

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

**NEPR**  
**Received:**  
**Apr 23, 2025**  
**7:39 PM**

**IN RE:**

ENERGY EFFICIENCY AND DEMAND  
RESPONSE TRANSITION PERIOD PLAN

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

**SUBJECT:** Submittal of Presentation for Technical  
Conference Scheduled for April 24, 2025

**MOTION TO SUBMIT PRESENTATION FOR TECHNICAL CONFERENCE  
SCHEDULED FOR APRIL 24, 2025**

**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. Introduction**

As the Puerto Rico transmission and distribution system operator, LUMA is responsible for facilitating the implementation of Puerto Rico’s public energy policy, including key customer initiatives such as Energy Efficiency (“EE”) and Demand Response (“DR”) Programs, which are required by law and mandated by the Puerto Rico Energy Bureau (“Energy Bureau”). LUMA has been implementing a Transition Period Plan containing various quick-start or pilot EE and DR programs (“TPP”), including, among others, a pilot battery DR program (now called “Customer Battery Energy Sharing” (“CBES”). The purpose of the TPP is setting the stage for the design and

implementation of larger scale, more permanent programs that will form part of a Three-Year EE and DR Plan to be prepared and submitted by LUMA for approval by the Energy Bureau.

The deadline to submit the Three-Year EE and DR Plan and concomitant deadlines have been extended by the Energy Bureau, and, as a result, the term of the TPP has also been extended. Relatedly, and in compliance with Energy Bureau directives, on January 31, 2025, LUMA filed with the Energy Bureau a revised TPP and a proposed permanent version of the CBES program. Also pursuant to Energy Bureau directives, LUMA has been developing a proposed program for the use of backup generators as a DR resource in emergency situations to be implemented before the summer of 2025.

By Resolution and Order issued on April 3, 2025, the Energy Bureau scheduled a Technical Conference for April 24, 2025, to discuss the above submittals and/or programs and the progress of the Three-Year EE and DR Plan and established an agenda of the topics to be covered during this Technical Conference. The Energy Bureau also directed LUMA to attend this Technical Conference, as well as invited interested persons and stakeholders to participate. In attention to these requirements, LUMA has prepared a presentation that it proposes to provide during the Technical Conference, which presentation LUMA is submitting with this Motion.

## **II. Relevant Background and Procedural History**

1. On October 23, 2024, the Energy Bureau issued a Resolution and Order (“October 23<sup>rd</sup> Resolution and Order”) in which it determined to defer the deadline to present to stakeholders a draft of the Three-Year EE and DR Plan to on or before April 15, 2025, and the deadline to file the Three-Year EE and DR Plan to on or before July 15, 2025<sup>1</sup>. *See* October 23<sup>rd</sup> Resolution and

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<sup>1</sup> The deadlines for these tasks in effect prior to this determination were December 2, 2024 and March 1, 2025, respectively, as per a Resolution and Order issued by the Energy Bureau on November 29, 2023. On September 16, 2024, LUMA requested the Energy Bureau to extend these deadlines given delays in the completion of the Market

Order, p. 5. In addition, the Energy Bureau determined to extend the current TPP<sup>2</sup> (scheduled to expire on June 30, 2025) by an additional six months, until December 31, 2025, and ordered LUMA to file a revised TPP (“Revised TPP”). *See id.* The Energy Bureau further ordered LUMA to file a proposed form of a permanent CBES program and develop and implement a program for the use of backup generators as a DR resource in emergency situations (now referred to by LUMA as the “Emergency Load Reduction Program”) before the summer of 2025. *See id.*, pp. 3-4.

2. On January 31, 2025, LUMA filed with the Energy Bureau the proposed permanent CBES.<sup>3</sup> *See Motion to Submit Permanent Customer Battery Energy Sharing Program Proposal in Compliance with Resolutions and Order of October 23, 2024 and December 5, 2024.* In addition, on that same date, LUMA filed with the Energy Bureau the Revised TPP and requested the Energy Bureau to leave without effect the deadlines to have the draft Three-Year EE and DR Plan and concomitant activities, given delays in the completion of the Market Baseline and Potential Studies needed to prepare this document. *See Motion to Submit Revised Energy Efficiency and Demand Response Transition Period Plan and Request for Modification of Deadlines Relating to Three-Year Energy Efficiency and Demand Response Plan*, pp. 7 and 11-12. Consistent with this request, the Revised TPP submitted by LUMA covered the period from July 1, 2025 to June 30, 2026. *See id.*, p. 7.

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Baseline and Potential Studies required under the Regulation for Energy Efficiency, Regulation 9637, and needed to prepare the Three-Year Plan. *See Informative Motion, Request for Clarification Regarding Delayed Timeline for Completion of Market Baseline and Potential Studies, And Request for Extension to Submit Draft Three-Year Plan and Associated Tasks and Deadlines.* The Energy Bureau granted this request in its October 23<sup>rd</sup> Resolution and Order.

<sup>2</sup> The original TPP, covering fiscal years 2023 and 2024, was submitted by LUMA on June 21, 2022 in Case No. NEPR-MI-2021-0006, *In Re: Demand Response Plan Review, Implementation and Monitoring*, and approved with modifications by the Energy Bureau by Resolution and Order issued on February 16, 2023, in the instant case. On December 20, 2023, LUMA submitted a revised version of this TPP extending its term until the end of fiscal year 2025, which revised TPP is currently under implementation.

<sup>3</sup> January 31, 2025 was the deadline to submit this document, as well as the Revised TPP, as provided in a Resolution and Order issued by the Energy Bureau on December 5, 2024, in attention to a request by LUMA in a *Motion for Extension of Deadlines and Modification of a Reporting Requirement in Resolution and Order of October 23, 2024*, filed on November 25, 2024.

3. On April 3, 2025, the Energy Bureau issued a Resolution and Order (“April 3<sup>rd</sup> Resolution and Order”) determining that the Three-Year EE and DR Plan shall cover the period from July 1, 2026 until June 30, 2028, and ordering LUMA to present the draft Three-Year EE and DR Plan to interested stakeholders on or before October 1, 2025, and file the Three-Year EE and DR Plan with the Energy Bureau on or before February 1, 2026. *See* April 3<sup>rd</sup> Resolution and Order, p. 2.

4. In the April 3<sup>rd</sup> Resolution and Order, the Energy also partially approved the permanent CBES program proposal for three years, indicating that this approval applies to “all aspects of program design that were unchanged from the pilot stage and dictate customer and aggregator interface to the program (such as kWh incentive level, aggregator enrollment model, and option for customers to opt-out of DR events)”. *See id.*, p. 3. With respect to the changes to the CBES Program, the Energy Bureau indicated that it would address the “necessary changes” before the start of the full program based on stakeholder comments and the discussion at a Technical Conference, which the Energy Bureau scheduled for April 24, 2025 (“April 24<sup>th</sup> Technical Conference”) to discuss the permanent CBES Program proposal, as well as the Emergency Load Reduction Program, the Revised TPP, and the progress of the EE and DR Three-Year Plan. *See id.*, p. 4.

5. The Energy Bureau also provided a preliminary agenda for the April 24<sup>th</sup> Technical Conference, invited interested persons to participate, and ordered LUMA to attend it. *See id.*, pp. 4-5. Furthermore, the Energy Bureau invited LUMA, the public and other stakeholders to submit comments on the matters discussed at the Technical Conference or otherwise raised in LUMA’s motions on or before June 5, 2024. *See id.*, p. 5. Finally, the Energy Bureau ordered LUMA to

amend its planned schedule and process for the Three-Year EE and DR Plan as detailed in the April 3<sup>rd</sup> Resolution and Order. *See id.*

### III. Submittal of Presentation for April 24<sup>th</sup> Technical Conference

6. In attention to the April 3<sup>rd</sup> Resolution and Order, LUMA herein submits the presentation that LUMA has prepared for the April 24<sup>th</sup> Technical Conference which covers the subjects set forth in the agenda established by the Energy Bureau. *See Exhibit 1.* The presentation also includes LUMA's proposals to address the Summer 2025 generation shortfall leveraging its DR portfolio. **WHEREFORE**, LUMA respectfully requests that the Energy Bureau **take notice** of the aforementioned and **accept** LUMA's presentation included in *Exhibit 1* for the April 24<sup>th</sup> Technical Conference.

#### **RESPECTFULLY SUBMITTED.**

In San Juan, Puerto Rico, this 23<sup>rd</sup> day of April 2025.

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 the Independent Office for Consumer Protection at [hrivera@jrsp.pr.gov](mailto:hrivera@jrsp.pr.gov); PREPA at [arivera@gmlex.net](mailto:arivera@gmlex.net); and [mvalle@gmlex.net](mailto:mvalle@gmlex.net); and [agraitfe@agraitlawpr.com](mailto:agraitfe@agraitlawpr.com), [info@sesapr.org](mailto:info@sesapr.org), [bfrench@veic.org](mailto:bfrench@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 [mrios@arroyorioslaw.com](mailto:mrios@arroyorioslaw.com).



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**Exhibit 1**

*LUMA's Presentation for Technical Conference Scheduled for April 24, 2025*



LUMA's Presentation for Technical Conference on Customer  
Battery Energy Sharing (CBES), Demand Response (DR) &  
Energy Efficiency Transition Period Plan (TPP)

**April 24, 2025**

# Agenda and Acronyms



# Agenda:

## PREB's Preliminary agenda for the Technical Conference

Subject	Time
Welcome and introductions	5 minutes
<b>Permanent CBES Program proposal</b>	<b>1 hour</b>
Presentation of proposal by LUMA representative	20 minutes
Process and timelines	10 minutes
Proposal substance	20 minutes
Proposal costs and funding	10 minutes
<b>Emergency Demand Response program status</b>	<b>30 minutes</b>
Discussion of status and options (including limitations resulting from air permit limitations and potential participation by organizations that operate co- generation facilities)	
<b>Lunch Break</b>	<b>1 hour</b>
<b>Transition Period Plan</b>	<b>1 hour</b>
Presentation of proposed plan changes by LUMA representative	20 minutes
Process and timelines	10 minutes
Plan's substance and programs	20 minutes
Plan costs and funding	10 minutes
<b>2026-2028 EE and DR Plan</b>	<b>45 minutes</b>
Process and Timelines	15 minutes
Stakeholder Engagement	30 minutes

# Acronyms

## LUMA's Relevant Acronyms

Acronym	Definition
ADMS	Advanced Distribution Management System
BESS	Battery Energy Storage System
CBES	Customer Battery Energy Sharing
DERMS	Distributed Energy Resource Management System
DER	Distributed Energy Resource
DR	Demand Response
DRNA	Departamento de Recursos Naturales y Ambientales
CBES+	Emergency Battery Energy Seasonal Sharing
EE	Energy Efficiency
ELRP	Emergency Load Reduction Pilot Program
EPA	Environmental Protection Agency
kW	kilowatt
kWh	kilowatt hour
MLS	Manual Load Shed
MW	Megawatt
NAA	No Action Assurance
PPCA	Power Purchase Charge Adjustment
TPP	Transition Period Plan
TYP	Three-Year Plan
VPP	Virtual Power Plan



# **Customer Battery Energy Sharing (CBES) Pilot-to-Program**



# Permanent CBES Program Proposal Overview

Pilot Period

“Opt-In” through  
Aggregator Model

~20 MW  
Energy

~9,800  
Customers

50 Event  
Minimum

\$1.25/kWh  
Incentive

## CBES Pilot Highlights:

- System Operator (LUMA) leverages CBES during resource adequacy events and emergencies, when power supply is limited, potentially leading to service disruptions or significant threat to grid stability and reliability.
- Operates under an aggregator model, where customers "opt-in," or self-enroll in the program through a PREB approved ESC & LUMA qualified third-party aggregator.
- Customers can "opt-out" of events or shift their battery reserve level setting, as well as "unenroll" at any time.
- The program operating procedures developed with system operator is leveraged when 100MW or less of operating peak reserve is forecasted.
- To date 119 events have been dispatched over the period of the pilot leading to initial findings which supported the proposed CBES program (participation rate, reserve level setting, etc.).
- Initial estimated program cap of 6500 Customers was exceeded as the results of kWh dispatch per customer enabled higher participation rates given available budget and grid needs.

# Permanent CBES Program Proposal Overview

**3 Year Term  
FY26-28**

**19,500  
Customers**

**40 MW  
Energy**

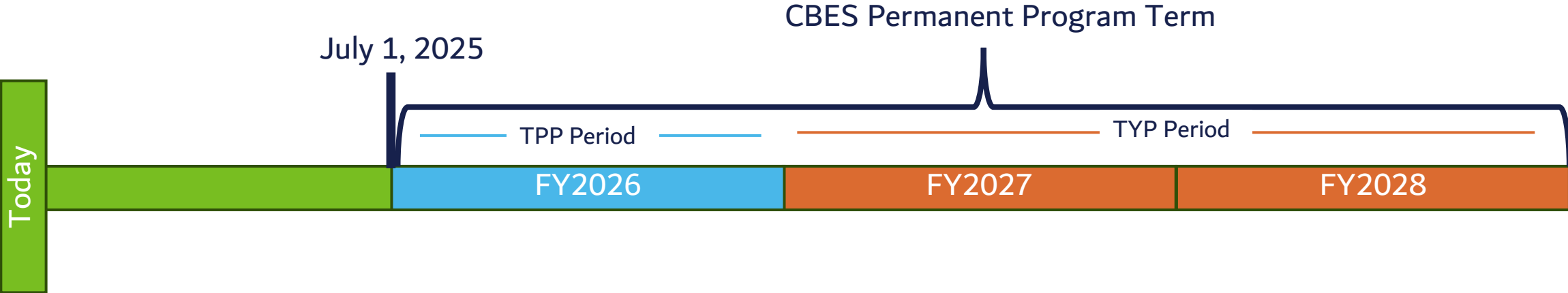
**DERMS  
Integration**

## CBES Program Changes:

- All program elements remain the same from Pilot to Program except those specified here:
  - For the benefit of confidence of all stakeholders, the CBES Program is recommended to be executed for a three-year period FY26-28.
  - Using a historical resource adequacy and event performance data as a basis, the CBES program proposes a growth in the total number of customers (19,500) and total dispatchable energy (40MW) available to support a majority of emergency events.
  - A grid-edge Distributed Energy Resource Management system (DERMS) is required to dispatch CBES events both in coordination and safely for the magnitude and ramp rate of power which will be required to do so in unison with other grid assets by system operator.

# Permanent CBES Program Proposal: Process and Timelines

- Program Year One (1) Implementation to begin on July 1, 2025.
- CBES Permanent Program Term will be from July 1, 2025 – June 30, 2028.
  - Transition Period Plan (TPP) in FY26 and Three-Year Plan (TYP) in FY27 and FY28.
- Quarterly review of enrollment target and budget.
- Quarterly Energy Bureau Reporting.
- FY25Q4 DERMS platform integration to enable system balancing, automation and improved reporting.



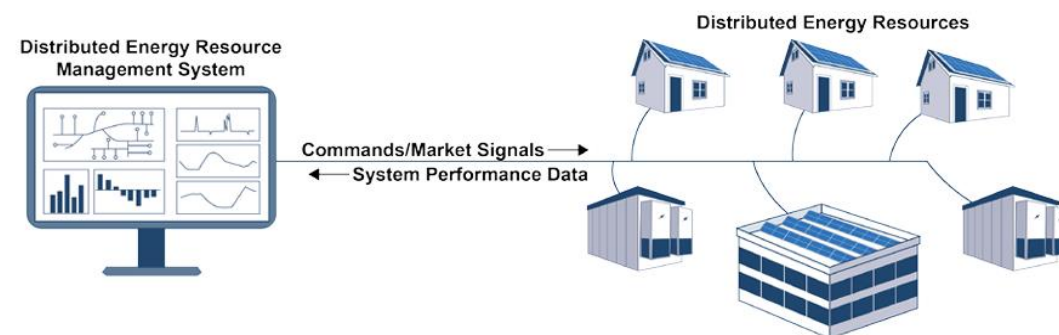
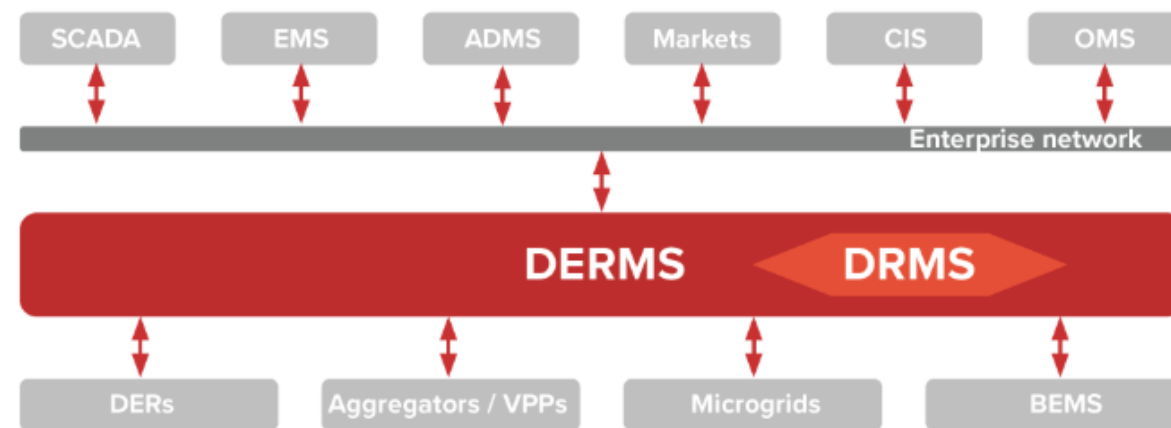
# Permanent CBES Program Proposal: DERMs

DERMS – “The Functional Nervous system of the VPP”

DERMS is a software platform that aggregates, controls and optimizes Distributed Energy Resources (DERs) such as batteries, electric vehicle, smart thermostats and other home energy systems. A grid-edge DERMS system is expected to perform the following functions:

- Manage event dispatch or communication of events to DER Aggregators and participating customers.
- Provide timeline reporting of participation metrics and event performance.
- Track the operation of the distribution architecture through the ADMS (forthcoming at LUMA) to target the usage of the resources to maximize the efficiency and effectiveness of the system.

VPPs vs DERMS is not an either/or strategy for utilities.



# Permanent CBES Program Proposal: DERM Benefits

Operational  
Efficiency & Real  
Time Visibility

Grid Stability

Better Demand  
Response & Load  
Shaping

Admin Consistency  
& Modernization

Advancement of  
BESS DR Use Cases

Scale into  
additional DR  
Resources

## CBES Program:

- LUMA's existing portfolio administrator and procurement from FY23, solicited and contracted a DERMS provider which can be implemented without pause or impact to the CBES Pilot to Program transition.

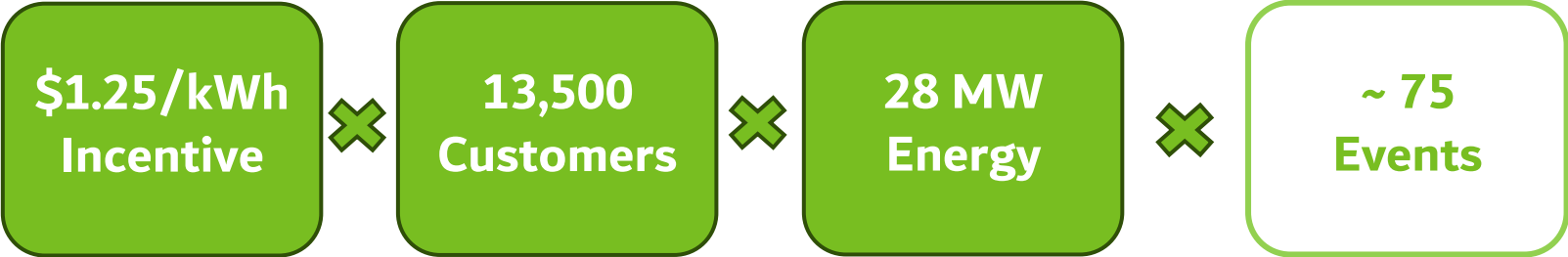
## DERMS Benefits for CBES:

- Operational Efficiency – DERMS enables integration of various Aggregators systems into one platform, ensuring VPP is controlled as one cohesive, utility-scale resource.
- Automation & Near Real-time Visibility – DERMS enables provision of near real-time data and event dispatch, improving event automation, timing/ramp rates, accuracy and timeliness of data provision from *many* aggregators, dynamic forecasting and more.
- Grid Safety – DERMS integrated into the utility's system ADMS can enable end-to-end visibility of distribution system. As the VPP scales, it must operate with a **DERMS** to be safe, reliable and coordinated with other generation sources by LUMA system operations team, avoiding frequency imbalance and other risks.

## DERMS Benefits for LUMA's DR Portfolio:

- Precision Dispatch – DERMS may also enable precision dispatch of DER resources to address regional or local grid needs.
- DER Roadmap & Scale – DERMS will also support expansion to DERs such as Electric Vehicles and home energy systems, enabling additional cost-effective DR programs.

# Permanent CBES Program Proposal: FY26 Proposal Costs and Funding



# **Emergency Demand Response Program Status**



# Backup Generation Demand Response

Largest  
Industrial and  
Commercial  
Customers

+50 MW Firm  
Energy by  
FY26

Firm  
Commitment  
\$/kW  
Monthly

Event  
Performance  
\$/kWh

- This program is being marketed to large industrial and commercial customers as the Emergency Load Reduction Program (ELRP) with the goal of enrolling 50 MW of load reduction capacity by the start of FY26.
- Through this program, customers would be compensated for temporarily reducing their load demand from the grid and shifting it to backup generators in response to an emergency grid event.
- Participants will be paid quarterly:
  - A monthly capacity payment of per kW of load reduction.
  - An incentive of per kWh of actual load reduction during events.
- Participants must commit firm load reduction available during the hours of 5-11 PM seven days a week during established peak season period.
- How it would work:
  - Customer determines available load (MW) that can be committed.
  - LUMA and Customer review and sign a participation agreement.
  - Customer begins receiving event notifications.
  - LUMA verifies customer participation through meter data and/or generator runtime documentation.
  - Bill credits will appear on customer bill quarterly.

# Backup Generation Demand Response

## Removing Air Permitting Regulatory Barriers to Participation

**EPA** and **DNRA** air permits associated with backup generators limit the number of hours a generator can run during the year. This limitation may have an impact on whether a company may decide to participate in the program.

### **EPA Discussion Status - Positive Progress**

Working with EPA on “No Action Assurance” for Permit Holders

**DNRA Discussion Status** – Once EPA No Action Assurance is approved, a waiver will be requested from DNRA



# Backup Generation Demand Response

## Next Steps to Program Launch

- Finalize administrative determinations from Puerto Rico Department of Natural and Environmental Resources (DRNA) and the U.S. Environmental Protection Agency (EPA) to remove a key barrier to customer enrollment.
- Finetune program administrative procedures for enrollment, events, payments, measurement and evaluation.
- Continued customer outreach and recruitment efforts.
- Confirm use of PPCA funding mechanism to pay for the program.

LUMA continues working in preparation for the assumed program launch by June 1<sup>st</sup>

Backup Generation  
~50MW Budget:



# Emergency Demand Response Programs

## Options for Cogeneration Demand Response

### How it could work:

- Customer must have an approved interconnection agreement that ensures cogeneration project does not pose risks to the grid.
- Interconnection process would need to be adapted to study and enable cogeneration facilities to export power to the grid.
  - Current process requires facility safeguards to ensure that power does not feed into the grid.
  - Additional system study costs.
- Once interconnection and export are approved, cogeneration facilities could enroll in DR program and begin exporting during emergency DR events.
- Customers could be paid through bill credits funded through PPCA rider as an interim solution.

### LUMA believes the near-term, 6-month potential for Cogeneration DR is very limited

- Near term, there are two (2) cogeneration facilities operating under approved interconnection agreements, each with limited excess capacity.
- For cogeneration already in current interconnection pipeline, conservatively will need an additional set of months to complete modified processes for evaluation.
- Extensive additional data gathering, analysis needed to develop pilot proposal to consider cogeneration DR for future use.



# Transition Period Plan



# Transition Period Plan – Proposed Changes for Energy Efficiency

- Transition Period Programs – now a little over 1 year of executed programs - will continue to mature in extended TPP.
  - Maturation of customer intake and management tools included.
- Enhanced market monitoring in Year 3 focuses on increasing collection and analysis of data to fine tune measure mix and incentive levels.
  - A key example being Residential Lighting market transformation; This extremely cost-effective measure will be mostly eliminated in the Year 3 portfolio due to Energy Star sunseting, increasing the cost of meeting energy efficiency targets going forward.
  - Participant data collected is our best tool to forecast and model future TYP impacts and costs associated.
- The TPP extension plan proposes a maturing Education and Outreach programs focused on expanding program reach through strategic partnerships and a more integrated marketing and communications.
- We also propose development of tailored program delivery initiatives with new strategic partners that will address needs of harder-to-reach customers.
- TPP extension changes are designed to enable seamless ramp-up to the Three-Year Plan period launch, which is integral in the jump in associated savings targets in Three-Year Plan.

## TPP Year 3 Changes

Enhanced Market  
Monitoring

Continual Eligible  
Measures List  
Enhancement

Shift Away from  
Residential  
Retail Lighting  
Measures

Strategic  
Partnerships

Tailored Initiatives  
for Target  
Audiences

Integrated  
Marketing and  
Communications



# Transition Period Plan – Proposed Changes for Demand Response

**Already Discussed:**

CBES

BUGS

**Remaining Proposal:**

Demand Response  
Pilots Initiative

- Demand Response Pilots Initiative will create the needed program function to respond more nimbly to emerging power sector needs for new demand response resources throughout the year.
- Piloting additional cost and impact-effective demand response approaches and use cases will support ramp-up to Three Year Plan launch.
- Pilots may include testing for variables like fixed capacity design, dynamic resource pricing, locational dispatch in support of NWA, and ancillary services.
- Today's discussion on Backup Generation and Emergency Expansion of Customer Battery Energy Sharing is a model of how mid-year demand response pilot proposals can be evaluated and approved by the Energy Bureau.
- New program piloting and launch administration would be greatly supported by a DERMs system to properly isolate, monitor and evaluate those resources a part from other Demand Response programs already in place.

# Demand Response Pilot Initiative

## Core Functions of DR Pilot Program Development

- Technology testing
- Incentive strategy
- Customer engagement and participation strategy
- Operational risks and risk assessment
- Data Collection and EM&V approach
- Scalability and market integration
- Other tasks to evaluate potential for new cost-effective DR programs

With PREB approval, Pilot Program process to follow:

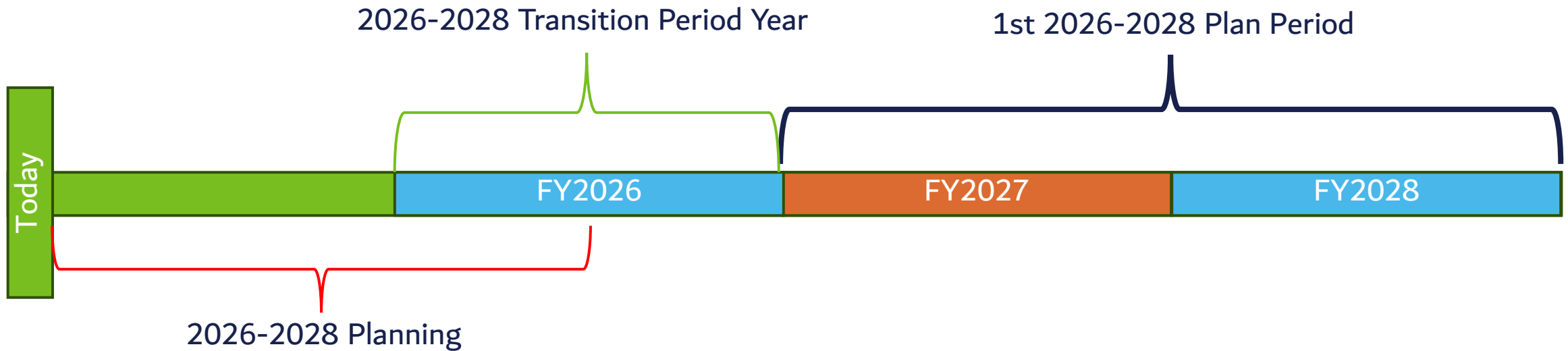


## Potential DR Programs to analyze via core functions in FY26:

- New Sources of Emergency Demand Response
  - Behavioral Demand Response
  - Managed EV charging
  - Commercial building load reduction
  - Cogeneration
- Geographically-deployed demand response to address locational grid constraints

# Transition Period Plan: Process and timelines

- Transition Period extended through June 30, 2026.
- Quarterly & Annual submission of Demand Response & EE Forecasts through PPCA & EE Rider adjustments.
- Quarterly and Annual Stakeholder Meetings & PREB Reporting.



# Transition Period Plan Program Portfolio

New proposals in green

## Education & Outreach

Integrated Marketing, Communications and Campaigns

Strategic Partnerships

Private Sector, SME and Low-Income Initiatives

## Residential

Residential Rebates

In-Store Discounts

Residential Energy Efficiency Kits

Customer Battery Energy Sharing

Additional Demand Response Pilots

## Commercial and Industrial

Business Rebates

Business Energy Efficiency Kits

Customer Battery Energy Sharing

Emergency Backup Generation Pilot

Additional Demand Response Pilots

## Streetlights

Street Light Repair & Replacements

# Demand Response: FY26 Costs and Funding

Program	A) Total Planned Program Budget (\$M)	C) Allocation of funds from existing rates and other programmatic revenues (\$M)	D) Incremental ratepayer funds required from PPCA (\$M)
CBES Program	\$5,285,375	\$0	\$5,285,375
Emergency Backup Generation Pilot	\$6,304,560	\$0	\$6,304,560
DR Pilot Program Initiative	\$2,000,000	\$0	\$2,000,000
<b>Total Portfolio of Programs</b>	<b>\$13,589,935</b>	<b>\$0</b>	<b>\$13,589,935</b>

# Energy Efficiency: FY26 Costs and Funding

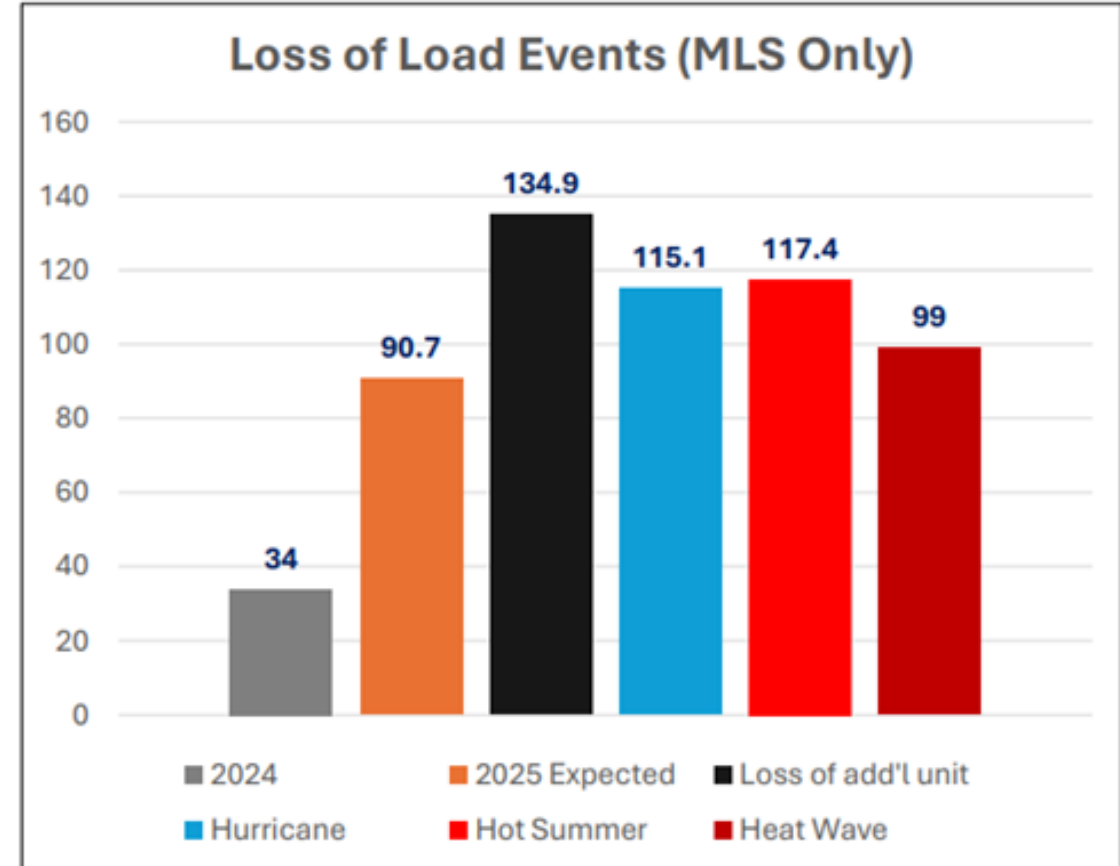
<b>PROGRAM</b>	<b>A) TOTAL PLANNED PROGRAM BUDGET (\$M)</b>	<b>C) ALLOCATION OF FUNDS FROM EXISTING RATES AND OTHER PROGRAMMATIC REVENUES (\$M)</b>	<b>D) INCREMENTAL RATEPAYER FUNDS REQUIRED FROM EE RIDER (\$M)</b>
Residential Programs	\$24,050,000	\$0	\$24,050,000
C&I Programs	\$10,350,000	\$0	\$10,350,000
Education & Outreach Program	\$4,400,000	\$0	\$4,400,000
Cross-Cutting Planning, Administration & Startup Costs	\$2,200,000	\$0	\$2,200,000
<b>Total Portfolio of Programs</b>	<b>\$41,000,000</b>	<b>\$0</b>	<b>\$41,000,000</b>

# Summer 2025 Generation Shortfall



# Why Emergency DR for Summer 25'?

- For Summer 2025 (May 1 – Oct 31) there is significant potential for upwards of 500MW generation shortfall.
- Resource Adequacy forecasts have projected that Puerto Rico will likely have 90+ generation shortfall manual load shed events this summer, lasting an average of 5.5 hours. If any other variables are to worsen, the resource adequacy forecast will follow that same trend (hurricane, base load failure, heat wave, etc.).
- There is also significant challenge of system wide outages if systems response to acute shifts in demand and available supply cannot be modulated dynamically and rapidly.
- Given this emergency LUMA is aggressively exploring quick-start Energy Demand Response programs and seeks PREB feedback today on the following:
  - Backup Generation for load reduction.
  - Seasonal emergency battery sharing building on CBES.
  - Options for Cogeneration.



# Pilot: Emergency Expansion of Customer Battery Energy Sharing

CBES+ May 1 – October 31

Resource Widely &  
Readily Available

135K Systems  
2000 MW

Fastest Growing  
Solar in NA

~100% BESS  
Attachment Rate

Customer  
Empowerment &  
Participation

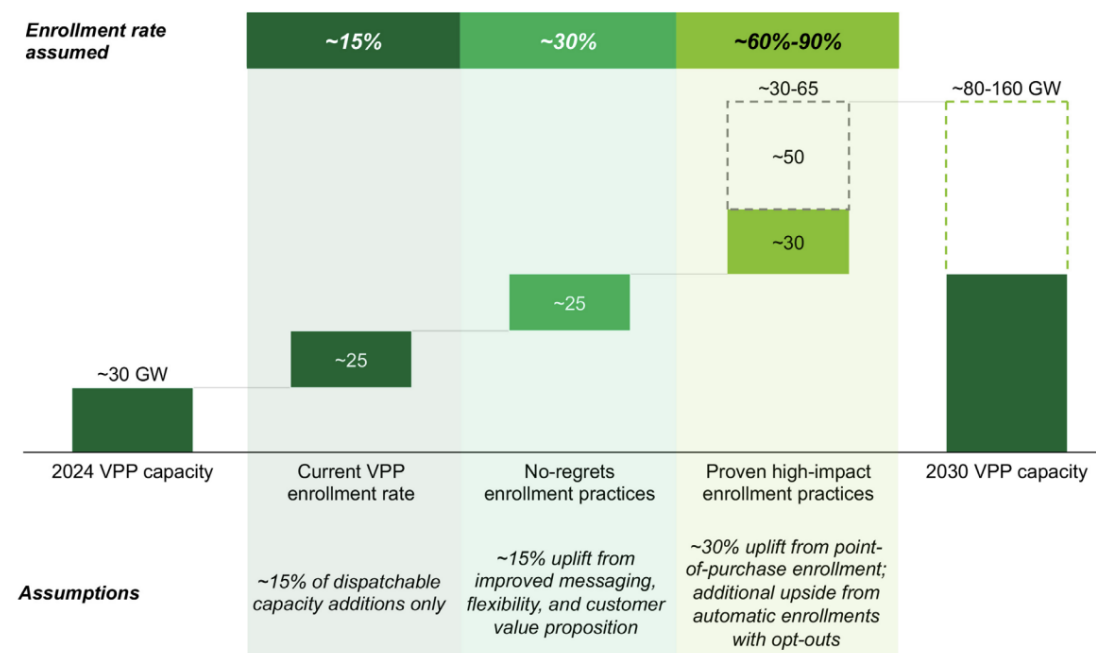
Clean & Sustainable  
Fuel Source

- No other energy resource in PR is as readily available and dispatchable today to the extent as is the Distributed Battery Energy Storage Systems (BESS); with over 135K systems and 2000MW of capacity island-wide.
- These numbers continue to grow - Puerto Rico is still the fastest growing geography for distributed solar installations in North America with nearly 100% BESS attachment rate today on those systems.
- CBES is already the 2nd largest Battery VPP in North America and has the most emergency dispatch events. LUMA, leveraging CBES's DERMS-enhanced infrastructure, would be well-positioned to manage more of the island's BESS capacity for demand response.
- Harnessing the island's massive distributed BESS capacity on the island will rely on the "law of large numbers" – with more participating BESS, less of each BESS is needed, lowering the commitment burden of each customer resulting in a firmer resource.
- Critically, BESS is a sustainable resource which can be dispatched and replenished every day with no emissions or adverse air quality impacts.

# Quick-Start Strategy to Mitigate Summer 2025 Generation Shortfall

- Given the immediacy of the peak season, severity of the forecasted generation shortfall, and need for load shed events, LUMA recommends an **“Auto-Enroll”** enrollment strategy.
- The Program will initially only be available during summer, from **May – October 2025**.
- **Target Participants**
  - Customers or Aggregators which have the ability to leverage **existing or new agreements that enable “Auto-Enrollment”** of customers.
  - Customer choice will be preserved through high-visibility enrollment communications and easy unenrollment processes supported by participating aggregators.
  - A limited percentage of available battery capacity will be enrolled (eg 20%), with customers still reserving the ability to adjust their individual reserve level settings at any time.
  - Auto-enroll programs are already in place in California (DSGS) & Massachusetts (Connected Solutions).

Total VPP capacity in various enrollment scenarios, GW



Source: DOE Pathways to Commercial Liftoff: Virtual Power Plants Update

With the approval of an Auto-Enroll design, LUMA estimates that 120 MW – 180 MW of dispatchable power can be available from target participants and aggregators

# Emergency Expansion of Customer Battery Energy (EBESS) Sharing

## Next Steps

The following steps are required for launch this summer:

1. LUMA is requesting approval for the temporary expansion of CBES (EBESS) for the summer 2025 period from May 1 – October 31 beyond 19,500 customers.
2. Confirm the use of PPCA funding mechanism to continue to pay for the program.
3. LUMA will leverage existing DERMS to be able to efficiently enroll, dispatch/ramp, monitor, control and evaluate demand response resource capacity based on grid needs.
4. LUMA will update materials and website to provide program information and instructions on how to both effectively participate and/or unenroll.
5. Aggregators will begin to “Auto-Enroll” of eligible customers.



# CBES+: Auto-Enrollment Process

Qualified aggregators from CBES confirm their participation

Operator and participating aggregators align on and approve customer communications about auto-enrollment

Participating aggregators notify all qualifying customers via email, in-app notifications about automatic enrollment

Participating aggregators ensure only 20% of available battery capacity is initially dispatched

Customers may choose to unenroll by contacting the aggregator of enrollment notification

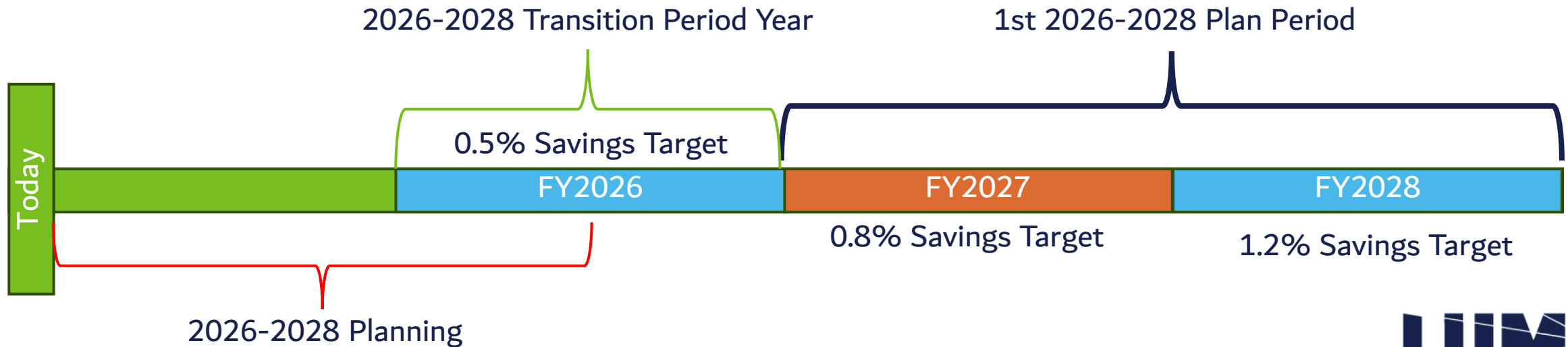
**Customers reserve the right to adjust their event participation, individual reserve level settings or unenroll throughout the period.**

# 2026-2028 EE and DR Plan



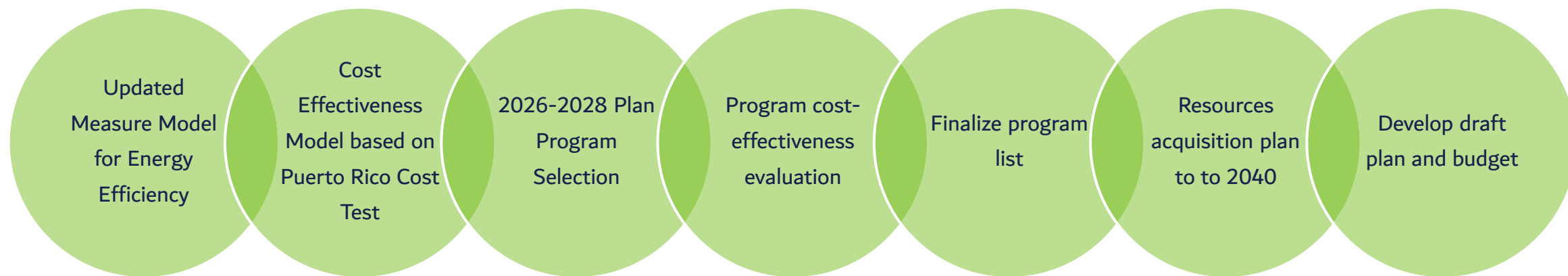
# 2026-2028 EE and DR Plan: Process and timelines

- Develop 2026-2028 Plan draft.
- Draft 2026-2028 Plan presented to -Stakeholders by October 1, 2026.
- Final 2026-2028 Plan submitted to PREB by February -1, 2026.
- First 2026-2028 Plan Period begins July 1, 2026, extending for two years through June 30, 2028.



# 2026-2028 EE and DR Plan: Key Milestones

The following are the key milestones that will inform the drafting of the Three-Year Plan



**Stakeholder Engagement throughout the planning period**

# 2026-2028 EE and DR Plan: Stakeholder Engagement

Market  
knowledge

Customer  
needs and  
perspectives

Collaboration

Strategic  
alignment/  
coordination

Trust-  
building

Best  
Practices

Improved  
Decision-  
Making

Risk  
Reduction

LUMA plans to engage a variety of stakeholders to support 2026-2028 Planning such as:

- Market Actors
- Government
- NGO's
- Customers
- Energy Bureau

LUMA is planning for a range of engagements to garner input into plan development and the draft plan such as:

- 1-on-1 consultations
- Focus groups
- Survey's
- Meetings/Workshop



La gente primero.  
La seguridad siempre.

