregators (DR Aggregators), enrolled customers in its Customer Battery Energy Sharing Program (CBES) and issued the first Event Notice to DR Aggregators requesting the dispatch of all enrolled batteries. The first event dispatched roughly 500 batteries, representing approximately 2.1 MW of capacity. Additionally, LUMA has filed Quarterly and Annual Reports on the progress of EE and DR programs.

On October 30, 2023, LUMA filed a motion requesting the Energy Bureau to extend for an additional fiscal year the Approved TPP and to extend by one year the deadline to file the EE and DR Three-Year Plan, with the same cadence of quarterly and annual reporting as in the Approved TPP and associated one-year delays in other milestones for the preparation of a draft Three Year Plan and stakeholder engagement regarding that plan.

On November 29, 2023, the Energy Bureau issued a Resolution and Order ("November 29<sup>th</sup> Order") in which it granted LUMA's request to extend the Approved TPP by one year, to June 30, 2025, and to delay the schedule (including all required drafts and stakeholder engagement processes) for the Three-Year EE and DR Plan by one year, so that the Three-Year Plan shall be filed by March 1, 2025. In the November 29 Order, the Energy Bureau also ordered LUMA to file by December 8, 2023, the following:

- A revised version of the [Approved TPP] document, reflecting the adjusted timeframe, LUMA's most up to date program plans, and any other updates required to convey an accurate summary of LUMA's current EE and DR plans.
- LUMA's most recent available schedule for the launch of EE programs, including which measures and market sectors will be targeted by each program, extending through the extended TPP (June 30, 2025).
- EE and DR program expenditures for FY2023, categorized by market sector and purpose in accordance with Table 2-3 of [the Proposed/Approved TPP], namely: Low-Income Residential; Non -Low-Income Residential; Small Business; Government/Public; Other Commercial/Industrial and Agricultural; Education and Outreach Program; and Cross-Cutting Planning, Admin, & Startup.
- EE Program costs for FY2024 and FY2025, categorized by market sector and activity (where activities are programs such as rebates, in-store discounts, direct installations, or other program implementation strategies, as well as education/outreach and planning/admin/startup costs), similar to Table 3-3 of the Proposed/Approved TPP]. For FY2024, LUMA shall distinguish between expended funds as of the most recent available date and expected expenditures for the remainder of the year.
- DR Program costs for FY2024 and FY2025, categorized by market sector and activity (where activities are programs such as rebates, in-store discounts, direct installations, or other program implementation strategies, as well as education/outreach and planning/admin/startup costs), similar to Table 3-3 of the Proposed/Approved TPP]. [...] For FY2024, LUMA shall distinguish between expended funds as of the most recent available date and expected expenditures for the remainder of the year.
- In each of its annual cost reports and projections, LUMA shall separate costs paid from the base rate from costs that have been or will be recovered through the PPCA. LUMA

shall identify any expected shortfall of funds (and when it is expected to occur) as well as any funds that may be carried over from one fiscal year to the next (or which LUMA would desire to carry over from one year to the next).

- In each of its annual cost reports and projections, LUMA shall separate costs paid from the base rate from costs that have been or will be recovered through the PPCA. LUMA shall identify any expected shortfall of funds (and when it is expected to occur) as well as any funds that may be carried over from one fiscal year to the next (or which LUMA would desire to carry over from one year to the next).

On December 7, 2023, LUMA requested the Energy Bureau to extend the deadline to submit the information required of LUMA under the November 29<sup>th</sup> Resolution and Order until December 20<sup>th</sup>, 2023.

On December 12, 2023, the Energy Bureau issued a Resolution and Order granting LUMA's request and extending until December 20, 2023, the deadline to submit the revised version of the Approved TPP ("Updated TPP") and other information required under the Order issued on November 29, 2023. In compliance with the Energy Bureau's orders, this document is the Updated EE/DR Transition Period Plan or Updated TPP. In this Updated TPP, all of the information required under the November 29<sup>th</sup> Order is included.

## 2.2 Summary Description of Transition Period Plan

LUMA has developed a Transition Period Plan (TPP) which is comprised of a portfolio of energy efficiency, demand response and education and outreach programs. The primary objective of this TPP is to quickly launch EE and DR programs and projects that raise awareness of energy efficiency and begin contributing towards Puerto Rico's energy reduction targets.<sup>2</sup> These programs will target energy savings of roughly 0.25% of annual MWh sales each year.

This Plan provides a portfolio of programs designed to achieve objectives established in The *Regulation for Energy Efficiency* (EE Regulation)<sup>3</sup>. The structure of the TPP follows the Templates required by *Resolution and Order: Notice of Revised Transition Period Plan Schedule, Workshop, and Plan Template*<sup>4</sup>. The remainder of the TPP is organized as follows:

- **Section 2** presents a summary of the TPP and the process used to develop it.
- **Section 3** presents summary information of the estimated energy savings and program costs.
- **Section 4** presents a detailed description of each program.
- **Section 5** presents an overview of program management and implementation strategies.
- **Section 6** presents an overview of program reporting and tracking systems.
- **Section 7** presents an overview of quality assurance, and evaluation, measurement and verification (EM&V) processes.
- **Section 8** presents a description of program costs, funding sources and cost recovery mechanisms.

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<sup>2</sup> Puerto Rico Energy Public Policy Act, Act No. 17-2019 (S. B. 1121), 5<sup>th</sup> Regular Session, 18<sup>th</sup> Legislative Assembly of Puerto Rico

<sup>3</sup> PREB, NEPR-MI-2021-0005, *Regulation for Energy Efficiency*, 21 January 2022

<sup>4</sup> PREB, NEPR-MI-2021-0006, *Resolution and Order: Notice of Revised Transition Period Plan Schedule, Workshop, and Plan Template*, 1 February 2022

- **Section 9** presents a discussion of how the TPP complies with regulatory and policy goals

## 2.3 Summary Description of Process to Develop TPP

LUMA has taken a strategic and systematic approach to the development of the TPP portfolio to contribute to Puerto Rico's energy and sustainability goals. We have included quick-launch programs that have the potential to be scaled up and enhanced as funding is increased. We have chosen a suite of measures across the portfolio that provide opportunities for customers to participate across sectors and geographies.

The traditional data-driven approach to developing Energy Efficiency Portfolio Plans begins with conducting a "Market Baseline Study," which is an extensive study of current building conditions and equipment specifications. Data collected from the Baseline Study is then used in an accompanying "Market Potential Study" to model the total achievable, cost-effective energy savings given current market conditions and constraints. Incentive and financing programs are then designed to acquire the energy savings opportunities identified in these studies.

The Energy Bureau is currently conducting the first Market Baseline and Potential Studies for Puerto Rico, which will provide a wealth of information to guide future program design and planning. However, this data was unavailable to guide the development of the TPP programs through the traditional process outlined above. For this reason, LUMA has based its program designs on the technical expertise of internal staff and that of its consultant, Guidehouse, as well as external stakeholders. Initial program research and development also leveraged information from published resources in Puerto Rico as well as Program Plans and Technical Reference Manuals from other jurisdictions.

In selecting programs to include in the TPP, LUMA incorporated stakeholder feedback received at the Technical Workshop of March 9, 2022, where LUMA presented its planning process, progress to date on the TPP and suite of proposed programs. These programs were selected to launch quickly and fill gaps in the market currently unserved by other local programs such as the Weatherization Assistance Program and others offered by the Department of Economic Development and Commerce.<sup>5</sup>

The completion of the Baseline and Potential Studies and annual evaluation of the Transition Programs will expand the available data and generate lessons learned that can be incorporated into LUMA's continuous improvement approach in the delivery of the TPP programs. As part of the continuous improvement process depicted in Figure 2-1 below, LUMA will make ongoing adjustments, as needed, to the eligible measure lists, incentive levels and other program elements in response to market conditions, customer uptake, and stakeholder feedback, while maintaining stable program offerings to avoid market confusion.

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<sup>5</sup> <https://refuerzoeconomico.com/>



Figure 2-1. Continuous Improvement Cycle of Program Development



## 2.4 Summary Tables of Savings Targets and Estimated Program Costs

Section 2.02 of the EE Regulation sets non-binding energy savings targets to reduce consumption by 0.25% of annual MWh sales for the remainder of the Transition Period. Table 2-1 below shows the resulting savings targets in MWh for each year of the TPP. The Year 1 Savings Goals represent only three-quarters of the program year, which has been pro-rated to reflect the budget approval date.

Table 2-1. Summary of Savings Targets by Sector as Required by EE Regulation

Market Sector	FY2024 Sales Forecast (MWh)	Year 1 Savings Goal (MWh): 0.25% of Sales	FY2025 Sales Forecast (MWh)	Year 2 Savings Goal (MWh): 0.25% of Sales
<b>Residential Sector</b>	<b>7,159,654</b>	<b>13,424</b>	<b>6,335,559</b>	<b>15,839</b>
Low-Income	968,363	1,816	856,902	2,142
Non-Low-Income	6,191,291	11,609	5,478,657	13,697
<b>Commercial, Industrial and Agriculture (C&amp;I) Sector</b>	<b>9,360,683</b>	<b>17,551</b>	<b>9,218,501</b>	<b>23,046</b>
Small Business	2,080,623	3,901	2,049,020	5,123
Government/Public <sup>1</sup>	n/a	n/a	n/a	n/a
<b>Portfolio Total</b>	<b>16,520,337</b>	<b>30,976</b>	<b>15,554,060</b>	<b>38,885</b>

- 1) LUMA does not have a rate class for government or data which disaggregates this segment from C&I. As a result, LUMA has not disaggregated targets or savings for government/public sector. This segment is also targeted by other programs and is not a priority target market for LUMA's Transition Period programs.
- 2) LUMA has assumed that there will be no savings achieved for the Education and Outreach Program in year 1 and year 2.

Table 2-2 shows the energy and peak demand savings by market sector for the TPP during Program Years 1 and 2.

**Table 2-2. Planned Energy and Peak Demand Savings by Market Sector for TPP**

Market Sector	Program Year 1			Program Year 2		
	Annual Electricity Savings (MWh)	Lifetime Electricity Savings (MWh)	Peak Demand Savings (MW)	Annual Electricity Savings (MWh)	Lifetime Electricity Savings (MWh)	Peak Demand Savings (MW)
<b>Residential Sector</b>	<b>15,667</b>	<b>192,321</b>	<b>37.4</b>	<b>20,357</b>	<b>244,166</b>	<b>40.0</b>
Low-Income	1,896	21,165	4.4	2,463	26,871	5
Non-Low-Income	13,771	171,155	33.0	17,893	217,294	35
<b>Commercial, Industrial and Agriculture (C&amp;I) Sector</b>	<b>17,551</b>	<b>189,484</b>	<b>4.7</b>	<b>18,604</b>	<b>200,853</b>	<b>5.0</b>
Small Business	3,951	42,655	1.1	4,188	45,215	1.1
Other Commercial/ Industrial and Agricultural Sector	13,600	146,828	3.6	14,416	155,638	3.9
Government/Public	n/a	n/a	n/a	n/a	n/a	n/a
<b>Portfolio Total</b>	<b>33,219</b>	<b>381,805</b>	<b>42.1</b>	<b>38,961</b>	<b>445,018</b>	<b>45.0</b>

Table 2-3 shows the estimated program costs to achieve the savings targets above by market sector for each of the program years of the TPP and includes both EE and DR program costs.

**Table 2-3. Program Costs by Market Sector for Transition Period Programs**

Market Sector	Program Year 1		Program Year 2	
	Program Implementation Costs (\$M) <sup>1</sup>	Participant Costs (\$M) <sup>2</sup>	Program Implementation Costs (\$M) <sup>1</sup>	Participant Costs (\$M)
<b>Residential Sector</b>	<b>\$10.0</b>	<b>\$27.0</b>	<b>\$11.3</b>	<b>\$30.4</b>
Low-Income	\$3.1	6.2	\$3.5	7.0
Non-Low-Income Residential	\$6.9	20.8	\$7.8	23.4
<b>Commercial/Industrial and Agricultural Sector</b>	<b>\$4.2</b>	<b>\$12.7</b>	<b>\$4.5</b>	<b>\$13.4</b>
Small Business	\$0.9	2.8	\$1.0	3.0
Other Commercial/ Industrial and Agricultural Sector	\$3.3	9.8	\$3.5	10.4
Government/Public	n/a	n/a	n/a	n/a
<b>Education and Outreach Program</b>	<b>\$1.1</b>	<b>n/a</b>	<b>\$1.5</b>	<b>n/a</b>
<b>Cross-Cutting Planning, Admin &amp; Evaluation</b>	<b>\$1.1</b>	<b>n/a</b>	<b>\$1.5</b>	<b>n/a</b>
<b>Portfolio Total</b>	<b>\$16.5</b>	<b>\$39.6</b>	<b>\$18.8</b>	<b>\$43.8</b>

1. Program Implementation costs include administration, rebates to customers or contractors, marketing, and EM&V.
2. Participant costs are defined as including customer share of total project costs; costs incurred by customers to implement measures in a project. The EE measure rebates for Business have been largely structured as per the rebate offering from Hawaii Energy for similar EE program. The Hawaii rebate catalogue (accessed on May 22, 2022,



<https://hawaiienergy.com/images/for-business/PY21/rebate-summary-sheet.pdf>) does not provide full project or participant costs but provides only rebate per measure. Additionally, limited market outreach was conducted to seek this information from local contractors who could provide equipment cost information for lighting and water heating measures only. No data was available on project installation/labor, engineering design and other costs that would be incurred by participants. As a result, the total participant costs in the table are understated as they only reflect the portion of the purchase price of the measure cost a participant would incur.

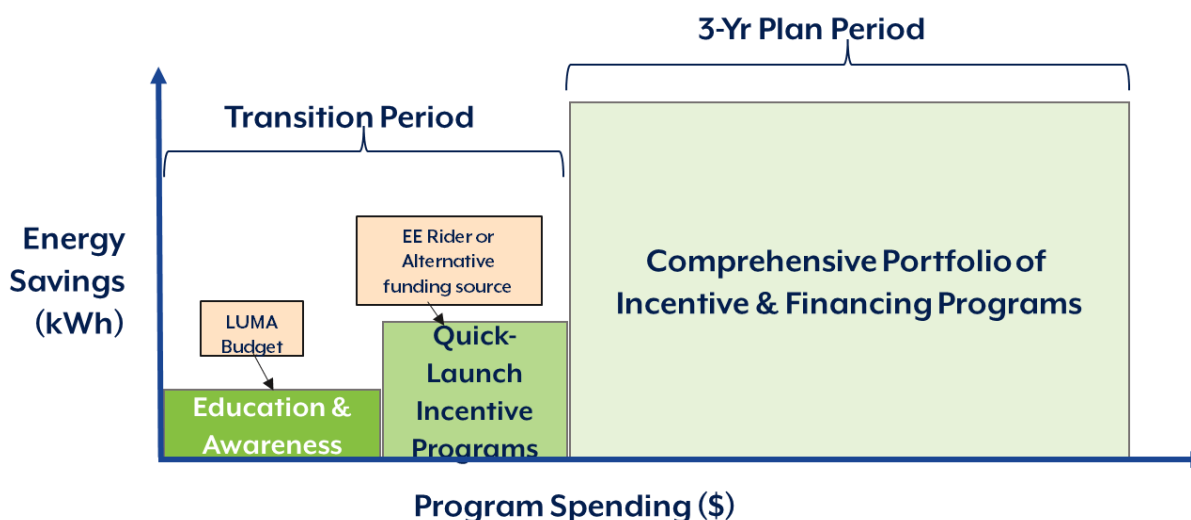
For DR, LUMA did not assume any participant costs. Only manual DR is considered for the two Large C&I DR programs, which are the Emergency and Economic DR programs. For the Battery DR program, customers are assumed to already own a battery, so the cost of the battery is not part of the DR program.

3. Programs that target low-income customers are a subset of residential market sector and are reported separately.
4. Programs that target small business and government/public sector customers are a subset of the commercial/industrial/agriculture market sector and are reported, separately, where possible. LUMA does not have a rate class for government or data which disaggregates this segment from C&I. As a result, LUMA has not disaggregated targets or savings for government/public sector.

## 2.5 Summary of Proposed Funding Sources

A reliable and long-term source of funding is required for successful planning and delivery of energy efficiency programs to meet Act 17 objectives. LUMA has investigated funding sources such as federal funding, which can provide grant funding for individual EE *projects*, but do not provide funding directly to utilities for the ongoing operation of EE *programs*. Utility-sponsored energy efficiency programs require a stable annual source of funding established by the regulator, recovered through utility rates. Details on funding sources and cost recovery can be found in Section 8.0. Figure 2-2 below presents an illustrative overview of the relationship between funding and program launch. As the savings targets and program funding increase over time, LUMA will introduce additional programs and measures to scale up the portfolio accordingly. LUMA will continue to work with the Energy Bureau, the government of Puerto Rico and the Department of Economic Development and Commerce to gauge other funding sources for the implementation of Energy Efficiency programs for FY2025.

Figure 2-2. Illustrative Overview of Funding Roadmap



## 2.6 Summary of Proposed Program Implementation Schedule

The TPP is designed to test and refine a suite of quick-launch programs and projects before scaling them up to full program operations. The TPP programs will provide a greater understanding of customer

preferences, and local contractor and equipment availability (i.e., “market readiness”). The transition programs will also help LUMA determine internal operational requirements (e.g., IT, billing, call center, etc.) and organizational changes required to effectively administer EE and DR programs. LUMA required time to hire implementation contractors and internal staff, to develop promotional materials and necessary IT systems for rebate processing, and to begin outreach to recruit program participants.

Detailed implementation schedules for each program are presented in Section 4.0 within each Program Description, as the timelines are different for each individual program. Figure 2-3 provides a general overview of the activities that need to be completed after TPP approval and prior to program launch, each of which is discussed further in the following sections.

**Figure 2-3: Overview of Program Launch Activities**



LUMA issued an RFP for a turnkey Implementation Contractor(s) for program delivery during FY23. Once program funding was secured and the Implementation Contractor was selected, LUMA began work with the Implementation Contractor to finalize the program design details (measures, incentives, delivery strategies, etc.) for each program, leveraging the Contractor’s program delivery expertise and limited outreach to local contractors, retailers, and stakeholders.

The Implementation Contractor has been working with LUMA departments such as Customer Experience and IT, to determine which program activities (e.g., marketing, customer service, application processing) need to be conducted via internal systems and which activities the contractor will be required to provide/develop. This work has informed the “Pre-Launch Implementation Planning” process, which included all activities that need to be completed prior to program launch to ensure a smooth, successful program launch and ongoing delivery. See Section 5.0 for more details about LUMA’s program management strategy.

## PROGRAM LAUNCH

Table 2-4 below provides an overview of the launch timeframe for each program. LUMA launched the Education & Outreach program in FY23, providing educational materials, media messaging, and online customer engagement tools, to begin building awareness and “market readiness” for mass-market incentive programs. The Education & Outreach program will be enhanced and expanded by the Implementation Contractor in Program Year 1 and 2. LUMA already launched the Customer Battery Energy Sharing Program (CBES) in Program Year 1, after an accelerated program development effort as ordered by the Energy Bureau.

LUMA plans to launch the Residential Rebate program in Q3 of Program Year 1, followed by the Business Rebates Program in late Q3 or early Q4 of Program Year 1. After discussions with LUMA’s

Implementation Contractor, it was determined that an EE Kit program will be quicker to launch than the In-Store Discount program. During Program Year 1, LUMA will complete additional program design and development activities for the In-Store Discount program in preparation for Year 2 launch. LUMA will maintain flexibility in its approach and launch timing to respond to changing market conditions and unforeseen challenges in program administration and delivery.

**Table 2-4. Program Implementation Schedule**

Program	Program	Launch Timeframe
<b>Education &amp; Outreach Program</b>	Customer Education / Awareness	Program Year 1
<b>Residential Program</b>	Residential Rebates	Program Year 1
	EE Kits	Program Year 1
	In-Store Discounts	Program Year 2
	Customer Battery Energy Sharing DR	Program Year 1
<b>Commercial &amp; Industrial Program</b>	Business Rebates	Program Year 1
	Customer Battery Energy Sharing DR	Program Year 1

## 2.7 Summary of Performance Targets

The Transition Period is an opportunity to learn more about EE and DR markets and program implementation and how to effectively overcome barriers to EE adoption in Puerto Rico. Through testing a range of programs across its customer base, LUMA will track program performance and learnings but will not seek additional revenues for achieving performance targets. LUMA is proposing to defer the identification of performance targets for the delivery of the TPP due to the uncertainty in the timing of when programs can be implemented.

## 3.0 Transition Period Program Summary Tables

The objective of this section is to provide a quantitative overview of the Transition Period Plan energy savings and program cost estimates.

### 3.1 Summary Information on Residential, C&I, Low Income, and Small Business Programs

Table 3-1 presents annual and lifetime electricity savings from EE programs and peak demand savings from both EE and DR programs.

**Table 3-1. Energy and Peak Demand Savings for Transition Period by Program**

Program	Program Year 1			Program Year 2		
	First-Year Annual Electricity Savings (MWh)	Lifetime Electricity Savings (MWh)	Peak Demand Savings (MW)	First Year Annual Electricity Savings (MWh)	Lifetime Electricity Savings (MWh)	Peak Demand Savings (MW)
Residential Rebates	10,902	138,295	6.9	11,556	146,593	7.3
In-Store Discount	n/a	n/a	n/a	4,035	43,547	2.2
EE Kits	4,765	54,026	4.4	4,765	54,026	4.4
Business Rebates	17,551	189,484	4.7	18,604	200,853	5.0
Customer Battery Energy Sharing DR	n/a	n/a	26.2	n/a	n/a	26.2
Education & Outreach	n/a	n/a	n/a	n/a	n/a	n/a
<b>Total Portfolio</b>	<b>33,219</b>	<b>381,805</b>	<b>42.1</b>	<b>38,961</b>	<b>445,018</b>	<b>45.0</b>

## 3.2 Summary Information on Program Costs

Table 3-2 presents a summary of total program cost estimates for Program Year 1 of the Transition Period. See Section 8 for more information on funding.

**Table 3-2. Total Estimated Costs for Program Year 1 by Activity**

Programs	Program Planning and Administration (PP&A) <sup>1</sup>	Participant Incentives <sup>2</sup>	Total Program Budget
Residential Rebates	\$1,476,563	\$2,742,188	\$4,218,750
In-Store Discount	\$100,000	\$0	\$100,000
EE Kits	\$126,700	\$550,000	\$676,700
Business Rebates	\$1,476,563	\$2,742,188	\$4,218,750
Customer Battery Energy Sharing DR	\$755,000	\$4,277,813	\$5,032,813
Education & Outreach	\$1,125,000	\$0	\$1,125,000
Cross-Cutting Planning, Administration & Evaluation Costs <sup>4</sup>	\$1,125,000	\$0	\$1,125,000
<b>Total Portfolio</b>	<b>\$6,184,825</b>	<b>\$10,312,188</b>	<b>\$16,497,013</b>

- 1) Program Planning and Administration (PP&A) includes all the program delivery costs (e.g., FTEs working on EE and DR programs, internal labor, employee expenses, materials, and overhead, vendor-related expenses and legal) except for the incentive budget used to defray the measure costs. The PP&A budget therefore includes marketing, sales, technical assistance and training. The allocation of specific budget for marketing, sales, technical and assistance and training within the PP&A budget will be finalized by LUMA in consultation with the selected implementation contractor. For the purposes of initial budgeting for the TPP and tendering for an implementation contractor, LUMA has allocated each total program budget based on a 65% allocation of the total budget to incentives and 35% to PP&A for the EE programs. Where there are no incentives, 100% of the budget is allocated to PP&A.
- 2) Participant Incentives are defined as including rebates for equipment and mid-stream/up-stream product discounts. For the TPP, the participant incentives are exclusively to defray eligible measure costs. For DR, incentives constitute ongoing participation incentives to enrolled customers for agreeing to reduce/shift load when called. The type and level of incentive varies by program and is stated in the program descriptions in Section 4.0.
- 3) Evaluation, Measurement, and Verification (EM&V) includes costs of market assessment, impact and process evaluations. LUMA has allocated 3% of each total program budget to EM&V, which is a standard practice for EM&V expenditures for third party evaluation.
- 4) Cross-Cutting Planning, Administrative and Startup includes costs that are not directly allocated to individual programs, which are related to preparing new processes and operational systems (IT, application systems, professional services, etc) for program implementation.

Table 3-3 presents a summary of program cost estimates for Program Year 2 of the Transition Period.

**Table 3-3. Total Estimated Costs for Program Year 2 by Activity**

Programs	Program Planning and Administration (PP&A)	Participant Incentives	Total Program Budget
Residential Rebates	\$1,565,156	\$2,906,719	\$4,471,875
In-Store Discount	\$393,750	\$731,250	\$1,125,000
EE Kits	\$126,700	\$550,000	\$676,700
Business Rebates	\$1,565,156	\$2,906,719	\$4,471,875
Customer Battery Energy Sharing DR	\$755,000	\$4,277,813	\$5,032,813
Education & Outreach	\$1,500,000	\$0	\$1,500,000
Cross-Cutting Planning, Administration & Evaluation Costs	\$1,500,000	\$0	\$1,500,000
<b>Total Portfolio</b>	<b>\$7,405,763</b>	<b>\$11,372,500</b>	<b>\$18,778,263</b>

## 4.0 Program Descriptions

Section 4.0 begins with a detailed description of the process used for selecting the TPP programs, followed by a detailed description of each program.

### 4.1 Criteria and Process Used for Selection of Programs

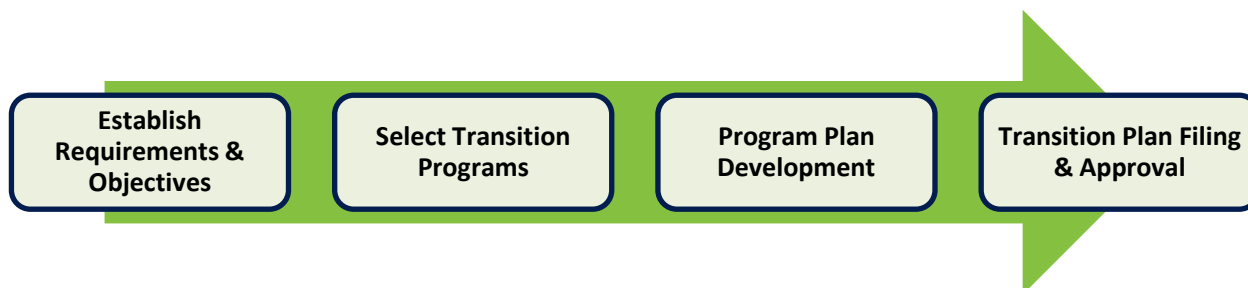
#### PLANNING PROCESS OVERVIEW

The process of planning and designing EE and DR programs traditionally follows a quantitative, data-driven approach involving market research and analysis to determine the most cost-effective programs and measures. This process traditionally begins with a “Market Baseline Study,” which is an extensive study of the efficiency level of current buildings and equipment. Data from the Baseline Study is then used in an accompanying “Market Potential Study” to identify the most cost-effective energy savings opportunities given current market conditions.

However, none of these studies were available to guide the development of this Transition Period Plan. The Energy Bureau will be conducting these Baseline and Potential Studies for Puerto Rico over the coming year(s), which will provide data to guide development of the 3-year energy EE/DR portfolio. For this reason, LUMA employed an alternative approach to selecting programs and measures. LUMA used a qualitative process to identify and select programs that best meet the objectives and requirements set forth in the EE and DR Regulations. Figure 4-1 below outlines the planning process LUMA has used for

identifying and selecting the TPP programs, obtaining the Energy Bureau's approval and launching approved programs. Each of these steps is further detailed in the following sections.

**Figure 4-1. Overview of Transition Period Planning Process**



### ESTABLISH REQUIREMENTS AND OBJECTIVES

To identify program requirements and objectives to guide program selection, LUMA reviewed the Regulation for Energy Efficiency, related Resolutions and Orders from the Energy Bureau, stakeholder and Energy Bureau feedback from the Technical Workshop on EE-DR planning on March 9<sup>th</sup>, 2022 (Technical Workshop) and broader Puerto Rico energy policy objectives. LUMA synthesized this information into a list of primary Transition Period Objectives, shown in Table 4-1, for determining the programs to be included in the TPP. LUMA presented these objectives at the Technical Workshop and received stakeholder feedback on them. No changes to the objectives were suggested.

**Table 4-1. Objectives for EE-DR Program Selection for the TPP**

Category	Transition Period Objectives	Description
<b>Customer</b>	Energy/Bill Savings	Include measures that achieve bill savings or provide education on savings opportunities
	Ease of Participation	Easy for customers to enroll and participate
	Customer Equity/Access	Provide options for low-income and small business customers
<b>Market / Economic</b>	Contribute to Workforce Development	Provide local jobs, training and/or stimulate economic activity for local companies
	Raise Energy Education and Awareness	Provide information to raise customer awareness of benefits of EE/DR and how to participate
	Fill Gaps in Market	Provide services that are not already being offered by other programs (e.g. DDEC programs).
<b>Regulatory</b>	Cost-effectiveness	Programs that are generally known to be cost-effective.
	Quick-Launch Program	Programs that are possible to launch during the Transition Period.
	Savings Potential (scalability)	Programs that have the potential to scale up and achieve high savings to meet IRP targets.
<b>Program Administrator</b>	Timeline/Ease of Implementation	Programs that are not too complex to set up and launch during the Transition Period.
	Market/workforce readiness	Local availability of equipment and/contractors for installation.

## SELECT TRANSITION PERIOD PROGRAMS

LUMA screened a broad range of potential program offerings to identify those that meet the Objectives above. LUMA used a simple prioritization framework to qualitatively value each program's contribution to the key Objectives above. A qualitative prioritization matrix was used to inform program selection, combined with subject matter expert judgement of operational considerations and needs. Figure 4-2 presents the portfolio of programs that resulted.

**Figure 4-2. Transition Period Program Portfolio**



LUMA presented the initial set of programs for discussion at the Technical Workshop. Table 4-2 provides the rationale for the selection of each of the programs proposed to be included in the TPP.

**Table 4-2. Selected Year 1 and Year 2 EE-DR Programs and Rationale for Selection**

Program	Rationale for Selection
<b>Education Outreach – EE - Customer Ed./Awareness Campaign Program</b>	Energy efficiency literacy in Puerto Rico needs improvement to understand the benefits of EE technologies to the degree necessary to motivate investments. There are few widely available local resources for energy information. This program provides resources to build market awareness and readiness.
<b>Residential – Energy Efficiency Rebate Program</b>	Provides broad range of measures covering multiple energy end-uses in the home; offers the ability to provide higher incentives to low-income consumers; can go to market quickly using mail/online rebate approach. This type of deemed savings program is well-established in other jurisdictions and provides a foundation on which to offer additional measures over time.
<b>Residential – Energy Efficiency In-Store Discount Program</b>	Builds on the Residential Rebate program by offering an additional delivery channel through in-store point of sale discounts on eligible products. This approach should increase participant uptake and savings by avoiding an application process. Because the program requires recruitment of retail outlets and potential changes to in-store offering and processing of discounts, the program has a

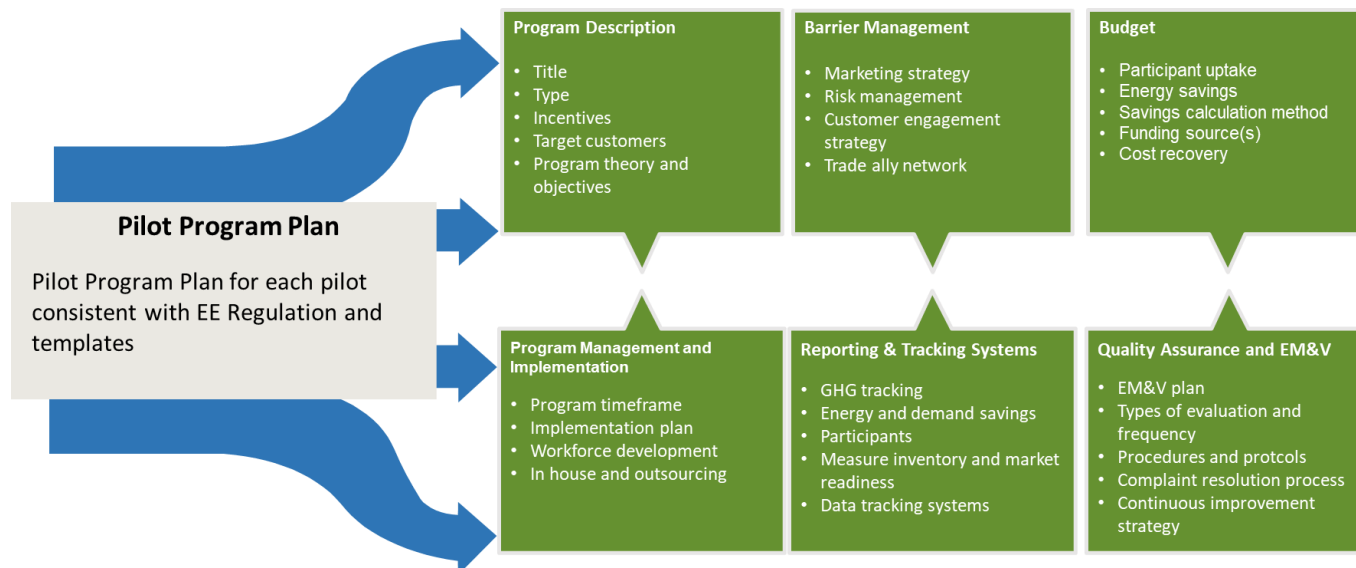


	longer lead time to set up and launch, which could be accomplished in the second year of Transition Period Plan delivery. This type of deemed savings program has had success in many jurisdictions across North America.
<b>Residential – Battery Demand Response Program</b>	Reduces energy use through load shifting to behind the meter (BTM) batteries during peak demand periods. This could be relevant given the growing adoption of BTM batteries for resiliency benefits. Batteries could be a sizeable resource in future and therefore it may be useful to conduct a program to begin learning to operate these as a grid resource.
<b>Commercial and Industrial – Business Rebate Program</b>	Provides a broad range of measures covering multiple energy end-uses in commercial and industrial establishments, including small businesses and the common areas of multi-residential buildings. Can go to market quickly using mail/online rebate approach. This type of deemed savings program is well-established in other jurisdictions and provides a backbone on which to offer additional commercial and industrial programs over time.
<b>Commercial and Industrial – Emergency Demand Response Program</b>	Addresses system emergency needs and is of high strategic importance to LUMA to help avoid under-frequency load shedding events. Successfully implemented in other jurisdictions.
<b>Commercial and Industrial – Economic Demand Response Program</b>	Addresses economic situations with high energy prices (avoid energy purchase at high prices during peak demand periods).
<b>Street Lighting Program</b>	This program improves public safety and customer experience by restoring streetlights to working order, while saving energy from the conversion of lamps to LEDs. This is an ongoing FEMA-funded program, already underway.

## PROGRAM PLAN DEVELOPMENT

The process for developing each program is described in Figure 4-3. It is based on and is consistent with the Energy Bureau's template to be followed for the TPP. Each program plan covers industry-standard topic areas: program descriptions, budget, barrier management plan, program management and implementation plan, reporting and tracking system descriptions, and an evaluation plan.

**Figure 4-3. Program Plan Development**



LUMA undertook limited measure analysis for the EE programs, which included selecting measures and estimating savings and costs for each measure. For measure savings estimates, LUMA utilized Puerto Rico specific information resources including the Puerto Rico Energy Efficiency Scenario Analysis Tool<sup>6</sup> from NREL and the corresponding Puerto Rico: Emerging Opportunities for Energy Efficiency and Equitable Clean Energy Development report. LUMA also undertook a jurisdictional review of existing Technical Reference Manuals (TRM) and rebate catalogues. For measure cost estimates, LUMA gathered limited information from local vendors (suppliers, hardware stores, and electrical contractors) to compare with other jurisdictions. Based on previous experience from stakeholders working on similar programs like the State Energy Program, the Weatherization Assistance Program, and the Energy Efficiency Block Grant, LUMA performed a comparison of the selected measures and their respective prices to determine the equipment cost used to calculate budget and incentives.

### TPP FILING AND REGULATORY APPROVAL

LUMA prepared the TPP based on the planning process described above and documented the results of that planning consistent with the Energy Bureau's templates. Following the filing of the TPP, the Energy Bureau convened workshops with stakeholders to discuss the TPP and obtain stakeholder feedback. In the workshops, LUMA discussed its progress towards implementation of the TPP and various efforts that would advance the adoption of energy efficient measures. Stakeholders came to the consensus that the main objective of the Transition Period is to commence the launch of pilot programs and to support learning. Stakeholders also recognized the flexibility needed in the Transition Period to enable learning, expansion and to avoid the damaging effects of a start and stop dynamic of programs causing confusion from the public of what is available.

### FINAL PORTFOLIO MODIFICATIONS

In Fall, 2022, the Energy Bureau held a series of workshops to gather stakeholder feedback on LUMA's proposed TPP. Significant interest and feedback were received on LUMA's Battery DR program. Based on

<sup>6</sup> <https://www.nrel.gov/state-local-tribal/preesat.html>

this feedback, the Energy Bureau ordered LUMA to expand the program and accelerate the program launch.<sup>7</sup> The resulting Battery Emergency Demand Response program, now titled the Customer Battery Energy Sharing program, was launched in Q2 of FY24.

LUMA's implementation contractor team was onboarded in Q2 of FY24 and proposed the inclusion of a new EE Kit Program. The EE Kit Program provides a package of basic EE measures at no cost to the customer. This program is very quick to launch and easy to administer, while providing highly cost-effective energy savings. The implementation contractor has experience delivering these programs in other jurisdictions and already had many of the components in place to quickly launch the program for FY24. The primary benefit of adding this program to the portfolio is that LUMA can reach a much wider audience of participants (i.e. 10,000) to generate cost-effective energy savings, while raising awareness and generating additional interest in the Residential Rebates program. This program achieves high savings at very low cost, thereby enabling LUMA to meet the savings target at a lower cost in FY25. Figure 4-4 presents LUMA's Final Transition Period Programs.

**Figure 4-4. Final Transition Period EE and DR Portfolio**



<sup>7</sup> See February 16<sup>th</sup> Resolution and Order on page 15.

## 4.2 Education and Outreach Program

The following section provides a detailed description of the Education and Outreach Program.

### PROGRAM DESCRIPTION

**Program Summary:** The Education and Outreach Program is comprised of educational tools, information resources and outreach initiatives to increase customer and stakeholder understanding of energy efficiency and demand response technologies for achieving energy bill savings. Messaging will be delivered through various channels and will include information on energy reduction actions, bill savings and other programs offerings. The program will also include online informational tools and resources, community/stakeholder engagement initiatives and/or demonstration projects.

**Services Provided:** The Program will provide information that is easy to understand on energy efficiency technologies and energy bill reduction strategies for the home and business. Messaging may also highlight the importance of saving energy during critical periods. The program will need to work to develop and refine messaging that resonates with customers, given current conditions with generation reliability and fuel prices. Depending on feasibility of implementation, the program may include additional features such as:

- Online energy audit and/or “efficiency marketplace” tools.
- Customer-oriented energy savings/cost estimation tools.
- Home energy reports with personalized information about customer consumption patterns.
- Technical assistance for community demonstration projects (e.g., on-site energy audits and project recommendations), potentially including limited matching grants and assistance developing case studies and promotional materials.
- Technical and/or financial assistance for project proponents in pursuing additional matching funds from external grant sources.
- Initiatives to support the development of a local stakeholder advisory group.

**Incentive Strategy:** No financial incentives will be offered. However, the program may use contests, prizes, small grants or in-kind donations of technical support to encourage project implementation.

**Incentive Rationale:** This is an educational and awareness program focused on providing information rather than incentives. Financial incentives available in the Residential Rebates and Business Rebates programs will be cross promoted.

### PROGRAM THEORY AND OBJECTIVES

Designing and delivering energy efficiency and demand response programs in Puerto Rico is a new effort. Improving customer engagement and awareness is critical to the success of LUMA's future EE and DR programs. The program is designed to foster a culture of conservation and sustainability, while increasing customer knowledge and awareness of the opportunities and benefits of energy efficiency, demand response, solar PV and battery storage.

### TARGET CUSTOMER POPULATION

The target population includes all customers. Program messaging and features will be tested with small populations before scaling to the broader populations.

## BARRIER ANALYSIS

Table 4-3. Barrier Analysis for Customer Education/Awareness Campaign

	Barrier	Risk	How the Program will Address
Varying levels of customer knowledge levels of EE	✓		Provide simple messaging requiring minimal level of understanding, building knowledge over time.
Different customer interests relevant to EE	✓		Will provide different types of messaging catering to customer interests including climate benefits, financial benefits, and energy savings.
Messaging about conservation and load reduction could create negative responses from customers who are experiencing outages due to loadshedding events		✓	LUMA will test messaging and monitor which messages are resonating and which to eliminate/revise.
No financial incentives to promote energy efficiency actions might result in lower customer responsiveness	✓		LUMA will work to support and cross promote other local programs (i.e. DDEC, Vivienda, Green Trust, etc) and community initiatives.
Developing a culture of conservation and sustainability takes significant time	✓		Measure changes in awareness over time (through process evaluation activities) to enhance messaging effectiveness. This may include questions about actions taken in response to messaging.

## MARKETING STRATEGY

LUMA will leverage various communication channels to provide information on energy efficiency related actions. The program will target residential customers through a range of marketing channels that may include:

- Engagement and promotion through LUMA's website and social media channels
- Online customer-engagement resources such as an Online Energy Audit tool and/or Energy Efficiency Marketplace tool
- Cross-promotion with other programs
- Demonstration projects and/or contests for community efficiency projects, with recognition, prizes and limited grant funding

## BENEFITS: ESTIMATED ENERGY SAVINGS AND PROGRAM COSTS

This is an education and awareness program. Energy and greenhouse gas savings will be achieved but are "hard-to-measure." The main benefits of this program are increased residential customer awareness of EE and DR as well as cross-promotion of other residential programs. The program will attempt to provide information that is accessible to all LUMA customers, therefore it is difficult to estimate a specific number of "planned participants."

**Table 4-4. Estimated # Participants, and Costs for Customer Education/Awareness Program**

Description	Yr. 1 Estimate	Yr. 2 Estimate	Total
Energy Savings (MWh)	N/A	N/A	N/A
Planned Participants	TBD	TBD	TBD
Total Costs (\$)	\$1,125,000	\$1,500,000	\$2,250,000

## IMPLEMENTATION STRATEGY

The program will be delivered by a third-part implementation contractor who will work with LUMA to finalize program design details, develop program materials, and deliver customer education and engagement initiatives.

## PROGRAM TIMEFRAME

The table below shows the key tasks and timetable for pre-launch activities that must be completed in preparation for program launch. The program began in FY23 with new webpage enhancements and stakeholder outreach. Additional enhancements to the program are expected in Q4 of FY23, which will be finalized with the support of LUMA's implementation contractor.

**Table 4-5. Program Timeframe – Education & Awareness Program**

Pre-Launch Activities	FY24				FY25
	Q1	Q2	Q3	Q4	Q1+
Design Program Enhancements					
Develop Additional Educational Materials					
Launch Program Enhancements					
Ongoing Customer/Stakeholder Outreach					

## EVALUATION, MEASUREMENT, AND VERIFICATION (EM&V)

The table below describes the EM&V plan including procedures that will be implemented to determine whether the program achieved its objectives.

**Table 4-6. EM&V for Customer Education/Awareness Campaign**

EM&V Objectives and Procedures	How the Program will Address EM&V Objectives and Procedures
<b>Program objectives</b>	<ul style="list-style-type: none"> <li>Empower residential customers to take more control over their energy use</li> <li>Provide positive channels for customers to engage on energy efficiency</li> <li>Channel customers into incentive-based energy efficiency programs to increase their savings opportunities, such as the residential and business rebate programs</li> </ul>
<b>Evaluation objectives</b>	<ul style="list-style-type: none"> <li>Improve the design and implementation of existing and new/future programs through process evaluation</li> </ul>
<b>Key impact evaluation procedures</b>	<ul style="list-style-type: none"> <li>Not applicable</li> </ul>

<b>Key process evaluation procedures</b>	<ul style="list-style-type: none"> <li>• Review all related materials (nudges, tips, contests, draws etc.) for effectiveness and make recommendations for improvement</li> <li>• Conduct annual customer satisfaction surveys to evaluate impact of tips and nudges</li> </ul>
<b>Key Performance Indicators</b>	<ul style="list-style-type: none"> <li>• Tracking of website and social media posts – number, likes etc.</li> <li>• Impact of tips and nudges on overall customer perception/satisfaction with LUMA</li> <li>• Self-reported actions taken in response to messaging</li> <li>• Self-reported increase in awareness of EE benefits</li> <li>• Mi LUMA notifications and other data collection from the app</li> <li>• Customer outreach emails regarding concerns and positive feedback</li> </ul>
<b>Suggested schedule</b>	<ul style="list-style-type: none"> <li>• Conduct process evaluation annually</li> </ul>
<b>Plan for working with the Energy Bureau's EM&amp;V contractor</b>	<ul style="list-style-type: none"> <li>• Respond to requests and provide information requested in a timely manner as available</li> <li>• Require implementation contractors to respond to requests and provide information requested in a timely manner as available</li> </ul>



## 4.3 Residential Rebate Program

### PROGRAM DESCRIPTION

**Program Summary:** The Residential Rebate program will provide customers a financial incentive for purchasing and installing high-efficiency measures from a list of eligible measures. Customers are required to submit a rebate application by mail, email or online to LUMA (depending on application system capabilities). LUMA's implementation contractor will review and approve the application and process an incentive check. Details about each project will be recorded in a detailed tracking database to ensure accurate reporting and verification.

**Services Provided:** A prescriptive financial incentive (\$/unit) will be offered for the installation of eligible measures. The program may also include informational resources and cross promotion with the Education & Outreach Program. The specific details of final incentive levels, measure lists and other services provided will be finalized based on input from the implementation contractor.

**Eligible Measures:** Limited data is available in Puerto Rico on baseline building and equipment conditions, from which to design a list of improvement measures. It is anticipated that HVAC, lighting, water heaters will be the primary focus of the program during Year 1, as these are well-understood to be cost-effective measures. The program will add appliance, building envelope, and other measures as budget allows. Table 4-7 presents a preliminary list of eligible measures, with indicative estimates of savings per measure and incentive per measure. Without the benefit of a Baseline Study, these measure savings estimates rely on inputs and assumptions from other jurisdictions and represent indicative estimates for planning purposes. The measure list and incentive amounts will be finalized before program launch and updated as needed to reflect actual market conditions and budget availability.

**Table 4-7. EE-Residential Rebate Program Measure List**

End-Use	Eligible Measures	Savings per measure (kWh)	Incentive per measure (\$) Residential	Incentive per measure (\$) Low-income
HVAC	Ductless Air Conditioner	395	200	300
HVAC	Window Air Conditioner	331	50	175
Lighting	ENERGY STAR LED Lighting	30	3	5
Water Heating	Solar Water Heater	1,825	250	500
Water Heating	Tankless Water Heater	529	50	75
Food Services	ENERGY STAR Refrigerator	51	50	100

**Incentive Strategy:** A prescriptive (fixed amount per measure) financial incentive will be available for each eligible measure, which will be reviewed on a regular basis and updated as needed based on changing market conditions and pricing of the eligible measures. Low-income customers will be offered higher incentives per measure for select measures to provide greater access to energy efficiency opportunities. To obtain the financial incentive, participants will fill out a rebate application form, through either email, mail, or an online form. LUMA will review and approve the application form and mail out the rebate check. The program will likely start with a limited selection of measures and introduce additional measures periodically. The rationale for this phased strategy is to avoid oversubscribing the program by adding too many measures at once, resulting in early program closure.



**Incentive Rationale:** A prescriptive incentive strategy was selected to simplify the customer application process. Prescriptive incentives were determined based on a review of Technical Reference Manuals from relevant jurisdictions as well as investigation of pricing for the measures in Puerto Rico and LUMA's local knowledge. The main references were the NREL Puerto Rico Energy Efficiency Scenario Analysis tool (specifically the Virgin Islands source material), Puerto Rico: Emerging Opportunities for Energy Efficiency and Equitable Clean Energy Development report, State of Hawaii Market Potential Study, Hawaii Energy TRM, and the current Hawaii Energy rebate catalogue. Additional resources included the Texas TRM, Florida Power and Light and Keys Energy rebate catalogues, New Orleans TRM, and Illinois TRM. We chose a range of residential end uses to provide potential participants with choice of measures and measure cost for making home improvements to improve energy efficiency.

## PROGRAM THEORY AND OBJECTIVES

Residential customers will have a range of eligible energy efficiency measures. A financial incentive of roughly 30%-50% of incremental cost will be available for each eligible measure to help defray the up-front cost of the measure. Program savings will be determined based on deemed savings per measure, eliminating the need for expensive, complicated on-site energy savings analysis which can present a barrier to adoption. In recognition of the energy burden faced by low-income customers, the program will offer higher incentives for income-qualified participants.

By providing energy savings opportunities for a range of lower cost residential measures, the program will provide customers, both low-income and non-low-income residential customers, with opportunities to achieve energy and bill savings as well as opportunities to reduce greenhouse gases and help Puerto Rico achieve its energy efficiency target. The program will focus on measures that are not already incentivized through other programs. During the Transition Period, this program will help LUMA gain a better understanding of which measures will have the greatest uptake and savings for customers, as well as opportunities to improve the customer journey.

## TARGET CUSTOMER POPULATION

All residential customers, including low-income customers. As ordered by the Energy Bureau in its February 16, 2023 Resolution and Order LUMA will provide low-income customers with higher incentives than are available for non-low income customers.

## BARRIER ANALYSIS

**Table 4-8. Barrier Analysis - Residential Rebate Program**

	Barrier	Risk	How the Program will Address
<b>Lack of knowledge of EE opportunities</b>	✓		The program will conduct marketing and outreach to potential participants that will include information about energy savings. The Education and Outreach Program will provide outreach and engagement to complement this program.
<b>Lack of customer capital to purchase EE products</b>	✓		The program provides incentives to reduce the up-front cost of high-efficiency equipment. Income-qualified customers will be eligible for higher rebates per measure.
<b>Lack of availability of eligible products</b>	✓		LUMA will work with equipment suppliers to better understand stocking and availability of products locally. LUMA will update the list of eligible measures on a

			regular basis based on consultation with participants, potential participants and equipment suppliers and distributors in Puerto Rico.
<b>Lack of available contractors for facility assessments and measure installation</b>	✓		As part of delivery of the program in year 1, LUMA will reach out to contractor networks and associations in Puerto Rico and identify opportunities to help grow the network of trained contractors.
<b>Eligible product price uncertainty</b>		✓	LUMA does not have data on product prices, which complicates the incentive design process. LUMA will collect this information from program participants and stakeholders and may modify incentive levels as needed.
<b>Uncertainty of energy savings estimates</b>	✓	✓	LUMA has selected measures that are most likely to be cost-effective. LUMA will continue to refine energy savings estimates using data collected from participating projects.

## MARKETING STRATEGY

Marketing for the Residential Rebate Program will be conducted by an Implementation Contractor, with oversight from LUMA. The marketing strategy targets residential customers through a range of marketing channels that may include:

- Engagement and promotion through LUMA's website and social media channels, by providing information such as program description, frequently asked questions and answers, and contact information
- Cross-promotion with other programs
- Downloadable rebate applications and online rebate application process
- Program information, presentations and advertisements at appropriate events targeted at residential customers or trade allies that support the sector
- Attendance at community events to promote the program.

## BENEFITS: ESTIMATED ENERGY SAVINGS AND PROGRAM COSTS

Table 4-9 below provides an initial estimate of energy savings and costs for the Residential Rebate Program during the Transition Period.

**Table 4-9. Estimated Savings, # Participants, and Costs for the Residential Rebate Program**

Description	Yr. 1 Estimate	Yr. 2 Estimate	Total
Annual Electricity Savings (MWh)	10,902	11,556	22,459
Lifetime Electricity Savings (MWh)	138,295	146,593	284,888
Peak Demand Savings (MW)	6.9	7.3	14.2
Gross Lifetime GHG Savings (MT of CO <sub>2</sub> )	106,498	112,888	219,387
Planned Participants	12,930	13,706	26,636
<b>Total Costs (\$)</b>	<b>\$4,218,750</b>	<b>\$4,471,875</b>	<b>\$8,690,625</b>

## PROGRAM LAUNCH TIMEFRAME

The table below shows the key tasks and timetable for pre-launch activities that must be completed in preparation for Launch. LUMA is currently working with the implementation contractor to finalize program design details (e.g., measure list, incentive levels, program requirements, etc.), create program materials and rebate application processes. The Residential Rebate program is planned to launch in January 2024.

**Table 4-10. Program Timeframe - Residential Rebate Program**

Pre-Launch Activities	FY24				FY25
	Q1	Q2	Q3	Q4	Q1+
Finalize Program Design Details & Operational Requirements					
Develop Program Materials and Application Processes					
Begin Contractor Outreach					
Program Launch & Implementation					

## EVALUATION, MEASUREMENT, AND VERIFICATION (EM&V)

The table below describes the EM&V plan including procedures that will be implemented to determine whether the program achieved its objectives.

**Table 4-11. EM&V for Residential In-Store Discount Program**

EM&V Objectives and Procedures	How the Program will Address EM&V Objectives and Procedures
<b>Program objectives</b>	<ul style="list-style-type: none"> <li>• Achieve savings target</li> <li>• Provide measures for range of residential end uses with financial incentives</li> <li>• Provide potential participants with choice of measures for making home improvements to improve energy efficiency</li> <li>• Engage low-income participants by providing higher incentive levels</li> <li>• Assess barriers and program readiness for scale-up</li> </ul>
<b>Evaluation objectives</b>	<ul style="list-style-type: none"> <li>• Document energy and demand savings</li> <li>• Provide verification and due diligence of project savings</li> <li>• Improve the design and implementation of existing and new/future programs through process evaluation</li> </ul>
<b>Key impact evaluation procedures</b>	<ul style="list-style-type: none"> <li>• Review approximately 5% of project applications through due diligence inspections of a sample of project documentation</li> <li>• Review tracking database and make recommendations for improvement</li> <li>• Conduct phone or online survey for verification of installation, and savings accuracy</li> </ul>
<b>Key process evaluation procedures</b>	<ul style="list-style-type: none"> <li>• Review program documentation, including program plans or filings, marketing materials, implementation contractor contract documents, and program website(s)</li> <li>• Conduct interviews with utility program staff and implementation contractors</li> <li>• Conduct surveys (could address both impact and process matters in the same survey) with sample of participants to understand the effectiveness of program design, marketing and customer acquisition, and program administration or delivery, and to assess customer satisfaction</li> </ul>

<b>Key Performance Indicators</b>	<ul style="list-style-type: none"><li>• Energy savings reported and verified</li><li>• Demand savings reported and verified</li><li>• Total participants reported and verified</li><li>• Total measure quantities by measure type reported and verified</li><li>• Customer satisfaction</li></ul>
<b>Suggested schedule</b>	<ul style="list-style-type: none"><li>• Conduct impact and process evaluation bi-annually</li></ul>
<b>Plan for working with the Energy Bureau's EM&amp;V contractor</b>	<ul style="list-style-type: none"><li>• Respond to requests and provide information requested in a timely manner as available</li><li>• Encourage implementation contractors to respond to requests and provide information requested in a timely manner as available</li></ul>

## 4.4 Customer Battery Energy Sharing Program (CBES)

### PROGRAM DESCRIPTION

**Program Summary:** The Customer Battery Energy Sharing Program (“CBES” or “Program”) is a Demand Response pilot program designed to develop and test operational procedures for leveraging distributed batteries as an energy resource during grid emergencies. The CBES provides compensation to approved DR Aggregators for discharging their enrolled customers’ Behind the Meter (“BTM”) batteries during CBES program Events in response to dispatch instructions provided by LUMA. Customer participation in CBES program Events is voluntary, and Participating Customers may opt out of any CBES program Event at any time.

Eligible customers will be enrolled in the Program through an approved DR Aggregator, who are responsible for enrolling customers in the Program, dispatching battery resources of participating customers during CBES program Events called by LUMA and compensating these customers for the energy provided. Customers may only participate in the Program by signing up with a DR Aggregator. Events are called when all available generation resources are in use and the T&D System is not expected to be able to meet forecasted energy requirements.

**Eligible Measures:** All BTM batteries registered in LUMA’s Net Energy Metering Program.

**Incentive Strategy:** LUMA will provide a standard non-negotiable performance payment of \$1.25/kWh (as approved by the Energy Bureau in Resolution and Order of August 29, 2023 in Docket NEPR-MI-2022-0001) to DR Aggregators for their aggregation services, who, in turn, must provide compensation to participating customers for operating their batteries during CBES program Events according to the DR Aggregators’ unique business model and customer value proposition.

### PROGRAM THEORY AND OBJECTIVES

BTM batteries could potentially provide significant grid benefits, which will be tested through this program. Battery adoption is expected to grow significantly, primarily driven by resiliency, and this program will help customers leverage those assets for additional bill savings opportunities, while helping to maintain grid reliability. DR events for this program will be triggered either by emergency conditions. The reduction in energy use during emergency grid conditions can help reduce the possibility of outages. Participants will have an opportunity to reduce their consumption during peak demand periods and thereby reduce their bills and contribute to Puerto Rico savings target and GHG reduction target.

### TARGET CUSTOMER POPULATION

The CBES is designed to leverage existing BTM batteries. The Program targets residential and commercial customers with BTM batteries that are registered in the LUMA Net Energy Metering (NEM) Program. All customers who install solar and storage are required to register with LUMA’s NEM program and provide details about their system’s engineering and installation. Requiring CBES program participants to be registered in NEM takes advantage of existing NEM screening processes to help ensure battery systems are safe to be operated in the CBES.

## BARRIER ANALYSIS

Table 4-12. Barrier Analysis for Battery Demand Response Program

	Barrier	Risk	How the Program will Address
<b>Device Data for Settlement</b>	✓	✓	LUMA does not have interval metering data to verify third-party device data used for settlement of customer incentives. Program evaluation may need to conduct measurement and verification for a sample of participants to verify the accuracy of third-party device data.
<b>Lower than expected enrollment</b>		✓	Program will closely monitor enrollment and ramp up and/or re-strategize on program marketing and customer outreach methods to ensure that the value proposition for participation is clearly communicated.
<b>Low response to DR events</b>		✓	Program will closely monitor customer response to DR events using battery telemetry data and performance tracking systems (that allows viewing of battery load profiles of enrolled customers), and address how the DR event response rate could be increased through additional customer outreach methods and stronger messaging.
<b>Resistance to shift load</b>		✓	Program will monitor customer load shifting behaviors during event period and adjust program parameters as necessary.

## MARKETING STRATEGY

Marketing for the Battery DR Program will be conducted by Aggregators, with oversight from LUMA. Customers will be notified of DR events using web-based notification and communication channels, including SMS and email notifications through Aggregators. Program marketing and customer outreach may involve the following:

- Direct outreach by Aggregators to existing customers who installed solar/battery systems.
- Engagement and promotion through website and social media channels.
- Program information and presentations at events targeted to customers or trade allies that support the sector.
- Leverage vendor marketing efforts and communication channels to promote the program.

## BENEFITS: ESTIMATED PEAK DEMAND SAVINGS AND PROGRAM COSTS

This program targets residential customers with BTM batteries. The program will start with a small number of customers to test the operation procedures. Participants receive an incentive for shifting their load to batteries and exporting the remaining stored energy to the grid. The energy provided by the CBES will support electric service stability during DR events to help mitigate the impact of load shedding events. The total program costs include customer incentives plus the program administration costs. Table 4-13 shows the peak demand savings, planned participants and total costs in year 2 of the program.

**Table 4-13. Estimated Savings, # Participants, and Costs for Battery DR Program**

Description	Yr. 1 Estimate	Yr. 2 Estimate
<b>Total Peak Demand Savings (MW)</b>	26.2	26.2
<b>Planned Participants</b>	6,500	6,500
<b>Total Costs (\$)</b>	<b>\$5,032,813</b>	<b>\$5,032,813</b>

## IMPLEMENTATION STRATEGY

LUMA expects to administer this program through Aggregators, with support from an implementation contractor, for undertaking the following business functions:

- **Define Program Parameters and Initiate Load Control Events**
  - Define dispatch criteria (economic, reliability, emergency, operating reserves, NWA, etc.)
  - Define program parameters (e.g., applicable months, event hours, event duration, annual limit on event hours, event frequency)
  - Initiate load control events
- **Marketing, Customer Recruitment & Outreach**
  - Undertake marketing, customer education, and outreach via third-party aggregators
- **Technology Provision and Enablement**
  - No additional technology is required for Event Dispatch, which is conducted via third-party aggregators
- **Data Support and Performance Analysis**
  - Obtaining data from customer batteries and tracking program performance
- **Billing and Settlement**
  - Billing and settlement of customer incentive payments using battery telemetry data, since LUMA does not have smart meters. This will be conducted via third-party Aggregators who are responsible for compensating customers, once paid by LUMA on a quarterly basis.
- **Evaluation, Measurement and Verification (EM&V)**
  - Assisting with independent ex-post impact and process evaluation of the program and establishing the analytical framework for conducting annual impact and process evaluations

## PROGRAM TIMEFRAME

The Battery Demand Response Program already launched in Year 1 of the TPP. The timelines below provide timetables for the activities conducted for program launch.



**Table 4-14. Program Timeframe - Battery Demand Response Program**

Pre-Launch Activities	FY24				FY25
	Q1	Q2	Q3	Q4	Q1+
Engage Aggregators					
Finalize Program Design Details & Operational Requirements					
Begin Customer Enrollment					
Execute first Event Dispatch					
Ongoing Enrollment and Operations					

## EVALUATION, MEASUREMENT, AND VERIFICATION (EM&V)

**Table 4-15. EM&V for Battery Demand Response Program**

EM&V Objectives and Procedures	How the Program will Address EM&V Objectives and Procedures
<b>Program objectives</b>	<ul style="list-style-type: none"> <li>Improve grid reliability and provide bill savings opportunities to customers</li> </ul>
<b>Evaluation objectives</b>	<ul style="list-style-type: none"> <li>Document demand savings</li> <li>Provide verification and due diligence of program savings</li> <li>Improve the design and implementation of existing and new/future programs through process evaluation</li> </ul>
<b>Impact evaluation</b>	<ul style="list-style-type: none"> <li>Impact evaluation will be conducted bi-annually and will provide ex post and ex ante estimates of the following metrics energy (kWh) and demand (kW) impacts per event and in the aggregate.</li> </ul>
<b>Process evaluation</b>	<ul style="list-style-type: none"> <li>The process evaluation will assess whether program objectives were met, assess customer satisfaction with the program and provide suggestions for future improvements.</li> <li>The evaluation process will include the following: <ul style="list-style-type: none"> <li>Review program documentation review, including program plans or filings, marketing materials, implementation contractor contract documents, and program website(s)</li> <li>Conduct customer/contractor satisfaction surveys and focus group discussions (if possible)</li> <li>Conduct interviews with LUMA program manager and other program staff and implementation contractor</li> </ul> </li> </ul>
<b>Key KPIs and metrics</b>	<ul style="list-style-type: none"> <li>Average event savings (reported and verified)</li> <li>Aggregate program savings (reported and verified)</li> <li>Total enrolled customers (reported and verified)</li> <li>DR event response rate</li> <li>Customer satisfaction</li> </ul>
<b>Suggested schedule</b>	<ul style="list-style-type: none"> <li>Conduct impact and process evaluation bi-annually</li> </ul>
<b>Plan for working with the Energy Bureau's EM&amp;V contractor</b>	<ul style="list-style-type: none"> <li>Respond to requests and provide information requested in a timely manner as available</li> <li>Require Aggregators to respond to requests and provide information requested in a timely manner as available</li> </ul>



## 4.5 In-Store Energy Efficiency Discount Program

### PROGRAM DESCRIPTION

**Program Summary:** The In-store Discount Program will offer a point-of-sale discount for eligible measures at participating retail stores. Participating retailers will sign an agreement with LUMA to participate and agree to the discount redemption process. Participating retailers will agree to use program signage in the store, stock eligible measures, and participate in any seasonal programming such as holiday discounts.

**Services Provided:** LUMA will work directly with retailers to provide an instant in-store discount for measures, by-passing the traditional rebate application process, to make participation as easy as possible for customers. The specific details of final incentive levels, measure lists and other services provided will be finalized prior to program launch.

**Eligible Measures:** The program will start with low-cost measures such as lighting, potentially expanding to HVAC, water heaters, and appliances as funding allows. The table below presents a draft measure list with indicative estimates of savings per measure and incentive per measure. These will be reviewed and finalized before launch and updated as needed to reflect changing market conditions and program learnings. Without the benefit of a Baseline Study, these measure savings estimates rely on inputs and assumptions from other jurisdictions and represent indicative estimates for planning purposes.

**Table 4-16. EE-In-Store Discount Program Measure List**

End-Use	Measures	Savings per measure (kWh)	Incentive per measure residential (\$)
Lighting	ENERGY STAR LED Lighting	30	3
HVAC	Air Conditioner	300	200
Water Heating	Tankless Water Heater	530	50
Food Services	ENERGY STAR Refrigerator	50	50

**Incentive Strategy:** A fixed (\$/unit) discount will be available for each eligible measure, which will be updated as needed to reflect changing market conditions and pricing of the eligible measures. LUMA will collaborate with participating retailers to adjust incentive levels and help facilitate changes to stocking practice and discount levels. The program will likely start with a limited selection of measures and introduce additional measures periodically. The rationale for this phased strategy is to avoid oversubscribing the program by adding too many measures at once, resulting in early program closure.

**Incentive Rationale:** A prescriptive incentive strategy was selected to simplify the customer experience and program administration process. Measure characteristics were determined based on a review of Technical Reference Manuals from relevant jurisdictions as well as investigation of pricing for the measures in Puerto Rico. LUMA chose a range of residential end uses to provide participants with product and price choices for making home improvements for improved energy efficiency and to also engage a variety of retail stores. The main references were the NREL Puerto Rico Energy Efficiency Scenario Analysis tool (specifically the Virgin Islands source material), Puerto Rico: Emerging

Opportunities for Energy Efficiency and Equitable Clean Energy Development report, State of Hawaii Market Potential Study, Hawaii Energy TRM, and the current Hawaii Energy rebate catalogue. Additional resources included the Texas TRM, Florida Power and Light and KEYS Energy rebate catalogues, New Orleans TRM, and Illinois TRM. While LUMA has classified this program as part of Residential portfolio, LUMA expects small businesses which make equipment purchases at retail stores to also benefit from this program.

## PROGRAM THEORY AND OBJECTIVES

An instant discount will be available at the cash register of participating retailers for each eligible measure purchased to help defray the cost of the measure. Participating retailers will redeem the value of the discounts provided through the LUMA redemption process. LUMA will review and approve the redemption materials provided by each participating retailer and issue the redemption check.

Stores in low-income areas may be geo-targeted for the start of in-store discount rollouts to provide greater access to energy efficiency opportunities. Eligible measures will focus on measures that will provide residential customers with low-cost savings opportunities. LUMA expects to gain a greater understanding of which measures will have the greatest uptake and savings for residential customers, as well as opportunities to improve the customer journey.

## TARGET CUSTOMER POPULATION

LUMA will begin the program with a small number of retail stores (potentially beginning in low-income areas), to establish and refine policies and procedures.

## BARRIER ANALYSIS

Because this program requires recruiting retail outlets for the program and potential changes to in-store offerings and processing of discounts, this program has a longer lead time to set up and launch, which is planned to be accomplished in the second year of TPP delivery.

**Table 4-17. Barrier Analysis - In-Store Discount Program**

	Barrier	Risk	How the Program will Address
<b>Difficulty including full range of retailers</b>	✓		The program will be open to any retailer who can offer eligible measures at the point of sale and is able to meet the LUMA's program requirements, including requirements of the redemption and data tracking process.
<b>Inconsistencies between retailers</b>		✓	Inconsistencies will be avoided through LUMA's standardized requirements for retailer participation and measure list with standard incentive level per measure.
<b>Lack of understanding of EE opportunities</b>	✓		The program will include customer information regarding energy saving opportunities. The Education and Outreach Program will provide outreach and engagement to complement the program outreach and engagement.

<b>Lack of availability of eligible products</b>	✓		LUMA will update the list of eligible measures in consultation with participating retailers. LUMA will provide any changes to the eligible measures list and pricing in advance to the extent possible to allow retailers to make timely adjustments to SKUs and stocking practices.
<b>Eligible product price uncertainty</b>		✓	Incentives will be based on prices in the PR market as well as consultation with retailers. LUMA understands that in 2023 there are inflationary pressures which may continue into 2024 and beyond. LUMA will monitor inflationary pressures and price volatility and adjust incentive levels if appropriate in consultation with retailers. LUMA will harmonize any changes with the Residential Rebate Program as appropriate.
<b>Potential for retailer fraud</b>		✓	Participating retailers are required to sign a participation agreement, with terms and conditions for data tracking and consequences for fraudulent activities. The implementation contractor provides regular QA/QC checks and oversight to ensure program requirements are being met.

## MARKETING STRATEGY

Marketing for the In-Store Discount Program will be conducted by an Implementation Contractor, with oversight from LUMA. Marketing collateral will include in-store literature or signage on the energy-saving benefits of eligible products. LUMA will work with retailers to identify other opportunities for in-store marketing. In addition to specific in-store promotion, LUMA will use a wide range of marketing channels which may include:

- Engagement and promotion through LUMA's website and social media channels, by providing information such as program description, frequently asked questions and answers, and contact information
- Program launch with media event
- Cross-promotion with other programs

## BENEFITS: ESTIMATED ENERGY SAVINGS AND PROGRAM COSTS

**Table 4-18. Estimated Savings, # Participants, and Costs for In-Store Discount Program**

Description	Yr. 1 Estimate	Yr. 2 Estimate	Total
Annual Electricity Savings (MWh)	-	4,035	4,035
Lifetime Electricity Savings (MWh)	-	43,547	43,547
Peak Demand Savings (MW)	-	2.2	2.2
Gross Lifetime GHG Savings (MT of CO <sub>2</sub> )	-	33,535	33,535
Planned Participants	-	4,035	4,035
<b>Total Costs (\$)</b>	-	<b>\$1,125,000</b>	<b>\$1,125,000</b>

## PROGRAM LAUNCH TIMEFRAME

The In-Store Discount Program is expected to launch in Year 2 of the TPP, as this program is expected to require additional time for administrative startup. Table 4-19 below provides timetables for the duration of activities required before program launch. LUMA is working with the implementation contractor to finalize program design details (e.g., measure list, incentive levels, program requirements, etc.), and begin recruiting participating retailers. The program is expected to launch in the first quarter of FY25.

**Table 4-19. Program Timeframe - In-Store Discount Program**

Pre-Launch Activities	FY24				FY25
	Q1	Q2	Q3	Q4	Q1+
Finalize Program Design Details & Operational Requirements					
Recruit and Enroll Retailers					
Develop Retailer Tracking & Invoicing Processes					
Program Launch & Implementation					

## EVALUATION, MEASUREMENT, AND VERIFICATION (EM&V)

The table below describes the EM&V plan including procedures that will be implemented to determine whether the program achieved its objectives.

**Table 4-20. EM&V for In-Store Discount Program**

EM&V Objectives and Procedures	How the Program will Address EM&V Objectives and Procedures
<b>Program objectives</b>	<ul style="list-style-type: none"> <li>Achieve savings target</li> <li>Provide measures for a range of residential end uses with financial incentives</li> <li>Assess barriers and program readiness for scale-up</li> </ul>
<b>Evaluation objectives</b>	<ul style="list-style-type: none"> <li>Document energy and demand savings</li> <li>Provide verification and due diligence of project savings</li> <li>Improve the design and implementation of existing and new/future programs through process evaluation</li> </ul>
<b>Key impact evaluation procedures</b>	<ul style="list-style-type: none"> <li>Review tracking database and make recommendations for improvement</li> </ul>
<b>Key process evaluation procedures</b>	<ul style="list-style-type: none"> <li>Program documentation review, including program plans or filings, marketing materials, and implementation contractor contract documents</li> <li>Review redemption process and make recommendations for improvement of retail participant journey</li> <li>Conduct interviews with utility program staff, participating and non-participating retailers and implementation contractors</li> <li>Conduct surveys with sample of retailers to obtain information on the effectiveness of program design, marketing and retailer acquisition, and program administration or delivery, and to assess retailer satisfaction</li> </ul>

<b>Key Performance Indicators</b>	<ul style="list-style-type: none"><li>• Energy savings reported and verified</li><li>• Demand savings reported and verified</li><li>• Total participants reported and verified</li><li>• Total measure quantities by measure type reported and verified</li></ul>
<b>Suggested schedule</b>	<ul style="list-style-type: none"><li>• Conduct impact and process evaluation bi-annually</li></ul>
<b>Plan for working with the Energy Bureau's EM&amp;V contractor</b>	<ul style="list-style-type: none"><li>• Respond to requests and provide information requested in a timely manner as available</li><li>• Require implementation contractors to respond to requests and provide information requested in a timely manner as available</li></ul>

## 4.6 Energy Efficiency Kits Program

### PROGRAM DESCRIPTION

**Program Summary:** The Energy Efficiency Kits Program will provide a free mail-order “kit” containing simple Energy Efficiency measures and educational material. Customers will complete a simple web-based form to request a kit. The kit will include measures such as LED lightbulbs, advanced power strips and LED nightlights. The kit will be mailed at no cost to the customer.

The EE Kit program was added to the portfolio for FY24 as a quick-launch opportunity to provide basic EE measures free of charge to a large number of customers. The Kit Program will reach a wider audience than the Residential Rebates program and will help to raise interest and awareness of the Rebates program.

**Table 4-21. EE Kits Program Measure List**

End-Use	Measures	Energy Savings per kit (kWh)	Demand Savings per kit (kW)
Lighting	ENERGY STAR LED Lighting	407	0.4
Lighting	LED Nightlight	30	0
Lighting	Advanced Power Strip (Tier 1)	39	0

### PROGRAM THEORY AND OBJECTIVES

A free energy efficiency kit will be provided to customers to generate cost-effective energy savings, while raising awareness of LUMA's new energy efficiency programs and providing basic energy educational materials. By providing simple, free energy savings opportunities for low-cost residential measures, the program will provide customers, both low-income and non-low-income residential customers, with opportunities to achieve energy and bill savings as well as opportunities to reduce greenhouse gases and help Puerto Rico achieve its energy efficiency target.

### TARGET CUSTOMER POPULATION

All residential customers, including low income.

### BARRIER ANALYSIS

**Table 4-22. Barrier Analysis – EE Kits Program**

	Barrier	Risk	How the Program will Address
Lack of knowledge of EE opportunities	✓		The program will provide basic EE measures and educational materials that raise interest and awareness of EE opportunities.
Lack of customer capital to purchase EE products	✓		The program provides free kits containing simple low-cost EE measures.
Lack of availability of eligible products	✓		LUMA will provide the EE kits directly to customers upon request through LUMA's web-portal.

<b>Uncertainty of energy savings estimates</b>	✓	✓	LUMA has selected measures that are known to be cost-effective. LUMA will continue to refine energy savings estimates using data collected from participating projects.
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## MARKETING STRATEGY

Marketing for the EE Kits Program will be conducted by an Implementation Contractor, with oversight from LUMA. LUMA will use a range of marketing channels which may include:

- Engagement and promotion through LUMA's website and social media channels, by providing information such as program description, frequently asked questions and answers, and contact information
- Program launch media notifications
- Cross-promotion with other programs

## BENEFITS: ESTIMATED ENERGY SAVINGS AND PROGRAM COSTS

**Table 4-23. Estimated Savings, # Participants, and Costs for the EE Kits Program**

Description	Yr. 1 Estimate	Yr. 2 Estimate	Total
Annual Electricity Savings (MWh)	4,765	4,765	9,530
Lifetime Electricity Savings (MWh)	54,026	54,026	108,052
Peak Demand Savings (MW)	4.4	4.4	8.7
Gross Lifetime GHG Savings (MT of CO <sub>2</sub> )	41,604	41,604	83,209
Planned Participants	10,000	10,000	20,000
<b>Total Costs (\$)</b>	<b>\$676,700</b>	<b>\$676,700</b>	<b>\$1,353,400</b>

## PROGRAM LAUNCH TIMEFRAME

The EE Kits Program is expected to launch in Year 1 of the TPP. This program was selected for Year 1 launch because it is a relatively quick program to launch. Table 4-19 below provides timetables for the duration of activities required before program launch. LUMA is working with the implementation contractor to finalize program design details (e.g., measure list, incentive levels, program requirements, etc.). The program is expected to launch in the third quarter of FY24.

**Table 4-24. Program Timeframe - In-Store Discount Program**

Pre-Launch Activities	FY24				FY25
	Q1	Q2	Q3	Q4	Q1+
Finalize Program Design Details					
Establish Kit Fulfillment Processes					
Develop Marketing Materials and Campaign					
Program Launch & Implementation					

## EVALUATION, MEASUREMENT, AND VERIFICATION (EM&V)

The table below describes the EM&V plan including procedures that will be implemented to determine whether the program achieved its objectives.

**Table 4-25. EM&V for In-Store Discount Program**

EM&V Objectives and Procedures	How the Program will Address EM&V Objectives and Procedures
<b>Program objectives</b>	<ul style="list-style-type: none"> <li>• Achieve savings target</li> <li>• Raise awareness of energy efficiency measures and programs</li> </ul>
<b>Evaluation objectives</b>	<ul style="list-style-type: none"> <li>• Document energy and demand savings</li> <li>• Provide verification and due diligence of project savings</li> <li>• Improve the design and implementation of existing and new/future programs through process evaluation</li> </ul>
<b>Key impact evaluation procedures</b>	<ul style="list-style-type: none"> <li>• Review tracking database and make recommendations for improvement</li> </ul>
<b>Key process evaluation procedures</b>	<ul style="list-style-type: none"> <li>• Program documentation review, including program plans or filings, marketing materials, and implementation contractor contract documents</li> <li>• Review redemption process and make recommendations for improvement of customer journey</li> <li>• Conduct interviews with utility program staff and implementation contractors</li> <li>• Conduct surveys with sample of customers to obtain information on the effectiveness of program design, measure installation rate, marketing, and program delivery, and to assess customer satisfaction</li> </ul>
<b>Key Performance Indicators</b>	<ul style="list-style-type: none"> <li>• Energy savings reported and verified</li> <li>• Demand savings reported and verified</li> <li>• Total participants reported and verified</li> <li>• Total measure quantities by measure type reported and verified</li> </ul>
<b>Suggested schedule</b>	<ul style="list-style-type: none"> <li>• Conduct impact and process evaluation bi-annually</li> </ul>
<b>Plan for working with the Energy Bureau's EM&amp;V contractor</b>	<ul style="list-style-type: none"> <li>• Respond to requests and provide information requested in a timely manner as available</li> <li>• Require implementation contractors to respond to requests and provide information requested in a timely manner as available</li> </ul>



## 4.7 Business Energy Efficiency Rebates

### PROGRAM DESCRIPTION

**Program Summary:** The Business Rebate Program offers customers a financial incentive for purchasing and installing eligible measures. To participate, customers are required to submit a rebate application by email or web portal. LUMA's implementation contractor will review and approve the application and issue an incentive check. Details about each project will be recorded in a detailed tracking database to ensure accurate reporting and verification.

**Services Provided:** A prescriptive financial incentive (\$/unit) will be offered for the installation of eligible measures. The specific details of final incentive levels, measure lists, and eligibility criteria will be finalized prior to program launch.

**Eligible Measures:** Limited data is available in Puerto Rico on baseline building and equipment conditions, from which to design a list of improvement measures. It is anticipated that HVAC, lighting, water heating equipment will be the primary focus of the program, with the potential to add other measures like appliances, building envelope and variable frequency drives as budget allows. These will be reviewed and finalized before market launch and updated as needed to reflect changing market conditions and program learnings. Without the benefit of a Baseline Study, these savings estimates rely on inputs and assumptions from other jurisdictions and represent indicative estimates for planning purposes. Table 4-26 presents a preliminary list of eligible measures, with indicative estimates of savings per measure and incentive per measure.

**Table 4-26. Business Rebate Program Measure List**

End-Use	Measure	Savings per measure (kWh per unit#)	Incentive per measure (\$ per unit)
<b>HVAC</b>	Rooftop AC	200-400	\$100-\$200 per ton
<b>HVAC</b>	Chillers	150-300	\$45 per ton
<b>Lighting</b>	Linear Fluorescent	30-50	\$3-\$8 per unit
<b>Lighting</b>	LED Troffer	100-200	\$10-\$20 per unit
<b>Lighting</b>	Omni directional	58	\$10 per unit
<b>Lighting</b>	Exit sign	345	\$7 per unit
<b>Sensors</b>	Occupancy Sensor	36	\$20 per sensor
<b>Water Heating</b>	Water Heating	2,150	\$675 per water heater
<b>Envelope</b>	Window Film	8.1	\$0.85 per sq ft
<b>Pumps</b>	Pool Pump Variable Frequency Drive (VFD)	6,343	\$225 per horsepower
<b>Food Services</b>	Refrigerator	490	\$100 per unit
<b>Food Services</b>	Combination Oven	13,804	\$500 per unit
<b>Food Services</b>	Convection Oven	1,933	\$275 per unit
<b>Food Services</b>	Fryer	1,876	\$250 per unit
<b>Food Services</b>	Ice Machine	1,243	\$100 per unit

**Incentive Strategy:** A prescriptive (fixed amount per measure) financial incentive will be available for each eligible measure, which will be updated periodically based on changing market conditions and pricing of the eligible measures. The program will likely start with a limited selection of measures and introduce additional measures periodically. The rationale for this phased strategy is to avoid oversubscribing the program by adding too many measures at once, resulting in early program closure.

**Incentive Rationale:** A prescriptive incentive strategy was selected to simplify the customer application process. Incentives per measure were determined based on a review of Technical Reference Manuals from relevant jurisdictions as well as investigation of pricing, where readily available, for the measures in Puerto Rico. The main references were the NREL Puerto Rico Energy Efficiency Scenario Analysis tool, Puerto Rico: Emerging Opportunities for Energy Efficiency and Equitable Clean Energy Development report, Hawaii Energy TRM, State of Hawaii Market Potential Study, and the current Hawaii Energy rebate catalogue. Additional resources included the Illinois TRM, Texas TRM, and Florida Power and Light rebate catalogue. We chose a broad range of end uses to provide potential participants with choices for making facility improvements to improve energy efficiency.

## PROGRAM THEORY AND OBJECTIVES

Commercial and industrial customers will be offered a range of eligible energy efficiency measures. A financial incentive of roughly 30%-50% of incremental cost will be available for each eligible measure to help defray the up-front cost of the measure. Program savings will be determined based on deemed savings per measure, eliminating the need for expensive, complicated on-site energy savings analysis which can present a barrier to adoption. By providing energy saving opportunities for a broad range of measures, the program will provide customers with opportunities to achieve energy and bill savings as well as opportunities to reduce greenhouse gas emissions and help Puerto Rico achieve its energy efficiency target. During the Transition Period, this program will help LUMA gain a better understanding of which measures will have the greatest uptake and savings for customers, as well as opportunities to improve the customer journey.

## TARGET CUSTOMER POPULATION

The program is open to all customers in the commercial and industrial sectors.

## BARRIER ANALYSIS

**Table 4-27. Barrier Analysis for Business Rebate Program**

	Barrier	Risk	How the Program will Address
<b>Lack of understanding of EE opportunities</b>	✓		The program will conduct direct marketing and outreach to potential C&I participants that will provide information regarding energy saving opportunities.
<b>Lack of customer capital to purchase EE products</b>	✓		The program provides incentives to reduce the up-front cost of high-efficiency equipment.
<b>Lack of availability of eligible products</b>	✓		LUMA will work with equipment suppliers to better understand stocking and availability of products locally. LUMA will update the list of eligible measures periodically based on consultation with participants, potential participants and equipment suppliers and distributors in Puerto Rico.
<b>Eligible product price uncertainty</b>		✓	LUMA will determine incentives based on prices in the PR market. LUMA understands that in 2023 there are inflationary pressures which may continue into 2024 and beyond. LUMA

			will monitor inflationary pressures and price volatility and adjust incentive levels if appropriate.
<b>Uncertainty of energy savings estimates</b>	✓	✓	LUMA has selected measures that are most likely to be cost-effective. LUMA will continue to refine energy savings estimates using data collected from participating projects.
<b>Lack of available contractors for facility assessments and measure installation</b>	✓		As part of delivery of the program in year 1, LUMA will reach out to contractor networks and associations in Puerto Rico and identify opportunities to help grow the network of trained contractors.

## MARKETING STRATEGY

Marketing for the Business Rebate Program will be conducted by an Implementation Contractor, with oversight from LUMA. The marketing strategy will target commercial and industrial customers through a range of channels which may include:

- Engagement and promotion through LUMA's website and social media channels, by providing information such as program description, frequently asked questions and answers, and contact information.
- Downloadable rebate applications and online rebate application process (when available).
- Cross-promotion with other programs.
- Program information and presentations on the program at events targeted to potential program participants and trade allies such as contractors/building owner and manager associations that service the commercial and/or industrial sectors.
- Case studies to showcase opportunities and program successes.
- Attendance at trade events to promote the program.

## BENEFITS: ESTIMATED ENERGY SAVINGS AND PROGRAM COSTS

**Table 4-28. Estimated Savings, # Participants, and Costs for Business Rebate Program**

Description	Yr. 1 Estimate	Yr. 2 Estimate	Total
<b>Annual Electricity Savings (MWh)</b>	17,551	18,604	36,156
<b>Lifetime Electricity Savings (MWh)</b>	189,484	200,853	390,336
<b>Peak Demand Savings (MW)</b>	4.7	5.0	9.7
<b>Gross Lifetime GHG Savings (MT of CO<sub>2</sub>)</b>	145,918	154,673	300,591
<b>Total Costs (\$)</b>	<b>\$4,218,750</b>	<b>\$4,471,875</b>	<b>\$8,690,625</b>

## PROGRAM TIMEFRAME

The table below shows the key tasks and timetable for pre-launch activities that must be completed in preparation for program launch. The timelines below provide illustrative timetables for the duration of activities required before program launch. LUMA is currently working with the implementation contractor to finalize program design details (e.g., measure list, incentive levels, program requirements, etc.), create program materials and rebate application processes. The Business Rebate program is expected to launch in Q4, 2024.

**Table 4-29. Program Timeframe - Business Rebate Program**

Pre-Launch Activities	FY24				FY25
	Q1	Q2	Q3	Q4	Q1+
Finalize Program Design Details & Operational Requirements					
Develop Program Materials and Application Process					
Begin Contractor Outreach					
Program Launch & Implementation					

## EVALUATION, MEASUREMENT, AND VERIFICATION (EM&V)

The table below describes the EM&V plan including procedures that will be implemented to determine whether the program achieved its objectives.

**Table 4-30. EM&V for Business Rebate Program**

EM&V Objectives and Procedures	How the Program will Address EM&V Objectives and Procedures
<b>Program objectives</b>	<ul style="list-style-type: none"> <li>• Achieve savings target</li> <li>• Provide measures for a range of commercial and industrial end uses with financial incentives</li> <li>• Provide potential participants with choice of measures and measure cost for making facility improvements to improve energy efficiency</li> <li>• Assess barriers and market readiness for scale-up</li> </ul>
<b>Evaluation objectives</b>	<ul style="list-style-type: none"> <li>• Document energy and demand savings</li> <li>• Provide verification and due diligence of project savings</li> <li>• Improve the design and implementation of existing and new/future programs through process evaluation</li> </ul>
<b>Key impact evaluation procedures</b>	<ul style="list-style-type: none"> <li>• Review approximately 5% of project applications through due diligence inspections of a sample of project documentation</li> <li>• Review tracking database and make recommendations for improvement</li> <li>• Conduct phone or online survey for verification of installation, persistence, and savings accuracy</li> </ul>
<b>Key process evaluation procedures</b>	<ul style="list-style-type: none"> <li>• Program documentation review, including program plans or filings, marketing materials, implementation contractor contract documents, and program website(s)</li> <li>• Conduct interviews with utility program staff and implementation contractors</li> <li>• Conduct surveys with sample of customers and trade allies/contractors to understand the effectiveness of program design, marketing and retailer acquisition, and program administration or delivery, and to assess customer satisfaction</li> </ul>
<b>Key Performance Indicators</b>	<ul style="list-style-type: none"> <li>• Energy savings reported and verified</li> <li>• Demand savings reported and verified</li> <li>• Total participants reported and verified</li> </ul>

	<ul style="list-style-type: none"><li>• Total measure quantities by measure type reported and verified</li><li>• Customer and trade ally/contractor satisfaction</li></ul>
<b>Suggested schedule</b>	<ul style="list-style-type: none"><li>• Conduct impact and process evaluation bi-annually</li></ul>
<b>Plan for working with the Energy Bureau's EM&amp;V contractor</b>	<ul style="list-style-type: none"><li>• Respond to requests and provide information requested in a timely manner as available</li><li>• Require implementation contractors to respond to requests and provide information requested in a timely manner as available</li></ul>

## 4.8 LUMA Street Lighting Conversion Program

The following section provides an overview of LUMA's Street Lighting Conversion Program, which is currently underway.

### PROGRAM DESCRIPTION

As a result of natural disasters including hurricanes and earthquakes, an estimated 70% of the ~ 500,000 streetlights in Puerto Rico are damaged and require repair, replacement, or upgrade. Of the 70% damaged streetlights, LUMA estimates that approximately 15% of the distribution streetlights are a physical safety hazard that require hazard mitigation. The "Community Streetlight Initiative" is a \$1.2 billion FEMA-funded program designed to repair or replace the streetlight infrastructure and upgrade to applicable codes and standards, such as light emitting diode (LED) technology and the use of stronger poles that can withstand 160 mph winds.

Field assessments first categorize assets according to their health, based on estimates of condition (likelihood of failure) and criticality (consequence of failure) and will assign an asset score from 0 (worst) to 4 (best). As per Puerto Rico Energy Public Policy Law No. 17 (April 11, 2019), all existing high-pressure sodium (HPS) lamps will be replaced with LEDs. All streetlights also require data entry into the GIS system (per local rules), properly grounded and potential underground feeding them repaired with a longer term need to evaluate and plan implementation of a smart streetlighting system.

### PROGRAM OBJECTIVES

The program's main objectives are increasing efficiency, enhancing reliability, improving resiliency to withstand extreme weather events, and reducing operation and maintenance costs. This program improves public safety and customer experience by restoring streetlights to working order.

### BENEFITS: ESTIMATED ENERGY SAVINGS AND PROGRAM COSTS

Table 4-31 below provides an initial estimate of energy savings and costs for the Street Lighting Program during the Transition Period.

**Table 4-31. Estimated Savings, # Participants, and Costs for the Street Lighting Program**

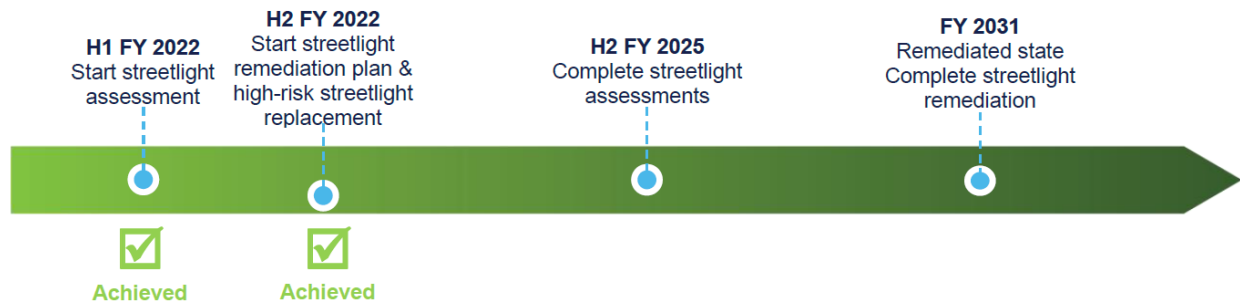
Description	FY24 Estimate	FY25 Estimate*	Total
Annual Electricity Savings (MWh)	83,000	TBD	TBD
Planned Unit Replacements (#)	89,767	TBD	TBD
<b>Total Costs (\$)</b>	<b>\$70.0</b>	<b>TBD</b>	<b>TBD</b>

\*LUMA is currently conducting the FY25 budgeting process, which has yet to be finalized for this program.

### PROGRAM IMPLEMENTATION TIMEFRAME

The figure below shows the program implementation timeline. The Program was officially launched in June 2022 and will continue until 2040.

**Figure 4-32. Street Lighting Program Timeline**



## 5.0 Program Management and Implementation Strategies

The objective of this section is to provide a description of how LUMA plans to manage and implement the Transition Period programs.

### 5.1 Overview of Management and Implementation Strategies

Mass-market energy efficiency incentive programs are complex to administer and have never been offered in Puerto Rico. Because of this complexity, large-scale EE programs are typically delivered through independent “Implementation Contractors” (IC) that are experts in the design and delivery of EE programs. Table 5-1 below describes potential implementation strategies for the Transition Programs and their relative pros and cons. The primary differences between each option are the extent to which they rely on implementation contractors.

Because of LUMA's limited internal resources, LUMA decided to move forward with a turnkey approach through a competitive process to select a vendor to deliver the TPP portfolio on behalf of LUMA, with LUMA retaining oversight of overall program administration.

**Table 5-1. Implementation Strategies**

Model	Description	Pros	Cons
<b>100% Internal</b>	<ul style="list-style-type: none"> <li>All implementation activities undertaken by internal LUMA staff</li> </ul>	<ul style="list-style-type: none"> <li>Makes use of existing resources</li> <li>LUMA has full control over delivery</li> <li>Could be the most cost-effective</li> <li>Could be the quickest to ramp-up</li> </ul>	<ul style="list-style-type: none"> <li>Lack of sufficient internal resources</li> <li>Without sufficient resources it will take time to hire and train additional resources which will delay ramp-up and affect cost-effectiveness</li> </ul>
<b>Turnkey</b>	<ul style="list-style-type: none"> <li>Except for functions that only the utility can do, the remainder of implementation is contracted out.</li> </ul>	<ul style="list-style-type: none"> <li>Lower risk</li> <li>Retaining a third party with adequate resources to achieve the targets</li> <li>Limited need for internal resources to manage the third-party</li> <li>A performance-based approach increases cost-effectiveness and achievement of targets</li> </ul>	<ul style="list-style-type: none"> <li>Tendering and contracting process is time consuming and requires sufficient lead time</li> <li>Less control of program delivery by utility</li> <li>Higher cost than internal delivery</li> </ul>
<b>Partial Turnkey</b>	<ul style="list-style-type: none"> <li>Outsource for services that are better delivered through a third party. The remaining services would be delivered by internal LUMA staff.</li> </ul>	<ul style="list-style-type: none"> <li>Combination of pros from internal and turnkey</li> <li>Provides flexibility for what is best done internally and what is best outsourced</li> </ul>	<ul style="list-style-type: none"> <li>Combination of cons from internal and turnkey</li> <li>May be more complex if more than one tendering and contracting process for expertise</li> </ul>



<b>Embedded Consultant</b>	<ul style="list-style-type: none"> <li>• Staff augmentation through a third party to provide project management office services related to program delivery.</li> <li>• Building internal capacity through training of utility staff</li> <li>• Direct to specific need</li> <li>• More control than with turnkey or partial turnkey</li> </ul>	<ul style="list-style-type: none"> <li>• More expensive than turnkey or partial turnkey</li> <li>• Decreased clarity of boundaries between consultant and utility</li> </ul>
<b>Trade Allies</b>	Trade allies are cross-cutting. The need for and roles of trade allies depends on the program, all programs are expected to have trade allies. This is the network of partners in delivery that provide complementary services to customers which help customers to leverage incentives provided through LUMA programs, but these services are not part of LUMA's programs and therefore LUMA does not pay for these trade ally services, e.g., site audits, measure selection, and installation.	

**\*\*Strategies can be developed to mitigate cons**

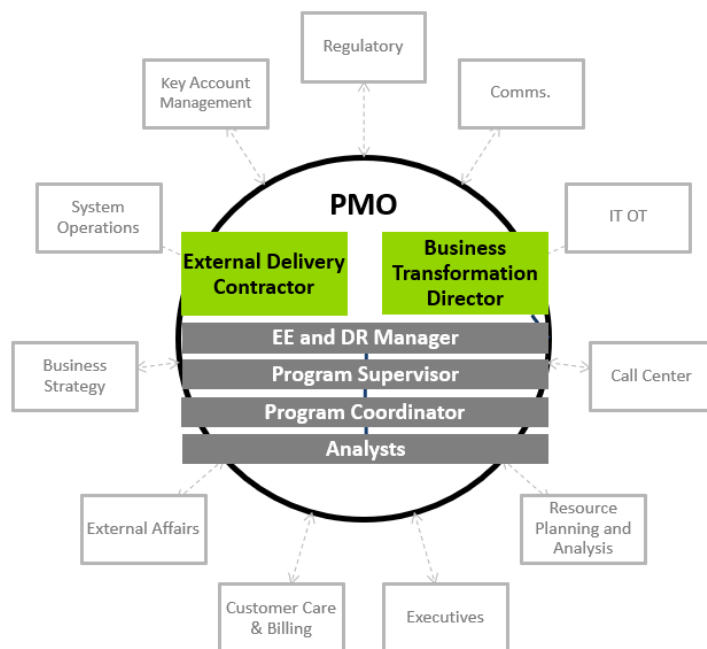
Table 5-2 below shows LUMA's strategic approach for developing key features of the TPP based on the turnkey model, with a turnkey service provider and LUMA's oversight through a Project Management Office (PMO).

**Table 5-2. Strategic Development Approach**

Item	Strategic Approach
Program Metrics	<ul style="list-style-type: none"> <li>• Track monthly, yearly and total by program, segment, sector and portfolio and cumulative to date for all metrics required in Tables 1 through 5 inclusive in TPP Appendix A part 2, for EE-DR TPP</li> </ul>
Communications	<p><b>Internal</b></p> <ul style="list-style-type: none"> <li>• Weekly internal progress meetings by program to address emerging issues</li> <li>• Monthly internal progress meetings by program, and portfolio to identify course correction/enhancement opportunities within continuous improvement framework</li> <li>• Quarterly review of portfolio and need for/opportunity for additional programming, budget/funding</li> </ul> <p><b>External</b></p> <ul style="list-style-type: none"> <li>• Stakeholder advisory meetings to review progress on programs and portfolio and obtain feedback on improvements/enhancements</li> <li>• Ongoing program communications as described for each of the programs</li> <li>• Ad-hoc, external meetings to be scheduled, as needed</li> </ul>
Budgeting and Financial Management	<ul style="list-style-type: none"> <li>• Monthly and quarterly reviews of portfolio expenditures to date, forecast of expenditures over next month, quarter, and year, review of risks and risk mitigation strategy</li> </ul>
Program Implementation	<ul style="list-style-type: none"> <li>• LUMA has chosen a portfolio of EE and DR programs for year 1 which can be launched relatively quickly, while providing broad coverage of customers and electricity end-uses</li> <li>• Year 2 programs build on those of year 1, expanding measures, channels for delivery and enhancing program sophistication</li> </ul>
Procurement	<ul style="list-style-type: none"> <li>• LUMA issued an RFP for turnkey delivery of its TPP portfolio consistent with its internal policies and processes for competitive procurement</li> </ul>
Program Tracking and Reporting	<ul style="list-style-type: none"> <li>• Set up tracking system with Excel spreadsheets, with view to consider moving to more sophisticated database tracking for 3-year EE and DR plans</li> <li>• Prepare quarterly reports and year 1 annual report</li> <li>• Update TPP report to be submitted to the Energy Bureau</li> </ul>

Figure 5-1 illustrates the staffing of LUMA's PMO. The PMO is responsible for implementing the TPP. The diagram also shows informal linkages with other parts of LUMA that will be providing support services to the TPP implementation such as the LUMA call center and account managers.

**Figure 5-1. Organizational Chart for LUMA TPP Management Team**



LUMA has hired a turnkey contractor to implement the TPP programs. The contractor may bring a team of subcontractors, as needed, to address all the areas necessary for program delivery of the broad range of programs included in the TPP. However, the prime contractor is directly responsible to LUMA through contractual means for the delivery of the turnkey services needed. The breakdown of services for each program are described in the following tables.

The implementation services are broken down by services related to EE programs and those for DR programs. LUMA will finalize the specific services for each program and the overall portfolio in the contracting stage with the selected vendor. Table 5-3 below details the implementation services for the energy efficiency programs. Most functions will be delivered by a specialized program Implementation Contractor, with oversight from LUMA personnel.

**Table 5-3. Energy Efficiency Program Implementation Responsibilities**

Business Function	Residential Rebates	Business Rebates	In-Store Discount Program
<b>Program Administration</b>	LUMA PMO		LUMA PMO
<b>Application Review and Approval</b>	Implementation Contractor		Implementation Contractor
<b>Measure Installation</b>	Local Service Providers		Local Service Providers
<b>Incentive Processing/Payment</b>	Implementation Contractor		Implementation Contractor
<b>Marketing, Participant Recruitment</b>	LUMA / Implementation Contractor		LUMA / Implementation Contractor

<b>Local Contractor Outreach, Training and Management</b>	Implementation Contractor	Implementation Contractor
<b>Call Center and Customer Resolution</b>	Implementation Contractor	Implementation Contractor
<b>QAQC and Verification</b>	Implementation Contractor	Implementation Contractor
<b>Data Tracking and Reporting</b>	Implementation Contractor	Implementation Contractor
<b>Coordination With EE and DR Programs</b>	LUMA PMO	LUMA PMO

Table 5-4 below details the implementation services breakdown for the DR programs in the first year of the TPP. In Year 1 most, if not all, of the services are expected to be carried out by LUMA.

**Table 5-4. Demand Response Program Implementation Responsibilities**

<b>Business Functions</b>	<b>Customer Battery Energy Sharing program</b>
<b>Define Program Parameters and Initiate DR Events</b>	LUMA is responsible for defining dispatch criteria and for calling DR events
<b>Marketing, Participant Recruitment, and Outreach</b>	Aggregators
<b>Technology Provision and Enablement</b>	Aggregators
<b>Data Tracking and Reporting</b>	LUMA / Aggregators
<b>Billing and Incentive Payments</b>	Aggregators
<b>QAQC and verification</b>	LUMA

Table 5-5 below details the implementation services breakdown for the Education and Outreach program.

**Table 5-5. Education and Outreach Program Responsibilities**

<b>Business Function</b>	<b>Education and Outreach Program</b>
<b>Program Administration</b>	LUMA PMO
<b>Messaging Development</b>	Implementation Contractor
<b>Marketing, Customer Outreach</b>	LUMA / Implementation Contractor
<b>Technical Assistance for Community Projects</b>	LUMA / Implementation Contractor
<b>Development / Hosting of Web Tools</b>	Implementation Contractor
<b>Social Media/Online Presence Management</b>	Turnkey contractor leverages internal LUMA's current messaging platforms, with LUMA oversight
<b>QAQC and Verification</b>	Implementation Contractor
<b>Tracking and Reporting</b>	Implementation Contractor
<b>Coordination with other EE and DR programs</b>	LUMA

### 5.1.1 Addressing Human Resource and Contractor Resource Constraints

Table 5-6 below details the plans to address both internal and contractor resource constraints to ensure that adequate personnel and contractors are available to implement the TPP successfully. These constraints include human resource constraints and other relevant resource constraints.

**Table 5-6. Internal and Contractor Resource Constraints**

Internal and Contractor Resource Constraints	Plans to Address
<b>Limited technical expertise in EE and DR program delivery in Puerto Rico</b>	<ul style="list-style-type: none"> <li>Hire experienced turnkey contractor in EE and DR program delivery which can provide the requisite services for all the programs within the TPP portfolio, for LUMA internal PMO staff</li> <li>LUMA can partner with educational institutions to develop and implement training programs to provide needed skillsets to build up internal capabilities</li> </ul>
<b>Lack of internal staff to administer program</b>	<ul style="list-style-type: none"> <li>Develop strategies to attract and retain skilled staff to LUMA and Puerto Rico</li> <li>LUMA expects to hire four new FTEs, including one supervisor</li> </ul>
<b>Limited funding</b>	<ul style="list-style-type: none"> <li>As part of the monitoring and tracking process, LUMA will match program design and delivery to available budget</li> <li>LUMA will ensure that it reviews budget actuals with budget forecast with turnkey contractor on a regular basis to ensure expenditures stay within available budget</li> </ul>
<b>Lack of robust EE and DR tracking systems</b>	<ul style="list-style-type: none"> <li>Research, procure, and implement more advanced tracking methods</li> <li>Select turnkey contractor with robust technology for EE and DR tracking</li> </ul>
<b>Lack of existing AMI infrastructure</b>	<ul style="list-style-type: none"> <li>LUMA will leverage device data until AMI is available</li> </ul>

### 5.1.2 Program Administration

LUMA's strategy for the management of Transition Period programs is to provide oversight and administration to a third-party implementation contractor(s), who will have primary responsibility for program delivery. Implementation Contractors are experts in the delivery of EE and DR programs and leverage existing processes, systems (rebate fulfillment, etc.) and program materials (websites, collateral, etc.) that would take LUMA years to develop internally.

## IMPLEMENTATION CONTRACTOR OVERSIGHT

LUMA's approach to overseeing the performance of the turnkey contractor to achieve results, within budget and ensure customer satisfaction, is multifaceted. It begins with the turnkey implementation contract with a detailed statement of work including performance targets, schedule, and required tracking and reporting to LUMA. The contractor's statement of work will also detail the turnkey contractor's roles and responsibilities by program, key milestones, and payment structure. In addition, it will include the contractor's project management, QAQC, customer engagement – handling inquiries and customer complaints – and marketing approaches.

As described above, the turnkey contractor will meet with LUMA on a regular basis to report on progress, identify emerging issues and steps to addressing them and provide the necessary data to meet LUMA's requirements regarding its quarterly and annual reporting to the Energy Bureau, as well as addressing any ad hoc needs as they emerge.

The turnkey contractor will participate fully in LUMA's continual improvement process for the delivery of the TPP. This may include the participation in process interviews, stakeholder workshops, program evaluation activities, and identification of lessons learned and recommendations for improvement, to be documented in quarterly and annual reports, as appropriate.

### EARLY WARNING SYSTEMS

Recognizing that this is LUMA's first portfolio of EE and DR programs, flexibility is needed in program design and delivery to be able to respond to learnings and changes in markets within a continuous improvement approach. While LUMA has developed preliminary budget estimates for each program, it will be important to be able to move dollars between programs to respond to customer needs while ensuring broad access for eligible participants to all the programs.

Table 5-7 below details early warning systems for the TPP that LUMA will employ to indicate progress towards achieving program goals and whether they are likely to be met. Data tracking and reporting as part of the early warning system indicates progress towards achieving targets and allows LUMA to identify and resolve problems in a timely manner. LUMA will work closely with a Stakeholder Advisory group to generate feedback and insights for program improvement.

**Table 5-7. Early Warning Systems**

LUMA Processes & Systems	Implementation Contractor Requirements	Stakeholder Consultation
<b>Weekly internal progress meetings by program to address emerging issues</b>	Weekly progress meetings between LUMA and a turnkey contractor to address emerging issues	Ongoing program communications as described for each of the programs
<b>Monthly internal progress meetings by program, and portfolio to identify course correction/enhancement opportunities within continuous improvement framework</b>	Monthly progress meetings between LUMA and turnkey contractor by program, and portfolio to identify course correction/enhancement opportunities within continuous improvement framework	Ad-hoc, external meetings scheduled as needed with Stakeholder Advisory Group. Issues tracking and resolution reported to stakeholders, as appropriate
<b>Quarterly review of portfolio and need for/opportunity for additional programming, budget/funding</b>	Quarterly review and reporting of portfolio expenditures to date, forecast of expenditures over next month, quarter, and	Quarterly report submitted to the Energy Bureau

	year, review of risks and risk mitigation strategy	
<b>Track monthly, yearly and total by program, segment, sector, and portfolio and cumulative to date for all metrics required in Tables 1 through 5 inclusive of the Energy Bureau's TPP Template Appendix A part 2</b>	Turnkey contractor will provide annual report to LUMA	Annual report submitted to the Energy Bureau. Six-month stakeholder progress meetings led by LUMA to review progress on programs, and obtain feedback on improvements and enhancements
<b>Set up tracking system with Excel spreadsheets, with view to consider moving to more sophisticated database tracking for 3-year EE and DR plans</b>	Implementation Contractor will ensure all program data is tracked in the specified format to allow for standardized reporting and evaluation	Ad-hoc, external meetings scheduled as needed

#### OVER OR UNDER-SPENDING

In order to maintain visibility to the Energy Bureau of the status of the cost and the effectiveness of implementation of the EE and DR programs, and, as ordered by the Energy Bureau in its February 16, 2023 Resolution and Order, LUMA will monitor and report the rate of spending and maintain visibility of the status of cost and the effectiveness of program implementation. LUMA will report overspending or underspending of more than 20 percent, relative to the FY24 program budgets in the Proposed TPP, by program and/or for the portfolio as soon as it is identified. LUMA will include a detailed explanation for any differences of more than 20 percent between planned and actual spending by the program affected and/or for the portfolio as a whole. LUMA will also propose and implement shifts in funds between programs, including where necessary between fiscal years, to maintain reasonable levels of program continuity.

## 6.0 Reporting and Tracking Systems

The objective of this section is to provide detailed description data management, tracking and reporting systems that LUMA will implement during the Transition Period and in alignment with the schedule as approved by the Energy Bureau in the November 29, 2023 Resolution and Order.<sup>8</sup>

### 6.1 Reporting

#### 6.1.1 Quarterly and Annual Reports

LUMA will prepare quarterly and annual reports regarding the TPP for the Energy Bureau. Quarterly reports will be filed within 60 days of the end of each quarter. Annual reports will be filed no later than 90 days following the end of each Program Year. Each Program Year ends June 30<sup>th</sup> after a twelve-month period, so the first annual report was filed on October 30, 2023, and the second annual report – the final TPP report - will be filed in October 28, 2025. Table 6-1 below depicts a preliminary filing date for each quarterly and annual report in alignment with the Energy Bureau's November 29, 2023 Resolution and Order granting LUMA's request to extend the TPP by one year, to June 20, 2025, and to delay the schedule (including all required drafts and stakeholder engagement processes) for the Three-Year Plan by one year.

**Table 6-1. Schedule for Quarterly, Annual Reports and Stakeholder Meetings**

Reporting Period	Report Type	Report Filing Date
<b>FY2024 Q2 Report on DR Administrative Costs</b>	Quarterly	February 14, 2024
<b>FY2024 Q2 Report</b>	Quarterly	March 29, 2024
<b>FY2024 Q3 Report on DR Administrative Costs</b>	Quarterly	May 15, 2024
<b>FY2024 Q3 Report</b>	Quarterly	May 29, 2024
<b>FY2024 Q3 Report on DR Administrative Costs</b>	Quarterly	August 14, 2024
<b>FY2024 Q3 Report on DR Administrative Costs</b>	Annually	October 28, 2024
<b>FY2024 Q1 Report</b>	Quarterly	November 29, 2024
<b>Draft FY2025 – FY2027 Three Year Plan</b>	Draft Three Year Plan	December 2, 2024
<b>Stakeholder Meeting to discuss FY2023 Annual Report and Draft FY2025-FY2027 Three-Year Plan</b>	Stakeholder Meeting	December 2024
<b>FY2025-FY2027 Three Year Plan</b>	Three Year Plan	March 1, 2025
<b>FY2024 Q2 Report</b>	Quarterly	March 1, 2025
<b>FY2024 Q3 Report</b>	Quarterly	May 1, 2025
<b>FY2024 Q4 Report</b>	Quarterly	August 29, 2025
<b>FY2024 Annual Report</b>	Annually	October 28, 2025
<b>FY2025 Q1 Report</b>	Quarterly	November 29, 2025

<sup>8</sup> See November 29<sup>th</sup> Resolution and Order at page 7.



## Quarterly Reports Intended Contents

The quarterly reports are intended to serve as status updates throughout the year. They will include the following items, as data allows:

- Introduction
  - Report overview and purpose
- Description of implementation progress
  - Description of marketing and customer outreach and engagement executed and planned for future delivery
  - High level summary of program implementation experience to date
- Participants enrolled
  - The number of participants during the quarter for each program, as applicable
  - DR resources enrolled/acquired during the quarter
    - Counted by program, and sector/segment
    - Participants and total MW enrolled via aggregator or directly, if applicable
- Performance
  - Preliminary estimates of energy (MWh) and peak demand savings (kW) achieved during the Quarter for each sector and subsegment (Table 1 from Appendix A part 2), and as it relates to annual targets.
  - Preliminary estimates of energy (MWh) and peak demand (kW) savings achieved during the Quarter for each program (Table 3 from Appendix A part 2), and as it relates to annual targets
  - For DR, enrolled customers and load, average impacts per event, aggregate seasonal/annual impacts (kW), impacts as % of enrolled load, and average event response (%)
  - For the Education and Outreach the number of events, posts and/or website traffic, depending on the final design of the program.
- Cost
  - Costs to-date for each program during the Quarter
  - Description of any budget updates
- Conclusions and recommendations
  - Identification of any specific areas that need modifications/improvements, recommendations for course correction, and quarterly adjustment based on tracking and experience

## Annual Reports Intended Contents

The annual reports are intended to document annual performance and provide updates for the following year. These reports will include the following items as data allows:

- Introduction
  - Report overview and purpose
- Description of LUMA's activities and achievements in the Program Year
- Report of progress on the Transition Period Plan
- Participants enrolled



- The total number of Program Year participants for each program, as applicable.
- What resources have been enrolled/acquired
  - Counted by program, and sector/segment
  - For DR, participants and total MW enrolled via aggregator or directly, if applicable
  - For EE, additionally counted by measure, as applicable
- Performance<sup>9</sup>
  - Final energy (MWh) and peak demand (kW) savings achieved, and GHG savings achieved during the Program Year for each program. (Table 3 from Appendix A part 2)
  - Final energy (MWh) and peak demand savings (kW) achieved during the Program Year for each sector, including segments (low-income, small business, government/public). (Table 1 from Appendix A part 2)
  - For DR, enrolled customers and load, average impacts per event, aggregate seasonal/annual impacts (kW), impacts as % of enrolled load, and average event response (%)
  - For the Education and Outreach program, the number of events, posts and/or website traffic, depending on the final design of the program.
  - Performance for the year as it relates to annual targets
- Cost
  - Updated program budget for each sector and segment during the Program Year, including program implementation budget, participant costs, and utility performance incentive. (Table 2 from Appendix A part 2)
  - Costs for each program during the Program Year (Table 4 from Appendix A part 2), also by segment, sector, and aggregated at the portfolio level
  - Costs and funding update by sector and segment, including total planned program budget, funds from external sources, allocation of funds from existing rates and other programmatic revenues, incremental ratepayer funds required from EE rider (Table 5 from Appendix A part 2)
- Conclusions and recommendations
  - Lessons learned and recommended changes for the following year (Year 1 report) or for the three-year plans (Year 2 report)

### 6.1.2 Data on Transition Period Programs

The data on the TPP programs available for the Energy Bureau's review are as shown in Table 6-2 below.

**Table 6-2. Data, Format, and Time Frame of Availability for TPP Data**

Data	Format	Timeframe
<b>Number of participants by sector, segment, and program</b>	Excel spreadsheet, table in quarterly and annual reports	To-date values provided in quarterly reports, annual values provided in annual reports

<sup>9</sup> There will be an independent third-party verification of performance for EE and DR programs

<b>Enrolled resources (DR) by sector, segment, and program. Also sorted by direct enrollment via DR aggregator or directly, if applicable</b>	Excel spreadsheet, table in quarterly and annual reports	To-date values provided in quarterly reports, annual values provided in annual reports
<b>Installed measures (EE) by sector, segment, and program</b>	Excel spreadsheet, table in quarterly and annual reports	To-date values provided in quarterly reports, annual values provided in annual reports
<b>Gross annual and lifetime energy (MWh) savings by sector, segment, and program</b>	Excel spreadsheet, table in quarterly and annual reports	To-date values provided in quarterly reports, annual values provided in annual reports
<b>Peak demand savings (MW) by sector, segment, and program</b>	Excel spreadsheet, table in quarterly and annual reports	To-date values provided in quarterly reports, annual values provided in annual reports
<b>Website traffic, post likes/interaction</b>	Excel spreadsheet, table in quarterly and annual reports	To-date values provided in quarterly reports, annual values provided in annual reports
<b>Costs and budget updates by program</b>	Excel spreadsheet, table in quarterly and annual reports	To-date values provided in quarterly reports, annual values provided in annual reports

## 6.2 Project Management Tracking Systems

### 6.2.1 Overview of the Data Tracking System

A comprehensive and standardized excel spreadsheet will be developed to accurately track individual project details, aggregated by program and sector level, as applicable. Data will also be provided at the portfolio level, where appropriate. Each program may have additional specific data fields relative to its sector, segments, program design, energy and demand savings, and GHG savings. LUMA's PMO will be responsible for providing periodic data extracts to external parties.

### 6.2.2 Software and Data Exchange Format, and Database Structure

The format for software and data exchange is through the database structure of Excel spreadsheets. The data exchange will be overseen by LUMA and carried out in a systematic and organized way based on a regular schedule.

Table 6-3 below indicates examples of data fields captured. Data field examples for specific programs are elaborated further in this section.

**Table 6-3. Data Field Examples**

Energy Efficiency	Demand Response
<ul style="list-style-type: none"> <li>Identifying information: sector, segment, program</li> <li>Enrolled participant numbers</li> <li>Deemed savings (kWh) from measure counts by type of measure, including number of items installed</li> <li>Annual and lifetime electricity savings (MWh)</li> <li>Peak demand savings (kW) if applicable</li> <li>Incentive costs (\$) and non-incentive programmatic costs</li> <li>Costs incurred by participant (\$)</li> </ul>	<ul style="list-style-type: none"> <li>Identifying information: sector, segment, program</li> <li>Number of events called</li> <li>Eligible and enrolled participants and load</li> <li>Average and total incentive to customers</li> <li>Peak demand reduction during DR event, aggregate savings by season/year, customer opt-outs, realized savings as % of enrolled load</li> <li>Incentive costs (\$) and non-incentive programmatic costs</li> </ul>

### 6.2.3 Data Access by the Energy Bureau and EM&V Contractor

LUMA will provide the Energy Bureau's EM&V contractor with access to the data tracking spreadsheet extracts used throughout the program implementations as well as assumptions, processes, and information requested from the EM&V contractor as needed. LUMA will respond to data requests on a regular schedule and provide information requested in a timely manner as available. LUMA will require their turnkey contractor and the turnkey contractor's subconsultants to respond to requests and provide information in a timely manner as available. LUMA will provide the data as follows:

- A secure shared folder will be created for file transfer.
- Customer identifiable details will be treated with high sensitivity and security and scrubbed before uploading to the Energy Bureau's website.

## 7.0 Quality Assurance and Evaluation, Measurement, and Verification

The objective of this section is to provide detailed description of how LUMA's quality assurance/quality control and verification process will be conducted and how this will integrate with EM&V contractor.

### 7.1 Quality Assurance/Quality Control

#### 7.1.1 Overall Approach to Quality Assurance and Quality Control

LUMA will work with turnkey implementation contractor to develop and implement quality assurance and quality control (QAQC) procedures for EE and DR programs. The procedures will evaluate whether each project complies with program requirements for customer eligibility, measure installations, enrollment, and verification of savings. The turnkey implementation contractor will be responsible for leading quality assurance and quality control, with LUMA providing oversight. The overall process will reflect the industry's standard practices and adherence to the EE Regulation. Quality assurance and quality control activities that LUMA will undertake may include, but not be limited to:

##### Quality Assurance:

- Provide trainings to staff and turnkey implementation contractor, as needed
- Develop standard policies and procedures
- Conduct spot checks of customer applications and incentives processing for eligibility, completeness, and accuracy
- Conduct follow-up surveys and develop quarterly reports to assess the quality of program delivery and incorporate learnings into a continual improvement process
- Ensure turnkey implementation contractor meets at least minimum standards for industry QAQC practices

##### Quality Control:

- Implement internal controls for data tracking and reporting and require similar controls for the turnkey implementation contractor
- Designate roles for program review and validation to ensure reporting and documentation methodologies are consistent

#### 7.1.2 Procedures for Measure and Project Installation Verification, QAQC, and Savings Documentation

LUMA will ensure proper installation verification, general QAQC, and savings documentation. Table 7-1 provides a detailed outline of the specific procedures. LUMA will review these on an ongoing basis and revise as needed to foster a continuous improvement process.

**Table 7-1. Procedures – Measure, Installation, QAQC, and Savings Documentation**

Item	Energy Efficiency	Demand Response
<b>Measure and project installation verification</b>	<ul style="list-style-type: none"><li>• Review all program related collateral for effectiveness</li><li>• Review approximately 5% of project applications on a yearly basis through due diligence, desk-top inspections of</li></ul>	<ul style="list-style-type: none"><li>• Review all program related collateral for effectiveness</li><li>• Provide verification and due diligence of aggregated program savings, average</li></ul>

	<p>a sample of project documentation – no on-site visits</p> <ul style="list-style-type: none"> <li>• Verification of installation, and savings accuracy</li> </ul>	<p>event savings, and total enrolled customers and nominated load for DR</p>
<b>QAQC</b>	<ul style="list-style-type: none"> <li>• Provide training on the programs, develop checklist for standard questions and rebate application review to ensure the application was filled out properly, initial review by staff</li> <li>• Potential to develop automated check for completeness, correctness, eligible measures in year 2 or beyond</li> <li>• Supervisor will review, any duplicates for incentives will be removed, ensure incentive calculation is done correctly</li> </ul>	<ul style="list-style-type: none"> <li>• Potential to develop automated check for completeness, correctness in year 2 or beyond</li> <li>• Supervisor will review and verify reported average event savings, aggregated program savings, and total enrolled customers and nominated load for DR</li> </ul>
<b>Savings documentation</b>	<ul style="list-style-type: none"> <li>• Deemed savings per measure on eligible measure list will be used to calculate savings</li> <li>• Excel spreadsheet will include all the measures, number installed, savings per measure, and which program, sector, and segment those savings are attributed to (Tables 1 and 3 in Appendix A Part 2)</li> <li>• In the quarterly report, the savings will be presented by quarter and to-date relative to annual targets, and for the annual report the savings will be presented for the year and relative to annual targets</li> </ul>	<ul style="list-style-type: none"> <li>• Excel spreadsheet will include savings per event, aggregate program savings, customer opt-outs, and which program, sector, and segment those savings are attributed to (Tables 1 and 3 in appendix A part 2).</li> </ul>

### 7.1.3 Process for Collecting and Addressing Feedback

LUMA and the selected implementation contractor(s) will oversee the process for collecting and addressing feedback from customers, contractors, and trade allies. Feedback including queries, suggestions and complaints will be essential to assess the different types of energy saving behaviors and to improve program delivery and future program designs. The process for collecting and addressing feedback is described below:

#### Customers:

- Develop and implement customer complaint resolution process for programs, which will include tracking each complaint and how it was addressed
- Set up customer help desk to respond to questions or complaints relating to programs

- Conduct structured customer surveys to gather additional feedback

**Contractor and Trade Allies:**

- Conduct interviews with contractors and trade allies

**External Stakeholders:**

- LUMA will work closely with a Stakeholder Advisory group to generate feedback and insights for program improvement.
- Schedule formal stakeholder meetings every 6 months to gather and integrate feedback on program delivery through a continual improvement process.
- Ad-hoc meetings with Stakeholder Advisory Group will be conducted as needed.

## 7.2 Planned Evaluations and Use of Results

Each program will be reviewed by an independent evaluator selected by the Energy Bureau on a biannual basis. LUMA will help support the evaluation process and incorporate findings to improve programs from following processes:

- Provide program data required for conducting impact and process evaluation
- Review the evaluation results from the Energy Bureau's independent evaluator
- Consider incorporating the recommendations and lessons learned from independent evaluation for program delivery
- Address learnings from evaluations in the 3-year EE and DR plans

The Energy Bureau will publish the final report for each verification activity no later than 120 days following LUMA's filing of the annual report. LUMA will review and incorporate findings from these reports as part of LUMA's continuous improvement process.

The EM&V budget for each program, which is part of the program administration budget, will be 3% of each program's total budget, conducted on a biannual basis. Table 7-2 below details the budget for each of these evaluations.

**Table 7-2. Estimated Budget for Planned Evaluation by the Energy Bureau's EM&V Contractor**

Program	Y1 Program Budget	Y1 Planned Evaluation Budget	Y2 Program Budget	Y2 Planned Evaluation Budget
Residential Rebate	\$4,218,750	\$0	\$4,471,875	\$134,156
In-Store Discount	\$100,000	\$0	\$1,125,000	\$33,750
EE Kits	\$676,700	\$0	\$676,700	\$20,301
Business Rebate	\$4,218,750	\$0	\$4,471,875	\$134,156
Customer Battery Energy Sharing	\$5,032,813	\$0	\$5,032,813	\$150,984
Customer Education/Awareness	\$1,125,000	\$0	\$1,500,000	\$45,000
<b>Total</b>	<b>\$15,372,013</b>	<b>\$0</b>	<b>\$17,278,263</b>	<b>\$518,348</b>

### **7.3 Strategy for Coordinating with the EM&V Contractor**

LUMA will provide the Energy Bureau's EM&V contractor with access to the data tracking spreadsheets used throughout the program implementation period as well as assumptions, processes, and information requested from the EM&V contractor as needed. A secure shared folder will be created through LUMA's file sharing system and access will be granted to approved parties. Customer identifiable details will be treated with high sensitivity and security.

LUMA will respond to requests and provide information requested in a timely manner, as available. In addition, LUMA will require its implementation contractors to respond to requests and provide information in a timely manner, as available.

## 8.0 Funding Sources and Cost Recovery Mechanism

The objective of this section is to provide a description of actual costs incurred in FY23 and FY24 to-date, along with forecast program costs, proposed funding sources and cost recovery for FY25.

### 8.1 Summary of FY23 Expenditures

As ordered by the Energy Bureau's February 16 Resolution and Order, Table 8-1 presents a summary of program cost estimates for FY23 of the Transition Period, as reported in the FY23 Annual Report.<sup>10</sup> As described in the initial TPP filing, LUMA set aside approximately \$4.6M of internal budget for program administrative and startup expenses, and to begin the Education and Outreach program. However, as was described in the initial TPP filing, LUMA required additional funding for program incentives, which cannot be funded within the current rate order. Since the additional funding for incentives was never identified, LUMA's only expenditures in FY23 were for internal administrative costs related to program development, procurement processes for an Implementation Contractor, and for Education and Outreach. LUMA could not launch the rebate programs in FY23 without funding for rebates. Expenditures for the Education and Outreach program were limited to internal staff labor and were less than expected due to delays in contracting with a program Implementation Contractor.

**Table 8-1. FY23 Program Expenditures**

Market Sector	Program Implementation Costs (\$)
<b>Residential Sector</b>	\$0
Low-Income	\$0
Non-Low-Income Residential	\$0
<b>Commercial/Industrial and Agricultural Sector</b>	\$0
Small Business	\$0
Other Commercial/ Industrial and Agricultural Sector	\$207,900
Government/Public	\$0
<b>Education and Outreach Program</b>	\$75,700
<b>Cross-Cutting Planning, Admin &amp; Evaluation</b>	<b>\$1,174,969</b>
<b>Portfolio Total</b>	<b>\$1,458,569</b>

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<sup>10</sup> <https://energia.pr.gov/wp-content/uploads/sites/7/2023/11/Motion-to-Submit-TTP-FY2023-Annual-Report-NEPR-MI-2022-0001.pdf>



## 8.2 Summary of FY24 Expenditures to-Date

As ordered by the Energy Bureau in its February 16, 2023, Resolution and Order, Table 8-2 below shows a breakdown of FY24 program expenditures as of December 1, 2023, along with expected expenditures for the remainder of FY24.

**Table 8-2. FY24 Expenditures to-Date for Transition Period Programs**

Programs and Individual Pilots	Total Expended to Date	Expected Expenditures for Remainder of Year	Total Program Budget
<b>Residential Rebate Pilot</b>	\$5,760	\$4,212,990	\$4,218,750
<b>In-Store Discount</b>	\$0	\$100,000	\$100,000
<b>EE Kits</b>	\$0	\$676,700	\$676,700
<b>Business Rebate Pilot</b>	\$0	\$4,218,750	\$4,218,750
<b>Customer Battery Energy Sharing DR Pilot</b>	\$336,569	\$4,696,244	\$5,032,813
<b>Education &amp; Outreach Program</b>	\$3,517	\$1,121,483	\$1,125,000
<b>Cross-Cutting Admin &amp; Evaluation Costs</b>	\$70,337	\$1,054,663	\$1,125,000
<b>Total Portfolio of Programs</b>	<b>\$416,182</b>	<b>\$16,080,830</b>	<b>\$16,497,013</b>

Table 8-3 below shows a breakdown of FY24 Energy Efficiency program expenditures as of December 1, 2023, by market sector. It should be noted that the Residential sector expenditures to date were related to the launch of the Residential Rebates program, which has not yet issued incentives and therefore cannot be attributed to a residential subsector. There is a high degree of uncertainty about the Expected Expenditures for the Remainder of FY24, as the rebate programs have not yet launched. Until the rebate programs launch (expected in Q3 of FY24), LUMA will be unable to accurately estimate the rate of spending. If program participation is slow for the remainder of FY24, it is unlikely that LUMA will spend the entire \$11.3 of expected expenditures shown below.

**Table 8-3. FY24 Energy Efficiency Program Expenditures to-Date by Market Sector**

Market Sector	Total Expended to Date	Expected Expenditures for Remainder of Year	Total Program Budget
<b>Residential Sector</b>	\$5,760	\$4,989,690	\$4,995,450
Low-Income	\$0	\$3,104,039	\$3,104,039
Non-Low-Income Residential	\$0	\$6,924,223	\$6,924,223
<b>Commercial/Industrial and Agricultural Sector</b>	\$0	\$4,218,750	\$4,218,750

Small Business	\$0	\$937,713	\$937,713
Other Commercial/ Industrial and Agricultural Sector	\$0	\$3,281,037	\$3,281,037
Government/Public	\$0	\$0	\$0
<b>Education and Outreach Program</b>	\$3,517	\$1,121,483	\$1,125,000
<b>Cross-Cutting Planning, Admin &amp; Evaluation</b>	\$70,337	\$1,054,663	\$1,125,000
<b>Portfolio Total</b>	<b>\$79,614</b>	<b>\$11,384,586</b>	<b>\$11,464,200</b>

Table 8-4 below shows a breakdown of FY24 Demand Response program expenditures as of December 1, 2023, by market sector. It should be noted that the Residential sector expenditures to date were related to the launch of the CBES program, which has not yet issued Aggregator payments but is expected to be mostly Non-Low-Income Residential. Of the \$336,569 incurred to date for the CBES program, approximately \$195,248 were incurred from base rates, prior to authorization of the use of the PPCA for DR expenditures. The remaining \$141,321 of expenditures to-date have been recovered through the PPCA, as will all further expenditures for the remainder of the year.

**Table 8-4. FY24 Demand Response Program Expenditures to-Date by Market Sector**

Market Sector	Total Expended to Date	Expected Expenditures for Remainder of Year	Total Program Budget
<b>Residential Sector</b>	\$336,569	\$4,696,244	\$5,032,813
Low-Income	\$0	\$0	\$0
Non-Low-Income Residential	\$336,569	\$4,696,244	\$5,032,813
<b>Commercial/Industrial and Agricultural Sector</b>	\$0	\$0	\$0
Small Business	\$0	\$0	\$0
Other Commercial/ Industrial and Agricultural Sector	\$0	\$0	\$0
Government/Public	\$0	\$0	\$0
<b>Education and Outreach Program</b>	\$0	\$0	\$0
<b>Cross-Cutting Planning, Admin &amp; Evaluation</b>	\$0	\$0	\$0
<b>Portfolio Total</b>	<b>\$336,569</b>	<b>\$4,696,244</b>	<b>\$5,032,813</b>

### 8.3 Forecast of FY25 EE Program Costs

As shown in Table 8-5 below, LUMA estimates an EE budget of approximately \$13.7M would be required in Program Year 2 to achieve savings targets of 0.25% (38 MWh). LUMA does not have any funding allocated from existing rates for FY25, therefore the incremental funds (column C) required from the EE

Rider are currently forecast to be \$13.7M. However, there is a high degree of uncertainty about the Expected Expenditures for the Remainder of FY24, as the rebate programs have not yet launched. If program participation is slow for the remainder of FY24, it is unlikely that LUMA will spend the entire \$11.3 of remaining expenditures allocated for FY24. In this event, any budget remaining would reduce the FY25 incremental funds required from the EE Rider shown in Table 8-5 below, assuming LUMA is able to carry over these funds from FY24 to FY25.

**Table 8-5. FY25 Funding Sources and Cost Recovery for EE Programs**

Program	A) FY25 Total Planned Program Budget (\$M)	B) FY25 Allocation of funds from existing rates (\$M)	C) FY25 Incremental funds required from EE rider (\$M)
Residential Programs	\$6,273,575	\$0	\$6,273,575
C&I Programs	\$4,471,875	\$0	\$4,471,875
Education & Outreach Program	\$1,500,000	\$0	\$1,500,000
Cross-Cutting Planning, Admin & Startup Costs	\$1,500,000	\$0	\$1,500,000
<b>Total Portfolio of Programs</b>	<b>\$13,745,450</b>	<b>\$0</b>	<b>\$13,745,450</b>

### 8.3.1 FY25 EE Program Cost Recovery

A reliable and long-term source of funding is essential for successful planning and delivery of energy efficiency programs to meet Act 17 objectives. LUMA has investigated other forms of funding such as federal funding, which provide grant funding for individual EE *projects*, though they do not provide funding directly to utilities for distribution through EE incentive *programs*. Utility-sponsored energy efficiency programs require a stable annual source of funding, typically established by the regulator to be recovered through utility rates.

As discussed in the Energy Bureau's 2019 Determination on the Permanent Rates Rider Factors,<sup>11</sup> the Energy Bureau will need to create an Energy Efficiency fund in order to implement the required EE/DR programs. The Energy Bureau has previously established the EE Rider to recover the cost of energy efficiency programs from all customers on a per kilowatt-hour basis.<sup>12</sup> The Energy Bureau will need to establish an initial Energy Efficiency fund of \$13.7M to be collected from customers through the EE Rider during FY25.

The EE rider factor is calculated by dividing the total estimated amount to be recovered (\$13.7M) by the total estimated FY2025 kWh sales (15,871,074,200 kWh). Therefore, the EE rider factor estimated during FY2024 is \$0.00087/kWh, as shown in Table 8-6 below. This figure represents an illustrative example of the EE rider, however additional analysis would be required to determine a final rider amount and terms and conditions.

<sup>11</sup> <https://energia.pr.gov/wp-content/uploads/sites/7/2019/09/Resolution-and-Order-Permanet-Rates-Rider-Factors-CEPR-AP-2015-0001.pdf>

<sup>12</sup> Regulation 8720, New Regulation on Rate Filing Requirements for the Puerto Rico Electric Power Authority's First Rate Case, March 28, 2016, Section 2.12(D).

**Table 8-6. EE Rider Estimation**

Item	Amount	Reference
Incremental Funds Required from EE Rider (\$)	\$13,745,450	LUMA estimate
Estimated Retail Sales for FY 2025 (kWh)	15,871,074,200	Load Forecast FY 2025
Energy Efficiency Adjustment for FY 2025 (\$/kWh)	0.00087	L1/L16

To understand the financial impact on the average residential customer, a scenario analysis is provided in the table below. The estimates present the hypothetical monthly and annual bill impact under four kWh consumption scenarios. As observed below the financial impact of an EE rider of \$0.00087 represents an annual bill increase of roughly \$3-\$10 per year.

**Table 8-7. Estimated Monthly Customer Impacts**

Average Monthly Consumption (kWh)	Cost Increment (\$/kWh)	Monthly increase (\$/month)	Annual Impact (\$/yr.)
300	\$0.00087	\$0.26	\$3.12
500		\$0.43	\$5.20
800		\$0.69	\$8.31
1000		\$0.87	\$10.39

While the EE Rider's impact per customer is negligible, customers are very sensitive to any increase in energy costs, where the electricity rates are more than double the U.S. mainland average. The decision about the timing of introduction of an EE Rider requires careful consideration and is the Energy Bureau's decision to make.

## 8.4 Forecast of FY25 DR Program Costs

As shown in Table 8-5 below, LUMA estimates an DR budget of approximately \$5.0M would be required in Program Year 2. LUMA does not have any funding allocated from existing rates for FY25, therefore the incremental funds (column C) required from the PPCA are \$5.0M.

**Table 8-8. FY25 Funding Sources and Cost Recovery for DR Programs**

Program	A) FY25 Total Planned Program Budget (\$M)	B) FY25 Allocation of funds from existing rates (\$M)	C) FY25 Incremental funds required from PPCA (\$M)
CBES Program	\$5,032,813	\$0	\$5,032,813
<b>Total Portfolio of Programs</b>	<b>\$5,032,813</b>	<b>\$0</b>	<b>\$5,032,813</b>

### 8.4.1 FY25 DR Program Cost Recovery

On July 31, 2023, the Energy Bureau issued a Resolution and Order in Case No. NEPR-MI-2020-0001, In Re: Permanent Rate of the Puerto Rico Electric Power Authority, in which it determined, among others, that the cost of DR programs will not be part of the EE rider and ordered LUMA to contemplate the DR

programs as part of the proposal of factors corresponding to the purchase power charge adjustment (“PPCA”) mechanism.

On August 11, 2023, the Energy Bureau issued a Resolution and Order in which in its relevant part, ordered LUMA to file on or before August 23, 2023, for the Energy Bureau’s approval, the associated cost related to the compensation to be offered to the DR aggregators and/or ratepayers that participate in the DR program to be recovered through the PPCA thus establishing that the costs associated with DR programs will be recovered through the PPCA.

The PPCA factor is calculated by dividing the total estimated amount to be recovered (\$5.0M) by the total estimated FY2025 kWh sales (15,871,074,200 kWh). Therefore, the PPCA factor for CBES cost recovery is estimated to be \$0.00032/kWh for FY25, as shown in Table 8-6 below. This figure represents an illustrative estimate of the PPCA factor for CBES, this estimate will be finalized through the quarterly PPCA reconciliation process.

**Table 8-9. FY25 PPCA Estimation for CBES**

Item	Amount	Reference
Incremental Funds Required from PPCA (\$)	\$5,032,813	LUMA estimate
Estimated Retail Sales for FY 2025 (kWh)	15,871,074,200	Load Forecast FY 2025
Energy Efficiency Adjustment for FY 2025 (\$/kWh)	0.00032	L1/L16

## 9.0 Plan Compliance Information and Other Key Issues

The objective of this section is to highlight specific areas in Transition Period Plan that the Energy Bureau can review for compliance determination.

### 9.1 Key Compliance and/or EE Policy Issues

#### 9.1.1 How the TPP will Contribute to Puerto Rico's long-term Energy Efficiency Savings Goals

The TPP portfolio is a starting point in working towards the island's clean energy policies and priorities to reduce greenhouse gas emissions, bring awareness of energy saving actions, provide energy efficiency and demand savings and help customers manage energy use. LUMA will collaborate with the Energy Bureau, stakeholders, and customers to accomplish the objectives of the TPP.

In selecting the programs for the TPP, LUMA was mindful of the overarching goal of 30% improvement in energy efficiency by 2040, from the Puerto Rico Energy Public Policy Act.<sup>13</sup> The TPP is designed as a starting point to begin contributing toward achieving these targets by beginning the process of developing stable, comprehensive programs that will accelerate customer adoption of energy efficiency technologies. The TPP is primarily a startup phase in EE and DR to ensure that the more comprehensive and expansive 3-year EE-DR Plan can make a larger contribution to meeting these targets.

The TPP outlines a portfolio of EE and DR programs that contribute directly to achieving Puerto Rico's energy efficiency savings goal of 30% by 2040 and greenhouse gas reductions by 2024. Energy savings measures include measures such as solar water heaters, ENERGY STAR LED lightings, window films, occupancy sensors, and other building equipment. The list of measures offers long-term energy savings for residential, commercial, and industrial customers. LUMA will work with stakeholders and customers to understand the effectiveness of each measure. LUMA will make changes as necessary, to enhance customer participation and energy savings, through a continuous improvement process. The TPP programs will help raise awareness of EE/DR, build market readiness and obtaining learnings that can be applied to the development of a more comprehensive and effective 3-year EE-DR plan.

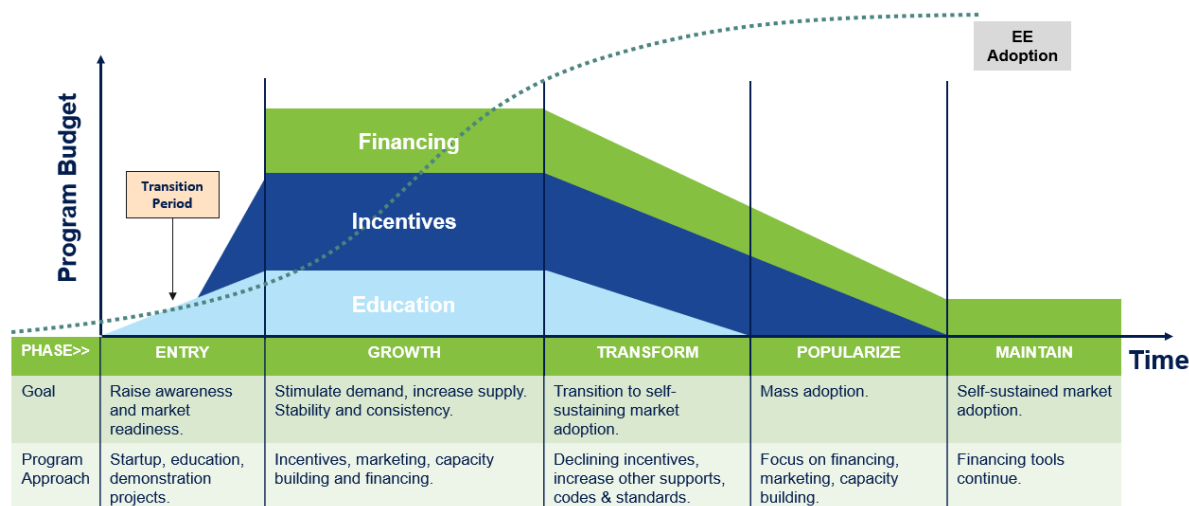
#### 9.1.2 Approach to Market Transformation, Building Capacity of Energy Efficiency Services industry, and Using EE to Provide Grid Services, Demand Flexibility and Resilience

The term "Market Transformation" is used in the EE industry to refer to program strategies that pursue permanent structural changes in the market such that program interventions like incentives, financing and education are no longer required to overcome barriers to adoption. Figure 9.1 depicts LUMA's vision for the long-term transformation of the EE products and services market in Puerto Rico.

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<sup>13</sup> *Puerto Rico Energy Public Policy Act*, Act No. 17-2019 (S. B. 1121), 5<sup>th</sup> Regular Session, 18<sup>th</sup> Legislative Assembly of Puerto Rico

Figure 9.1. Energy Efficiency Market Transformation Roadmap



LUMA Transition Period programs represent the starting point on this long-term market transformation roadmap. The focus of Program Year 1 (the “Entry” phase) will be to raise awareness and market-readiness through the Education & Outreach, Rebate Programs and EE Kits Program, while developing the program delivery infrastructure required to deliver effective programs. In the “Growth” phase, LUMA will scale up incentive programs, financing, and capacity-building programs to stimulate demand, increase the availability of trained contractors and accelerate customer investment in EE projects.

LUMA has engaged an expert program implementation contractor, who will recruit and train local expertise as part of its delivery team. The EE programs will rely on local contractors, equipment suppliers, and engineers to identify and install eligible measures for energy efficiency upgrades in residential, commercial, and industrial buildings in Puerto Rico. The goal is that over time these programs will help contractors learn to profitably incorporate EE products into their business and influence permanent changes in building practices and inventory stocking practices by suppliers and retailers.

### 9.1.3 Describe how the individual Transition Period Programs will leverage and utilize other financial resources, including funds from other public and private sector energy efficiency programs.

LUMA has investigated other forms of funding such as federal funding, which provide grant funding for individual EE *projects*, though they do not provide funding directly to utilities for distribution through EE incentive *programs*. One of the services anticipated for the Education & Outreach program is to provide technical assistance for community project proponents in pursuing funds from public grant programs. LUMA will continue to look for opportunities to apply for additional grant funding from other public and private sector programs.

LUMA has been actively engaged with the Department of Economic Development and Commerce (DDEC) in various efforts including energy efficiency. LUMA and DDEC meet weekly to discuss implementation of programs, marketing, education and outreach and other important topics that enable the success and equitable access of energy efficiency programs to the people of Puerto Rico and low-income communities.



LUMA continues to engage informally with stakeholders, industry players, the Government of Puerto Rico and the communities it serves in order to inform, educate and leverage other resources. These collaborations and engagement have proven to be effective in sparking interest and commitment towards the implementation of energy efficient measures.

#### **9.1.4 How the TPP Will Address Consumer Education on EE, DR, and Solar and Solar Photovoltaic Systems.**

The TPP includes initiatives designed to address consumer education on energy efficiency conservation and demand response measures. The Education and Outreach Program will raise awareness of cost-effective energy conservation techniques and encourage customer investment. Each EE and DR program will have an education and outreach component as part of the marketing strategy which will encourage EE, DR, and solar actions. The CBES battery program will leverage customer investments in solar systems for resiliency purposes to also improve grid reliability and reduce fuel costs.

#### **9.1.5 How the TPP EE Programs will be Coordinated with DR Programs**

LUMA developed the TPP as a joint EE-DR Plan, with coordination built into the design and delivery of the programs. Energy efficiency programs will be launched in coordination with the demand response (DR) programs. Overall coordination will be overseen by LUMA, while LUMA's implementation contractor will look for new opportunities to integrate EE and DR measures and program delivery strategies, through conversation with local service providers and lessons learned from project implementation. LUMA will also coordinate with DDEC on their forthcoming energy efficiency programs and look for opportunities to cross-promote.

#### **9.1.6 How LUMA will Provide the Public with Information about the Results from the TPP**

LUMA will file quarterly, and annual reports based on the schedule stated in Section 6.1 to provide public information about results from the Transition Period programs. The progress reports will be discussed with stakeholders to review progress on programs, programs and portfolio and obtain feedback on improvements. LUMA will incorporate the feedback obtained into its continuous improvement process and make improvements, as necessary, to increase the success of program delivery including the customer experience, participation and savings achieved.