

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

NEPR
Received:
May 24, 2024
12:00 AM

**IN RE: ELECTRIC VEHICLE
CHARGING INFRASTRUCTURE
DEPLOYMENT**

CASE NO. NEPR-MI-2021-0013

**SUBJECT: Motion to Submit a Revised Semi-Annual
Report in Compliance with Order of April 23, 2024**

**MOTION TO SUBMIT A REVISED SEMI-ANNUAL REPORT IN COMPLIANCE
WITH ORDER OF APRIL 23, 2024**

TO THE HONORABLE PUERTO RICO ENERGY BUREAU:

COMES now LUMA Energy ServCo, LLC (“LUMA”), through the undersigned legal counsel, and respectfully states, submits and requests the following:

I. Introduction

As per the directives of the Puerto Rico Energy Bureau of the Public Service Regulatory Board (“Energy Bureau”) in this proceeding, LUMA has developed Puerto Rico’s Electric Vehicle Adoption Plan (“PR-EVAP”), to accelerate the growth and infrastructure deployment for Electric Vehicles, and has developed and launched an Electric Vehicle (“EV”) Interim Time of Use Rate with the objective of advancing vehicle electrification by providing rate options that add value and fuel cost savings to drivers while offering appropriate cost recovery for providing clean fuel (electricity) to power those vehicles.

On February 29, 2024, LUMA submitted its first semi-annual report, covering the first six months of Fiscal Year 2024, describing the actions implemented by LUMA in connection with the PR-EVAP and the launch of the EV Interim Time of Use Rate. On April 23, 2024, the Energy Bureau issued a Resolution and Order finding that certain required information was missing from

the semi-annual report and directing LUMA to re-file the semi-annual report addressing the required information and using a new reporting template developed by the Energy Bureau. The Energy Bureau also directed that an explanation be included in the cases when there was no budget spent or no actions were taken with respect to a PR-EVAP action during the reporting period.

With this motion LUMA is filing an updated version of its first semi-annual report of Fiscal Year 2024 in compliance with the Resolution and Order of April 23, 2024, and offers clarifications with respect to the missing information identified in such order and in view of the new directive and new reporting template. As explained in the re-filed report, in the vast majority of the cases, such information was not included in the report because the particular action was not performed or required during the reporting time period (because it was planned or scheduled for later in the implementation plan); no costs had been incurred yet on the particular action; the information was not available with the indicated granularity at the time of the report; or the information requirement was inapplicable. The revised report also provides additional details on some of the actions that are undergoing or completed. Additional clarifications regarding the semi-annual reporting requirements are also discussed in this Motion.

LUMA highlights the broad spectrum of actions that it has undertaken to date to implement the PR-EVAP and launch the Interim EV TOU Rate, novel initiatives in Puerto Rico, which are described in the semi-annual report, including, among others, efforts to educate and engage with different stakeholders including low-income community leaders to share useful information about EVs and the Interim EV TOU Rate; developing a suite of general and program specific educational resources to provide information on EVs, including charging technology, the benefits of EVs, and EV program offerings; launching the EV focused webpage and EV-specific educational information for customers; conducting stakeholder engagement on planning and system

improvement; conducting workforce development activities; and engaging with the public transportation and fleet sector. LUMA is committed to continued advancement in the implementation of the PR-EVAP in support of the Puerto Rico clean energy goals.

II. Relevant Procedural Background

1. On November 18, 2021, this Puerto Rico Energy Bureau of the Public Service Regulatory Board (“Energy Bureau”) issued a Resolution and Order (the “November 18th Resolution and Order”) setting forth directives for initiating electric vehicle (“EV”) infrastructure deployment, including principles to guide the adoption of plans, regulations and procedures related to the electric vehicle energy sector in Puerto Rico. Among others, in the November 18th Resolution and Order, the Energy Bureau ordered LUMA to: (a) file with the Energy Bureau a First Phase of an EV Charging Infrastructure Deployment Plan (“Phase I EV Plan”) in accordance with the specified requirements set forth in the November 18th Order and (b) file a proposal for one or more rate designs targeting the customer segments set forth in the mentioned principles and envisioned in the Phase I EV Plan and addressing the requirements in the November 18th Resolution and Order (“Rate Design Proposal”). *See id.* at pages 4-9.

2. On May 31, 2022, LUMA submitted to the Energy Bureau the draft of the EV Rate Design Proposal 1 (the “Draft EV Rate Design Proposal”) in compliance with the November 18th Resolution and Order. *See LUMA’s Motion Submitting Draft of EV Rate Design Proposal* of that date.

3. On July 21, 2022, LUMA submitted to the Energy Bureau a revised Draft EV Rate Design Proposal (the “Revised Draft EV Rate Design Proposal”). *See Motion Submitting Revised EV Rate Design Proposal of that date.*

4. On September 1, 2022, LUMA filed before the Energy Bureau the Draft Phase I EV Plan (“Draft Phase I EV Plan”) in compliance with the November 18th Resolution and Order. *See Motion Submitting Draft Phase I EV Plan and Request to Postpone Compliance Technical Hearing No. 3 and Concomitant Deadline to Submit Revised Phase I EV Plan* filed on September 1, 2022 (“September 1st Motion”) and its Exhibit 1.¹

5. The Draft Phase I EV Plan included a discussion on, among others: transportation electrification value and benefits; EV market assessment; types of charging infrastructure; funding opportunities for the EV market; a preliminary EV adoption forecast; stakeholder engagement; customer perceptions; resource adequacy considerations; LUMA’s foundational infrastructure programs; key market barriers and proposed initiatives; utility EV initiative benchmarking; the impacts of the EV plan (including in terms of GHG emissions, impacts on the electric grid, and impact on EV market competition); proposed reporting requirements; benefit cost analysis and estimated costs of the EV plan initiatives; and proposed cost recovery mechanisms.

6. The initiatives proposed in the Draft Phase I EV Plan included: education and outreach, EV infrastructure and system improvement, and EV rate. *See id.* at page 44. The portfolio of actions proposed for these initiatives included: providing educational materials and customer assistance; engaging customers and stakeholders in the EV ecosystem; planning for grid infrastructure and system improvements; providing EV rate options; preparing the workforce for the growing adoption of EVs; and supporting EV charging infrastructure deployment. *See id.* on page 54. In terms of reporting, the Draft Phase I EV Plan proposed annual reporting summarizing expenditures to date against budget and outlining progress on expected outcomes and/or

¹ On September 2, 2022, LUMA resubmitted the Draft Phase I EV Plan document with certain technical repairs and requested this Energy Bureau to accept this corrected version in substitution of the version submitted on September 1, 2022. *See LUMA’s Motion Re-Submitting Exhibit 1 Filed on September 1, 2022 with Technical Repairs and Requesting Substitution of Original Exhibit* of that date.

stakeholder participation as appropriate for each of the actions and initiatives, with a third annual report identifying potential improvements that LUMA could implement to increase overall effectiveness of the EV Plan in reducing customer barriers to EV adoption. *See id.* on page 75. Among the EV infrastructure and system improvement initiatives, LUMA proposed developing and publishing an EV Hosting Capacity Map on the community-facing website to help facilitate EV charging equipment deployment throughout Puerto Rico by providing information to identify sites that will minimize the cost of grid upgrades required to provide safe and reliable service, among others. *See id.* pages 60 to 64.

7. On January 13, 2023, the Energy Bureau issued a Resolution and Order (the “January 13th Resolution and Order”) making several determinations regarding the Draft I EV Plan and the Revised Draft EV Rate Design Proposal. Among others, the Energy Bureau approved the Interim Electric Vehicle Time of Use Rate in the Revised Draft EV Rate Design Proposal (“Interim EV TOU Rate”), subject to certain modifications, and ordered LUMA to develop and launch it by September 30, 2023. *See* January 13th Resolution and Order, pages 9, 10 and 14. In addition, the Energy Bureau imposed requirements relating to the implementation of the Phase I EV Plan, including pertaining to customer education and outreach, (including preparing a memorandum on policies and practices to improve public outreach and improving understanding of low-income customer needs and submitting it to the Energy Bureau within the six (6) months (“Customer Outreach Memorandum”) and engaging in outreach with low-income and disadvantaged communities to determine their transportation electrification priorities within the next nine (9) months (“Customer Outreach Implementation”)); federal funding for electric vehicle initiatives; funding for the Phase I EV Plan; and the implementation of the Interim EV TOU Rate, including

electric vehicle data collection, the rate’s integration into the billing system and Interim EV TOU Rate customer outreach and enrollment. *See id.* at pages 2-5, 8, 10-12 and 14.

8. In the January 13th Resolution and Order, the Energy Bureau also provided guidance and set forth requirements with respect to the Phase I EV Plan in the areas of low-income customers, estimating federal funding, reporting requirements, cost recovery and modeling and analysis and ordered LUMA to file by April 30, 2023, a Final Phase I EV Plan incorporating such guidance and addressing such requirements. *See id.* on pages 2-9 and 14. The Energy Bureau also ordered LUMA to file a proposed Project Schedule for implementation of the Interim EV TOU Rate and to report every thirty (30) days on the progress with the data collection and billing to integrate the Interim EV TOU Rate. *See id.* at pages 11 and 14.

9. Furthermore, in the January 13th Resolution and Order, the Energy Bureau ordered LUMA to file Semi-Annual Reports in which it “should follow through and account for its proposed actions, and report on the specific outcomes of each action”. *See id.* at pages 6, 11 and 14. The Energy Bureau further ordered that LUMA report on the following “metrics” and information requests:

Action 1: Customer Education

1. Number of monthly, unique visits to the LUMA's EV landing webpage.
2. Number of direct mailings containing EV customer education resources sent to customers.
3. Number of bill inserts containing EV customer education resources sent to customers.
4. Number of emails containing EV customer education resources sent to customers.
5. Number of face-to-face meetings.
6. Total spending on customer education in dollars (\$) and percent (%) of total budget.

LUMA shall also include in a copy of all EV customer education resources and program materials to include in its filing.

Action 2: Customer Engagement

1. Number of customer engagement events held representing underserved communities.
2. Number of customer events held for non-underserved communities.
3. Total spending on customer engagement in dollars (\$) and percent (%) of total EV Phase I Plan budget.

LUMA shall also describe subjects covered at each customer event, the date of the event, the number of customers in attendance, and copies of materials distributed or presented at the event. LUMA shall provide a list of the stakeholder meetings, workshops, and events in which it participated. LUMA shall also describe how its customer engagement activities incorporate the Energy Bureau's findings in Section II(A) of this Resolution and Order about low-income customers.

Action 3: Planning for Grid Infrastructure and System Improvement

1. Number of monthly, unique visits to the EV Hosting Capacity Map (once completed).
2. Total spending on EV Hosting Capacity Map in dollars (\$) and percent (%) of total EV Phase I Plan.

LUMA shall also include the following:

- a. List of stakeholders LUMA partnered with and the outcome of that partnership.
- b. All updates to its detailed EV load projections.
- c. Progress towards the development and publishing of the EV Hosting Capacity Map and estimated date of completion.
- d. List of local transportation partners and third-party data providers with whom LUMA coordinated.

Action 4: Support for EV Charging Infrastructure

1. The number and percentage of customers, by customer class for whom EVSE installation guidebooks were distributed.
2. The number and percentage of customers, by customer class for whom EV Readiness Checklists were distributed.
3. The number and percentage of customers, by customer class that received the Interconnection Guidelines and/or Project Connection Manual.
4. Total spending on guidebooks, checklists, guidelines and/or manuals in dollars (\$) and percent (%) of total EV Phase I Plan budget.

LUMA shall also include a copy of the EVSE installation guidebooks, EV Readiness Checklists, and Interconnection Guidelines and/or Project Connection Manual.

Action 5: Workforce Development

1. A description of each training session offered to employees, including related instructional materials.
2. Number and percent of employees trained.
3. Total spending on training in dollars (\$) and percent (%) of total EV Phase I Plan budget.

LUMA's filing should also include a copy of EV-specific content for the customer contact center and the EV FAQs list.

Action 6: EV Rates and Charging

1. The number and percentage of residential customers participating in the Interim EV TOU Rate.
2. The number of EV charging meters installed.
3. The number and percentage of Interim EV TOU Rate participants where LUMA used vehicle telematics, data from customers' EV chargers, data from charging networks or aggregators, or other non-meter data sources.
4. Average frequency of charging.
5. Average length of charging.
6. Timing (by hour) of charging.
7. Average and maximum of kWh delivered per charging session.

Id. at pages 6-8.

10. On February 17, 2023, LUMA submitted the Project Schedule addressing the tasks to fulfill the requirements relating to the Phase I EV Plan and the development and launch of the Interim EV TOU Rate. *See Motion Submitting Project Schedule in Compliance with Resolution and Order of January 13, 2023, and Requesting Modification of Certain Deadlines Thereunder* dated February 17th, 2023, (“February 17th motion”) and its Exhibit 1. In addition, LUMA requested the Energy Bureau to modify certain deadlines or timeframes established in the January 13th Order in accordance with the deadlines and timeframes in the Project Schedule, including that the date to begin the billing integrating the Interim EV TOU Rate be extended to the end of November 2023 or sixty (60) days following the date when customer enrollment has reached a minimum threshold number of customers, whichever occurs later; the timeline to submit the

Customer Outreach Memorandum be extended to nine (9) months; and the timeframe for Customer Outreach Implementation be extended to the end September 2023. *See id.* at pages 7 and 9.

11. On March 29, 2023, the Energy Bureau issued a Resolution and Order (the “March 29th Order”) approving the Project Schedule submitted by LUMA and, among others, and modifying the deadlines for commencing billing integrating the Interim EV TOU Rate, to submit the Customer Outreach Memorandum, and to begin Customer Outreach Implementation to the dates requested in the February 17th Motion. *See id.* on page 3.

12. On May 1, 2023, LUMA submitted to the Energy Bureau the Final Phase I EV Plan in compliance with the January 13th Resolution and Order in the form of the document titled Puerto Rico’s Electric Vehicle Adoption Plan (“PR-EVAP”). *See Motion to Submit Final Phase I EV Plan in Compliance with Resolution and Order of January 13, 2023*, filed on May 1, 2023. In the PR-EVAP, LUMA included, among others, the requirement to file Semi-Annual Reports set forth in the January 13th Order and provided a reporting schedule establishing reporting deadlines of sixty (60) days “following the half end of the fiscal year”. *See id.* Exhibit 1, Section 6.0. In addition, LUMA referred to the reporting requirements as “reporting indicators” instead of “metrics” and noted that “the EV reporting indicators should not be confused with LUMA’s OMA Performance Metrics under the Puerto Rico Transmission and Distribution Operation and Maintenance Agreement”. *See id.* Regarding the reporting requirements, LUMA clarified that:

Due to the novelty of the EV program in Puerto Rico, it is possible that there will be limited information available in the first semi-annual report. The implementation of the EV program is a relatively new project and there will be a learning curve associated with the collection and reporting of data. This is common for new EV programs across the country until a program matures. For example, Avista Utilities mentioned in its first Electric Vehicle Equipment pilot program to the Washington Utilities and Transportation Commission (“UTC”) that it was unable to report on its expenditures and revenues due to the timing of the first installation. Avista Utilities was able to provide the data in following reports as the program progressed and LUMA anticipates that a similar process will be followed with its semi-annual

reports. LUMA will make it a priority to ensure that as the program progresses, and data becomes available a comprehensive and a detailed semi-annual report will be filed to the PREB.

See id. (footnotes omitted).

13. In the PR-EVAP, LUMA also noted, regarding the proposed EV Hosting Capacity Maps, that:

LUMA, originally proposed in the Draft EV Plan, and has considered developing EV Hosting Capacity Maps and has evaluated the existing methodologies and published utility maps that communicate “hosting capacity” or “EV load capacity.” While the analysis methodologies vary from utility to utility, they all require an accurate system model to perform the analysis of available feeder capacity. EV hosting capacity is very different from the concept of DG hosting capacity. EV is a net load, whereas DG injects energy to the system. Performing emerging studies, like EV hosting capacity, would be premature as the system reconstruction is currently being planned and engineered.

See id. Section 4.3.1; *see also id.* Section 3.10.

14. On June 6, 2023, the Energy Bureau issued a Resolution and Order (“June 6th Order”) taking notice of the filing of the PR-EVAP and making certain findings in relation to the PR-EVAP, including, among others, ordering LUMA to: continue the implementation of the Interim EV TOU Rate and other specified requirements of the January 13th Resolution and Order; report in the semi-annual reports the specific actions that LUMA is taking to assist entities in procuring and implementing federal funds, including specific timelines; file the Customer Outreach Memorandum by July 13, 2023; and prepare for a Virtual Technical Conference to be scheduled by the Energy Bureau within thirty (30) days of LUMA filing the Customer Outreach Memorandum. *See* June 6th Order on pages 3-4.

15. On July 13, 2023, LUMA requested the Energy Bureau clarification of various aspects of the June 6th Order, including, among others, the correction of the deadline for filing the Customer Outreach Memorandum in light of the requirements in the March 29th Order. *See Motion*

to Request Clarification of Resolution and Order of June 6, 2023, filed by LUMA on July 13, 2023 (“July 13th Motion”) on page 15. In addition, LUMA requested that the Energy Bureau “issue a determination on the approval of the PR-EVAP” so that LUMA can “understand whether the initiatives under the LUMA’s control under the PR-EVAP are approved before LUMA begins to implement the actions or initiatives in the PR-EVAP”. *See id.* pages 22-23.

16. On August 11, 2023, the Energy Bureau issued a Resolution and Order (“August 11th Order”) making various findings and determinations and issuing associated orders in attention to the July 13th Motion. Among other determinations, the Energy Bureau clarified that the deadline to file the Customer Outreach Memorandum and to conduct Customer Outreach Implementation would remain as stated in the March 29th Order and ordered LUMA to submit the Federal Funding Report within three (3) months of the August 11th Order. *See* August 11th Order on pages 3-4. In addition, the Energy Bureau found that “improvements are needed to the PR-EVAP as discussed” in the August 11th Order but also ordered LUMA “to implement the PR-EVAP along with the additional requirements set forth” in the August 11th Order. *See id.* at page 5.

17. On January 2, 2024, LUMA submitted to the Energy Bureau the Customer Outreach Memorandum. *See Motion to Submit Report on Customer Outreach Memorandum in Compliance with Resolutions and Orders of January 13, 2023, As Modified by Resolutions and Orders of March 29, 2023, June 6, 2023, and August 11, 2023*, filed on January 2, 2024.

18. On January 12, 2024, the Energy Bureau issued a Resolution and Order taking notice of the Customer Outreach Memorandum and scheduling a Hybrid Technical Conference for February 1, 2024, regarding the Customer Outreach Memorandum.

19. On February 1, 2024, the Hybrid Technical Conference was held and LUMA provided a presentation regarding the Customer Outreach Memorandum.

20. On February 1, 2024, LUMA filed a copy of the presentation it provided during the Hybrid Technical Conference (“February 1st Presentation”). *See Motion to Submit Presentation Offered During Hybrid Technical Conference of February 1, 2024, Regarding LUMA's Customer Outreach Memorandum* (“February 1 Motion”).

21. On February 12, 2024, the Energy Bureau issued a Resolution and Order (“February 12th Order”) accepting LUMA’s February 1st Presentation and indicating it was “encouraged by LUMA's efforts to collaborate with and obtain learnings from its customers, low-income community leaders, and a public transportation company, and industry representatives as part of its efforts to support electric vehicle adoption”. The Energy Bureau then ordered LUMA to “[p]rovide a description of how LUMA plans to further engage with the public transportation and fleet sectors, especially those located in or serving disadvantaged communities, within its forthcoming [PR-EVAP] Semi-Annual Report”. *See* February 12th Order on page 1.

22. On February 29, 2024, LUMA submitted its first Semi-Annual Report (“February 29th Semi-Annual Report” or “Original Report”) in which it informed, among others, that LUMA: has made significant efforts to educate and engage with different stakeholders including low-income community leaders to share useful information about EVs and the Interim EV TOU Rate; has developed a suite of general and program specific educational resources to provide information on EVs, including charging technology, the benefits of EVs, and EV program offerings, such as the Interim EV TOU Rate; launched the EV focused webpage in October 2023 and EV-specific educational information for customers; has conducted stakeholder engagement on planning and system improvement; would be developing additional content for its EV webpage; and has conducted workforce development activities consisting of trainings for LUMA employees. *See Motion to Submit Semi-Annual Report in Compliance with Order of January 13, 2023*, filed on

February 9, 2024, Exhibit 1. LUMA also explained that it is supporting efforts to incorporate electric buses and EV chargers through collaboration with a transportation company and will be following other initiatives to engage with the public transportation and fleet sector, in compliance with the February 12th Order. *See id.* at pages 16-17.

23. On April 23, 2024, the Energy Bureau issued a Resolution and Order (“April 23rd Order”) finding LUMA’s February 29th Semi-Annual Report to be “noncompliant with the reporting requirements in Section IIC of the [January 13th Order]” and ordering LUMA to refile it within thirty (30) days and “use the structure detailed in the reporting template included as Attachment 4” to the April 23rd Order. *See* April 23rd Order on page 5.

24. The Energy Bureau also indicated in the April 23rd Order that “[i]n the event that LUMA has not spent any budget or not completed any activities for a specific PR-EVAP action, LUMA should indicate that in the semi-annual report to ensure transparency on progress to date”. *Id.* at page 5. In addition, the Energy Bureau indicated that it “appreciates LUMA incorporating feedback received during the latest Technical Conference and its commitment to add initiatives to its PR-EVAP to further engage with the public transportation and fleet sector” and that it “ACCEPTS these initiatives and looks forward to a progress update in the next semi-annual report.” *See id.*

III. Submittal of Revised Semi-Annual Report

25. LUMA hereby submits a revised version of LUMA’s Fiscal Year 2024 Semi-Annual Report in compliance with the January 13th Resolution and Order, the June 6th Order, the February 12th Order and the April 23rd Order. *See Exhibit 1* (“Revised FY 2024 Semi-Annual

Report” or “Revised Report”). The Revised Report includes clarifications addressing the issues raised in the April 23rd Order, which we summarize below.

IV. Clarifications Regarding Issues Raised in the April 23rd Order

26. With respect to Customer Education (Action 1), as previously reported in the February 29th Semi-Annual Report (or Original Report), LUMA informs in the Revised Report that it has crafted an array of educational resources covering diverse topics ranging from charging technology to the advantages of EVs, including details on specific EV programs including the EV TOU Rate and, building on this initiative, “it introduced a dedicated webpage exclusively focused on EV’s, offering easily accessible and comprehensive educational content curated for its customers” *See* Exhibit 1 on page 4. LUMA also informs (as it informed in the Original Report) that it held face to face meetings during the reporting period with the participation of stakeholders and others and provides the relevant data. *See id.* LUMA clarifies in the Revised Report that no information was provided relating to direct mailings, bill inserts, and emails to customers, because these actions are some of the potential options to educate the customer about EVs considered in the PR-EVAP. *See id.* at page 5. LUMA expects to identify a precise timeline for launching these actions as the EV Program evolves and information regarding customer needs becomes available. *See id.* LUMA further clarifies that it did include copy of the EV customer education resources and program materials in the Original Report in the form of EV webpage links and screenshots, and links and screenshots of LUMA’s EV Brochure, which were included in slide 27 of the Original Report. *See id.* at page 7. These are also included in the Revised Report. *See id.* Annex A.

27. As for the information on the spending on customer education, LUMA explains in the Revised Report that it is determining the best procedure to identify such expenses and report

them with greater granularity in the next reports. *See id.* at page 6. LUMA provides an estimate of the mentioned expenses in the Revised Report. *See id.* at pages 6-7.

28. LUMA notes in the Revised Report that in the PR-EVAP LUMA had informed that there would be constraints in the ability to collect and report on certain data, given the novelty of the EV program in Puerto Rico, that there would be a learning curve associated with the collection and reporting of data until the program matures and that LUMA would make it a priority to ensure that as the program progresses, and data becomes available, it would be able to provide a more comprehensive and detailed semi-annual report. *See id.* at page 3.

29. With respect to Customer Engagement (Action 2), information on customer events was provided in the Original Report but additional details are being provided in the Revised Report to further address the April 23rd Order. *See id.* at pages 7-12.

30. Regarding Planning for Grid Infrastructure and System Improvement (Action 3), LUMA indicates in the Revised Report that in the PR-EVAP LUMA had informed that “performing emerging studies, like EV hosting capacity, would be premature as the system reconstruction is currently being planned and engineered”. *See id.* page 12. LUMA further notes that it has published utility maps that communicate hosting capacity. *See id.* The foregoing refers to the Interconnection Capacity Map published by LUMA as of September 30, 2021 that is available for use by developers on the lumapr.com website. *See Motion to Submit Updated Implementation Plan in Compliance with Resolution and Order of April 11, 2024* filed on May 1, 2024 in Case No. NEPR-MI-2019-0011, *In Re: Process for Adoption of Regulation for Distribution Resource Planning*, on page 2.

31. Therefore, in the PR-EVAP the EV Hosting Capacity Map was removed from LUMA’s EV Infrastructure & System Improvement initiatives. *See PR-EVAP*, Section 4.3.1. In

the August 11th Order, the Energy Bureau ordered LUMA to implement the PR-EVAP, and, accordingly, LUMA has not pursued the development of the EV Hosting Capacity Map and consequently did not report on it in the Original Report. Therefore, LUMA respectfully submits that the reporting requirement on this initiative is inapplicable, and requests that this reporting indicator be eliminated.

32. As for Support for EV Charging Infrastructure (Action 4), in the Revised Report LUMA explains that information on total spending on guidebooks, checklists, guidelines, and/or manuals was not provided because no costs have been incurred as of the close of the reporting period. *See* Exhibit 1 on page 15. LUMA further explains that LUMA has “outlined plans to provide support for EV Charging Infrastructure through the development” of these materials “and potentially, a Project Connection Manual”, that “as of the end of the period, these materials were still in the planning phase and have not been fully developed or distributed”, and LUMA is “actively working towards finalizing these resources to facilitate the smooth integration of EV charging infrastructure in LUMA’s operations, with the intention of implementation in the near future”. *See id.* at page 24, Appendix C.

33. Finally, regarding Workforce Development (Action 5), in the Original Report LUMA had informed that LUMA employees had taken several Federal Energy Management Program (“FEMP”) comprehensive trainings. *See* Original Report on page 13. In the Revised Report, the required details on the number of employees trained and total spending are also provided. *See id.* at page 17. LUMA also explains in the Revised Report that the EV-specific content for the customer contact center and the EV FAQs list was not available for the reporting period because LUMA planned to develop these closer to the Interim EV TOU Rate launch. *See id.* at page 24, Appendix D.

34. In view of the foregoing clarifications, LUMA emphasizes that in most of the cases in which the April 23rd Order found that information was missing from the Original Report, it was due to one or more of the following situations: the particular action was not performed during the reporting time period (because it is planned or scheduled for later in the year); no costs have been incurred yet on some initiatives; the information was not available with the indicated granularity at the time of the report; or the information requirement was inapplicable. Now that the Energy Bureau directed in the April 23rd Order that clarifications should be included in the report when information is not available in the event no budget has been spent or the activities for a specific PR-EVAP action have not been completed, LUMA has included these and other clarifications in the Revised Report and will continue to do so in future reports, as applicable.

V. Other Clarifications

35. LUMA would like to emphasize that the PR-EVAP sets forth a portfolio of actions to achieve its initiatives which are to be implemented by LUMA at an appropriate time and not necessarily all at once. LUMA will apply its expertise and experience to determine the appropriate timing to implement these actions taking into account the stage of the various initiatives and the evolution of the EV program. As the entity responsible for the implementation of the PR-EVAP, LUMA is best positioned to assess the timing and scope of these measures. Accordingly, LUMA respectfully submits that the reporting requirements should respond to the various implementation stages contemplated in the PR-EVAP and account for the evolving and varying nature of the measures adopted by LUMA as the PR-EVAP progresses.

36. Additionally, among the reporting requirements for the EV Rates and Charging (Action 6) indicator, information is requested on the number of EV charging meters installed. In the Revised Report, LUMA indicates that since telematics has been implemented (as per the January

13th Order) and LUMA is planning to deploy Advanced Metering Infrastructure (AMI) in the future, this indicator is not applicable. *See id.* at page 16. The program is currently designed to bill customers without the need for installing meters thereby eliminating the logistical and financial burdens of installing these meters. *See id.* In light of this change, LUMA respectfully requests that this Energy Bureau eliminate this reporting requirement from the Semi-Annual Report, as well as the reporting requirement on the EV Hosting Capacity Map discussed above, because these indicators are no longer applicable.

37. Finally, LUMA respectfully restates its request to this honorable Energy Bureau to issue a determination on the approval of the PR-EVAP. As informed previously throughout this proceeding, LUMA cannot responsibly plan and fully implement the actions and initiatives in the PR-EVAP without a clear understanding that the actions contained therein have been approved by the Energy Bureau. As evidenced by LUMA's actions in this proceeding, the successful implementation of the Interim EV TOU Rate, and many other initiatives that address barriers to EV adoption, LUMA remains committed to continuing to empower its customers by providing sustainable solutions and advancing clean energy priorities. The approval of the PR-EVAP is a key milestone in achieving these important energy goals.

WHEREFORE, LUMA respectfully requests that the Energy Bureau **take notice** of the aforementioned; **accept Exhibit 1** in compliance with the requirements relating to semi-annual reporting under the January 13th, June 6th, February 12th, and April 23rd Orders; **determine** to eliminate the reporting requirements of EV Hosting Capacity Map and EV charging meters described in this motion from the Semi-Annual reporting requirements; and **approve** the PR-EVAP as filed on May 1, 2023.

RESPECTFULLY SUBMITTED

In San Juan, Puerto Rico, this 23rd day of May 2024.

We hereby certify that we filed this motion using the electronic filing system of this Energy Bureau and that we will send an electronic courtesy copy of this motion to the attorney for PREPA, lionel.santa@prepa.pr.gov and to the Independent Office of Consumer Protection by submittal to Hannia Rivera, hrivera@jrsp.pr.gov. LUMA understands that other participants or stakeholders in this proceeding will be notified as a result of the publicity of the filings in this process. Notwithstanding, LUMA will send a courtesy copy of the filing to the following stakeholders:

agalloza@aggpr.com; alberto.cortes@warrendelcaribe.com; aldo@skootel.com;
angel.d.rodriguez@outlook.com; antonio@velocicharge.com; apietrantonio@pmalaw.com;
azayas@azeng.net; bigwheelcorp@gmail.com; blazquezmalu@gmail.com;
brightsunpr@gmail.com; carlosxcdeno@gmail.com; clrivera@caguasexpressway.com;
flota@caguasexpressway.com; cnegrette@solrenew.com; CR.Tejera@ddec.pr.gov;
dacosta@aggpr.com; daniel.perez@totalenergies.pr; dcordero@group-em.com;
direxec@ciapr.org; divine.energy@hotmail.com; ecruz@pmalaw.com;
eduardo.pinera@toyota.com; Edwin.Acevedo@ddec.pr.gov; emelyies.torres@toyota.com;
epenergypr@gmail.com; erica.cosme@gsonnell.com; Fberrios@peritoselectricistas.org;
francisco.berrios@hotmail.com; franciscojrullan@yahoo.com; gerard.berlinski@toyota.com;
gerardo_cosme@solartekpr.net; gperez@solrenew.com; hamely@motorambar.net;
ialsina@plazalasamericas.com; idiaz@glenninternational.com; info@carlosmatta.com;
jack@pantekpartners.com; jameauxl@aim.com; jan.rodriguez@toyota.com; javrua@sesapr.org;
jbouza@caguasexpressway.com; jcardona@aggpr.com; jmartinez@pmalaw.com;
jorrodriiguez@motorambar.net; jortiz@caguasexpressway.com; jose.maeso@crowley.com;
jpibernus@motorambar.com; JSantana@motorambar.com; jtosado@motorambar.net;
juan.diaz.galarza@guidehouse.com; jvazquez905@gmail.com;
kenan.d.davila@sargentlundy.com; kkoch@tesla.com; l.marcano@aconer.org;
lsundeen@tesla.com; luisgmoreno@gmail.com; Marangelly.Cruz@toyota.com;
marilyn.maldonado@toyota.com; mlandron@plazaad.com; mpietrantonio@pmalaw.com;
nannette.berrios@solpetroleum.com; nmontes@ccmpr.com; nrodriguez@senado.pr.gov;
Ochavez@Padigm.com; odette@grupofernandezpr.com; omundo@plazalasamericas.com;
patlopez00@gmail.com; dany.oliva@toyota.com; pjcleanenergy@gmail.com;
rdiaz@glenninternational.com; repagan@burnsmcd.com; rry@tcm.law;
Ruben.Gonzalez@pumaenergy.com; rvega@guidehouse.com; salvadorlopez5@hotmail.com;
shehaly.rosado@ddec.pr.gov; Veronica@pantekpartners.com; Victor.Aponte@toyota.com;
victor.martinez@totalenergies.pr; wilfredsonllc@gmail.com; zlopez@efonalledas.com;
mara.cruz@toyota.com; lizette.cotto@toyota.com.



DLA Piper (Puerto Rico) LLC
500 Calle de la Tanca, Suite 401
San Juan, PR 00901-1969
Tel. 787-945-9107
Fax 939-697-6147

/s/Laura T. Rozas
Laura T. Rozas
RUA Núm. 10,398
laura.rozas@us.dlapiper.com

Exhibit 1

Revised Semi-Annual Report



Puerto Rico's Electric Vehicle Adoption Plan (PR-EVAP)

Semi-Annual Report July-December 2023

NEPR-MI-2021-0013

REVISED MAY 23, 2024

PR-EVAP Semi-Annual Report (Revised)

Contents

IntroductionError! Bookmark not defined.

Reporting Indicators **4**

- 1. **Action 1: Customer Education** 4
 - 1.1. Summary and overview of progress during the reporting period 4
 - 1.2. Number of monthly unique visits to LUMA's EV landing webpage 4
 - 1.3. Number of direct mailings containing EV customer education resources sent to customers 5
 - 1.4. Number of bill inserts containing EV customer education resources sent to customers 5
 - 1.5. Number of emails containing EV customer education resources sent to customers 5
 - 1.6. Number of face-to-face meetings up to the reporting period. 5
 - 1.7. Total spending on customer education in dollars (\$) and percent (%) of total budget..... 7
- 2. **Action 2: Customer Engagement** 7
 - 2.1. Summary and overview of progress during the reporting period 7
 - 2.2. List of stakeholder meetings, workshops, and events in which LUMA participated (Should also include a description of the subjects covered at each customer event, the date of the event, the number of customers in attendance) 8
 - 2.3. Number of customer engagement events held representing underserved communities . 11
 - 2.4. Number of customer events held for non-underserved communities 12
 - 2.5. Total spending on customer engagement in dollars (\$) and percent (%) of total PR-EVAP Plan budget 12
- 3. **Action 3: Planning for Grid Infrastructure and System Improvement** 12
 - 3.1. Summary and overview of progress during the reporting period 12
 - 3.2. Number of monthly, unique visits to the EV Hosting Capacity Map 13
 - 3.3. Total spending on EV Hosting Capacity Map in dollars (\$) and percent (%) of total PR-EVAP budget 13
 - 3.4. List of stakeholders LUMA partnered with and the outcome of that partnership 13
 - 3.5. All updates to LUMA's detailed EV load projections 13
 - 3.6. Progress towards the development and publishing of the EV Hosting Capacity Map and estimated date of completion 14
- 4. **Action 4: Support for EV Charging Infrastructure** 14
 - 4.1. Summary and overview of progress during the reporting period 14
 - 4.2. The number and percentage of customers, by customer class for whom EVSE installation guidebooks were distributed 15
 - 4.3. The number and percentage of customers, by customer class for whom EV Readiness Checklists were distributed 15
 - 4.4. The number and percentage of customers, by customer class that received the Interconnection Guidelines and/or Project Connection Manual 15
 - 4.5. Total spending on guidebooks, checklists, guidelines and/or manuals in dollars (\$) and percentage (%) of total PR-EVAP Plan budget 16
- 5. **Action 5: Workforce Development** 16
 - 5.1. Summary and overview of progress during reporting period 16
 - 5.2. A description of each training session offered to employees, including related instructional materials 17



PR-EVAP Semi-Annual Report (Revised)

5.3.	Number and percent of employees trained	18
5.4.	Total spending on training in dollars (\$) and percent (%) of total PR-EVAP Plan budget.	18
6.	Action 6: EV Rates and Charging	18
6.1.	Summary and overview of progress during reporting period	19
6.2.	The number and percentage of residential customers participating in the Interim EV TOU Rate.....	19
6.3.	The number of EV charging meters installed.....	19
6.4.	The number and percentage of Interim EV TOU Rate participants where LUMA used vehicle telematics, data from customers' EV chargers, data from charging networks or aggregators, or other non-meter data sources	19
6.5.	Average frequency of charging	20
6.6.	Average length of charging	20
6.7.	Timing (by hour) of charging	20
6.8.	Average and maximum kWh delivered per charging session.....	20
7.	PR-EVAP Budget and Expenditure Tables.....	20
8.	Appendices	21
8.1.	Appendix A: Customer Education Materials (Should include copies of all EV customer education resources and program materials from the reporting period.).....	21
8.2.	Appendix B: Customer Engagement Materials (Should include copies of all copies of materials distributed or presented at customer engagement events that occurred during the reporting period.).....	24
8.3.	Appendix C: Support for EV Charging Infrastructure: Guidebooks, Checklists, Guidelines/Manuals (Should include copies of the EVSE installation guidebooks, EV Readiness Checklists, and Interconnection Guidelines and/or Project Connection Manual distributed during the reporting period) ...	25
8.4.	Appendix D: Workforce Development Materials (Should include copies of EV-specific content for the customer contact center and the EVFAQs list from the reporting period.)	25
9.	Reached Milestones and Next Steps	26
9.1.	Summary of Customer Outreach Efforts	27
9.2.	Community Outreach: Low-income Communities	28
9.2.1.	LUMA Online Survey.....	29
9.2.2.	LUMA Online Survey Findings as of December 31, 2023	29
9.2.3.	LUMA's Voice of the Customer	30
9.2.4.	J.D Power Survey Findings as of December 31, 2023	30

PR-EVAP Semi-Annual Report (Revised)

Transmittal Letter

LUMA is determined to build a cleaner energy future for all Puerto Ricans and embraces its role as a trusted advisor on Puerto Rico's Electric Vehicle Adoption Plan (PR-EVAP) as filed on May 1, 2023, to help ensure all customers and industry stakeholders have effective and equitable access to Electric Vehicles (EVs).

Through PR-EVAP, LUMA endeavors to ensure all Puerto Ricans, along with industry stakeholders, have equitable access to Electric Vehicles (EVs), marking a significant step towards sustainability and resilience in the energy sector. Central to this commitment is LUMA's dedication to transparency and accountability, as evidenced by its Semi-Annual Report, which encompasses various facets of the EV program's implementation, including customer education, infrastructure development, and workforce initiatives.

This journey began with the Resolution and Order from the Puerto Rico Energy Bureau ("Energy Bureau") on January 13, 2023, making several determinations regarding the draft electric vehicle plan LUMA had submitted on September 1, 2022 (precursor to the PR-EVAP) and a Revised Draft EV Rate Design Proposal submitted by LUMA on July 21, 2022 and imposing requirements relating to the implementation of the draft electric vehicle plan, including mandating the submittal of semi-annual reports to report on specified indicators and provide updates on progress and initiatives undertaken (January 13th Resolution and Order).

Following this, LUMA navigated a series of milestones, including the submission of the Project Schedule on February 17, 2023, which sought modifications to certain deadlines and was subsequently approved by the Energy Bureau on March 29, 2023 (March 29th Order).

Following the successful approval of the Project Schedule by the Energy Bureau, LUMA embarked on a series of strategic initiatives aimed at advancing Puerto Rico's Electric Vehicle Adoption Plan (PR-EVAP) and fostering a cleaner energy future. These endeavors culminated in the meticulous preparation of LUMA's Semi-Annual Report, a document designed to provide the Energy Bureau with insight into the progress and initiatives undertaken by LUMA.

The purpose of LUMA's Semi-Annual Report is to provide information on a broad spectrum of actions, including customer education and engagement, planning for grid infrastructure and system improvement, support for EV charging infrastructure, workforce development, and EV rates and charging. LUMA tracks and reports on various indicators and progress, ensuring transparency and accountability in its endeavors to build a more sustainable and resilient energy ecosystem for the benefit of its 1.5 million customers.

As informed in the PR-EVAP, due to the novelty of the EV program in Puerto Rico, the first Semi-Annual Report, as filed on February 29, 2024, reflected the best and most accurate information available at the close of the first half of FY2024 (i.e. July 1, 2023, to December 31, 2023). As Puerto Rico's EV program matures, the quality, accuracy and availability of data will improve, as will LUMA's ability to leverage such information to continue evolving the program to the benefit of its customers. In the PR-EVAP, LUMA provided examples of reporting limitations faced by other utilities during the early stages of their EV programs and the approach implemented to meet reporting requirements. LUMA, like other utilities, made it a priority to ensure that as the program progresses and data becomes available, a comprehensive and

PR-EVAP Semi-Annual Report (Revised)

detailed Semi-Annual Report would be filed with the Energy Bureau. LUMA's approaches implementation of the EV program in phases and, as it does so, may identify, through experience and program progress, that some indicators are more effective to implement than others. LUMA will continue communicating these advances to the Energy Bureau through its Semi-Annual Report.

LUMA has made significant efforts to educate and engage with different stakeholders, including low-income community leaders, to share useful information about EVs and the Interim EV Time of Use rate (EV TOU) to ensure equitable access is considered in the adoption of EVs in Puerto Rico. The successful adoption of EVs is critically dependent on other actors and industry stakeholders taking coordinated action under effective public policies implemented by the Government of Puerto Rico. Although there is much work to be done, the transition towards clean energy in Puerto Rico is already in progress. LUMA reiterates its steadfast commitment to work in concert with all stakeholders to build a more reliable, resilient, customer-focused, and cleaner energy system for Puerto Rico. In the near-term, and as intended by the PR-EVAP, the transition to electrified transportation is, to some extent, an educational journey to understand customer behavior and preferences and to learn what processes or programs best serve these customers' needs.

Reporting Indicators

The reporting indicators serve as tools for evaluating various aspects of LUMA's EV programs under the PR-EVAP. By tracking these indicators and data points, LUMA can assess the programs' performance, identify areas for improvement, and comply with regulatory requirements outlined in the Energy Bureau's January 13, 2023, Resolution and Order. The implementation of these indicators will be determined based on the assessment of the information collected and gathered over time and the pace at which the EV programs evolve. As the program's advisor, LUMA will apply its expertise and industry knowledge to leverage available information and optimize the implementation of the PR-EVAP, including any and all relevant reporting indicators.

1. Action 1: Customer Education

1.1. Summary and overview of progress during the reporting period

LUMA has crafted an array of educational resources tailored both for general understanding and program-specific insights into EVs. These resources cover diverse topics ranging from charging technology to the advantages of EVs, along with details on specific EV programs like the ongoing implementation of the interim EV Time-of-Use (TOU) rate. Building on this initiative, in October 2023, LUMA introduced a dedicated webpage focused on EVs, offering easily accessible and comprehensive educational content curated for its customers.

1.2. Number of monthly unique visits to LUMA's EV landing webpage

Table 1: Visits to LUMA's EV Landing webpage

PR-EVAP Semi-Annual Report (Revised)

Month	Amount
October	67
November	100
December	89
Total	256

1.3. Number of direct mailings containing EV customer education resources sent to customers

Direct mailing is one of the potential options to educate the customers about EVs. LUMA is currently determining the appropriate timing for implementing this approach based on its assessment of customer needs and readiness and the extent to which such mechanism best serves the objectives of the EV Program.

1.4. Number of bill inserts containing EV customer education resources sent to customers

Similar to direct mailings, bills inserts are one of the options available to LUMA to educate customers about EVs. LUMA is currently evaluating how this mechanism can be deployed to best serve the objectives of the EV Program and the timeline for its deployment.

1.5. Number of emails containing EV customer education resources sent to customers

LUMA is currently planning to use emails as an educational mechanism during the second half of the PR-EVAP implementation. LUMA is evaluating the most effective and impactful way to educate customers on EVs by either combining strategies or by selecting the single most effective way to reach its customers. LUMA expects to identify a precise timeline for launching this initiative as the EV Program evolves and information regarding customer needs is becomes available.

1.6. Number of face-to-face meetings up to the reporting period.

During the reporting period, LUMA participated in five (5) distinct events where face-to-face meetings occurred with key stakeholders and industry representatives.

Table 2: Face to Face meetings¹

¹ This table was presented in the Semi-Annual Report submitted on February 29, 2024. See [Slides 8 and 9 of the PR-EVAP's Semi-Annual Report, as referenced in Exhibit 1 attached to the Motion to Submit Semi-Annual Report in Compliance with Order of January 13, 2023 filed on February 29, 2029.](#)

PR-EVAP Semi-Annual Report (Revised)

Sponsoring Entity	Event	Event description	Month
Puerto Rico Public Energy Policy Office (PPPE)	Electrificación de la Transportación en Puerto Rico	Met with key government representatives and industry stakeholders to discuss the status of transportation electrification and future efforts to accelerate EVs adoption.	September 2023
Puerto Rico Highways & Transportation Authority (PRTHA)	National Electric Vehicle Infrastructure Program (NEVI)	LUMA provided preliminary planning support related to infrastructure location for the installation of future EV charging stations.	October 2023
Puerto Rico Association of Restaurants (ASORE)	ASORE Annual Convention	Engaged with convention participants and visitors at the LUMA booth to discuss LUMA's efforts with the EVAP and the interim EV TOU rate. Distributed educational material about EVs.	October 2023
Solar and Energy Storage Association (SESA)	SESA 2023 Summit	Engaged with visitors, participants, and stakeholders to discuss LUMA's efforts with the EVAP and the interim EV TOU rate. Distributed educational material about EVs.	November 2023
Solutions for the Energy Transformation for Puerto Rico (SETPR)	Integrated Resource Planning meetings across the island	Engaged with visitors, participants, and stakeholders to discuss LUMA's efforts with the EVAP and the interim EV TOU rate. Distributed educational material about EVs and the interim EV TOU rate.	October & November 2023

PR-EVAP Semi-Annual Report (Revised)

1.7. Total spending on customer education in dollars (\$) and percent (%) of total budget

As part of the initial phases of implementation of the PR-EVAP, LUMA is currently developing the

to	FY2024 Budget*	Reporting Period Spend (\$)²	Reporting Period Spend (% of Budget)	procedures identify and report on customer education
	\$200,000	\$26,475	13.2%	

expenditures in the levels of granularity requested by the Energy Bureau. LUMA estimates it incurred \$26,475 in expenses during the reporting period. These are related to the attendance of different events, meetings, development of the educational material on the new EV webpage, development of the EV educational

brochure, and distribution of the EV brochure to the attendees of the events and meetings. This represents 13.2% of the allocated budget (\$200,000) for EV Education and Outreach efforts.

Table 3: Total spending on customer education

[Section 1.8 is missing]

2. Action 2: Customer Engagement

LUMA is pleased to provide an overview of its activities during the reporting period, which encompasses various facets of its engagement efforts. This Semi-Annual report includes a summary of our progress during this period, along with a detailed list of stakeholder meetings, workshops, and events in which LUMA actively participated. These engagements not only involved interactions with stakeholders but also provided platforms to discuss pertinent subjects relevant to LUMA's customer base. Furthermore, the report includes the number of customer engagement events held, representing both underserved and non-underserved communities. Each event is accompanied by a description of the topics covered, the date of the event, and the estimated attendance figures.

2.1. Summary and overview of progress during the reporting period

LUMA has implemented several customer outreach and education initiatives to promote EV adoption in Puerto Rico. These initiatives include:

² This is an estimation of the customer outreach costs, as the process to collect more accurate data is still ongoing. LUMA is currently gathering comprehensive data to provide a more precise assessment. Once this data collection is complete, LUMA will update the cost analysis to reflect the most accurate figures.

PR-EVAP Semi-Annual Report (Revised)

- **Educational Material Distribution:** LUMA has developed informative brochures, pamphlets, and online resources about EVs. These materials cover topics such as the benefits of EVs, charging infrastructure, available incentives, and frequently asked questions. The next step is to continue distributing these materials through various channels, including community centers, events, and online platforms.
- **Community Engagement:** LUMA has actively engaged with community leaders and organizations to understand the specific needs and concerns of different communities, including low-income groups. This engagement helps in tailoring outreach efforts to address the unique challenges faced by these communities.
- **Collaborative Partnerships:** LUMA has collaborated with local government agencies, non-profit organizations, and industry stakeholders to leverage their expertise and resources in promoting EV adoption. These partnerships help to expand the reach of educational initiatives and create a unified approach towards EV education. The next step is to strengthen these partnerships and explore new collaborations to enhance the impact of outreach efforts.
- **Events and Conferences:** LUMA has participated in various events and conferences related to clean energy and sustainable transportation. These platforms provide opportunities to showcase EVs, share success stories, and engage with a wider audience. The next step is to utilize the survey data to refine and enhance LUMA's customer engagement strategies, ensuring they effectively address the identified needs and concerns.
- **Surveys and Feedback:** LUMA has conducted surveys to gather insights into customers' knowledge, awareness, challenges, and opinions regarding EVs and transportation. These surveys help understand the specific barriers and concerns that customers may have, allowing LUMA to tailor its education initiatives accordingly.

2.2. List of stakeholder meetings, workshops, and events in which LUMA participated (Should also include a description of the subjects covered at each customer event, the date of the event, the number of customers in attendance)

Table 4 below includes the information regarding stakeholder meetings. For those stakeholder events included in this report which were not hosted by LUMA, the exact number of customers in attendance is not available. However, LUMA is providing estimates of attendance based on observations from LUMA representatives in attendance.

Table 4 also includes information on the topics discussed during such stakeholder meetings, including topics beyond or unrelated to EVs and EV infrastructure.³

³ In the Semi-Annual-Report, LUMA limited itself to report EV-related subjects and/or EV-related activities that took place in these events. See Slides 8 and 9 of the *PR-EVAP's Semi-Annual Report*, as referenced in Exhibit 1 attached to the *Motion to Submit Semi-Annual Report in Compliance with Order of January 13, 2023*, filed on February 29, 2024.

PR-EVAP Semi-Annual Report (Revised)

Table 4: LUMA's participation in Stakeholder events

Customer Engagements	Underserved Communities Represented	Event (s) Date(s)	Estimated Attendance ⁴	Subjects covered at each event
Event 1: "Mesa Redonda- Electrificación de la Transportación en Puerto Rico" (Sponsor- Puerto Rico Energy Public Policy Office)	X	Sept 7, 2023	45	<p><i>Status of Transportation Electrification</i></p> <p><i>What is missing to enable greater EV Adoption?</i></p> <p><i>Barriers for the Adoption of EV's</i></p> <p><i>EV Time of Use Rate</i></p> <p><i>Proposed Initiatives Education & Outreach</i></p> <p><i>EV Infrastructure & System Improvement Initiative</i></p>
Event 2: Solar and Energy Storage Association (SESA) 2023 Summit	X	Nov 6-7, 2023	600	<p><i>Solar energy storage mitigating daytime blackouts</i></p> <p><i>Federal funding opportunities from DOE, EPA, USDA, HUD and others</i></p> <p><i>Growing the Biggest Virtual Power Plant in Latin America</i></p> <p><i>Retiring Coal by 2028</i></p> <p><i>LUMA's support of renewables</i></p>
Events 3: Solutions for the Energy Transformation for Puerto Rico	X	October and November 8, 2023	250*	<p><i>Increase Net Metering Rate</i></p> <p><i>Integrated Microgrids</i></p> <p><i>Promoting Energy Cooperatives</i></p>

⁴ The estimated attendance numbers provided are based on observational estimates from LUMA representatives who were present. While LUMA did not host these events nor directly request attendance figures from the event hosts, these estimates are intended to offer a reasonable approximation of participant numbers for reporting purposes.

PR-EVAP Semi-Annual Report (Revised)

Customer Engagements	Underserved Communities Represented	Event (s) Date(s)	Estimated Attendance ⁴	Subjects covered at each event
(SETPR) Meetings				<p><i>Diversify Generation Resources</i></p> <p><i>Maximizing Hydroelectric Resources</i></p> <p><i>Smart Grid Technologies</i></p> <p><i>Energy Storage Importance</i></p> <p><i>Infrastructure for Electric Vehicles*</i></p> <p><i>Resilient Electrical System</i></p> <p><i>Improving Interconnection Processes</i></p>
Event 4: Association of Restaurants of Puerto Rico (ASORE) 2023 Annual Convention	X	Oct 20-21, 2023	400*	<p><i>Energy Efficiency</i></p> <p><i>SETPR Events</i></p> <p><i>Electric Vehicle Implementation</i></p>
Interviews with Low-Income Community Leaders	X	Dec 11-15, 2023	6*	<p><i>Need for education</i></p> <p><i>Government incentives</i></p> <p><i>Improved infrastructure to support the transition to electric transportation.</i></p>
J.D. Power Survey	X	Dec. 2022 – Sep 2023	6,142*	<p><i>Identifying low-income customers perspective and demographics</i></p> <p><i>Understanding adoption barriers and market characteristics in Puerto Rico.</i></p>

PR-EVAP Semi-Annual Report (Revised)

Customer Engagements	Underserved Communities Represented	Event (s) Date(s)	Estimated Attendance ⁴	Subjects covered at each event
LUMA EV webpage online survey publication	X	N/A	8*	<i>Identifying low-income customers perspective and demographics</i>

* The attendance provided for events hosted by LUMA is not estimated.



As the EV Program continues to evolve, LUMA plans to continue hosting tailored events designed to enable meaningful interactions with its customers, providing them with valuable insights, fostering collaborative partnerships, and addressing their specific needs and challenges.

2.3. Number of customer engagement events held representing underserved communities⁵

For engagement with underserved communities, LUMA met directly with community leaders who represent such communities and conducted interviews. Such interviews were conducted to gather feedback and obtain a better understanding of low-income customers’ needs and desires regarding transportation electrification. A total of six (6) interviews were conducted, and the survey results were compiled and included in the Semi-Annual Report. On January 2, 2024,

⁵ See Slides 21 and 22 of the PR-EVAP’s Semi-Annual Report, as referenced in Exhibit 1 attached to the Motion to Submit Semi-Annual Report in Compliance with Order of January 13, 2023, filed on February 29, 2024.

PR-EVAP Semi-Annual Report (Revised)

LUMA submitted a summary of comments from these interviews as part of the Customer Outreach Memorandum submission.⁶

A total of three (3) interviews were held using Teams on the following dates: December 11, 12, and 15, 2023. The other three (3) community leaders answered the interview questions via Microsoft Forms on the following dates: December 12, 13, and 15, 2023.

2.4. Number of customer events held for non-underserved communities

LUMA participated in four (4) events where non-underserved community members participated (See Table 2-4 above). LUMA displayed a booth and engaged with attendees to educate and answer questions about the benefits of transportation electrification and the upcoming EV TOU Pilot program. An EV brochure was provided to visitors or could be downloaded directly from the LUMA EV webpage by the attendees. Customers were engaged with the information shared by LUMA representatives, and most attendees shared their e-mails to receive additional information.

2.5. Total spending on customer engagement in dollars (\$) and percent (%) of total PR-EVAP Plan budget

Table 5: Customer engagement spending

FY2024 Budget*	Reporting Period Spend (\$) ⁷	Reporting Period Spend (% of Budget)
\$200,000	\$26,475	13.2%

3. Action 3: Planning for Grid Infrastructure and System Improvement

3.1. Summary and overview of progress during the reporting period

As contemplated in the PR-EVAP, section **3.10 EV Infrastructure & System Improvement Initiatives in the US**, LUMA stated that it analyzed more than 40 EV Infrastructure & System Improvement initiatives from 24 different utilities to determine the essential actions to support key stakeholders on charging infrastructure deployment. From the initiatives reviewed, 13 of those provided EV Hosting Capacity Maps to customers requiring an accurate system model to

⁶ See *Motion To Submit Report On Customer Outreach Memorandum In Compliance With Resolutions And Orders Of January 13, 2023, As Modified By Resolutions And Orders Of March 29, 2023, June 6, 2023, And August 11, 2023.*

⁷ This is an estimation of the customer engagement costs, as the process to collect more accurate data is still ongoing. Once this process is complete, LUMA will update the cost analysis to reflect the most accurate figures. Additionally, in this reporting period, LUMA utilized the same materials for customer engagement initiatives as those used for customer education, as no events were hosted. Consequently, Customer Education Spending aligns with Customer Engagement Spending.

PR-EVAP Semi-Annual Report (Revised)

perform the analysis of available feeder capacity. As informed in the PR-EVAP, performing emerging studies, like EV hosting capacity, would be premature as the system reconstruction is currently being planned and engineered. However, LUMA has published maps that communicate hosting capacity for distributed energy resources. LUMA will continue to be transparent and communicate with the Energy Bureau and its customers the different initiatives that form part of its infrastructure and system improvement initiatives through forthcoming Semi-Annual Reports.

3.2. Number of monthly, unique visits to the EV Hosting Capacity Map

EV Hosting Capacity Map is not part of LUMA’s EV Infrastructure & System Improvement Initiatives.

3.3. Total spending on EV Hosting Capacity Map in dollars (\$) and percent (%) of total PR-EVAP budget

EV Hosting Capacity Map is not part of LUMA’s EV Infrastructure & System Improvement Initiatives. Hence, no spending associated to this initiative was incurred.

Table 6: EV Hosting Capacity Map spending

FY2024 Budget*	Reporting Period Spend (\$)	Reporting Period Spend (% of Budget)
\$250,000	\$0	0%

3.4. List of stakeholders LUMA partnered with and the outcome of that partnership

As previously reported, LUMA has partnered with key stakeholders to discuss different initiatives regarding Grid Infrastructure and System Improvements. Some key partnerships that took place during the reporting period are the partnership with the Department of Economic Development and Commerce, PRHTA and partnership letter regarding the Clean School Bus Program. Additional details regarding partnerships that have accelerated the transition to clean transportation are further detailed in section 4. Support for EV charging Infrastructure of this report.

3.5. All updates to LUMA's detailed EV load projections

EV load projections will be contemplated as part the EV Market study to be commissioned by the Department of Economic Development and Commerce.

PR-EVAP Semi-Annual Report (Revised)

3.6. Progress towards the development and publishing of the EV Hosting Capacity Map and estimated date of completion

EV Hosting Capacity Map is not part of LUMA's EV Infrastructure & System Improvement Initiatives.

3.7. List of local transportation partners and third-party data providers with whom LUMA coordinated.

Please refer to section 9 for more information about local transportation partners and third-party data providers.

4. Action 4: Support for EV Charging Infrastructure

4.1. Summary and overview of progress during the reporting period

Below is an overview of stakeholder engagement in Planning and System Improvement, which has been a crucial aspect of LUMA's initiatives, particularly concerning the development and integration of EV infrastructure in Puerto Rico.

- Puerto Rico Highway and Transportation Authority (PRTHA) - LUMA provided preliminary planning support related to infrastructure location for the installation of future EV Charging stations sponsored by the National Electric Vehicle Infrastructure program (NEVI) in Puerto Rico. The U.S. Department of Transportation's (DOT) Federal Highway Administration (FHWA) NEVI Formula Program provides funding to states to strategically deploy EV charging stations and to establish an interconnected network to facilitate data collection, access, and reliability.
- *Grupo Unido de Importadores de Automóviles (GUIA)* - Meetings to discuss LUMA's support role within the EV market.
- *Department of Economic Development & Commerce (DEDC)* - Meetings to discuss and develop the scope of an EV market study commissioned by the Puerto Rico Energy Policy Office.
- Sonnell Transportation - 2023 Clean School Bus Rebates Program Electric Utility Partnership letter signed by LUMA to affirm the discussion of the future project plans for the fleet and charging infrastructure at Sonnell's Facilities. EPA's Clean School Bus (CSB) Program provides \$5 billion over five (5) years (FY 2022-2026) to replace existing school buses with zero-emission and low-emission models. LUMA's support to Sonnell Transportation facilitates grant request and federal funding access to install Sonnell's EV Infrastructure.

PR-EVAP Semi-Annual Report (Revised)

- Puerto Rico Department of Transportation and Public Works (DTOP) - LUMA obtained an updated inventory list of EVs in Puerto Rico, which will provide useful data on LUMA's infrastructure planning efforts.

Grid Infrastructure Planning & System Improvement scenarios are being developed within the IRP proceeding.

4.2. The number and percentage of customers, by customer class for whom EVSE installation guidebooks were distributed

Information on the number and percentage of customers, as well as customer class, for whom guidebooks were distributed, was not available during the reporting period because the guidebook had not yet been developed. LUMA is currently determining the appropriate timing for distribution of guidebooks based on its assessment of customer needs and readiness and the extent to which doing so best serves the objectives of the EV Program.

4.3. The number and percentage of customers, by customer class for whom EV Readiness Checklists were distributed

The number and percentage of customers, categorized by customer class, for whom EV Readiness Checklists were not provided and is currently unavailable because such material has not yet been developed. LUMA is currently determining the appropriate timing for distribution of EV Readiness Checklists based on its assessment of customer needs and readiness and the extent to which doing so best serves the objectives of the EV Program. As outlined in the PR-EVAP, the process for installing EV charging stations can vary across U.S. jurisdictions depending on existing laws, regional requirements, and customer needs. LUMA continues to explore means to gain visibility into EV charging stations to further inform the development of guidance materials for customers regarding EV Infrastructure.

4.4. The number and percentage of customers, by customer class that received the Interconnection Guidelines and/or Project Connection Manual

The number and percentage of customers categorized by customer class who received the Interconnection Guidelines and/or Project Connection Manual were not available for reporting because instructional materials have not yet been created or distributed. LUMA is currently determining the appropriate timing for distribution of these materials based on its assessment of customer needs and readiness and the extent to which doing so best serves the objectives of the EV Program.

PR-EVAP Semi-Annual Report (Revised)

4.5. Total spending on guidebooks, checklists, guidelines and/or manuals in dollars (\$) and percentage (%) of total PR-EVAP Plan budget

Total spending on guidebooks, checklists, guidelines and/or manuals in dollars (\$) and percentage (%) of total PR-EVAP Plan budget was not available as no costs have been incurred.

LUMA is committed to the development and implementation of different forms of documentation and communication that can effectively support customers through their journey toward the electrification of transportation. Among other methods, LUMA will use publicly available EVSE installation guidebooks and EV Readiness Checklists as starting points. LUMA will then revise and/or add necessary information and steps tailored to fit the needs of customers and the infrastructure in Puerto Rico’s electric grid.

The path to completion of all different indicators and initiatives is not linear. LUMA and stakeholders may gain information throughout the many stages of the planning process and revisit earlier actions and initiatives previously implemented or projected. As EV technology and awareness evolve, so does the process for EV infrastructure planning and implementation. LUMA is committed to addressing the needs in the EV ecosystem and expected future needs and ensuring that planning is done carefully and coordinated.

Table 7: Expenditures on Guidebooks, Checklists, Guidelines and/or Manuals

FY2024 Budget*	Reporting Period Spend (\$)	Reporting Period Spend (% of Budget)
\$250,000	\$0	0%

5.Action 5: Workforce Development

5.1. Summary and overview of progress during reporting period

LUMA is committed to developing and educating its workforce to meet the demands of the expanding EV industry. Understanding the importance of a comprehensive workforce development, LUMA aims to establish a solid foundation that will nurture a flourishing EV market in Puerto Rico.

As part of LUMA’s ongoing efforts to train its workforce on EVs, two (2) LUMA employees have completed several comprehensive EV training courses sponsored by the Federal Energy Management Program (FEMP). LUMA will leverage this knowledge to develop a general training session for the rest of the workforce.

PR-EVAP Semi-Annual Report (Revised)

5.2. A description of each training session offered to employees, including related instructional materials

- **Electric Vehicle (EV) Champion Training Series hosted by the National Renewable Energy Lab (NREL).** A four-part training focusing on EV technology, financial considerations, EVSE power and installation, EV site assessments, and EV advanced site operations.
 - **Training 1:** Focuses on the importance of EV technology and financial considerations for agencies considering fleet electrification. It serves as an introduction to EV technology and considerations for electric vehicle supply equipment (EVSE) installation.
 - **Training 2:** Focuses on the importance of EVSE power requirements and electric utility infrastructure. It serves as an introduction to selecting the best EVs for a fleet and the planning and installing the necessary EVSE.
 - **Training 3:** Focuses on the importance of EV technology and EVSE and serves as an introduction to site planning and design of the necessary EVSE.
 - **Training 4:** Focuses on considerations for EV site assessments, optimally operating a fleet of EVs, and managing workplace charging.

PR-EVAP Semi-Annual Report (Revised)

5.3. Number and percent of employees trained⁸

During the reporting period, LUMA's trained workforce consisted of two (2) individuals who underwent specialized training initiatives aimed at strengthening their capabilities in serving EV customers, representing an approximate of 0.23% of the trained workforce⁹. These individuals represent the vanguard of a broader initiative to cultivate expertise within the organization. Moving forward, their role extends beyond direct customer interaction; they will serve as the cornerstone for expanding the workforce through knowledge dissemination and mentorship. Empowered with the insights gained from their training, they will take on the responsibility of training others, thus catalyzing the growth of a skilled workforce dedicated to addressing the evolving needs of EV customers.

5.4. Total spending on training in dollars (\$) and percent (%) of total PR-EVAP Plan budget

Table 8: Total spending on training

FY2024 Budget	Reporting Period Spend (\$) ¹⁰	Reporting Period Spend (% of Budget)
\$200,000 ¹¹	\$1,400.00	.07%

Training for customer service representatives and leaders was provided in preparation for the launch of the new Time-of-Use (TOU) Rate for EVs. The training covered the details of the EV TOU tariff, customer eligibility, roles, and responsibilities of LUMA and EV platform vendor, and the planned procedures for addressing customer questions and concerns.

6. Action 6: EV Rates and Charging

LUMA is aware of the significance of including information on EV rates and charging in its Semi-Annual report. However, the EV time-of-use (EV-TOU) rate was introduced on April 30, 2024, outside of the reporting period.

Moving forward, LUMA will include updates on the EV-TOU in the corresponding Semi-Annual Report.

⁸ See Slide 13 of the PR-EVAP's *Semi-Annual Report*, as referenced in Exhibit 1 attached to the *Motion to Submit Semi-Annual Report in Compliance with Order of January 13, 2023*, filed on February 29, 2024.

⁹ The approximate number of employees designed for Customer Experience and Service totals 860.

¹⁰ This is an estimation of the workforce development costs, as the process to collect more accurate data is still ongoing. Once this process is complete, LUMA will update the cost analysis to reflect the most accurate figures

¹¹ The budget allocated for Workforce Development derives from the Education Outreach budget delineated in the PR-EVAP. See *PR-EVAP, Section 8.0, p.89*.

PR-EVAP Semi-Annual Report (Revised)

Figure 9: May Billing Integration Report

EV Billing Integration Status Update

G On target Y Caution R Off plan C Complete

Key Activity Summary		Key Milestones		Date	Status																																								
<ul style="list-style-type: none"> The Final end-to-end billing Integration User Acceptance Test (UAT) was successfully executed. All Customer Outreach and Enrollment Implementation tasks have been completed: <ul style="list-style-type: none"> EV Program website has been updated and information harmonized across various portals. Vehicle and Charging Eligibility Infographics have been finalized. Customer Support Training has been successfully conducted. A reviewed tariff sheet was sent to clients via email before integration of the interim rate. This was to inform interested customers that were reached out through the LUMA EV email. Website was re-launched with educational material to inform customers how to enroll and provide guidance through the enrollment journey. Media interviews were conducted to educate about the benefits of the EV-Time use rate. Enrollment validation process was successfully tested and implemented. 		<table border="1"> <thead> <tr> <th colspan="2">Key Milestones</th> <th>Date</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td colspan="2">Enrollment Test (Soft Launch)</td> <td>March</td> <td>C</td> </tr> <tr> <td colspan="2">Validated Manual Enrollment Process</td> <td>March</td> <td>C</td> </tr> <tr> <td colspan="2">Secured File Transfer Procedure</td> <td>March</td> <td>C</td> </tr> <tr> <td colspan="2">Printed Customer Invoice Design</td> <td>March</td> <td>C</td> </tr> <tr> <td colspan="2">Finance Integration to CC&B</td> <td>March</td> <td>C</td> </tr> <tr> <td colspan="2">Build and Test Oracle CC&B Process for EV TOU Data</td> <td>March - April</td> <td>C</td> </tr> <tr> <td colspan="2">Enrollment Website Launch and Email Campaign Completed</td> <td>April</td> <td>C</td> </tr> <tr> <td colspan="2">Deploy Production-Ready Processes and Systems</td> <td>April</td> <td>C</td> </tr> <tr> <td colspan="2">EV- Time of Use rate launched and implemented</td> <td>April 30th</td> <td>C</td> </tr> </tbody> </table>		Key Milestones		Date	Status	Enrollment Test (Soft Launch)		March	C	Validated Manual Enrollment Process		March	C	Secured File Transfer Procedure		March	C	Printed Customer Invoice Design		March	C	Finance Integration to CC&B		March	C	Build and Test Oracle CC&B Process for EV TOU Data		March - April	C	Enrollment Website Launch and Email Campaign Completed		April	C	Deploy Production-Ready Processes and Systems		April	C	EV- Time of Use rate launched and implemented		April 30 th	C		
Key Milestones		Date	Status																																										
Enrollment Test (Soft Launch)		March	C																																										
Validated Manual Enrollment Process		March	C																																										
Secured File Transfer Procedure		March	C																																										
Printed Customer Invoice Design		March	C																																										
Finance Integration to CC&B		March	C																																										
Build and Test Oracle CC&B Process for EV TOU Data		March - April	C																																										
Enrollment Website Launch and Email Campaign Completed		April	C																																										
Deploy Production-Ready Processes and Systems		April	C																																										
EV- Time of Use rate launched and implemented		April 30 th	C																																										
Monitoring Implementation																																													
<ul style="list-style-type: none"> LUMA is committed to the successful implementation and continues monitoring and verifying the production of the rate. LUMA will continue to support the implementation with education efforts. 																																													

6.1. Summary and overview of progress during reporting period

The information regarding this indicator will be provided in the corresponding Semi-Annual Report.

6.2. The number and percentage of residential customers participating in the Interim EV TOU Rate

The information regarding this indicator will be provided in the corresponding Semi-Annual Report.

6.3. The number of EV charging meters installed.

The information regarding this indicator will be provided in the corresponding Semi-Annual Report.

6.4. The number and percentage of Interim EV TOU Rate participants where LUMA used vehicle telematics, data from customers' EV chargers, data from charging networks or aggregators, or other non-meter data sources

The information regarding this indicator will be provided in the corresponding Semi-Annual Report.

PR-EVAP Semi-Annual Report (Revised)

6.5. Average frequency of charging

The information regarding this indicator will be provided in the corresponding Semi-Annual Report.

6.6. Average length of charging

The information regarding this indicator will be provided in the corresponding Semi-Annual Report.

6.7. Timing (by hour) of charging

The information regarding this indicator will be provided in the corresponding Semi-Annual Report.

6.8. Average and maximum kWh delivered per charging session

The information regarding this indicator will be provided in the corresponding Semi-Annual Report.

7. PR-EVAP Budget and Expenditure Tables

Table 9: PR-EVAP Plan Budgets and Expenditures by Initiative¹²

Initiative	FY2024 Budget	Reporting Period Spend (\$)	Reporting Period Spend (% of Budget)	Total FY Spend (\$)	Total PR-EVAP Spend (\$)
Education and Outreach	\$200,000	\$26,475	13.2%	\$26,475	\$26,475
EV Infrastructure & System Improvement	\$250,000 ¹³	\$0.00	0%	\$0.00	\$0.00
EV Rates & Load Management	\$180,000	\$172,772	96%	\$172,772	\$172,772
Total	\$630,000	\$199,247	31%	\$199,247	\$199,247

¹² These are estimates, as the process to collect more accurate data is still ongoing. Once this process is complete, LUMA will update the cost analysis to reflect the most accurate figures.

¹³ The allocated funds remained unutilized due to the delayed initiation of fleet electrification. However, in line with the strategic roadmap, LUMA is designating FY2024 Q4 for fostering collaboration between LUMA Key accounts and recipients of DOE funding grants dedicated, among others, to fleet electrification. This initiative will facilitate partnerships and provide technical assistance for system enhancements and seamless grid integration.

PR-EVAP Semi-Annual Report (Revised)

Table 10: PR-EVAP Plan Budgets and Expenditures by Spending Category

Initiative	FY2024 Budget	Reporting Period Spend (\$)	Reporting Period Spend (% of Budget)		Total FY Spend (\$)	Total PR-EVAP Spend (\$)
Internal Resources	\$385,000	\$109,247	28%		\$109,247	\$109,247
Third-Party Contractor	\$245,000	\$90,000	37%		\$90,000	\$90,000
Total	\$630,000	\$199,247	32%		\$199,247	\$199,247

8. Appendices

8.1. Appendix A: Customer Education Materials

In this section, LUMA includes a copy of EV customer education resources and program materials in the form of EV webpage links and screenshots. The EV webpage offers easily accessible and comprehensive educational content curated for its customers.

EV Brochure – [EV-Brochure_esp.v2.pdf \(lumapr.com\)](#)

PR-EVAP Semi-Annual Report (Revised)

Figure 2: EV Brochure (Page 1)

El Rol de LUMA

Es importante señalar que el rol de LUMA no es comprar, poseer u operar infraestructura de carga a corto plazo, esta responsabilidad recae en los proveedores de servicios especializados en la instalación y operación de Equipos de Suministros de Energía para Vehículos Eléctricos, así como en las agencias gubernamentales de Puerto Rico que tienen acceso a fondos para su implementación.

El rol de LUMA consiste en respaldar y facilitar a los actores del mercado en proyectos continuos de implementación de infraestructura, al tiempo que trabaja para mejorar la resiliencia y confiabilidad de la red eléctrica y reparar la infraestructura crítica necesaria para respaldar el crecimiento de la adopción de Vehículos Eléctricos.

Además, LUMA tiene como objetivo colaborar de manera conjunta con las partes interesadas y entidades locales para facilitar la interconexión de la infraestructura de Vehículos Eléctricos mediante la simplificación de procesos y actuando como un asesor de confianza para ayudar a Puerto Rico a alcanzar su objetivo de: una energía más confiable, mas resiliente y más limpia.

Para obtener más información sobre nuestro progreso en energía limpia, visite www.progresodelumapr.com



Escanea este código con tu móvil para participar en encuesta sobre los Vehículos Eléctricos.



Información de Contacto

Email: ev@lumapr.com
www.lumapr.com



VEHÍCULOS ELÉCTRICOS

Impulsando la aceleración de energía limpia en Puerto Rico.



PR-EVAP Semi-Annual Report (Revised)

Figure 3: EV Brochure (Page 2)

¿Qué es un Vehículo Eléctrico?

Los vehículos eléctricos, a menudo conocidos como EV por sus siglas en inglés, son automóviles que funcionan con electricidad en lugar de gasolina o diésel. Utilizan motores eléctricos impulsados por energía almacenada en baterías recargables. Estas baterías se cargan enchufando el vehículo a una toma de corriente o a una estación de carga. Hay dos tipos principales de vehículos eléctricos:

Vehículo Eléctrico de Batería (BEV): Funcionan únicamente con energía eléctrica almacenada en la batería. No tienen motor de combustión interna y no producen emisiones.

Vehículo Eléctrico Híbrido Enchufable (PHEV): Funcionan con una combinación de batería y un motor de gasolina que normalmente se utiliza como respaldo.

Tipos de Cargadores

Los cargadores de vehículos eléctricos vienen en tres tipos de niveles: Nivel 1, Nivel 2 y Carga Rápida de Corriente Directa (DC). Los cargadores Nivel 1 y Nivel 2 son más comunes en los hogares, lugares públicos como centros comerciales y lugares de trabajo. Por otro lado, los cargadores de carga rápida usualmente están localizados a lo largo de carreteras y autopistas y son más adecuados para viajes largos.

	Nivel 1	Nivel 2	Carga Rápida de Corriente Directa (DC)
Voltaje	120 V AC	208 – 240 V AC	208 – 480 V AC
Rango Estimado por Cada Hora de Carga	2 – 5 millas	10 – 20 millas	180 – 240 millas
Tiempo Estimado de carga desde cero	40 – 50 horas	4 – 10 horas	20 minutos – 1 hora
Localización	Hogar	Hogar, Lugares Públicos y de Trabajo	Lugares Públicos

Fuente: <https://www.transportation.gov/bureau/ev/ev/ev-basics/charging-speeds>

Si bien LUMA no construye, opera ni mantiene estaciones de carga para vehículos eléctricos, continuaremos mejorando la red eléctrica para Apoyar la expansión de las redes de carga en toda la Isla.

Beneficios de los Vehículos Eléctricos

Ahorre Dinero: Los vehículos eléctricos son más eficientes energéticamente hablando y tienen un costo de operar más bajo que los vehículos tradicionales. Los costos de mantenimiento de los vehículos eléctricos son menores debido a que no requieren cambios de aceites, bujías, filtros de aires y otras piezas de reemplazo que necesitarían cambio en un vehículo de motor de gasolina.

No Más Gasolineras: Con los vehículos eléctricos no hay gasolina que quemar ni comprar. Cargue su automóvil en casa durante la noche o en el trabajo si su empleador ofrece estaciones de carga en el lugar de trabajo.

Rendimiento: Los motores eléctricos ofrecen un torque instantáneo, lo cual produce una mayor aceleración y desempeño.

Beneficios para el Medio Ambiente: Los vehículos eléctricos no producen emisiones, lo que reduce la contaminación del aire y las emisiones de gases de efecto invernadero los cuales contribuyen al cambio climático.

Funcionamiento Suave y Silencioso: Los vehículos eléctricos son más silenciosos y ofrecen una aceleración suave en comparación con los vehículos tradicionales, lo que contribuye a reducir la contaminación por ruido en las zonas urbanas.

Incentivos: Los clientes también podrán recibir incentivos por la compra de un vehículo eléctrico. Actualmente el Departamento de Hacienda otorga un reintegro de los arbitrios pagados sobre vehículos eléctricos o híbridos. Para conocer más, visita: <https://hacienda.pr.gov/publicaciones/determinacion-administrativa-num-11-08>

Tarifa por Tiempo de Uso (TOU)

LUMA está trabajando para ofrecer pronto una tarifa residencial conocida como Tiempo de Uso (TOU), donde los cargos de energía varían según la hora del día. Al utilizar esta tarifa especial, es posible que pueda ahorrar dinero pagando una tarifa más económica por cargar su vehículo.

Horas más económicas para cargar EV

9AM – 5PM

\$

Horas Pico

5PM – 11PM

\$\$\$

Horas de Pico parcial

11PM – 9AM

\$\$

Si usted posee un vehículo eléctrico y tiene interés en inscribirse una vez sea lanzada esta tarifa especial, no dude en contactarnos a: EV@lumapr.com, enviándonos su nombre y le contactaremos una vez el programa este disponible.

¿Dónde Encontrar Estaciones de Carga?

En Puerto Rico existen estaciones de carga alrededor de la Isla donde puede cargar su vehículo. Para localizar las estaciones puede utilizar la aplicación [PlugShare.com](https://plugshare.com). Esta es una herramienta en línea libre de costo que le ayudará a planificar su viaje y localizar estaciones de carga disponibles en Puerto Rico.





PR-EVAP Semi-Annual Report (Revised)

EV Website - [Vehículos Eléctricos - Luma Energy \(lumapr.com\)](https://vehiculoselctricos.lumapr.com)

Figure 4: EV Website

The screenshot shows the LUMA website's EV section. The top navigation bar includes links for 'INFORMACIÓN DEL SISTEMA', 'RESIDENCIAL', 'COMERCIAL', 'INDUSTRIAL', 'SUPLIDORES', and 'NUESTRAS OFICINAS'. Below this is a dark blue header with the LUMA logo and 'SOBRE LUMA'. The main content area features a paragraph about LUMA's commitment to clean energy and EVs in Puerto Rico, followed by a sidebar with navigation options: '¿Qué es un Vehículo Eléctrico?', 'Tipos de Cargadores', 'Beneficios', 'Tarifa TOU', '¿Dónde encontrar estaciones de carga?', 'El Rol de Luma', and 'Encuesta EV'. The main text explains that EVs are powered by electricity and lists two types: BEV (Battery Electric Vehicle) and PHEV (Plug-in Hybrid Electric Vehicle). A green button with a lightning bolt icon offers to download a brochure about EVs.

LUMA respalda la construcción de un futuro de energía limpia para Puerto Rico que incluye impulsar el crecimiento de los Vehículos Eléctricos (EV). Desde junio de 2021, LUMA ha logrado avances significativos para promover las prioridades de energía limpia y realizar mejoras en el sistema eléctrico, al mismo tiempo que buscamos hacer el sistema de energía más confiable y reducir las interrupciones de servicio para los clientes. Para conocer más sobre nuestro progreso en energía limpia, visita progresodelumapr.com.

Los vehículos eléctricos, a menudo conocidos como EV por sus siglas en inglés, son automóviles que funcionan con electricidad en lugar de gasolina o diésel. Utilizan motores eléctricos impulsados por energía almacenada en baterías recargables. Estas baterías se cargan enchufando el vehículo a una toma de corriente o a una estación de carga. Hay dos tipos principales de vehículos eléctricos:

- **Vehículo Eléctrico de Batería (BEV):** Funcionan únicamente con energía eléctrica almacenada en la batería. No tienen motor de combustión interna y no producen emisiones.
- **Vehículo Eléctrico Híbrido Enchufable (PHEV):** Funcionan con una combinación de batería y un motor de gasolina que normalmente se utiliza como respaldo.

Para conocer más, visita: [U.S. Department of Transportation](https://www.fuelelectric.com)

DESCARGA NUESTRO FOLLETO SOBRE VEHÍCULOS ELÉCTRICOS

8.2. Appendix B: Customer Engagement Materials

In this reporting period, LUMA utilized the same materials for customer engagement initiatives as those used for customer education, as no events were hosted. As LUMA continues to evolve and refine its program development, it will introduce new materials once assessments are completed.

PR-EVAP Semi-Annual Report (Revised)

8.3. Appendix C: Support for EV Charging Infrastructure: Guidebooks, Checklists, Guidelines/Manuals

In the PR-EVAP LUMA outlined plans to provide support for EV Charging Infrastructure through the development of guidebooks, checklists, and guidelines/manuals and potentially, a Project Connection Manual. This support package includes essential resources such as EVSE installation guidebooks and EV readiness checklists. However, as of the end of the period, these materials were still in the planning phase and have not been fully developed or distributed. LUMA is actively working towards finalizing these resources to facilitate the smooth integration of EV charging infrastructure in LUMA's operations, with the intention of implementation in the short-term.

8.4. Appendix D: Workforce Development Materials

EV-specific content for the customer contact center and the EV FAQs list was not available for the reporting period because LUMA planned to develop these closer to the Interim EV TOU Rate launch. However, as part of its workforce development, LUMA informed that employees had taken several Federal Energy Management Program ("FEMP") comprehensive trainings. Evidence of the referenced training certificates are included below.

PR-EVAP Semi-Annual Report (Revised)

Figure 5: Workforce Development Certificates



9. Reached Milestones and Next Steps

In compliance with the directives of the Energy Bureau, LUMA has included the delineation of a strategy for increased engagement with the public transportation and fleet sectors, particularly those serving disadvantaged communities, within the forthcoming Puerto Rico's Electric Vehicle Adoption Plan (PR-EVAP) Semi-Annual Report. Additionally, LUMA has considered modifications to the PR-EVAP based on insights gained from its Customer Outreach Memorandum.

Moreover, as part of its role as a trusted advisor, LUMA has facilitated access to federal funds for electric transportation entities, aiming to support sustainable transportation initiatives across Puerto Rico. LUMA continues to support the PRHTA in its many efforts as leader in the establishment of the framework and construction of Electric Vehicles charging infrastructure along the major and most important highways and corridors of Puerto Rico. Key milestones reached and ongoing efforts will continue to be reported on each PR-EVAP Semi-Annual report.

LUMA also plans to enhance engagement with the public transportation and fleet sectors, particularly those located in or serving disadvantaged communities.

LUMA has signed a partnership letter regarding the Clean School Bus Program, to support Sonnell Transportation in seeking to incorporate electric buses and EV chargers in its facilities through a grant from the United States Environmental Protection Agency (EPA). The company will add twenty-five (25) electric buses to its fleet. Their services will help to support transportation electrification serving low-income communities. Electric buses operate more

PR-EVAP Semi-Annual Report (Revised)

quietly, producing less noise pollution, and have zero (0) harmful tailpipe emissions, which will improve local air quality.



Figure 6: Electric School Bus

Based on the feedback received during the latest EV technical conference, LUMA will add the following initiatives to engage with the public transportation and fleet sector:

- Identify public transportation and school bus companies that provide services to low-income and disadvantaged communities.
- Create a survey directly targeted to fleets and school bus companies or entities to obtain their feedback and have a better understanding of the barriers related to the electrification of their fleets.
- Engage in sessions with public transportation companies and entities to share educational information about the benefits of fleet electrification.
- Highlight the benefits of fleet electrification through a new section on the EV webpage.
- Advise on acquiring federal funding for the implementation of EV Charging Infrastructure.

9.1. Summary of Customer Outreach Efforts

LUMA undertook extensive customer outreach initiatives to gain insights into customers' understanding, challenges, and viewpoints concerning EVs and transportation electrification in

PR-EVAP Semi-Annual Report (Revised)

Puerto Rico. This included interviews with community leaders from around twenty (20) low-income communities, a J.D. Power Survey with 6,502 participants, and an online survey on LUMA's EV webpage, open to all 1.5 million LUMA customers. These efforts enabled LUMA to gather valuable feedback and achieve a deeper comprehension of customer needs and preferences regarding transportation electrification. For further information on these outreach endeavors and their outcomes, please refer to the Appendix section.

In addition, LUMA collaborated with the GUIA group to raise awareness and educate about LUMA's involvement in the EV sector, leading to LUMA's participation in the GUIA EDUCA initiative. Continuing this partnership, LUMA will maintain regular meetings with GUIA to exchange market insights and utility information, fostering a smoother transition to EVs and bolstering grid infrastructure. Furthermore, LUMA plans to enhance its existing online EV survey by incorporating data on family composition. This modification aims to accurately place respondents within the appropriate income bracket, offering LUMA and stakeholder's clearer insights into market dynamics to inform utility decisions with greater customer impact. As part of its ongoing engagement, LUMA will take part in the upcoming GUIA EDUCA event on March 5th, 2024, engaging with GUIA members and other attendees to showcase LUMA's initiatives in supporting EV adoption in Puerto Rico.

9.2. Community Outreach: Low-income Communities

As part of its initiatives to engage with low-income customers and gain deeper insights into their requirements, LUMA initiated meetings with community leaders well-versed in the dynamics of low-income neighborhoods. To effectively collect feedback on transportation electrification for these communities, LUMA devised a customized questionnaire aimed at community leaders. Interviews were subsequently conducted with representatives from various regions, including San Juan, Corozal, Caguas, and Naguabo. These discussions were centered on key aspects such as perceptions of EVs, existing obstacles, and potential solutions to expedite the adoption of EVs within these communities.

Figure 7: Low-Income Community Outreach Findings

Poor Awareness	• 5 out of 6 interviewees expressed poor awareness in their communities.
Limited Presence	• 2 interviewees reported seeing 1 to 3 EVs in their communities.
Mixed Support	• 1 interviewee noted general support, while others had not discussed it within their communities.
No Ongoing Initiatives	• Interviewees noted that they had no awareness of ongoing initiatives or programs promoting electric transportation in their communities.
Mass Education and Initiatives	• In general, interviewees consider that actions like mass education, lower EV costs, and incentives are effective.
Infrastructure Concerns	• Interviewees expressed concerns about the existing electrical system and the need for infrastructure improvements.
Support through Tariff Reduction	• Interviewees proposed LUMA's support for EV adoption through lower electricity tariffs.
Unified Call for Subsidies	• All interviewees agree on the need for subsidies or incentives, suggesting tax exemptions and financial support.

PR-EVAP Semi-Annual Report (Revised)

9.2.1. LUMA Online Survey

LUMA published an online survey on lumapr.com to gather insights into customers' knowledge, awareness, challenges, and opinions regarding EVs.

The key objectives of this survey include the following:

- Evaluate customers' familiarity with EVs.
- Analyze responses regarding income levels to specifically identify feedback from low-income respondents.
- Capture customers' concerns on buying an EV.
- Understand the key factors influencing the likelihood of EV purchases.
- Identify transportation preferences.

An update of the survey will be included in the next reporting period.

9.2.2. LUMA Online Survey Findings as of December 31, 2023

Respondent Profile:

- Seven (7) of the eight (8) respondents are knowledgeable about EVs.
- Six (6) of the respondents have an income over \$60,000.
- Five (5) of the respondents own an EV, and three (3) have an internal combustion engine (ICE) vehicle.
- The most common way respondents get from one place to another is by driving their own car.
- Most of the respondents never use public transportation.
- Five (5) of the eight (8) respondents think that it is very important to switch to electric transportation.

Top Concerns in Purchasing an EV:

- Lack of public charging infrastructure.
- Concerns about the availability of EV maintenance and repair services.
- Cost of electricity rates.

Top Factors Influencing EV Adoption:

- Offers discounts on installing a charging station at their home.

PR-EVAP Semi-Annual Report (Revised)

- Offers for discounted electric rates for EV owners.
- Financial incentives or subsidies.

9.2.3. LUMA’s Voice of the Customer






LUMA plans to engage low-income customers by enhancing its website, allowing users to submit program needs and feedback online. As part of its next steps to implement these improvements, LUMA will leverage its Voice of the Customer (VOC) program to continuously refine the website and EV programs based on customer input and community outreach. The VOC program aims for customer excellence by collecting data through surveys, call recordings, and AI technologies to capture speech sentiment. This data is analyzed against target indicators to identify improvement opportunities and drive initiatives that enhance customer satisfaction, tailored to the unique needs of Puerto Rico.

9.2.4. J.D Power Survey Findings as of December 31, 2023

LUMA collaborated with J.D. Power for the execution of EV customer surveys, identifying low-income customers and aiming to understand adoption barriers and market characteristics in Puerto Rico. Please find in the following, the objectives of said survey:

Figure 8: J.D Power Survey Key Objectives

Key Objectives

-  Measure customers EV ownership and assess where to charge.
-  Evaluate customer familiarity with EVs to determine educational needs.
-  Capture customers thoughts and concerns on buying and leasing EVs.
-  Understand the key factors influencing the likelihood of EV purchase.
-  Utilize survey findings to support the development of the PR-EVAP initiatives.

Customer Survey Timeline and Number of Respondents		
Time Frame	CY2022 (Q1 – Q4)	CY2023 (Q1 – Q3)
Total Number of Respondents	4,269	1,873

PR-EVAP Semi-Annual Report (Revised)

Interest in EVs

Interest in EVs	Low-income		Non-Low-Income		Total	
	%	n	%	n	%	n
I plan on getting an electric vehicle for my next vehicle	1.7	23	9.9	221	6.7	244
I would consider getting an electric vehicle as my next vehicle	8.0	110	22.1	493	16.7	603
I have interest in getting an electric vehicle in the future, but not for my next vehicle	11.4	158	20.4	457	17.0	615
I have no interest in getting an EV	38.2	528	25.9	579	30.6	1,107
Don't know/haven't considered it	40.7	562	21.7	485	29.0	1,047
Total	100.0	1,381	100.0	2,235	100.0	3,616

EV Ownership

EV Ownership Type	Low-income		Non-Low-Income		Total	
	%	n	%	n	%	n
Hybrid	4.4	64	6.5	155	5.7	219
Plug-in hybrid	0.2	3	2.3	56	1.5	59
100% Electric	1.0	14	2.9	70	2.2	84
None	94.4	1,364	88.3	2,119	90.6	3,483
Total	100.0	1,445	100.0	2,400	100.0	3,845

Familiarity with EVs

Familiarity with EVs	Low-income		Non-Low-Income		Total	
	%	n	%	n	%	n
I've heard of electric vehicles but don't know much about them	73.9	1,021	51.0	1,140	59.8	2,161
I have heard of electric vehicles and know quite a bit about them	18.8	260	33.9	758	28.2	1,018
I know a lot about electric vehicles	7.2	100	15.1	337	12.1	437
Total	100.0	1,381	100.0	2,235	100.0	3,616