



Autoridad de
Energía Eléctrica

2021 Fiscal Plan for the Puerto Rico Electric Power Authority

As certified by the Financial Oversight and Management
Board for Puerto Rico on May 27, 2021



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- The longer-term economic ramifications of behavioral changes caused by COVID-19 (i.e., reduced travel, increased work from home, reduced activity in large gathering places, etc.);
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- The need to shift resources to create a more resilient structure to prevent or mitigate future pandemics;
- Any future actions taken or not taken by the United States government related to Medicaid;
- The amount and timing of receipt of any distributions from the Federal Emergency Management Agency (FEMA), U.S. Department of Housing and Urban Development (HUD)’s Community Development Block Grant-Disaster Recovery (CDBG-DR) Program and private insurance companies to repair damage caused by Hurricanes Irma and Maria and the major earthquakes that occurred in January 2020;
- The amount and timing of receipt of any additional amounts appropriated by the United States government to address the funding gap described herein;
- The timeline for completion of the work being done by the Puerto Rico Electric Power Authority (PREPA) to repair PREPA’s electric system and infrastructure and the impact of any future developments or issues related to the reconstruction and modernization of PREPA’s T&D electric system and infrastructure by LUMA and the legacy generation O&M procurement process on Puerto Rico’s economic growth;
- The impact of outmigration and declining population; and
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The PREPA Fiscal Plan incorporates the macroeconomic and demographic projections developed for and presented in the 2021 Certified Fiscal Plan for Puerto Rico as certified by the Financial Oversight and Management Board for Puerto Rico on April 23, 2021, in order to comply with Section 201 of PROMESA, incorporating such projections does not imply a representation by PREPA of the validity or reasonableness of the underlying assumptions or results.

List of Acronyms and Key Terms

AAFAF	Puerto Rico Fiscal Agency and Financial Advisory Authority
ACD	Automated Call Distribution
Act No. 83	PREPA's Enabling Act
Act 120-2018	Puerto Rico Electric Power System Transformation Act
Act 17-2019	Puerto Rico Energy Public Policy Act
Act 211-2018	Act for Implementation of the Puerto Rico Public Service Regulatory Board Reorganization
Act 57-2014	Puerto Rico Energy Transformation and RELIEF Act
ADC	Actuarially Determined Contribution
ADMS	Advanced Distribution Management System
AES	AES Puerto Rico, parent company AES Corporation., an Independent Power Producer
AICPA	American Institute of Certified Public Accountants
AMI	Advanced Metering Infrastructure
AP	Accounts Payable
AR	Accounts Receivable
A&E	Architectural & Engineering
A/C	Air conditioning
BBA	Bipartisan Budget Act of 2018
CAIDI	Customer Average Interruption Duration Index
CDBG	Community Development Block Grant
CDBG-DR	Community Development Block Grant Disaster Recovery
CEMI _N	Customers Experiencing Multiple Interruptions
CHP	Combined Heat and Power
CILT	Contribution in Lieu of Taxes
COR ₃	Central Office of Recovery, Reconstruction, and Resiliency
COVID-19	Coronavirus Disease 2019
DART	Days Away Restricted or Transferred
DER	Distributed Energy Resource
DG	Distributed Generation
DHS	Department of Homeland Security
DOE	Department of Energy
DR	Demand Response
DSO	Days Sales Outstanding
EE	Energy Efficiency
EHP	Environmental and Historical Preservation
EMS	Energy Management System
EOC	Emergency Operation Centers
EPA	Environmental Protection Agency
EPM	Enterprise Project Management
ETR	Estimated Time of Restoration
EV	Electric Vehicles
FAASt	FEMA Advanced Award Strategy Initiative
FAN	Field Area Network
FEMA	Federal Emergency Management Agency
FEMA PA 404	FEMA Hazard Mitigation Program
FEMA PA 428	FEMA Public Assistance Program

FERC	Federal Energy Regulatory Commission
FCR	First Call Resolution
FOMB	Financial Oversight and Management Board for Puerto Rico
Front-End Transition	Period of time from and including the Effective Date of T&D OMA to and excluding Service Commencement Date
FY	Fiscal Year
GASB	Governmental Accounting Standards Board
GDB	Government Development Bank for Puerto Rico
GenCo	Comprises existing PREPA-owned generation resources; to be operated and maintained by one or more private operators
GNP	Gross National Product
GridCo	Comprises transmission and distribution, customer service, and administrative functions of PREPA; will be operated by LUMA
GW	Gigawatts
GWh	Gigawatt-hour
HMGP	Hazard Mitigation Grant Program
HoldCo	PREPA successor to be responsible for entity that will be responsible for certain non-operational functions
HR	Human Resources
HUD	Department of Housing and Urban Development
IEEE	Institute of Electrical and Electronics Engineers
IoT	Internet of Things
IPP	Independent Power Producer
IRP	Integrated Resource Plan
IT	Information Technology
kV	Kilovolts
kWh	kilowatt-hour
LED	Light-Emitting Diode
LNG	Liquified Natural Gas
LOI	Letter of Intent
LUMA	LUMA Energy, LLC
MAIFI	Momentary Average Interruption Frequency Index
MATS	Mercury & Air Toxics Standards
MW	Megawatts
MWh	Megawatt-hour
NME	Necessary Maintenance Expenses
NTE	Not to Exceed
NYSE	New York Stock Exchange
O&M	Operations and Maintenance
OIG	Office of Inspector General (Department of Homeland Security)
OIPC	Oficina Independiente de Protección al Consumidor
OMS	Outage Management System
OPEB	Other Post-Employee Benefits
OSHA	Occupational Safety and Health Administration
OT	Operational Technology
Oversight Board	Financial Oversight and Management Board for Puerto Rico
PA	Public Assistance, FEMA program
P3A	Puerto Rico Public-Private Partnerships Authority
PMO	Project Management Office
PPA	Power Purchase Agreement
PPE	Personal Protective Equipment

PPOA	Power Purchase and Operating Agreement
PRDOH	Puerto Rico Department of Housing
PREB	Puerto Rico Energy Bureau
PREPA	Puerto Rico Electric Power Authority
PREPA ERS	Puerto Rico Electric Power Authority Employees' Retirement System
PRM	Planning Reserve Margin
PRSB	Public Service Regulatory Board
PROMESA	Puerto Rico Oversight, Management, and Economic Stability Act (2016)
PW	Project Worksheet
PV	Photovoltaics
RFP	Request for Proposal
RFQ	Request for Quotation
RFR	Request for Reimbursement
RPS	Renewable Portfolio Standard
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SCADA	Supervisory Control and Data Acquisition
SOQs	Statements of Qualifications
SOW	Scope of Work
SRP	LUMA System Remediation Plan
T&D	Transmission and Distribution
T&D OMA	Transmission and Distribution Operation and Maintenance Agreement
TRC	Total Resource Cost
TWh	Terawatt-hour
UAAL	Unfunded Actuarial Accrued Liability
USGS	United States Geological Survey
UTIER	Puerto Rico Electrical Industry and Irrigation Workers Union [by its Spanish acronym]
VTP	Voluntary Transition Program
WTI	West Texas Intermediate
YTD	Year-To-Date

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1.1 Executive Summary

The FY2022 Fiscal Plan lays out a path towards the completion of the operational and financial reorganization of the Puerto Rico Electric Power Authority (PREPA) and the successful transformation of Puerto Rico’s energy sector.

Puerto Rico’s energy infrastructure lags behind national standards due to decades of operational and financial mismanagement. Delayed capital projects keep the system vulnerable to disruption and increase rates. A lack of long-term planning results in PREPA’s system being technologically outdated, operationally inefficient, and heavily reliant on an unreliable, high-cost, highly volatile, and highly polluting oil-fired generation fleet. Historic delays in vegetation management and routine maintenance make the system unreliable every day — 35 to 45% of all service outages in 2016 were caused by tree trimming conditions.¹ Macroeconomic challenges, including a declining population and stagnant economy further negatively affect PREPA’s financial condition. The dependence on outdated generation, transmission and distribution systems and low operational efficiency has resulted in high electricity rates. Puerto Rico’s ratepayers spend a higher share of income on electricity service than most US ratepayers for service with reliability that falls in the bottom quartile of peer utilities.

PREPA’s operational shortcomings and inability to adjust rates to cover its rising costs led to the accumulation of significant legacy debt and pension obligations. As of May 2017, PREPA held approximately \$9 billion in debt obligations, while PREPA’s pension liability exceeded \$4.3 billion, of which \$3.6 billion was unfunded.² These obligations were the equivalent of approximately \$6,000 and \$2,400 per customer in debt obligations and unfunded pension liability, respectively, on a customer base of nearly 1.5 million. These liabilities led PREPA to seek a restructuring of its legacy obligations through a voluntary petition under Title III of the Puerto Rico Oversight, Management, and Economic Stability Act (PROMESA).

PREPA and the people of Puerto Rico have also faced compounding negative effects from external factors. After filing for Title III bankruptcy protection, Hurricanes Irma and Maria devastated the electric grid. In January 2020 key PREPA generation assets were damaged by a 6.4 magnitude earthquake. More recently, the ongoing Coronavirus Disease 2019 (“COVID-19”) pandemic has further delayed much needed system maintenance and improvements and adversely impacted collections.

Puerto Rico’s economic recovery depends on a comprehensive and overdue transformation of its energy sector to deliver the safe, reliable, and affordable service that Puerto Rico’s residents and businesses deserve. The 2021 Fiscal Plan lays out a set of continued actions to further advance and accelerate progress on this transformation, including improving operations, modernizing the transmission and distribution system, upgrading the generation fleet, restructuring legacy obligations, and transitioning PREPA’s transmission and distribution operations as well as existing PREPA generation assets to private

1 “In Re: Review of Rates of the Puerto Rico Electric Power Authority.” 33. Revised November 23, 2016. <https://energia.pr.gov/wp-content/uploads/2016/11/Expert-Report-Revenue-Requirements-Fisher-and-Horowitz-Revised-20161123.pdf>

2 Based on independent actuarial study conducted performed by Aon Hewitt, valuation results as of June 30, 2020

operators. When fully implemented, these transformational initiatives will set Puerto Rico on a trajectory to achieve a safe, reliable, affordable, resilient, modern electric grid, improving the quality of life for its citizens and enabling the economic growth of the island activity.

During FY2021, PREPA made progress on several initiatives:

- Supported the Front-End Transition to the selected operator – LUMA Energy, LLC (LUMA) – for the Transmission and Distribution (T&D) system;
- Completed the return-to-service repairs to Costa Sur 5 & 6 and necessary upgrades to the San Juan Power Plant Units 5 & 6 for air quality control³;
- Reduced customer call wait times through call center outsourcing and increasing customer accessibility to e-billing platforms;
- Secured a historic Global Settlement of \$10.7 billion in funding to come from the Federal Emergency Management Administration’s (FEMA) Public Assistance Program (FEMA PA 428), through the Central Office of Recovery, and Reconstruction and Resiliency (COR3), along with cost matching and other funds from insurance, FEMA’s Hazard Mitigation Program (FEMA PA 404) and the U.S. Department of Housing and Urban Development’s (HUD) Community Development Block Grants Disaster Recovery (CDBG-DR) program.
- Worked towards the development of a capital improvement plan for federally funded capital investments and implementation of the Puerto Rico Energy Bureau’s (PREB) approved Modified Action Plan for PREPA’s Integrated Resource Plan (IRP).
- Supported the Public-Private Partnership Authority (P3A) and the Puerto Rico Fiscal Agency and Financial Advisory Authority (AAFAF) in launching the PREPA legacy generation asset procurement process for the selection of one or more private operator(s).
- Advanced the procurement and integration of renewable energy generation and battery storage by selecting 150MW of non-operational renewable energy power purchase agreements for development as well as issuing a competitive procurement Request for Proposal (RFP) process to develop 1,000 MW of renewable energy and 500 MW of battery storage capacity in compliance with the PREB-approved IRP.

However, despite these efforts and progress to-date, much work remains to be done.

Completing the comprehensive transformation of Puerto Rico’s energy system, reaching public policy renewable energy targets, reducing outage frequency and duration, improving rate affordability, service reliability, and customer satisfaction, and ensuring system resiliency and preparedness against unforeseen events requires diligent implementation of multiple key initiatives, most importantly:

- **Improving operations:** Improving program management to ensure timely and on budget completion of key operational initiatives, including proactive maintenance programs.
- **Modernizing the transmission and distribution system:** Developing and executing a capital investment plan to modernize and strengthen the electrical grid.
- **Upgrading the generation fleet:** Implementing the PREB-approved IRP Modified Action Plan to modernize generation resources and increase renewable energy generation.

3 Including the installation of a Selective Catalytic Reduction system to reduce harmful Nitrogen Oxide emissions

- **Effectively and efficiently deploying federal funding:** Optimizing the available federal funding and other associated obligated funding to enable the transformation of the generation and T&D systems.
- **Improving workforce and public safety:** Increasing the use of technology in grid operations to improve workplace safety and protect the public against faulty infrastructure.
- **Completing the transition of the operation and management of PREPA’s electricity grid to LUMA:** Completing ongoing efforts to transfer the responsibilities for operating and maintaining PREPA’s T&D system to LUMA.
- **Completing the competitive procurement process for one or more operators for the PREPA legacy generation assets:** Complete ongoing efforts to transfer operation and maintenance of existing PREPA generation assets to professional and independent private operators. The Fiscal Plan calls for P3A to select and execute an operations & maintenance agreement for PREPA legacy generation assets before the end of calendar year 2021.
- **Restructuring legacy debt obligations:** Supporting ongoing efforts by FOMB and AAFAF to move forward with the restructuring support agreement (the “RSA”) and restructure PREPA’s existing, unsustainable debt load and regain access to capital markets.
- **Pension Reform:** Balancing the objectives of rate affordability with PREPA’s pension obligations to employees and retirees, PREPA must review and revise the Employee Retirement System (ERS) funding policy and benefit provisions and incorporate revisions that ensure a sustainable reform, including through PREPA’s Title III plan of adjustment.

Over the next 30 years, the overall load in Puerto Rico’s electricity system is forecasted to decline because of declining population and diminishing inflation-adjusted economic activity. The rate of decline is further accelerated as customers leverage energy efficiency (EE) and distributed generation (DG) to reduce their reliance on the grid. In this context of forecasted declining load, implementing efficiencies will be required to limit the need for rate increases to cover fixed costs of the system.

To successfully execute on the Fiscal Plan and ensure continued progress toward energy sector transformation, PREPA – together with LUMA– must effectively manage several contingencies and risks. The ongoing effects of the COVID-19 pandemic are expected to taper during the coming fiscal year as LUMA begins to execute on large capital projects funded by FEMA and other federal agencies. PREPA must also complete pending transition matters to LUMA so that LUMA can maintain and prepare the system to withstand potential future hurricanes and other weather events. Other contingencies include successfully completing a debt restructuring and working to ensure timely reimbursement of federal funding for emergency reconstruction vendors and mitigation. PREPA must continue to collaborate with key government counterparties including the Oversight Board, the P3A, AAFAF, PREB, and COR3 to ensure successful transformation.

This Fiscal Plan, if implemented as required, will accelerate PREPA’s trajectory and the Island’s energy sector toward a safe, resilient, and modern electric grid, providing reliable service to ratepayers at predictable and affordable rates and enabling economic growth. Over the next five years, this transformation will provide the people of Puerto Rico with access to the safe, reliable, cleaner, and efficient energy system they deserve.

Chapter 2. Historical Context and Current Challenges

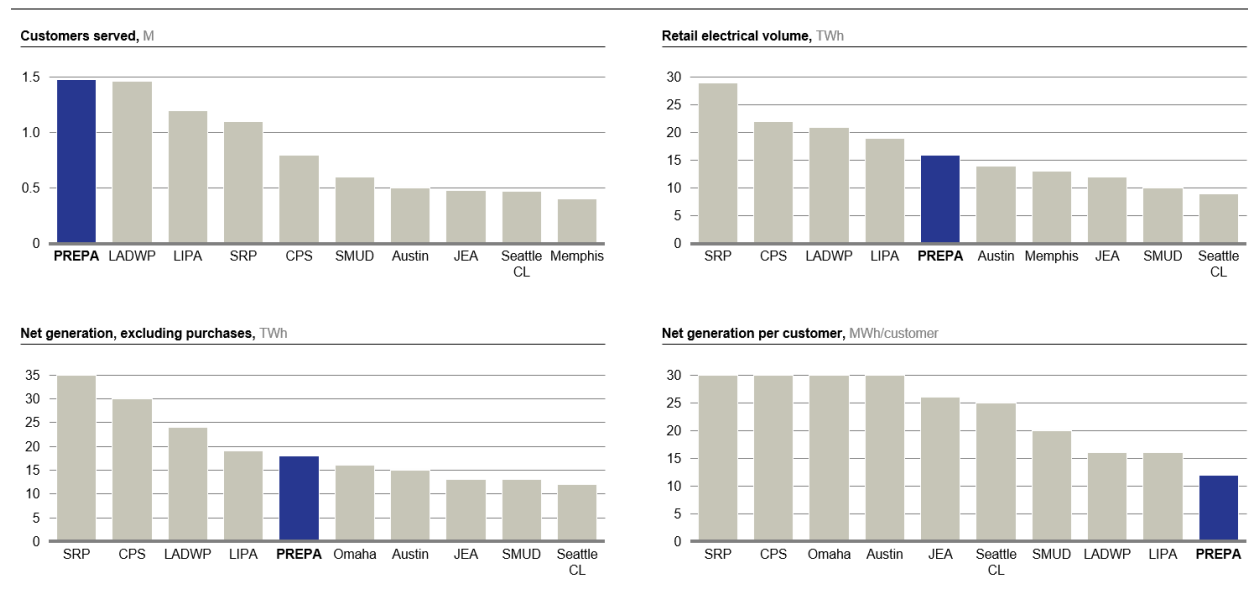
2.1 Key Facts about PREPA

PREPA, formerly known as the Puerto Rico Water Resources Authority until 1979, was created through Act No. 83 on May 2, 1941 (PREPA’s Enabling Act). Throughout its history, PREPA has served as the sole franchise utility electricity provider in Puerto Rico. Until 2014, PREPA was self-regulated and operated without an independent regulatory body to ensure accountability on long-term planning and rate setting. As of the end of FY2020 PREPA served approximately 1.5 million customers and generated approximately \$3.5 billion in revenues from 16 terawatt-hours (TWh) of electricity sales.⁴

PREPA Compared to Similar Public Utilities

PREPA is the largest public power utility in the U.S. by number of customers served but has relatively low generation output and energy sales on a per customer basis (Exhibit 1). PREPA currently produces an annual net generation of roughly 12 megawatt-hours (MWh) of energy per customer, meaning that PREPA delivers less than half as much power per customer than comparable mainland utilities. PREPA’s annual peak hourly load is also substantially lower than comparable mainland utilities, as Puerto Rico customers do not command sizeable increases in load during winter months.⁵

EXHIBIT 1: KEY PREPA FY2019 STATISTICS COMPARED TO PEERS⁶



4 Monthly Report to PREPA’s Governing Board, June 2020 (interim unaudited financial results).

5 Annual peak demand in Puerto Rico typically occurs within the August – October period.

6 Based on publicly available data sourced from either EIA 412 or annual reports and the EIA 861 filings for FY2019. Utilities surveyed include Los Angeles Department of Water and Power; Long Island Power Authority; Salt River Project; City Public Service of San Antonio, Sacramento Municipal Utility District; Austin Energy; Jacksonville Electric Authority; Seattle City Light; Memphis Light, Gas and Water; Omaha Public Power District. Net Generation includes energy purchases as well as generated energy on a net basis.

In terms of service reliability, the people of Puerto Rico have historically experienced lower quality service than required and what is available in other jurisdictions. The average PREPA customer loses power at least once every 5 to 6 weeks, compared to 1 to 2 times per year for mainland customers. This adverse impact on quality of life and economic activity for Puerto Rico’s residents and businesses is routinely a cause for concern in economic surveys and poses an underlying risk to essential services for residents.

Furthermore, findings from the initial assessment of the transmission and distribution (T&D) system by the selected private operator of the system, LUMA Energy, LLC (LUMA), identified that PREPA has historically underreported and underestimated its reliability metrics. In reviewing PREPA’s reliability metrics, LUMA concluded that PREPA’s methodology for calculating service reliability failed to comply with industry-determined standards. For example, in calculating outage frequency and durations, PREPA only reflected outages at the distribution level, rather than including both transmission and distribution outages, which results in 60% underreporting when compared to methodologies recommended by the Institute of Electrical and Electronic Engineers (IEEE).⁷

According to industry benchmarks and LUMA’s assessment, in 2019 PREPA’s customers experienced nearly 9 times more service interruptions than customers of the median US utility within IEEE⁸ benchmarks. Similarly, in 2019, the average duration of power outages was also nearly 9 times longer for PREPA’s customers than for mainland customers (see EXHIBIT 2). Although PREPA has shown modest improvement since 2017, metrics reported for 2019 still place PREPA in the bottom quartile of peer utilities; Puerto Rico residents and business experience more outages for unacceptable long periods of time. PREPA’s reliability metrics using industry standard methods are illustrated in EXHIBIT 2.⁹

EXHIBIT 2: RELIABILITY METRICS COMPARED TO PEER GROUP MEDIAN¹⁰

Metric	PREPA CY 2019	PREPA CY2019 (calculated by LUMA)	IEEE median, 2019
System Average Interruption Duration Index (SAIDI) Minutes per year	675	1,097	126
System Average Interruption Frequency Index (SAIFI) Number of interruptions per year	4.6	9.8	1.12

7 The IEEE is a technical professional organization that develops and publishes standards related to the collection, measurement, and calculation of key electrical reliability indices, including System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI). To benchmark a utility’s performance in SAIDI and SAIFI against that of other utilities, IEEE provides rules on how data can be collected, measured and calculated according to the same standards.

8 Results from CY 2020 reporting.

9 LUMA’s filings with PREB related to performance metrics and System Remediation Plan. Figures for 2020 based on 8 months of data through August 2020, extrapolated for full year.
<https://energia.pr.gov/wp-content/uploads/sites/7/2021/03/Request-for-Leave-to-File-Amended-Exhibit-2-NEPR-MI-2019-0007.pdf>

10 IEEE Benchmark Year 2020 Results for 2019 Data, 2020 Distribution Reliability Group Virtual Meeting. Participation is limited to North American electric entities

2.2 Historical Challenges Leading to the Transformation Mandate

PREPA is the sole electric power utility in Puerto Rico operating an exceptionally complex energy system. Operating an electrical network on a mountainous, isolated, tropical island with dense vegetation is challenging as it requires significant maintenance of often remote transmission and distribution lines. Furthermore, the system cannot rely on access to a larger, regional, and interconnected power grid for power generation like most parts of the U.S. mainland. The complexity of operating the Puerto Rico energy system has been compounded by decades of operational, maintenance and financial challenges resulting in the system lagging far behind national standards. Financially, PREPA's operational shortcomings and historical failure to adjust rates to cover rising costs over time, led to the accumulation of significant legacy debt and pension obligations, as well as under maintained and outdated infrastructure.

Several long-standing structural issues have led to PREPA's current financial and operational position:

- **Political influence and lack of continuity in decision making:** Historically, management decisions were subject to political influence and changes, leading to high management turnover, discontinuity in capital investment plans, and electric customer rates that were insufficient to cover operating and maintenance costs, including debt service. As a result, customers have been faced with increasingly poor reliability due to aging infrastructure, sub-optimal management and financial performance and rate volatility because of a historical overdependence on oil-fired generation with its fluctuating market prices, among others.
- **Lack of rate adjustments to cover costs:** PREPA has operated under a fiscal deficit since the early 2000s due to, among other things, its failure to consistently adjust base-rates for non-fuel operations and maintenance (O&M) expenses over time, in part due to political pressure and the lack of a regulator prior to 2016.¹¹
- **Macro-economic challenges.** PREPA has been impacted by the macroeconomic challenges Puerto Rico has faced in recent years. Puerto Rico's economy began to deteriorate, experiencing a 20% decline in real gross national product (GNP) since 2007, while growing out-migration led to population decline of over 15% since 2004, shrinking PREPA's revenue base. Consequently, by 2020, energy sales fell by 23% from its peak in 2007 and operating revenues declined by 31% over the same period. With fewer customers and a lower revenue base, existing customers have had to pay higher rates to cover fixed system costs.
- **Overreliance on fossil fuels with fluctuating prices for power generation.** Although PREPA has made strides to reduce its reliance on oil-based power generation by converting certain key units to natural gas-based power generation, PREPA customers are still subject to a generation mix highly dependent on antiquated oil fired units and a rate structure that passes through fluctuating fuel costs, resulting in historically volatile rates. This in turn challenges customers' ability to pay and creates affordability pressure for all customer classes.

¹¹ PREPA has adjusted rates related to fuel and purchased power on a monthly or quarterly basis to reconcile actual costs but did not adjust its base rate for non-fuel O&M costs for over 25 years, prior to the 2016 rate filing and rate adjustment.

PREPA's revenue collection rate has historically declined as customer rates increased due to volatile global oil prices. Between 2009 and 2014, PREPA's fuel-adjustment rider increased by around 45% when the oil price doubled from \$60 to \$120 per barrel.¹² The combined impact of lower sales and higher fuel prices contributed to high and also volatile average customer rates ranging from 20 to 30 c/kWh. In FY2020, approximately 30% of generation was fueled by natural gas, 50% was oil-fired, 17% was coal fired, and 3% was from renewable sources. For comparison, the US national average for oil fired generation is currently about 4% of total generation. Without further investment in lower cost renewable power sources and battery storage, Puerto Rico's citizens and businesses will remain vulnerable to changes in oil and gas prices.¹³

- **Unsustainable debt and pension obligations:** PREPA accumulated approximately \$9 billion in debt and over \$4 billion in pension liabilities. Rates were not increased to cover these growing liabilities. Without debt restructuring, rate increases of between 5 to 6 c/kWh in real dollars would be required to adequately service the outstanding contracted debt, amounting to a total electricity rate of approximately 25 to 30 c/kWh over the next two decades, depending on fuel prices and energy sales.¹⁴ Additionally, to fully fund its pension liabilities PREPA would be required to contribute \$220 to \$255 million annually between FY2022 and FY2050. This would represent approximately \$147 to \$170 per customer per year on a base of nearly 1.5 million customers, or an increase in the monthly electricity rate of 1.5 to 2.1 c/kWh over the next two decades.
- **Underinvestment in grid maintenance and modernization:** Given insufficient revenues and rate increases to cover the substantial liabilities mentioned above, PREPA's management historically reduced, or eliminated altogether, prudent and needed investments in long-term maintenance and capital improvement programs. In recent years, capital investments in the T&D system were limited to the most urgent projects to avoid imminent system failure or respond to equipment breakdowns, rather than proactively improving the grid. Historic underspending on vegetation management and other maintenance resulted in a T&D system highly susceptible to damage from hurricanes, earthquakes, and other unforeseen events.
- **Aging and inefficient generation fleet:** Failed efforts to diversify and upgrade generation resources have resulted in an aged and inefficient generation fleet. PREPA owns installed capacity of nearly 5,000 MW with an approximate average age of over 40 years, compared to a national average of 18 years.¹⁵ Aging assets lead to operational challenges, including lower operational flexibility as a result of slower ramp-up capacity, a higher likelihood of outages, increased costs per megawatt-hour generated, and non-compliance with environmental and health regulations. Further, approximately 40% of this capacity is frequently out of service for extended periods of time, such that on average, only around 3,000 to 3,500 MW

12 PREPA, FY2009 Monthly Report (interim, unaudited financial results); PREPA, FY2014 Monthly Report (interim, unaudited financial results).

13 Siemens Industry, Puerto Rico Integrated Resource Plan 2018-2019, RPT-015-19, rev. 2 (Schenectady, June 7, 2019), 7-3, <http://energia.pr.gov/wp-content/uploads/2019/02/PREPA-Ex.-1.0-IRP-2019-PREPA-IRP-Report.pdf>; U.S. Energy Information Administration, Puerto Rico: Profile Overview, last modified November 21, 2019, <https://www.eia.gov/state/?sid=RQ>.

14 Estimate based on calculations of unstructured legacy debt based on PREPA's load projections underlying this Fiscal Plan.

15 US Congress, Exploring Energy Challenges and Opportunities. Excludes IPP installed capacity of 961 MW; all renewable energy plants are independently owned and contracted through PPAs.

(approximately 60 to 70%) of PREPA-owned generation capacity is regularly available for dispatch.¹⁶

Considering these long-standing operational and financial challenges, the 2021 CW Certified Fiscal Plan confirms and updates the continued path towards the full transformation of Puerto Rico's energy sector, as required by Puerto Rico public policy¹⁷ and laid out in prior fiscal plans. The Puerto Rico electricity system requires a comprehensive transformation to deliver the safe, reliable, clean, and affordable service that Puerto Rico's residents and businesses desperately need and deserve. This transformation process is described further in Chapter 3.

2.3 Governance Structure

PREPA's current governance structure still reflects its role as the sole vertically integrated power utility in Puerto Rico. PREPA's Enabling Act established PREPA as a government instrumentality subject to the control of its Governing Board. PREPA has also been subject to the oversight of the Oversight Board since the enactment of the Puerto Rico Oversight, Management, and Economic Stability Act (PROMESA) in 2016. Further details on regulatory structure, including the role of the Puerto Rico Electric Bureau (PREB) can be found in Chapter 4.

The PREPA Governing Board is charged with the power to appoint the Executive Director or Chief Executive Officer, as well as all other executive officers. To date, PREPA has operated under a structure with nine directorates and strategic offices, including IT and the Office of Disaster Funds Management, while directorates and offices have been responsible for all operations relating to the utility's generation and T&D assets (EXHIBIT 3). The Energy System Operations Office oversees the dispatch of the electric system.

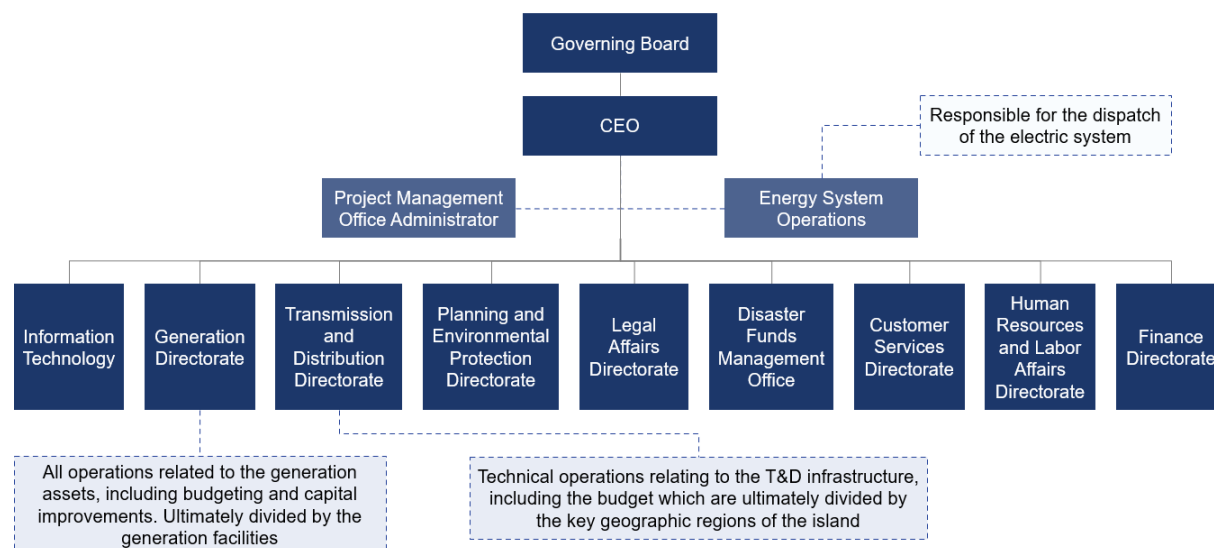
As defined in Act-17-2019¹⁸, this structure will change going forward as part of the ongoing transformation of Puerto Rico's energy sector. In the future, PREPA will cease to operate as a vertically integrated monopoly and must transfer its responsibilities over transmission and distribution (including customer service) and generation operations to professional, private operators. PREPA has worked and coordinated with the Public-Private Partnership Authority (P3A) to create and implement a reorganization of PREPA that is consistent with this policy and meets all additional legal and regulatory requirements, for instance the obligations defined in the Transmission & Distribution Operations and Maintenance Agreement (T&D OMA) with LUMA, and the responsibilities of PREB. Chapter 3 of this Fiscal Plan outlines PREPA's future structure, after the transformation.

16 PREPA Generation Directorate Monthly Report, March 2021.

17 Defined within, but not limited to, Act 17-2019, Act 120-2018 and Act 57-2014

18 The Puerto Rico Energy Public Policy Act, Act No. 17 of April 11, 2019

EXHIBIT 3: PREPA GOVERNANCE STRUCTURE UNTIL TRANSFORMATION



PREPA's Governing Board is composed of seven members (EXHIBIT 4).

1. Three members are appointed by the Governor of Puerto Rico, with the advice and consent of the Senate; these members are selected from a list of candidates prepared by a professional recruitment firm.
2. Three members are appointed by the Governor at his or her sole discretion, one of which must be independent and not an employee of any government entity.
3. One member is elected by PREPA's customers to represent customer interests.

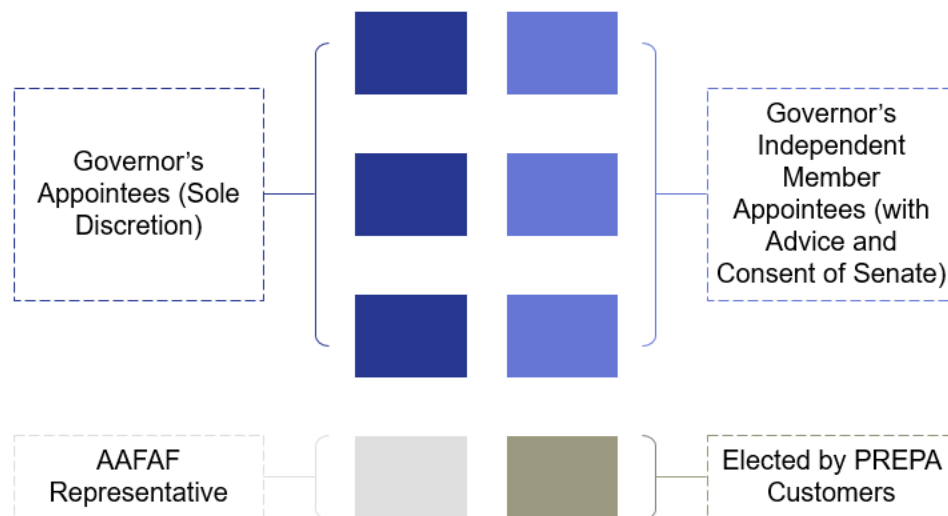
Additionally, Article 16 of Puerto Rico's Fiscal Agency and Financial Advisory Authority (AAFAF) Enabling Act provides that AAFAF's Executive Director is a member of the Board of Directors of any instrumentality of the Government of Puerto Rico that is designated as a covered territorial instrumentality under PROMESA while such designation is in effect. Given PREPA's designation as a covered territorial instrumentality, AAFAF's Executive Director, or his designee, is also a member of PREPA's Governing Board.¹⁹

Governing Board members appointed by the Governor with the advice and consent of the Puerto Rico Senate serve staggered terms, while the members appointed at the Governor's sole discretion are considered at-will directors – except for the independent member, who serves a term of five years. The customer interest representative also serves a term of five years.²⁰

¹⁹ Act 2-2017, as amended (3 L.P.R.A. § 9376).

²⁰ Section 4 of the PREPA Enabling Act (22 L.P.R.A. § 194).

EXHIBIT 4: PREPA GOVERNING BOARD COMPOSITION



The continuing focus and priority of the PREPA Governing Board is to support and implement the various transformational measures outlined in PREPA's and the Commonwealth's 2021 Fiscal Plans, including:

1. Supporting the completion of Front-End Transition work to effectuate the transfer of the T&D system to LUMA;
2. Supporting the completion of the existing P3A competitive procurement process for the selection of one or more operator(s) for legacy PREPA generation and their eventual transfer of responsibilities;
3. Supporting efforts to efficiently deploy and manage the maximum amount of federal funding allocated by various federal agencies for the repair, reconstruction and strengthening of Puerto Rico's energy infrastructure and related assets, in a manner consistent with the T&D OMA and, to the extent applicable, any agreement resulting from the legacy PREPA generation procurement process;
4. Implementing short-term operational and managerial reforms that continue to enhance financial stability, service quality, improve operational efficiency and environmental compliance, enhance transparency and accountability, and reduce political intervention; and
5. Supporting efforts to restructure PREPA's legacy debt and pension obligations.

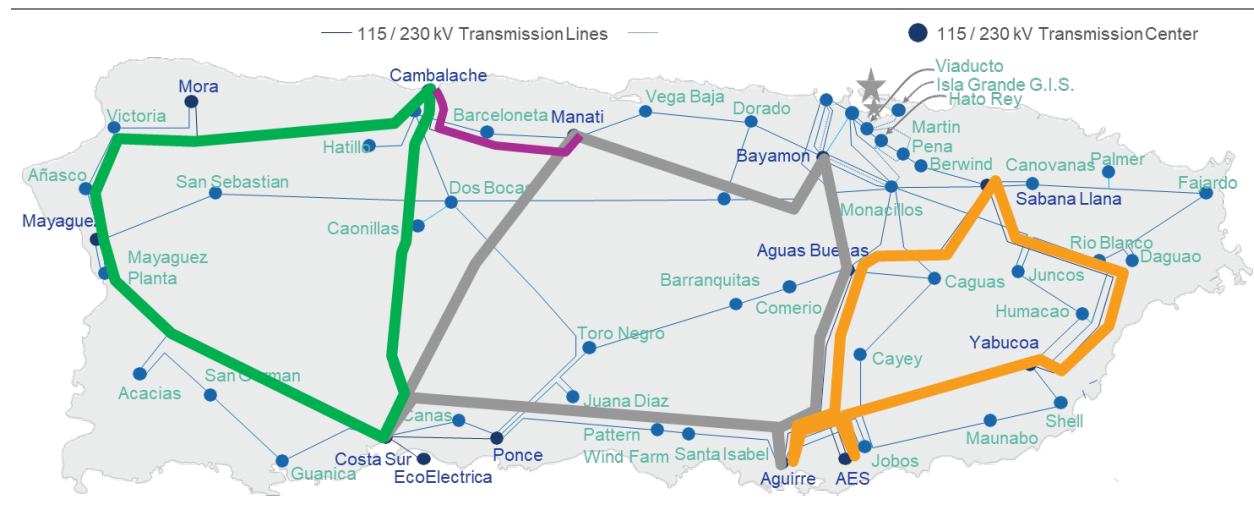
2.4 Current State of T&D

Puerto Rico's T&D system is comprised of three major transmission loops that move electric generation from power plants concentrated along the southern coast to load centers concentrated

in the northeast. The system's dependence on north-south transmission creates operational inefficiencies and grid vulnerabilities. The impact of Hurricane Maria was particularly devastating for these north-south lines, which cut through dense, forested terrain.

The system's original transmission loop is the Central Loop, connecting Costa Sur, EcoEléctrica, and Aguirre power plants in the south with the San Juan power plant in the north via transmission centers at Aguas Buenas, Manatí, and Bayamón. The Western Loop, which entered service in 2002, connects Costa Sur and EcoEléctrica power plants in the south with PREPA's Mayaguez plant in the west and the Cambalache plant in the north. The Eastern Loop, which entered service in 2006, connects Aguirre and AES power plants in the south through transmission centers at Yabucoa in the east and Aguas Buenas and Sabana Llana in the north.

EXHIBIT 5: PREPA TRANSMISSION LOOPS



Transmission System Overview

PREPA's transmission system maintains 178 transmission centers operating at 230 kV, 115 kV, and 38 kV. These centers link over 1,100 miles of transmission lines (230/115 kV) and over 1,500 miles of sub-transmission lines (38 kV). Of these lines, 96% are overhead and the remaining 4% are underground. PREPA maintains approximately 44,000 transmission structures, divided across the three 230 kV loops in the west, east, and central parts of the island. The 115 kV lines serve all the major load centers, while the 38 kV sub-transmission system serves more remote interior regions, as well as most industrial and commercial customers.

Distribution System Overview

PREPA's distribution system serves approximately 1.5 million customers utilizing roughly 1,200 circuits. There is just under 32,000 miles of distribution lines, including nearly 17,000 miles of primary voltage lines and approximately 15,000 miles of secondary lines and service drops. The system connects approximately 60 115 kV substations, about 280 38 kV substations, and nearly 825 privately owned substations. There are approximately 298,000 distribution poles and approximately 213,000 service transformers. Most of PREPA's distribution system is comprised of overhead lines, with approximately 20% of underground lines located primarily in urban centers. Distribution poles are galvanized steel, concrete, and wood.

Challenges to the Transmission and Distribution System

PREPA faces notable geographic challenges given that its primary load center is in the north (San Juan Metro Area and Humacao Industrial District, approximately 70% of total load) while most of the more economical and efficient generation resources are in the south (approximately 70% of online generation capacity). The three 230 kV transmission loops that link generation from the south to demand in the north traverse mountainous and densely forested terrain, creating access limitations for repairs or reconstruction.

In the aftermath of hurricanes Irma and Maria in 2017, recovery efforts were delayed by limited accessibility to these transmission lines. The extent of the hurricane damage was exacerbated by a failure to manage vegetation and execute routine maintenance – a report by the Government Accountability Office assessing the impact of the hurricanes on the electrical grid found that “[PREPA] canceled its vegetation management program” prior to the hurricanes, thus “[contributing] to the destruction of the grid.”²¹ PREPA’s T&D maintenance and management practices continue to fall short of industry standards, leading to higher costs and lower reliability for customers.

To address these challenges and improve operational performance and customer service, support rigorous capital project execution, and ensure ongoing fiscal balance and control, the P3A, in collaboration with PREPA and the Oversight Board, selected LUMA Energy (LUMA) to take on the responsibilities to operate and maintain PREPA’s T&D system. In addition, the improvement programs & Portfolios for grid modernization outlined in the LUMA Initial Budgets and System Remediation Plan (SRP) will be instrumental to strengthening Puerto Rico’s electrical grid. Further details are provided in Chapter 11 and Chapter 13.

LUMA’s T&D Assessment Findings

As part of LUMA’s Front-End Transition work, and as required by the T&D Operation and Maintenance Agreement (T&D OMA)²², LUMA performed an initial assessment of PREPA, its organization, and assets. LUMA’s preliminary assessments indicate current organizational systems and processes that require significant improvement, and physical assets in poor condition from storm damage, age and deferred maintenance. Both categories of deficiencies have corresponding negative effects on customer service, system performance, resiliency, and reliability, as evidenced by several of the baselines established for Performance Metrics such as the SAIDI and SAIFI performance metrics (EXHIBIT 2). Further information on the assessment methodology and results can be found in Chapter 13.

2.5 Current State of Generation

Electricity is supplied by PREPA-owned generation plants and procured from independent power producers (IPPs) under power purchase and operating agreements (PPOAs). PREPA-owned power plants have 4,961 MW of installed generation capacity. However, PREPA-owned

21 “2017 Hurricane Season: Federal Support for Electricity Grid Restoration in the U.S. Virgin Islands and Puerto Rico,” U.S. Government Accountability Office. April 2019. <https://www.gao.gov/assets/700/698626.pdf>.

22 O&M references are to the Operation and Maintenance Agreement (T&D OMA) dated as of June 22, 2020 by and among PREPA, LUMA Energy, LLC, LUMA Energy Servco, LLC and the P3A. All language and statements under this chapter are meant to be illustrative only and shall be interpreted in accordance with, and subject to, the T&D OMA including the terms, as defined thereunder.

generation experiences above industry average forced outage rates, primarily due to the average unit age of more than 40 years; between 30% and approximately 40% of this capacity is typically out of service, including units that are indefinitely out of service and in need of significant overhaul. As a result, on average, only around 60 to 70% of (3,000 to 3,500 MW) of PREPA-owned generation capacity is available for dispatch. In addition to PREPA-owned generation assets, electricity supply from IPPs consists of 984 MW from two conventional power plants and 254 MW from various renewable energy providers. Given PREPA's frequent outages, it is often necessary to dispatch generation units with higher cost fuel. For example, the April 2019 maintenance-related transformer explosion and resulting loss of Aguirre Unit 2 (with average fuel cost of ~\$120/MWh) was compensated by increasing generation from low efficiency diesel peaking units (with average fuel cost of ~\$170/MWh).²³

Generation units in Puerto Rico are powered primarily by fossil fuels: In FY2020, almost half of the Puerto Rico's electricity was generated by petroleum-fired power plants, and more than 97% of total electricity was generated from non-renewable resources. More recently, PREPA has made progress towards diversifying its fuel mix, including (1) completing the conversion of the San Juan Power Plant Units 5 and 6 to dual fuel use, in order to burn natural gas in addition to diesel; (2) selecting 150MW of non-operational renewable energy power purchase agreements for development, and (3) launching an RFP for up to 1000MW of renewable generation and 500MW of battery storage. The total planned addition of 3,900 MW of renewable generation capacity until 2027 will significantly increase the existing renewable capacity in Puerto Rico and current projections estimate renewable sources will generate over 45% of all electricity in Puerto Rico by FY2027.

PREPA's generation resource planning is performed using an Integrated Resource Plan (IRP). Every three years, PREPA is required to prepare and submit to PREB an IRP for a 20-Year planning period. Act 57-2014 defines the PREPA IRP as a resource plan that shall consider all reasonable resources, including both energy supply (e.g. utility-scale generation) and energy demand (e.g. energy efficiency, demand response, and distributed generation), to satisfy the current and projected future needs of Puerto Rico's energy system and of its customers at the lowest reasonable cost.²⁴ Furthermore, Act 57-2014 mandates that the IRP shall also include the environmental impact of the energy system.²⁵ On August 24, 2020, PREB approved in part and rejected in part PREPA's most recent proposed IRP and ordered the adoption and implementation of a Modified Action Plan and Modified Preferred Resource Plan. LUMA, on behalf of PREPA, will use the Modified Action Plan and Modified Preferred Resource Plan as a roadmap for repairs, upgrades, and replacements of existing generation resources as well as which new generation resources should be procured and developed.²⁶ The approved IRP and Modified Action Plan envision a transformation of the energy sector of Puerto Rico by increasing the share of renewable generation and storage, retiring all existing coal and heavy fuel oil generation, enhancing grid resilience through T&D system hardening, and enabling customer choice by supporting the incorporation of distributed generation (DG) and implementation of demand

23 PREPA FY21 Q2 Budget to Actual Report submitted to the Oversight Board.

24 Act 17-2019, Puerto Rico Energy Public Policy Act, approved April 11, 2019, Section 5.2(II).

25 Act 57-2014, Puerto Rico Energy Transformation and RELIEF Act, approved May 27, 2014, Section 6C(h)

26 PREB Docket NEPR-MI-2020-0012 on IRP compliance and Modified Action Plan - <https://energia.pr.gov/expedientes/?docket=nepr-mi-2020-0012>

response (DR) and energy efficiency (EE) programs. Further information on the IRP and the Modified Action Plan can be found in Chapter 10.

Resource Adequacy

As indicated in Section 2.2 of Chapter 2, energy consumption and peak system demand have been in decline for 15 years. The decline is expected to continue, primarily due to (1) a declining population and a weaker macroeconomic forecast, (2) increased energy efficiency measures, and (3) greater adoption of distributed generation where customers generate their own power and use less power from the grid. This decline has enabled PREPA to continue to meet demand with existing generation resources and to maintain sufficient reserve capacity to respond to forced outages. The increasing age and condition of the PREPA generating units continues to result in forced outage events that necessitate the use of more expensive generation capacity, and, in limited cases and duration, load shedding events. The challenges associated with responding to these events is expected to continue until newer and more reliable generation resources, as detailed in the IRP, are developed. The challenges of the generation system are further described, below.

EXHIBIT 6: PREPA GENERATION ASSETS

Overview of Generation Assets and Power System

The majority of PREPA's generation is located at 6 sites, with 4 major facilities each containing more than 500MW of generating capacity¹. Two other conventional generation sites (AES and EcoEléctrica) and all operating renewable power facilities (~250 MW) are owned by third-parties.



¹ PREPA has approximately 200MW of small diesel and hydro units at other sites
² Combustion Turbine (CT)

³ Steam Turbine (ST)
⁴ Combined Cycle Gas Turbine (CCGT)

Challenges to the Generation System

As an island system, Puerto Rico's power grid is geographically isolated, and thus unable to import additional power for purposes of load balancing, voltage control, and frequency control across the

electric system. In addition, PREPA's baseload generation units are relatively large as a percentage of system peak load, such that a single unit outage can cascade into an Island-wide outage, as experienced in 2016 and 2018. To protect against this, generating units are required to spend significant operating hours at partial load to maintain reliability, reducing generation efficiency and increasing overall costs.

Most of PREPA's current generation fleet runs on old and outdated steam generation technology with long ramp times. This means that older plants (such as steam turbines) take longer to reach peak load and have limited operational flexibility to change load because they have less responsive control systems and require more time to heat up. While these older steam plants are generally more economic due to lower-cost fuel, they are operationally limited by applicable federal mercury and air toxic standards (MATS) and the U.S. Environmental Protection Agency (EPA) Consent Decree.

Puerto Rico's few renewable energy facilities represent the system's cleanest generation resources and are designated "must run".²⁷ During FY21 PPOA's for renewable energy were negotiated to reduce pricing by over 10%, to an average cost of 17 c/kWh. However, these facilities are still, on average, some of the most expensive generation sources for Puerto Rico, since, at the time of procurement, renewable generation capacity was priced much higher than the market price available today.

PREPA's aging, inefficient, and unreliable generation fleet must be urgently replaced and modernized. The roadmap for this modernization is defined in the IRP approved by PREB, which outlines the actions and investment in new generation that must be taken to reduce generation costs and achieve greater reliability and resiliency. In order to meet the Renewable Portfolio Standards (RPS) mandated by Act 17-2019 (i.e., 40% generation from renewable sources by 2025; 60% by 2040; 100% by 2050), Puerto Rico is in the process of accelerating its development and integration of renewable generation.²⁸ For existing PREPA generation assets, transitioning to one or more private operator(s) will ensure the optimal operation and maintenance of these assets until they are retired and replaced by new and more efficient privately-owned generation resources. Further detail is provided in Chapter 3.

2.6 Customer Demographics and Affordability

PREPA currently serves approximately 1.5 million customers, of which 91% are residential, 8% are commercial, and less than 1% are industrial. Almost half of PREPA's load is driven by commercial customers, which represented 45% of FY2020's total consumption of 16 TWh. This is followed by residential customers, which account for 40% of electricity demand, and industrial customers, at 12%.²⁹ The majority of PREPA's residential and commercial customers are located in the San Juan metropolitan area (Exhibit 7A and 7C). Industrial customers, on the other hand, are spread across the island, located primarily within the San Juan metropolitan area, the

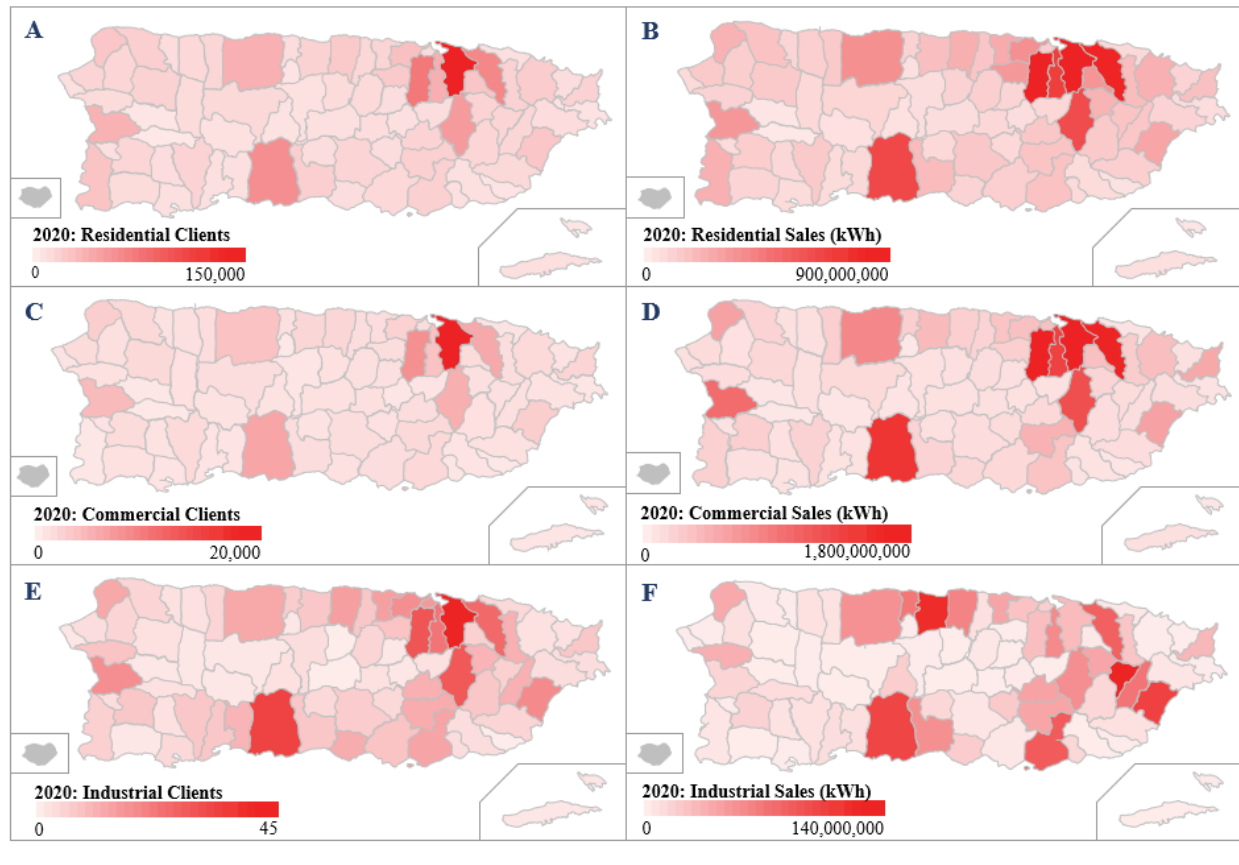
27 "Must run" facilities require PREPA to pay for energy produced up to the contracted capacity even if not needed to meet system demand.

28 On February 24, 2021, PREPA published an RFP to procure an initial tranche of renewable generation and storage consistent with IRP milestones and Puerto Rico energy public policy mandates.

29 Additional load is attributed to public lighting and agriculture.

Humacao district (southeast of San Juan), the north-central coast (Arecibo, Manatí and Vega Baja) and the municipality of Ponce (southern coast) (Exhibit 7E and 7F).

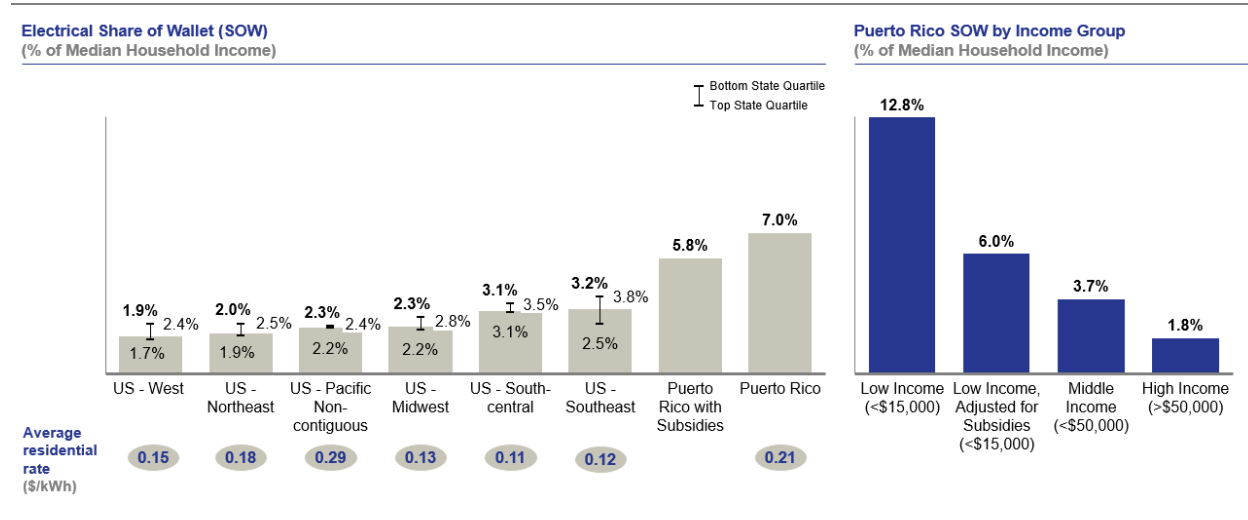
EXHIBIT 7: FY2020 PREPA CUSTOMER COUNT AND CONSUMPTION BY MUNICIPALITY



On average, Puerto Rico’s consumers pay more for electricity relative to their income than consumers in any U.S. state. Based on 2019 rates of 21 c/kWh, for households earning the median Puerto Rico income, the yearly electricity bill amounted to 7% share of wallet³⁰, subsidies notwithstanding. This is significantly higher compared to U.S. mainland states, where households with median income pay between 1.7% to 3.8% of their yearly income for electricity (Exhibit 8). Low-income households are disproportionately affected by the current rate structure. Share of wallet for low-income ratepayers amounts to nearly 13% before subsidies and is reduced to ~6% after accounting for subsidies. For middle- and high-income customers share of wallet amounts to approximately ~3.7% and ~1.8% of median household income in these income brackets.

³⁰ Share of wallet is defined as the percentage of per household electric utility service expenditures relative median per household.

EXHIBIT 8: PUERTO RICO ELECTRICAL SHARE OF WALLET COMPARED TO US PEER REGIONS³¹



Various ongoing policy goals and performance improvement initiatives will impact affordability in Puerto Rico. Puerto Rico’s legislative mandate calling for drastically increased renewable generation should improve customer rates if the combined costs of solar energy plus necessary battery storage is less than PREPA’s current and long-term average cost of generation. The competitive procurement for utility scale renewable generation and storage resources that is currently underway, based on current market and technology pricing, is expected to garner bids that achieve projected pricing in the IRP and Fiscal Plan and thus help lower overall costs as well as improving the stability of costs of power generation - an expectation that will be confirmed as part of the ongoing RFP process launched by PREPA during February 2021.

The impact of programmatic energy efficiency will likely also have a positive impact on customer affordability by reducing electricity consumption for the average customer, thus lowering their electricity bill. From an overall system perspective, the impact on rates may vary. Aggregate system costs—and therefore rates—may decrease due to lower customer consumption and peak demand reducing the amount of investment required in generation and peaking resources. At the same time, rates may increase as system costs are spread over fewer kWh generated and sold per year. The IRP Modified Action Plan recognize the benefit of energy efficiency as a “least cost resource” and contemplates further studies and implementation of programs to achieve greater energy efficiency through programmatic initiatives. If however, efficiency measures are delayed or not achieved there will be a more gradual decline in electricity demand that would also effect rates and overall affordability.

Another policy that may impact customer affordability is the net metering framework currently in place pursuant to Act 17-2019, which pursues a distributed generation system to provide for

31 Average residential rate for 2019 comparison.
 SOURCES: U.S Energy Information Administration residential electricity sales & price, U.S. Census household & income data, FY2019 Puerto Rico tariffs
 US West includes AZ, CA, CO, ID, MT, NV, NM, OR, UT, WA, & WY; US Northeast includes CT, ME, MA, NH, NJ, NY, PA, RI, & VT; US Pacific Non-contiguous includes AK & HI; US Midwest includes IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, SD, & WI; US South-central includes AK, LA, OK, & TX; US Southeast includes AL, DE, DC, FL, GA, KY, MD, MS, NC, SC, TN, VA, & WV.

resiliency and further reduction on reliance on imported fuels. Act 17-2019 requires that distributed generation be grandfathered under the current net metering policy, which allows for full retail rate credits including base rate, CILT, and subsidies riders. This means that customers that use distributed generation under certain circumstances are exempt from paying the charges described above, lowering their total cost of service. This policy will increase total residential renewable generation in the Puerto Rico system, but as more net metering systems are installed under full retail rate credit, net metering customers will be able to bypass charges that cover items like grid services while the policy remains in place, five (5) years from the enactment of Act 17-2019, after which a study conducted by PREB shall conclude and allow PREB to determine and establish different net metering rates or mechanisms.

Additionally, LUMA's investments into the system (e.g., T&D line hardening to reduce outages and associated cost) as well as the operational improvement initiatives that LUMA has planned (e.g., mitigate vegetation risk immediately in the most critical areas to reduce outages) will lead to improved resilience and services and increased productivity which in turn will lower costs for PREPA's customers. Similarly, transformation of PREPA's generation fleet with a diversified fuel mix and reduced fuel costs will have a positive impact on costs and rates and in turn make electricity more affordable costs for PREPA's customers.

2.7 Overview of Historical Financial Performance³²

PREPA's persistent financial deficits are a result of, among other things, decades-long fiscal and operational mismanagement, and a historical inability to adjust energy rates to a level that would ensure PREPA could cover its costs and the capital investments required to modernize its energy system. PREPA has been operating under a structural financial deficit since 2004, which has worsened over time. To cut costs, PREPA historically reduced or stopped investing in system upgrades, leading to an energy system that is vulnerable and prone to frequent and extended outages and voltage fluctuations. Additionally, PREPA has failed to fully fund its pension plan and, since 2014, has not paid its debt service other than through the issuance of additional bonds.

Over the past decade, revenues have decreased due to out-migration and economic decline, as well as increased adoption of distributed generation and energy efficiency measures. As the revenue base contracted, higher rates and associated volatility led to an increase in outstanding collections and bad debt, causing customers to further invest in energy efficiency and reduce their reliance on the grid, all with an adverse impact on PREPA's revenues. In response to these liquidity challenges, PREPA financed its fuel procurement through credit lines, which further contributed to PREPA's unsustainable debt.

PREPA's rates have also been insufficient to cover operating costs, pension costs, and debt obligations. PREPA's operating cash flow fell from a deficit of \$188 million in FY2000 to its worst point at over a \$800 million deficit during in FY2008, leading PREPA to rely on financing to make up for revenue shortfalls (EXHIBIT 9). By FY2014, PREPA's financial condition had deteriorated to the point where it had to enter into forbearance agreements with creditors when it became apparent that there were insufficient funds to pay amounts due. On July 2, 2017, the Oversight

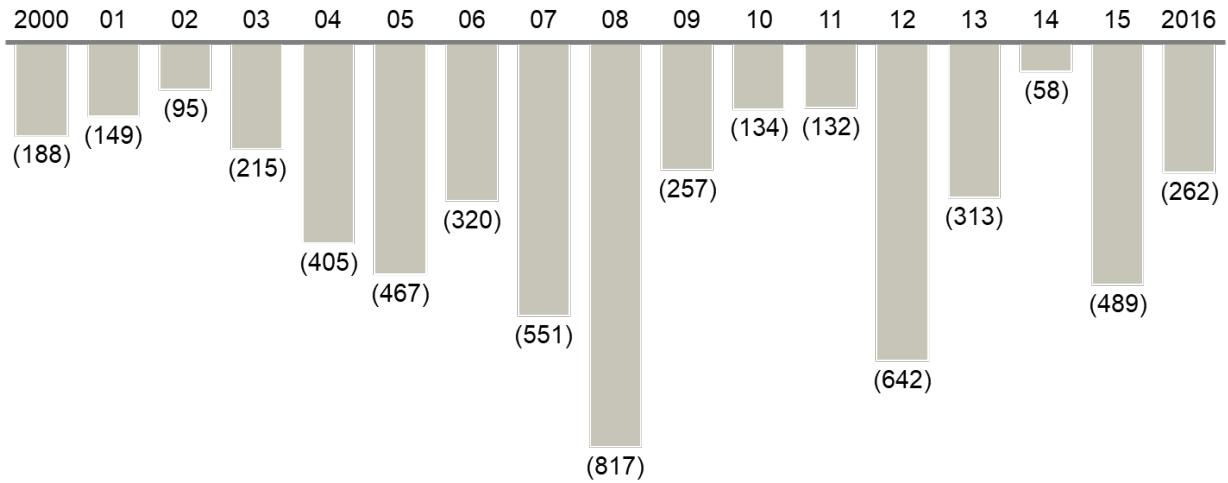
³² All reference years are fiscal years (i.e., July 1 to June 30); Figures presented are unconsolidated, showing PREPA only and excluding the irrigation division; fuel, tourism (hotel), and public lighting subsidies are shown as revenue reductions rather than expenses.

Board filed a petition on PREPA’s behalf for bankruptcy relief under Title III of PROMESA before the U.S. District Court for the District of Puerto Rico.

EXHIBIT 9: PREPA OPERATIONAL DEFICITS FROM FY2000 TO FY2016

Annual Cash Flow Before Financing Activities

Cash Flow from Operating Activities Less Capital Expenditures (Fiscal Years, \$ Million)



From FY2014 to FY2017, PREPA’s annual operating results and one-time accounting adjustments depict an increasingly distressed financial situation. Between FY2014 and FY2015, the operating deficit increased from \$58 million to \$489 million, with the recognition of PREPA’s substantial net pension liability due to changes in Governmental Accounting Standards Board (GASB) accounting rules for pensions. Additionally, as a result of changes in pension accounting assumptions and liability valuation, PREPA faced an additional \$1.6 billion in unfunded pension liability in FY2015. The ongoing recognition of net pension liability and accrued interest has ballooned PREPA’s negative net position to over 70% of balance sheet assets. Although operating expenses have declined in recent years, revenues have declined at a faster pace, resulting in a growing deficit.

TABLE 1: PREPA FY2014 TO FY2020 STATEMENT OF NET POSITION

(USD million)	FY2014	FY2015	FY2016	FY2017	Unaudited, subject to material change		
					FY2018	FY2019	FY2020
Operating revenues	4,469	3,865	2,995	3,298	2,882	3,479	3,354
Operating expenses							
Fuel	(2,345)	(1,887)	(1,215)	(1,218)	(1,200)	(1,404)	(1,470)
Purchased power	(808)	(790)	(687)	(729)	(534)	(678)	(734)
O&M	(752)	(1,129)	(1,241)	(1,394)	(620)	(628)	(685)
Depreciation	(342)	(382)	(517)	(519)	(363)	(365)	(381)
Total operating expenses	(4,246)	(4,189)	(3,661)	(3,860)	(2,717)	(3,075)	(3,270)
Operating income/(loss)	223	(323)	(666)	(562)	164	404	84
Interest expense, net	(410)	(424)	(430)	(446)	(471)	(461)	(432)
Impairment loss on GDB deposits		(145)					
(Loss)/gain before CILT, other	(187)	(892)	(1,096)	(1,008)	(307)	(57)	(336)
CILT and other subsidies	(278)	(273)	(172)	(178)	(87)	(93)	(153)
Contributed capital	45	21	8	7	1	3	2
Change in net position	(420)	(1,144)	(1,260)	(1,178)	(393)	(147)	(488)
Net position at beginning of year	(847)	(1,267)	(3,578)	(4,962)	(6,141)	(6,534)	(6,681)
Change in pension accounting cost		(1,644)					
Net effect of the 2015 restatement		477					
Net position at end of year	(1,267)	(3,578)	(4,838)	(6,141)	(6,534)	(6,681)	(7,168)

Since filing for bankruptcy relief under Title III of PROMESA in July 2017, PREPA has stabilized its cash flow, improved reporting and implemented internal communications, integration, and payment controls, and has been able to support certain of its capital expenses with the use of federal funding. This fiscal stability, however, comes with significant tradeoffs that must be addressed through the transformation of the system (e.g., accrued debt service payments, underfunded pension obligations, and delayed funding for capital and maintenance requirements).

In the past three years, PREPA significantly underspent on necessary maintenance expenses (NME) and vegetation management. Underspensing on these initiatives, coupled with the lack of debt service payments, has resulted in surpluses that have improved PREPA's liquidity position – however, the improvements will not be sustained as the lack of adequate grid maintenance puts PREPA's grid at significant risk. Recently, PREPA's FY2020 financials were negatively affected by the COVID-19 pandemic's impact on demand and a higher use of private generation, and although deficits are lower over fiscal years prior to bankruptcy, a lack of sustained improvement remains a concern.

Interagency (PRASA-PREPA) debt settlement

Government accounts are a key driver of overall electricity sales revenue for PREPA. However, they are also a historically underperforming client base with regards to collections and pending receipts. Issues with municipality receipts and CILT reform notwithstanding (see CILT reform subsection in Chapter 4), Commonwealth agencies and public corporations hold accounts payable to PREPA in excess of \$200 million for past services. PREPA must begin a process of reconciling

aged accounts with debtors through active engagement in the upcoming years, and should begin with PRASA, currently the highest account on record.

PRASA has submitted to PREPA a series of claims, on metering inaccuracies and other matters, that have become a disputed debt. The disputed outstanding balances due to PREPA are estimated at approximately \$54 million³³ and arise from multiple claims dating back to the 2017 Hurricanes and slightly further back.

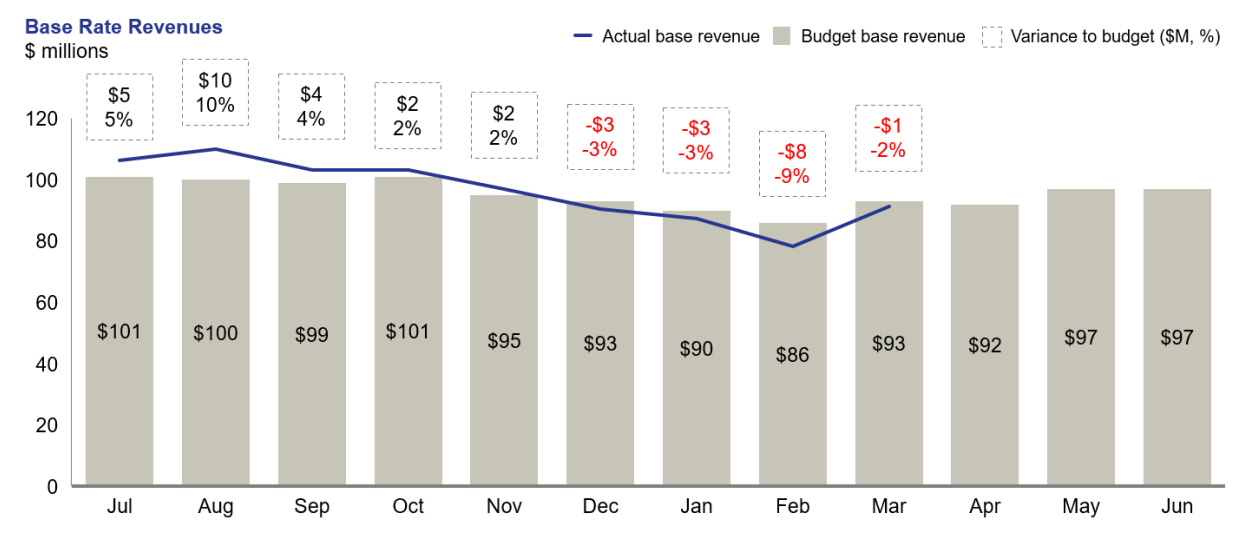
As of April 30, 2021 (FY2021), PREPA’s records indicate that PRASA has an outstanding debt of \$77 million including current billings and the unaccounted amounts in dispute. Notwithstanding multiple efforts to renegotiate, the agencies (PREPA & PRASA) have failed to reach a final settlement. As a result of these delays, there are material variances in what PRASA estimates as their PREPA accounts payable versus what PREPA reports as due by PRASA. Therefore, during FY2022 the agencies shall undertake the necessary steps to reengage negotiations and use any available legal remedy to settle the matter.

In line with public policy set forth under Act 22 of 2016, promoting reconciliation processes on interagency debt, the agencies at play (PREPA & PRASA) ought to pursue binding renegotiations or an arbitration procedure.

Overview of FY2021 Revenue Budget to Actual³⁴

During the first three quarters of FY2021, PREPA’s monthly gross revenues were approximately 1% above projections, driven primarily by higher than budgeted energy sales due to actual electricity demand being 1% higher than projected.

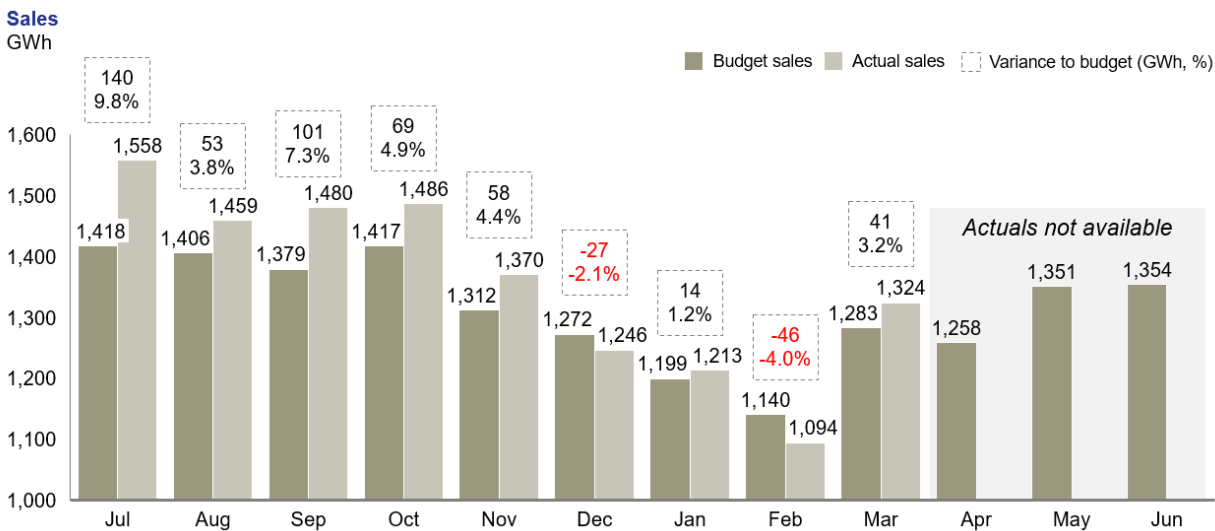
EXHIBIT 10: FY2021 BASE RATE REVENUES PER MONTH (USD MILLION)



33 Balance of \$54 million as of Q3 FY2021 is composed of \$33 million in disputed amounts by PRASA and another \$21 million subject to execution of a memorandum of understanding (MOU) by PREPA.

34 Gross revenues include revenues collected from customers for consumption, whereas consolidated revenues include revenues collected from customers for consumption, revenue for other income sources, and other adjustments (bad debt expense, CILT and subsidies, etc.)

EXHIBIT 11: FY2021 BILLED SALES PER MONTH (GWh)



Key variances in PREPA’s year-to-date budget to actual through Q3 FY2021 include: (1) higher than budgeted fuel costs due to higher than expected generation, fuel prices, and diesel dispatch; and (2) underspending on maintenance and vegetation management outsourcing.

The most significant negative variance in PREPA’s year-to-date performance against budget through Q3 is due to fuel costs. Compounding the higher than projected fuel prices, PREPA was limited in its use of cheaper to operate Costa Sur and San Juan units due to repairs for the initial half of the fiscal year. Due to marked increases in global oil prices, Q4 fuel costs are expected to be higher than in prior periods. PREPA observed minor positive variances in labor line items due to ongoing retirements and limited replacement hiring. Underspending on maintenance to date reflects a combination of project execution delays that PREPA has been working to address and resolve in the final quarter of FY2021.

EXHIBIT 12: FY2021 BUDGETED AND ACTUAL INCOME AND EXPENDITURE, FORECAST OF RECURRING OPERATIONS

(\$ Millions)	<i>Preliminary and subject to material change</i>					
	FY 2021 Q3 Budget	FY 2021 Q3 YTD	YTD Variance	FY 2021 Budget	FY 2021 Actuals (F)	FY 2021 Variance (F)
Gross Revenue	\$2,286	\$2,314	\$28	\$3,049	\$3,170	\$122
Other Income	\$22	\$30	\$8	\$29	\$31	\$2
Bad Debt Expense	(\$51)	(\$50)	\$1	(\$68)	(\$69)	(\$0)
CILT & Subsidies Reduction	(\$196)	(\$125)	\$71	(\$262)	(\$233)	\$29
Total Revenue	\$2,060	\$2,169	\$109	\$2,747	\$2,900	\$152
Operating Expenses						
Fuel	\$621	\$893	\$271	\$835	\$1,106	\$271
Purchased Power - Conventional	\$537	\$516	(\$21)	\$714	\$694	(\$20)
Purchased Power - Renewables	\$66	\$57	(\$8)	\$87	\$78	(\$9)
Total Fuel and Purchased Power	\$1,224	\$1,466	\$242	\$1,636	\$1,879	\$243
Total Labor Operating Expense	\$290	\$270	(\$20)	\$396	\$370	(\$26)
Total Voluntary Transition Program	-	-	-	\$85	\$85	-
Total Non-Labor Expense	\$362	\$295	(\$67)	\$483	\$448	(\$35)
T&D Operator Cost	\$101	\$93	(\$8)	\$135	\$148	\$13
Total Maintenance Expense	\$161	\$139	(\$23)	\$215	\$215	-
Federal Funding Cost Share	-	-	-	-	-	-
Total Operating & Maintenance Expen:	\$2,138	\$2,263	\$124	\$2,950	\$3,145	\$195
Balance	(\$79)	(\$94)	(\$15)	(\$203)	(\$245)	(\$43)

2.8 Adverse Effects of FY2020 Major Catastrophic Events

Most of PREPA's difficulties reflect years of operational and financial mismanagement. However, after filing for bankruptcy protection, PREPA's operational and fiscal condition has been further affected by a series of catastrophic events. In September 2017, hurricanes Irma and María caused substantial damages to PREPA's T&D infrastructure across the entire island. Moreover, in January 2020, a magnitude 6.4 earthquake located near Puerto Rico's southwestern coast caused significant damage to PREPA's Costa Sur power plant and left most of Puerto Rico without electric service for hours. The effects of the earthquake were quickly followed by the COVID-19 pandemic. The enforcement of strict health protection and economic directives and measures in Puerto Rico have had a negative effect on commercial activity on the island and would have severely impacted PREPA's liquidity position if residential consumption had not registered a comparable increase during lockdowns.

The following sections summarize the effects of the earthquakes and COVID-19 on PREPA's financial and operational health.

2.8.1 Impact of 2019-2020 Earthquakes

From December 28, 2019 to January 15, 2020, Puerto Rico experienced over 300 magnitude 3 or higher earthquakes, 10 of which reached or exceeded magnitude 5.³⁵ The strongest earthquake took place on January 7, 2020, reaching a peak magnitude of 6.4. This earthquake inflicted significant damage on the Costa Sur power plant, an 820 MW natural gas-fired facility. At the island-wide level, PREPA required several hours to reestablish service, underscoring the system's lack of quick restart capabilities and vulnerability to sudden loss of generation units.

Repairs of Costa Sur's Units 5 and 6 were successfully completed by mid-August 2020 and January 2021, respectively, with a total estimated repair cost of \$39 million. As a result, however, during the outage period PREPA had to rely on fuel oil and diesel generation capacity to compensate for the lost natural gas-fired generation at Costa Sur. The costs associated with such oil and diesel generation are expected to be reimbursed by FEMA and PREPA's insurance.

2.8.2 Impact of COVID-19

Starting March 16, 2020, Puerto Rico began enacting economic, health and social distancing measures under Executive Order 2020-023 to cope with the spread of COVID-19. The public health and economic impact of COVID-19 have had a ripple effect on the power sector. Social and lockdown measures required PREPA to halt all non-essential work, including vegetation management and maintenance projects, and led to a decline in generation levels and customer sales. By late March 2020, average daily collections had dropped by 50%, forcing PREPA to implement strict financial controls in order to preserve liquidity.³⁶ By the end of June 2020, average daily collections had returned to normal levels relative to forecast and expected collections.

The impact of COVID-19 restrictions on sales in FY2021 can be seen in Exhibit 13 and Exhibit 14. The first three quarters of FY2021 show higher than expected quarterly sales driven by an increase in residential customer consumption. Both commercial and industrial customer class sales in the second quarter were lower than expected, the industrial customer class sales in the third quarter were as expected. Commercial customer class sales remained depressed in the third quarter of FY2021.

35 "As Aftershocks Continue in Puerto Rico, USGS Supports Quake Recovery," U.S. Geological Survey, January 17, 2020, <https://www.usgs.gov/news/aftershocks-continue-puerto-rico-usgs-supports-quake-recovery>.

36 Several factors influenced the decision by customers to not pay the utility bills, chief among them, the enactment of Act 39-2020, which, among others, prohibited the disconnection of electricity services due to non-payment.

EXHIBIT 13: FY2021 QUARTERLY SALES VARIANCE (GWH)

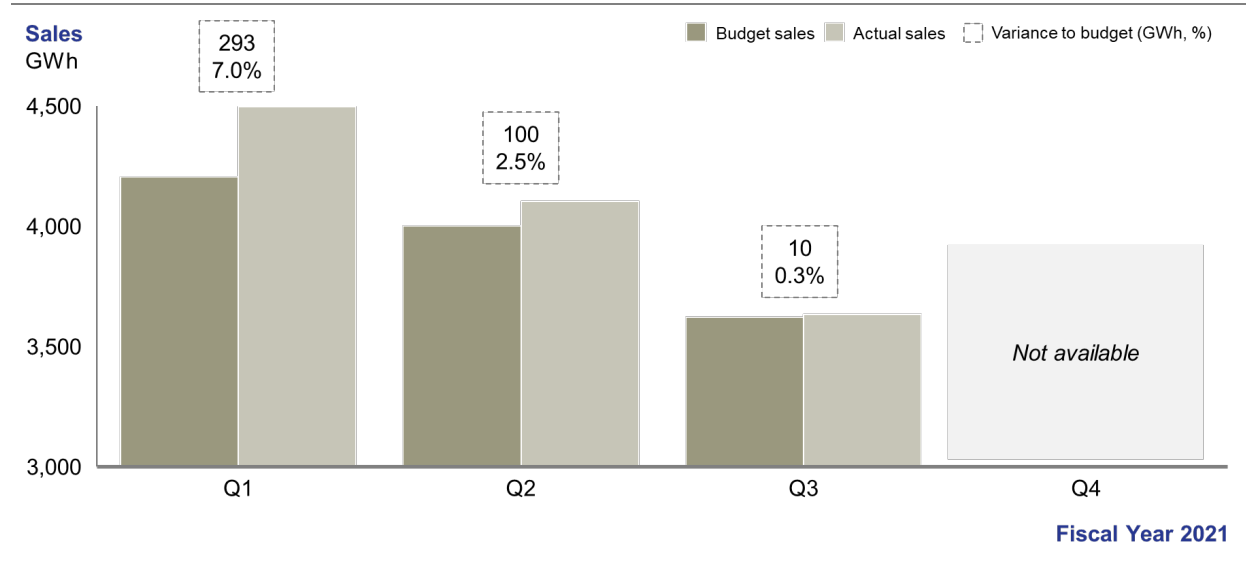
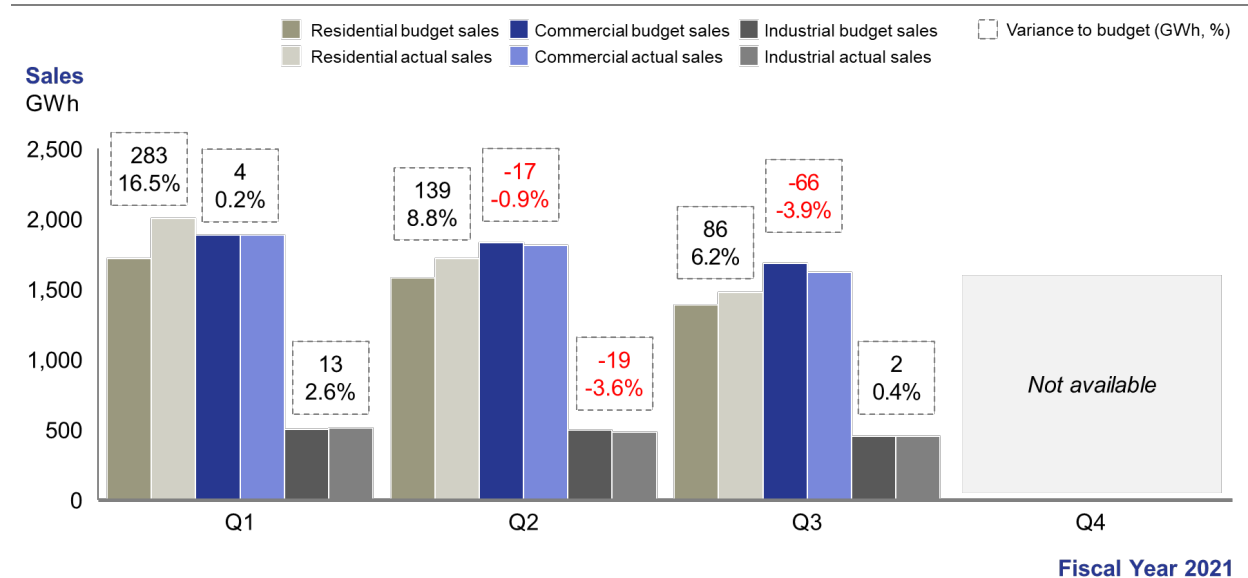


EXHIBIT 14: FY2021 QUARTERLY SALES VARIANCE BY CUSTOMER CLASS³⁷ (GWH)



To address the immediate challenges the COVID-19 pandemic presented, PREPA began by focusing on protecting its workforce, customers, and business associates (contractors). PREPA also established and implemented a plan to maintain electric services, and address outages and client concerns in a manner consistent with COVID-19 related guidance and orders from local and federal governments, which incentivized continued service to customers independent of delinquencies. Customer service operations were modified and finance measures to monitor and

³⁷ Excludes public lighting, agricultural, and other customer classes and as such will not add up to the totals seen in Exhibit 13.

manage cash flow and liquidity were instituted. The Government of Puerto Rico continues to assess measures which reduce business activity, compared to normal levels, and thus reduce consumption by commercial customers compared to pre-COVID levels.

As the COVID-19 pandemic evolves, ongoing evaluation will be critical to PREPA management's ability to be prepared for unexpected changes in forecasts. An assessment of PREPA's response to the COVID-19 pandemic will inform PREPA's emergency and contingency plans to respond to future unforeseen events better and more effectively.

Chapter 3. Transformation

The Government, in fulfillment of public policy and as required in the Fiscal Plan, is in the midst of transforming the unsafe, unreliable, structurally vulnerable, and inefficient vertically integrated electric utility into a modern, safe, efficient, reliable, resilient, and sustainable producer and supplier of energy. The transformed energy sector will improve the every-day lives of Puerto Rico's residents, allow businesses to thrive, and help attract and maintain investment in Puerto Rico. This chapter provides an introduction and context to the transformation of the energy sector (Section 3.1) and then sets forth the vision, objectives, and framework for the transformation (Section 3.2), including the appropriate regulatory reforms (Section 3.2.1) and the transition to private operators (Section 3.2.2). In particular, Section 3.2.2.3 provides an overview of the transition of operations and maintenance (O&M) of the transmission and distribution (T&D) system to the selected private operator, LUMA Energy, LLC (LUMA). This overview includes a discussion of LUMA's obligations to the T&D system under the O&M Agreement (OMA) as well as LUMA's compensation structure, which is tied directly to performance improvements determined by objective, transparent, and quantitative metrics. This chapter also provides an update on the ongoing process to transition legacy generation assets to a private operator (Section 3.2.2.4). The chapter concludes with the current status of each milestone in the implementation of Puerto Rico's energy sector transformation (Section 3.3).

3.1 Introduction and context of Puerto Rico's Energy Sector Transformation

On January 22, 2018, in the aftermath of Hurricane Maria, the Government of Puerto Rico, in coordination with the oversight Board, outlined a vision for the transformation of the energy sector. The vision states the need for a customer-centric, safe, reliable, resilient, sustainable, and cost-efficient electric power service that meets environmental, regulatory, and statutory requirements. . The envisioned reform of the electric power sector is projected to increase growth in Puerto Rico by 0.3% by FY2026, thereby leading to incremental revenues for the Commonwealth, too.³⁸ This development will be enabled by competent and experienced third party operators for the generation and T&D system along with improved independent regulatory oversight.

Previous PREPA and Commonwealth certified fiscal plans have outlined a comprehensive transformation of Puerto Rico's energy sector to address PREPA's financial and operational challenges. Over the last three years, PREPA has taken first steps to address these challenges, including selecting LUMA as the private operator of the T&D system and the ongoing competitive efforts to select one or more operators to maintain and operate PREPA's existing generation assets. Additionally, PREPA launched a Request for Proposal (RFP) for up to 1000MW of renewable energy power purchase and operation agreements (PPOAs) and 500MW of battery storage. PREPA also improved its vegetation management program; service interruptions caused by vegetation management issues decreased from 35-45% in 2016³⁹ to 17-28%⁴⁰ in 2020.

38 April 2021 Commonwealth Fiscal Plan, Executive Summary, p. 12

39 Fisher and Horowitz, Expert Report, p 33

40 PREPA Governing Board Monthly Reports (Jan-Dec 2020)

Although these actions have allowed PREPA achieve modest operational improvements and financial stability, significant challenges continue to lie ahead before Puerto Rico’s residents and businesses can enjoy a modern, reliable, clean and affordable energy service.

3.2 Energy Sector Transformation: Vision, Objective, and Framework

The Government of Puerto Rico’s vision to transform the energy sector has the following objectives:

TABLE 2: TRANSFORMATION OBJECTIVES

Transformation objectives ⁴¹	
Customer-centricity	<ul style="list-style-type: none"> ▪ Focus on customer service and customer experience in planning and operations of the energy system ▪ Increase customer engagement as stakeholders and options for customers to meet individual needs
Affordability	<ul style="list-style-type: none"> ▪ Ensure the delivery of electricity service in a cost-effective manner consistent with PREB oversight and orders ▪ Improve operational efficiency
Reliability	<ul style="list-style-type: none"> ▪ Establish an adequate and reasonable level of service reliability and quality to improve customer satisfaction and economic development
Resilience	<ul style="list-style-type: none"> ▪ Expand and develop structurally hardened infrastructure to allow for adequately rapid overall system recovery after the impacts of catastrophic natural disasters (hurricanes, earthquakes, etc.) and other adverse events ▪ Continuous monitoring and testing of emergency preparedness capabilities
Sustainability	<ul style="list-style-type: none"> ▪ Diversify energy resources by prioritizing clean renewable energy deployment, and reduce the carbon intensity of the power sector ▪ Incentivize customers to use energy wisely and efficiently

To achieve the vision and objectives outlined above, the Government took the following steps to established a legal framework that mandates PREPA to separate its T&D and generation functions and transfer operation and maintenance responsibilities to third-party, professional operators, leveraging private sector management, experience, and expertise to effectively deliver reliable electricity to Puerto Rico’s residents:

- **June 20, 2018** – Enactment of the Puerto Rico Electric System Transformation Act (Act 120-2018) to provide the legal authority (under Puerto Rico law) and mechanisms for the sale, transfer or private operation and maintenance of PREPA’s T&D and generation assets, services, and functions through public-private partnerships.
- **April 11, 2019** – Enactment of the Puerto Rico Energy Policy Act (Act 17-2019), which establishes a regulatory framework to attract private investment and ensure independent,

⁴¹ See, “2019 Fiscal Plan for the Puerto Rico Electric Power Authority,” as certified by the Financial Oversight and Management Board of Puerto Rico on June 27, 2019.

professional oversight of energy market participants. Moreover, Act 17-2019 specifically prohibits PREPA from continuing to operate as a vertical monopoly, mandating the unbundling of T&D and generation operations into separate and distinct entities.

- **June 22, 2020** – PREPA and the Public-Private Partnerships Authority (P3A) executed the T&D O&M Agreement with LUMA as the private operator for PREPA’s T&D operations (the T&D OMA).⁴²
- **November 10, 2020** – The P3A launched the RFP to identify and select one or more private operators for PREPA’s existing generation assets.

PREPA and the relevant Government entities must continue to promote and support the transformation and modernization of the energy system, particularly with regard to the implementation of the following key elements:

1. **Implementing regulatory reform:** A strong and independent energy sector regulator is essential for injecting certainty and stability into the energy market, promoting much needed investment, and enforcing compliance with the energy sector’s transformation objectives. In recent years, the framework of regulatory reform has been approved and Act 57-2014, established an independent regulator, the Puerto Rico Energy Bureau (PREB). The focus in coming years will be continuing to support the independence of the regulator and enabling the regulator to execute on its mandate. This will be accomplished by developing and strengthening the regulatory framework and promoting greater transparency and accountability.
2. **Transitioning the operation and management of PREPA’s electricity grid and generation assets to private operators, while moving the energy system to 100% renewables:** Bringing on private operators to manage and operate PREPA’s generation assets and T&D system will improve affordability, operational performance, and customer service, support rigorous capital project execution to modernize the system, strengthen grid resilience, enable the integration of renewable generation capacity, and ensure ongoing fiscal balance and control. As such, on June 22, 2020, the transformation of Puerto Rico’s energy system took an important step forward through the execution of the agreement⁴³ with LUMA. To ensure a successful transition, PREPA has to enable LUMA’s timely service commencement and continue to support LUMA throughout the contract term. Similarly, for the private operator(s) of its generation assets, PREPA has to support a transparent RFP process, ensure a timely and successful transition, and provide ongoing support as per the T&D OMA.
3. **Restructuring legacy debt obligations:** To ensure sustainable power services, PREPA must have access to capital markets. Given PREPA’s significant legacy debt obligations, a sustainable restructuring plan is necessary for PREPA to exit Title III and

42 O&M references are to that certain Operation and Maintenance Agreement (T&D OMA) dated as of June 22, 2020 by and among PREPA, LUMA Energy, LLC, LUMA Energy Servco, LLC and the P3A. All language and statements under this chapter are meant to be illustrative only and shall be interpreted in accordance with, and subject to, the T&D OMA including the terms, as defined thereunder.

43 This agreement was deemed to be compliant with the Commonwealth’s energy policy by PREB on June 17, 2020 and approved by PREPA’s Governing Board, the Governor, and the Governor of Puerto Rico on June 22, 2020

regain access to traditional credit markets. Without restructuring, customers will experience higher rates, resulting from, among others, repayment of a higher legacy obligation and risk premiums associated with the Title III case. Ultimately, successful restructuring of outstanding bonds and debt obligations will reduce PREPA's legacy debt cost, while maintaining affordable rates, and enabling access to capital markets for future capital needs, consistent with standard utility best practices. Additionally, it will lower the cost of procurement of goods and services. This will enable PREPA to achieve its transformation goals, thus modernizing Puerto Rico's power grid, and passing on subsequent efficiencies to end users. The transformation of PREPA will support the restructuring of PREPA and the restructuring of PREPA will support the Transformation. Restructuring of legacy debt obligations are further discussed in this chapter in Section 3.2.3 and in Chapter 15.

PREPA's Certified Fiscal Plan and the energy public policy and legal framework established by the Government⁴⁴ provide a roadmap for the energy system's transformation. If successfully implemented, a reformed energy system will lead to modernized and reliable energy services across Puerto Rico: a diversified fuel mix and reduced fuel costs, anchored on low-cost renewable energy generation resources; increased operational efficiencies; and a well-funded, financially sustainable utility. These outcomes will benefit the customers and businesses of Puerto Rico through more reliable, clean, and safe electricity service.

3.2.1 Energy Sector Regulatory Reform & Oversight

To achieve Puerto Rico's energy system transformation, a change in PREPA's historical roles and responsibilities and their reassignment through multiple entities is imperative. The first step in this restructuring process was taken with the enactment of Act 57-2014, which established Puerto Rico's energy regulator, PREB. Act 57-2014 eliminated PREPA's prior authority to self-regulate and transferred such authorities and responsibilities to PREB. In Puerto Rico's transformed energy system, those regulatory roles and responsibilities remain at PREB. PREB has the responsibility to "regulate, monitor, and enforce the energy public policy of the Commonwealth of Puerto Rico." As Puerto Rico's energy sector is transformed into a vibrant, modern system, PREB will continue to be responsible for the development of a robust regulatory framework that will promote prudent investments by utilities, increase quality of service to customers, and ensure industry trends and technological advancements are appropriately incorporated into Puerto Rico's energy system. To that end, PREB's regulatory oversight will directly impact the utility and have significant influence on Puerto Rico's energy sector.

Chapter 10 (Power Sector Reform) of the Commonwealth Fiscal Plan describes the necessary steps to ensure that PREB becomes a best-in-class regulator, provides a description of what PREB's roles and responsibilities will be in the near- as well as the long-term, and delineates responsibilities between PREB and the Oversight Board.

44 Puerto Rico Energy System Transformation, Act No. 120-2018; Puerto Rico Energy Policy Act, Act No. 17-2019

3.2.2 Transitioning to private operators

As required by Act 17-2019, PREPA's Certified 2020 Fiscal Plan required PREPA's vertically integrated operations to be separated into Generation and T&D functions – GenCo and GridCo, respectively. GridCo comprises transmission and distribution, customer service and administrative functions, and will be operated by LUMA. GenCo comprises existing PREPA-owned generation resources that are to be operated and maintained by one or more private operators until their retirement, as mandated by PREPA's approved Integrated Resource Plan.⁴⁵ GenCo's responsibilities are projected to also include, environmental compliance, safety and plant retirement and decommissioning. Additionally, GenCo and LUMA will be responsible for working closely to ensure appropriate short-, mid- and long-term system planning and timely and efficient execution of system-wide capital improvements.

Finally, PREPA's existing day-to-day roles and responsibilities over the operation of the energy system, deployment of federally and non-federally funded capital investments, short medium, and long-term system planning and energy sector oversight are expected to be reduced over time as such roles and responsibilities are taken up by the relevant Government agencies and private operators.⁴⁶

3.2.2.1. Objectives of the Transition to Private Operators

Private operation of PREPA's T&D and generation assets forms a critical part of the transformation and the implementation of system modernization, generation upgrades, reliability, efficiency, federal funding, and capital delivery initiatives. The overall objective of the various private operators will be to address and correct many of the operational and infrastructure deficiencies that have plagued PREPA's T&D and generation services over the last decades, improve service quality, and deliver safe, reliable service at affordable rates, as determined by PREB. As such, the private operators are expected to deliver financial and operational performance improvements across the following six dimensions:⁴⁷

- **Reduce costs and improve operational performance by introducing experienced personnel.** A private operator will be incentivized to reduce PREPA's dependency on outsourced contracts by insourcing activities, empowering and training the local labor force, and potentially achieving economies of scale.
- **Upgrade technology to increase reliability and improve system resilience and efficiency.** While PREPA has limited access to and experience with industry-standard technology, private operators will be capable, qualified, and incentivized to implement modern grid technologies, digital capabilities, and infrastructure to significantly enhance

⁴⁵ See Section 1.8 of the Puerto Rico Energy Public Policy Act; Act 17-2019.

⁴⁶ See Section 1.7 of Act 17-2019, which states that "the Government of Puerto Rico, by itself or through the Authority or another public corporation affiliated to the Authority, shall maintain ownership of the transmission and distribution assets and may maintain ownership of the legacy power generation assets." See Section 1.8(b) of Act 17-2019 which also provides that PREPA shall only "retain personnel as are necessary to fulfill its responsibility as a Partnering Government Entity, as such term is defined in Act No. 29-2009, of assisting the Public-Private Partnership Authority in overseeing the Contractor's performance of the Partnership Contract and compliance with the performance-based metrics set forth therein." Pursuant to the LUMA agreement, PREPA delegated any duties with respect to overseeing LUMA's performance to the P3A.

⁴⁷ Commonwealth Fiscal Plan, Chapter on "Power Sector Reform"

operational efficiency and reliability, thus improving system performance, service levels, and customer rates.

- **Improve processes and procedures.** Drawing on their operational expertise, private operators will be incentivized to streamline and standardize critical management processes and improve operational efficiencies (e.g., processes such as procurement, contract management, preventative maintenance). These efficiencies will also translate into improved customer service and responsiveness to customer needs.
- **Make decisions with limited political interference.** Private operators will be subject to independent regulatory oversight by PREB, thus creating an environment that will allow for decisions to be made free of political interference. This will lead to the adoption of standard industry practice where experienced utility operators make operational decisions with oversight from an independent regulator (e.g., investment decisions made based on overall benefit to the system). This will in turn depoliticize system management, improve the operational performance, competitive procurement utilization, management and maintenance of the T&D system, and the generation network, leading to tangible improvements in reliability, sustainability, compliance, and overall quality of service.
- **Implement effective and efficient capital project delivery.** Private operators will be incentivized to establish the mechanisms and processes critical to improving PREPA's capital project management and to deliver the large grid and generation asset modernization programs essential for the effective transformation of the energy system. This will also be key to ensuring federal funding required for grid modernization and generation asset improvements will be well spent, which in turn will increase grid resilience, reliability, sustainability, and efficiency, and recover and mitigate high risk gaps. For instance, the T&D grid mitigation and remediation activities⁴⁸ included in the System Remediation Plan, as required under the T&D OMA, will improve service quality and bring the Puerto Rico energy system up to par with peer utilities on reliability and safety.⁴⁹
- **Enable renewable energy generation and transmission.** Private operators will assist with renewable grid and dispatch integration, enabling the transition to a clean, reliable, and sustainable energy sector. This will include improvements in areas where PREPA has until recently delayed execution such as in renewable energy procurement, renewable energy program management, T&D system modernization, and renewable generation scheduling and dispatch. These efforts are required to meet the goals set up by Act 17, which mandates that Puerto Rico must obtain 40% of its electricity from renewable resources by 2025, 60% by 2040, and 100% by 2050.

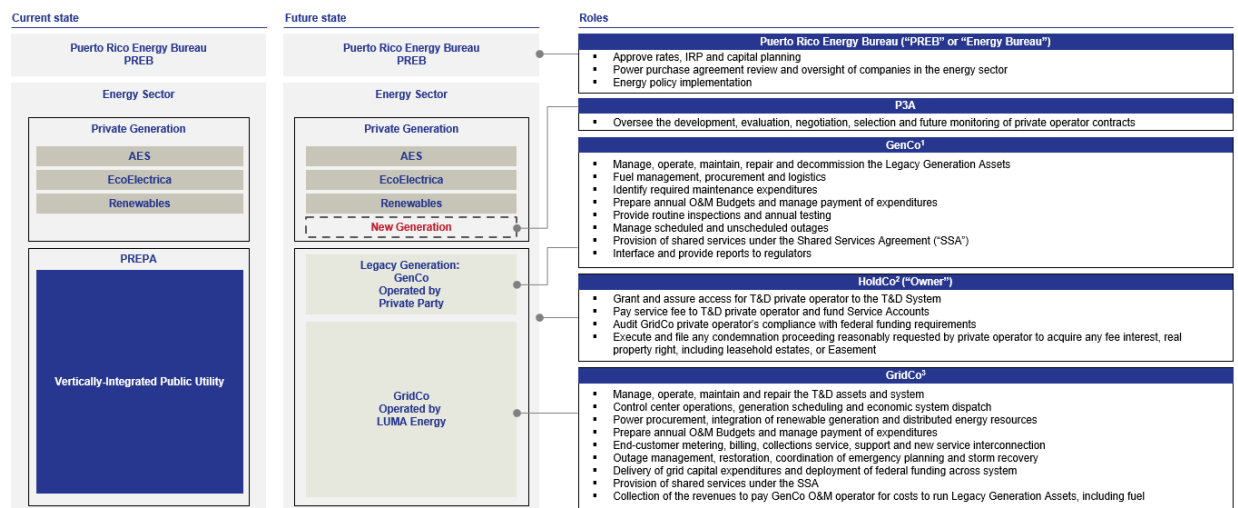
48 PREPA grid infrastructure reconstruction will also be informed and guided by the 10-year Infrastructure Plan submitted by PREPA to FEMA in December of 2020 and subsequently updated as of March 2021, as part of the global settlement with FEMA for the reconstruction of the island's T&D system.

49 SRP filing on Fri Apr 16, Docket ID: NERP-MI-2020-0019, RFI-LUMA-MI-20-0019-210406-PREB-004

3.2.2.2 Future Structure of the Energy System and PREPA, as well as roles and responsibilities

Act 17-2019 calls for “transitioning from the current, vertically integrated monopoly comprising PREPA, to an energy system with multiple players as well as changes to the roles and responsibilities that have historically been concentrated within PREPA, and their reallocation across multiple entities.” Consistent with such energy key practices memorialized in the T&D OMA, PREPA will be exiting day-to-day roles and responsibilities over the operation of the T&D and generation systems, including: (1) deployment of federally and non-federally funded capital investments; (2) short-, medium-, and long-term system planning; and (3) energy sector oversight. PREPA’s involvement in all of these activities are expected to be reduced over time and transferred to the relevant Government agencies and private operators. Exhibit 15 provides an overview of the current and future state of the Puerto Rico Energy Sector.

EXHIBIT 15: ENERGY SECTOR TRANSFORMATION – CURRENT AND FUTURE STATE



1 GenCo refers to the wholly-owned subsidiary of PREPA who would obtain ownership of the Legacy Generation Assets after a potential reorganization of PREPA.
 2 HoldCo refers to PREPA as a public corporation and governmental instrumentality of the Commonwealth of Puerto Rico, created by Act No. 83 of the Legislative Assembly of Puerto Rico.
 3 GridCo refers to PREPA, in its capacity as owner of the T&D assets.

PREPA has worked and coordinated with the P3A to develop an reorganization plan for PREPA that is compliant with the energy key practices of the Government of Puerto Rico as well as its obligations under the T&D OMA. At this time, PREPA is still developing the plan for its suggested reorganization and will submit it to PREB for approval.

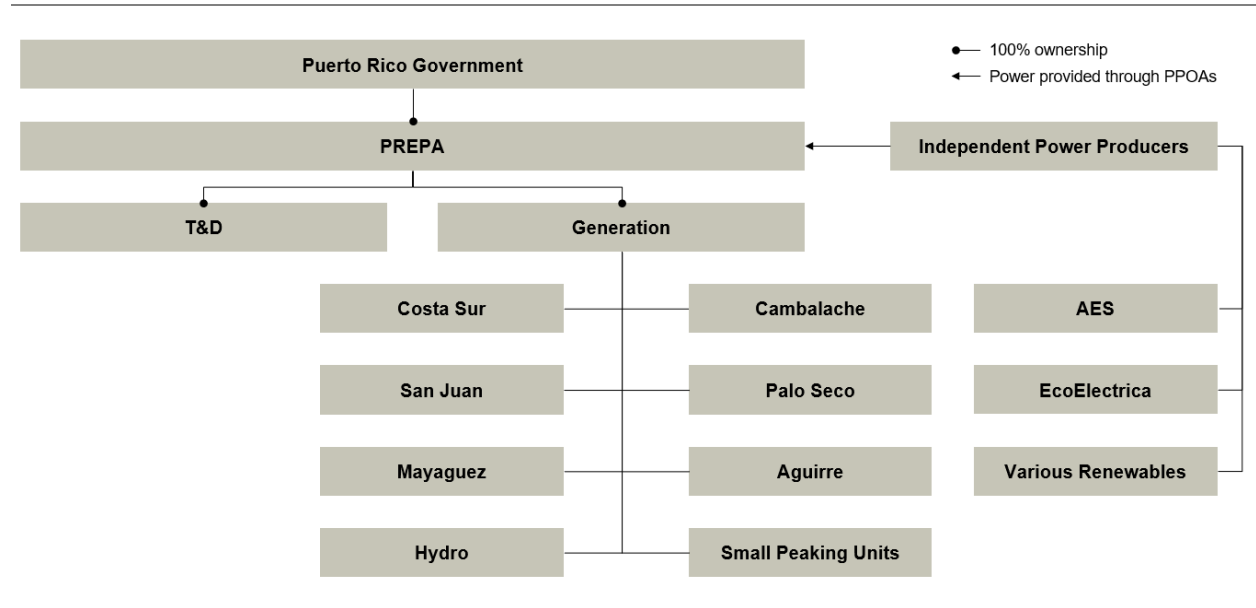
The T&D OMA establishes or confirms certain rights and responsibilities of PREPA as owner and the P3A as administrator, including requiring that PREPA or its successor: (1) comply with applicable laws; (2) cooperate with LUMA in its efforts to obtain and effectuate approval of any governmental body; (3) execute and file condemnation proceedings; (4) manage PREPA’s legal matters, and (5) audit LUMA’s compliance with federal funding requirements.

Additionally, the T&D OMA requires that “[f]rom and after the Service Commencement Date, and at all times during the Term [of the T&D OMA], [PREPA or its successor] and the [P3A], including any of their Subcontracts, ...maintain staffing in connection with the [T&D] O&M Services only at

those levels strictly necessary for [PREPA] and [the P3A] to timely and efficiently perform their obligations under [the] [T&D OMA]”.⁵⁰ Based on the above, PREPA has developed and is implementing a reorganization of PREPA’s organizational structure, consistent with the T&D OMA and Act 17-2019.

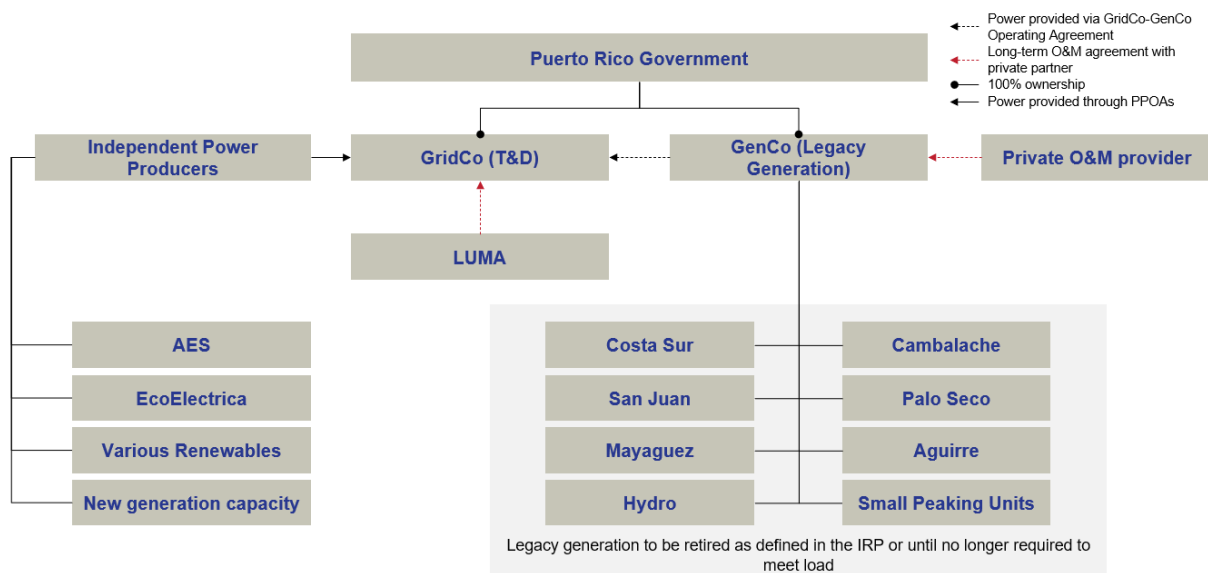
Exhibit 16 and Exhibit 17 provide an overview PREPA’s structure before and after the reorganization, respectively.

EXHIBIT 16: CURRENT PREPA STRUCTURE



⁵⁰ T&D OMA at Sec. 6.4.

EXHIBIT 17: FUTURE PREPA STRUCTURE



3.2.2.3. Transitioning T&D assets to a private operator

In June 2020, LUMA was selected as the private operator for PREPA’s T&D assets. This was the result of a transparent and competitive process run by the P3A. Following the selection, LUMA and PREPA embarked on the front-end transition process, to ensure an orderly transition of responsibilities. The planned completion of this process on May 31, 2021 will be a key prerequisite for LUMA’s planned service commencement on or about June 1, 2021.

The following sections provide an overview of the transition to LUMA.

3.2.2.3.1. Transformation Process

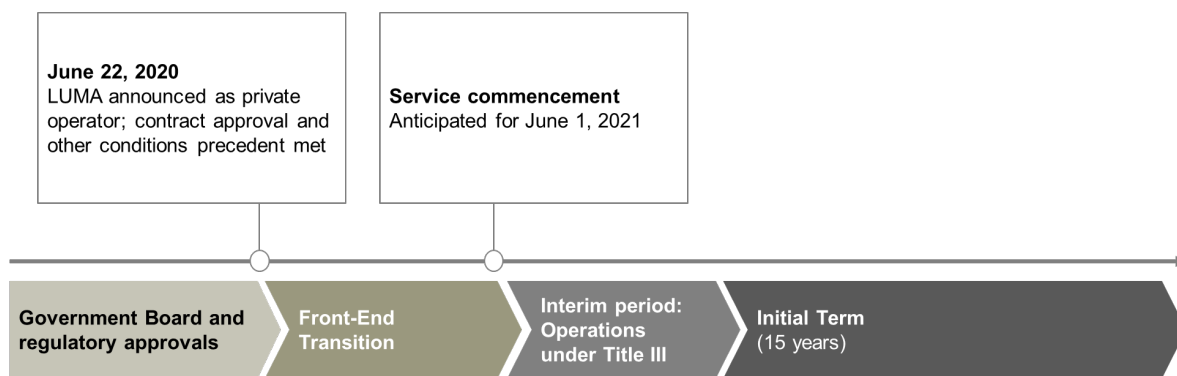
The P3A conducted the T&D RFP process to select a qualified O&M service provider for the T&D system. The process followed an objective and transparent set of bidding and evaluation procedures. Evaluation of eligible bids was performed in accordance with legal requirements under the P3 statute, Act 29-2009, as amended, by the P3A Partnership Committee, established by the P3A pursuant to Section 5 of the Puerto Rico Electric System Transformation Act, Act No. 120-2018, as amended.

On May 15, 2020, the Partnership Committee decided to recommend to the Board of Directors of the P3A that the contract for the management, operation, maintenance, repair, restoration, and replacement of the Puerto Rico electric T&D System be awarded to LUMA, an entity formed by ATCO Ltd. and Quanta Services Inc.

LUMA was announced as the selected T&D O&M services provider on June 22, 2020, after approval of the selection was issued by the P3A Board, the Oversight Board, PREPA’s Governing

Board, PREB, and the Governor. Thereafter, PREPA, the P3A and LUMA signed the T&D OMA which the Oversight Board approved, enabling the commencement of the front-end transition period called for under the agreement (Exhibit 18).

EXHIBIT 18: KEY MILESTONES IN T&D OPERATOR TRANSITION PROCESS⁵¹



Pursuant to the T&D OMA, contract oversight and compliance responsibilities will be the ongoing responsibility of PREB and P3A, each within their respective areas of authority and responsibility under applicable law and contract provisions, respectively. The Oversight Board will continue its oversight role for PREPA as long as it remains a covered territorial instrumentality under the Puerto Rico Oversight, Management, and Economic Stability Act (PROMESA). This role includes the certification of PREPA’s Fiscal Plans and Budgets. Further discussion about Puerto Rico’s energy system regulatory landscape can be found in Chapter 4 (Legal and Regulatory Structure).

3.2.2.3.2. Overview of the LUMA T&D OMA

The T&D OMA was executed by and between LUMA, PREPA and the P3A. Under the T&D OMA, LUMA would provide O&M services pertaining to the T&D System for a minimum term of 15 years. An O&M structure was preferred over a sale or concession of the T&D assets since it would allow such assets to remain the Government’s property, and would allow PREPA and the Government to maintain access to and eligibility for federal funds for the reconstruction and modernization of the electric grid after Hurricanes Irma and María.

The T&D OMA outlines requirements, responsibilities, costs, and milestones for a successful transition to, and operation of the T&D system by LUMA. These various items are established for purposes of the front-end transition period, the O&M Services following the commencement date, and during the back-end transition period, in the event of transition of the O&M Services back to PREPA or a successor operator. The following section provides an overview of the key elements outlined in the T&D OMA:

⁵¹ Dates shown here are illustrative and subject to change, and do not consider the Interim Period Commencement Date in which LUMA meets the various conditions precedent required to assume control of T&D operations while PREPA is still in Title III

a. Front-End Transition

The purpose of the front-end transition plan is to ensure the orderly transition of the responsibility for the management, operation, maintenance, repairs, restoration, and replacement of the T&D system to LUMA in compliance with the target established for Service Commencement Date. The front-end transition period began on June 22, 2020, and is expected to conclude on or about June 1, 2021, upon which time LUMA would have full control and responsibility over the operation and maintenance of the T&D system.

During the front-end transition LUMA, PREPA and the P3A have worked together on activities designed to ensure an orderly transition to LUMA. Such activities included, among others:

- Development and implementation of operational takeover plans
- Development and approval of system remediation plans
- Evaluation of customer service facilities, assets, policies and procedures
- Development of IT/OT communication plan, gap analysis, development of cyber security and business continuity plans
- Formalizing changes to control processes, establishing financial accounting system, and account structure, preparing initial budgets and forecasts
- Setting up a governance framework, and policies and procedures related to federal funding, and
- Development of back-end transition plans

A summary of several of the Front-End Transition deliverables, including the LUMA Initial Budgets, the System Remediation Plan, and the improvement portfolios, are included in Chapter 13 (LUMA Improvement Portfolios).

During the front-end transition period, and pursuant to the terms of the T&D OMA, PREPA paid LUMA a front-end transition service fee as shown in Figure 19.

b. Supplemental Agreement and Interim Period

During the review and approval process for the T&D OMA, the Oversight Board identified the potential for delayed resolution and ongoing pendency of PREPA's Title III case. The potential delay in emerging from Title III, which is a condition precedent to the Service Commencement Date under the O&M Agreement would prevent LUMA from taking over the T&D system within the timeframe that the Oversight Board deemed reasonable for turnover of the T&D system. Given the importance of timely energy reforms included in the Certified Fiscal Plan, the Oversight Board required P3A and LUMA negotiate a Supplemental Agreement to the OMA that would allow LUMA to take control of the T&D System if all other condition precedents are met or waived, before the final conclusion of the Title III case. Under the Supplemental Agreement, LUMA could achieve the Interim Period Service Commencement Date prior to PREPA's exit from Title III. The Supplemental Agreement was executed concurrently with the OMA.

c. T&D O&M Services

After having achieved contractual milestones for transition of T&D operations, the responsibilities for all aspects of the operation and maintenance of PREPA's T&D system, including billing and other customer service functions, will be transferred to LUMA for an initial term of 15 years. These services and responsibilities include day to day operations and maintenance of the T&D system, long-term planning, generation dispatch, procurement of new generation resources (if requested by P3A), asset management, operation and maintenance, community and media relations, reporting and record keeping, and finance and accounting, oversight and implementation of federally funded projects, among others specified in the OMA Scope of Services. Emergency response and customer service responsibilities, including billing, outage reporting, and connections, are also part of LUMA's responsibilities as T&D System operator.

1. **T&D System Operation Services:** responsible for all electric transmission, distribution, load serving and related activities for the safe and reliable operation and maintenance of the T&D system. These include system operator activities, engineering activities, maintenance of technical documentation, energy efficiency activities, planning, environmental and regulatory, legal services, insurance and claims, and other activities.
2. **Asset Management and Maintenance Services:** responsible for managing and maintaining all assets of the T&D system including machinery, equipment, structures, improvements and conditions assessments of the electrical system components. These include inventory control, fleet management and refueling, necessary equipment and systems, information technology, public lighting, and generator interconnection.
3. **Continuous Improvement Services:** development and administration of research and development to increase operational efficiency and effectiveness, establishing and conducting a continuous improvement program designed to enhance LUMA's performance, monitoring industry advancement and technological changes.
4. **Government, Community and Media Relations:** communications with customers and government officials, responsible for coordinating and conducting communications with local, state and federal representatives and organizations, community and media relations, and customer contact.
5. **Testing, Reports and Records:** preparing monthly operations report, producing and delivering information to P3A as requested, and developing and maintaining comprehensive document management program.
6. **Regulatory, Finance, and Accounting Services:** responsible for regulatory proceedings, finance, accounting, budgeting, long-term financial forecasting and treasury operations related to the T&D system.
7. **Health, Safety, Environment, and Quality:** responsible for ensuring system wide compliance with standardized safety programs to prevent and reduce risk of occupational injuries through hazard identification and reduction activities.
8. **Emergency Response:** curtailments and shutdowns, implementation of the emergency response plan that addresses disaster recovery and emergency response and restoration, and all necessary business continuity, reporting and communication functions relating to the T&D system.

9. **Maintenance:** performing all ordinary maintenance of all property constituting T&D system, including machinery, structures, improvements and electrical system components, to keep the T&D system in operational condition.
10. **Customer Service:** maintaining staff dedicated to assisting customers, toll-free customer service hotlines, establish and maintain website for customer inquiries and complaints, public outreach and education campaign, customer satisfaction, and meter-related services including repair and replacement of meters.
11. **Federal Funding:** responsible for (together with PREPA and P3A) developing a federal funding procurement manual (subject to approval by COR3, FEMA, and DHS OIG)⁵², ensuring compliance with Federal Funding requirements for contracts that involve Federal Funding, and ensuring compliance with applicable law, regulation, and policy for any federally funded work⁵³, acting as agent (after prior written consent by PREPA and P3A) of PREPA in connection with any federal funding requests related to the T&D system⁵⁴

d. PREPA Reserve Accounts

The transition to private, professional operators is expected to improve quality of services, bring cutting-edge knowledge and expertise, improved efficiency, ensure compliance with applicable laws, and promote long-term sustainable planning.

PREPA must maintain the minimum levels of working capital needed to ensure all necessary and approved operational and capital investment expenditures are made on time. To do so, PREPA must create and fund various operational reserve accounts to be used by PREPA, LUMA and any additional private operators to fund the day-to-day operations of the energy system, ensure capital availability for maintenance and improvement projects, included FEMA-funded projects, and safeguard the financial sustainability of the system. Without access to these funds PREPA is limited in emergency situations, in contracting for fuel and other supplies, as well as in executing in resiliency and mitigation projects that rely on FEMA funds, based on a reimbursement system.

Specifically, no later than 10 business days prior to Service Commencement under the OMA, PREPA shall establish and fund one or more such operational reserve accounts, which accounts shall be consistent with the requirements in the T&D OMA. PREPA must deposit in such accounts a total sum of approximately \$1.0 billion, of which a substantial portion of \$750 million is funded through a financial commitment from the Commonwealth and the remaining \$250 million is funded from PREPA's existing cash reserves^{55,56}. The funding deposited in these accounts shall be used exclusively for – the benefit of PREPA - the maintenance and operation of the transmission and distribution system and the execution of capital improvement projects, including FEMA-funded projects, as such functions are described and contemplated in the T&D OMA.

The initial funding for the T&D O&M agreement is estimated to be approximately \$1.0 billion. By assuming a need for a months' worth of FY2022 budget expenses, an analysis was performed to determine the liquidity need at the time of commencement. 4.5 months' worth of Operating

52 T&D OMA, Section 4.5 j

53 T&D OMA, Section 5.9 c

54 T&D OMA, Section 5.9 e

55 See CW Fiscal Plan, Chapter 10

56 Joint Resolution to amend CW budget adopted by the Oversight Board on May 12, 2021

Expenditures, operator service fees, Federally Funded Capital, Non-Federally Funded Capital and other expenses were assumed while 2 months' worth of fuel, generation costs, and purchased power costs were assumed.

In the event that PREPA is assigned an Investment Grade Rating by two or more credit rating agencies, the level of pre-funding for Operating Expenditures, operator service fees, Federally Funded Capital, Non-Federally Funded Capital and other expenses will be reduced from 4.5 to 3 months' worth of expenses, and there will be no further obligation to deposit funds into the Contingency Reserve Account.⁵⁷

e. Service fees

The T&D OMA provides that PREPA will pay compensation to LUMA during the front-end transition, back-end transition, and for T&D O&M services based on the fee structure shown in Exhibit 19~~Error! Reference source not found.~~. LUMA will only be eligible to receive the T&D O&M services Incentive Fee based on LUMA's ability to achieve or exceed the performance metrics outlined in the OMA, including metrics related to customer satisfaction, safety, regulatory, and financial performance, as discussed further in Chapter 14 (LUMA Performance Metrics), specifically Section 14.1.1 of this Fiscal Plan.

While LUMA can terminate the contract upon 120 days' notice in the event of a Force Majeure Event that continues for a period in excess of 18 consecutive months, such a provision is standard, and LUMA Energy would not be entitled to the Termination Fee in such circumstance.

EXHIBIT 19: T&D OMA FEES BY CONTRACTUAL PERIODS⁵⁸

Compensation structure	Front-End Transition (FET)	Interim Period Operations under Title III Annual Fees	Initial Term (15 years) Annual Fees	Back-End Transition (BET) ¹
Fixed Fee Payable in monthly installments of 1/12 th of total fee	\$60 million <i>One-time fee</i>	\$115 million	\$70 million (Year 1) \$90 million (Year 2) \$100 million (Year 3) \$105 million (Year 4+)	None
Incentive Fee Annual cap with eligibility based on ability to achieve or exceed performance metrics	None		\$13 million (Year 1) \$17 million (Year 2) \$19 million (Year 3) \$20 million (Year 4+)	None
Cost reimbursement Invoiced monthly based on labor hours and reasonable and documented expenses	Costs associated with providing FET services: <ul style="list-style-type: none"> Fully allocated labor costs and hours Reasonable and documented expenses incurred 	None	None	Costs associated with providing BET services: <ul style="list-style-type: none"> Fully allocated labor costs and hours plus a 10% adder on total labor costs Reasonable and documented expenses incurred

¹ Transition services required to complete the handover of O&M services back to Owner or other successor operator upon expiration or early termination of the Term

⁵⁷ T&D OMA, Section 7.8

⁵⁸ All fees are based on 2020 dollars that will be adjusted by inflation for each year.

f. Shared Services Agreement

The T&D OMA contemplated the likelihood that GenCo – before PREPA transfers GenCo and associated operating, administrative, and/or maintenance functions to one or more private operators – would need certain administrative and other services that were historically provided by PREPA. As such, the OMA stipulates that to ensure the continuity of GenCo operations and to comply with the Contract Standards and Prudent Utility Practice of the OMA, LUMA shall – on behalf of PREPA – provide certain services (the “Shared Services”) to GenCo. The services would be provided for the time prior to a transfer of GenCo to one or more private operators, and for a term not to exceed three years from its effective date unless otherwise mutually extended by the parties. Shared Services may include administrative (e.g., HR), Regulatory & Public Affairs, Finance & Accounting, IT, Legal, Bookkeeping, Environmental, Procurement and Supply Chain, Outage Support, Fleet Vehicle Services, Capital Improvements Analysis & Determination, Real Estate, Facilities, and Physical Security services. As LUMA and PREPA have agreed in the T&D OMA, these services will be provided at cost, and LUMA will not earn a mark-up or profit. The exact scope and amount of the shared services provided, as well as the compensation for these services are detailed in the Shared Services Agreement that is being negotiated by PREPA and LUMA.

g. Back-End Transition

To ensure an orderly and structured transition of the T&D services back to the Government or to a successor operator, LUMA has prepared and submitted to the PREB and the P3A a detailed back-end transition plan, to be updated on an annual basis, that includes reasonable arrangements for the hiring of LUMA employees by a successor operator, treatment of severance costs associated with LUMA employees not hired by a successor operator, and the transition and handover of T&D O&M Services back to PREPA or to a successor operator.

h. Transformation Impact on Current PREPA Employees

There are legal requirements governing the treatment of current PREPA employees to protect and ensure job security during the transformation. These protections are included in Act 120-2018, as amended by Act-17-2019, and provide safeguards for ongoing employment and certain applicable retirement benefits and vested rights for PREPA employees. Act 120 provides that regular PREPA employees will have employment either by joining LUMA (or any other operator selected through a P3A process), at PREPA, to the extent such positions exist and are necessary for PREPA to meet its obligations, or within the Government of Puerto Rico, as determined by the Puerto Rico Human Resource Administration and Transformation Office (OATRH).

Section 15. – Provisions on the Employees of the Electric Power Authority⁵⁹ – PREPA’s personnel have been critical in restoring the electric power service in the wake of hurricane Maria. Their knowledge of the system is essential to ensure the success of its transformation.

The provisions of this Act and of any Partnership or privatization Contract entered into in connection with PREPA pursuant to this Act, shall not be used by the Government of Puerto Rico as grounds for the dismissal of any regular employee.

59 Act17-2019, Section 15

Any PREPA personnel who opt to remain in the Government of Puerto Rico shall be assigned according to the statutes, regulations, and administrative rules applicable thereto. Likewise, PREPA and the Government of Puerto Rico may devise and offer transition or incentivized voluntary resignation plans.

All regulations adopted shall strictly comply with the provisions of Section 5.2 of Act No. 8-2017, as amended, known as the 'Government of Puerto Rico Human Resources Administration and Transformation Act.' Moreover, the concept of mobility and the mechanism established by the Government of Puerto Rico Human Resources Administration and Transformation Office (HRATO) to implement the movement of public employees, as established in Act No. 8-2017, shall apply to PREPA in accordance with said Act. Regular PREPA employees who are not selected to work for the Contractors shall retain their positions, or be transferred to another position within PREPA or other Government Entities. To such effect, and in conjunction with HRATO, PREPA shall conduct a study to identify the positions that are compatible with the training of PREPA's employees or, in lieu thereof, shall establish retraining plans in order to assign employees who are not selected to work for the Contractors pursuant to the provisions of Act No. 8-2017.

Employees who, as a result of this Act, are transferred under the concept of mobility to another government entity or who become employees of a PREPA Transaction Contractor shall keep all of their vested rights in accordance with the laws, rules, collective bargaining agreements, and regulations applicable to them, as well as the privileges, obligations, and status with respect to any existing pension or retirement plan, or savings and loan fund established by law in which such employees were enrolled before the approval of this Act and that are compatible with the provisions of Act No. 26-2017, known as the 'Fiscal Plan Compliance Act.' No regular PREPA employee shall be left unemployed nor lose benefits as a result of any PREPA Transactions."

Pursuant to Act No. 120-2018, OATRHS and the Office of Management and Budget (OMB) have identified open positions across Puerto Rico's government to ensure that jobs will be available for every PREPA employee that wants to stay employed with the Government. To that end in April 2021, PREPA and OATRHS sent more than 4,000 transfer notices to PREPA employees. Through the transfer notices, PREPA employees were notified that, in accordance with Act 8-2017 and Act 120-2018, they must report to a specific agency or instrumentality of the Government of Puerto Rico by June 1, 2021 (unless they accept positions with LUMA). Through these transfer notices, PREPA employees are offered a position within the Government of Puerto Rico. Although this is an ongoing process, OATRHS and PREPA will continue to work closely to ensure that PREPA's employees can retain government employment if they so desire.

In addition to having the option to continue working with the Government of Puerto Rico, employees may also elect to exit public service and participate in a voluntary transition program ("VTP"). The Oversight Board approved the Government's proposal to issue a VTP for non-generation PREPA employees, amended PREPA's FY2021 budget accordingly and allocated approximately \$85 million to execute it. The program, effective until May 31, 2021, will grant participants approved by PREPA six months' salary incentives and an additional \$600 payout for health-related expenses. Additionally, accrued overtime and vacation leave amounts would be payable to these employees upon termination.

3.2.2.3.3. LUMA Objectives and Performance Management

As contemplated within the LUMA Initial Budgets, LUMA will continue with an orderly transition for, and implementation of, management and operation of the T&D System while maintaining business continuity and without disrupting customer service. LUMA will also implement new policies, procedures and plans (including the Emergency Response Plan, Vegetation Management Plan, and Security Plan) which will improve the state and effective operation of the T&D System, its reliability and service to customers and the people of Puerto Rico. Key activities in the first three years of LUMA operations include the following:

- **Operations**
 - Develop and implement improvement programs that support the Recovery and Transformation Framework⁶⁰
 - Provide required ongoing safe and reliable services to customers, and
 - Optimize line and substations work and vegetation, fleet, and materials management
- **Customer Service**
 - Establish professional and courteous communication protocols and basic billing and collection practices, and
 - Capture efficiencies and demonstrate proactivity
- **Utility Transformation (UT):** Develop and implement a technical, engineering and programmatic framework required to deliver safe and reliable service to customers
- **Support Services:** Establish a safety-first culture by developing and implementing an overall IT OT framework and optimizing systems procedures and processes for functions including Finance, Regulatory and Procurement.

In addition, LUMA acknowledges that coordinated project execution on federally funded T&D related work between PREPA and LUMA is critical to ensuring an efficient transition from PREPA to LUMA. Ensuring this cooperation will significantly reduce any risk of disconnected actions and delays before commencement. In accordance with its obligations under the OMA and with PREB's directives (specifically those stated in the Resolution and Order dated November 20, 2020, in case by PREB NEPR-MI-2020-0008), LUMA has been assisting and advising PREPA as it begins execution of the FEMA-related T&D work, including the planning and critical engineering work scheduled for the first half of Calendar Year 2021 on major initial projects.

Through its activities and priorities outlined in this chapter as well as Chapter 13 and Chapter 14, LUMA is pursuing the following objectives, which are explained in more detail and linked to specific performance metrics⁶¹ in Table 3 below:

- Prioritize safety
- Improve Customer Satisfaction

60 Described in LUMA's Initial Budgets filing to PREB as the prioritization and sequencing of programs to ensure that planning and budgeting is completed in a holistic and consistent approach.

61 Performance Metrics are subject to approval by PREB.

- Achieve System Rebuild and Resiliency
- Pursue Operational Excellence, and
- Prioritize Sustainable Energy Transformation

TABLE 3: DETAILED GOALS AND OBJECTIVES⁶²

Goal	Objective	Performance Metric
Prioritize Safety	<ul style="list-style-type: none"> ▪ Promote a safe workplace. Implement procedures, controls, training programs, increase PPE, and awareness ▪ Implement effective public safety practices. Reduce public exposure to safety risks 	<ul style="list-style-type: none"> ▪ OSHA Recordable Incident Rate ▪ OSHA Fatalities ▪ OSHA Severity Rate ▪ OSHA DART Rate
Improve Customer Satisfaction	<ul style="list-style-type: none"> ▪ Deliver a positive customer experience. Improve customer service quality, accessibility, and reliability. ▪ Increase Service Reliability. Reduce the frequency and duration of interruptions to customers' electricity service ▪ Deliver electricity at reasonable prices. Reduce operating costs, technical and non-technical line losses, and reduce days sales outstanding and write-offs 	<ul style="list-style-type: none"> ▪ J.D. Power Customer Satisfaction Survey - Residential Customers ▪ J.D. Power Customer Satisfaction Survey - Business Customers ▪ Average Speed of Answer ▪ Customer Complaint Rate ▪ Abandonment Rate ▪ SAIFI ▪ SAIDI
System Rebuild and Resiliency	<ul style="list-style-type: none"> ▪ Effectively deploy federal funding. Ensure efficient management of funding, in compliance with FEMA guidelines for reimbursement ▪ Restore damaged grid infrastructure. Focus first on critical loads, severely damaged infrastructure, and vulnerable community lifelines ▪ Improve resiliency of vulnerable infrastructure. Identify and assess infrastructure and systems for vulnerability and health, to focus near-term investment 	<ul style="list-style-type: none"> ▪ Capital Budget – Federally Funded ▪ Distribution Line Inspections & Targeted Corrections ▪ Transmission Line Inspections & Targeted Corrections ▪ T&D Substation Inspections & Targeted Corrections
Operational Excellence	<ul style="list-style-type: none"> ▪ Enable systematic management of the business. Improve information systems and processes to enable systematic, data-driven, and efficient management ▪ Pursue project delivery excellence. Improve execution of capital projects (on time, budget, scope), carefully manage risk ▪ Enable employees to execute business operations systematically. Increase employee effectiveness (engagement, productivity) and 	<ul style="list-style-type: none"> ▪ Operating Budget ▪ Capital Budget – Non-Federally Funded ▪ Overtime ▪ Days Sales Outstanding - General Customers ▪ Days Sales Outstanding - Government Customers

62 LUMA Initial Budget, February 2021 Update, p.510 Appendix E

	learning (quickness to adjust, performance improvement)	
Sustainable Energy Transformation	<ul style="list-style-type: none"> ▪ Modernize the grid. Incorporate smart grid technologies into rebuilding efforts, increase hosting capacity, reduce load-shedding events, increase deployment of AMI and new DER interconnections ▪ Enable the digital transformation Upgrade IT OT capabilities, enhance cybersecurity capabilities, replace all end of use devices, upgrade software to manage the T&D system as well as economic dispatch ▪ Enable the sustainable energy transformation. Ensure system infrastructure is rebuilt to accommodate higher penetration of intermittent distributed resources, increase penetration of renewable resources and battery storage, reduce consumption through energy efficiency and DR programs 	

LUMA has translated its priorities and activities into a set of tangible improvement portfolios, which are outlined in more detail in Chapter 13 (LUMA Improvement Portfolios). As a result of its improvement programs, LUMA has projected improvements in Performance Metrics⁶³ as shown in Table 4.

TABLE 4: CUMULATIVE IMPROVEMENTS⁶⁴ IN PERFORMANCE METRICS PROJECTED BY LUMA

Performance Metric ⁶⁵	Fiscal Year 2022	Fiscal Year 2023	Fiscal Year 2024
Customer Service	11%	26%	31%
Safety	22%	36%	48%
System Average interruption Frequency Index (SAIFI)	7%	20%	30%
System Average interruption Duration Index (SAIDI)	10%	25%	40%

Based on the current known state and efficiency of PREPA’s grid operations, LUMA is aware of the challenges ahead, and is focusing efforts on key success factors to mitigate them, including

1. Safety first;
2. Data driven decision making;
3. Leading with solutions, and
4. Implement a transparent and collaborative approach to decision making.

63 System Remediation Plan, Docket ID: NERPPREB NEPR-MI-2020-0019; RFI-LUMA-MI-20-0019-210406-PREB-006, filed April 16, 2021

64 Cumulative improvements shown

65 Subject to PREB regulatory process and approval.

The risks to the T&D transformation are discussed in detail in LUMA regulatory filings with PREB. Specifically, the Program Briefs filed by LUMA within the Initial Budgets and the SRP outline risks of not proceeding within SRP Section 2.6 Program Risks.

3.2.2.4. Transitioning Legacy Generation Assets to a Private Operator

Similar to the T&D system, the electricity supply system of Puerto Rico is in the midst of a transition from a vertically integrated to a multiple party, privately owned generation system. This transition will play an integral role in boosting generation efficiency and productivity, and environmental compliance, which will have the following impact:

1. Increasing affordability of electricity
2. Improving reliability of services
3. Ensuring adherence to environmental and sustainability standards

To this end, future new generation capacity will be owned and operated by private entities; this is similar to the lowest cost independent power producers in the system today which is procured from two private power generators. The existing PREPA-owned generation asset operations will be transferred to one or more qualified third parties to operate and maintain, while those assets are duly decommissioned and retired, in accordance with the IRP and Act 17-2019. To improve the flexibility, reliability, resiliency, efficiency, and sustainability of Puerto Rico's energy supply, the transformation will include:

1. **Transition of the operation and maintenance of PREPA's legacy generation assets to one or more private operators:** Private operator(s) will be responsible for the optimal operation and maintenance of PREPA assets through a GenCo Operation and Maintenance Agreement contract structure, similar to the T&D OMA transaction, until the legacy generation units are retired and replaced by new, more efficient and compliant, privately owned generation. PREPA-owned generation assets are expected to deliver enhanced reliability and efficiency for the remainder of their operating period under the stewardship of private operators, currently being procured by the P3A through a competitive process.
2. **Replacement and modernization of the legacy generation fleet:** Puerto Rico's aging, inefficient, and unreliable generation fleet must be urgently replaced and modernized to reduce outages and generation costs as well as comply with environmental regulations. The roadmap for this modernization is the PREB-approved IRP, which outlines the actions and investment in new generation that must be procured to reduce generation costs and achieve greater reliability and resiliency. These investments include increasing the share of renewable generation through a competitive procurement process for new compliant generation capacity to be obtained via power purchase agreements. After the Service Commencement Date, the procurement of these assets will be administered by P3A, with the help of the private operator of the T&D system, i.e., LUMA. LUMA will subsequently also be responsible for integrating the capacity into the grid. This will reduce reliance on fossil fuels along with their associated price volatility and set Puerto Rico on a path to compliance with the RPS target outlined in Act 17-2019. In addition, increased flexibility and reliability will result from GridCo's deployment and integration of energy storage, distributed generation, and the use of MiniGrid/microgrid technologies.

3.2.2.4.1. Process for Transitioning Legacy Generation Assets to a Private Operator

To transform the PREPA-owned power generation operations, the P3A and PREPA, in fulfillment of public policy and as required in the Fiscal Plan, are in the process of conducting a competitive process to identify, qualify, and select one or more private operators to operate PREPA's legacy generation assets. These assets will be retired when sufficient new capacity has been brought online in accordance with the approved IRP. The competitive process is following a similar phased approach as the T&D transaction, including but not limited to the following:

- Phase I: Transaction preparation (COMPLETED)
- Phase II: Request for quote (RFQ) (COMPLETED)
- Phase III: Request for proposal (RFP) (IN PROGRESS)
 - Preparation and release of RFP documentation to shortlisted participants
 - Detailed due diligence by participants
 - Release and negotiation of transaction documents
 - RFP proposal submissions by participants
 - Selection of selected proponent by P3A Partnership Committee
- Phase IV: Closing

The target date for the selection of the Generation O&M proponent to manage PREPA legacy generation assets is August 2021.

3.2.2.4.2. Modernizing the Legacy Generation Fleet – New Generation Capacity

Future new generation capacity will be owned and operated by private entities and will meet modern operational, efficiency, environmental, and renewable standards. To this end, PREB issued a Final Resolution and Order on PREPA's IRP in August 2020. This led to PREPA's development of a detailed Procurement Plan (with PREB's guidance and approval) for renewable resources and battery energy storage to achieve compliance with the renewable portfolio standard (RPS) as articulated in Act 82-2010, the Puerto Rico Energy Diversification Policy through Sustainable and Alternative Renewable Energy Act. In addition to the Procurement Plan, all agreements to supply new generation capacity must be transparently negotiated with an eye towards maximum flexibility and efficiency, in a process free of political interference and focus on particular constituencies, but rather focused on what is necessary to improve the Island's generation capacity.

In February 2021, PREPA issued the first tranche of a series of RFPs for provision of renewable energy in support of Act 82's RPS goals, and for battery energy storage in support of capacity requirements needed to meet PREPA's peak load requirements and in support of integration requirements for renewable energy generation. The guidance for renewable energy and energy

storage RFP tranches, as well as the projected installation timeline is contained in Exhibit 20⁶⁶ and Exhibit 21.

EXHIBIT 20: YEARLY INCREMENTAL RENEWABLE GENERATION CAPACITY PROCURED AND ADDED BASED ON PREB'S GUIDANCE

✓ RFP lau

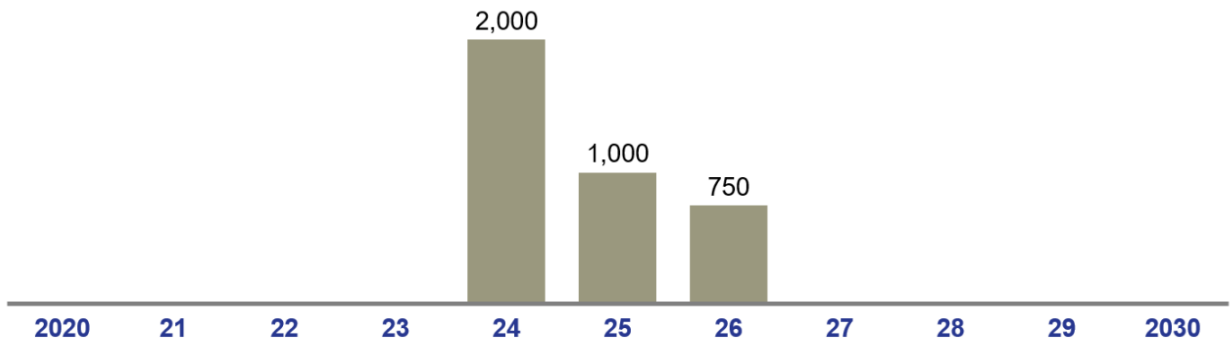
PREB guidance for procurement of renewable generation and battery storage capacity

RFP target release date	Solar PV or equivalent other energy, MW		4-hr. battery storage equivalent, MW		Tranche
	Minimum	Cumulative	Minimum	Cumulative	
Feb. 2021 ¹	1,000	1,000	500	500	1 ✓
Jun. 2021	500	1,500	250	750	2
Dec. 2021	500	2,000	250	1,000	3
Jun. 2022	500	2,500	250	1,250	4
Dec. 2022	500	3,000	125	1,375	5
Jun. 2023	750	3,750	125	1,500	6

¹ Original date was Dec. 2020, but has been updated to reflect the current review process (RFP 112648 was released on February 22, 2021)
SOURCE: PREB

EXHIBIT 21: PROJECTED INSTALLATION TIMELINE OF THE RENEWABLE GENERATION CAPACITY ORDERED BY PREB

Projected installation timeline of the renewable generation capacity ordered by PREB, in MW

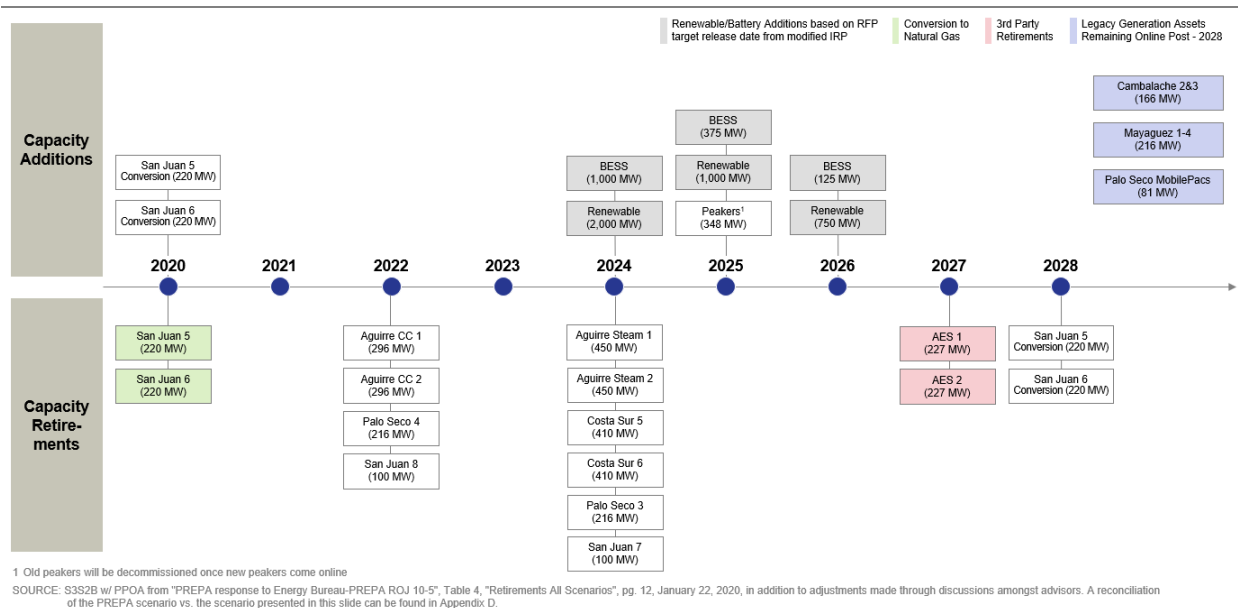


¹ Assumes RFP process takes two months, the PPOA finalization process takes one month, construction begins eight months after the PPOA approval, and commercial operations begin 24 months after construction begins

⁶⁶ The quantities outlined in the RFP tranches may be adjusted to accommodate for installations of distributed generation (DG) that contribute to meeting overall quantities and for other resources that PREPA may identify.

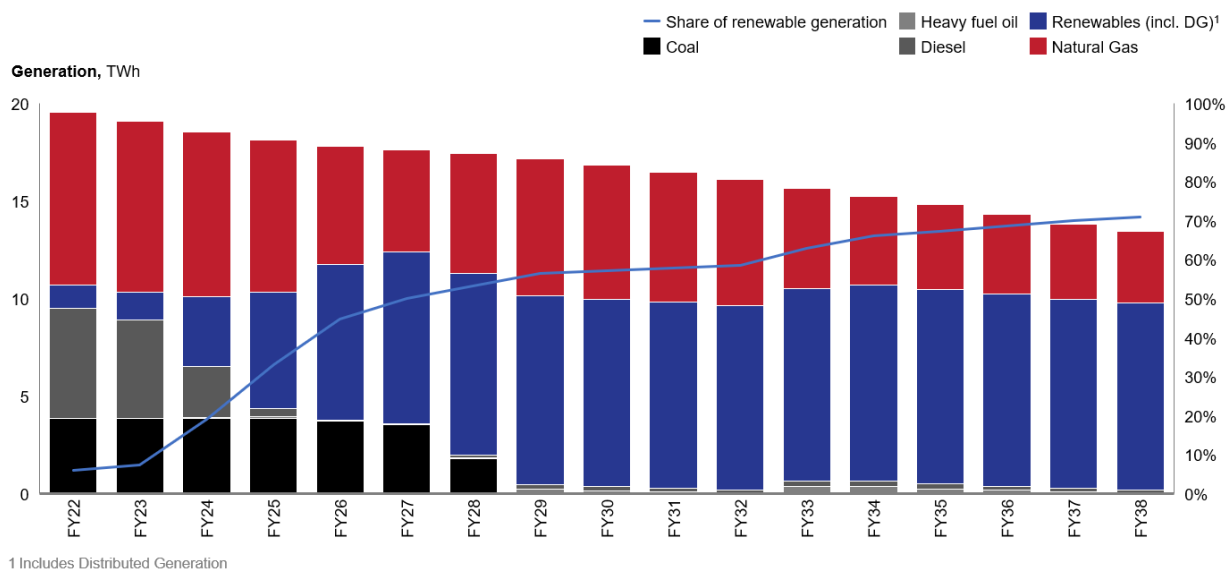
Winning proposals are expected to be selected in July 2021 with regulatory approvals expected in October 2021. In all, with the addition of the remaining five (5) RFP tranches, Puerto Rico can anticipate the procurement of 3.75 GW of renewable energy and 1.5 GW of battery storage. This procurement is intended to help Puerto Rico reach the RPS goals established in Act 82-2010, as amended by Act 17-2019 of 40% renewable generation by 2025, 60% by 2040, and 100% by 2050. Current projections in the fiscal plan based on the RFP and construction timelines estimate achieving 40% renewable generation as a percent of sales no sooner than FY2026. The RFPs are open to all forms of renewable energy, including solar photovoltaic, wind, energy storage, hydro, virtual power plants (VPPs), or any combination of those technologies.

EXHIBIT 22: IRP PREB MODIFIED ACTION PLAN



Increasing Puerto Rico’s renewable generation supply will allow PREPA to work toward achieving the RPS objectives, for which PREPA has been actively engaging in contract and RFP processes to expand its renewable PPOA portfolio. Currently, Puerto Rico generates a little over 2% of its electricity from renewable sources, while the RPS targets 40% electricity supply from renewables by 2025 and 100% by 2050. The future generation mix forecasted by PREPA is expected to reach the RPS goal of 100% renewable generation (i.e., total renewable generation as a proportion of total sales) by FY2050 (Exhibit 23).

EXHIBIT 23: PROJECTED GENERATION MIX



3.2.3 Energy sector debt restructuring

As of May 2017, PREPA had approximately \$9 billion of outstanding bond debt (in addition to other pre-petition obligations) and an unsustainable repayment schedule; PREPA would have had to repay approximately \$4.4 billion of debt service obligations between FY2018 and FY2022. PREPA's unsustainable capital structure reflects persistent operating deficits, resulting from high operating costs and an unwillingness to set rates at sufficient levels to cover costs. As long as PREPA remains in Title III, suppliers and partners may increase costs and delay progress in rebuilding after major catastrophic events (e.g., hurricanes, earthquakes, COVID-19). Chapter 15 (Debt Service) includes a further discussion of PREPA's debt.

3.3 Implementation of Puerto Rico's Energy Sector Transformation

To achieve this Fiscal Plan's savings projections, several reforms to the energy sector must be implemented immediately. Several of those measures recommended in earlier Fiscal Plans already have been completed and are listed in Exhibit 24.

Exhibit 25 describes additional mandatory reforms necessary to ensure the transformation of the electricity sector and compliance with PREPA's and the Commonwealth's Fiscal Plans, and to meet this Fiscal Plan's growth and revenue targets. Several of these reforms were outlined in the June 2019 PREPA Fiscal Plan and remain incomplete (marked with * in the exhibits below).

EXHIBIT 24: COMPLETED MILESTONES FOR POWER SECTOR REFORM

Area of focus	Action item	Responsible party	Completed
Implement regulatory reform	Provide interim feedback on PREPA's Integrated Resource Plan (IRP)	PREB	Completed
	Remove CW government approval needed for PREB staff appointments	CW government	Completed
	Revise charter legislation to provide dedicated funding for power sector regulation that provides regulator with annual budget of \$20 million in line with benchmark	CW government	Completed ¹
	Appoint the remaining PREB commissioner to serve staggered six-year terms	PREB	Completed
	Increase number of PREB staff in line with appropriate benchmarks	PREB	Completed
	Approve IRP	PREB	Completed
	Conclude and publish a study regarding an optimal CILT structure and submit a recommendation to the Governor and the Legislature	PREB	Completed
Transition to private operators	Perform market sounding to collect feedback on interests and concerns from interested parties for generation asset privatization	P3 Authority /Oversight Board	Completed
	Select a winning proponent to manage and operate PREPA's T&D system	P3 Authority	Completed
	Prepare for and launch RFQ for the selection of a proponent for PREPA's generation assets	P3 Authority	Completed
	Prepare for and launch RFP for the selection of a proponent for PREPA's generation assets	P3 Authority	Completed

¹ Partially completed. Legislation was adopted (Act No. 17), providing \$20 million in funding. However, the funding was not from a dedicated source; PREB will need to confirm completion in the near future.

EXHIBIT 25: PENDING MILESTONES FOR POWER SECTOR REFORM

Area of focus	Action item	Responsible party	Deadline
Implement regulatory reform	Create an oversight and monitoring division for LUMA operation and management agreement and other P3A deals, with experienced career civil servants and minimal trust employees	P3 Authority	June 1, 2021
	Provide FOMB with staffing plan and organizational chart outlining the monitoring and compliance division created within P3A and required funding sources.	P3 Authority/ AAFAF/ Legislature	June 1, 2021
	Amend PREB enabling act (Act 57-2014) to stipulate that PREB's budget will be funded through rates	Governor/ Legislature	December 31, 2021
	Submit implementation plan for achieving a workforce with no more than 10% trust employees.	PREB	June 30, 2021
	Reduce the percentage of trust employees to 15% of total employees	PREB	June 30, 2021
	Reduce the percentage of trust employees to 10% of total employees	PREB	June 30, 2022
	Develop a CILT process by which municipalities pay for electricity consumption not covered by CILT, and are able to file complaints related to CILT*	PREB	December 1, 2021
Transition to private operators	Select a winning proponent to manage and operate PREPA's existing generation assets	P3 Authority	First half of FY22
	Implement approved IRP and grid modernization plan to ensure a modernized, resilient, and reliable grid	PREPA	In progress
Restructure legacy debt obligations	Confirm Title III plan of adjustment	FOMB	To be determined
	Implement PREPA plan of adjustment	PREPA	To be determined

* Milestones also recommended in June 2019 Fiscal Plan

Chapter 4. Legal and Regulatory Structure

4.1 Overview of Regulatory Structure and Key Legislation

Historical Context

For much of its history, PREPA was structured as a self-regulated monopoly without a strong, independent third-party regulator. The successful transformation of Puerto Rico's energy sector into a safe, reliable, affordable, and modern system depends on the presence and active involvement of a rational, politically independent, and professionally supported regulator. The utility industry has long recognized that an independent regulator is critical to overseeing the performance of utility energy service providers and protecting the interests of consumers. The regulator plays a vital role in ensuring that: (i) energy rates are just and reasonable; (ii) targets for quality of service, efficiency improvement (including energy efficiency), and renewable resources are met; and (iii) capital spending programs are implemented on time and budget.

The Puerto Rico Energy Bureau (PREB) was established by Act 57-2014 as an independent and professional regulatory body to promote and enable transparent implementation of the Puerto Rico's energy policy. Act 57-2014 also established standards and procedures for PREB to assess and approve electricity rates, requiring that rates be "just and reasonable, as well as consistent with sound fiscal and operational practices which result in a reliable service at the lowest reasonable cost."⁶⁷

As Puerto Rico's energy sector continues its transformation into a reliable, sustainable, modern and efficient system, PREB will be responsible for promoting prudent investments, assuring increased quality of service to customers, and ensuring industry trends and technological advancements are appropriately incorporated into Puerto Rico's energy system.⁶⁸ To fully achieve its purpose, PREB must remain financially and operationally independent from the Commonwealth Government and its determinations must be free from any direct or indirect political influence or interference.

Several legislative acts have strengthened the regulatory framework and empowered PREB with greater authority and independent administrative budget, setting forth ambitious goals for private sector operations and revitalization of the energy sector.

Act 17-2019

Act 17-2019 established a comprehensive energy policy that sets forth aspirations for the transformation of Puerto Rico's electric sector and establishing regulatory guidelines for the realization of these goals. Key tenets and requirements of the Act include:

- **Unbundling – Functional Reorganization:** The Act requires the unbundling of the electric system through the transfer of operation and maintenance responsibilities of PREPA's transmission and distribution (T&D) and generation assets to private operators and prohibiting the continuation of PREPA's existing vertically integrated monopoly.

⁶⁷ Act 57-2014, as amended.

⁶⁸ Ibid.

- **System modernization and renewable energy:** Along with promoting grid resiliency through the development of microgrids for critical loads and facilities, the Act strongly promotes renewable energy and distributed generation. It updates Puerto Rico’s Renewable Portfolio Standard (RPS) (e.g., 40% by 2025, up from 20%; 60% by 2040, and 100% by 2050), allows faster permitting and interconnection for residential renewable projects, and mandates the elimination of coal-fired generation by January 1, 2028.
- **Expanded PREB authority under Puerto Rico law:** The act confirms PREB’s role as an independent, apolitical regulator and expands its authority to establish mechanisms for imposing incentives/penalties, exercise a high degree of scrutiny over maintenance of the electric network, require reports, and use alternative mechanisms to regulate tariffs based on service costs. The act also delineates PREB’s annual budget of \$20 million and makes it clear that this budget is not subject to executive or legislative approval. In addition, PREB is currently mandated to transition from its current employee structure to one with no less than 75% civil servant employees and no more than 25% trust employees.⁶⁹ The 2021 Commonwealth Certified Fiscal Plan further promotes PREB’s professionalism and expertise by mandating PREB reduce the number of trust employees to no more than 15% no later than December 31, 2021, with a further reduction to no more than 10% trust employees by June 30, 2022.⁷⁰

PREB’s Organizational Structure

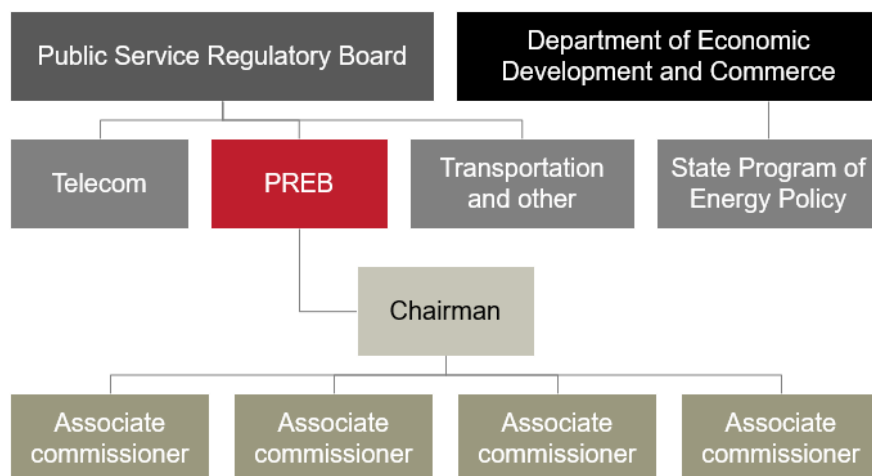
Although administratively located within the Public Service Regulatory Board (PSRB), PREB is a functionally independent entity (EXHIBIT 26). PREB is comprised of five commissioners and makes decisions with majority approval. Commissioners are appointed by the Governor with the advice and consent of the Puerto Rico Senate and serve staggered terms.⁷¹ Commissioners must meet certain requirements relating to professional education and experience to hold their position and can only be removed for just cause.

⁶⁹ See Act 17-2019, Section 5.13 amending Section 6.7(k) of Act 57-2014.

⁷⁰ “Trust employees” includes any employees that are related to political appointments, non-civil service appointments, etc.

⁷¹ PREB has its full slate of five commissioners, including the Chairman, in place. Under Act 57-2014, as amended, the terms are: The Chairman shall hold office for six (6) years, two (2) commissioners for four (4) years; and two (2) commissioners for two (2) years. The successors of all commissioners shall be appointed for six (6) year terms.

EXHIBIT 26: PREB REGULATORY STRUCTURE



4.2 Key Regulatory Issues

PREB's statutory mandate as an independent regulator is to promote an efficient, reliable, resilient, and customer-responsive energy system. As such, PREB's primary responsibilities include (1) rate setting, (2) Integrated Resource Plan (IRP) approval and compliance, (3) protecting the interests of customers and consumers, and (4) ensuring workforce safety.

Pursuant to its enabling act, as amended, PREB is responsible for the oversight and implementation of Puerto Rico's energy public policy, including the various transformations currently under way with PREPA's T&D system and the legacy generation assets. Some of PREB's more important responsibilities include:

- **Oversight & Execution** – exercising direct oversight responsibilities of, and ensuring execution by, all energy market participants (including the T&D operator, operators of existing generation assets and current and new independent power producers, etc.) to ensure full compliance with energy public policy goals as mandated by law. This includes (a) overseeing the quality and reliability of the electric power services provided by PREPA and any other electric power company certified in Puerto Rico, and (b) formulating and implementing strategies to achieve the objectives of Act 57-2014 as amended by Act 17-2019, including, but not limited to reducing and stabilizing energy costs permanently, and controlling volatility in the price of electricity in Puerto Rico – ensuring that prices are fair and reasonable, consistent with the public interest, and compliant with the parameters established by PREB through regulations.
- **Rates and Resource Planning** – reviewing rates and approving those found to be just and reasonable, ensuring expenditures in the energy system are prudent and consistent with energy public policy, and ensuring appropriate long-term resource planning through the periodic review and updates of IRPs and other capital investment plans.

- **Transparency** – requiring any electric power service company certified in Puerto Rico to keep, maintain, and regularly submit to PREB those records, data, documents, and plans that are necessary to attain the public policy objectives of Act 57-2014 as amended by Act 17-2019.
- **Renewable energy portfolio standards** – supporting investments in generation and related resources directed at reaching Puerto Rico’s RPS of 40% by 2025, 60% by 2040, and 100% by 2050.
- **Net metering** – establishing and periodically updating Puerto Rico’s net metering program so that it both promotes cost-effective investment in renewable energy systems and ensures appropriate recovery of costs among customer classes.
- **Wheeling and cost unbundling** – establishing the rules and regulations for the unbundling of PREPA costs and the proposal of new industry structures to introduce competition among generators to provide services, primarily to large industrial customers.
- **Contributions in lieu of taxes (CILT)** – ensuring full compliance by PREPA and the municipalities with the establishment of CILT-eligible consumption levels and the billing, collection, and payment of amounts relating to electricity consumption by municipalities in excess of the CILT-eligible consumption levels. PREB is also required to submit to the Puerto Rico Legislature a study regarding potential alternatives for optimizing the value and benefits of the CILT structure to municipalities and to PREPA.
- **Energy Efficiency (EE)** – adopting regulation to establish framework ensuring that Puerto Rico reaches the goal of thirty percent (30%) cumulative reduction in energy usage from energy efficiency by 2040 compared to PREPA’s FY2019 net utility sales, using an array of energy efficiency programs that will be available to all customer classes, including municipalities. PREB’s recently published proposed regulation⁷² provides that PREB develops annual energy efficiency targets, and orders PREPA to develop Three-Year EE plans to implement the aforementioned programs in a three-year cycle. The first of the plans shall be filed with PREB on December 1, 2021, and PREB shall issue a decision no later than July 1, 2022, which is the start of the second Program Year.

Currently, PREB is the power sector’s regulator and obtains its powers from the Legislature. The Oversight Board has ultimate responsibility under PROMESA on fiscal plan and budget issues for the Commonwealth, PREPA, and other covered territorial instrumentalities. PROMESA provides the Governor and Legislature may not enact or implement any statute, regulation, policy, or rule that impairs or defeats the purposes of PROMESA as determined by the Oversight Board. Because PREB receives its powers from the Legislature, it is subject to the same constraints as the Legislature because the Legislature cannot grant PREB greater powers than the Legislature has. Therefore, in the event PREB’s actions impair or defeat PROMESA’s purposes, as determined by the Oversight Board, the Oversight Board can enforce PROMESA’s constraints by directing PREB and seeking judicial intervention when necessary. To ensure PREB becomes a best-in-class regulator, the Oversight Board has included a few structural changes in the 2021 Commonwealth Fiscal Plan.⁷³

⁷² Notice of Proposed Regulation and Request for Public Comments, Case No.: NEPR-MI-2021-0005

⁷³ 2021 Commonwealth Fiscal Plan, Chapter 10, “Power Sector Reform”

4.2.1 Guiding Principles for Ratemaking

To achieve an optimal rate structure, PREB is required by law to consider the following non-exhaustive set of guiding principles for Ratemaking:⁷⁴

- **Just & Reasonable:** PREB must ensure that rates are just and reasonable and consistent with sound fiscal and operational practices which result in a reliable service at the lowest reasonable cost
- **Fiscal responsibility:** Rates must be sufficient to ensure or to cover payment of bond and other financial obligations, fuel and purchase power costs, and the costs of electric utility operations, including operating costs, capital requirements, and other obligations.
- **Affordability:** The Ratemaking process should account for customer socioeconomic factors (e.g., consideration of subsidies and other cost-allocation measures).
- **Cost causation/cost of service allocation:** Customer electricity rates are based on the cost of providing service to a specific type or class of customer, except where otherwise mandated by law (e.g., subsidies for low income, hotels, senior citizens).
- **Transparency:** Rate components and calculation methodology must be clearly communicated (fixed monthly and volumetric consumption), providing customers with detailed information on the costs covered by rate components.
- **Policy alignment:** Customer behavior is incentivized to be consistent with energy public policy (e.g., promote improvements in energy efficiency, reward customers for reliability benefits associated with customer-owned resources, encourage achieving renewable portfolio standards).

4.2.2 PREPA's Current Rate Structure

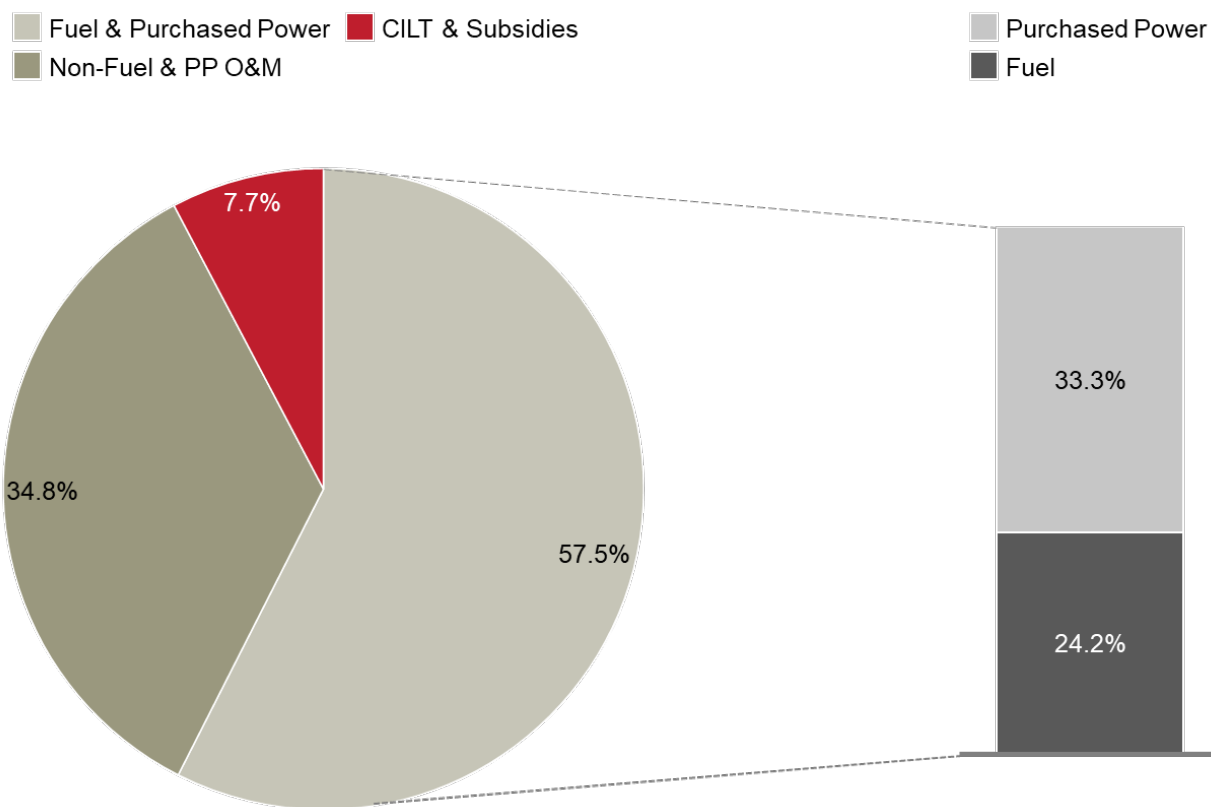
The current rate structure was established and approved within PREB's Resolution and Order in case CEPR-AP-2015-0001 dated March 8, 2017. The Initial Budgets for LUMA Energy, LLC (LUMA), the selected T&D system private operator, as proposed, are within the limits of the base rate approved by PREB and implement methodologies consistent with riders associated with the 2017 Rate Order. LUMA is not seeking a base rate increase or revision in connection with or because of the LUMA Initial Budgets. The 2021 Fiscal Plan's FY2022 through FY2024 expense forecast reflects LUMA's Initial Budgets.

Overview of PREB-Approved Rates

The 2017 rate order establishing PREPA's new rate structure marked a meaningful step toward greater transparency by separating CILT and subsidy riders from the fuel and purchased power rate components. In FY2022, the projected rate components are 7.7% for CILT and other subsidies, 34.8% for base rate, including utility operating and maintenance costs, and 57.5% for power generation costs (EXHIBIT 27). PREB has also begun a process to unbundle rates wherein the current base rate, which covers O&M costs, will be separated between Generation and T&D system services.

⁷⁴ PREB's authority to review rates and approve modifications or temporary adjustments are established under Section 2.8 of Act 57-2014, which amends Section 6(B) of Act 83-1941.

EXHIBIT 27: FY2022 OVERALL RATE COMPOSITION



Significant work remains to achieve a rate structure that covers relevant operational, maintenance, and capital expenditures for the benefit of customers and consumers while also encouraging sustainable economic development. The regulatory reform that has been set in motion will allow Puerto Rico’s electric system to better serve its customers reliably and cost effectively.

4.3 Overview of CILT Reform

The Government of Puerto Rico has made significant changes in the treatment of the CILT by enacting Act 57-2014 and Act 4-2016. Under the revised rate structure, PREPA recovers the cost of CILT via the CILT and a subsidies rider on customer bills. The CILT rider provides greater transparency and accountability for customers and establishes incentives for improved municipal energy efficiency. Any additional reductions or amendments would require further legislation.

Actions taken to implement CILT reform include the following:

- **Transparent billing:** CILT costs are shown as a separate line item in customer bills.
- **New treatment for ineligible service accounts:** Removed municipal for-profit and other ineligible entities from receipt of the CILT electric service credit.

- **Municipal consumption cap:** Legally established total consumption (kWh) cap was implemented during FY2017 on the municipal CILT per municipality and reduced by 15% over following three fiscal years (5% each year).
- **Energy efficiency incentives:** A mechanism that promotes energy efficiency and additional savings above the mandated total consumption cap imposed on municipalities by Act 57-2014; municipalities would receive a payment from PREPA for the value of the difference between the mandatory total consumption cap and actual consumption, which would only be payable if all municipalities, in the aggregate, comply with their respective caps.

In FY2020, the CILT rider amounted to approximately 4% of the average customer rate.

- **Excluded Consumption and Consumption Above the Consumption Cap:** In FY2017, the first year of the CILT consumption cap, municipalities' consumption in excess of the eligible consumption cap and consumption at ineligible (e.g. "for-profit") facilities was approximately \$20 million. In FY2019, this figure declined to \$18.5 million and declined further in FY 2020 to approximately \$17.3 million.
- **Eligible Consumption Below the Consumption Cap:** The total cost of eligible municipal consumption declined from \$82.9 million in FY2017 to \$68.3 million in FY2020. Actual municipal consumption during FY2019 was 283 million kWh, 22% below the cap of 363 million kWh. During FY2020, the eligible municipal consumption decreased further to \$68.3 million and 277 million kWh, 24% below the cap. The decrease from FY2019 to FY2020 was likely due in part to COVID-19 impacting the final months of FY2020. Municipal consumption for FY2021 is expected to be noticeably impacted by the closure of municipal offices and facilities due to COVID-19.

Act 17-2019 required PREB to study "the implementation, effectiveness, cost-benefit, reasonableness, and economic impact of the contribution in lieu of taxes (CILT)" to determine the need for reform. Specifically, under Section 1.18 thereof, PREB was required to conduct a study on the implementation, effectiveness, cost-benefit, reasonableness, and economic impact of the CILT to determine the need and convenience, if any, of reforming this mechanism and the subsidies. The results of this study were completed by October 2020 and published⁷⁵ and submitted to both Houses of the Legislative Assembly for contemplation and consideration of any necessary legislation.⁷⁶

The key milestones completed in FY2021 for CILT reform are described in brief below:

- **October 21, 2020:** as required by law, PREB completed, and its commissioners approved, the study regarding the implementation, effectiveness, cost-benefit, reasonableness and economic impact of CILT and other subsidies.
- **December 15, 2020:** PREPA completed development of a process to categorize properly municipal accounts as eligible or ineligible for CILT and has implemented the process for municipalities to pay for electricity consumption not covered by CILT and to file complaints related to CILT before PREB.

⁷⁵ <https://energia.pr.gov/wp-content/uploads/sites/7/2020/10/Resolucio%CC%81n-y-Orden-NEPR-IN-2019-0003.pdf>

⁷⁶ Act 17-2019, Section 1.18.

4.4 The Role of PREB and Regulatory structure after T&D transformation

Pursuant to Act 57-2014, as amended, PREB has jurisdiction over PREPA and all other electric service companies operating in Puerto Rico. Act 17-2019 broadened PREB's authority and increased its budget substantially. Of particular relevance to the ongoing transformation efforts, Act 17-2019 entrusts to PREB oversight responsibility for electric system planning and operation, including the evaluation and approval of Integrated Resource Plans, and for approval of power purchase agreements and of Partnership Contracts implementing the transformation process defined in Act 120-2018.

Under the T&D OMA, LUMA⁷⁷ will act as agent for PREPA (the T&D System Owner⁷⁸) in regulatory proceedings before PREB and in making all required filings and applications for Governmental Approvals⁷⁹. For the avoidance of doubt, LUMA does not set the energy policy of Puerto Rico. Furthermore, the T&D OMA requires LUMA to comply with the public policy and regulatory framework for transforming the Puerto Rico electric system. LUMA is required to interact, work, and comply with PREB on several processes and roles including, but not limited to, (1) rate cases, (2) IRPs, (3) Power Purchase Agreements (PPAs), (4) environmental compliance, (5) energy efficiency mandates, (6) renewable portfolio standards, (7) resource procurement, and (8) customer complaints.

The T&D OMA further guarantees that PREB retains all rights, responsibilities or authority over the T&D System, Owner or Operator.⁸⁰ PREB's regulatory authority and oversight, as outlined and summarized in this chapter, is and will continue to be, highly relevant for LUMA, and for any other private operator that may be selected as part of the ongoing PREPA legacy generation O&M public-private partnership. The safeguards provided by a strong, independent regulator like PREB will remain firmly in place following the T&D transformation.

77 LUMA Energy, LLC ("ManagementCo") and LUMA Energy ServCo, LLC ("ServCo" and, together with ManagementCo, "Operator"), Puerto Rico Transmission And Distribution System Operation And Maintenance Agreement, p. 8.

78 The Puerto Rico Electric Power Authority ("Owner"), id.

79 Puerto Rico Transmission And Distribution System Operation And Maintenance Agreement, p. 24

80 "notwithstanding anything to the contrary..., no provision of this Agreement shall be interpreted, construed or deemed to limit, restrict, supersede, supplant or otherwise affect, in each case in any way, the rights, responsibilities or authority granted to PREB under Applicable Law with respect to the T&D System, Owner or Operator." Section 20.17, OMA Agreement, p. 165.

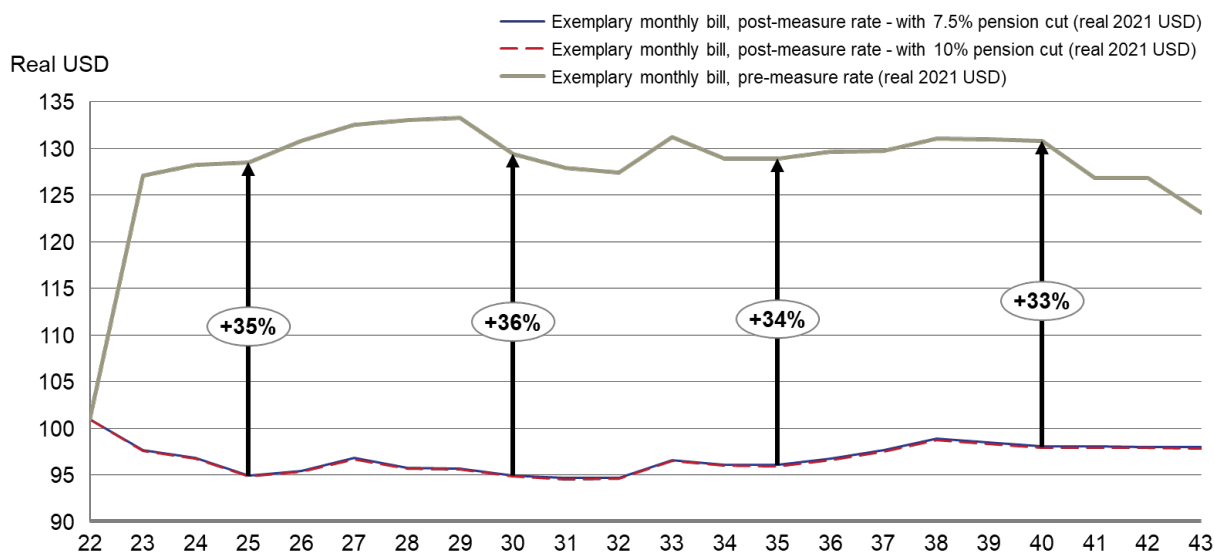
Chapter 5. Summary of Financial Projections

The following chapters of the 2021 Fiscal Plan give an overview of PREPA’s projected financials, both for the near term (next 5 years) and the longer-term (next 30 years). These projections reflect the potential impact of external factors (e.g., projected changes in fuel prices and the macroeconomic outlook for Puerto Rico), as well as the potential impact of internal developments (e.g., the ongoing transition to LUMA, the planned and initiated integration of renewable generation capacity, and the conversion of San Juan Units 5 & 6 to natural gas, to name a few). The projections reflect the expected positive impact of PREPA’s ongoing transformation, including the initiatives and operational measures that are in implementation or planned for by PREPA and LUMA. For example, the expense projections incorporate LUMA’s February 24, 2021, Initial Budget filings, which outline efficiency gains and factor in additional expense measures such as fuel cost reduction initiatives. For this reason, the next three chapters also show three separate entities that will make up PREPA in the future – HoldCo, GenCo, and GridCo. Expenses will be split according to their specific roles and responsibilities. Chapter 3 (Transformation), as well as Chapters 9 (Operational Measures) and 13 (LUMA Improvement Portfolios), outline the impact of PREPA’s transformation as well as specific operational measures. The projections in this and the following two chapters are consistent with the macroeconomic assumptions underlying the Commonwealth Fiscal Plan and assume full compliance with Act 17-2019 and Integrated Resource Plan (IRP) resource planning mandates.

5.1 Forecast Electricity costs for an average Puerto Rico Home

The Puerto Rico Electric System will undergo massive changes in the next 10 years with the transition of the operation of the T&D system to LUMA, future introduction of a GenCo operator, transition to renewable power generation, and the restructuring of legacy debt. For an average ratepayer the impact of the transformation will mean a savings of ~\$38/month in electricity costs (in FY2029). Exhibit 28 shows the average monthly bill paid by an average customer who consumes ~500 kWh per month today. The exhibit reflects two scenarios: (i) A “pre-measure” scenario in which the transformation of PREPA and Puerto Rico’s energy sector have not been completed and Puerto Rico’s residents pay for legacy debt and pension obligations in full, but do not see the benefits of the transformation. Rates consistent with this scenario are called pre-measure rates; and (ii) a “post-measure” scenario, in which the transformation is assumed to be completed over the course of the Fiscal Plan’s projection horizon. Rates consistent with the second scenario are called post-measure rates, and do not include payments for legacy debt payments. They do include payments for restructured pensions. Both scenarios include the load and rate impacts of distributed generation (DG) and energy efficiency (EE), consistent with the projected Act-17 compliant energy efficiency measures from the IRP and this Fiscal Plan. As a result of the energy efficiency measures, in both scenarios monthly electricity consumption is assumed to decline over time. As a result of the projected decline of per customer electricity consumption as well as the stable post-measure electricity rates projected in this Fiscal Plan, monthly electricity bills in the post-measure scenario are not expected to increase, excluding rate components needed for payment of legacy obligations under any Title III plan of adjustment. This illustrative exercise however excludes any potential effects from Electric Vehicles (“EV”) and other electrification, which could lead to an increase in demand and offset the load decline driven by EE and DG.

EXHIBIT 28: EXEMPLARY MONTHLY ELECTRICITY BILL⁸¹ BASED ON PRE- AND POST-MEASURE RATES (REAL 2021 USD)



5.2 Baseline rate and Revenue Requirement

To project and measure the impact of PREPA’s ongoing transformation and of additional financial and operational initiatives and to estimate the resulting improvements in rates, this chapter first establishes a baseline rate projection. This baseline projection corresponds to the pre-measure scenario outlined in section 5.1 above, and does not take into account the implementation of any planned financial or operational measures to be implemented by PREPA or LUMA (e.g., fuel supply renegotiation), does not assume the restructuring of legacy debt and pension obligations, and instead includes the full cost for unstructured debt and pensions. It also does not incorporate the projected benefits of the transition to LUMA. As such, the baseline rate reflects the hypothetical state of the world in which PREPA does not proceed with the transformation or the transition to LUMA, and does not implement any operational measures, and consequently does not see the substantial financial and operational benefits from the transformation. The baseline rate – or pre-measure rate - projection is therefore the scenario against which all initiatives can be measured in terms of rate savings to ratepayers. Additionally, the difference between the pre- and post-measure rate in any given year shows the benefit to customers from PREPA’s transformation.

All rates in this Fiscal Plan - whether pre- or post-measure – are based on revenue requirements. This means that the rates are approved by the regulator, i.e., PREB, as such that they provide PREPA with the revenue that it requires to pay for all the projected cost needed to provide adequate service to its customers. Therefore, since PREB will approve the actual rates that ratepayers will pay subject to regulatory rate making processes which incorporate a wide range of factors, the pre- and post-measure rate projections are illustrative and useful for stakeholder

81 Rate with restructured pension payments, without debt payments

planning and to quantify benefits of the transformation shown through stable rates. They might not reflect the actual rates in place in Puerto Rico.

FY2021 is the last fiscal year in which expenses for GenCo and GridCo will be consolidated for reporting. FY2022 onwards, after the transition to private operators, the 2021 Fiscal Plan assumes that three units will be reported – GenCo, GridCo, and HoldCo.

Baseline rate projections in real 2021 dollars are shown in Exhibit 29 below. They show that absent any transformation of PREPA, and without the benefits of any financial or operational initiatives, customers would have to pay electricity rates of 25.7 to 27.4 c/kWh, between FY2023 and FY2026, an increase of 5.5 to 7.2 c/kWh, when compared to FY2022 rates.⁸² Over the next thirty years, baseline or pre-measure rates - i.e., rates without the positive impact of PREPA's ongoing transformation - are expected to further increase to approximately 31.1 c/kWh in real terms by FY2041 largely driven by declining demand, as fixed cost are spread across a lower number of kilowatt-hours. The high and increasing baseline rates shown below illustrate the need for a comprehensive transformation of PREPA, as outlined in Chapter 3 (Transformation), and Chapters 9 (Operational Measures) and 13 (LUMA Improvement Portfolios).

Several additional major factors beyond the initiatives and the transformation mentioned above could potentially have a large effect on future rates. They can be broadly categorized into expense related and demand related factors.

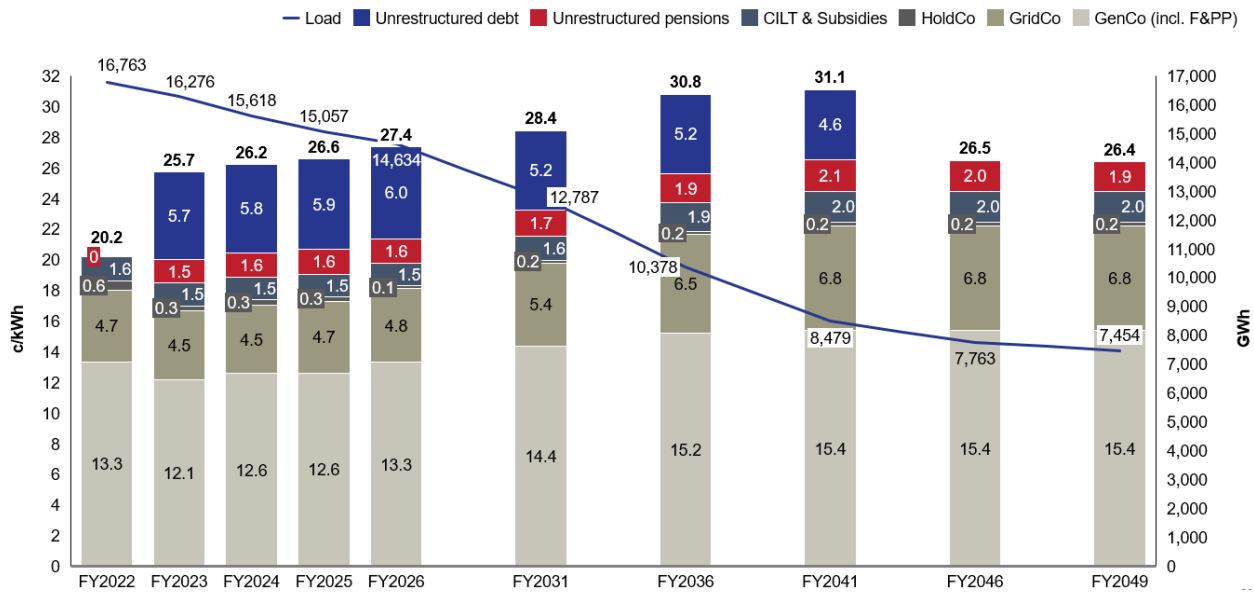
- **Expense related factors:** As explained above, as rates are based on revenue requirements, if PREPA's expenses go up, rates will have to increase, too, to ensure PREPA has the funds to cover these expenses. Most of PREPA's utility operating costs can be projected in a predictable manner based on the PREPA and LUMA base cost expenses with inflation. Some costs, however, are dependent on third party process and political outcomes and market factors.
 - One of the factors that could lead to increased expenses – and therefore to rate hikes – is the 10% cost-share requirement that PREPA has to cover for federally funded capital expenditures. PREPA currently assumes that it can cover the cost-share requirement by funds from HUD-CDBG (see Chapter 12 on Federal Funding). If the cost-share cannot be covered by CDBG, rates will increase by an incremental 0.9 c/kWh by FY2024 in real terms.
 - Another influencing factor is the market price for fossil fuel. At this point in time PREPA is still highly reliant on diesel, heavy-fuel oil, and coal, which are subject to price volatility.

Demand related factors: If demand increases, PREPA's fixed cost e.g., administrative cost, debt, and pensions, among others – the costs of utility operations that are not dependent on how much power is generated (e.g., fuel), – are spread across a higher numbers of kilowatt-hours, reducing the rate per kwh. Conversely, if demand decreases, rates per kwh go up. Therefore, several factors related to electricity demand have a potentially high impact on future rates. Key factors include usage of and electricity demand from electric vehicles, energy efficiency, and distributed generation. Electric vehicles have the potential to increase demand as more customers charge their vehicles by

82 FY2022 has been used as the base year to determine rate comparisons.

connecting to the power grid. Energy efficiency initiatives (e.g., transition to higher efficiency air conditioning units and other appliances) will result in a lower demand per customer or less power required from the system to support the same customer activities. Installation of distributed generation (e.g. rooftop solar on residential homes) will decrease demand in the system as these customers generate their own power for at least some of their needs. Chapter 6 (Revenue) provides a discussion of the Puerto Rico load and rate impact of the factors.

EXHIBIT 29: REAL REVENUE RATE REQUIRED, PRE-MEASURE RATE INCLUDING PAYMENTS FOR UNRESTRUCTURED PENSION AND UNRESTRUCTURED DEBT (C/KWH), AND LOAD (GWH)



5.3 FY2021 Baseline and Future Revenues and Expenses

5.3.1 Revised Financial Projection for FY2021

The Oversight Board approved a revised compliant FY2021 budget for PREPA on May 11, 2021. The certified budget included the recognition of balance sheet items pertaining to the establishment of operating reserve accounts and the approval of a government sponsored Voluntary Transition Program for PREPA employees (see Chapter 3 (Transformation) for details). For FY2021, PREPA was expected to register a deficit of \$203 million through the period end. Currently, PREPA results provide an estimated deficit at fiscal year-end of approximately \$245 million, mainly driven by increased fuel costs.

5.3.2 Baseline Financial Projection for FY2022

For the FY2022 period, the Fiscal Plan assumes a fiscal year-end surplus of approximately \$8 million. Surplus amounts are achieved driven by increased economic recovery and higher revenues forecasted and are complemented with expected operational efficiencies to be achieved

through the T&D operator transition and savings from the labor impact of the FY2021 government sponsored voluntary transition program.

EXHIBIT 30: FY2021 NEAR TERM FINANCIAL PROJECTIONS COMPARISON⁸³

(\$ Millions)	<i>Preliminary and subject to material change</i>			
	FY 2021 Budget	FY 2021 Actuals Q3 YTD	FY 2021 Projected	FY 2022 Projected
Gross Revenue	\$3,049	\$2,314	\$3,170	\$3,431
Other Income	\$29	\$30	\$31	\$31
Bad Debt Expense	(\$68)	(\$50)	(\$69)	(\$63)
CILT & Subsidies Reduction	(\$262)	(\$125)	(\$233)	(\$265)
Total Revenue	\$2,747	\$2,169	\$2,900	\$3,133
Operating Expenses				
Fuel	\$835	\$893	\$1,106	\$1,141
Purchased Power - Conventional	\$714	\$516	\$694	\$740
Purchased Power - Renewables	\$87	\$57	\$78	\$87
Total Fuel and Purchased Power	\$1,636	\$1,466	\$1,879	\$1,968
Salaries & Wages	\$215	\$149	\$203	
Pension & Benefits	\$122	\$81	\$114	
Overtime Pay	\$53	\$36	\$48	
Overtime Benefits	\$6	\$4	\$5	
Total Labor Operating Expense	\$396	\$270	\$370	\$317
Total Voluntary Transition Program	\$85	-	\$85	-
Total Non-Labor Expense	\$483	\$295	\$448	\$485
T&D Operator/LUMA Expenses	\$135	\$93	\$148	\$125
Total Maintenance Expense	\$215	\$139	\$215	\$230
Federal Funding Cost Share	-	-	-	-
Total Operating & Maintenance Expense	\$2,950	\$2,263	\$3,145	\$3,126
Balance	(\$203)	(\$94)	(\$245)	\$8

5.3.3 Forecasted Revenues

Electric power consumption in Puerto Rico is anticipated to decline 13% from FY2022 through FY2026 due to declining population and weak macroeconomic conditions. PREPA's revenues are expected to follow a gradual decline in line with the projected decline in sales (Exhibit 31**Error! Reference source not found.**). The combined effects of energy efficiency and

83 Totals may vary slightly due to rounding. The actual fuel costs incurred in FY2021 are higher than budgeted due to higher utilization of more expensive diesel generation after the shutdown of Costa Sur power plant due to earthquake damage. Crude Oil prices have also been steadily rising in the market and are currently +30% year-to-date.

distributed generation are expected to further decrease overall electricity consumption. Chapter 7 (Expenses) discusses the load impact of EE, DG, and also electric vehicles in more detail.

EXHIBIT 31: 30-YEAR SALES AND REVENUE PROJECTIONS (GWH AND USD MILLION, REAL 2021 DOLLARS)

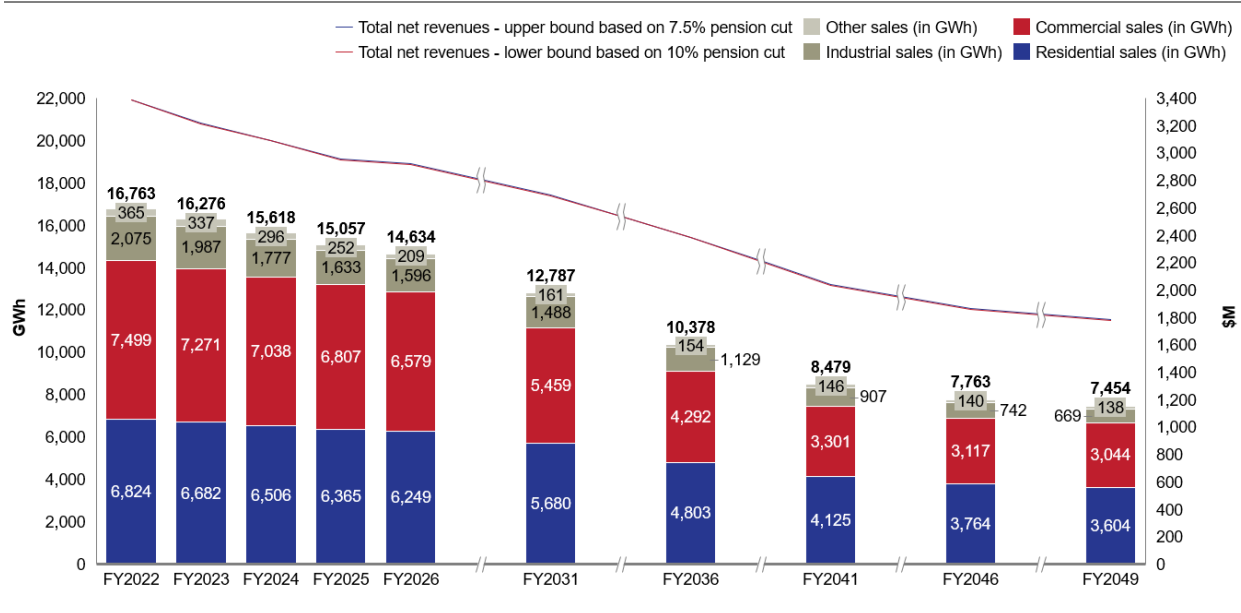
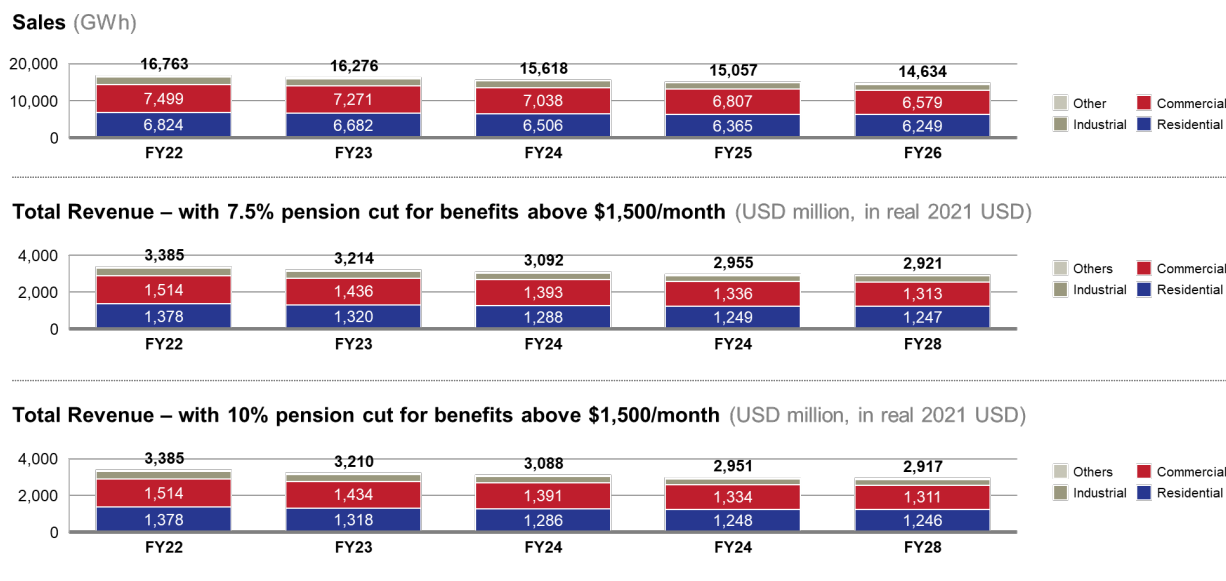


EXHIBIT 32: SALES AND REVENUE PROJECTIONS FY2022-2026, UNDER TWO DIFFERENT PENSION RESTRUCTURING SCENARIOS

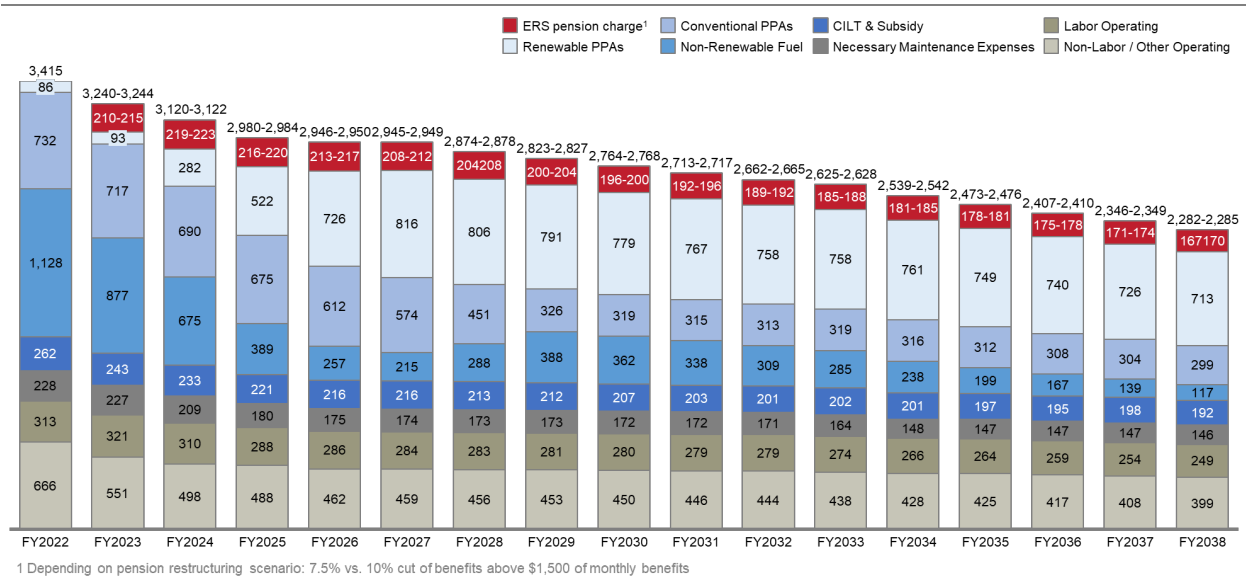


5.3.4 Forecasted Expenses

Overall expenses are projected to decrease over the next ~20 years in real terms. This is partially driven by decreasing labor and non-labor operating costs. Additionally, specific budget line items including Title III expenses and costs will likely decline after FY2022, due to the expected exit of PREPA from Title III bankruptcy.

Most notably, however, the overall decline in expenses is driven by decreasing generation cost as renewable power replaces outdated and inefficient oil-based generation with linked to volatile oil and gas prices. As the share of renewable generation capacity is increasing over the coming years, the cost associated with non-renewable fuel and power is expected to decline quickly until FY2027. As cheap but polluting coal generation is projected to be phased out in FY2028 (Exhibit 33 **Error! Reference source not found.**), non-renewable fuel expenses are projected to increase again. However, thereafter, fossil fuel related costs are projected to decline steadily as more renewable generation comes online. Expenses for renewable PPAs is projected to increase over the same time period, consistent with Act 17-2019’s mandate to increase the share of renewable generation. Chapter 7 (Expenses) provides a more detailed discussion of PREPA’s expense projections.

EXHIBIT 33: CONSOLIDATED FORECAST EXPENSES UNTIL THE END OF THE IRP, EXCLUDING DEBT SERVICE (USD MILLION, REAL 2021 DOLLARS)



Chapter 6. Revenue

Understanding load, electricity sales, revenues, and the underlying drivers is crucial for utilities as it enables accurate planning for investments into generation and the T&D system. This chapter provides an overview of PREPA's revenue compared to its budget, and discusses load projections, the underlying drivers, including emerging drivers like electric vehicles, as well as key assumptions that impact revenue projections.

Overall, as described in section 5.3.3 above, Puerto Rico is anticipated to experience a 13% decline in electric power consumption from FY2022 through FY2026. PREPA's revenues are expected to follow a gradual decline in line with the projected decline in sales (Exhibit 31**Error! Reference source not found.**).

6.1 FY2021 Actual Revenue Against Budget

According to the latest projections for FY2021, PREPA will have gross revenues of \$3.2 billion, i.e., revenues from electricity sales without any adjustments. This compares to a budgeted amount of ~\$3.0 billion (see Exhibit 30 above). The difference is driven by higher than projected load and associated electricity sales that are above the budgeted amounts (see Exhibit 36).

During the first three quarters of FY2021, PREPA's gross revenues⁸⁴ were approximately 1% above the projected amount (see Exhibit 34). The FY2021 YTD revenue numbers illustrate the impact that lockdown restrictions had on different customer classes: The positive variance of total gross revenue for the period is only due to higher than budgeted revenues from residential customer (Exhibit 35**Error! Reference source not found.**). Revenues from all other customer classes have been below the budgeted amounts. Overall monthly billed sales figures during the first 9 months of FY2021 have been above budget for most months, and on average 3% higher than projected (see Exhibit 36).

84 Gross revenues include revenues collected from customers for consumption, whereas consolidated revenues include revenues collected from customers for consumption, revenue for other income sources, and other adjustments (bad debt expense, CILT and subsidies, etc.).

EXHIBIT 34: FY2021 YTD (MARCH) BUDGET VS. ACTUALS (USD MILLION)

Expenses	<i>Preliminary and subject to material change</i>				
	Budget YTD Q3	Actual YTD Q3	Prior Year YTD Q3 - FY20	FY21 Budget vs Actuals YTD VAR	FY20 Vs FY21 YTD VAR
Gross Revenue	\$ 2,286	\$ 2,314	\$ 2,754	\$ 28	\$ (440)
Other Income	22	30	30	8	0
Bad Debt Expense	(51)	(50)	(47)	1	(3)
CILT & Subsidies	(196)	(125)	(213)	71	88
Total Consolidated Revenue	\$ 2,060	\$ 2,169	\$ 2,524	\$ 109	\$ (355)
Operating Expenses					
Fuel	621	893	1,192	271	(299)
Purchased Power - Conventional Power	537	516	488	(21)	28
Purchased Power - Renewable Power	66	57	51	(8)	6
Total Fuel and Purchased Power	\$ 1,224	\$ 1,466	\$ 1,731	\$ 242	\$ (266)
Salaries & Wages	155	146	150	(9)	(4)
Pension & Benefits	92	85	83	(8)	1
Overtime Pay	39	36	42	(3)	(6)
Overtime Benefits	5	4	4	(1)	(0)
Total Labor Operating Expense	\$ 290	\$ 270	\$ 279	\$ (20)	\$ (9)
Total Voluntary Transition Program	\$ -	\$ -	\$ -	\$ -	\$ -
Total Non-Labor/Other Operating Expense	\$ 464	\$ 388	\$ 232	\$ (75)	\$ 157
Total Maintenance Projects	\$ 161	\$ 139	\$ 108	\$ (23)	\$ 31
Total Expenses	\$ 2,139	\$ 2,263	\$ 2,350	\$ 124	\$ (87)
Balance	\$ (79)	\$ (94)	\$ 174	\$ (15)	\$ (268)

EXHIBIT 35: FY2021 YTD REVENUE VARIANCE VS BUDGET BY CUSTOMER CLASS (USD MILLION)

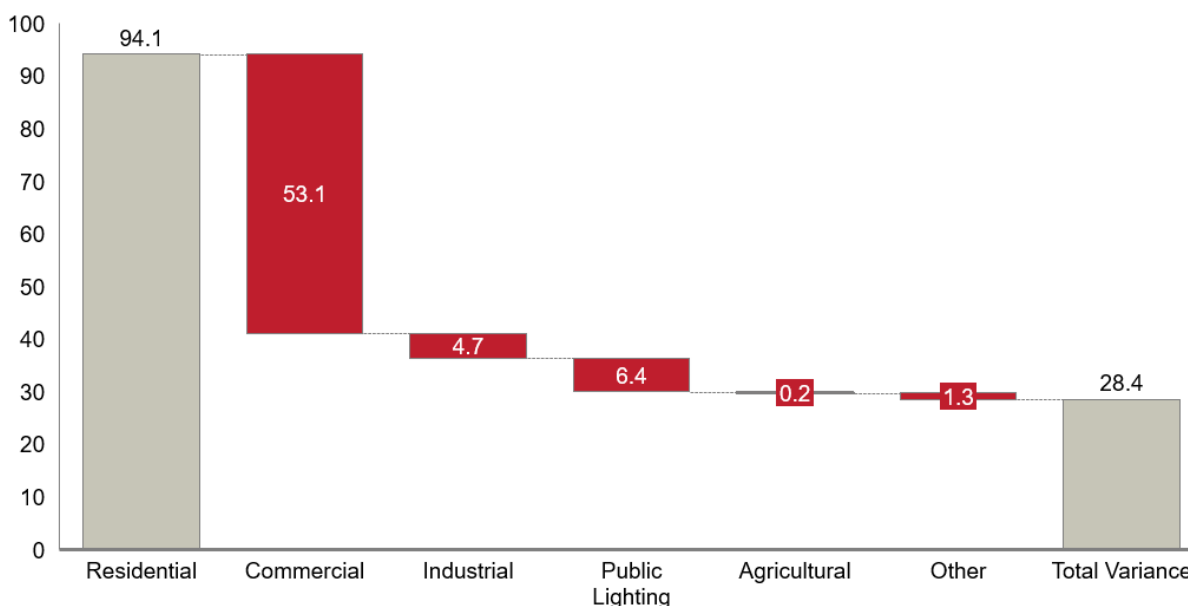
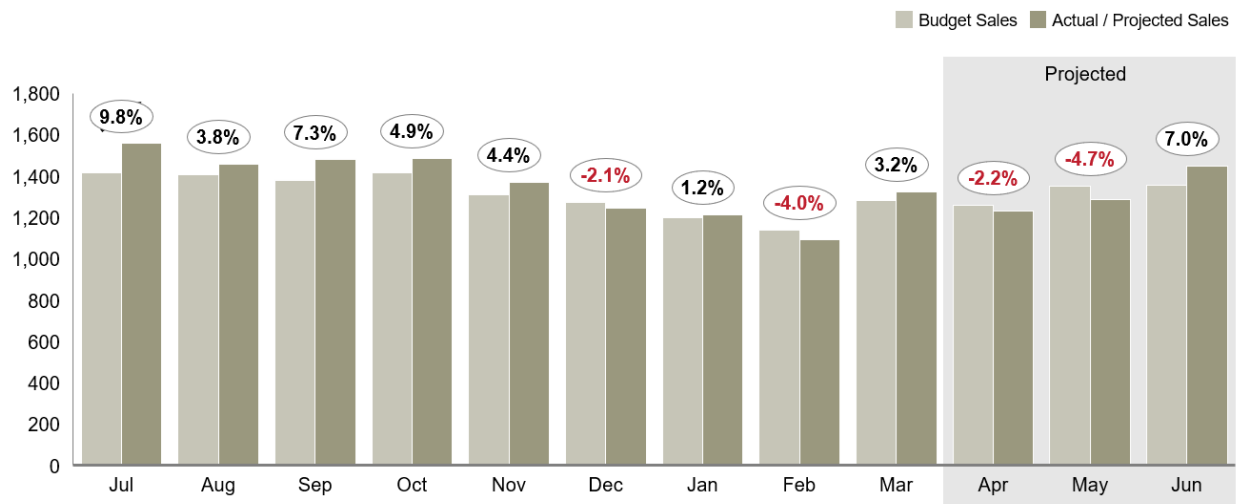


EXHIBIT 36: FY2021 SALES AND VARIANCE VS BUDGET (GWH, %)



6.2 Overview of Load Projections

Historical Demand and Sales Impact

As referenced in Chapter 2 (Historical Context and Current Challenges), electricity consumption in Puerto Rico continues to be impacted by ongoing economic distress and demographic shifts of a declining population. Energy consumption and peak demand, which are PREPA’s most critical billing determinants, have been in decline for approximately 15 years (Exhibit 37**Error! Reference source not found.**). This decline is projected to continue, consistent with the most recent economic and demographic projections issued by the Oversight Board in its Commonwealth Fiscal Plan.

Exhibit 37**Error! Reference source not found.** shows that current sales and peak demand in Puerto Rico have fallen below FY2000 levels, driven by several key factors, which will also impact future electricity consumption patterns:

- Macroeconomic indicators and demographics:** This Fiscal Plan incorporates macroeconomic projections consistent with those used in the 2021 Commonwealth Fiscal Plan. They show a steady population decline over the next 5 years, driven by a combination of outmigration and demographic factors, and they indicate that the previously projected rebound in economic activity driven by federal funding for restoration and associated short-term employment seen in 2019 has been almost entirely muted by COVID-19 related impacts. However, Covid-19 related fiscal stimulus is projected to lead to a rebound and recovery in FY2021, that is expected to continue into FY2022.
- Energy efficiency (EE) and distributed generation (DG):** Expectations from various stakeholders and industry experts, including PREB and IRP intervenors, project further long-term declines in utility sales due to demand-side impacts from secular trends in EE and DG. Together with declining population, these factors represent the greatest

drivers in load decline through the Fiscal Plan forecast period (Exhibit 38 **Error! Reference source not found.**).

One factor that could mitigate the decline of load in the future is the adoption of **Electric Vehicles (EV)**. Driven by declining technology cost and regulatory support, EV sales are expected to increase over the next 2-3 decades and have a potentially large impact on load. The effect of EVs is, however, not yet considered in the projections of this Fiscal Plan, as it was not incorporated in PREPA's latest IRP.

EXHIBIT 37: HISTORICAL BILLING DETERMINANTS (GWH, MW)

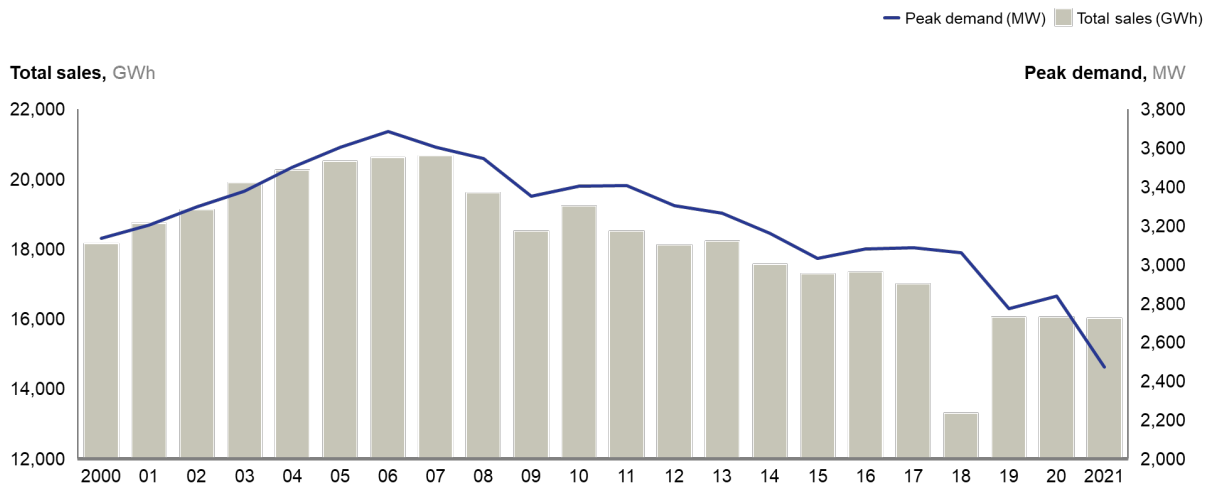
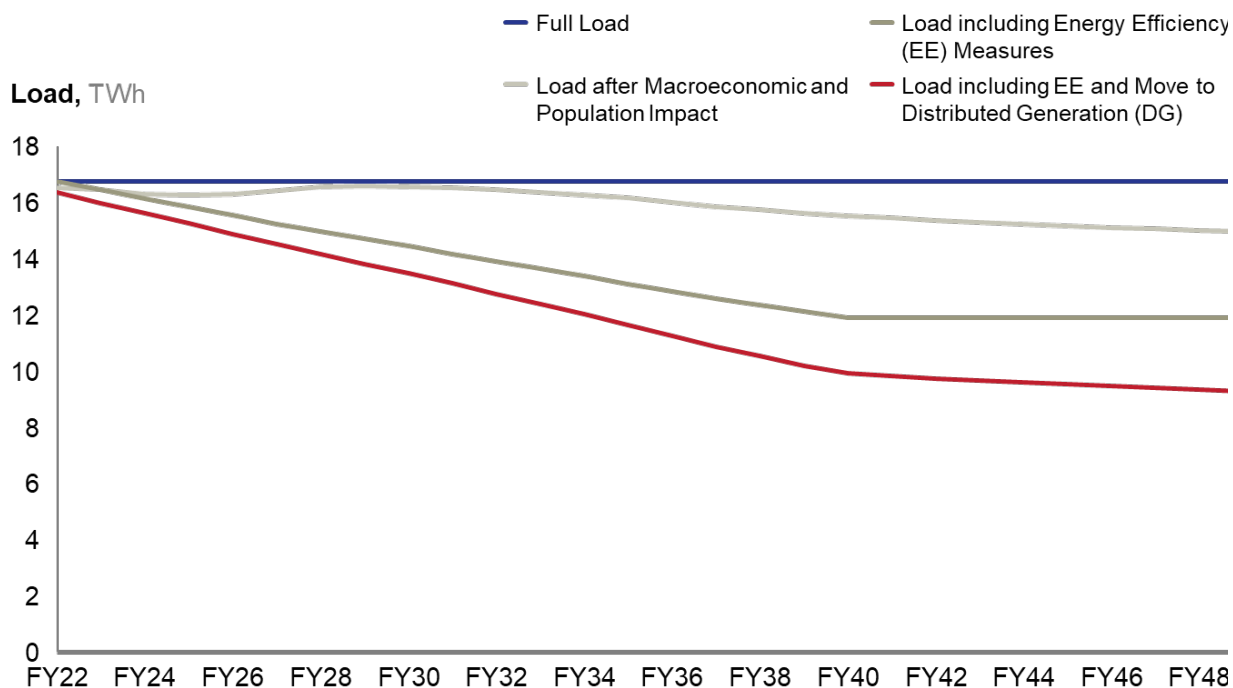


EXHIBIT 38: 30-YEAR LOAD FORECAST WITH THE INDIVIDUAL EFFECTS OF THREE DRIVERS CAUSING LOAD REDUCTION (TWH)



6.2.1 Macroeconomic Projections and Demographics

The 2021 Fiscal Plan incorporates the macroeconomic and demographic projections developed for and presented in the Commonwealth Fiscal Plan. The population forecast shows a steady decline due to the combined effects of outmigration and demographic factors. The pace of decline is less severe than prior year’s assumptions. The COVID-19 pandemic has significantly dampened previous projections of economic rebound. Assumptions underlying the rebound were driven principally by federal funding for restoration, which would create short-term employment opportunities; however, overall trends now project a population decline (Exhibit 39). The macroeconomic projections include the combined effects of the COVID-19 pandemic, ongoing austerity, population decline, natural disaster recovery, and federal funding across all sectors of Puerto Rico’s economy (Exhibit 40). Forecast reflecting the abrupt impact of the COVID-induced recession at the end of FY2020, followed by a rebound and recovery in FY2021 (supported by significant federal and local disaster-related and Covid-19 related stimulus funds), that is expected to continue into FY2022. Economic growth is expected to be limited (in real terms) between FY2023 and FY2026.

EXHIBIT 39: COMMONWEALTH OF PUERTO RICO POPULATION PROJECTIONS, IN THOUSAND

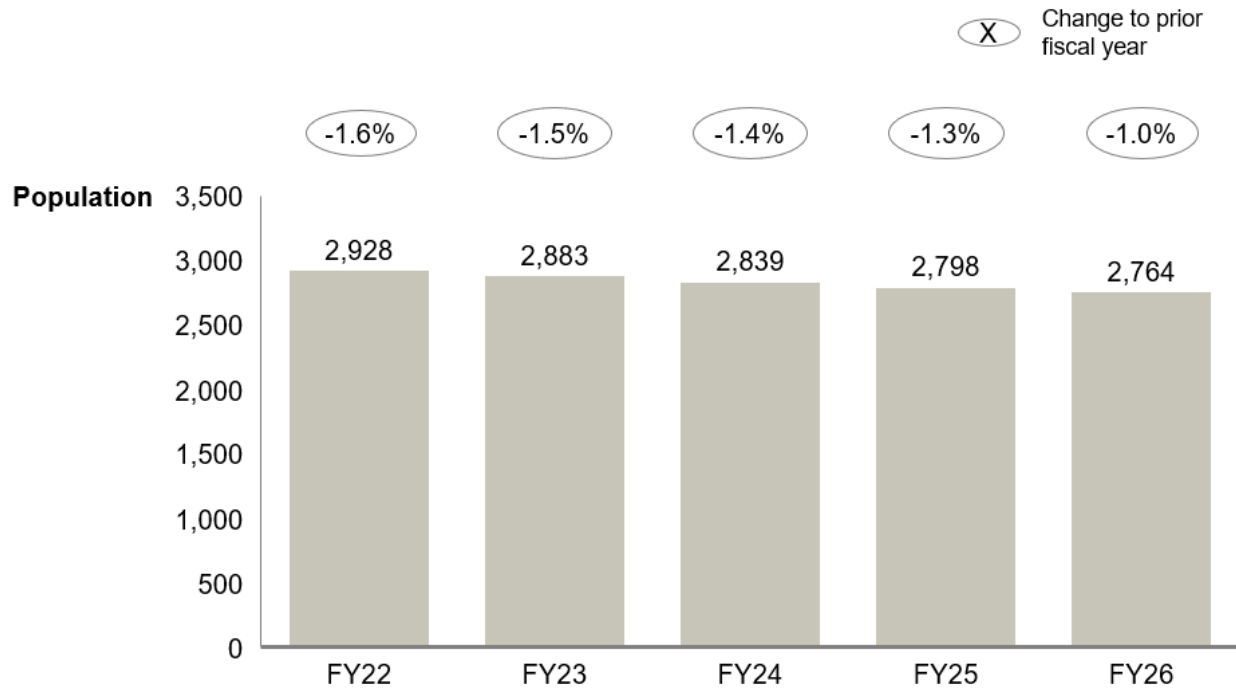
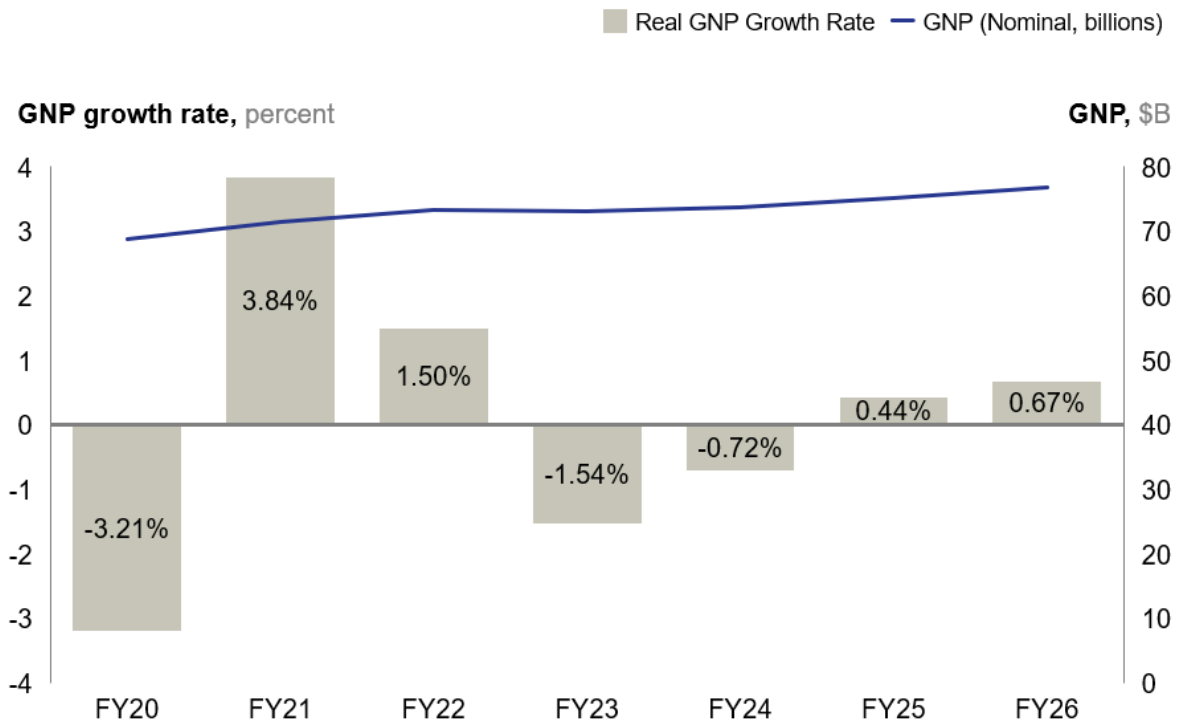


EXHIBIT 40: COMMONWEALTH OF PUERTO RICO GNP PROJECTIONS



6.2.2 Energy efficiency

The Fiscal Plan load forecast assumes that PREPA achieves the target set forth by legislative mandate in Act-17-2019 of a 30% reduction in load attributable to energy efficiency by 2040 (compared to PREPA’s FY2019 net utility sales). The annual reduction in load is consistent with the IRP projections with an adjustment for the program starting year. The energy efficiency programs listed in the table below are consistent with the PREPA IRP, which included these programs as illustrative options for achieving the target energy efficiency results based on a screening assessment of programs used in other jurisdictions.

TABLE 5: ENERGY EFFICIENCY PROGRAMS

EE Program	Description	Assumption	TRC⁸⁵
Residential A/C	Incentivizes higher efficiency A/C systems in homes	Participation rates, energy savings, program costs based on comparable programs	3 – 5
Residential Lighting	Provides free LEDs to residential customers	Participation rates increase to 2.5% annually	4 – 6
Commercial A/C	Incentivizes high efficiency A/C systems in commercial buildings	A baseline average commercial A/C size is accurately assessed	1 – 2
Commercial Lighting	Incentivizes high efficiency lighting in commercial buildings	Annual kWh savings per participant based on comparable programs	3 – 4
Public Street Lighting	Full conversion to LED lamps	Public funding is available to support this program	n/a

The cumulative energy savings through implementing these programs is expected to be approximately 1,200 GWh in FY2026. The biggest contribution to the savings comes from lighting improvements in commercial buildings, which was determined to be the highest impact and lowest cost potential program for PREPA to implement, followed by additional savings from streetlight conversions to LED⁸⁶ and installation of higher efficiency air conditioning systems in homes.

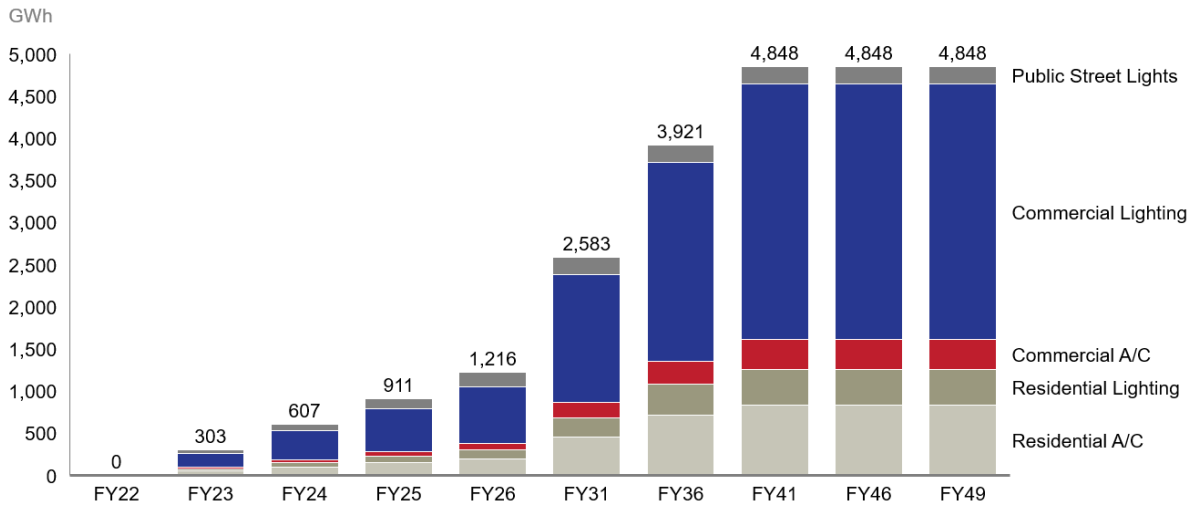
As these energy efficiency programs and implementation projections are purely illustrative, there could be many other combinations and types of programs implemented to achieve the target result. Actual energy savings from energy efficiency depend on the uptake of these measures among customers. As the Act-17 compliant projections in this Fiscal Plan are based on optimistic assumptions regarding participation rates and savings potential, the actually observed impact of such measures might be lower.

To comply with statutorily mandated EE targets, PREB, on April 22, 2021 started a new proceeding and released a draft regulation on EE to explore viable funding mechanisms for energy efficiency program implementation. Notably, to the extent these efficiency measures are delayed or not achieved there will be a more gradual decline in electricity demand.

85 Total Resource Cost (TRC) estimates cost efficiency of energy efficiency programs. The TRC is calculated as the present value of the avoided energy cost (energy savings x average rate) to the present value of the program costs.

86 LUMA, as T&D operator, will address repairing and replacing existing public lighting with LED within its Distribution Streetlight Program as detailed in LUMA’s IRP.

EXHIBIT 41: CUMULATIVE ENERGY EFFICIENCY SAVINGS BY PROGRAM (GWH)



6.2.3 Distributed Generation (DG)

Deployment of distributed generation (i.e., rooftop solar and combined heat and power generation) is expected to grow and is projected based on the same methodology used for the IRP. The effect of DG is more significant in the later years of the 30-year projection, as the Fiscal Plan assumes that DG will continue to rise as a result of declining costs for DG technology and increasing electricity rates. As the transformation process for the energy system advances, this trend is likely to continue.

The adoption of DG is expected across all customer classes (Exhibit 42 **Error! Reference source not found.**). While commercial and residential customers are more likely to adopt rooftop solar generation, industrial customers are more likely to build combined heat and power generation (CHP, Exhibit 43). The assumptions for CHP are based on customer survey and data gathering used in the IRP and updated by PREPA Planning and T&D personnel. Because CHP is expected to be customer owned and associated with industrial processes there is no cycling of these units to accommodate renewable generation in the financial projections. CHP generation is assumed to be economically dispatched by customer-owners relative to available system generation costs (e.g., if system generation is cheaper than CHP, customer-owners use system generation).

EXHIBIT 42: 30-YEAR DISTRIBUTED GENERATION FORECAST BY CUSTOMER CLASS (TWh)

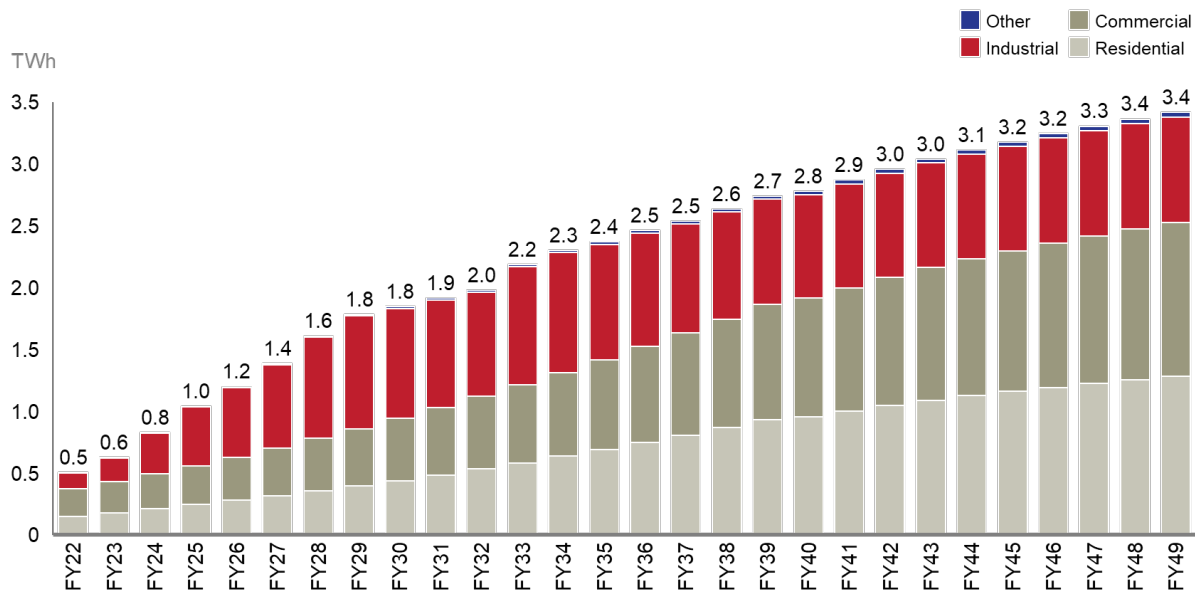
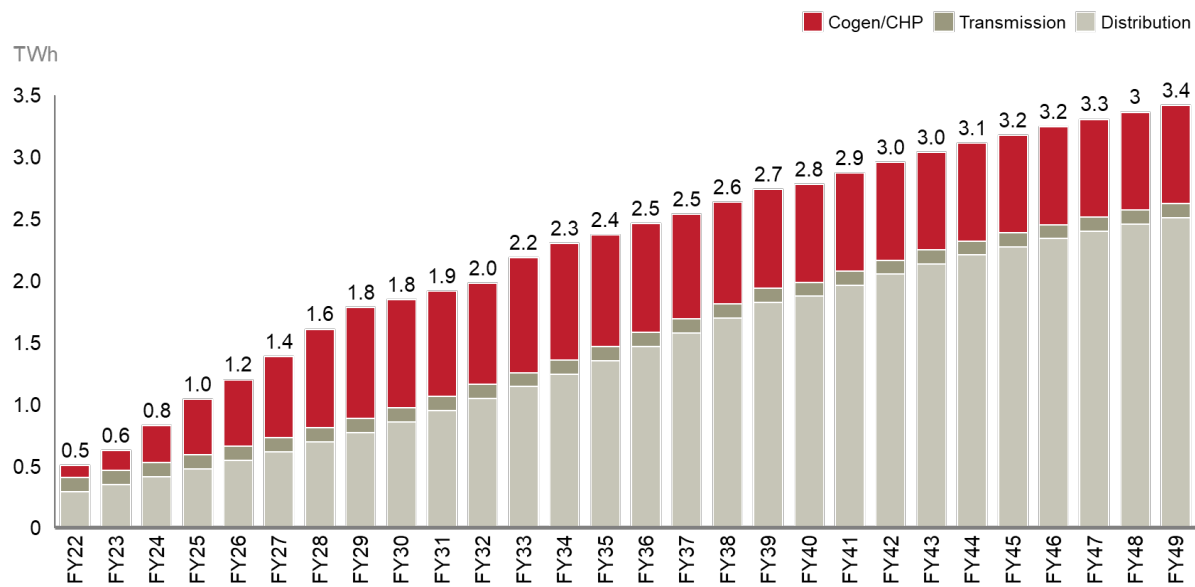


EXHIBIT 43: 30-YEAR DISTRIBUTED GENERATION FORECAST BY SOURCE (TWh)



6.2.4 Electric vehicles

Driven by technological development and regulatory support, the penetration of electric vehicles is expected to significantly increase in the upcoming decades. For instance, some estimates

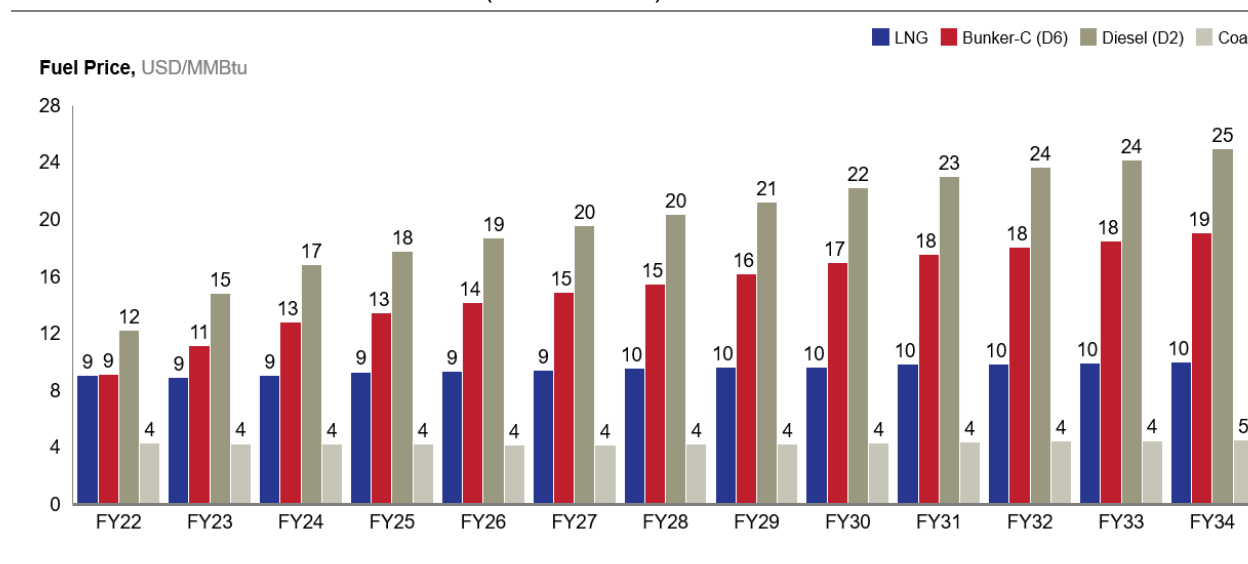
project that by 2040 EVs could reach nearly 60% of total vehicles sales in the US.⁸⁷ While these numbers depend on a variety of factors, including battery cost developments, regulation, and customer preferences, a significant uptake in EV sales will have an impact on electricity demand, both on average and peak load and has the potential to offset the effect of EE and DG. To understand the effects on average and peak load on a local level, and identify potential T&D investment needs, it is crucial to develop a thorough perspective on EV uptake. However, to date, PREPA has not included the potential average and peak load impact of EVs in its forecasts and IRPs, citing the “speculative nature” of the numbers. Nevertheless, PREPA must follow PREB’s guidance to include the impact of electric vehicles in future IRPs.

6.3 Other assumptions impacting revenue

6.3.1 Overview of Fuel and Purchased Power

Projections are based on fuel price forecasts using the IRP methodology for natural gas at the Henry Hub, crude oil (West Texas Intermediate or WTI), oil-derivate products of diesel (No. 2 fuel oil), and residual fuel oil (No. 6 fuel oil with 0.5% sulfur). The forecast has updated refined fuel prices for the near term based on financial futures pricing as of March 2021 and current effective PREPA contract adders. Prices for crude oil and refined oil products are projected to rise steadily at rates above general inflation.

EXHIBIT 44: FUEL PRICE FORECAST (USD/MMBTU)



6.3.2 Price Elasticity

The PREPA IRP and Fiscal Plan do not model customer price elasticity as a single variable or explicitly by customer class. Looking forward, the effects of higher utility power costs and declining costs of alternative sources of electric energy on customer behavior are captured through the assumptions on customer participation in energy efficiency programs, long-term

87 Bloomberg NEF, Electric Vehicle Outlook 2020

efficiency improvements captured in macro-coefficients, and the selection of and switching to behind-the-meter distributed generation options. The base long-term forecast assumes large majority of Puerto Rico’s remaining industrial load is lost to DG and EE, along with substantial portions of residential and commercial sales.

6.3.3 Rate Structure

The 2017 PREB-approved rate structure implemented on May 1, 2019 is assumed to remain in place for the forecast period. Projections include annual adjustments to base rates are calculated based on corresponding annual revenue requirements. Note, however, the forecasted rates do not include any increases required for debt service of pension funding under a Title III plan of adjustment.

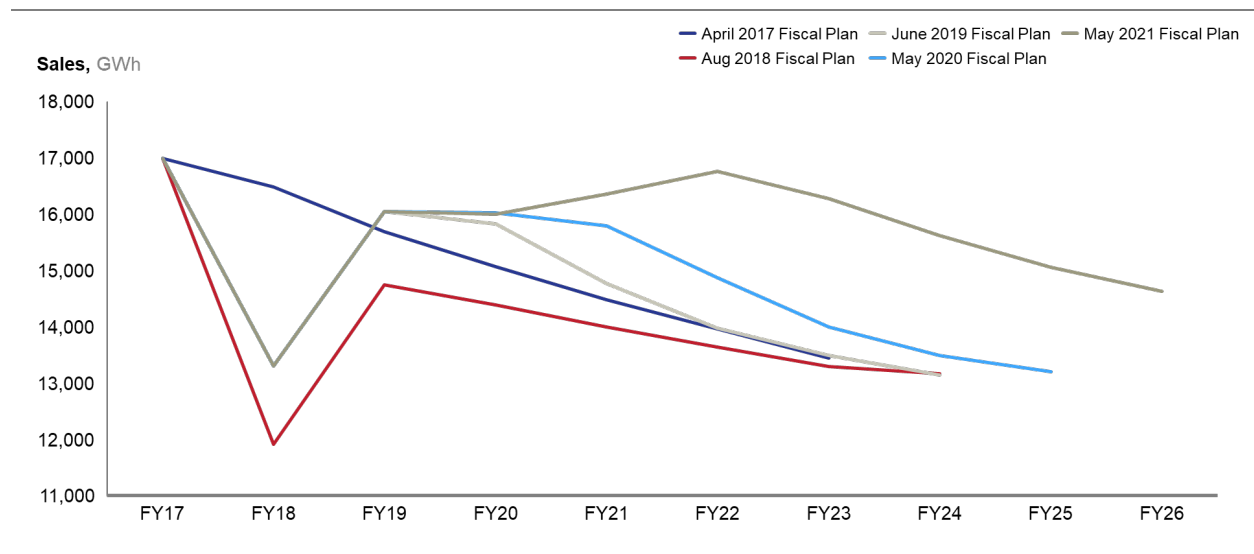
6.3.4 Transformation

The Fiscal Plan base case financial projections assume that LUMA achieves service commencement during FY2021 by satisfying all conditions precedent to achieve the Service Commencement Date, or at least the Interim Service Commencement under the Supplemental Agreement. Unbundling or separation of Generation and T&D functions are expected to be completed during FY2022, and PREPA Generation is taken over by one or more third party operator(s).

6.4 Comparison to Prior Fiscal Plans

PREPA’s sales forecast for the near term predicts accelerated decline due to energy efficiency and distributed generation impacts. From FY 2021 to the end of the fiscal planning period FY 2026, the total reduction in sales is projected to be approximately 10% (Exhibit 45).

EXHIBIT 45: PREPA FISCAL PLAN NET UTILITY SALES IN GWH



Chapter 7. Expenses

This chapter provides an overview of PREPA’s projected expenses, i.e., the cost that PREPA will have to cover. PREPA’s overall expenses are made up of nine (9) expense categories:

- **Non-renewable fuel:** Cost of fossil fuel, e.g., coal, diesel, heavy fuel oil
- **Conventional power purchase agreements (PPAs):** Expenses for non-renewable power purchased from 3rd party providers (e.g., EcoEléctrica and AES)
- **Renewable PPAs:** Expenses for renewable power purchased from 3rd party providers – in the future this will include power from the 3.75GW in renewable capacity that PREP has ordered PREPA to bring online
- **CILT & subsidies:** Expenses for “contributions in lieu of taxes” and other subsidies that benefit e.g., low-income rate payers
- **Labor operating cost:** Expenses for labor associated with operating generation assets and the T&D system
- **Non-labor / other operating cost:** Expenses other than labor, e.g., supplies, rent, transportation, bad debt expense, etc., associated with operating, maintaining, and administering generation assets and the T&D system
- **Necessary maintenance expenses:** Expenses for maintaining generation assets and the T&D system. This includes repairs and associated materials, among others
- **PREPA ERS pension charge:** Expenses to fund pensions for PREPA employees
- **PREPA debt service:** Expenses to cover PREPA’s debt obligations

As outlined above, PREPA’s expenses are used by PREB, the regulator, to determine rates, i.e., rates are based on revenue requirements, such that they provide PREPA with the revenue – or funds – that it requires to pay for all the projected expenses needed to provide adequate service to its customers and pay its obligations. This chapter gives an overview of the 9 major expense categories described above that make up PREPA’s revenue requirement and outlines how these categories are projected to develop over time. The focus of this chapter is on the near term, i.e., the next 5 years until FY2026, as within this time-period the first major financial impact of PREPA’s ongoing transformation is expected to materialize.

Overall, due to the impact of the ongoing transformation and additionally driven by declining load, PREPA expenses are expected to decrease over the next 5 years (see Exhibit 46):

- Non-renewable fuel, the largest expense category (33%) in FY2022, is expected to decline quickly over the next years, as PREPA’s generation mix shifts from owned and operated fossil fuel powered generation to third-party provided renewable power
- Conventional PPA expenses are expected to make up 21% in FY2022, and are projected to decline in absolute terms, as generation shifts from conventional to renewable sources
- Expenses for renewable PPAs, while low in FY2022 (3%), are expected to increase quickly as outlined above, amid the shifting generation mix

- CILT & subsidies are expected to decrease over time
- Labor operating expenses are projected to make up ~9% of total expenses in FY2022 and are expected to decline in absolute terms, as generation assets and T&D system are transitioned to private O&M operators that are expected to realize efficiencies
- Similarly, non-labor operating cost, accounting for ~20% in FY2022, are expected to decline due to future efficiencies from private operators
- Necessary maintenance expenses are projected to decrease slightly in absolute terms, but keep their share of the total at ~6-7% of total expenses
- ERS pension expenses – not separately included in the FY2022 rate in the absence of a determination of pension reform – are expected to make up a larger share in FY2026. Chapter 16 (Pension Plan) provides an overview of the options

7.1 Overview of Expense Projections

For FY2022 and FY2026, Exhibit 46 gives an overview of the expense categories and their projected relative shares.

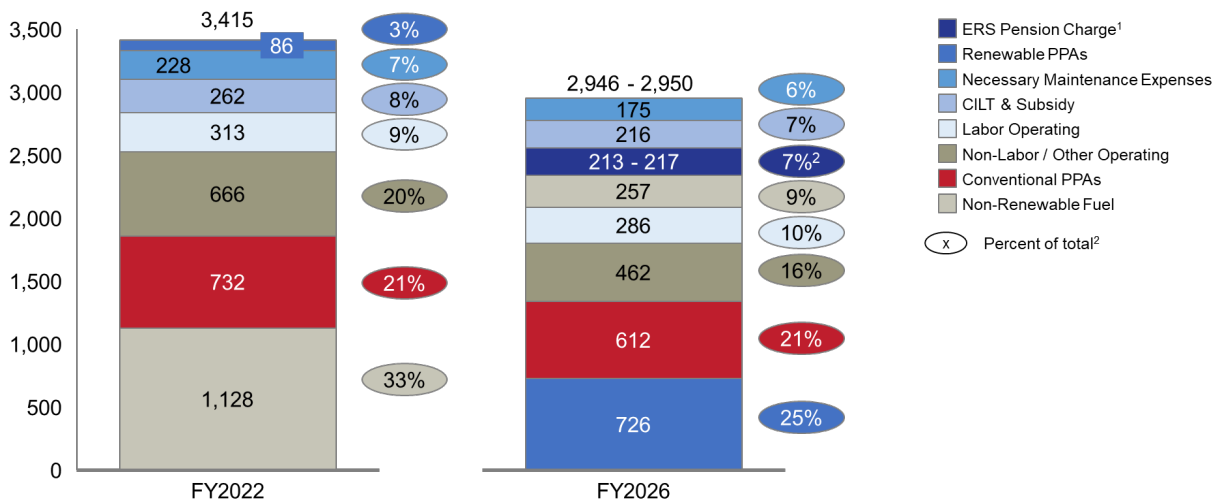
Expense projections have been developed using a set of assumptions and inputs, including macroeconomic projections, load related assumptions, and inputs for specific expense categories, e.g., existing contracts for non-labor expenses, as well as capital plans, and PREPA's IRP, among others. Furthermore, the projected expenses shown below are “post-measure” in the sense that they already account for the expected effects of certain improvement initiatives. Those include the ones outlined in Chapters 9 (Operational Measures) and 13 (LUMA Improvement Portfolios). The projections therefore also already account for the benefits of moving PREPA's generation assets and T&D system to private operators. Without these effects, expenses - and as a result rates – would be higher, as outlined in Section 5.2 on baseline rates in Chapter 5 (Summary of Financial Projections).

Projected expenses for FY2022 are still characterized by PREPA's heavy reliance on fossil fuel and its inefficient operations. As such, expenses for non-renewable fuel is by far the largest expense category, making up 33% of the total, and together with expenses for conventional PPAs (21% of the total) account for more than half of PREPA's expenses. Expenses for renewable PPAs are projected to account for only 3% of the total, illustrating the marginal role that renewables play for PREPA today. Labor and non-labor O&M costs are projected to reach ~\$980 million in FY2022, nearly one third of all expenses.

In FY2026, the projected expense overview illustrates the impact of PREPA's transformation. Overall expenses are projected to have come down by more than \$450M –which is crucial to keep rates stable amid declining load. At the same time, the planned buildout of renewables and battery storage is projected to have shifted expenses from polluting fossil fuels to renewable PPAs, which are projected to make up 25% of total expenses, while the share of non-renewable fuel and conventional PPAs is projected to decline to less than one third of total expenses. Furthermore, the transition to LUMA is expected to show its impact, and labor and non-labor cost are projected to have decreased (compared to FY2022) by ~\$230 million to ~\$750 million.

The expense overview furthermore illustrates where additional future efficiencies can be expected. While LUMA and in the future one or more other private operator(s) for PREPA’s generation assets are expected to realize efficiencies in labor and non-labor cost, the biggest remaining opportunity will be related to fuel and purchased power, which is expected to make up 57% of expenses in FY2022 and 54% in FY2026. Chapters 9 (Operational Measures) and 13 (LUMA Improvement Portfolios) provide more details on initiatives addressing these opportunities that are already in progress and incorporated in the expense projections below, including PREPA’s fuel-related operational measures, and the procurement of 3.75GW in renewable generation capacity.

EXHIBIT 46: FY2022 VS. FY2026 REVENUE REQUIREMENT PROJECTED BREAKDOWN BY CATEGORY (INCLUDING ERS PENSION PAYMENTS, EXCLUDING DEBT PAYMENTS) (USD MILLION, REAL 2021 DOLLARS)



1. Depending on pension restructuring scenario: 7.5% vs. 10% cut of benefits above \$1,500 of monthly benefits
 2. Based on 7.5% cut of benefits above \$1,500, corresponding to pension expenses of \$217M

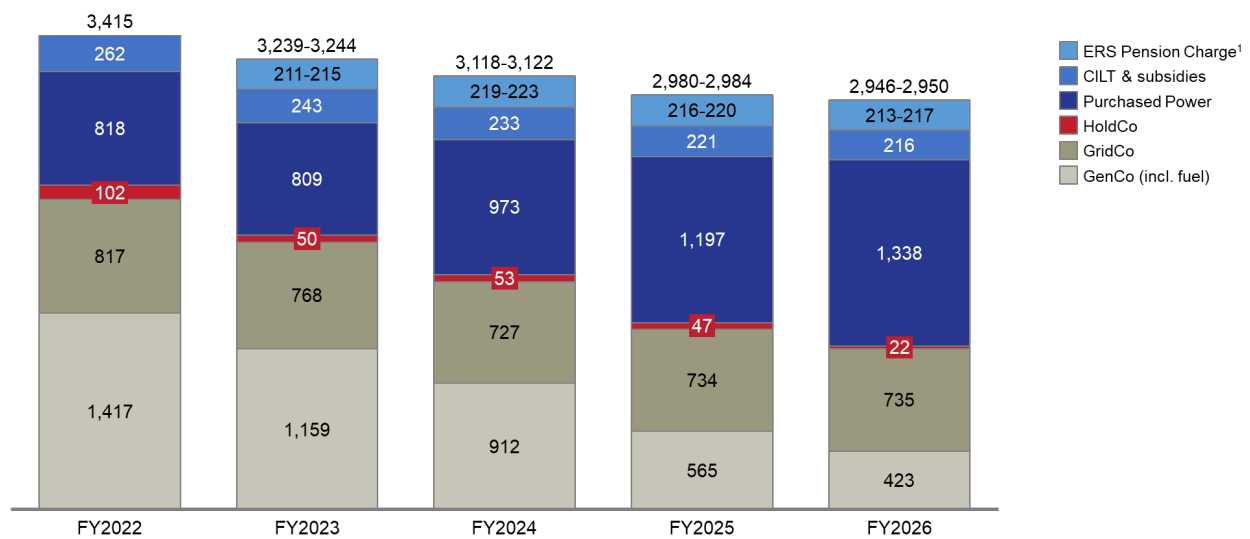
7.2 Overview of Expenses by Entity

During the forecast period of this Fiscal Plan, PREPA’s vertically integrated operations will be, as mandated by law, disaggregated into Generation and T&D utility functions – GenCo and GridCo, respectively. Additionally, there will be an entity that will be responsible for certain non-operational functions and associated payroll activities, along with paying Title III and advisor fees (HoldCo). Chapter 3 (Transformation) provides an overview of the future structure of PREPA.

As a result of the transition to GenCo, GridCo, and HoldCo, expenses will also be split across the three entities, too. Exhibit 47 **Error! Reference source not found.** shows the post-transition expense split for the next few years. ERS pension contributions after FY2022, as well as bad debt, CILT/subsidies, and expenses for purchased power are separated. These expenses, including any employer contribution required to be made to the PREPA ERS for employees of these three entities, bad debt, CILT/subsidies, and purchased power are pass-throughs and cannot be considered part of the expenses per entity.

As illustrated above in Section 7.1, overall expenses are expected to decline due to declining load and efficiencies from the transition to private operators. Additionally, GenCo is projected to ramp down quickly over time as PREPA’s units are retired and power is procured through PPAs, which do not lie within GenCo’s responsibility (see Chapter 3 (Transformation) for an overview of the roles and responsibilities after the transition to private operators). HoldCo expenses are projected to decrease quickly, too, especially after providing support for the transition of GenCo to private operators in FY2022. GridCo expenses are projected to decline slowly over time, driven by the increasing realization of efficiencies over time.

EXHIBIT 47: CONSOLIDATED PREPA EXPENSE BREAKDOWN⁸⁸ (USD MILLION, REAL 2021 DOLLARS)



1. Exact number depending on pension restructuring scenario: 7.5% vs. 10% cut of benefits above \$1,500 of monthly benefits

Assumptions for the GenCo, GridCo, and HoldCo expense projections are provided in the table below, consistent with underlying assumptions for the revenue and load projections in the previous chapter.

TABLE 6: ASSUMPTIONS FOR GENCO, GRIDCO, AND HOLDCO EXPENSES

Input	General Assumptions
Fuel and Purchased Power Costs	<ul style="list-style-type: none"> Fuel and Purchased Power cost projections are based on an hourly generation dispatch model forecast that uses capacity expansion consistent with the PREB approved IRP and Modified Action Plan and recent market pricing and projections for refined fuel products
Labor Operating	<ul style="list-style-type: none"> FY2022, FY2023, and FY2024 are in line with the LUMA budget for GridCo FY2025 and beyond is projected using budget spending levels with an inflation factor Benefits expense are based on historical spending levels and performance

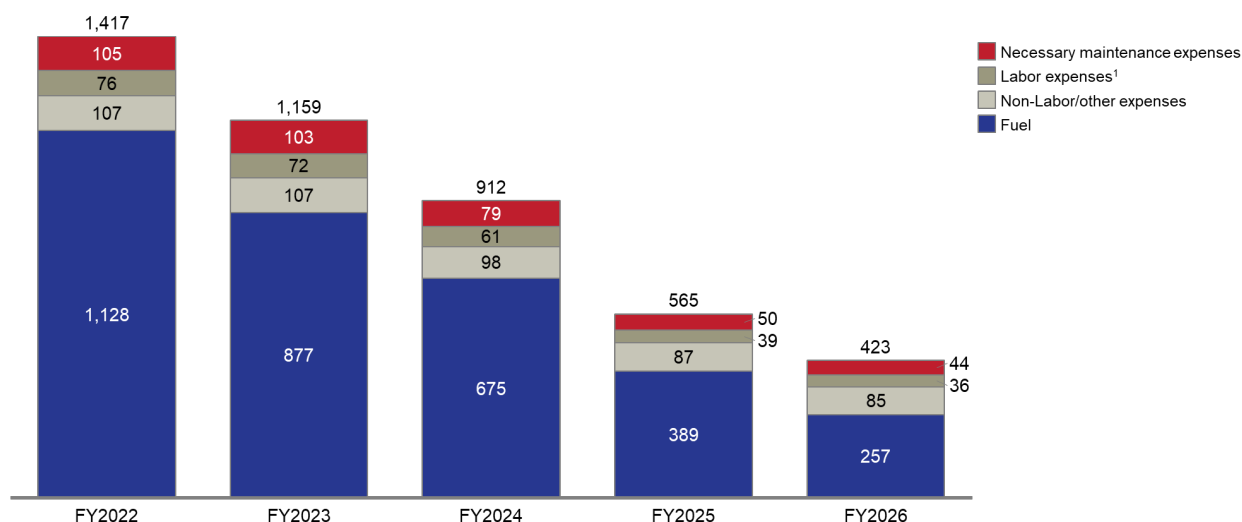
88 PPAs between GridCo and GenCo are excluded to avoid double counting. New reporting structure for PREPA – split into GridCo and GenCo – is assumed to begin in FY2022 for the purposes of presentation and discussion in the 2021 Fiscal Plan.

Input	General Assumptions
Non-Labor - Other Operating	<ul style="list-style-type: none"> ■ FY2022, FY2023, and FY2024 are in line with the LUMA budget ■ FY2025 and beyond is projected using historical spending levels with an inflation factor ■ Cost of service includes T&D operator management fee for the forecast period
Maintenance	<ul style="list-style-type: none"> ■ Based on historical budgeted amounts and in line with the LUMA budget ■ For GenCo, it is expected that the exit from Title III should result in a return to the capital markets to finance capital improvements and improved counterparty risk to attract private investment into the generation system ■ For GridCo, it is expected to require additional funds in future years above historical average annual expenditure to repair the system and improve reliability to acceptable levels, as envisioned in the T&D roadmap ■ Federal funding is assumed to be available to cover a substantial amount of capital required for system rebuild and maintenance. Puerto Rico is requesting a cost-share adjustment for future FEMA program amounts under the Stafford Act. The projections in this Fiscal Plan assume that Community Development Block Grant-Disaster Recovery (CDBG-DR) funding will be available to cover any matching requirements under the Stafford Act

7.3 Overview of GenCo Expense Projections

GenCo expenses are projected to decline over the fiscal plan period as PREPA-owned generation units are retired, and the mix shifts to third-party owned generation, specifically renewable generation, which will be contracted through PPAs. PPA and fuel expenses are considered pass-through charges and are therefore not included in GenCo’s expenses. PREPA will however transition O&M activities to one or more private operator(s) for its legacy generation units. This transition is expected to be completed in FY2022. Labor, non-labor, and necessary maintenance expenses associated with operating and maintaining PREPA’s legacy generation assets are expected to decrease rapidly from its current levels, as units are being retired. Exhibit 48 **Error! Reference source not found.** shows that the expense categories most closely correlated with the number of legacy generation units and their capacity - labor and necessary maintenance expenses - are expected to decrease between FY2022 and FY2026 by ~50% and ~70%, respectively. Non-labor and other expenses - which include expense sub-categories like the shared services agreement between LUMA and GenCo - are less correlated with legacy generation capacity than for instance labor as it includes insurance and IT cost, is expected to decrease less rapidly (~21%) over the same time period.

EXHIBIT 48: FIVE-YEAR EXPENSE FORECAST FOR GENCO⁸⁹ (USD MILLION, REAL 2021 DOLLARS)



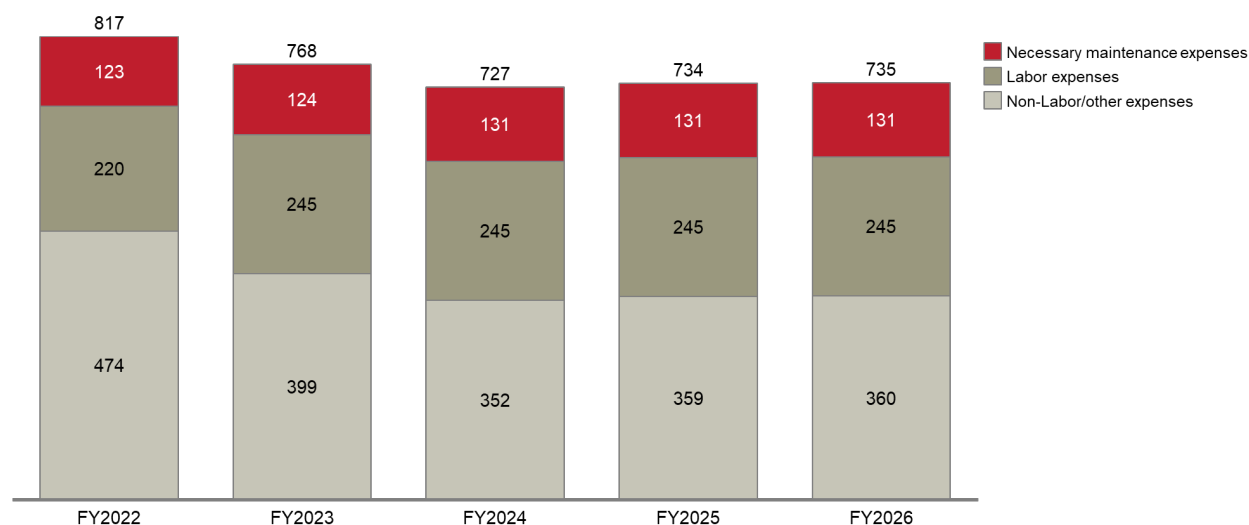
1. Includes ~\$21 million in pension charges in FY2022

7.4 Overview of GridCo Expense Projections

GridCo expenses are projected to decrease slightly over the next 5 years, as the Title III process is completed and initiatives begin execution phase, leading to efficiencies. Labor costs are projected to slightly increase between FY2022 and FY2023, while the process of hiring and training LUMA’s workforce is being completed. After FY2023 labor expenses are projected to stay stable in real terms. Non-labor/other expenses are expected to decrease over time, as future efficiencies from the transition to a private operator are being realized. These efficiencies have already been reflected in the projections shown in Exhibit 49 below. Necessary maintenance expenses are projected to increase over the forecast period as work begins on the execution of grid modernization and strengthening projects outlined in the T&D roadmap (see Chapter 13 (LUMA Improvement Portfolios) for details) .

89 Full transition to the private generation operator(s) is expected to take place by FY2022. Excludes ERS pension expense after 2022

EXHIBIT 49: FIVE-YEAR EXPENSE FORECAST FOR GRIDCO (USD MILLION, REAL 2021 DOLLARS)⁹⁰

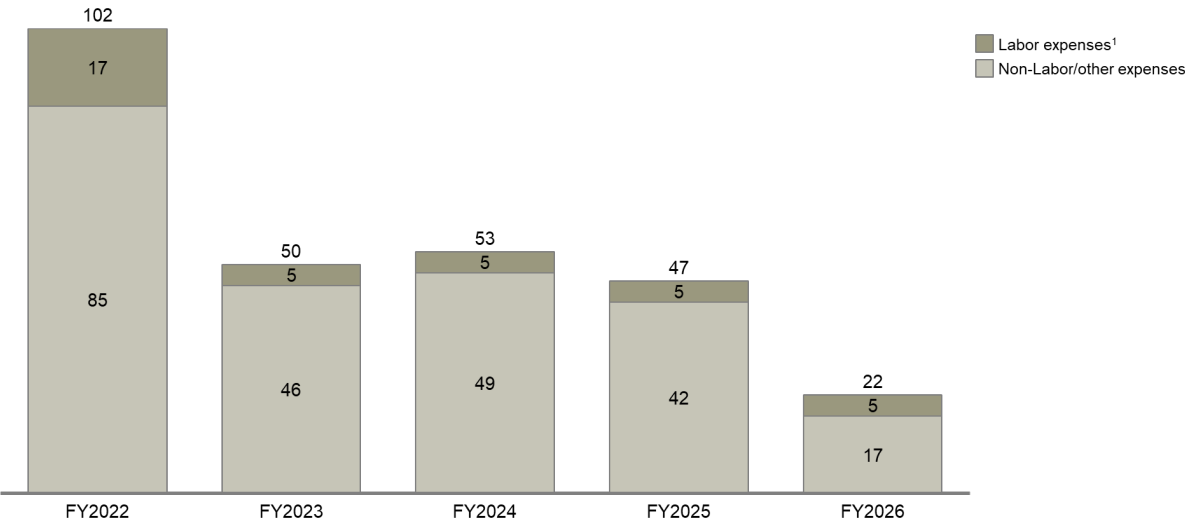


7.5 Overview of HoldCo

Exhibit 50 shows HoldCo’s expense projections over the next 5 years. Expenses are projected to decrease by approximately 50% between FY2022 and FY2023, as in FY2022 HoldCo will still provide some transition support to GenCo (e.g., administrative support, etc.), but will transition these support activities to GenCo in FY2023. Additionally, Title III related cost are expected to decrease in this time period, too, as PREPA is expected to leave Title III bankruptcy in FY2022. After FY2023, HoldCo expenses are expected to decrease further, as more and more activities from GenCo will be shifted to private operators, which will further decrease the support HoldCo will have to provide to GenCo. As HoldCo will not be responsible for any O&M work related to PREPA’s generation assets or the T&D system, HoldCo will not have any necessary maintenance expenses and will only have to cover its labor and non-labor expenses. As outlined above, non-labor expenses include Title III costs, advisor fees and P3A transaction costs, which will decrease between FY2022 and FY2023 and between FY2025 and FY2026, as PREPA exits Title III.

⁹⁰ Full transition to LUMA is expected to take place by FY2022.

EXHIBIT 50: FIVE-YEAR EXPENSE FORECAST FOR HOLDCO (USD MILLION, REAL 2021 DOLLARS)⁹¹



1. Includes ~\$6 million in pension charges in FY2022

91 Full transition to LUMA is expected to take place by FY2022. Excludes ERS pension expense after 2022.

Chapter 8. Risks and System Resilience

The electric power system in Puerto Rico has endured significant infrastructure damage in recent years due to severe hurricanes and earthquakes. In the future, the frequency and intensity of atmospheric events is anticipated to increase further as climate change accelerates.⁹² These natural risks for Puerto Rico's energy infrastructure are exacerbated by historic underspending on maintenance and vegetation management which can compound the damage and impact from natural disasters while simultaneously making the system vulnerable to commonplace disturbances. To mitigate such risks, and to achieve a safe, modern, and reliable energy system, resilience measures for both the transmission and distribution (T&D) system and generation assets must be prioritized.

To this end, PREPA and the selected T&D system private operator, LUMA Energy, LLC. (LUMA), have developed capital plans to repair, remediate, and modernize the existing system and improve its resiliency against extreme events. Among other sources, the capital plans rely on the \$10.7 billion in funds allocated by FEMA to PREPA to modernize and harden the power system against natural disasters.⁹³ For the T&D system alone, LUMA has budgeted nearly \$1 billion from FY2022 through FY2024 for infrastructure repair, modernization, and hardening projects. Further information on capital plans can be found in Chapter 11 (Capital Plans) and Chapter 13 (LUMA Improvement Portfolios) for PREPA and LUMA, respectively. Further information on Federal Funding sources and uses can be found Chapter 12.

The ensuing sections address the risks posed to Puerto Rico's electricity system by: (1) climate risk; (2) earthquakes; and (3) economic shocks (e.g., COVID-19). Historical responses and preparedness are also discussed and potential actions to mitigate these risks are considered as well.

8.1 Climate Risk

Puerto Rico is at high risk for the wide-ranging effects of climate change. Hurricanes, wildfires, heat stress, and coastal flooding are all risks to Puerto Rico and its electricity system. Climate projections show that Puerto Rico could experience significant climate events in the next 30 years, including: (1) decrease in frequency but greater intensity of extreme precipitation events; and (2) a potential rise in sea level of one to two feet, which could lead to risks from coastal flooding and inundation, particularly in the populated areas on the northeastern part of the island (i.e., San Juan).^{94,95} Historically, mean wind speeds have remained relatively stable when comparing observational data from 2000-2019 to 1979-1999 while maximum wind speeds have increased in both intensity and frequency over the past several decades.⁹⁶ If these trends continue, Puerto Rico could see additional extreme wind events in the future.

92 U.S. National Oceanic & Atmospheric Administration National Centers for Environmental Information & Cooperative Institute for Climate & Satellites-North Carolina. Intermediate sea-level rise scenario.

93 \$10.7 billion figure includes cost-share and insurance payouts.

94 U.S. National Aeronautics and Space Administration Earth Exchange (NEX) down-scaled climate model data, historical for 1976-2005 and future Representative Concentration Pathways (RCP) 4.5 scenario for 2021-2050.

95 U.S. National Oceanic & Atmospheric Administration National Centers for Environmental Information & Cooperative Institute for Climate & Satellites-North Carolina. Intermediate sea-level rise scenario.

96 European Centre for Medium-Range Weather Forecasts, ERA5 Historical Reanalysis Data (1979-2019).

In September 2017, Hurricanes Irma and Maria affected PREPA’s already vulnerable grid, causing an island-wide blackout. The transmission and distribution network suffered the most damage. Many researchers link the devastation of the 2017 Hurricanes Irma and Maria to climate change.⁹⁷ In the future, devastating severe weather events like hurricane Maria are likely to occur more frequently, with similar scale events of precipitation now nearly five times more likely to form than during the 1950s; this increase is due largely to the long-term effects of climate change.⁹⁸

The operational impact of climate-related events is sizable. In the wake of hurricanes Irma and Maria, over 2,700 transmission poles were damaged, and 92% of inspected substations were affected, with 41% of substations suffering major damage.⁹⁹ The distribution system was not adequately maintained and upgraded to be able to withstand Category 4 storms and, as a result, 75% of circuits were damaged while certain generating units also suffered significant damage.¹⁰⁰ The cost of responding to climate-related events is substantial. In the aftermath of the hurricanes, Puerto Rico received \$3.2 billion in emergency federal funding for assistance with electrical restoration on the island.¹⁰¹

Although it is difficult to estimate and quantify the size of climate change’s risk on Puerto Rico’s electricity system infrastructure and operations, the increased intensity of individual wind and rain events are projected to necessitate higher costs of repair and reduced demand due to outages on a per-event basis (Exhibit 51). Additional work remains to improve operational practices—including routine preventative maintenance—and strengthen the infrastructure to prevent future adverse weather events from causing a similar or even greater scale of damage.

EXHIBIT 51: IMPACT OF CLIMATE EFFECTS ON PREPA

Impact Level	Climate Effects	Description	Impact on PREPA	
High	Damage from extreme wind	<ul style="list-style-type: none"> Frequency of extreme wind days have increased 28% since 1980 While average intensity has remained stable since 1980, maximum wind speeds have increased 	<ul style="list-style-type: none"> Loss of revenue due to outages Increased costs to repair storm damage Increased intensity of individual severe weather events suggest greater repair and lost demand costs on a per-event basis 	
	Damage from extreme precipitation	<ul style="list-style-type: none"> Projections suggest a 15% to 25% decrease in extreme precipitation days Projected increase in intensity of extreme precipitation days suggest a shift toward less frequent, more severe events (i.e. hurricanes) 		
	Damage from coastal flooding	<ul style="list-style-type: none"> Projected 1 to 2 ft sea level rise by 2050 expected to increase risk of coastal inundation and flooding Greatest risk posed to Northeast regions (i.e. San Juan) 		
	Wildfire risk	<ul style="list-style-type: none"> Natural forests cover significant share of PR land mass Rising temperatures can increase wildfire potential and subsequent risk of fire hazard and powerline damage 		
	Heat stress	<ul style="list-style-type: none"> Higher average temperatures could increase surges in demand for A/C (currently 27% of total energy demand for hot-humid climates)¹ Heat waves and droughts, however pose risks to infrastructure 		<ul style="list-style-type: none"> Increased demand for electricity Potential increase in revenue due to increased demand
	Decreased transmission efficiency	<ul style="list-style-type: none"> Energy loss in transmission and distribution is positively correlated with temperature 		<ul style="list-style-type: none"> Increased generation required to meet equivalent demand due to increase energy loss Increased costs to increase generated load & generation capacity

97 Keellings, D., & Hernández Ayala, J. J.(2019). Extreme rainfall associated with Hurricane Maria over Puerto Rico and its connections to climate variability and change. Geophysical Research Letters.

98 Keellings, D., & Hernández Ayala, J. J.(2019). Extreme rainfall associated with Hurricane Maria over Puerto Rico and its connections to climate variability and change. Geophysical Research Letters.

99 PREPA Central Office for Recovery, Reconstruction and Resiliency, Energy System Modernization Plan, 3, 6.

100 Puerto Rico Energy Resiliency Working Group, Build Back Better, A-3, A-6, A-7, 21.

101 “2017 Hurricane Season: Federal Support for Electricity Grid Restoration in the U.S. Virgin Islands and Puerto Rico.” United States Governmental Accountability Office. April 2019.

Bringing on LUMA as the private operator for the T&D system and accelerating access to federal funding will be required to properly address the challenges posed by climate change.¹⁰² PREPA's capital plan for generation assets as well as LUMA's set of improvement programs for the T&D system outline the portfolio of projects that will most efficiently and effectively improve system resilience and strengthen the energy system against future extreme weather events, which are expected to increase in frequency and magnitude. LUMA has already identified and proposed numerous initiatives that will bolster the electric power system to withstand extreme weather events, including flood mitigation measures for critical grid assets such as control buildings and substations as well as transmission and distribution support structure replacement and hardening. For example, LUMA's Transmission Line Rebuild program will ensure all transmission towers meet the 150 mph wind resistance standard as required in Act 17-2019. As currently envisioned, federally funded capital will be utilized to fund much of this work. LUMA has also proposed the establishment of an integrated and proactive vegetation management program for long-term, sustainable vegetation control and restoration of T&D system right of ways. Further information on capital plans can be found in Chapter 11 (Capital Plans) and Chapter 13 (LUMA Improvement Portfolios) for PREPA and LUMA, respectively.

8.2 Earthquakes

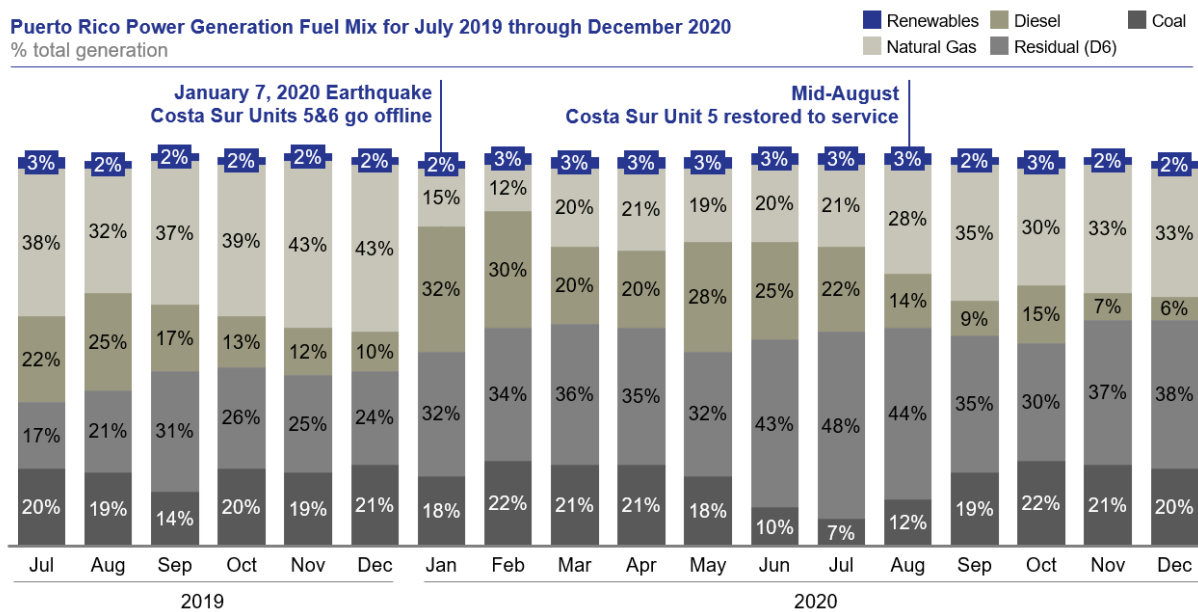
The U.S. Geological Survey forecasts the yearly chance of a magnitude 5+ earthquake in Puerto Rico is currently at over 99%, and it will remain at above 50% for the next three to ten years.¹⁰³ Earthquakes have caused serious damage to utility infrastructure, as well as damage to transmission lines as a result of falling trees. This risk must be properly managed and considered in future improvement plans.

On January 7, 2020, a 6.4 magnitude earthquake struck the southwestern coast of the Island, causing significant damage to the Costa Sur Power Plant and less severe, but notable, damage to EcoEléctrica. In the immediate aftermath of the earthquakes, about two-thirds of the island's population was left without power for several days. The loss of these two natural gas power plants increased the system's reliance on more costly oil-fired power plants. In the near term, PREPA's diesel peaking plants were dispatched to balance the load. As a result of the January 7 earthquake, the share of total monthly generation from natural gas declined by about 70%, from December 2019 to January 2020, while the share of generation from diesel fuel oil increased by almost twofold (EXHIBIT 52). PREPA was able to return Costa Sur Unit 5 to service by August 2020 and Unit 6 by January 2021, respectively, with a total estimated repair cost of \$39 million.

¹⁰² See additional detail on the transformation of Puerto Rico's power sector in Chapter 3.

¹⁰³ van der Elst, N.J., Hardebeck, J.L., and Michael, A.J. "Potential duration of aftershocks of the 2020 southwestern Puerto Rico earthquake". U.S. Geological Survey Open-File Report 2020-1009. <https://doi.org/10.3133/ofr20201009>.

EXHIBIT 52: FUEL MIX DURING FISCAL AND CALENDAR YEAR 2020



The geography of Puerto Rico is susceptible to ongoing and future seismic events, and therefore earthquake resilience measures to strengthen system infrastructure are essential in protecting against service disruptions. For future mitigation, critical generation resources must be diversified and distributed to ensure damage to a few facilities does not cause long-term power shortages as well as hardening and reinforcing of existing facilities. For the T&D system, investments in critical infrastructure modernization must include hardening projects that strengthen the system against future earthquakes, specifically system control centers and other critical support buildings, transmission towers, distribution facilities, and substations. Any new facilities must be designed and built to strict, earthquake-compliant codes to mitigate risk from future earthquakes.¹⁰⁴ PREPA and LUMA must prioritize assessing infrastructure risks and targeting structural enhancements to limit damage from earthquakes as part of future capital planning and project execution. Further information on capital plans can be found in Chapter 11 (Capital Plans) and Chapter 13 (LUMA Improvement Portfolios) for PREPA and LUMA, respectively.

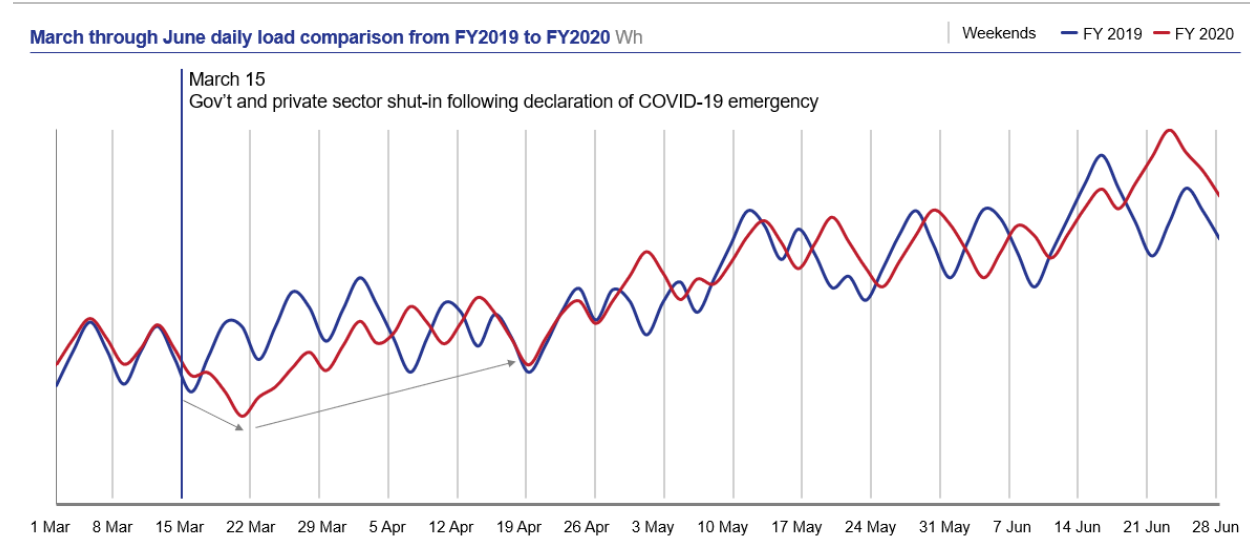
8.3 Economic Shocks (e.g., COVID-19)

The economic impact of COVID-19 response measures has had a ripple effect on the power sector. On March 15, 2020, Puerto Rico enacted social distancing measures under Executive Order 2020-023 to manage the spread of the COVID-19 virus. After the curfew was implemented, generation levels declined, alongside customer sales. In the four weeks immediately following the announcement of the curfew, total daily generation declined between 8 to 12% compared to the

¹⁰⁴ Preston, Benjamin L., et al. "Resilience of the U.S. Electricity System: A Multi-Hazard Perspective." Prepared for the U.S. Department of Energy's Office of Energy Policy and Systems Analysis. August 18, 2016.

prior year's figures.¹⁰⁵ After the initial four weeks, generation levels showed a gradual return to levels consistent with FY2019 averages.¹⁰⁶ Exhibit 53 shows how daily load for March through June varied from FY2019 and FY2020 due to the COVID-19 measures.

EXHIBIT 53: MARCH THROUGH JUNE DAILY LOAD COMPARISON FROM FY2019 TO FY2020 (WH)



Following the curfew announcement, PREPA initially experienced a steep drop in collections. At its worst point, average daily rate collections fell to less than half of forecasted planned collections, and threatened PREPA's cash position. However, by June 2020, PREPA's monthly cash balance had returned to pre-COVID levels. PREPA's successful weathering of this potential liquidity crisis was a result of its long cash runway, defined as the number of months until cash is depleted, at the start of the pandemic. On March 16, 2020, as the initial curfew was announced PREPA held \$416 million in its operating account – from March 2019 through February 2020, PREPA maintained an average operating cash balance of \$350 million despite the disruption and damages caused by the January 2020 earthquakes.

After a year of experience since the government enacted curtailment restrictions addressing COVID-19, PREPA must continue to closely monitor cash balances, collections, customer consumption, and accounts payable to maintain a sustainable level of liquidity for ongoing operations. Management and advisors continue to analyze potential forecast scenarios to understand the various impacts of changes in collections, fuel costs, and other major expenses. PREPA must also continue to work with other government agencies and large customers to accelerate receivables. After achieving service commencement, LUMA will begin carrying out many of these activities on behalf of PREPA.

The Puerto Rico power grid and its operators must be prepared for additional future economic shocks and recessions that may be triggered by causes other than a global pandemic, such as

105 Starting with Sunday March 15, 2020 and ending with Saturday April 11, 2020. This figure compares net generation for the same day and week with the prior year, starting with the first full week in January. For example, Sunday, January 5, 2020 was compared with Sunday, January 6, 2019 and Monday, March 16, 2020 compared with Monday, March 18, 2020.

106 Average system load was within 1% of FY2019 for the same four-week period, and slightly more than 1% higher than peak for the same period.

banking crises, trade and fuel disruptions, and political crises, among others. To mitigate future disruptions under curfew or adverse economic conditions on the utility sector, operational measures to increase remote control of the grid (e.g., distribution automation technologies, smart meter installation) must be considered in addition to pursuing measures to enhance system reliability and resilience. During an economic shock, declining collections would lead to a lower cash balance, elevating the need for effective liquidity management in the short term. In the longer term, fiscal measures, such as restructuring legacy debt obligations, will insulate the Puerto Rico utility sector against future economic shocks.

Chapter 9. Operational Measures

9.1 Overview

Operational measures defined in previous PREPA fiscal plans remain imperative for the transformation of Puerto Rico’s energy sector. Together, these measures span all aspects of the energy service value chain – generation, transmission and distribution, and customer service – and address chronic issues in electric service reliability, safety, sustainability, and affordability.

Consistent with requirements set forth in the Puerto Rico Oversight, Management, and Economic Stability Act (PROMESA) Section 201(b) and guidance provided by the Oversight Board, PREPA, as a covered entity, is required to identify and describe operational improvements to achieve fiscal targets and advance the energy sector transformation goals described in Chapter 3 (Transformation). The Fiscal Plan broadly defines “operational measures” as groups of projects or activities that share a common theme and are targeted at revenue enhancement, expense savings and/or performance improvements. PREPA must continue working on implementing multiple measures with its current organizational structure and resources, as it works with the Public-Private Partnership Authority (P3A) to achieve the Commonwealth Government’s vision and the Fiscal Plan’s requirement for transformation and privatization of the transmission and distribution (T&D) and generation functions before formal handover to a private operator. The private T&D operator, LUMA Energy LCC (LUMA), has further developed and proposed for the Puerto Rico Electric Bureau’s (PREB) approval certain operational measures during the Front-End Transition process that it will be implementing during FY2022 and beyond.

During FY2021, PREPA advanced projects under the eight (8) 2020 PREPA Fiscal Plan initiative reporting categories for FY2021. Most notable among these measures was its support of the procurement by the P3A of an operations and maintenance (O&M) service provider for the PREPA legacy generation assets and its support of the transition of T&D O&M services to LUMA. LUMA has also begun working with PREPA on the requirements stipulated in the T&D O&M Agreement starting on the O&M Agreement execution date, with a target commencement date for the complete transfer of T&D operations from PREPA to LUMA of June 1, 2021. Among the major responsibilities of LUMA carried out during the Front-End Transition period has been the preparation of an Initial Budget filing for PREB, which contains information on improvement programs organized into Portfolios. More information on the LUMA Initial Budgets and improvement portfolios can be found in Chapter 13 (LUMA Improvement Portfolios).

9.2 Key Accomplishments for FY2021

Over the course of the past fiscal year, PREPA has made progress towards several key operational measures as part of its transformation. However, much work remains to be done to complete other operational measures across PREPA’s generation assets and T&D system. After the target commencement date of June 1, 2021, LUMA will be responsible for T&D related operational measures, while PREPA must continue to advance generation related ones. Highlights of key accomplishments are presented below, followed by a more robust discussion of FY2022 milestones, timelines, and expected impact.

- **T&D Operator Front-End Transition:** To advance and support the Puerto Rico energy system transformation, PREPA coordinated with and supported LUMA during its Front-End Transition period to achieve milestones and requirements contemplated by the T&D OMA. This included the formation of teams and development of plans to prepare the organization for financial, operational, and legal transition (e.g., radio licenses for telecommunications, setup access to PREPA offices, Governmental Approvals, etc.) Front-End Transition teams have performed a significant number of deep dive assessments on PREPA’s organization and assets in order to guide and develop transition plans and take over T&D operations and maintenance by June 1, 2021.
- **Procurement Process for Legacy Generation Public-Private Partnership (P3):** PREPA management and its advisory teams developed materials for and supporting the administration of the Request for Proposal (RFP) and bidder due diligence process for the Legacy Generation P3, which the P3A formally launched on November 10, 2020. The RFP was released to eight (8) highly qualified bidders and has a target completion date of second half of calendar year 2021. The goal of this project is to comply with Puerto Rico’s energy policy as set forth by Act 17-2019 and the requirements of this and prior Fiscal Plans, to transfer operation of the generation assets of PREPA to a private operator to significantly improve the operations of the legacy generation assets and achieve cost efficiencies.
- **EcoEléctrica Power Purchase and Operating Agreement (PPOA) renegotiation:** The Title III Court authorized PREPA to assume the amended contracts for the renegotiated EcoEléctrica PPOA and long-term natural gas supply agreement for Costa Sur (Naturgy), which combined represent annual savings of up to \$10-20 million over the next five (5) years. The PREPA Governing Board signed and ratified the new contract, which went into effect on October 22, 2020.
- **Renewable PPOA renegotiation:** PREPA renegotiated non-operating, shovel-ready, renewable PPOA contracts after obtaining approval from PREB and the Oversight Board for a total of 150MW of new renewable power generation. The proponents selected by PREPA, Xzerta Tec Solar 1, LLC – approved by PREB – and Ciro-One Salinas, LLC – still pending PREB approval – will provide 60 MW and 90 MW of solar renewable generation capacity, respectively.
- **Costa Sur Remediation:** Damage from the January 2020 earthquakes necessitated substantial repair work on Units 5 and 6 of the Costa Sur power plant to improve grid reliability and regain a major capacity resource utilizing low-cost LNG fuel. PREPA completed Unit 5 repair by August 2020 and Unit 6 repair by January 2021. PREPA and will monitor operations closely to ensure continued availability of these key units. The successful repairs of Costa Sur Units 5 and 6 put a total capacity of approximately 820MW back into service. The goal and benefit of this project is to reestablish the operations of PREPA’s lowest cost generation units, increase system reliability, and reduce fuel purchase expenses.

9.3 Overview of Changes to FY2021 Measures

As expected, the transition of PREPA’s T&D operations to LUMA necessitates a wholesale review of all grid-related operational measures. To that end, TABLE 7 describes the status of each FY2021 initiative by category – across generation assets and the T&D system – and identifies the responsible party for each initiative that will remain incomplete at the end of FY2021.

After the transition of the T&D-related measures to LUMA, PREPA must continue to implement measures related to generation assets and liability management until completion of the P3 procurement process and the transition of PREPA's generation assets to the private operator(s), along with the exit from Title III proceedings.

TABLE 7: OVERVIEW OF CHANGES TO FY2021 INITIATIVES

FY2021 Initiative Category	Initiatives	Status	2022 Fiscal Plan - Responsible Party
1) PPOAs	1.1 EcoEléctrica	Completed	PREPA
	1.2 AES	Completed	PREPA
	1.3 Renewables Agreements	Completed	PREPA
2) Generation Capacity Upgrades & Maintenance	2.1 Repair of San Juan Combined Cycle Power Plant	In progress	PREPA
	2.2 Costa Sur Remediation	Completed	PREPA
	2.3 Generation Plant Maintenance	Delayed	PREPA
3) Fuel Supply	3.1 Diesel Fuel Supply	In progress	PREPA
	3.2 Bunker Fuel Supply	In progress	PREPA
4) Customer Service Improvement	4.1 Damaged Meter Replacement	In progress	Transfer to LUMA
	4.2 CILT	Delayed	Transfer to LUMA
	4.3 E-Billing and Online Payment Utilization	Delayed	Transfer to LUMA
	4.4 Theft Reduction	In progress	Transfer to LUMA
	4.5 Outsourced Call Center Utilization	In progress	Transfer to LUMA
5) Energy Management & Modernization	5.1 Technical Loss Study	Delayed	Transfer to LUMA
	5.2 Vegetation Management	In progress	Transfer to LUMA
	5.3 Streetlighting Repair	In progress	Transfer to LUMA
	5.4 T&D enhancement Projects	Delayed	Transfer to LUMA
6) Personnel	6.1 Overtime Reduction	Delayed	PREPA
	6.2 HR Procedures Reporting	Delayed	PREPA
	6.3 Employee Injury Reporting and Safety	Completed	PREPA
7) Working Capital Action Plan	7.1 AR/AP Cash Flow Reporting	Completed	PREPA
	7.2 Real Estate Optimization	Delayed	Transfer to LUMA
	7.3 Collections Improvement and Bad Debt Reduction	Delayed	Transfer to LUMA

9.4 Overview of PREPA Initiatives for FY2022

As LUMA begins to advance remediation and transformation of the T&D system, PREPA must continue to implement interim initiatives on generation asset-related initiatives, Title III-related

financial reporting and implementation requirements, and support of Legacy Generation P3 and reorganization efforts needed to complete the transformation objectives.

TABLE 8: FY2022 INITIATIVES

FY2022 Initiative Category	Initiative List
1) PPOAs	1.1 Renewable Generation & Storage RFP
2) Fuel Supply	2.1 Diesel Fuel Supply Contract
	2.2 Bunker Fuel Supply Contract
3) Pension Reform	3.1 Pension Plan Reform Implementation
4) PREPA Reorganization and Legacy Generation P3	4.1 Legacy Generation P3
	4.2 PREPA Reorganization Implementation

9.4.1 Fuel Supply

In addition to the renegotiations of the PPOAs, PREPA must continue to proactively and regularly explore opportunities to improve fuel procurement and delivery terms. For this reason, on December 1, 2020, the Oversight Board encouraged PREPA to perform a market analysis, which shall include, but is not limited to, a comprehensive review of PREPA’s fuel supply and delivery needs and logistical constraints. With two of its major supply contracts up for renewal in Q1 FY2022 PREPA must continue to improve existing and new contracts for its fuel supply by instituting competitive processes to obtain the best available market prices. The key metrics in the fuel supply RFPs are the adders to index commodity pricing, where a lower adder results in lower all-in fuel costs. The competitive process for diesel and bunker fuel started in May 2021 and will be completed before the expiration date of the current contracts, as illustrated in TABLE 9.

Diesel Fuel Supply: PREPA’s existing diesel fuel supply contract was extended on November 20, 2020, for an additional year until November 20, 2021. To ensure transparency and access to competitive pricing, PREPA must assess market interest through an RFI process for diesel supply, starting in the second half of FY2021. PREPA must then implement a competitive RFP for a new diesel supply contract during FY2022. Both the RFI and subsequent RFP will be informed by the results of the market analysis conducted in FY2021.

Bunker-C Fuel Supply: PREPA negotiated an amendment that extends the existing bunker fuel supply agreement until October 2021. PREPA intends to launch an RFP process for future bunker fuel supply towards the end of FY2021.

TABLE 9: FUEL SUPPLY ACTION PLAN

Projects	#	Milestones	Proposed Deadline
Diesel Fuel Supply	1	Begin competitive process to award a new contract for diesel fuel supply	May 2021
	2	Finalize competitive process to award a new contract for diesel fuel supply	July 15, 2021
	3	If selected proponent from competitive process is not the incumbent, provide timely written notification of termination per contract terms to the incumbent	July 22, 2021
	4	Finalize agreement with selected supplier and seek approval to execute the contracts with the PREPA Governing Board and the Oversight Board	August 31, 2021

Projects	#	Milestones	Proposed Deadline
	5	Current contract expires	November 20, 2021
	6	Commence new contract	November 21, 2021
Bunker Fuel Supply	1	Begin competitive process to award a new contract for diesel suppliers	April 2021
	2	Finalize agreement with selected supplier and seek approval to execute the contracts with the PREPA Governing Board and the Oversight Board	August 31, 2021
	3	Current contract expires	October 30, 2021
	4	Commence new contract	October 31, 2021

9.4.2 Pension Reform

PREPA’s exit from Title III is expected to occur during FY2022. In preparation for its exit from Title III proceedings, and in furtherance of ongoing requirements from the Oversight Board, Title III Court, and creditors, PREPA shall continue to produce certain periodic financial and operational reports. To that end, the Fiscal Plan once again includes two initiatives from last year’s Fiscal Plan, and adding one more, under a new consolidated category to enable the Oversight Board’s tracking of these critical projects.

Pension Plan Reform:

The independent actuarial assessment performed by PREPA’s pension advisor, Aon Hewitt, based on asset experience through June 2020 and an assumed rate of return of 5.3% demonstrates that liabilities for PREPA’s Employee Retirement System (ERS) have grown to approximately \$4.3 billion, with \$3.6 billion of that amount still unfunded. To avoid pension plan insolvency and cessation of benefit payments to retirees, a pension reform must be implemented. See additional detail on the pension system in Chapter 16 (Pension Plan).

9.4.3 PREPA Reorganization and Legacy Generation P3

To achieve Puerto Rico’s energy system transformation, a change in PREPA’s historical roles and responsibilities and their reassignment through multiple entities is imperative. PREPA’s Certified 2020 Fiscal Plan required PREPA’s vertically integrated operations to be disaggregated into Generation and T&D utility functions – GenCo and GridCo, respectively. GenCo is comprised of existing PREPA-owned generation resources that are to be operated and maintained by one or more private operators until their retirement, as mandated by Act 17-2019¹⁰⁷ and outlined in PREPA’s approved Integrated Resource Plan. In addition to the selection of LUMA as the T&D operator, Puerto Rico’s transformed energy sector also rests on the GenCo private operator(s) as the party responsible for, among other activities, the operation and maintenance of existing PREPA-owned generation resources, environmental compliance, safety, and plant retirement and decommissioning. Additionally, the private operator(s) will be responsible for working closely with LUMA to ensure appropriate short-, mid-, and long-term system planning and timely and

107 The Puerto Rico Energy Public Policy Act, Act No. 17 of April 11, 2019

efficient execution of system-wide capital improvements. As such, on November 10, 2020, the P3A issued a RFP to select one or more private operators for PREPA’s existing generation assets.

In addition to the measures outlined above, PREPA must play an integral role in the Front-End Transition to the legacy generation P3 O&M service provider in FY2022, in accordance with the milestones and requirements specified in the O&M agreement. In FY2022, PREPA must implement the actions laid out in the PREPA Reorganization Plan (see TABLE 10 below for objectives and milestones).

TABLE 10: GENERATION FRONT-END TRANSITION AND REORGANIZATION PLAN

Projects	#	Milestones	Proposed Deadline
Front-End Transition to Legacy Generation P3 Service Provider	1	Formation of teams and development of plans to prepare the organization for financial, operational, and legal transition	July 1, 2021
	2	Identify and obtain government approvals and tax assurance required for Service Commencement Date	May 31, 2022
	3	Complete all other conditions and requirements before Service Commencement Date	TBD ¹⁰⁸
PREPA Reorganization Plan Implementation	1	Develop and submit to the Oversight Board an initial PREPA Reorganization Plan with description of milestones and dependencies based on input from PREPA, P3 Authority, AAFAF, LUMA and future P3 operators to complete legal and operational reorganization, to be updated on a quarterly basis with monthly updates as relevant developments are made	September 30, 2021
	2	PREPA Reorganization Plan Quarterly Update	December 31, 2021
	3	PREPA Reorganization Plan Quarterly Update	March 31, 2022
	4	PREPA Reorganization Plan Quarterly Update	June 30, 2022

9.5 Overview of LUMA Initiatives

In February 2021, LUMA submitted its proposed performance metrics, System Remediation Plan (SRP), Initial Budgets, and System Operation Principles to PREB for approval. These filings are closely interrelated and seek to align utility services with current Puerto Rico public energy policy, as reflected in LUMA’s Recovery and Transformation Framework.

The activities proposed within these filings aim to improve safety for utility employees and the people of Puerto Rico (including better training and safety equipment), improving customer experience, including faster response and resolution times, greater service reliability, and overall more effective delivery of utility services. LUMA also anticipates it will complete significant remediation and improvement work to the utility grid across Puerto Rico, while driving operational excellence through system measures. Further, the activities described in these filings will lay the groundwork, and incorporate solutions for the grid modernization, digital transformation, and renewable energy integration called for in Act 17-2019¹⁰⁹, as well as this and

¹⁰⁸ Subject to the milestones for service commencement once the OMA is signed.

¹⁰⁹ The Puerto Rico Energy Public Policy Act, Act No. 17 of April 11, 2019.

prior Fiscal Plans, and outlined in the Modified Action Plan of PREPA's Integrated Resource Plan (IRP).

The information presented below is a summary of the initiatives included in those filings – specifically, the LUMA Initial Budgets and SRP – and is subject to change upon final approval by PREB, which is expected by June 1, 2021. LUMA's improvement programs have been organized into portfolios of similar, interdependent programs that together cover all functional areas of the utility. The following overview describes the seven (7) portfolios at a high level.

The **customer service portfolio** includes a set of programs to improve customer service through modernized customer service technology, improve billing systems, implement advanced metering infrastructure, establish a "Voice of the Customer" program, and upgrade and replace distribution streetlights.

The **distribution portfolio** includes improvements to the distribution system, including overhead and underground distribution line rebuilds, pole and conductor repairs, system inspections and spot repairs and replacements as needed, and implementation of technology that enables planning.

The **transmission portfolio** includes improvements to the transmission system, including line rebuilds and hardening, priority pole replacements, system inspections and spot repairs with replacements as needed, and improved transmission monitoring systems, as well as telecommunications investments to improve first responder and emergency response communication and centralized monitoring and control.

The **substations portfolio** includes investments to rebuild, harden, and modernize transmission and distribution substations, including physical security upgrades, and studies to eliminate major cascading outages and ensure system compliance with codes and regulations.

The **control center & buildings portfolio** includes investments in rebuilding damaged facilities, upgrading security systems, and implementing energy and advanced distribution management systems that enable renewable energy, demand response, and battery storage integration and dispatch.

The **enabling portfolio** includes a number of safety and operational excellence programs and initiatives including the provision of new tools and Personal Protective Equipment (PPE), skills and safety training for all employees, a new program management office to plan and execute large capital projects, a new data system to manage T&D asset data, and vegetation and fleet management.

The **support service portfolio** includes cross-functional programs that service all departments, such as Human Resources (HR), IT / OT, and finance. This portfolio also includes studies on renewables integration and minigrids.

More details on the improvement portfolios, including a summary of annual spending estimates for each portfolio for FY2022 through FY2024, are provided in Chapter 13 (LUMA Improvement Portfolios). In addition to the seven improvement portfolios, LUMA and the P3A will each be

responsible for certain aspects of the work associated with the renewable energy generation and storage resources RFPs.

The first **renewable energy generation and storage resources RFP** was launched by PREPA on February 22, 2021 to comply with legislative mandates and regulatory orders promulgated by PREB to increase renewable power capacity in Puerto Rico. The first tranche of the RFP seeks to procure at least 1,000MW of renewable generation capacity and at least 500 MW / 2,000 MWh (effective duration of 4-hour capacity per MW), including at least 150MW of distributed energy storage Virtual Power Plants (VPPs). Among the key metrics for the renewable resources RFP are bid pricing, technical viability, and contractor experience, which will determine the ultimate cost and overall savings from prevailing and historic generation costs. During the first tranche of the RFP, LUMA will be solely responsible for the grid integration of the selected proponents and will provide feedback and expert support with respect to integration costs. Following the T&D transition, from the second tranche through the sixth (last), LUMA and the P3A will be responsible for the procurement process itself (including negotiations and selection), including but not limited to, planning requirements that support the definition and scoping of future RFPs, along with grid integration and providing support and expertise during the RFP process.

For additional detail on the initiatives to be implemented by LUMA, including those listed above and those to be transferred by PREPA to LUMA, see Chapter 13 (LUMA Improvement Portfolios) in this Fiscal Plan and Annex D to LUMA's Initial Budget filing before PREB titled *Initial Budgets – First 3 Years of Recovery & Transformation*,¹¹⁰ which includes, for each program/initiative, the following: (1) rationale; (2) objectives; (3) goals, (4) program activities benefits; & risks; and (5) funding & timeline. In addition, in relation to performance metrics, note that there are two open PREB dockets, one to establish a baseline and another to approve LUMA's performance metrics as established under the T&D OMA.¹¹¹

¹¹⁰ LUMA filed the Initial Budget before PREB on February 24, 2021 as Exhibit 1 to a motion titled Petition for Approval of Initial Budgets and Related Terms of Service, which can be located on PREB's docket NEPR-MI-2021-0004 (In Re: LUMA Initial Budgets and Related Terms of Service).

¹¹¹ See PREB dockets, NEPR-MI-2019-0007 and NEPR-AP-2020-0025.

Chapter 10. Resource Planning and Resiliency

Act 57-2014 and Act 17-2019 require PREPA prepare and submit to the Puerto Rico Electric Bureau (PREB) an Integrated Resource Plan (IRP) for a 20-year planning period, which shall be revised every three years. Act 17-2019 defines the IRP as a resource plan that shall consider all reasonable resources, including both energy supply (e.g. utility-scale generation) and energy demand (e.g. energy efficiency, demand response, and distributed generation), to reliably satisfy the current and projected future needs of Puerto Rico’s energy system and its customers at the lowest reasonable cost.¹¹² Act 57-2014 also mandates that the IRP shall include evaluations of the transmission and distribution system (e.g. capacity and reliability) and the environmental impact of the energy system.¹¹³

PREB approved the current IRP on August 2020, requiring PREPA and any PREPA successors to follow a Modified Action Plan and Modified Preferred Resource Plan with the following grid and generation modifications to form the three core elements of the Approved IRP:

- 1. Increasing share of renewable generation and storage** – including the additions of new renewable energy generation, energy storage, retiring or converting all existing coal and heavy fuel oil generation, and system modifications (e.g. synchronous condensers) to enable integration of inverter-based generation;
- 2. Enhancing grid resilience** – including capital investment in the transmission and distribution system to support greater resilience and reliability and further optimization proceedings to determine optimal transmission and distribution (T&D) system investments—including the potential development of minigrids and microgrids—to improve resiliency; and
- 3. Enabling customer choice** – including changes to the system to support the incorporation of distributed generation (DG, e.g. rooftop solar photovoltaic) and recommended energy efficiency (EE) and demand response (DR) programs, allowing the customer to play a meaningful role in Puerto Rico’s electricity grid.

As the selected private operator of the T&D system, LUMA will be responsible for implementing the approved IRP and any subsequent amendments thereto. LUMA will also operate as PREPA’s representative before PREB and any other local, state, or federal government agencies, and will therefore be responsible for preparing and proposing a new IRP for review and approval by PREB per the revision cadence of every three years stated in Act 17-2019.

10.1 Overview of the Approved IRP

10.1.1 History of PREB Review and Approval of the IRP

PREPA filed its first IRP in 2015, which was approved by PREB in September 2016.¹¹⁴ As a result of Hurricanes Irma and Maria in 2017, Puerto Rico not only faced the unprecedented challenge of rebuilding the electric power system, but also had to rethink how to harden and modernize the

¹¹² Act 17-2019, Puerto Rico Energy Public Policy Act, approved April 11, 2019, Section 5.2(II).

¹¹³ Act 57-2014, Puerto Rico Energy Transformation and RELIEF Act, approved May 27, 2014, Section 6C(h)

¹¹⁴ Final Resolution and Order, In Re: Integrated Resource Plan for the Puerto Rico Electric Power Authority, Case No. CEPR-AP-2015-0002, September 23, 2016.

grid to better equip Puerto Rico against future natural catastrophes, while diversifying fuel sources and increasing the grid's reliance on renewable energy resources.

On February 13, 2019, PREPA filed its initial proposed IRP for PREB's approval (Initial IRP). After reviewing the Initial IRP, PREB issued a motion finding the Initial IRP as "non-compliant" and requested PREPA to refile the Initial IRP after addressing a series of items listed and detailed in a resolution issued by PREB on March 14, 2019.¹¹⁵ On June 7, 2019, PREPA refiled its proposed IRP after making a series of revisions that were delineated and required by PREB (Proposed IRP). PREB issued its Final Resolution and Order on PREPA's Proposed IRP on August 24, 2020.

10.1.2 *PREB Modified Action Plan and Modified Preferred Resource Plan*

PREB's Final Resolution and Order (Final Order) approved in part and rejected in part the Proposed IRP and ordered the adoption and implementation of a Modified Action Plan and Modified Preferred Resource Plan in lieu of PREPA's proposed Action Plan and Preferred Resource Plan (Approved IRP).¹¹⁶ The following three notable modifications to the grid were approved by PREB, which form the core elements of the Modified Action Plan and Modified Preferred Resource Plan for PREPA:

1. Increasing share of renewable generation and storage while retiring or converting existing coal and heavy fuel oil generation;
2. Enhancing grid resilience through hardening capital projects, including potential minigrids and microgrids; and
3. Enabling customer choice through DG, EE, and DR programs.

Increasing Share of Renewable Generation and Storage

In the Final Order, PREB ordered PREPA to develop a plan to procure 3,750 MW of renewable energy and 1,500 MW of battery storage by 2025.¹¹⁷ In addition, PREB approved the installation of up to 81 MW of local peaking capacity procured through a technology-agnostic, competitive bid Request for Proposal (RFP) process that is open to all single or aggregate sources of demand and supply-side options. PREB also approved the conversion of eight (8) retired steam plants to synchronous condensers to enable voltage stability following the installation of inverter-based renewable generation and battery storage. The Final Order clarified that the conversion plan will be subject to additional studies and coordinated with retirement schedules.

PREB rejected the development and construction of most proposed new fossil fuel generation resources, including the retirement and wholesale replacement of all eighteen (18) existing gas turbine peaking units, any new liquified natural gas infrastructure, and large-scale development efforts on a new combined cycle gas turbine unit at Palo Seco. PREB did authorize up to \$5 million for preliminary economic, siting, permitting, and feasibility analysis at the Palo Seco site for a new

115 Resolution and Order, In Re: Completeness of Puerto Rico Electric Power Authority Integrated Resource Plan Filing, Confidential Treatment of Portions of the Integrated Resource Plan and Requested Waivers, Case No. CEPR-AP-2018-0001, March 14, 2019.

116 Final Resolution and Order, In Re: Review of the Puerto Rico Electric Power Authority Integrated Resource Plan, Case No. CEPR-AP-2018-0001, August 24, 2020.

117 Resolution and Order, In Re: Completeness of Puerto Rico Electric Power Authority Integrated Resource Plan Filing, Confidential Treatment of Portions of the Integrated Resource Plan and Requested Waivers, Case No. CEPR-AP-2018-0001, March 14, 2019.

fossil fuel-powered unit and fuel infrastructure, so long as it does not interfere with or delay the procurement of renewable energy or battery storage. With regard to fossil fuel-powered power purchase and operating agreements (PPOAs), PREB approved both the extension of the EcoEléctrica contract through 2032 and the cessation of the agreement for coal-fired AES units by the end of 2027, pursuant to Act 17-2019. Finally, PREB approved the retirement of approximately 2.4 GW of existing fossil fuel units¹¹⁸ subject to the EPA’s Mercury and Air Toxics Standards (MATS) rule.

Enhancing Grid Resilience

The Final Order found the Proposed IRP adequately established the need for (1) transmission system upgrades; (2) the expenditure of up to \$2 billion for hardening of transmission infrastructure; and (3) the investment of \$911 million in distribution system upgrades to enhance resiliency and support distributed generation. However, PREB ordered PREPA to seek PREB approval for specific T&D expenditures prior to making any final planning or investments. PREB also announced the opening of an optimization proceeding that will determine the optimal transmission investments for ensuring a more resilient electric power system, including assessing the ability for small-scale distributed resources—such as minigrids—to contribute to resiliency.

As PREPA’s successor in operating and maintaining the transmission & distribution grid, LUMA will be responsible for planning and implementing any grid resiliency measures, including seeking and acquiring the necessary approvals from PREB for future capital projects and expenditures.

Enabling Customer Choice

The Approved IRP’s Modified Action Plan enables further customer choice through various programs, including DG, EE, and DR. PREB ordered PREPA to further enable DG by ensuring all distribution system planning and expenditures support DG. With regard to DR, the Modified Action Plan requires PREPA to develop internal systems and external programs and offerings available to all customer classes to engage aggregators of DR resources to offer, dispatch, and be compensated for cost-effective DR resources. For EE, PREB ordered PREPA to take all necessary steps to support PREB’s forthcoming EE Regulation and underlying objective of 30% EE savings by 2040 (compared to FY2019 net utility sales) as mandated in Act 17-2019, including providing support for program implementation, analysis, funding, and financing.

10.2 IRP Modified Action Plan Implementation

As the contracted private operator of the T&D system, LUMA will also be responsible for implementing the Approved IRP and any subsequent amendments to it, including the procurement of new generation assets or generation supply contracts in conjunction with P3A.

10.2.1 Renewable Generation and Storage

Under the Modified Action Plan, PREPA is required to develop a detailed procurement plan for the acquisition of renewable resources and battery energy storage to achieve compliance with the Renewable Portfolio Standard (RPS), subject to the Energy Bureau’s guidance and approval. Then, consistent with the PREB-approved procurement plan, PREPA is required to issue a series of RFPs for the provision of (a) renewable energy in support of Act 82’s RPS mandate, and (b)

¹¹⁸ Units to be retired are Aguirre 1 & 2, Costa Sur 3, 4, 5, & 6, Palo Seco 1, 2, 3, & 4, San Juan 7, 8, 9, & 10, and AES’s coal generation facility.

battery energy storage in support of (1) capacity needed to meet PREPA’s peak load requirements and (2) requirements for integration of renewable energy generation. These competitive procurements must be open to all forms of renewable energy including, but not limited to, wind, hydro, solar photovoltaic, Virtual Power Plants (VPPs), and storage. Successful proponents of renewable generation and energy storage projects will enter into long-term PPOAs, energy storage services agreements, or grid services agreements (in the case of VPPs) with PREPA.

On February 22, 2021, as part of its efforts to implement the Modified Action Plan, PREPA issued an RFP¹¹⁹ for 1,000 megawatts of renewable power production and 500 MWs of battery storage, incorporating recommendations from PREB and the Oversight Board. The RFP solicits proposals for the design, construction, installation, ownership, operation, and maintenance of renewable energy resources, energy storage resources, and VPPs for sites across Puerto Rico and for a service period of up to 25 years. The RFP is the first of a planned six (6) RFP tranches to be released over the next three (3) years seeking a cumulative 3,750 MWs of renewable energy resources and 1,500 MWs of energy storage resources.¹²⁰ The tranche RFP cadence and minimum required renewable energy and battery storage capacity per tranche as ordered by PREB in the Modified Action Plan is included in Exhibit 54. After service commencement, LUMA and the Public-Private Partnership Authority (P3A) will be responsible for managing and ensuring the procurement of any additional tranches, as well as other resource needs and investments required by the Approved IRP.

EXHIBIT 54: PREB GUIDANCE FOR PROCUREMENT OF RENEWABLE ENERGY GENERATION AND BATTERY STORAGE CAPACITY

<u>RFP target release date</u>	<u>Solar PV or equivalent other energy, MW</u>		<u>4-hr. battery storage equivalent, MW</u>		
	<u>Minimum</u>	<u>Cumulative</u>	<u>Minimum</u>	<u>Cumulative</u>	<u>Tranche</u>
Dec. 2020	1,000	1,000	500	500	1
Jun. 2021	500	1,500	250	750	2
Dec. 2021	500	2,000	250	1,000	3
Jun. 2022	500	2,500	250	1,250	4
Dec. 2022	500	3,000	125	1,375	5
Jun. 2023	750	3,750	125	1,500	6

10.2.2 Grid Resiliency Measures

As the T&D system operator, LUMA will be responsible for planning and implementing grid resiliency measures. As part of the Front-End Transition, LUMA has developed capital plans utilizing federally- and non-federally funded capital to repair, remediate, and modernize the existing system and improve resiliency against extreme events. In its proposed Initial Budgets, LUMA budgeted just under \$1 billion from FY2022 through FY2024 for T&D infrastructure repair, modernization, and hardening projects. Further information on capital plans can be found in Chapter 11 (Capital Plans) and Chapter 13 (LUMA Improvement Portfolios) for PREPA and

119 PREPA RFP No. 112648, February 22, 2021.

120 More information on the current status of the RFP process can be found in Chapter 3.

LUMA, respectively. Further information on sources and uses of federal funding can be found in Chapter 12 (Federal Funding).

On December 22, 2020, PREB issued a resolution and order commencing the optimization proceeding called for as part of the Modified Action Plan.¹²¹ This ongoing optimization proceeding has the intent of exploring costs, benefits, and alternative configurations and combinations of distributed resources that would safeguard against the effects of outages resulting from severe weather events.

10.2.3 *Enabling Customer Choice*

PREB's Modified Action Plan enables further customer choice through various programs, including DG, EE, and DR. As the private operator of the T&D system, LUMA—following service commencement—will be responsible for ensuring the grid is ready for the integration of DG. LUMA's Recovery and Transformation Framework, including the SRP, has proposed T&D system coordination studies to inform planning for and empowering the integration of DG.

Act 57-2014 requires PREB to establish regulations governing EE and DR programs. PREB adopted a regulation for DR¹²² on December 10, 2020 and proposed a regulation for EE¹²³ on April 21, 2021. The adopted DR regulation and proposed EE regulation utilize similar program approaches for development, administration, implementation, and funding. Both documents require PREPA, a PREPA successor, or a program administrator (to be selected by PREPA following a competitive bid process) to develop and implement DR and EE programs. Implementation of the adopted and proposed regulations is centered on three-year periods driven by three-year plans which will be developed by LUMA, on behalf of PREPA, and approved by PREB. Each three-year plan will identify the proposed DR or EE programs, budgets, and goals for a three-year period. LUMA, on behalf of PREPA, will be required to prepare and submit separate three-year plans for DR and EE. Following the first and second years of implementation of each three-year plan, LUMA, on behalf of PREPA, will be required to submit an annual update to PREB for approval that describes in detail any proposed changes to the program offerings, performance metrics, targets, and/or budget.

All DR and EE programs must be assessed for cost-effectiveness through a custom cost-benefit test called the "Puerto Rico Test" which will be developed by PREB. Until the Puerto Rico Test is defined, a standard interim cost/benefit test—currently the standard Utility Cost Test—will be used to determine cost-effectiveness of proposed programs. For both EE and DR, Evaluation, Measurement, & Verification (EM&V) activities are required to be performed. Per the DR regulation, PREB will be responsible for evaluating DR programs while LUMA, on behalf of PREPA, will be responsible for measuring and verifying the DR resources provided by all DR program providers through a set of formal procedures approved by PREB. In the proposed EE regulation, PREB will be responsible for EM&V activities.

The adopted DR regulation and the proposed EE regulation permit the PREB-approved program budgets to be recovered in T&D rates. In addition, the DR regulation permits LUMA, on behalf of PREPA, to develop and implement (with PREB's approval) time-varying rates and/or demand

121 Resilience Optimization Proceeding, In Re: Optimization Proceeding of Minigrid Transmission and Distribution Investments, Case No. NEPR-MI-2020-0016, December 22, 2020.

122 Adoption of Regulation for Demand Response, In Re: Regulation for Energy Efficiency and Demand Response, Case No. NEPR-MI-2019-0015, December 10, 2020.

123 Notice of Proposed Regulation and Request for Public Comments, In Re: Regulation for Energy Efficiency, Case No. NEP-MI-2021-0005, April 21, 2021.

charges informed by the costs of distribution or transmission infrastructure and energy supply and capacity, so long as the rate structure does not discourage beneficial electrification.

LUMA, on behalf of PREPA, must submit its first DR three-year plan to PREB for review within six (6) months of the adoption of the DR regulation. As of the certification of this Fiscal Plan, the proposed EE regulation has not yet been adopted.

10.3 Role of the IRP in Capital Plans

The Modified Action Plan and Modified Preferred Resource Plan within the IRP are key plans informing strategic capital plans, operational initiatives, and supply- and demand-side programs in both the generation and T&D systems. The generation system's 10-year Infrastructure Plan and the T&D system's improvement programs & Portfolios, including the LUMA System Remediation Plan (SRP), are all required to comply with the Approved IRP.

PREPA's 10-Year Infrastructure Plan is a work plan developed at the request of FEMA and COR3 following the obligation of \$10.7 billion earmarked for PREPA to repair and/or replace electrical systems, power generation systems, and to make other grid improvements. The 10-Year Infrastructure Plan outlines PREPA's proposed investments in Puerto Rico's electric systems over the next ten (10) years. On December 30, 2020, PREB required PREPA to submit the 10-Year Infrastructure Plan to PREB for its review to confirm the alignment of the 10-Year Infrastructure Plan with the Approved IRP. By resolution and order¹²⁴ dated January 25, 2021, PREB found that certain elements of the 10-Year Infrastructure Plan were inconsistent with the Approved IRP and the Modified Action Plan. PREB directed PREPA to file a revised plan consistent with the Approved IRP and Modified Action Plan. PREPA submitted and requested PREB approval of a revised 10-Year Infrastructure Plan on February 16, 2021. On March 26, 2021, PREB issued a resolution and order¹²⁵ in which it accepted certain elements of PREPA's revised 10-Year Infrastructure Plan, finding those elements consistent with the Approved IRP and Modified Action Plan. For elements not aligned with the Approved IRP and Modified Action Plan, PREB ordered PREPA to further modify the revised 10-Year Infrastructure Plan accordingly. PREB also ordered PREPA to submit to the Bureau for evaluation and approval all capital investment projects PREPA had already submitted to FEMA or any other federal or local agency.

LUMA has developed a set of improvement portfolios for the T&D system, which includes the LUMA Initial Budgets and the SRP. In developing the goals and mission of the framework guiding these Portfolios, LUMA states it referenced the Approved IRP and Modified Action Plan to ensure the improvement portfolios are aligned with some aspect of the Approved IRP and Modified Action Plan.¹²⁶ In addition, LUMA states that compliance with the Approved IRP was an objective

124 Resolution and Order, Determination on alignment with the Approved Integrated Resources Plan and Modified Action Plan, In Re: Review of the Puerto Rico Electric Power Authority's 10-Year Infrastructure Plan – December 2020, Case No. NEPR-MI-2021-0002, January 25, 2021.

125 Resolution and Order, PREPA's Revised 10-Year Plan Evaluation, In Re: Review of the Puerto Rico Electric Power Authority's 10-Year Infrastructure Plan – December 2020, Case No. NEPR-MI-2021-0002, March 26, 2021.

126 See Section VI.A in Petition, Filing of System Remediation Plan under Section 4.1(d) of the Operation and Maintenance Agreement for Energy Bureau's Evaluation and Approval, In Re: Review of the Puerto Rico Electric Power Authority's System Remediation Plan, Case No. NEPR-MI-2020-0019, February 24, 2021.

in designing individual improvement initiatives.¹²⁷ Both the LUMA Initial Budgets and the SRP require approval from PREB and—as of certification of this Fiscal Plan—had not yet been approved. The compliance of the framework and plans with the Approved IRP and Modified Action Plan cannot be confirmed until PREB has evaluated and approved the LUMA Initial Budgets and SRP. Further information on the content of the improvement portfolios can be found in Chapter 13 (LUMA Improvement Portfolios).

10.4 Development of Future Integrated Resource Plans

Following the T&D OMA service commencement, LUMA will be responsible for preparing, presenting, and defending legal and regulatory filings as PREPA’s representative before PREB and any other local, state, or federal government agencies. This will include preparing and proposing a new IRP for review and approval by PREB that ensures LUMA is able to provide safe and adequate transmission and distribution service at reasonable rates consistent with budgetary and T&D System requirements. LUMA will also be responsible for implementing the Approved IRP and any subsequent amendments to it.

As part of the Final Resolution and Order on PREPA’s Proposed IRP¹²⁸, PREB ordered that PREPA conduct a competitive bid process to select the next consultant for development of the IRP. As PREPA’s representative, LUMA will be required to comply with this order as part of the preparation process of the next IRP.

¹²⁷ See SRP, Section 1.4.2 as attached to Petition, Filing of System Remediation Plan under Section 4.1(d) of the Operation and Maintenance Agreement for Energy Bureau’s Evaluation and Approval, In Re: Review of the Puerto Rico Electric Power Authority’s System Remediation Plan, Case No. NEPR-MI-2020-0019, February 24, 2021.

¹²⁸ Final Resolution and Order, In Re: Review of the Puerto Rico Electric Power Authority Integrated Resource Plan, Case No. CEPR-AP-2018-0001, August 24, 2020.

Chapter 11. Capital Plans

Over the next years, significant financing resources will be available to be directed towards the rebuilding and transformation of Puerto Rico’s energy generation and transmission and distribution (T&D) systems. Approximately \$14 billion over the next ~10 years has been obligated to this effort, of which a portion will be federal capital (see Chapter 12 for details). The inflow of federal capital—as well as the state funding obligated for cost-share amounts—is a significant opportunity to modernize Puerto Rico’s energy infrastructure, including its chronically underperforming power sector, and a crucial enabler of general economic recovery. Historically PREPA has never effectively deployed capital at this scale. From 2012 to 2017, PREPA spent an annual average of only 2.6% of its total assets on capital investments, less than half of the approximately 6% annual average of peer utilities.¹²⁹ With limited recent capital expenditures and poor delivery performance on those expenditures, PREPA lacks the experience to execute at scale projects in a short period of time, and within budget. Therefore, PREPA must leverage the expertise and experience of the private operator for the T&D system, LUMA Energy LLC (LUMA), which will oversee the capital project deployment for T&D system improvements, accounting for approximately 80% of federally-funded investments. Generation projects will remain PREPA’s responsibility until private operator(s) are identified.

PREPA and LUMA have developed capital roadmaps and plans that reflect their perspectives on critical needs to recover and reconstruct the energy system. A capital plan is a consolidated list of prioritized and sequenced capital projects for a particular timeframe—usually ranging from three to twenty years—that include project scope, purpose, funding or financing strategies, and high-level timelines and milestones. PREPA’s initial 10-Year Infrastructure Plan is a roadmap that covers both generation and T&D related projects. However, after LUMA takes over operations and maintenance (O&M) responsibilities for the T&D system, all grid related capital projects will be managed and executed by LUMA. Therefore, LUMA’s improvement portfolios as outlined in the LUMA Initial Budgets and System Remediation Plan (SRP) define the capital plan for T&D assets and IT, telecommunications, and grid management systems. This chapter covers the development process of the 10-year Infrastructure Plan, the generation projects within the 10-years Infrastructure Plan, as well as capital delivery best practices. A summary of LUMA’s improvement portfolios and capital plan, estimated expenditures, funding sources, project portfolios, and notable project summaries can be found in Chapter 13 (LUMA Improvement Portfolios).

In the near-term (i.e., from 2021-23) PREPA plans to spend ~\$700 million on generation-related capital projects and ~\$780 million on projects in the hydro, dams, and irrigation asset category. Notable near-term generation projects include repair of damages incurred during the 2017 hurricanes, renewable energy and battery storage projects, conversion of synchronous

129 Savings N Loan Financial, “Assets and Capex 2000-2018,” part of S&P Global Market Intelligence database, 2018.
Ernst and Young, “Statement of Cash Flows,” Financial Statements, Required Supplemental Information, and Supplemental Schedules: Years Ended June 30, 2013 and 2012, (2013), 20-21.
PREPA, “Statement of Cash Flows,” Financial Statements, Required Supplemental Information and Supplemental Schedules: Years Ended June 30, 2014 and 2013, (2013), 29-30.
PREPA, “Statement of Cash Flows,” Financial Statements, Required Supplemental Information and Supplemental Schedules: Year Ended June 30, 2015, (2015), 22-23.
PREPA, Independent Auditors’ Report, Audited Financial Statements, Required Supplementary Information, and Supplemental Schedules for the Year Ended June 30, 2016, (2016), 18.

condensers, new black start and mobile emergency generation, and a new thermal generation feasibility study.¹³⁰ Near-term dams and hydro projects focus on improving dam safety as well as repairing damage from sediment, storm debris, and erosion.

With more than \$14 billion in federally funded investments (including cost-share and state match amounts) identified, the implementation of sound capital deployment principles will be a critical need for PREPA, LUMA, and private generation operator(s) going forward. Best practices that should guide efforts include clearly defined evaluation criteria for prioritizing projects, firm project management execution – including contractor management and permitting – to comply with budgeted amounts and project timelines, and a robust definition of benefits to the overall system from the pipeline of identified improvement projects. In the short term, not adhering to such capital project delivery best practices may translate into cost and schedule overruns as well as suboptimal utilization of critical federal funds. In the medium to longer term, poor capital project delivery will also mean that system risks with regards to climate change and other natural disasters will not be properly mitigated and system reliability and efficiency will continue to be below peers. Both entities must work towards ensuring timely execution of capital deployment schedules, as delays in project delivery would keep Puerto Rico’s energy system in a vulnerable position, both affected by the damages from the hurricanes and earthquakes of recent years, and susceptible to future events.

11.1 Overview of the 10-Year Infrastructure Plan

As part of its federal funding related work with FEMA and COR3, PREPA has developed a 10-year Infrastructure Plan. This plan, which was finalized in December 2020 and last updated in March 2021, is PREPA’s most recent assessment of its capital planning initiatives. It includes a capital project roadmap and provides an overview of:

- PREPA’s infrastructure investment strategy,
- The context for the selection of projects included in the plan,
- A prioritized list of the proposed infrastructure projects,
- The expected benefits and projected costs associated with the prioritized projects,
- Key milestones, and the estimated time horizon for each project, and
- A brief overview of PREPA’s approach to manage execution of the program and the proposed portfolio of projects.

After service commencement, LUMA will be responsible for planning, managing, and operating the T&D system, including identifying, prioritizing, planning, and executing T&D capital projects. LUMA referenced the initial T&D system priorities and projects in PREPA’s December 2020, 10-Year Infrastructure Plan to develop its improvement portfolios presented in the LUMA Initial Budgets and SRP, which are currently under review by the Puerto Rico Electric Bureau (PREB). In the March 2021 update, the 10-Year Infrastructure Plan was modified to reflect LUMA’s prioritized T&D capital projects. Chapter 13 (LUMA Improvement Portfolios) provides a detailed

¹³⁰ Please see Chapter 10 for further information on the ongoing regulatory process to ensure the Revised 10-Year Infrastructure Plan aligns with the IRP and Modified Action Plan.

overview of LUMA's improvement portfolios and prioritized capital projects. This chapter focuses on PREPA's capital plan, the 10-Year Infrastructure Plan and the generation projects within.

To ensure consistency with its overall priorities and applicable laws and regulation, PREPA has aligned its 10-Year Infrastructure Plan with its Governing Board's Vision Statement, Puerto Rico's 20-Year Integrated Resource Plan (IRP), previous certified fiscal plans, COR3's Grid Modernization Plan, the Puerto Rico Energy Public Policy (Act 17-2019), and numerous independent engineering reports as well as FEMA's Damage Assessment reports. PREB must approve all projects and associated funding before significant planning and execution can begin.

Similar to previous certified fiscal plans and the 10-Year Infrastructure Plan, this Fiscal Plan references capital projects irrespective of funding source. This approach provides a holistic view of the work to be performed on Puerto Rico's energy system, work that will be enabled by a variety of funding sources as discussed further in Chapter 12 (Federal Funding) of this document. It includes federally- and non-federally funded capital, as well as funding allocated through the budgetary and rate-making process to PREPA's Necessary Maintenance Expense (NME) program.

11.1.1 Objectives

PREPA's capital plan objectives and strategy are focused on modernizing Puerto Rico's energy infrastructure by significantly improving outcomes in five (5) investment focus areas:

- Reliability and system resiliency;
- Renewable integration;
- Codes, standards, and regulatory compliance;
- Automation and modernization; and
- Hazard mitigation.

As part of its capital projects evaluation, PREPA relied on several significant work products, most notably the FEMA Damage Assessment Reports, Sargent & Lundy's T&D Roadmap, and COR3's Grid Modernization Plan. The project evaluation included a review to ensure that all projects aligned with PREPA's IRP, as well as all other applicable laws and regulations, and were guided by the Government's public policy goals. Additionally, for each of the five (5) focus areas above, PREPA considered and evaluated the impact of each capital project. The five (5) focus areas are described in more detail in Exhibit 55.

EXHIBIT 55: 10-YEAR INFRASTRUCTURE PLAN INVESTMENT FOCUS AREAS AND OBJECTIVES

Investment focus area	Objectives
Reliability & system resiliency	Provide safe, adequate and reliable service while ensuring the electric system is prepared for, able to respond to, and recover from any events causing outages. Examples include: <ul style="list-style-type: none"> ▪ Transmission and distribution hardening ▪ Advanced Metering Infrastructure (AMI) ▪ Black start systems ▪ Supplemental, flexible, dispatchable generation ▪ Energy Management System (EMS)
Renewable integration	Support and enable the rapid and substantial increase of renewable generation and energy storage. Examples include: <ul style="list-style-type: none"> ▪ Renewable energy (e.g. solar and wind) ▪ Hydroelectric revitalization ▪ Battery energy storage ▪ Synchronous condensers
Codes, standards & regulatory compliance	Ensure compliance with applicable laws and regulations and alignment with consensus based codes and standards. Examples include: <ul style="list-style-type: none"> ▪ Environmental such as solid stabilization and restoration ▪ Access roads and right of way
Automation and modernization	Enable and support the automation and modernization of electric system operations, including telecommunications, connectivity, and security of utility assets. Examples include: <ul style="list-style-type: none"> ▪ Supervisory Control and Data Acquisition (SCADA) system ▪ Advanced Distribution Management System (ADMS) ▪ Cybersecurity ▪ Field Area Network (FAN) ▪ Control centers
Hazard mitigation	Reduce or eliminate risks to grid operations, people, or property from future disasters. Examples include: <ul style="list-style-type: none"> ▪ Flood and wind mitigation ▪ Damaged infrastructure repairs ▪ Physical security improvements ▪ Mobile emergency generation

11.1.2 Project Prioritization Criteria

PREPA prioritized capital projects based on energy public policy, specifically the IRP, and inclusion of PREB’s guidance in response to the IRP approval process. Other overarching prioritization criteria included safety, impact to the community, relative complexity of the work, and regulatory requirements. Optimized project prioritization is critical to ensure the most impactful projects are identified and sequenced appropriately and that the deployed portfolio of projects provides the best return on investment in creating a sustainable, reliable, and resilient energy system.

Given certain financial and other limitations, not all capital projects can be pursued at once. Therefore, PREPA initially developed a prioritization methodology based on the considerations most relevant to each investment focus area, with some common criteria for all capital projects, that include:

- Current status of asset (i.e., out of service, damaged);
- Safety, environmental, and regulatory compliance needs
- System operations needs and grid constraints
- Impacts of reliability performance and/or critical load infrastructure, and
- Severe storm hazard mitigation

The capital projects identified in the 10-year Infrastructure Plan span three time-horizons: near-term (i.e. 2021-2023), mid-term (i.e. 2024-2027), and long-term (i.e. 2028 and beyond). A high proportion of projects are expected to be initiated in the near-term in that they have either already begun architectural and engineering (“A&E”) design or are expected to do so in 2021, 2022, or

2023. There are a number of policy and operational reasons for this sequencing, which include the following:

- To deliver operational results to customers as quickly as possible.
- To support execution of the approved IRP and Modified Action Plan.
- Some reconstruction projects already have completed preliminary engineering and are ready to proceed into the 30% A&E design phase.
- Some infrastructure projects are very large in scope and must be initiated in the near-term to be completed within the later years of the plan.
- In many cases, demolition work, environmental remediation, rights-of-way, permits, and approvals must be carried out before the actual reconstruction project begins.

COR 3 and FEMA have identified the 10-year Infrastructure Plan, originally submitted by PREPA to FEMA in December 2020 and last updated in March 2021, as a “living document” that requires update and resubmission every 90-days. Updates are expected as PREPA advances its preparatory plans and as LUMA completes the Front-End Transition and assumes its responsibilities to operate, manage, and reconstruct the T&D system.

11.1.3 *Overview of Prioritized Projects*

There are eight (8) asset categories in the 10-Year Infrastructure Plan: (1) generation; (2) dams and hydro; (3) transmission; (4) distribution; (5) substations; (6) IT / Telecom; (7) buildings, and (8) environmental. Projects associated with the T&D system as well as the grid management and communication systems will be planned and executed by LUMA. The LUMA improvement portfolios are discussed further in Chapter 13 (LUMA Improvement Portfolios). The total funding obligated by program and asset category is included below in Table 11.

TABLE 11: TOTAL FUNDING BY PROGRAM OBLIGATED TO GRID AND GENERATION REBUILD AND TRANSFORMATION¹³¹

Asset Category	FEMA 428 (\$M)	FEMA 404 (\$M)	FEMA 406 (\$M)	Estimated Total Cost (\$M)
Distribution	\$4,191	\$0	\$472	\$4,663
Transmission	\$3,842	\$0	\$1,610	\$5,452
Generation	\$129	\$858	\$3	\$990
Substations	\$869	\$4	\$21	\$894
Hydro, Dams, and Irrigation	\$901	\$100	\$79	\$1,080
IT and Telecommunications	\$686	\$0	\$515	\$1,201
Buildings	\$63	\$0	\$26	\$89
Environmental	\$15	\$0	\$0	\$15
Total	\$10,696	\$962	\$2,726	\$14,384

All cost estimates provided in the 10-year Infrastructure Plan are “class 5” estimates, meaning they were estimated in an early phase of the project development process. These cost estimates are expected to vary, based on industry standards, from 50% below to 100% above the actual final project costs. Industry standard is to refine these estimates with increasing accuracy as the engineering design progresses and project requirements are solidified, a process that will be led by LUMA. There are a number of factors—including the refinement of specific project costs, changes in the demands and needs of specific assets and the system as a whole over time, and requirements and suitability of identified program funds—that are expected to lead to changes in the projects that are ultimately implemented.

Overview of Near-Term Capital Projects

In the near-term, i.e., from 2021-23, PREPA plans to spend ~\$700 million on generation-related capital projects and ~\$780 million on projects in the hydro, dams, and irrigation asset category. Notable near-term generation projects include repair of damages incurred during the 2017 hurricanes, renewable energy and battery storage projects, conversion of synchronous condensers, new black start and mobile emergency generation, and a new thermal generation feasibility study.¹³² Near-term dams and hydro projects focus on improving dam safety as well as repairing damage from sediment, storm debris, and erosion.

¹³¹ Includes federal funds, cost-share, insurance payouts, and state matched amounts. PREPA 10-Year Infrastructure Plan, March 2021 Update, p. 13. Note: All costs, funding sources, and subtotals are estimates subject to change.

¹³² Please see Chapter 10 for further information on the ongoing regulatory process to ensure the Revised 10-Year Infrastructure Plan aligns with the IRP and Modified Action Plan.

Milestone and Implementation Plans

For each specific project identified in the 10-year Infrastructure Plan, PREPA developed four (4) standardized, major milestones:

- **Design:** commencement of the 30% architecture and engineering design process;
- **Review:** submission of the proposed capital project to COR3 and FEMA for review;
- **Implementation:** Commencement of construction/implementation; and
- **Completion:** Commencement of COR3 and FEMA project closeout following construction completion.

The updated 10-year Infrastructure Plan presents a workplan for implementation of the projects, including the major milestones, for each of the identified projects or project groupings. Milestones for each project are estimated on a quarterly basis from 2021 to 2023. In subsequent years (i.e. 2024 and beyond), milestones are estimated on an annual basis.

11.1.4 Project Impact

If implemented successfully and efficiently, the generation capital projects prioritized in the 10-Year Infrastructure Plan will have a direct, positive impact on the ability of the energy supply system to deliver electricity to customers reliably and sustainably by meeting the capital plan objectives derived from the approved IRP and public policy:

- **Reliability and System Resiliency:** Establishment of a safe and reliable electric service that is adequately prepared for—and can appropriately recover from—any events causing outages through supplemental and flexible generation.
- **Renewable Integration:** Enabling integration of renewable generation and energy storage into the grid through supporting projects such as synchronous condensers.
- **Codes, Standards, and Regulatory Compliance:** Compliance with existing laws and regulations as well as codes and standards across the system.
- **Automation and Modernization:** Modernization of the grid through system management and control systems and upgraded control centers.
- **Hazard Mitigation:** Risks to grid operations, people, and property due to future disasters will be reduced or eliminated by restoring damaged infrastructure, improving physical security, implementing flood and wind mitigation strategies, and acquisition of mobile emergency generation

11.2 Capital Plan Collaboration and Coordination

The significant near-term planning and analyses that have been completed by PREPA, its investment in comprehensive plans for the 10-year and 20-year time horizons, and the ongoing analysis and work of LUMA during its transition period (including the proposed Recovery and Transformation Framework and activities included in LUMA's Initial Budgets and SRP) will help

ensure that each completed capital project will contribute to the identified strategic and performance goals for the system as a whole.

The capital planning strategies articulated in PREPA’s 10-Year Infrastructure Plan recognize that there are capital projects that can be completed in the near-term (i.e. 2021-2023) to bring immediate benefit to the electricity supply system and the people and businesses of Puerto Rico (foundational and recovery-focused improvements). Furthermore, over the mid-term (i.e. 2024-2027) and long-term (i.e. 2028 and beyond), completion of additional capital projects—in conjunction with LUMA’s improvement portfolios—will substantially improve and accelerate the transformation of the electricity supply system into a modern, customer-centric, affordable, reliable, resilient, and sustainable system (transformational change).¹³³

Going forward, LUMA and PREPA must ensure that their capital project prioritization allows for navigating potential trade-offs. Both PREPA and LUMA must continue collaborating to ensure that these capital planning efforts advance with the pace and scale that are required for the recovery and transformation effort to meet stated public policy goals.

11.3 Best Practices for Capital Project Delivery

To ensure the successful and efficient delivery of its prioritized capital projects, PREPA and LUMA must follow industry best practices for the implementation of their portfolio of capital projects in order to avoid costly schedule and budget overruns which will hamper the necessary restoration and hardening of the energy system. To this end, PREPA has implemented an Enterprise Project Management (EPM) program. This program builds on work already in place at the PREPA Program Management Office (PMO), expands on such work, and extends it across the entire enterprise. As PREPA starts to implement its 10-Year Infrastructure Plan, it must ensure and provide evidence that its EPM is adhered to, and that it is based on industry best practices, including approaches and procedures for:

- Permitting;
- Contractor oversight;
- Planning;
- Workflow management;
- Safety;
- Training & qualifications;
- Performance management; and
- Reporting requirements.

Additionally, PREPA must develop an approach to address and mitigate potential supply chain constraints, created by the inflow of federal funds across instrumentalities.

¹³³ See, PREPA 10-Year Infrastructure Plan, March 2021 Update, p. 26-28, and LUMA Draft System Remediation Plan, February 23, 2021, p. 27-29, 50.

Executing PREPA's and LUMA's capital plans over this and subsequent years, and ensuring capital project delivery best practices will provide a significant opportunity to modernize Puerto Rico's energy infrastructure, while enabling sustainable economic growth and development.

11.3.1 Risks and Mitigation Measures

Energy infrastructure improvements of the magnitude described in this chapter has never been undertaken in Puerto Rico. The estimated timing and successful completion of capital projects will be impacted by many different factors, including, but not limited to, regulatory requirements and stakeholder input (approvals, capital funding disbursements / reimbursements), improved clarity on project requirements and approach, project review and permitting processes, the availability of both labor and material resources to execute on project design and construction tasks, and potential future disaster events impacting the Island. In addition, many capital projects are interdependent, so changes to the approach or timing of a single project may impact multiple other projects.

Successful execution that addresses the challenges described above, and that ultimately meets desired policy goals, will require the collaboration and attention of all stakeholders in the energy supply system, regulators, government officials and policy makers. Perhaps most important in meeting these challenges is the successful transition of the T&D system operations and maintenance to LUMA, whose management and parent companies have a proven capability of managing federal disaster recovery funds and implementing multi-billion dollar utility capital programs. Real time collaboration and alignment between PREPA, LUMA, P3A, COR3, PREB, the Oversight Board, and other governmental entities and federal stakeholders, will be essential and critical to the successful implementation and completion of capital project plans that will be principally funded with FEMA and CDBG program funds. Executing PREPA's and LUMA's capital plans over this and subsequent years—and ensuring capital project delivery best practices—provides a significant opportunity to modernize Puerto Rico's energy infrastructure, while enabling sustainable economic growth and development.

11.4 Reporting Cadence

PREPA's project management process outlined above includes project reporting requirements that are purposefully inclusive of, and transparent with, all key stakeholders (local, federal, the Oversight Board, etc.) and decision-makers. The magnitude of capital improvements that are to be undertaken (whether by PREPA and/or private operators), and the historic juncture of the Island's energy sector transformation, and the ongoing transition to LUMA and legacy generation operators in the future, require that all stakeholders be fully and timely informed of changes and developments at all times, and that all stakeholders work together above and beyond leading utility practices.

As part of such sweeping transparency, PREPA (for Generation) and LUMA (for the T&D System) intend to develop and publish specific project dashboards and routine reports to allow stakeholders to have access to real-time data and to participate and seek information at any interval as needed on both specific projects and the system as a whole.

Chapter 12. Federal Funding

12.1 Overview

As a result of the severe damage inflicted by several natural disasters that struck Puerto Rico between 2017 and 2020, PREPA has qualified for federal support through multiple programs that fund eligible emergency work and permanent projects. The natural disasters included Hurricanes Irma and Maria in 2017 and a major earthquake that struck Puerto Rico in early January 2020 (the “2020 Earthquake”). This damage was exacerbated by years of underinvestment, poor operations, and substandard maintenance practices that resulted in a vulnerable energy infrastructure.

To determine an efficient way of disbursing and utilizing pertinent federal funding to support the reconstruction of the energy grid, PREPA, FEMA, and COR3¹³⁴ have been working together, and successfully defined projects and estimated the associated costs. Chapter 11 (Capital Plans) and Chapter 13 (LUMA Improvement Portfolios) give an overview of PREPA’s capital roadmap (the 10-Year Infrastructure Plan) and LUMA’s capital plan (improvement portfolios as stated in the LUMA Initial Budgets and the SRP) which detail how and when the two entities propose to use the funds. Table 12 below summarizes the total funding obligated to rebuild and transformation Puerto Rico’s generation and T&D system – including cost-share and state matched funds – delineated by funding program and asset category.

The amount of federal funding flowing into Puerto Rico, and specifically the share obligated for its energy infrastructure, provides Puerto Rico with the unique opportunity to modernize and rebuild its currently vulnerable, unreliable, unsafe, and inefficient grid and power supply system. It will be crucial to use these funds efficiently – as outlined in PREPA’s and LUMA’s capital plans – and to ensure compliance with all applicable laws, regulations, and policies.

To date, PREPA has qualified for funds from several distinct federal programs, each with its own funding guidelines and reimbursement processes:

- FEMA’s 428 and 406 Public Assistance Program;
- FEMA’s 404 Hazard Mitigation Grant Program; and
- HUD Community Development Block Grant (“CDBG”) Disaster Recovery and Mitigation Programs.

As Table 12 below shows, an excess of \$14 billion dollars—including cost-share and state matched funds—has been obligated to rebuild energy infrastructure over the next few years. FEMA federal funds are a subset of this amounts. The overview in Table 12 has been prepared by PREPA and aligned with LUMA’s T&D-related priorities. It should be noted that FEMA funding comes with a 10-25% cost-share requirement that PREPA must cover. For most projects, PREPA expects to use HUD CDGB funds to cover the cost-share. For this reason, HUD CDBG funds are not shown separately in Table 12.

¹³⁴ COR3 is a division of the P3A and was created to ensure adequate management and use of federal funds for Puerto Rico’s recovery and reconstruction.

To date, PREPA has received approximately \$1.6 billion in funds through the FEMA Public Assistance Program, mainly related to damages caused by Hurricanes Irma and Maria. The funds have been used to cover contractor expenses related to reconstruction work, as well as increased cost from peaking units (typically low-utilization, highly flexible, and more expensive generation facilities designed to provide power during times of peak demand), among others. Section 12.1.1.1 provides an overview of the FEMA Public Assistance funding received to date. PREPA has so far not received any FEMA 404 or HUD CDBG funds.

TABLE 12: TOTAL FUNDING BY PROGRAM OBLIGATED TO GRID AND GENERATION REBUILD AND TRANSFORMATION¹³⁵

Asset Category	FEMA 428 (\$M)	FEMA 404 (\$M)	FEMA 406 (\$M)	Estimated Total Cost (\$M)
Distribution	\$4,191	\$0	\$472	\$4,663
Transmission	\$3,842	\$0	\$1,610	\$5,452
Generation	\$129	\$858	\$3	\$990
Substations	\$869	\$4	\$21	\$894
Hydro, Dams, and Irrigation	\$901	\$100	\$79	\$1,080
IT and Telecommunications	\$686	\$0	\$515	\$1,201
Buildings	\$63	\$0	\$26	\$89
Environmental	\$15	\$0	\$0	\$15
Total	\$10,696	\$962	\$2,726	\$14,384

Depending on the program, these federal funds can be used for two categories of eligible work: emergency work or permanent work. Federal funding guidelines and processes differ for each of these categories. Sections 12.2 and 12.3 below provide an overview of the two reimbursement processes for emergency and permanent work, respectively.

Going forward, PREPA and LUMA will be responsible for executing the capital projects funded through these federal grants. After taking over the O&M services for PREPA’s T&D system, LUMA will be responsible for executing T&D-related capital projects and ensuring compliance with federal funding requirements and applicable laws, regulations, and policies. The private operator(s) of PREPA’s generation assets – once they have been selected and their engagement has begun – will be responsible for executing and ensuring compliance of any generation-related work.

¹³⁵ Includes federal funds, cost-share, insurance payouts, and state matched amounts. PREPA 10-Year Infrastructure Plan, March 2021 Update, p. 13. Note: All costs, funding sources, and subtotals are estimates subject to change.

12.1.1.1 Overview Across Programs and Sources

As outlined above, during the Fiscal Plan forecast period it is expected that PREPA, LUMA, and the private operator(s) of PREPA's generation assets will have access to federal funds through multiple programs:

1. **FEMA's 428 and 406 Public Assistance ("PA") Program:** This program provides funds for communities to recover from federally declared disasters or emergencies through Sections 428 ("FEMA PA 428") and 406 ("FEMA PA 406"). Funding is provided for both emergency assistance and for permanently restoring infrastructure.¹³⁶ Under certain circumstances, funding can be extended beyond restoring infrastructure and cover future hazard mitigation. For example, measures that directly reduce the potential of future, similar disaster damages.¹³⁷ PREPA must meet a 10-25% cost-share requirement (depending on the type of projects) for all funding under the PA program.¹³⁸
2. **FEMA's 404 Hazard Mitigation Grant Program ("FEMA 404 HMGP"):** This program funds protection to undamaged parts of a facility, or may be used to prevent or reduce damages caused by future disasters. PREPA must meet a 25% cost-share requirement for this source of funding.
3. **Federal Housing and Urban Development (HUD) Community Development Block Grant (CDBG) – Disaster Recovery (DR) and Mitigation (MIT) Programs:** Funds from the CDBG programs have to address a disaster-related impact in a Presidentially-declared disaster area and meet several additional criteria. PREPA intends to use the funds from this program to cover the cos-share requirements of the PA and 404 HMGP programs

The following sections provide a more detailed overview of each of the programs.

12.1.1.1 FEMA'S 428 AND 406 PUBLIC ASSISTANCE PROGRAM

Overview

Through Section 428 of the Stafford Act, FEMA is authorized to provide assistance via the PA Program. FEMA PA provides supplemental grants to communities so they can quickly respond to and recover from major disasters or emergencies. FEMA encourages protection of these damaged facilities from future events by providing assistance for hazard mitigation measures during the recovery process. That is, FEMA PA includes funding for both emergency and permanent work.¹³⁹

In efforts to mitigate the economic, fiscal, and social impacts of future disasters, in September 2020, FEMA announced its plans to award to Puerto Rico two of its largest grants ever. As a part of these grants, a funding obligation of \$10.7 billion—inclusive of insurance payouts and cost-share—was earmarked for PREPA to repair and/or replace electrical systems including thousands

136 FEMA Public Assistance Alternative Procedures (Section 428) - Guide for Permanent Work from February 10, 2020. Document #: FEMA-4339-DR-PR

137 FEMA press release, last updated March 18, 2021, retrieved from: <https://www.fema.gov/press-release/20210318/fema-hazard-mitigation-grants-404-and-406>

138 FEMA Public Assistance Alternative Procedures (Section 428) - Guide for Permanent Work from February 10, 2020. Document #: FEMA-4339-DR-PR

139 <https://www.fema.gov/assistance/public/program-overview>

of miles of transmission and distribution lines, electrical substations, power generation systems, office buildings, and make other grid improvements under FEMA PA 428. Of this \$10.7 billion, the federal share is \$9.5 billion. The total \$10.7 billion funding obligation earmarked for PREPA is referred to in this chapter as the “Global Settlement.”

PREPA used FEMA PA to fund the federal share of all emergency work related to the 2017 hurricanes and the 2020 Earthquake. PREPA must continue to pursue CDBG-DR funds to cover the local cost-share associated with Hurricanes Irma and Maria. The 25% local cost-share related to damages caused by the 2020 Earthquake has been funded by PREPA.

PREPA, LUMA, and any other future private operators will use FEMA PA to fund 90% of permanent work projects related to the Global Settlement. PREPA intends to use CDBG-DR funds to cover the local cost-share requirement.

As part of FEMA PA, PREPA may receive additional funds related to Section 406 mitigation (“FEMA PA Mitigation”). Section 406 funds mitigation measures in conjunction with the repair of disaster-damaged facilities and is therefore limited for use only on eligible damaged facilities in eligible localities.

Funding Received to Date

The cash funding PREPA has received to-date has been provided through FEMA PA related to eligible emergency costs associated with the 2017 hurricanes and the 2020 Earthquake. Exhibit 56 provides an overview of the amounts received to-date.

Through February 2021, PREPA has received \$1.4 billion in FEMA PA funds related to Hurricanes Irma and Maria. The funds received relate to contractor expenses, mutual aid assistance, incremental costs incurred by PREPA related to increased peaking unit usage, and other eligible costs incurred by PREPA. PREPA expects to receive additional reimbursements once various PWs are obligated and/or modified by FEMA, and PREPA can submit RFRs.

PREPA has additionally already received \$187.9 million out of the total \$317.4M appropriated by FEMA PA as of March 2021 for incremental costs related to increased peaking unit usage associated with the damages caused by the 2020 Earthquake from January through July 2020. The remainder of the currently obligated funds (net of insurance and local cost-share) is designated as “Ready to Pay” by COR3. Applicants cannot duplicate reimbursements from FEMA with insurance proceeds, which is considered in the funding amounts requested and received by PREPA.

EXHIBIT 56: SUMMARY OF FEMA REIMBURSEMENT RECEIVED THROUGH MARCH 12, 2021

Category	FEMA PA Reimbursements (USD Million)
Cobra	904.0
Mutual Aid	2.95.9
Hurricane Peaking Units Fuel & O&M	147.4
Force Account Labor	52.2
Management Cost	15.5
Other	14.5
XGL	6.4
Local Contractors	3.0
Whitefish	-
Subtotal for Hurricanes	1,438.9
Earthquake Peaking Units Fuel & O&M	187.9
Total Emergency Reimbursements	1,626.8

12.1.1.2 FEMA’S 404 HAZARD MITIGATION GRANT PROGRAM (“FEMA 404 HMGP”)¹⁴⁰

Overview

FEMA is also authorized through the Stafford Act to provide assistance through FEMA 404 HMGP. FEMA 404 HMGP is used for long-term hazard reduction after a major disaster. The purpose is to reduce the loss of life and property due to natural disasters. FEMA 404 HMGP funds also support reduction and removal of hazards during the immediate recovery from a disaster. PREPA initiated preliminary design and engineering studies during the last months of 2020 and expects to complete phase 1 by October 2021.

FEMA 404 HMGP projects are funded by FEMA at a 75% federal cost-share. Similar to FEMA PA, PREPA expects to cover the 25% local cost-share associated with FEMA 404 HMGP projects through CDBG-MIT funds.¹⁴¹

Funding Received to Date

To date, PREPA has not received any funds under FEMA 404 HGMP projects. Currently, COR3 and the Governor are discussing eligible permanent work FEMA 404 HMGP projects, and PREPA has been approved a total of \$953 million¹⁴² related to improvements for generation and water facilities. These projects are outside of, and in addition to, the Global Settlement.

¹⁴⁰ Source: <https://www.epa.gov/sites/production/files/2015-10/documents/hmmp.pdf>

¹⁴¹ Refer to letter received May 30, 2019 regarding Amendment No. 1 – Hazard Mitigation Grant Program.

¹⁴² Source: FEMA approval letters dated September 29, 2020, October 15, 2020 and October 16, 2020.

12.1.1.3 HUD CDBG–DISASTER RECOVERY AND MITIGATION PROGRAMS¹⁴³

Overview

When major disasters occur, Congress may appropriate additional funding for the CDBG program as Disaster Recovery grants to rebuild the affected areas and bring crucial seed money to stimulate the recovery process. Because CDBG funds a broad range of activities, CDBG-DR assistance helps communities and neighborhoods that might not otherwise recover due to limits on other resources. Disaster Recovery grants supplement disaster programs, including FEMA.

In addition to CDBG-DR, HUD funding also includes the Community Development Block Grant Mitigation Program (“CDBG-MIT”). This program provides funds to eligible recipients to use in areas impacted by recent disasters to carry out strategic and high-impact activities to mitigate disaster risks and reduce future losses.¹⁴⁴

For permanent work outside of the Global Settlement PREPA must seek federal funding assistance from FEMA 404 HMGP for the federal cost-share and CDBG-MIT for the local cost-share.

In the case of Puerto Rico, the Puerto Rico Department of Housing (“PRDOH”) is the designated recipient of CDBG-DR funds and PREPA is the subrecipient, meaning that funds are managed through the PRDOH prior to distribution to PREPA.¹⁴⁵

Each CDBG-DR and CDBG-MIT activity must meet the following criteria: (a) address a disaster-related impact (direct or indirect) in a Presidentially-declared disaster area; (b) be an eligible activity; and (c) meet a CDBG national objective. The CDBG’s national objectives include: (1) benefit low-and moderate-income persons; (2) aid in the prevention or elimination of slums or blight; and (3) meet community development needs having a particular urgency.

The CDBG-DR program is intended to cover the 25% local cost-share associated with emergency work repairs for Hurricane Irma and the 10% local cost-share related to permanent work repairs from damages caused by Hurricane Maria. The CDBG-DR program is not intended to cover the 25% local cost-share related to damages caused by the 2020 Earthquake, which have been funded by PREPA.

Funding Received to Date

To-date PREPA has not received any CDBG funds.

12.1.2 Further Projected Federal Funding Levels Across Sources

Emergency Work

Related to further projected federal funding for emergency work repairs, PREPA expects to receive additional funds from FEMA PA for expenses incurred that have not yet been reimbursed

¹⁴³ Source: <https://www.hud.gov/hudprograms/disaster-recovery>

¹⁴⁴ Source: https://www.hud.gov/program_offices/comm_planning/cdbg-mit

¹⁴⁵ As designated by the Governor on February 23, 2018.

or are not yet obligated by FEMA. PREPA must continue to work with FEMA and COR3 to ensure reimbursement for related eligible costs.

As described in greater detail in section 12.2.1, PREPA is in the process of obtaining further emergency related federal funding from CDBG-DR to cover the local cost-share related to emergency projects for Hurricanes Irma and Maria.

Permanent Work

Regarding the Global Settlement, the \$10.7 billion of funding is expected to come from FEMA PA 428, along with cost matching and other funds from insurance, FEMA PA 404 and CDBG-DR, which is discussed in greater detail in section 12.3.1.

In order for PREPA to receive reimbursement related to permanent work projects,¹⁴⁶ PREPA must submit a RFR which will be reviewed by the COR3 Grant Review Team for proper documentation support. The RFR is subject to reduction for any cost-share or undocumented evidence. After review, COR3 will draw down the funds and distribute to PREPA.

12.2 FEMA-Funded Emergency Work

12.2.1 Emergency Work Status Update¹⁴⁷

Emergency work related to the 2017 hurricanes has been completed; however, PREPA, COR3, and FEMA are still in the process of resolving open funding items. As of February 26, 2021, FEMA has obligated over \$1.7 billion in projects related to the hurricanes and has reimbursed \$1.4 billion.

FEMA PA funding related to the 2020 Earthquake covered incremental costs incurred by PREPA related to increased peaking unit usage due to the outage of the Costa Sur powerplant. As of February 26, 2021, FEMA has obligated \$317.4 million and reimbursed \$187.9¹⁴⁸ million for these estimated expenses from January through July 2020. The full emergency period in which incremental costs will be covered by FEMA PA spans January 2020 to February 2021. As a result of the breadth of this period, PREPA expects additional obligated funds and related reimbursements.

PREPA must continue to work with FEMA to resolve pending RFRs related to emergency work. As part of its liquidity management efforts, PREPA must carefully manage the invoices from, and payments to, emergency vendors to align with the timing of receipt of additional obligated FEMA funds.

12.2.2 Emergency Work Reimbursement Procedure

All cash funding for emergency work received by PREPA to-date related to the 2017 hurricanes and the 2020 Earthquake has been provided through FEMA PA.

¹⁴⁶ Refer to Ch. 7 – Payment and Cash Management section of the COR3 Disaster Recovery Federal Funds Management Guide.

¹⁴⁷ Per PREPA's "FEMA Flash Report" as of February 26, 2021.

¹⁴⁸ FEMA reimbursement was net of insurance proceeds.

The general procedure for PREPA as the subrecipient to obtain FEMA PA funds related to emergency work includes PREPA incurring and tracking eligible costs, the development of Project Worksheet (PWs) through the FEMA obligation process, the obligation of funds to the recipient, and the Request for Reimbursement (RFR) and subsequent cash funding to the subrecipient. The detailed steps are as follows:

- PREPA incurs costs due to damages caused by the disaster(s);
- PREPA tracks these costs and works with FEMA and COR3 to determine eligibility;
- FEMA creates a PW which then goes through various levels of review until the PW is obligated;
- Once the PW is obligated, the funds are appropriated for the recipient (i.e., COR3);
- PREPA can then submit a RFR to COR3;
- COR3 reviews the RFR and draws down funds from FEMA related to the obligated PW, which will be subsequently sent to PREPA as the subrecipient; and
- Funds are then transferred from COR3 to PREPA.

Under FEMA PA, the federal share of assistance is not less than 75% of the eligible cost. For both Hurricane Irma and the 2020 Earthquake, the FEMA PA federal share covers 75% of eligible costs. For Hurricane Maria, FEMA PA federal share covers 100% of costs incurred by PREPA through August 16, 2018 and 90% thereafter. For PREPA to receive funds to cover the local cost-share associated with the 2017 hurricanes, PREPA and PRDOH must execute the related grant agreement which is pending final approval.

PREPA has submitted projects to PRDOH to obtain CDBG-DR funds to cover the local cost-share related to emergency projects for Hurricane Irma. PREPA has received formal notification of approval for these projects, which are pending grant agreement and execution. Regarding Hurricane Maria, PREPA is reviewing work performed after August 16, 2018 to determine possible project submissions to PRDOH for review and approval. PREPA expects to pay the local cost-share related to the 2020 Earthquake.

12.3 FEMA-Funded Permanent Work

12.3.1 Permanent Work Status Update

The Global Settlement has been categorized by asset category including, but not limited to: buildings, substations, distribution, transmission, IT/telecom, generation, and dams/hydro. The asset categories in the plan are based on the categorization approach used to reach the Global Settlement. The asset categories, projects, and sub-projects are detailed further in PREPA's 10-year Infrastructure Plan (see Chapter 11 for details) and LUMA's improvement portfolios (see Chapter 13 for details).¹⁴⁹

¹⁴⁹ As a requirement associated with the Global Settlement, FEMA and COR3 requested a 10-year Infrastructure Plan from PREPA (see chapter Capital Plan for Grid Infrastructure for additional details).

To date, neither PREPA nor LUMA have started construction on any projects as efforts have been limited to design, environmental studies, and other architectural and engineering services. PREPA and LUMA—following service commencement—are working on preparing SOWs to submit to COR3 and FEMA for review and approval.

12.3.2 *Permanent Work Reimbursement Procedure*

12.3.2.1 FEMA PA 428

PREPA must receive reimbursement for the federal share of permanent work through FEMA PA 428. Funding for permanent work is applicable to projects related to restoring facilities through repair or restoration to pre-disaster design, function, and capacity in accordance with codes or standards.¹⁵⁰ Through FEMA PA 428, FEMA will fund the federal share of 90% of the eligible costs related to the Global Settlement. The procedures for drawing down the funds obligated as part of the agreed upon settlement as set forth in the FEMA Advanced Award Strategy Initiative (“FAASt”).

Specifically related to damages caused by Hurricanes Irma and Maria, the Bipartisan Budget Act (“BBA”) allows FEMA to provide assistance to restore disaster-damaged facilities or systems that provide critical services to an industry standard without regard to pre-disaster condition. FEMA may approve standards that are widely accepted and used, or best practices that are generally accepted by experts in the industry as long as standards are reasonable. BBA allows for the repair or replacement of components not damaged by the disaster if the work is required to restore the critical service function of the facility or system to approved industry standard(s). The pre-disaster condition of components, regardless of damage, is not a factor in determining the eligible scope of work.

The federal share of the Global Settlement under FEMA PA 428 is \$9.5 billion (or 90% of the \$10.7 billion after deducting expected insurance proceeds of \$193 million). The 10% local cost-share of the Global Settlement (which is approximately \$1.05 billion) is expected to be fully funded by CDBG-DR. To date, a total of \$20.2 billion in CDBG-DR and CDBG-MIT funding has been apportioned for Puerto Rico, including approximately \$1.9 billion specifically designated for energy system upgrades. PREPA has not yet received funds related to the CDBG programs.

The Global Settlement may be structured as a reimbursement program, but PREPA management is currently working with COR3 to request advances to assist with PREPA’s liquidity position. PREPA may request an advance from COR3 if the following criteria are met:¹⁵¹

- PW is obligated by FEMA;
- Procurement for the advance is complete and the subrecipient has awarded the contract to the vendor;
- Subrecipient provides a complete set of procurement and award documents for the contract which advance funds are requested;

¹⁵⁰ Source: FEMA Public Assistance Applicant Handbook as of March 2010.

¹⁵¹ Refer to Ch. 7 – Payment and Cash Management section of the COR3 Disaster Recovery Federal Funds Management Guide.

- Subrecipient provides a timeline of when costs are expected to be incurred and paid;
- Subrecipient has no outstanding/unsubstantiated advance payments for the contract which advance funds are requested; and
- COR3 determines the subrecipient has immediate cash needs.

If PREPA has to request reimbursements instead of receiving advances, the process is expected to be similar to the process for emergency work (see Section 12.2). However, for permanent work, the following additional actions must occur prior to RFR submission:

- PREPA submits the proposed projects Scopes of Work (SOW);
- The SOWs are reviewed by COR3 and FEMA to determine eligibility; and
- PREPA may not commence work prior to receiving approval from FEMA PA and FEMA Environmental and Historical Preservation (EHP). Initiation of construction prior to FEMA PA and FEMA EHP completion of reviews may jeopardize part of or all the federal funding for the project.

12.3.2.2 FEMA 404 HMGP

PREPA expects to obtain FEMA 404 HMGP funds for various permanent work mitigation projects outside of the Global Settlement. FEMA 404 HMGP projects are typically funded at a 75% federal cost-share. However, on October 22, 2018, FEMA approved the Governor's request, dated February 26, 2018, to use the Global Match approach to meet the HMGP 25% non-federal cost-share requirement. Therefore, the Government of Puerto Rico dedicated approximately \$1 billion in CDBG-DR funding to provide the required cost-share for HMGP projects.

This means that all HMGP projects are expected to be fully funded, with no additional local cost-share required from PREPA. The CDBG-DR funding is expected to provide eligible matching projects that will count as the HMGP cost-share.

The expected process to ultimately obtain these funds is as follows:

- COR3 will notify PREPA as subrecipient of available FEMA 404 HMGP funding;
- After notification of available funds, PREPA will submit a Letter of Intent (LOI) describing overall scope of any hazard mitigation projects to COR3;
- COR3 will review the LOI and determine which projects are aligned with the Governor's strategy and notify PREPA of which projects are approved;
- PREPA can then prepare a comprehensive package including additional details related to scope, any necessary clearances and anticipated costs/budget related to the project to be submitted to COR3 and FEMA for review and approval;
- Upon FEMA review, FEMA may include conditions for approval for the subrecipient;
- PREPA can begin incurring costs only for projects which have been approved by COR3 and FEMA;

- Once costs are incurred, PREPA can submit RFRs;
- COR3 will review RFRs for consistency with the project and eligibility prior to funds being disbursed to PREPA; and
- Funds will then be transferred from COR3 to PREPA.

12.3.3 *Funding Sources for 10% Cost-Share Requirement*

Under the Global Settlement, PREPA is required to meet a 10% local cost-share requirement for its FEMA-funded permanent work projects. PREPA plans to meet its local cost-share portion through the CDBG-DR program, as it becomes available. If these funds are not available, PREPA must find funding elsewhere and/or adjust rates to cover the local cost-share obligation.¹⁵² Failure to identify the funds necessary for cost-share may prevent PREPA from having access to the portion of the Global Settlement contributed by FEMA.

Access to CDBG-DR and CDBG-MIT funds are subject to various US HUD actions. The Appropriations Act requires HUD to allocate almost \$2 billion of CDBG-DR funds to provide enhanced or improved electrical power systems in response to Hurricane Maria. HUD announced the allocation of these funds to the Commonwealth and provided that the electrical power system allocation shall be governed by a subsequent notice. Therefore, the grantee is prohibited from using CDBG-MIT funds for mitigation activities to reduce the risk of disaster related damage to electric power systems until after HUD publishes the Federal Register notice governing the use of the almost \$2 billion for enhanced or improved electrical power systems.¹⁵³

In order to receive CDBG-DR and CDBG-MIT funds for the local cost-share associated with permanent work projects, HUD must file a Federal Register notice governing the use of the almost \$2 billion CDBG-DR funds for enhanced or improved electrical power systems. The CDBG-DR and CDBG-MIT reimbursement process will follow the “Implementation Guidance for Use of Community Development Block Grant Disaster Recovery Funds as Non-Federal Cost Share” issuance dated October 13, 2020. PREPA is awaiting further instruction from HUD and FEMA related to procedures to request funds for its permanent work projects.

12.4 **Federal Funding Impact**

The successful transformation of Puerto Rico’s energy system will require significant capital investment over the next ten (10) years. Federal funding plays a critical role in mitigating the burden of these costs on ratepayers. With adequate federal funding, the overall impact on energy rates would be minimal.

The appropriated federal funds are necessary for the full deployment of Puerto Rico’s grid modernization plans. If federal funding fails to materialize, Puerto Rico would have to make a difficult choice between increasing energy rates to meet unfunded capital investment needs, or remain unable to implement the necessary repairs and grid system modernization called for in Puerto Rico Public Policy including the IRP approved by the Puerto Rico Electric Bureau (PREB),

¹⁵² The financial projections included in this fiscal plan assume CDBG funds cover the local cost-share required for federal funding.
¹⁵³ See Docket No. FR-6109-N-04.

and proposed in the 10 year-Infrastructure Plan, PREPA and Commonwealth Fiscal Plans, and LUMA's Recovery and Transformation Framework as detailed within the Initial Budgets and SRP.

Beyond the dollar impact on customers, a lack of federal funding would have serious consequences on the reliability and resiliency of the system and the achievement of PREPA's long-term energy vision and LUMA's Recovery and Transformation Framework. Lack of federal funding availability for the rebuild of the T&D system and generation facilities represents a significant risk for overall service delivery and affordability. Federal funding is also critical for delivering system improvements necessary for resiliency and environmental compliance, including deployment of microgrids, distributed energy resources, and renewable resources.

12.5 Distribution of Federal Funding Responsibilities for the T&D System¹⁵⁴

Puerto Rico's energy sector continues advancing its transformation pursuant to Puerto Rico's energy public policy. As part of this continued effort, during FY2022 LUMA will take over the operation and maintenance functions of the Island's T&D system and will provide the O&M services that are detailed and defined under the T&D OMA.

The T&D OMA provides specific roles and responsibilities for LUMA, PREPA, and the P3A related to the use, management, recordkeeping, and oversight of federal funds used for T&D capital improvements (which include grid reconstruction). The parties to the T&D OMA will cooperate and work as described in the T&D OMA to ensure legal compliance, effective and efficient use of federal funding, maximized eligibility of projects for federal funding, and secure adequate recordkeeping and access for compliance audit purposes.

12.6 Challenges and Mitigation Measures¹⁵⁵

PREPA and LUMA are developing a matrix of risks and mitigation measures as part of the broader capital planning process for federally funded capital expenditures under the T&D OMA. The key areas of risk include (local and federal) permitting, federal funding compliance, and eligibility of T&D-related projects for federal funding (maximizing eligibility of new or additional projects beyond those eligible under FEMA 428).

As established under the T&D OMA, PREPA must cooperate with LUMA and the P3A in obtaining and maintaining all government approvals as defined under the agreement. Regarding federal funding, as well as project eligibility matters, LUMA, PREPA and the P3A will be working on procurement and administration of federal funding, as well as compliance with applicable law, regulation, and policy, as prescribed by the T&D OMA.¹⁵⁶

154 This section references that certain Operation and Maintenance Agreement (T&D OMA) dated as of June 22, 2020 by and among PREPA, LUMA Energy, LLC, LUMA Energy Servco, LLC and the P3A. All language and statements under this section are meant to be illustrative only and shall be interpreted in accordance with, and subject to, the T&D OMA.

155 Ibid.

156 See, e.g., T&D OMA, Sect. 5.9 (a), (b) and (c).

12.7 Overview of Reporting Cadence and Level of Detail

The reporting related to restoration progress, reconstruction progress, spending, and reimbursements for emergency work has been provided on a weekly basis and will continue until project completion and settlement of outstanding amounts. The restoration and reconstruction flash report includes key information by major category of spending, including but not limited to: amounts submitted to FEMA, obligated amounts by PW, federal funding received, cash paid to suppliers, invoice amounts, payables outstanding, and status of RFR, etc. While substantially all activity to date has been related to emergency work, future permanent work will be reported as agreed to in the T&D OMA.

Chapter 13. LUMA Improvement Portfolios

As the private operator of Puerto Rico’s transmission and distribution (T&D) system under the T&D Operations & Maintenance Agreement (T&D OMA), LUMA Energy, LLC (LUMA) is responsible for overseeing T&D system improvements, including planning and execution of capital projects. Funds of \$10.7 billion are obligated for use in the rebuilding and transforming of Puerto Rico’s energy generation and T&D system over the next ten (10) years. Over 80% of these funds have been obligated so far for recovery efforts and improvements in the T&D system.

As a required part of the Front-End Transition, LUMA has developed a set of improvement programs to restore and modernize Puerto Rico’s T&D system, including the management system and processes. Programs were subsequently organized into seven interdependent portfolios of similar topics that together cover all functional areas of the utility. These improvement portfolios are described in the LUMA Initial Budgets and the System Remediation Plan (SRP). Both the LUMA Initial Budgets and the SRP must be reviewed by P3A and approved by the Puerto Rico Electric Bureau (PREB) prior to service commencement and program implementation.¹⁵⁷ The relationship between the LUMA Initial Budgets and SRP is as follows:

- **LUMA Initial Budgets:** The LUMA Initial Budgets contain all operating and capital expenditures for the T&D system for FY2022 and a forecast of the same for FY2023-FY2024, together the first three years of LUMA’s operation of the T&D system. All improvement portfolios and associated expenditures for FY2022-FY2024 are included in the Initial Budgets.
- **System Remediation Plan:** The SRP is a plan to “remediate, repair, replace, and stabilize [the current] equipment, systems, practices, and services” in the T&D system such that the legacy assets and processes that may not comply with the standards of performance required under the T&D OMA can be brought up to compliance. In general, only initiatives to remediate high-probability, high-impact asset or process failures are included in the SRP. As such, the SRP forecasts a *subset* of T&D program-related operating and capital expenditures through FY2029.

In developing the improvement programs for both physical system assets and the management system and processes, LUMA utilized a three-stage approach of: (1) assessing the current state of the system; (2) analyzing and comparing the current state to industry standards and the T&D OMA contract standards, and developing initiatives to address any identified gaps; and (3) and prioritizing and sequencing the initiatives based on criticality and guiding documents. Similar Programs were compiled into seven (7) portfolios: (1) customer service; (2) distribution; (3) transmission; (4) substations; (5) control center & building; (6) enabling; and (7) support services.

The improvement portfolios use a range of funds depending on the scope of the initiatives within each program and funding usage limitations (e.g. limitations on the use of certain types of federal funds). Program-related operating expenditures, federally funded capital, and non-federally

¹⁵⁷ The LUMA budget for FY2022 in the LUMA Initial Budgets is subject to review and certification through the standard budget review and certification process by the Oversight Board pursuant to Section 202 of the Puerto Rico Oversight, Management, and Economic Stability Act (PROMESA).

funded capital are all allocated to improvement programs. LUMA has projected spending an estimated \$3.8 billion on improvement portfolios from FY2022 through FY2024.

Through the implementation of its improvement portfolios, LUMA expects to achieve significant operational and financial improvement within the next few years—for example, improving safety scores by 48% by FY2024 and decreasing the average length of outages for PREPA customers by 40% by 2024. Section 13.4 below gives an overview of the expected improvement.

13.1 Background on LUMA’s improvement programs and Portfolios

13.1.1 Development of the improvement programs and Portfolios

To develop the improvement programs and Portfolios outlined below, LUMA utilized a three-stage approach of: (1) assessing; (2) analyzing; and (3) planning.

Assessment

In the assessment stage, LUMA conducted a gap assessment and determined the condition of PREPA’s existing T&D system assets and management systems and processes. In evaluating the physical assets, LUMA assigned each asset a health condition score from 0 to 4 as defined in Exhibit 57. For the existing management system and processes, Exhibit 58 includes the organizational maturity scoring criteria LUMA used to score different portions of the existing organization.

In assessing the assets, LUMA noted a lack of accurate data to inform business and asset management decisions was particularly prevalent. Based on the sample of asset inspections, asset health was consistently poor from storm damage and deferred maintenance. In assessing the organization, low maturity scores were noted with most organizational areas rated as “Unfocused” or “Aware.” LUMA noted in the SRP that most North American electric utilities have a maturity rating between “Developing” and “Competent.” Based on the results of its assessment, LUMA indicated that physical assets and the organizational systems and processes required significant improvement resources and capital.

EXHIBIT 57: PHYSICAL ASSET HEALTH CONDITION SCORE VALUE DEFINITIONS

Physical asset health condition score value definitions	
Score value	Health/condition
4	System like new (replaced or refurbished within the last 5 years)
3	System has been maintained with general operations and maintenance on a routine basis; no major issues noted
2	Deficiencies were noted or components were out of service
1	Major issues noted causing a safety, reliability, or unit output issue
0	End of life or not operational

EXHIBIT 58: ORGANIZATIONAL HEALTH ASSESSMENT MATURITY SCORING CRITERIA

Organizational health assessment maturity scoring criteria

Score	Unfocused - 1	Aware - 2	Developing - 3	Competent - 4	Excellent - 5
Scoring criteria	<p>The organization has not recognized the need for the basic elements and/or there is no evidence of commitment to put them in place</p> <p>Work is performed informally or ad hoc</p> <p>Processes are <u>undocumented</u> and/or undefined</p> <p>Issues present major exposures</p> <p>Required expertise/training does not exist, capacity is insufficient or both</p>	<p>The organization has a basic understanding of the need to address these elements and is in the process of deciding how/starting to apply them</p> <p><u>Preliminary documentation</u> of processes being compiled</p> <p>Performance is unmeasured</p> <p>Little organizational effort to identify issues</p>	<p>The organization has identified the means to address the major elements and some work is progressing on implementation</p> <p>Basic performance can be measured</p> <p>Performance is minimally adequate</p> <p>Processes are documented and defined</p> <p>Issue identification is performed</p> <p>Competitively subpar</p>	<p>All elements are in place and are implemented in the day-to-day operations of the business</p> <p>Major improvements made</p> <p>Performance is adequate and continuously measured/verified</p> <p>Processes are managed (followed consistently) with appropriate controls</p> <p>Disciplined issues identification</p> <p>Competitively at par</p>	<p>The organization is using processes and approaches beyond the basic requirements, driving to achieve maximum value</p> <p>Verifiable issues/defect reductions and or practices continuous improvement</p> <p>Deliberate effort to optimize/improve processes</p> <p>Competitively differentiated</p>

Analysis

In the analysis stage, LUMA compared the conditions found in the assessment stage to industry standards and developed over 600 initiatives to remediate identified concerns, enact infrastructure recovery, achieve operational and customer satisfaction improvements, and meet regulatory imperatives (e.g. Renewable Portfolio Standards). All initiatives were screened for inclusion in the SRP and initiatives to remediate high-probability, high-impact asset or process failures were included as SRP initiatives.

Planning

In the planning stage, LUMA utilized a framework to prioritize and sequence the programs, which is discussed further in Section 13.2. LUMA’s planning process referenced several guiding documents, including the approved Integrated Resources Plan (IRP) and Modified Action Plan, previous certified fiscal plans, COR3’s Grid Modernization Plan, Act 17-2019, and numerous independent engineering reports and FEMA damage assessment reports. Improvement programs were developed with public policy in mind.

13.1.2 Summary of Improvement Portfolios

Initiatives were grouped into programs and programs were subsequently organized into seven (7) interdependent portfolios of similar size that together cover all functional areas of the utility:

1. The **customer service portfolio** includes programs to improve customer service through modernized customer service technology, improve billing systems, implement advanced metering infrastructure, establish a “Voice of the Customer” program, and upgrade and replace distribution streetlights.
2. The **distribution portfolio** includes improvements to the distribution system, including overhead and underground distribution line rebuilds, pole and conductor repairs, system inspections, spot repairs and replacements as needed, and implementation of technology that enables planning.

3. The **transmission portfolio** includes improvements to the transmission system, including line rebuilds and hardening, priority pole replacements, system inspections, spot repairs and replacements as needed, and improved transmission monitoring systems, as well as telecommunications investments to improve first responder and emergency response communication and centralized monitoring and control.
4. The **substations portfolio** includes investments to rebuild, harden, and modernize transmission and distribution substations, including physical security upgrades, and studies to eliminate major cascading outages and ensure system compliance with applicable laws, codes, and regulations.
5. The **control center & buildings portfolio** includes investments in rebuilding damaged facilities, upgrading security systems, and implementing energy and advanced distribution management systems that enable renewable energy, demand response, and battery storage integration and dispatch.
6. The **enabling portfolio** includes a number of safety and operational excellence programs such as: provision of new tools and Personal Protective Equipment (PPE); skills and safety training for all employees; a new program management office to plan and execute large capital projects; a new data system to manage T&D asset data; and vegetation and fleet management.
7. The **support service portfolio** includes cross-functional programs that service all departments, such as Human Resources, IT / OT, and finance. This portfolio also includes studies on renewables integration and minigrids.

13.1.3 Overview of Expected Spend per Improvement Portfolio through FY2024

LUMA included the proposed annual spending estimates for each portfolio from FY2022 through FY2024 in the Initial Budgets. The estimates for FY2024 include federally funded programs, non-federally funded capital expenditures, and program-related operational expenditures. The proposed annual estimated expenditures for each portfolio as filed to PREB on February 24, 2021 are included in Exhibit 59.

EXHIBIT 59: LUMA'S PROPOSED ANNUAL IMPROVEMENT PORTFOLIO SPENDING ESTIMATES FOR FY2022 THROUGH FY2024 (USD MILLION, REAL)

Portfolio	FY2022			Total Spending Estimate	FY2023	FY2024
	Federal Funded Capital	Non-Federal Funded Capital	OpEx		Total Spending Estimate	Total Spending Estimate
Customer Service	83	13	19	115	168	165
Distribution	199	35	2	237	352	518
Transmission	236	2	2	240	463	427
Substations	89	19	7	115	108	107
Control Center & Buildings	9	3	7	20	56	68
Enabling	17	41	90	149	117	121
Support Services	4	8	91	104	104	95
Grand Total	\$638	\$122	\$220	\$979	\$1,368	\$1,501

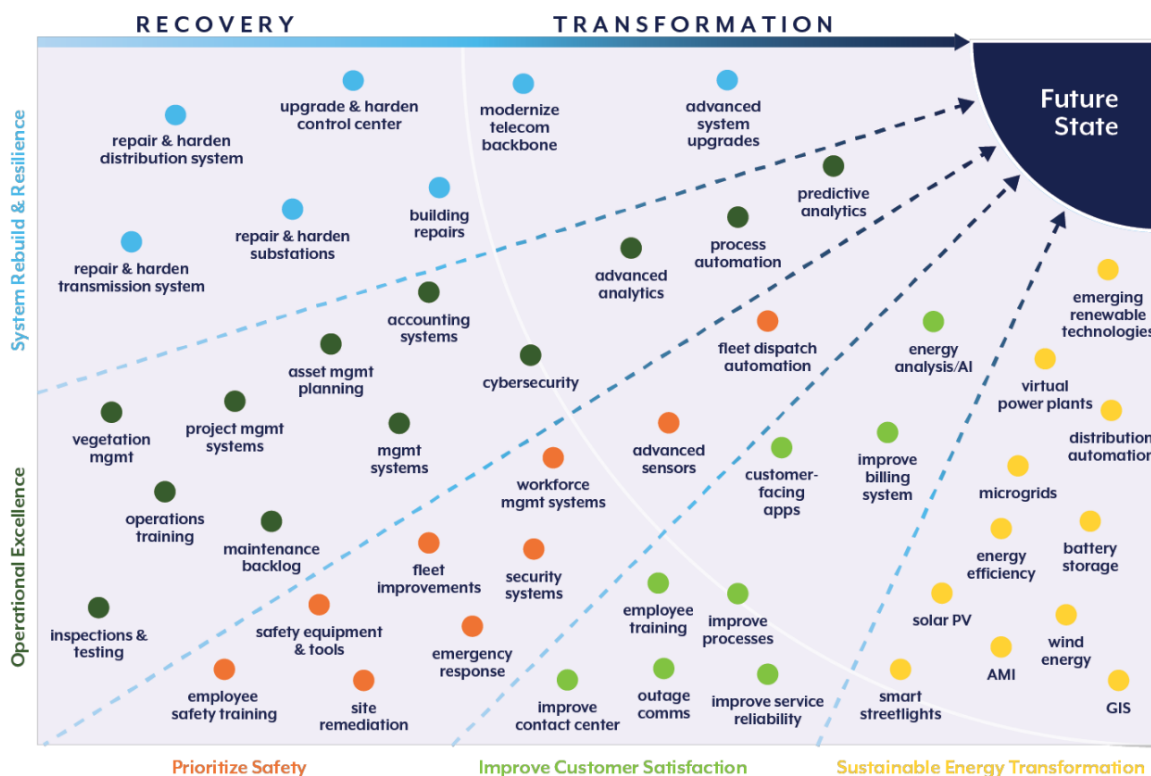
13.2 Goals and Roadmap of improvement programs

In order to prioritize and sequence the improvement work, LUMA developed a Recovery and Transformation framework and roadmap to guide planning and decision making across all Front-End Transition deliverables, including the SRP and improvement portfolios. LUMA states that the framework references public policy objectives, stakeholder needs, and regulatory and contractual requirements. The framework has five (5) key goals in delivering LUMA's stated mission of customer-centric, reliable, resilient, safe, sustainable electricity at reasonable prices:

1. **Prioritize Safety** – Reform utility activities to support a strong safety culture focused on employee safety and the safety of the people of Puerto Rico;
2. **Improve Customer Satisfaction** – Transform operations to deliver a positive customer experience and deliver reliable electricity at reasonable prices;
3. **System Rebuild and Resiliency** – Effectively deploy federal funding to restore the grid and improve the resilience of vulnerable infrastructure;
4. **Operational Excellence** – Enable employees to pursue operational excellence through new systems, processes, and training; and
5. **Sustainable Energy Transformation** – Modernize the grid and utility to enable sustainable energy transformation.

The recovery phase of the roadmap begins with the restoration of the high-risk infrastructure and processes to a safe and functioning state. During this phase, LUMA will complete remedial investments to systems and processes, in addition to the grid. After stabilizing infrastructure and processes, LUMA will implement the transformation phase, with the goal of redesigning the utility to meet Puerto Rico's energy policies and needs for the coming decades. Recovery and transformation are not distinct, sequential phases as many transformation programs will begin alongside and in coordination with recovery programs. The recovery and transformation roadmap is included in Exhibit 6o.

EXHIBIT 60: LUMA'S PROPOSED RECOVERY AND TRANSFORMATION ROADMAP¹⁵⁸



13.3 Improvement Portfolios

After developing its improvement programs as outlined above, LUMA subsequently organized them into seven (7) interdependent portfolios of similar size that together cover all functional areas of the utility: (1) customer service; (2) distribution; (3) transmission; (4) substations; (5) control center & buildings portfolio; (6) enabling; and (7) support services. For each of the programs contained in the portfolios, LUMA developed a program summary, benefits, costs, and key milestones. The programs within each portfolio are summarized below with estimated annual funding and sources for that funding. For one or two key programs within each portfolio, additional detail and benefits are included.

Further detail on all improvement programs can be found in Appendix D of LUMA's Initial Budgets' submission to PREB.¹⁵⁹ For improvement programs which meet the SRP criteria, further

¹⁵⁸ Filing of System Remediation Plan under Section 4.1(d) of the Operation and Maintenance Agreement for Energy Bureau's Evaluation and Approval. In Re: Review of the Puerto Rico Electric Power Authority's System Remediation Plan. Case No. NEPR-MI-2020-0019. February 24, 2021.

¹⁵⁹ Request for Examination and Approval of Initial Budgets and Related Terms of Service. In Re: Approval of Initial Budgets as Annual Examination by the Puerto Rico Energy Bureau and Under Section 4.2(e) of Puerto Rico T&D OMA, and Related Terms of Service. Case No. NEPR-MI-2021-0004. February 24, 2021.

detail can be found in Section 6.0 of LUMA’s SRP submission to PREB.¹⁶⁰ A summary of major improvement programs is summarized below by portfolio.

13.3.1 Customer Service Portfolio

Customer service will be enhanced in multiple ways. LUMA’s Voice of the Customer program and the deployment of enhanced customer service technology will improve interactions with customers. Streetlighting will be repaired and billing systems improved. Advanced Metering Infrastructure (AMI) will expand remote meter reading, along with a host of reporting, control, and customer engagement capabilities. The exhibit below presents a summary of the spending of each of the largest programs in the Customer Service Portfolio.

EXHIBIT 61: CUSTOMER SERVICE PORTFOLIO SPENDING ESTIMATES BY PROGRAM (USD MILLION, REAL)

Customer Service Programs	FY2022			Total Spending Estimate	FY2023		FY2024	
	Federal Funded Capital	Non-Federal Funded Capital	OpEx		Total Spending Estimate	Total Spending Estimate	Total Spending Estimate	
	Distribution Streetlighting	80.0	-		-	80.0	129.8	128.8
Billing Accuracy and Back Office	-	1.4	13.2	14.6	12.9	11.2		
Standardized Metering and Meter Shop Setup	0.3	5.7	0.3	6.3	1.1	1.0		
AMI Implementation Program	-	4.1	2.0	6.1	16.8	17.2		
Distribution Meter Replacement & Maintenance	2.4	0.5	0.1	2.9	0.6	0.7		
Modernize Customer Service Technology	-	1.3	0.7	2.0	1.8	2.5		
Loss Recovery Program	-	-	1.5	1.5	3.0	2.5		
Voice of the Customer	-	0.1	1.0	1.2	0.6	0.5		
Streetlight Billing	-	-	0.6	0.6	1.3	0.6		
Grand Total	\$82.7	\$13.1	\$19.5	\$115.2	\$167.8	\$164.9		

Detail on program follows

A key Improvement Program in the Customer Service Portfolio is the AMI implementation program.

AMI Implementation Program

Program Summary:

The AMI implementation program establishes two-way remote meter reading reporting and control capabilities. This program enables a broad range of capabilities that result in cost savings to the utility and improvements in customer satisfaction. This is achieved by providing the ability to offer more granular consumption data, bi-direction metering, outage notifications, power quality measurements and remote connects / disconnects. For the utility, operational savings and revenue protection are critical drivers as well as OMS, DR, DA, load forecasting, load research, rate studies and many other critical modern utility functions. AMI programs are usually seen as a

160 Filing of System Remediation Plan under Section 4.1(d) of the Operation and Maintenance Agreement for Energy Bureau’s Evaluation and Approval. In Re: Review of the Puerto Rico Electric Power Authority’s System Remediation Plan. Case No. NEPR-MI-2020-0019. February 24, 2021.

top priority foundational program due it the large number of related and dependent programs and the savings and customer benefits that are immediately available.

Program Benefits:

The benefits of this program include:

- Providing customers visibility into service status and improving restoration speed via communications from the meters;
- Improving service reliability by incorporating meter status info in OMS for improved equipment outage predictions and more accurate crew dispatching;
- Providing customers usage information to facilitate conservation, the establishment of smart home technologies, and the elimination of most estimated billing;
- Reducing the cost to deliver electricity by nearly eliminating manual reads and energy theft, and facilitating peak load management, potentially reducing capital expenditures; and
- Facilitate peak load reduction programs, conservation voltage reduction, electric energy conservation, and facilitation of installation of distributed energy resources.

13.3.2 Distribution Portfolio

The distribution system received temporary emergency repairs after hurricanes Irma and Maria to quickly restore service, but will need further permanent recovery work. The majority of distribution portfolio spending over the next three years will therefore be focused on improving system recovery and resilience. Investments in reliability improvements will also improve customer experience and distribution automation investments will contribute to enabling the sustainable energy transformation. The exhibit below presents a summary of the spending for the largest programs in the Distribution Portfolio.

EXHIBIT 62: DISTRIBUTION PORTFOLIO SPENDING ESTIMATES BY PROGRAM (USD MILLION, REAL)

Distribution Programs	FY2022			Total Spending Estimate	FY2023	FY2024
	Federal Funded Capital	Non-Federal Funded Capital	OpEx		Total Spending Estimate	Total Spending Estimate
	Distribution Line Rebuild	81.7	5.5		-	87.2
Distribution Pole & Conductor Repair	85.1	-	-	85.1	160.1	325.7
Distribution Automation	12.7	26.0	0.3	38.9	41.5	42.3
Distribution Lines Inspection	19.7	3.8	1.8	25.4	25.4	25.4
Distribution Technology	-	-	-	-	-	0.3
Grand Total	\$199.2	\$35.3	\$2.1	\$236.6	\$351.5	\$518.3

A key improvement program in the Distribution Portfolio is distribution line rebuild.

Distribution Line Rebuild

Program Summary:

This program replaces damaged or ineffective overhead and underground distribution lines. This program includes the following initiatives, a mix of SRP and non-SRP work:

- Perform distribution line upgrades to improve reliability and resiliency;
- Restore out of service circuits as deemed necessary;
- Complete, as deemed necessary, unfinished circuit construction presently abandoned;
- Perform circuit voltage conversions to improve distribution capacity (non-SRP);
- Build new distribution line extensions to connect new customers (non-SRP); and
- Install underground cable and/or tree wiring to improve service reliability and resiliency to critical customers (non-SRP).

Program Benefits:

The benefits of this program include:

- Providing a safe workplace and improving public safety by repairing and/or replacing assets that are in poor or damaged condition and present potential safety risks;
- Increasing service continuity and reliability to customers by replacing and upgrading facilities that have poor reliability performance and by adding and completing facilities that allow for alternate feeds; and
- Enabling grid modernization where practical, as replaced assets such as switches may be incorporated into future distribution automation schemes.

13.3.3 Transmission Portfolio

Transmission assets damaged by Hurricanes Irma and Maria received temporary emergency repairs to quickly restore service. FEMA has allocated nearly \$2 billion for further permanent repairs and/or replacement of these assets, to upgrade them to current codes and standards. LUMA's Transmission Portfolio is comprised of a set of "Recovery" programs to complete these system hardening upgrades including rebuilding towers, reinforcing anchors, and replacing poles and associated hardware and conductors. The Transmission Portfolio also includes significant investments in telecom backbone modernization which will help enable transformation. The exhibit below presents a summary of the spending for each of the largest programs in the Transmission Portfolio .

EXHIBIT 63: TRANSMISSION PORTFOLIO SPENDING ESTIMATES BY PROGRAM (USD MILLION, REAL)

Detail on program follows

Transmission Programs	FY2022			Total Spending Estimate	FY2023	FY2024
	Federal Funded Capital	Non-Federal Funded Capital	Opex		Total Spending Estimate	Total Spending Estimate
IT OT Telecom Systems & Network	134.6	-	0.1	134.7	204.8	155.2
Transmission Line Rebuild	52.0	-	-	52.0	185.0	185.0
Transmission Priority Pole Replacements	46.1	-	-	46.1	66.1	79.8
Inspection of Transmission Lines	3.2	1.7	2.4	7.2	7.0	7.0
Technology Monitoring Systems	0.0	-	-	0.0	0.0	0.0
Grand Total	\$236.0	\$1.7	\$2.4	\$240.1	\$463.1	\$427.1

A key improvement program in the Transmission Portfolio is the IT OT Telecom Systems & Network program.

IT OT Telecom Systems & Network

Program Summary:

This program includes IT and OT telecom investments to improve and revamp PREPA’s mobile radio system, phone exchange and telephone systems, and fiber optic and microwave data radio systems. Capability enhancements will include improved first responder and emergency response communication, greater resilience of the internal telecommunications network, an enhanced microfiber network and network control center to improve centralized monitoring and control over facilities and IT traffic.

Program Benefits:

The benefits of this program include:

- Improving communications between employees and contact call centers, control centers, colleagues or customers, including during emergency conditions like traffic accidents, equipment failures and severe weather conditions.
- Enabling the implementation of Advanced Metering Infrastructure in the distribution network and its associated benefits (see Section 13.3.1).
- Improving control of protection circuits—which protect both people and equipment from accidental harm when coming in contact with a high voltage line—by repairing the microwave radio and fiber backbone.
- Improving reliability as the data networks and telecom systems are repaired and provide more accurate outage prediction, detection, and remediation as more smart meters are connected.
- Informing operational decision-making with more and better-quality operational data from upgraded data networks and improved data integration between systems.

- Enabling the transition to a modern, sustainable grid by upgrading the system to be compatible with modern sustainable energy systems (e.g. internet, IoT protocols, etc.).
- Improving system resiliency by reducing the cyber risk to the networks by creating separate systems configured on different networks.

13.3.4 Substation Portfolio

LUMA plans to rebuild, harden, and modernize substations over the next three years. Substations will be repaired, rebuilt, and made safer, which will mitigate against future disasters. These programs will result in significant improvements to system resilience and safety. The exhibit below presents a summary of the spending for each of the largest programs in the Substation Portfolio.

EXHIBIT 64: SUBSTATION PORTFOLIO SPENDING ESTIMATES BY PROGRAM (USD MILLION, REAL)

Substation Programs	FY2022			Total Spending Estimate	FY2023	FY2024
	Federal Funded Capital	Non-Federal Funded Capital	Opex		Total Spending Estimate	Total Spending Estimate
Transmission Substation Rebuilds	24.0	7.0	2.6	33.6	36.3	36.3
Distribution Substation Rebuilds	25.0	1.0	-	26.0	26.0	26.0
Transmission Substation Reliability Improvements	17.0	2.8	-	19.8	7.3	7.3
Transmission Substation Security	12.9	0.6	2.6	16.1	15.9	14.5
Compliance & Studies	6.3	3.3	1.7	11.3	12.5	11.9
Distribution Substation Reliability Improvements	1.4	2.8	-	4.2	4.4	4.8
Physical Security for Distribution Facilities	2.2	0.9	-	3.0	3.0	3.0
Transmission Substation T&G Demarcation	-	0.5	-	0.5	2.5	3.0
Regional & Technical Facilities Security	0.2	0.1	-	0.3	0.1	0.1
Grand Total	\$89.1	\$18.9	\$6.8	\$114.9	\$108.0	\$106.9

Detail on program follows

Two key improvement programs in the Substation Portfolio are Transmission Substation Rebuilds and Distribution Substation Rebuilds. Although these are two separate improvement programs, the programs share similarities and are summarized below.

Transmission & Distribution Substation Rebuilds

Program Summaries:

Transmission Substation Rebuilds cover the required inspection, repair, and rebuilding of damaged substations. This includes upgrades to meet the latest codes, industry standards, and industry practices, which will improve long term reliability. The program also includes installing Gas Insulated Switchgear, replacing electromechanical and electronic relays, and repairing and rebuilding transmission and distribution substations impacted by flooding.

Distribution Substation Rebuilds improve distribution substations to strengthen the distribution grid. This includes hardening and modernizing distribution substations; upgrading to the latest

codes, industry standards, and industry practices; and replacing electromechanical and electronic relays.

Program Benefits:

The benefits of these programs include:

- Improving workplace and public safety by addressing critical substation issues (e.g. missing grounding components, bent structures, etc.) and bringing most substations up to optimum safety levels;
- Increasing service reliability by replacing damaged equipment and bringing most substations to optimum reliability levels;
- Improving resiliency and system restoration times by rebuilding and upgrading assets, deploying Gas Insulated Switchgear, and reducing the susceptibility of high voltage equipment to flooding; and
- Improving employee productivity and efficiency by collating data to support system operations, grid modelling, and asset conditions.

13.3.5 *Control Center and Buildings Portfolio*

Control centers are critical facilities that play a vital role in the safe, reliable, and economic performance of the entire electric grid. It is imperative that control center operators have access to tools that provide situational awareness and a comprehensive and integrated visibility of the all the systems—generation, transmission, and distribution. This visibility allows the operators, using real time data, to minimize the impact to customers and the electrical system from outages and system instability that could cause a complete collapse of the system resulting in a black-out scenario.

LUMA's near-term spending in the Control Center & Buildings Portfolio involves a number of improvements in policies, procedures, and technologies that will enable LUMA to operate the system more reliably and efficiently. LUMA will also invest in rebuilding damaged facilities, upgrading security systems, and Advanced Distribution Management Systems that enable renewable energy, demand response, and battery storage integration and dispatch. The exhibit below presents a summary of the spending for each of the largest programs in the Control Center & Buildings Portfolio.

EXHIBIT 65: CONTROL CENTER AND BUILDINGS PORTFOLIO SPENDING ESTIMATES BY PROGRAM (USD MILLION, REAL)

Detail on program follows

Control Center and Buildings Programs	FY2022			Total Spending Estimate	FY2023	FY2024
	Federal Funded Capital	Non-Federal Funded Capital	Opex		Total Spending Estimate	Total Spending Estimate
Facilities Development & Implementation	7.8	3.0	5.4	16.3	18.5	24.1
Critical Energy Management System Upgrades	0.5	0.2	0.3	1.0	18.6	21.4
Control Center Construction & Refurbishment	1.0	-	-	1.0	17.5	21.1
Critical System Operation Strategy & Processes	-	-	0.9	0.9	0.2	0.2
Critical Energy Management & Load Generation Balancing	-	-	0.7	0.7	0.4	0.2
Warehouse Security	-	-	-	-	0.9	0.6
Grand Total	\$9.3	\$3.2	\$7.2	\$19.7	\$56.1	\$67.6

Critical upgrades to the Energy Management System (EMS) is one of the key improvement programs in the Control Center & Buildings Portfolio.

Critical Energy Management System Upgrades

Program Summary:

This program will replace an obsolete and unsupported EMS and add relevant technology to operate the electric system safely and reliably. This program will also implement an Advanced Distribution Management System (ADMS). The EMS is a computer based system that is used by operators to monitor, control and optimize the performance on the generation, transmission, and distribution systems.

Program Benefits:

The benefits of this program include:

- Improving reliability by providing modern tools for better visibility of equipment operations; and
- Enabling the integration of new energy sources (e.g. renewables, DG, etc.) and energy storage systems through the implementation of new digital technologies.

13.3.6 Enabling Portfolio

The Enabling Portfolio is composed of safety and operational excellence programs that provide a safe workplace through new procedures, tools, and training. Investment programs include providing new tools and PPE (including their inventory and management), training in skills and safety for all employees, creating a new program management office specifically designed to handle large capital projects, and implementing new data systems to accurately store and manage data on T&D assets gathered through inspections. LUMA will implement new project and business management procedures and controls to ensure transparent, systematic management of the business and to effectively administer federal grant funding. The exhibit below presents a summary of the spending for each of the largest programs in the Enabling Portfolio.

EXHIBIT 66: ENABLING PORTFOLIO SPENDING ESTIMATES BY PROGRAM (USD MILLION, REAL)

Detail on program follows

Enabling Programs	FY2022			FY2023	FY2024
	Federal Funded Capital	Non-Federal Funded Capital	Opex	Total Spending Estimate	Total Spending Estimate
Vegetation Management	-	-	50.0	50.0	60.0
T&D Fleet	1.6	23.6	23.2	48.4	28.6
Capital Programs, PMO & Funding Management Office Setup	11.5	0.3	-	11.8	0.2
Tools Repair & Management	-	10.9	-	10.9	3.2
HSEQ and Technical Training	-	-	9.9	9.9	10.0
Asset Data Integrity	0.6	2.5	3.1	6.2	11.3
Project Management Software & Tools	1.4	1.3	-	2.7	0.0
Permits Processes & Management	-	-	2.2	2.2	2.2
Emergency Response Preparedness	-	1.8	0.1	1.8	1.2
Workflow Processes & Tracking	-	-	1.4	1.4	1.3
Project Controls, Risk Management & Estimating Offices	1.0	0.2	-	1.2	0.3
Construction & Commissioning Management Office	0.9	0.2	-	1.1	0.6
Materials Management	0.2	0.4	0.4	1	2.2
Operator Training	-	-	0.3	0.3	0.5
Grand Total	\$17.0	\$41.3	\$90.4	\$148.7	\$117.4

A key improvement program in the Enabling Portfolio is vegetation management.

Vegetation Management

Program Summary:

This program includes work to abate or mitigate immediate vegetation risk in the most critical locations, along with an ongoing program to clear and re-establish rights of way to standard widths. This includes an immediate response for the highest risk sites—those that pose hazards to public safety or routinely experience tree-caused service interruptions—and reclaiming rights of way corridors, specifically those impacting the transmission and distribution systems. The program will also use a field-enabled IT tool to manage the vegetation management program; vegetation management training; and along with ongoing line clearance, pruning, tree removal, herbicides, etc. In addition, the program will evaluate and pilot an advanced AI remote sensing project to improve vegetation management.

Program Benefits:

The benefits of this program include:

- Mitigating public safety risks by correcting the backlog of untrimmed trees;
- Improving system reliability by reducing outages from vegetation-caused line faults (a substantial contributor to the poor reliability of the system);
- Increasing the efficiency of the workforce and the reliability of the system by proactively trimming and managing vegetation in order to reduce the time and challenge of assessing storm damage and improving site access for preventative maintenance; and

- Improving reliability of the system following future hurricanes or other weather events by clearing existing debris and vegetation encroaching on rights of way.

13.3.7 Support Services Portfolio

The Support Services Portfolio includes key cross-functional programs that affect/serve all LUMA teams and departments. They include HR programs for attracting and retaining a high performing employee base through standardized processes for performance management, talent management, succession planning, recruitment and onboarding management, learning management, and compensation management. Other programs include implementation of processes and tools to secure information resources while permitting appropriate access to authorized stakeholders at any time and at any location through information systems that are prudently maintained. The portfolio also includes regulatory studies and plans to inform the development of a more detailed roadmap for meeting IRP milestones. The exhibit below presents a summary of the spending for each of the largest programs in the Support Services Portfolio.

EXHIBIT 67: SUPPORT SERVICES PORTFOLIO SPENDING ESTIMATES BY PROGRAM
(USD MILLION, REAL)

Detail on program follows

Support Services Programs (1/2)	FY2022			Total Spending Estimate	FY2023	FY2024
	Federal Funded Capital	Non-Federal Funded Capital	Opex		Total Spending Estimate	Total Spending Estimate
HR Programs	-	0.3	63.3	63.5	70.6	73.1
Renewables Integration, Minigrids & Generation Studies	-	-	9.7	9.7	11.6	1.4
IT OT Asset Management	4.3	1.1	0.1	5.5	3.1	2.8
IT OT Cybersecurity Program	-	3.0	1.6	4.6	5.1	5.0
IT OT Enablement Program	-	1.7	2.3	4.0	2.6	3.1
Critical Financial Controls	-	-	2.8	2.8	1.0	-
Critical Financial Systems	-	1.8	-	1.8	2.3	2.5
Land Record Management	-	-	1.5	1.5	1.5	1.5
Supporting Shared Services for Generation	-	-	1.4	1.4	-	-
Resource Planning and Processes to Improve Resource Adequacy and Cost Tracking	-	-	1.3	1.3	-	-
Improvements to Systems Dispatch for Increased Reliability and Resiliency	-	-	1.2	1.2	-	-

Support Services Programs (2/2)	FY2022			Total Spending Estimate	FY2023	FY2024
	Federal Funded Capital	Non-Federal Funded Capital	Opex		Total Spending Estimate	Total Spending Estimate
Land Acquisition & Dispute Management	-	-	1.2	1.2	1.2	1.2
Performance Metrics Process & System upgrades	-	-	1.1	1.1	1.1	0.8
Financial Management Functions	-	-	1.0	1.0	0.5	0.5
Waste Management	-	-	1.0	1.0	1.0	0.3
Update to Third Party Use, Audit, Contract and Billing Procedures	-	-	0.7	0.7	0.7	1.5
IT OT Collaboration & Analytics	-	0.3	0.4	0.7	0.7	0.4
Technical Training, Test Lab, & Historian	-	-	0.4	0.4	0.4	0.4
Safety Equipment	-	0.2	-	0.2	0.2	0
Integrated & Operational Management System	-	-	0.2	0.2	0.2	0.5
Public Safety	-	-	0.1	0.1	0.1	0.1
Grand Total	\$4.3	\$8.2	\$91.2	\$103.8	\$103.8	\$94.9

The Renewables Integration, Minigrids, and Generation Studies is a key program within the Support Services Portfolio.

Renewables Integration, Minigrids & Generation Studies

Program Summary:

This program involves completing technical studies to inform generation and system planning to support compliance with the IRP requirements related to renewable integration, minigrids,

energy efficiency, and energy generation. The activities conducted in this program will lead to a coordinated, data-driven approach to the energy transition.

Program Benefits:

The benefits of this program include:

- Enabling renewable energy integration by guiding customers and developers to areas, regions, and nodes where renewable resources will add more value to the grid with contained overall cost;
- Improving understanding and planning for the impacts of the integration of renewable energy sources and new technologies and potential mitigation options; and
- Enable the implementation of renewables, distributed energy resources, and potential minigrids by ensuring existing system infrastructure is rebuilt to accommodate these new sources.

13.4 Projected impact of LUMA’s improvement portfolios

Through its various improvement portfolios, LUMA expects significant improvements in key performance metrics, as shown below. Additional information on key outcomes of the improvement portfolios can be found in Section 2.3.1 of the LUMA Initial Budgets filing.¹⁶¹

EXHIBIT 68: CUMULATIVE IMPROVEMENTS IN PERFORMANCE METRICS PROJECTED BY LUMA¹⁶²

Performance metric	Projected cumulative improvements		
	FY2022	FY2023	FY2024
Customer service	11%	26%	31%
Safety	22%	36%	48%
System Average Interruption Frequency Index (SAIFI)	7%	20%	30%
System Average Interruption Duration Index (SAIDI)	10%	25%	40%

¹⁶¹ Request for Examination and Approval of Initial Budgets and Related Terms of Service. In Re: Approval of Initial Budgets as Annual Examination by the Puerto Rico Energy Bureau and Under Section 4.2(e) of Puerto Rico T&D OMA, and Related Terms of Service. Case No. NEPR-MI-2021-0004. February 24, 2021.

¹⁶² The performance metrics are subject to the PREB regulatory process and final PREB approval. Responses to April 6th Resolution and Order and to Requests for Information on System Remediation Plan. In Re: Review of the Puerto Rico Electric Power Authority’s System Remediation Plan. Case No. NEPR-MI-2020-0019. April 16, 2021

Chapter 14. LUMA Performance Metrics

Electric utilities and energy service providers operate critical infrastructure and are held to high standards of transparency and reporting. This enables effective regulatory oversight, ensures performance targets are met, and builds trust between service providers, regulators, customers, and other key stakeholders. A robust and comprehensive set of performance metrics is a crucial prerequisite to meet these requirements. LUMA Energy LLC (LUMA), which is expected to assume the full role of operations and maintenance (O&M) service provider for PREPA's transmission and distribution (T&D) system as of June 1, 2021, will be held to these same high standards.

LUMA will be evaluated against a set of metrics in three categories: 1) customer service metrics; 2) technical, safety, and regulatory metrics; 3) financial performance metrics. These metrics enable transparency, and help assess whether the negative performance trends observed under PREPA (see Chapter 2 for details) have reversed. The metrics LUMA will be reporting on and which it will be measured against are outlined in detail in its T&D OMA.¹⁶³ As part of its work during the Front-End Transition period, LUMA is responsible for proposing to the Puerto Rico Electric Bureau (PREB) any desired revisions to these performance metrics as well as developing baselines and performance targets for each. Any modifications proposed by LUMA, including the proposed baselines and targets, are subject to final approval by PREB.

To ensure incentives are aligned, LUMA's compensation is tied to achieving certain target thresholds for each of the performance metrics. In other words, LUMA's performance metrics are standards by which LUMA's performance may be measured and incentives are granted if targets are achieved. Incentives will be paid in the form of a variable and capped incentive fee (see Section 14.2 below).

The following overview summarizes LUMA's performance metrics as presented in Annex IX of the T&D OMA.¹⁶⁴ On February 25, 2021, LUMA submitted to PREB a Revised T&D OMA Annex IX with a proposed set of performance metrics, baselines, and performance targets for PREB to review, modify if appropriate, and approve.¹⁶⁵ As of the certification of this Fiscal Plan, the proposed Revised Annex IX to the T&D OMA has not been approved by PREB and therefore may change in whole or in part. PREB established a procedural calendar that sets August 3, 2021 as the deadline to evaluate LUMA's performance metrics.¹⁶⁶

¹⁶³ Annex IX. Performance Metrics. Puerto Rico Transmission & Distribution System Operation & Maintenance Agreement. June 22, 2020.

¹⁶⁴ To be clear, LUMA's obligations are governed by the T&D OMA, not the summary of those obligations set forth herein. The T&D OMA is an essential component of this Fiscal Plan and is incorporated by reference into this Fiscal Plan.

¹⁶⁵ Submittal and request for approval of Revised Annex IX to the Puerto Rico Transmission & Distribution Operation & Maintenance Agreement (OMA). In Re: Performance Targets for Luma Energy ServCo, LLC. Case No. NEPR-AP-2020-0025. February 25, 2021.

¹⁶⁶ Procedural Calendar. In Re: Performance Targets for Luma Energy ServCo, LLC. Case No. NEPR-AP-2020-0025. April 8, 2021.

14.1 Summary of the T&D OMA performance metrics

14.1.1 T&D OMA normal operation performance metrics

LUMA’s performance for normal operations will be measured by and evaluated against performance metrics across three major categories:

1. **Customer service metrics** to ensure LUMA is achieving a high-level of customer satisfaction across all customer classes
2. **Technical, safety, and regulatory metrics** to verify LUMA is operating a safe, reliable electric grid while remaining compliant with applicable safety, environmental, and other regulations
3. **Financial performance metrics** to ensure LUMA is operating sustainably within the Operating and Capital Budgets (both federally funded and non-federally funded)

LUMA’s metrics, by category, and a description are included in TABLE 13. This overview reflects the contents of Annex IX of the T&D OMA, but does not reflect any proposed changes from LUMA. As discussed above, PREB has not yet approved these proposed performance metrics.

TABLE 13: OVERVIEW OF T&D OMA PERFORMANCE METRICS¹⁶⁷

	Metric	LUMA description
Customer service metrics	J.D. Power Customer Satisfaction Survey (Residential Customers)	Third party measure of customer satisfaction
	J.D. Power Customer Satisfaction Survey (Business Customers)	Third party measure of customer satisfaction
	Average speed of answer (minutes)	The average wait time from the moment the customer enters the Automated Call Distribution (ACD) queue to the time the call is answered by an agent
	Customer complaint rate	Total annual complaints registered with PREB divided by the total number of customers and then multiplied by 100,000
	First Call Resolution (FCR)	The percentage of calls where the customer was able to resolve their issue/need on the first attempt
	Abandonment rate	The percentage of callers who hang up (abandon) while the call is still in the ACD queue

¹⁶⁷ Subject to final PREB approval

	Metric	LUMA description
Technical, safety, and regulatory metrics ¹⁶⁸	Occupational Safety & Health Administration (OSHA) Recordable Incident Rate	Total number of OSHA recordable incidents as a result of work-related injury
	OSHA Fatalities	All work-related fatalities
	OSHA Severe Injuries	Total number of work-related injuries with severity days (both restricted and lost time days)
	OSHA Days Away Restricted or Transferred (DART) Rate	Total number of OSHA recordable cases with lost-time days (away, restricted or transferred)
	System Average Interruption Frequency Index (SAIFI)	Indicates how often the average customer experiences a sustained interruption over a predefined period of time
	System Average Interruption Duration Index (SAIDI)	Indicates the total duration of interruption for the average customer during a predefined period of time
	Customer Average Interruption Duration Index (CAIDI)	Represents the average time required to restore service
	Customers Experiencing Multiple Interruptions (CEMI _N)	Indicates the ratio of individual customers experiencing N or more sustained interruptions to the total number of customers served
	Momentary Average Interruption Frequency Index (MAIFI)	Indicates the average frequency of momentary interruptions
	Financial performance metrics	Operating budget
Capital budget: federally funded		Measures ability to stay within budget
Capital budget: non-federally funded		Measures ability to stay within budget
Days Sales Outstanding (DSO)		Measures ability to collect customer bills
Reduction in Network Line Losses		Measures ability to reduce electric losses
Overtime		Measures ability to manage overtime costs under normal operations (excluding emergency events)

In the Revised Annex IX, LUMA proposed several modifications through deferrals and deletions to the original list of performance metrics that were included in Annex IX of the T&D OMA. Most deferrals are due to limited or insufficiently accurate operation data to develop a baseline or target performance. LUMA's proposed modifications are under review by PREB.

Most performance metrics in the T&D OMA Annex IX have three (3) calculated performance levels; (1) an initial baseline level based on historical operating data confirmed during the Front-

¹⁶⁸ The descriptions for SAIFI and SAIDI are from the Institute of Electrical and Electronics Engineers ("IEEE") Guide for Electric Power Distribution Reliability Indices IEEE Std. 1366™-2012.

End Transition Period, performance during the Front-End Transition Period, or an independent analysis subject to subsequent approval by PREB; (2) a target level expected to be achieved over the initial five-year period and determined by consideration of past performance, effort and resources required to achieve performance improvements, and available budgets; and (3) a minimum level for eligibility to earn credit towards the Incentive Fee for that particular metric. On the other side, four (4) metrics will be binary: OSHA fatalities; operating budget; capital budget: federally funded; and capital budget: non-federally funded. For binary metrics, failing to meet the metric is equivalent to missing the minimal performance level and LUMA will be ineligible to earn credit towards the Incentive Fee through that particular metric.

A subset of the performance metrics has been designated Key Performance Metrics. If LUMA fails to meet the determined minimum performance level for any three Key Performance Metrics for three consecutive contract years and this failure is not excused by a Force Majeure Event, Outage Event, or Owner Fault, then LUMA shall be in a Minimum Performance Threshold Default of the T&D OMA. A list of proposed Key Performance Metrics were included in the T&D OMA and are as follows:

1. **Customer service metrics:** Average speed of answer and First Call Resolution;
2. **Technical, safety, and regulatory metrics:** OSHA fatalities, OSHA severe injuries, SAIFI, SAIDI, and CAIDI;
3. **Financial performance metrics:** Operating budget, capital budget: federally funded, and capital budget: non-federally funded.

During the Front-End Transition, LUMA may propose to modify the Key Performance Metrics; however, any changes to the Key Performance Metrics must be approved by PREB.

14.1.2 T&D OMA Major Outage Event Performance Metrics

The T&D OMA also includes a set of Major Outage Event Performance Metrics to measure LUMA's performance during a Major Outage Event. For the purposes of the T&D OMA and Major Outage Event Performance Metrics, a Major Outage Event is defined as:¹⁶⁹

“Major Outage Event” means an event as a result of which (i) at least two hundred and five thousand (205,000) T&D Customers are interrupted for more than 15 minutes or (ii) at any point in time during the event, there are one thousand five hundred or more ($\geq 1,500$) active outage events for the T&D System, which are tracked in the Outage Management System (OMS). The major outage event is deemed ongoing so long as the interruptions/outages continue to remain above the stated cumulative amounts, in each case for a period of twenty-four hours or longer (≥ 24) and are caused by an act of God. If such an act of God is a storm, the storm must be designated as a named storm by the U.S. National Weather Service or a State of Emergency declared by the Government of Puerto Rico. The major outage event shall be deemed to have ended when the cumulative number of T&D

¹⁶⁹ As stated in Section 2.8 of Submittal and request for approval of Revised Annex IX to the Puerto Rico Transmission and Distribution System Operation and Maintenance Agreement (OMA), In Re: Performance Targets for Luma Energy ServCo, LLC, Case No. NEPR-MI-2020-0025, February 25, 2021.

customers remaining interrupted falls below ten thousand (10,000) for a continuous period of eight (8) hours.

The T&D OMA Annex IX metrics for a Major Outage Event and a description of each metric are included in TABLE 14.

TABLE 14: OVERVIEW OF T&D OMA MAJOR OUTAGE EVENT PERFORMANCE METRICS¹⁷⁰

Metric	Description
Event Application	Completion of steps to provide timely and accurate emergency event preparation following an alert from U.S. National Weather Service or the company's private weather service, in accordance with the Emergency Response Plan, for an event expected to impact the company's service territory.
Downed wires	Response to downed wires reported by municipal public officials
Preliminary damage assessment	Completion of preliminary damage assessment
Crewing	80% of the forecast crewing committed to the utility
Estimated Time of Restoration (ETR) made publicly available	Publication of regional and municipal ETRs in accordance with guidelines
ETR accuracy	Regional and municipal ETR accuracy as published in accordance with ETR requirement time
Municipality coordination	Coordination with municipalities regarding road clearing, down wires, critical customers, etc.
Municipal Emergency Operation Centers (EOC) coordination	Coordination with municipal EOCs
Utility coordination	Coordination with other utilities (communications, water, etc.)
Safety	Measure of any employee or contractor injured doing hazard work during storm/outage and restoration
Mutual assistance	Crew requests made through all sources of mutual assistance
Call answer rates	Customer calls answered by properly staffed call centers (use of IVR and other technology is an acceptable solution).
Municipal calls	Municipal calls must be properly managed and provide, at minimum, baseline information (outages, ETRs, contact information, etc.), road clearing activities, and allow for Q&A.

¹⁷⁰ Subject to final PREB approval.

Metric	Description
Website availability	Company’s web site, specifically the section pertaining to outage impact and restoration, must be available around the clock during a major storm event and information must be updated hourly until final restoration. In the event no new information is available, the web site must display the last time and date that information was updated. The web site and/or section pertaining to outage impact and restoration may be taken offline for a short period during off peak hours to perform system maintenance.
PREB and Administrator (P3A) reporting	Provide storm event information to PREB and Administrator (P3A) in accordance with Electric Outage Reporting System guideline requirements
Customer communications	Availability of press releases, text messaging, email and social media.
Outgoing message on telephone line	Recorded message providing callers with outage information is updated within two hours of communication of press releases.
PREB and Administrator (P3A) complaints	Number of storm/outage related PREB and Administrator (P3A) complaints received.

14.1.3 T&D OMA performance metrics revision cadence

Annex IX of the T&D OMA states that the performance metrics for both normal operation and a Major Outage Event, as well as the baseline, target, and minimum performance levels, as established during the Front-End Transition period, will remain through the fifth contract year. There is flexibility for LUMA and PREB to consider whether any adjustments to the performance metrics are appropriate prior to the fifth contract year. The performance metrics and target performance levels for the sixth contract year will be evaluated during the fifth contract year and thereafter will be re-evaluated on an annual basis. Any changes to the performance metrics must be reviewed and may be submitted to PREB for approval.

14.2 Incentive Fee calculation approach

LUMA’s performance in the contract year as measured against the normal operation performance metrics shall determine LUMA’s eligibility to the T&D OMA Incentive Fee. Each category of metrics is allocated a percentage of the incentive compensation pool and each metric within the category is assigned a certain number of base points. Customer service metrics and financial performance metrics are allocated 25% of incentive compensation pool each while technical, safety, and regulatory metrics are allocated 50%. If LUMA exceeds the minimum performance level for a particular metric, LUMA may earn from 25% to 150% of the base point value for that metric depending on the extent to which LUMA exceeds the minimum performance level. The more LUMA exceeds the minimum performance level, the larger the multiplier on the base point value. This process is repeated for all metrics and categories to determine LUMA’s overall point score and the corresponding Incentive Fee.¹⁷¹ For the first contract year, performance levels will

¹⁷¹ Further information on this process and an example Incentive Fee calculation can be found in the OMA at <https://www.p3.pr.gov/wp-content/uploads/2020/06/executed-consolidated-om-agreement-td.pdf>

be adjusted proportionately if the service commencement date occurs after the beginning of the fiscal year.

Finally, if any Major Outage Event (including a Major Outage Event that is a Force Majeure Event) prevents LUMA from achieving one or more of the normal operation performance metrics, LUMA is still entitled to earn the Incentive Fee for the period of the Major Outage Event as long as LUMA achieves the Major Outage Performance Metrics during such period of time.

Chapter 15. Debt Service

15.1 Overview of PREPA Debt

As of May 2017, PREPA was burdened with approximately \$9 billion in bond and other debt obligations, along with an unsustainable repayment schedule. To pay full debt service on these obligations, PREPA would have been required to increase rates by 5 to 6 c/kWh in real terms over the next twenty years. PREPA's unsustainable capital structure reflects decades of borrowing to fund operating deficits. In February 2014, three major credit-rating agencies downgraded Puerto Rico's public debt to below investment grade. In late June 2015, the debt was downgraded a second time when it became clear that the Island's debts were unpayable.¹⁷² Finally, in the spring of 2016, as the investment community viewed default on nearly all of Puerto Rico's debt as a "virtual certainty," PREPA lost access to credit markets – thus eliminating debt as a means of funding necessary capital spending and operating deficits.^{173,174}

In July 2017, in the interest of ensuring PREPA's future financial sustainability, and at the request of the Government of Puerto Rico, the Oversight Board filed a voluntary petition on behalf of PREPA for protection under Title III of the Puerto Rico Oversight, Management, and Economic Stability Act (PROMESA) in the U.S. District Court. Since then, a group of PREPA creditors, the Oversight Board, the Government, and PREPA negotiated a consensual debt restructuring support agreement. However, as a result of the uncertain and unpredictable effects of COVID-19 on PREPA and its customers, the Oversight Board and the Puerto Rico Fiscal Agency and Financial Advisory Authority (AAFAF) requested, and the court granted a pause in the Title III process to assess and understand the implications of COVID-19.

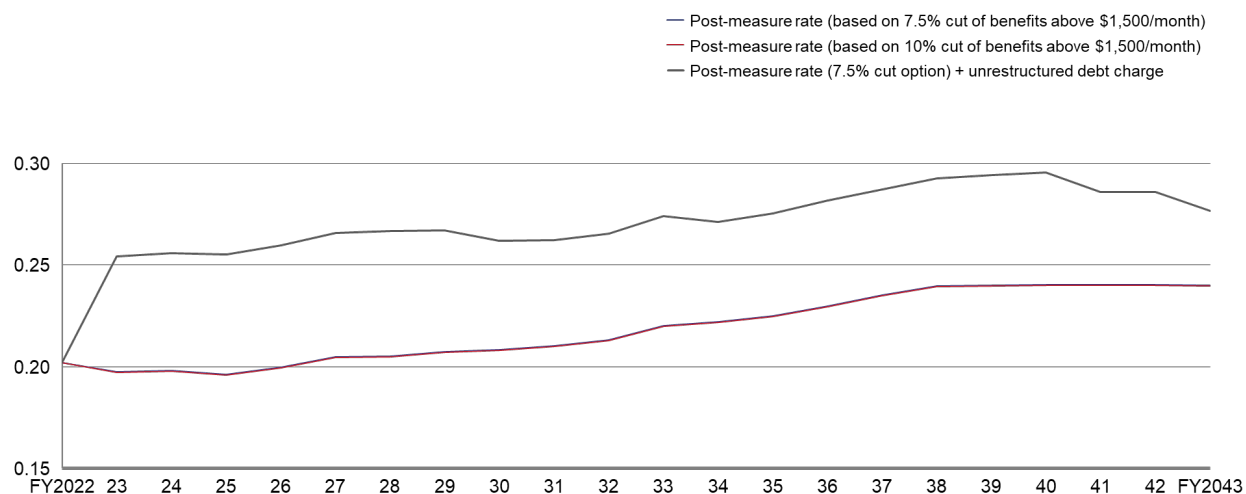
PREPA has maintained a growing and unsustainable debt balance over the past decade. As long as PREPA remains in Title III proceedings, the utility will not have effective access to capital markets to fund critical grid modernization and improvement plans. A successful debt restructuring is imperative for PREPA to exit the Title III process and succeed in reconstructing a modern, resilient, and reliable energy system, all the while placing a minimum burden on Puerto Rico's residents and businesses.

172 D. Andrew Austin, Puerto Rico's Current Fiscal Challenges, (U.S. Library of Congress, Congressional Research Service, R44095, 2016), 4, <https://fas.org/spp/crs/row/R44095.pdf>.

173 "An obligation rated 'CC' is currently highly vulnerable to nonpayment. The 'CC' rating is used when a default has not yet occurred but S&P Global Ratings expect a default to be a virtual certainty, regardless of the anticipated time to default.", "S&P Global Ratings Definitions," S&P Global Ratings, last modified September 18, 2019, https://www.standardandpoors.com/en_US/web/guest/article/-/view/sourcelid/504352.

174 D. Andrew Austin, Puerto Rico's Current Fiscal Challenges, 4.

EXHIBIT 69: POST-MEASURE RATE VS. POST-MEASURE RATE PLUS UNRESTRUCTURED DEBT (USD/KWH, IN REAL 2021 USD)



15.2 Implications of Unrestructured Debt on Projected Rates

Without restructuring, PREPA would need to repay approximately \$3.3 billion of scheduled legacy debt service obligations over five years from FY2023 to FY2027 before considering the roughly \$4.4 billion of unpaid past and currently due amounts through FY2022. Fully funding PREPA’s unrestructured debt service obligations in the near term would require rates of approximately 5 to 6 c/kWh in real dollars. In the longer term, PREPA’s estimated annual debt service obligation is approximately \$749 million per year based on term out of all long-term financial liabilities at a 5% interest rate over 21 years.

Payments for unrestructured debt service directly translate into higher customer bills. For instance, for a typical customer with a monthly electricity consumption of 500 kWh in FY2022, including payments for unrestructured debt in the electricity rate (on top of the pre-measure rate that does not include any debt payments) would increase the customer’s average monthly bill in FY2025 by ~30% from \$94.9 to \$123.5. This illustrative calculation assumes energy efficiency improvements in compliance with Act 17-2019 (as included in PREPA’s IRP), restructured pensions, and no demand increasing effects from , for example, electric vehicles or other technologies (see Exhibit 71).

EXHIBIT 70: POST-MEASURE RATE WITH UNRESTRUCTURED DEBT ADDED (IN REAL 2021 C/KWH)

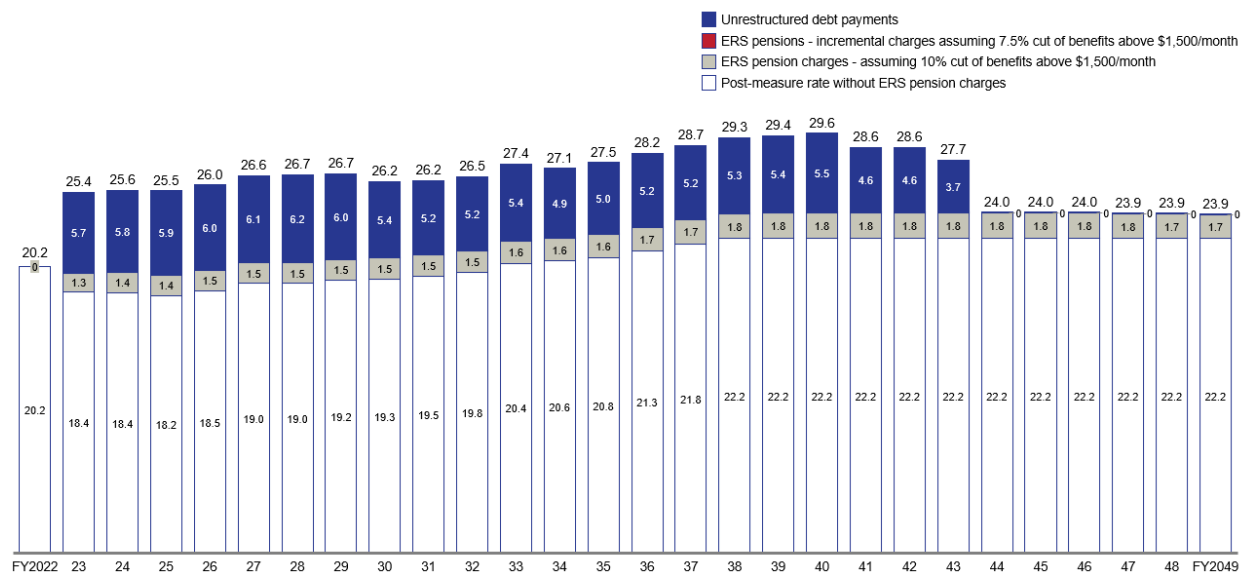
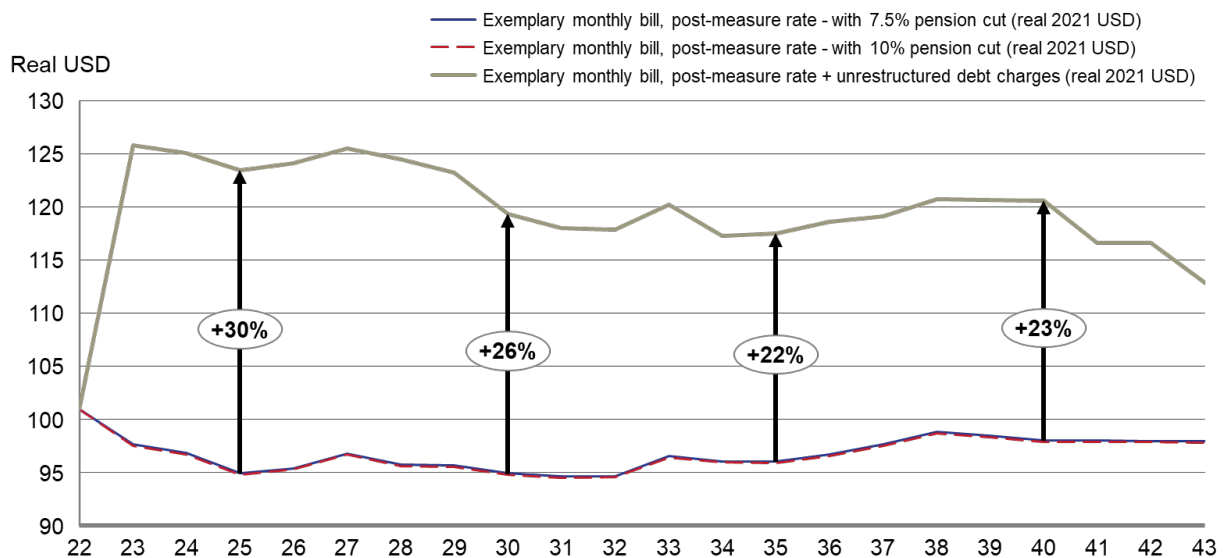


EXHIBIT 71: SAMPLE MONTHLY ELECTRICITY BILL, POST-MEASURE RATE VS. POST-MEASURE RATE PLUS UNRESTRUCTURED DEBT CHARGES¹⁷⁵ (IN REAL 2021 USD)



15.3 Debt Sustainability Analysis

The debt sustainability analysis (DSA) is intended to provide a framework for assessing PREPA’s long-term capacity to pay debt service.¹⁷⁶ Ultimately, PREPA’s debt levels need to align with the

¹⁷⁵ Post-measure rates account for the benefits of PREPA’s transformation and include restructured pension charges. See chapter 5, Section 5.1 for a detailed description of post-measure rates

¹⁷⁶ PROMESA Section 201(b)(1)(I) mandates that the Fiscal Plan include a debt sustainability analysis.

objective of recovering capital market access to fund ongoing and future infrastructure capital investment and/or refunding savings, and ensuring affordable energy prices for the Commonwealth and its residents. The following debt sustainability analysis describes PREPA's capacity to pay current and projected debt.

The DSA matrix illustrates PREPA's implied debt capacity at varying coupon levels and hypothetical levels of net revenue (TABLE 15). The DSA assumes a 30-year term and level debt service (i.e., 1.0 times coverage). Given the range of implied debt capacity, restructuring is imperative to achieving a sustainable solution to PREPA's debt obligations and paving the way to regaining its investment grade rating and ensuring a fiscally sustainable future for the Puerto Rico energy system.

TABLE 15: ILLUSTRATIVE DEBT CAPACITY SENSITIVITY (USD MILLION)

Sensitivity Analysis – Implied Debt Capacity at 1.0x Coverage						
Illustrative Cash Flow		\$75	\$150	\$225	\$300	\$375
PV Rate %	4.0%	\$1,297	\$2,594	\$3,891	\$5,188	\$6,485
	5.0%	\$1,153	\$2,306	\$3,459	\$4,612	\$5,765
	6.0%	\$1,032	\$2,065	\$3,097	\$4,129	\$5,162

Chapter 16. Pension Plan

16.1 Historical Background and Organizational Structure

The PREPA Employees' Retirement System (PREPA ERS) was originally created through Resolution 200 of PREPA's Governing Board in accordance with the terms of a Collective Bargaining Agreement executed in 1942 between the Puerto Rico Electrical Industry and Irrigation Workers Union ("UTIER," by its Spanish acronym) and the Water Resources Authority, now known as PREPA. PREPA's Governing Board adopted the resolution establishing the PREPA ERS as of July 1, 1945. Through the years, the PREPA ERS expanded its scope to cover other PREPA employees. Since its inception, the PREPA ERS has been governed by its bylaws, as amended, which are contractual in nature, known as the "Electric Power Authority Employee Retirement System Regulations" (the "ERS Regulations").

The PREPA ERS is a public pension system. Its assets are dedicated for the benefit of the active members, retired members, and their beneficiaries. PREPA is the plan sponsor, contributes to the PREPA ERS, and pays for all the administrative costs of the PREPA ERS, which total approximately \$4M per year. The ERS Regulations establish a Board of Trustees (the "Board of Trustees") to administer the PREPA ERS. That Board is comprised of eight (8) members, of which one (1) member is the Executive Director of PREPA, three (3) members are active members of the PREPA ERS and are elected by active members of the PREPA ERS, three (3) members are appointed by the PREPA Governing Board, and one (1) member is elected by the retired members of the PREPA ERS.

Article 7 of the ERS Regulations provides that the powers of the Board of Trustees are subject to the limitations that the Governing Board of PREPA may prescribe. Further, Article 11 of the ERS Regulations provides that the ERS Regulations may be amended by the Board of Trustees, provided that said board notifies the PREPA Governing Board thirty (30) days in advance of its intention to amend the ERS Regulations. PREPA's Governing Board may, within said thirty-day (30) period, veto the proposed amendment. Additionally, Article 9(2) of the ERS Regulations provides PREPA's Governing Board with the ability "upon recommendation of the Board of Trustees" to modify contributions to or terminate the PREPA ERS "for reasons that affect its development and normal operations as a solvent entity, discontinue, suspend or reduce its contributions." Article 9(3), allows PREPA to terminate operation of the PREPA ERS "based on causes or circumstances that are outside of its control".

The ERS Regulations provide for PREPA to make an employer contribution to the PREPA ERS in the amount of the actuarially determined contribution (ADC), which is an actuarially determined amount which reflects the cost of benefits earned during the year ("normal cost") plus the amortization of the unfunded status of the plan over a fixed number of years. The ADC is the amount needed, if contributed consistently based on each year's actuarial calculation, to fully fund all of the benefits payable by a plan, so long as it is based on a set of assumptions that accurately represents expected future costs of the plan. The ERS Regulations impose on the Board of Trustees the obligation to approve its actuarial reports and financial statements annually. Up until the June 30, 2016 actuarial valuation, the actuary for the PREPA ERS provided PREPA with an

ADC that was, in hindsight, based on overly optimistic assumptions regarding payroll, life expectancy, and return on system assets. As a result, the ADC historically approved by the Board of Trustees was too low to maintain the health and funded status of the PREPA ERS. An actuarial revision was performed by the ERS actuary in 2018 which updated many key economic and demographic assumptions, and significantly increased the ADC beginning with the June 30, 2017 valuation reports (i.e., FY2019 ADC). However, PREPA continued to fund the plan at the lower levels calculated from the ADC prior to revising to more realistic assumptions.

16.2 Pension Benefits Background

PREPA ERS undertook a significant pension reform in 1993 including, most notably, an increase in the minimum retirement age and the imposition of a cap on pension benefits through the establishment of a maximum annual compensation limit of \$50,000 as the base for the calculation of the pension benefit (i.e., in comparison to pre-1993 employees who would receive a merit pension of 75% of the highest three years of compensation without any cap). Therefore, the maximum amount of annual pension benefit that a post-January 1, 1993 hire could earn is \$37,500 (75% of \$50,000). Such reform notwithstanding, the Cost-of-Living Adjustment (COLA) remained in effect and applies to all retirees, providing for an increase to benefits every three years. Additionally, effective June 30, 2002 and June 30, 2003, an annual \$400 Christmas bonus and a \$100 Summer bonus were added to retiree benefits. As of June 30, 2004, a lump sum Funeral Benefit of \$1,000 was also established.

Key retirement provisions are itemized in the table below, both for employees hired before and after January 1, 1993.

TABLE 16: KEY RETIREMENT PROVISIONS

Defined Benefit	Hired Before January 1, 1993	Hired On or After January 1, 1993
Eligibility for Full Retirement Benefit	<ul style="list-style-type: none"> ▪ 30 years of service 	<ul style="list-style-type: none"> ▪ Age 55 and 30 years of service
Maximum Compensation	<ul style="list-style-type: none"> ▪ Average of the three highest annual base salaries 	<ul style="list-style-type: none"> ▪ Average of the three highest annual base salaries, but capped at \$50,000
Annual Benefits	<ul style="list-style-type: none"> ▪ Merit annuity is 2.5% of compensation times years of service up to 30 years ▪ Accrued benefit annuity is 1.5% compensation for each year of service, plus 0.5% of compensation for each year of service after 20 years ▪ Maximum benefit at retirement is \$37,500 for those hired on or after January 1, 1993 	

Employee Contributions	<ul style="list-style-type: none"> Employee contributions are generally 9.06% of salary 	<ul style="list-style-type: none"> Employee contributions are 11% of salary
Cost-of-Living Adjustment	<ul style="list-style-type: none"> Every three years: 8% increase for monthly pension of up to \$300; 4% increase for monthly pension between \$300 and \$600; 2% increase for monthly pension in excess of \$600 	
Other Benefits	<ul style="list-style-type: none"> Annual bonuses of \$500 (\$400 for Christmas and \$100 for Summer); Funeral benefit of \$1,000 paid as a lump sum; Lump sum of one year's pay at death while active or retired 	

Furthermore, surviving spouses of retired members are entitled to receive a life annuity equal to 30% of the annual pension level at the time of death.

16.2.1 Other Post-Employee Benefits (OPEB)

For Other Post-Employment Benefits (OPEB), PREPA provides postretirement medical benefits outside of the PREPA ERS (i.e., not paid from pension trust). The eligibility for receiving medical benefits is 30 years of service. Currently, PREPA provides medical coverage for retirees through a contract with Triple-S. This benefit is completely unfunded and is included in the PREPA operating budgets, costing approximately \$11 million annually under the current contract. There are approximately 8,200 retirees that receive the OPEB medical benefit and 6,000 active employees still not yet eligible to receive this benefit.

16.2.2 Distribution of Active Participants by Age and Years of Service

As of July 1, 2019, there were approximately 12,500 retirees that receive an average monthly pension benefit of \$1,760, and 5,300 active employees that participate in the pension system, of which 4,600 have more than ten (10) years of service and are vested to receive pension benefits upon reaching retirement age. The exhibit below sets forth the distribution of active participants by age and years of service (as of June 30, 2019).

EXHIBIT 72: NUMBER OF PARTICIPANTS, AVERAGE SALARY, AND AVERAGE CONTRIBUTION BALANCE

Attained Age	Years of Service									Total	95	No. of Participants	\$31,216	Average Salary	\$13,484	Average Contribution Bal
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+							
<30	64	29	2								95					
	\$28,304	\$36,924	\$41,633								\$31,216					
	\$4,594	\$29,570	\$60,244								\$13,484					
30-34	49	90	77	0							216					
	\$32,556	\$38,434	\$38,765	\$0							\$37,218					
	\$7,342	\$32,747	\$58,153	\$0							\$35,908					
35-39	57	109	297	138	2						603					
	\$32,983	\$38,156	\$39,967	\$40,104	\$51,217						\$39,048					
	\$7,010	\$33,723	\$66,982	\$93,175	\$130,414						\$61,679					
40-44	40	75	266	517	143	1					1,042					
	\$31,991	\$38,210	\$39,772	\$42,225	\$44,537	\$45,533					\$41,237					
	\$6,523	\$35,075	\$72,612	\$98,933	\$130,006	\$166,502					\$87,991					
45-49	32	71	220	474	448	133	4				1,382					
	\$30,569	\$38,369	\$38,796	\$42,703	\$45,198	\$44,310	\$38,074				\$42,527					
	\$7,880	\$36,458	\$72,376	\$102,142	\$143,020	\$153,247	\$144,437				\$109,806					
50-54	18	54	106	276	348	242	78				1,122					
	\$43,828	\$37,460	\$38,313	\$41,105	\$45,550	\$49,281	\$45,707				\$44,172					
	\$13,680	\$36,212	\$72,743	\$105,291	\$148,139	\$169,057	\$168,609				\$128,490					
55-59	11	22	88	143	180	124	70				638					
	\$46,342	\$38,614	\$38,304	\$40,157	\$44,002	\$48,757	\$46,819				\$43,442					
	\$3,473	\$38,401	\$72,776	\$106,880	\$148,879	\$168,107	\$178,712				\$129,526					
60-64	1	5	22	45	60	46	18	1			198					
	\$24,960	\$53,999	\$41,691	\$39,548	\$42,451	\$44,712	\$44,056	\$55,146			\$42,645					
	\$2,607	\$32,827	\$66,703	\$102,808	\$149,226	\$162,884	\$188,200	\$252,047			\$134,353					
65-69		1	2	2	10	5	1				28					
		\$37,635	\$37,148	\$36,455	\$41,289	\$45,700	\$46,751	\$42,687			\$43,118					
		\$35,317	\$86,112	\$90,062	\$149,142	\$152,907	\$185,802	\$233,027			\$147,242					
70+	1		2	5	1	1					11					
	\$73,067		\$35,424	\$42,537		\$36,095	\$37,011				\$41,009					
	\$0		\$68,784	\$117,081		\$120,180	\$137,899				\$308,661					
Total	273	456	1,082	1,600	1,188	557	176	2	1		5,335					
	\$32,752	\$38,287	\$39,322	\$41,724	\$44,889	\$47,506	\$45,787	\$48,917	\$41,009		\$41,929					
	\$6,749	\$34,418	\$69,906	\$101,330	\$144,201	\$164,131	\$174,479	\$242,537	\$308,661		\$102,513					

16.3 Funded Status

As of June 30, 2020, the PREPA ERS total asset value was \$762 million, of which approximately 32% or \$246 million was invested in “illiquid assets,” such as venture capital and partnerships, as well as employee loans/mortgages (i.e., Other Assets). The chart below shows the pension system’s assets declining rapidly since June 30, 2018, primarily due to (a) significant outflow resulting from benefit payments, (b) an insufficient employer contribution, and (c) a significant decrease in headcount leading to a reduced amount of employee/employer contributions. As also shown in the chart below, the net cash outflow (benefit payments less employer/employee contributions and investment return) between June 30, 2018 and June 30, 2020 was almost \$300 million. As of June 30, 2020, the portion of illiquid assets stands at approximately one-third of total assets.

EXHIBIT 73: PENSION ASSETS AS OF JUNE 30, 2020¹⁷⁷

Asset class	06/30/2018	06/30/2019	06/30/2020	Allocation Percent
	\$	\$	\$	
Equities	594,053,854	491,936,787	378,104,233	50
Fixed income	89,364,069	90,845,694	105,864,027	14
Real estate	46,721,883	38,667,303	30,872,177	4
Venture capital and partnerships	90,856,466	63,614,127	42,278,970	5
Other assets	224,055,937	218,012,470	203,769,237	27
Cash and cash equivalents	14,323,792	11,718,081	1,550,285	0
Adjustments to cash	-1,735,000	1,058,695	384	0
Total	1,057,641,001	915,853,157	762,439,313	100
Year-over-year change		-13%	-17%	
Cumulative change over 2 years			-28%	

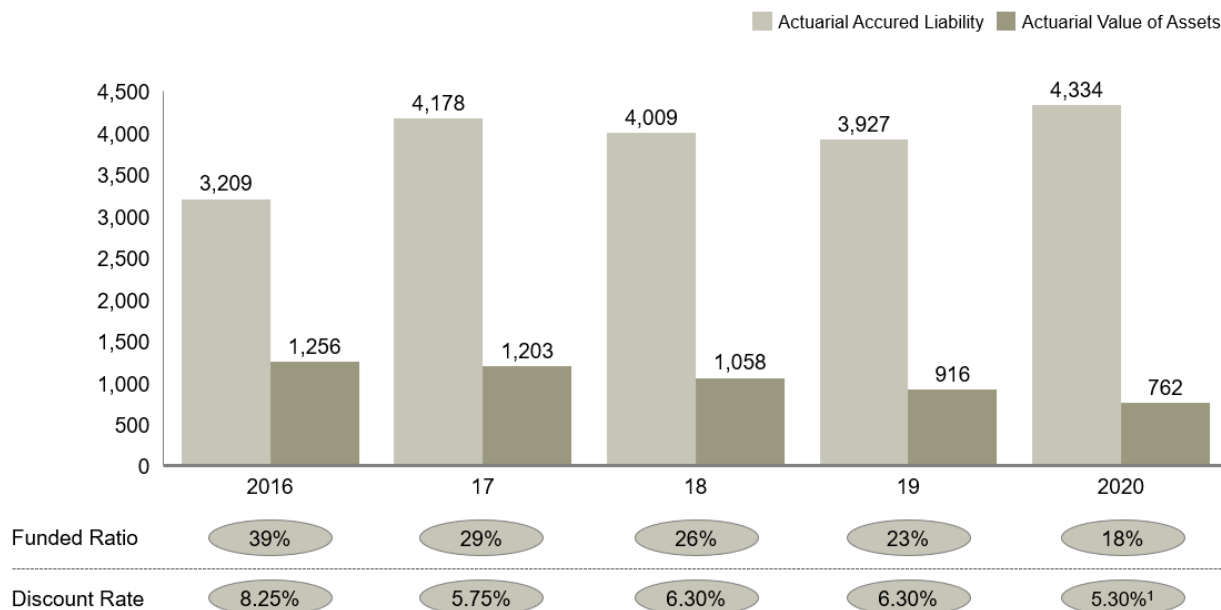
Note

- Over a 2-year period from June 30, 2018 to June 30, 2020, asset value declined by \$295 million (~30%) with cash flows as follows

PREPA contribution	\$149 million
Employee contribution	\$49 million
Net investment return	\$100 million
Benefit payments	-\$593 million
New outflow	-\$265 million

- About 1/3 of the assets are in "other assets" and alternative investments, which could be illiquid, or may need to be sold at a discount

EXHIBIT 74: PENSION FUNDED STATUS AS OF JUNE 30, 2020¹⁷⁸



¹ The discount rate was reduced from 6.30% as a result of updated capital market assumption.

The chart above illustrates the funded ratio of the PREPA ERS plan for the last five (5) years. Historically, the funded ratio of the plan has steadily declined since 2008 when the plan was 67% funded. As of June 30, 2020, the pension liability is \$4.3 billion compared to an asset value of

¹⁷⁷ Analysis is updated annually and is slated to be recalculated at the end of June, 2021.

¹⁷⁸ Analysis is updated annually and is slated to be recalculated at the end of June, 2021.

\$762 million, representing a funded ratio of eighteen percent (18%), which drops to twelve percent (12%) when excluding illiquid assets. A funded ratio of 18% means that all pension assets, including those that may not be liquid, cover 18% of the actuarial accrued liability associated with the PREPA ERS Plan. The steady decline in funded status demonstrates a long history in mismanagement of pension costs resulting in significant underfunding of the plan.

From FY2017 to FY2021, PREPA budgeted and contributed an approximate average of \$80 million per year as the employer portion of the pension system contribution. For FY2022, this Fiscal Plan reflects contributions of ~\$27 million. With this level of funding, it is expected, based on projections, that the PREPA ERS pension system will not have the necessary assets to pay pension benefits as early as the fourth quarter of calendar year 2024. Excluding illiquid assets, the pension system will be insolvent, unable to meet its obligations, by the second quarter of calendar year 2023, as assets are projected to have depleted by then.

Given the plan's extremely poor funded status as a result of past practices, a single event could cause accelerated or even immediate insolvency. For example, the liquidity depletion date may be further shortened (i.e., accelerated) if a significant number of PREPA employees opt to withdraw their contributions from the system when they separate themselves from the PREPA ERS (e.g., upon being hired by the private operators for the T&D System and the PREPA legacy generation operations). PREPA employees who opt to move to one of the mentioned private operators have the right to transfer the accumulated employee contribution together with a 5% annual interest from the PREPA ERS to the new pension/retirement benefit system. Currently, the cumulative employee contributions into the PREPA ERS total approximately \$530 million. In the short term, PREPA estimates that \$100 million to \$300+ million in employee contributions could be withdrawn from the PREPA ERS as qualifying employees potentially opt to separate themselves from the PREPA ERS and withdraw their respective employee contributions plus the 5% annual interest. If this happens, the PREPA ERS asset depletion date could be accelerated to as early as the fourth quarter of calendar year 2022, assuming all illiquid assets are included in total asset value. As a worst-case scenario, considered not likely to occur, the asset depletion date would be further accelerated to the fourth quarter of calendar year 2021, if illiquid assets are not included.

While asset depletion and system insolvency in 2021 is a low probability event¹⁷⁹, this precarious position highlights the fact that regardless of participant decisions related to the LUMA transfer, pension reform must be implemented to provide the necessary liquidity to continue to pay benefits to participants while balancing the impact of increasing electric rates to the levels necessary to fund such benefits.

16.4 Implications of Full Funding of ADC vs. PayGo Funding

The PREPA ERS's current policy for calculating the ADC was established as of June 30, 2010, for the Unfunded Actuarial Accrued Liability (UAAL), to be fully amortized over a 30-year period on

¹⁷⁹ This is unlikely given that participants withdrawing their contributions would also have to repay any outstanding loans, which would result in at least a portion of the reduction to draw on illiquid assets, as opposed to liquid assets.

a closed basis. The UAAL is amortized as a level dollar amount, and, as of June 30, 2020, the remaining amortization period is 20 years.

PREPA estimates that for FY2022 (July 1, 2021 to June 30, 2022), the full ADC will be \$313 million, based on the remaining 20-year amortization period. The expected benefit payments for the same period are estimated to be \$283 million, which represents about 38% of the market value of assets (liquid plus illiquid) as of June 30, 2020.

If PREPA ERS assets are depleted and PREPA employer contributions are insufficient to cover pension benefits, PREPA would need to find resources to pay for pensions and any employee contribution withdrawals on a “Pay-As-You-Go” (PayGo) basis, or risk non-payment of benefits.

16.5 Potential Pension Liability Reduction Options

As a result of the described past and potential actions, PREPA’s pension system is in dire need of structural reform. As noted previously, as of June 30, 2020, the pension liability is \$4.3 billion compared to asset value of \$762 million. Failure to reduce the level of funding required to continue paying benefits to current and future retirees under the PREPA ERS places the more than 18,350 current and future retirees at risk of losing their pensions unless a meaningful effort is made to restructure the pension system.

The Oversight Board has, in the past, proposed restructuring the pension system to provide for its adequate funding while mitigating any negative impact to customer’s energy bills.

To that end, the Oversight Board proposes the following reforms:

- Eliminate Cost-of-Living Adjustment (“COLA”) and Fringe Benefits such as the annual bonuses for all current and future retirees.
- Increase retirement eligibility age¹⁸⁰ and freeze future benefit accruals for current active employees.
- Reduce benefits for all current and future employees by instituting a benefit reduction on benefits that exceed \$1,500 per month.¹⁸¹ Employees will retain the benefits they have accrued to date, subject to the benefit reduction.

Failing to implement pension reform will undoubtedly have a negative impact on Puerto Rico’s economy and economic competitiveness. The following exhibit demonstrates the effect on consumer electricity rates that arise from a benefit reduction ranging from 7.5% to 10% on benefits that exceed \$1,500 per month, in line with the Commonwealth pension reform. The exhibit further demonstrates that, before reform, covering the cost of the system would result in an increase in the average consumer bill of nearly \$50 per year. When considering benefit reduction scenarios, decreasing the benefit reduction by 2.5 percentage points, from 10% to 7.5%, will result in an increase in the average electricity bill of consumers by approximately \$3 a year.

¹⁸⁰ Increased eligibility of up to 3 years, depending on age at freeze.

¹⁸¹ A flat reduction to the monthly pension benefits (excluding funeral bonus) that is limited by a single \$1,500 per month threshold, below which benefits are not reduced. Participants earning less than \$1,500 would receive \$0 in reduction and participants making over \$1,500 would not have benefits reduced below \$1,500.

EXHIBIT 75: ILLUSTRATIVE PENSION COSTS TO CONSUMER BEFORE AND AFTER REFORM

Allow Rates to Vary over Time									
Fiscal Year	Cut 10.0%			Cut 7.5%			No Freeze or Cut ¹		
	Nominal Rate	Real Rate	Real Dollar cost for average customer ²	Nominal Rate	Real Rate	Real Dollar cost for average customer ²	Nominal Rate	Real Rate	Real Dollar cost for average customer ²
2023	1.33	1.3	142.57	1.35	1.32	145.48	1.73	1.69	185.83
2033	1.87	1.57	172.24	1.90	1.60	175.48	2.35	1.98	217.29
2043	2.59	1.83	200.77	2.64	1.86	204.59	3.15	2.22	244.19

Flat Rate equivalent ³									
Fiscal Year	Cut 10.0%			Cut 7.5%			No Freeze or Cut ¹		
	Nominal Rate	Real Rate	Real Dollar cost for average customer ²	Nominal Rate	Real Rate	Real Dollar cost for average customer ²	Nominal Rate	Real Rate	Real Dollar cost for average customer ²
2023	1.86	1.82	199.71	1.89	1.84	202.93	2.33	2.27	250.17
2033	1.86	1.56	171.69	1.89	1.59	174.46	2.33	1.96	215.07
2043	1.86	1.31	144.22	1.89	1.33	146.54	2.33	1.64	180.66

¹ Some level of impairment is likely needed to exit Title III and option to do no freeze or cut is not feasible
² Based on 11,000 kWh usage, costs in real 21 dollars
³ Flat rate necessary to have unfunded liability projected to be fully funded after 30 years

16.6 Structural Pension Reform Considerations

Because the PREPA-ERS trust is significantly underfunded a funding policy must be adopted to structurally support the ongoing needs of pensioners while balancing the impact on power rates given the expected future reductions in electricity demand from the grid in future years. PREPA must determine the method by which these benefits will be funded. The overarching decision that needs to be made relates to the pension funding vehicle. Currently, pension contributions are made to the PREPA ERS trust with benefits and administrative costs paid from the trust's accumulated assets. Current contributions to the plan are insufficient and will result in the trust becoming insolvent in the near future. If PREPA ERS assets are depleted, the payments will need to be converted to PayGo. A decision is needed as to whether to maintain a trust structure and rebuild the funded status of the plan to avoid the need to convert to PayGo, or simply accept the conversion to PayGo. In either case, additional decisions will be needed in the areas outlined below to consider not only the contributions needed to appropriately fund the plan, but the impact of these costs on electricity rates.

16.6.1 Short term pension funding considerations

If benefits are funded through a pension trust (either PREPA ERS or a newly established trust), consideration must be given to how to reduce the negative impact of significant variations in the surcharge from year to year on consumers. While rates would need to be reviewed annually to adjust for any losses occurring during the year, potentially adversely affecting long term adequate funding of the trust (for example variation in actual demand levels versus projected demand, unfavorable asset returns, etc.), funding benefits through a trust should allow the rate to be more stable, providing increased stability in electricity rates over the years.

If pensions are paid via PayGo, the risk of fluctuation of revenue from the pension surcharge is even greater. Retirees need to be able to count on a stable monthly retirement income from PREPA ERS. Therefore, unlike other expenses which may be delayed a period of time under challenging business conditions, a plan must be in place, with confirmations each month, to

ensure that retirees receive their monthly pension checks in a timely manner. This may involve, for example, structuring the surcharge to collect revenue in advance for benefits payable at some point out in the future, so that if revenue is less than expected in the short term (e.g. lower demand due to natural disasters or general seasonal fluctuations), there is time to adjust the surcharge to generate the level of revenue necessary to pay benefits to retirees.

16.6.2 *Longer term pension funding considerations*

If benefits are funded through a trust, there is more flexibility regarding how to structure the pension surcharge. Given the projected decline in future electricity demand and the long-term nature of the pension obligation, a funding practice that results in a relatively stable contribution level each year will as a by-product result in continued increases in electric rates when lower demand levels in later years are factored in. As an alternative, a flat electricity rate could be determined that, if charged on current and future rates, would result in cumulative contributions at a level sufficient to fully fund the plan by the end of the closed amortization period

If instead pension expenses are funded via PayGo, there must be a recognition that pension payments for younger plan participants will extend decades beyond the length of the fiscal plan. Therefore, a plan is necessary to make sure that these participants receive the pensions promised to them under PREPA pension reform as far out as necessary, even as demand continues to decline.

16.7 Pension treatment for transfers from PREPA

16.7.1 *Existing Legislation Regarding P3 Transactions Pension treatment for transfers from PREPA*

As alluded to in the description of the transformation impact on current PREPA employees, existing legislation limits certain actions taken with respect to the PREPA ERS in P3 transactions. In particular, the “Public-Private Partnership Authority Act” (Act 29-2009, as amended), states:

Every public employee who is a participant of the following retirement systems of . . . the Electric Power Authority Employees Retirement System approved by the Board of Directors of the Authority through the approval of Resolution 200 of June 25, 1945, who has ten (10) years or more of service accumulated and is part of a Partnership, shall maintain the vested rights under said system and may continue to make his/her individual contribution to the retirement System, and his/her new employer shall make its employer contribution. Provided, that the beneficiaries of Act No. 305 of December 31, 1999, are excluded. In the case that the new employer has its own Retirement System and the employee chooses to avail him/herself of the same, the transfer of the total contributions shall be allowed, without the employee having to pay taxes for the contributions transferred. No system, that is to say, the system of the University of Puerto Rico, of the Electric Power Authority, the Teacher’s Retirement System or the Employees Retirement Systems of the Government and the Judicature may interfere with the faithful compliance of this Section.

16.7.2 *LUMA transfer options*

Based on the legislation above, PREPA employees that transfer to LUMA will be given the option on their pension benefits will be treated. The options available to the participant vary based on the length of service the participant has accrued in the PREPA ERS.

Members who transfer to LUMA and have not attained 10 years of creditable service as of the employee hire date will be enrolled in the defined contribution plan operated by LUMA (“LUMA DC Plan”) and will cease participation in the PREPA ERS plan. In general, these members will receive an immediate roll-over of their accumulated contributions, less Social Security contributions, if any, plus interest at a rate of 5% (or optionally a lump sum distribution of the accumulated contributions) into the LUMA DC Plan and PREPA ERS will have no future obligation to the member.

Under the terms of PREPA ERS and the P3 agreement, members who are LUMA transfers with at least 10 years of creditable service as of the employee hire date will be given the option to elect one of three options, subject to any cut and freeze provisions implemented for PREPA ERS:

Option 1. Enroll in the LUMA DC Plan and retain defined benefit plan benefit accrued as of the Transaction Date in the PREPA ERS Plan. Pension benefits under PREPA ERS will be calculated based on the years of service and compensation as of the date of employment termination from PREPA and will be subject to the benefit reduction formula. Retirement benefits will ultimately be payable from both the LUMA DC and PREPA ERS Plans since the participant maintained two retirement plans.

Option 2. Enroll in the LUMA DC Plan and cease participation in the PREPA ERS Plan. Accumulated Employee contributions plus interest at a rate of 5% will be transferred to the LUMA DC Plan and ultimate retirement benefits will come only from the LUMA DC Plan.

Option 3. Decline enrollment in the LUMA DC Plan. Participants who decline enrollment in the LUMA DC Plan will remain in the PREPA ERS Plan during their employment with LUMA and will continue to make contributions to that Plan, as long as benefit accruals continue under the plan. LUMA will also be responsible for making contributions on behalf of these participants to PREPA ERS.

16.7.3 *Continued participation of transfers in PREPA ERS*

Given choice under Option 3 above for employees to transfer to LUMA and continue to earn additional benefits under PREPA ERS, steps must be taken to establish the administrative procedures necessary to administer these provisions. This includes but is not limited to:

- Development of formula for actuarially determining LUMA contributions to PREPA ERS
- Mechanism for transferring such employer contributions to the PREPA ERS trust
- Mechanism for transfer of employee contributions to the PREPA ERS trust
- Recordkeeping procedures and system updates necessary to track benefit accruals attributable to employee service with LUMA

PREPA ERS has announced it will not accept continued contributions from employees who transfer to LUMA, based on its assertion it is precluded from doing so by ERISA. If PREPA ERS continues to refuse to accept funding and administer benefits in the manner described by Act 29-2009, alternative arrangements will need to be made to produce the same outcome for plan participants. Alternative arrangements will require even more administrative burdens than the current complicated structure described by Act 29-2009. Therefore, it is essential to address these points as soon as possible to make sure that the appropriate policies and procedures are instituted.

16.7.4 Employee loans

One factor which may influence employee decisions regarding transfers and elections related to their PREPA ERS accrued benefits is any loans which they have taken from PREPA ERS and remain open as of the transition date. PREPA ERS maintains as collateral for these loans the wages earned at PREPA and the accrued contributions of its members. Upon withdrawing the contributions and ceasing to earn wages at PREPA, the collateral ceases to exist to support the loan obligation.

If a member resigns from PREPA but opts to keep contributions in the PREPA ERS system, they will not be subject to immediate repayment of the loan balance. However, members that remove their contributions from the PREPA ERS system, including all members with less than 10 years of service, are required to repay in full the outstanding loan balance at the time of separation. Further, PREPA ERS has the right to retain the accrued contributions of a member who decides to withdraw or transfer their contributions and PREPA ERS may seize assets, including up to 25% of those salaries that a member generates as compensation for their work at LUMA or any other employer, to guarantee the payment of any outstanding loan balance.

16.7.5 Transfers to the Commonwealth

As noted in the T&D transformation overview, PREPA employees that will no longer have positions at PREPA after the T&D transformation have received transfer notices, in accordance with Act 8-2017 and Act 120-2018, indicating that they must report to a specific agency or instrumentality of the Government of Puerto Rico by June 1, 2021.

16.7.6 Employee Communications

PREPA owes its employees, that have provided it with years of faithful service, clear communications regarding the employment options available to them in connection with the T&D transformation, and the impact that different options will have on pension benefits, both already accrued benefits and future benefits. Given the importance of these decisions, employees should be encouraged to consult with their financial and tax advisors to appropriately consider their individual circumstances.

Chapter 17. Post-Certification Reporting

Electric utilities and energy providers operate critical infrastructure, often as monopolies. To provide transparency and inform regulators, employees, customers, and other stakeholders, regulated energy and utility companies have to adhere to strict transparency and reporting requirements mandated by different federal, state, and other regulatory entities. Such reporting requirements are industry standard, and apply to PREPA. For instance, Act 57-2014 established the Puerto Rico Electric Bureau (PREB) as PREPA's regulator and requires PREPA to promote transparency and publish information on financial, operational, and reliability indicators, including monthly financial reports, the price per type of fuel, and the average cost per kilowatt-hour of each sector (residential, industrial, and commercial), among others.¹⁸² Importantly, the establishment of PREB eliminated PREPA's authority to self-regulate and transferred to PREB installed those regulatory and oversight responsibilities, increasing transparency and oversight. Those regulatory roles and responsibilities will remain at PREB, even after the transformation of Puerto Rico's Energy has been completed and the private operator LUMA Energy, LLC (LUMA) assumes operation and maintenance of the T&D system.

Historically, it has been PREPA's responsibility to report on its financial, operational, and reliability indicators. As part of the transformation of Puerto Rico's energy sector and LUMA's role as the operator of the T&D system, LUMA will have to comply with some of these – and certain additional – reporting requirements, as specified in the T&D OMA. The T&D OMA authorizes LUMA to represent PREPA before PREB “with respect to any matter related to the performance of any of the O&M Services” provided by LUMA. It further specifies that LUMA will be responsible for all related filings and other submissions before PREB. Annex I of the T&D OMA details LUMA's accounting and financial information reporting requirements, including to both PREB and the Public-Private Partnership Authority (P3A), and mandates LUMA to provide assistance to PREPA and P3A “in connection with the preparation of reports and other documents to satisfy PREPA's reporting requirements.” These include (among other requirements):

- quarterly and annual (year-end) financial reporting;
- monthly and annual federal agency reporting requirements;
- PREB reporting requirements;
- Budget Reconciliation Act of 2017 and other federal and Commonwealth stimulus or funding program reporting requirements; and
- Department of Energy reporting requirements.

To monitor the progress of PREPA's operational and financial reorganization and the transformation of Puerto Rico's energy sector, as well as the health and performance of Puerto Rico's electricity system, the Oversight Board has historically required PREPA to submit additional performance and implementation-related information to the Oversight Board on a regular basis. PREPA must continue to meet these reporting requirements until it is no longer a covered territorial instrumentality as designated by the Oversight Board pursuant to the Puerto Rico Oversight, Management, and Economic Stability Act (PROMESA).

¹⁸² Act 57-2014

Going forward and as defined in their respective OMAs, the private operators of PREPA’s T&D and generation assets will be responsible for certain operational and non-operational measures. As a result, PREPA will be required to work closely with both entities to fully implement and complete the reorganization and transformation of Puerto Rico’s energy sector.

The Oversight Board will use the private operators’ reports to PREB and P3A on outcome metrics and implementation status to supplement the information provided by PREPA and continue to monitor the financial health and performance of Puerto Rico’s electricity system.

The sections below describe various reports and metrics that must be submitted by PREPA, LUMA, and any other future generation asset private operator(s). Section 17.1 below describes the required information and submission cadence for each non-operational report PREPA must submit to the Oversight Board, or that LUMA must submit to P3A and/or PREB, and to which the Oversight Board will have access to, as per the agreement with LUMA. “Non-operational” in this context means that these reports are not tied to specific operational measures but are overarching, indicating the overall performance and health of the electricity system. Section 17.2 includes an overview of the T&D-related metrics that LUMA is submitting to P3A and PREB as per the OMA¹⁸³, and to which the Oversight Board will have access to as per the agreement with LUMA. The overview in section 17.3 summarizes generation-related metrics and reports that are tied to specific operational measures and that PREPA must submit to the Oversight Board. It reflects improvements to PREPA’s reporting process initiated in FY2020. Once the transition of PREPA’s legacy generation assets has been finalized, the generation-related reporting responsibilities will move over from PREPA to the private operator. These changes will be reflected at a later point in time.

PREPA and the private operators will submit reports on a weekly, monthly, quarterly, or annual basis. The cadence and process for reporting is described in the table below.

TABLE 17: REPORTING CADENCE

Report Type	Submission Timeline
Weekly	Submitted on Wednesdays for the preceding week
Monthly	Expected 15 days after the end of the month
Quarterly	Expected 45 days after the end of the quarter in the form of a consolidated report
Annually	Expected 120 days after the end of a Fiscal Year in the form of a consolidated report

17.1 Non-operational Reports

Reporting of non-operational matters, i.e., information not tied to specific operational measures but information that is describing the performance and health of the electricity system at a more general level, is divided into two (2) categories: (1) Resilience and Resource Planning, and (2) Financial. Resilience and Resource Planning reports provide updates on implementation of the

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Integrated Resource Plan (IRP), grid modernization, and federal funding efforts. The financial reporting cadence varies based on the nature of the reported metric, ranging from weekly to annually.

TABLE 18: NON-OPERATIONAL REPORTS

	Report	Detail	Cadence	Responsible Entity
Resiliency & Resource Planning	Implementation of PREB approved IRP and Modified Action Plan	Submission of all PREB required IRP status reports, including a two year near-term forecast of the system’s expected capacity resource balance on a seasonal basis and its ability to meet peak load and operating reserve requirements with existing and anticipated resources at each of the forecasted intervals.	As determined by PREB	LUMA
	Implementation of Grid Modernization	Grid modernization plan must provide an overview of the major investment categories and projects that PREPA is considering in order to deliver reliable, resilient power and status of project delivery against milestones	Monthly	PREPA (in collaboration with LUMA)
	Permanent Work Related Federal Funding Report	Updates on FEMA and CDBG funding programs permanent work for generation and T&D assets	Monthly	PREPA (supported by LUMA, as applicable) ¹⁸⁴
	Emergency Related Federal Funding Report	Updates on FEMA and CDBG funding programs for hurricane and earthquake emergency vendors and status of disbursements and reimbursements	Monthly	PREPA (supported by LUMA, as applicable)
	Budget to Actuals (Reporting requirement is separate from any requirement under Section 203 in PROMESA)	Tracking of certified Budget to Actual for GenCo and HoldCo based on template to be provided by the Oversight Board: <ul style="list-style-type: none"> ■ Include explanation for material variances (greater than 10% and \$30 million) ■ Include income statement in the reporting package ■ Provide monthly budget reporting 	Monthly	PREPA

¹⁸⁴ As defined in LUMA’s OMA, PREPA shall, in coordination with Administrator, audit LUMA’s compliance with federal funding requirements but Luma should ensure compliance with federal funding requirements and applicable laws (Sections 6.1 & 5.9, respectively)

	Report	Detail	Cadence	Responsible Entity
		Tracking of certified Budget to Actual for GridCo, GenCo and HoldCo based on template to be provided by the Oversight Board: <ul style="list-style-type: none"> ■ Include explanation for material variances (greater than 10% and \$30 million) ■ Include income statement in the reporting package ■ Provide quarterly budget reporting 	Quarterly	PREPA (supported by LUMA)
	Accounts Receivable (AR)/Accounts Payable (AP) cash flow reporting	Continued reporting on cash flow, payables and receivables by customer or vendor class.	Monthly	LUMA

17.2 Transmission & Distribution-related Operational Measures

Per the T&D OMA, LUMA will annually submit T&D-related performance metrics to P3A and PREB across three categories: (1) Customer Satisfaction and (2) Technical, Safety, & Regulatory, and (3) Financial Performance. LUMA will also submit performance metrics on LUMA’s performance during a Major Outage Event. The specific metrics within each category are included in Chapter 14.

In addition, LUMA shall provide to the Oversight Board copies of any monthly, quarterly or annual report submitted to PREB, the P3A, or any other government agency, until PREPA is no longer a covered territorial instrumentality, as designated by the Oversight Board pursuant to PROMESA. The Oversight Board will use these reports to supplement the information provided by PREPA in monitoring the financial health and performance of Puerto Rico’s electricity system.

17.3 Generation-Related Operational Metrics and Reports

Until the private operator for PREPA’s generation assets assumes responsibility, PREPA is required to report on its generation asset related operational measures on a monthly cadence for all operational measures. The precise reporting requirements vary by the nature of the measure, as outlined by the table below.

Table 19: REPORTS ON GENERATION-RELATED OPERATIONAL MEASURES

	Report	Detail	Cadence
Fuel Supply and Power Purchase Agreements	Diesel supply contract	Report to include diesel purchases Year-To-Date (YTD), with year-over-year comparison of results. Reporting required on renegotiation or renewal extension process.	Monthly
	Bunker fuel supply contract	Report to include bunker fuel purchases YTD, with year-over-year comparison of results. Reporting required on renegotiation or renewal extension process.	Monthly
P3 Projects and Transformation	Legacy generation P3	Reporting requirements to include RFP process updates for generation operator(s) and subsequent front end transition process	Monthly
	PREPA Reorganization Plan Implementation	Reporting requirements to include project workplan for execution of PREPA Reorganization Plan	Monthly

Chapter 18. Conclusion

PREPA has faced unforeseen challenges in the years following its Title III bankruptcy petition filing. In the aftermath of the 2017 hurricanes and 2020 earthquakes, PREPA's T&D and generation infrastructure suffered substantial damage, underscoring the need for a comprehensive transformation.

The 2021 Fiscal Plan lays out what PREPA must do to accelerate the transformation of Puerto Rico's energy system. During this transformation, PREPA must collaborate with federal and local stakeholders to ensure fiscal and operational sustainability. The Fiscal Plan aims to strike a balance across the interests of all stakeholders involved, including maintaining reasonable costs for PREPA's customers while continuing to improve service quality and reliability.

Unreliable and costly electric service has stunted Puerto Rico's growth prospects for over a decade since the early 2000s. The status quo cannot continue; rates need to cover operating and maintenance costs, restructured debt should achieve savings for ratepayers, and pensions must be reformed – the transformation is imperative to restoring fiscal balance. The grid needs to be rebuilt, largely with federal funds, requiring a credible counterparty to ensure the appropriate and efficient use of these funds. The generation mix needs to be upgraded to reduce exposure to volatile and unpredictable oil and gas commodity prices, and to increase the share of fixed price renewable generation, lowering costs and risks significantly.

PREPA must continue to collaborate with LUMA – the selected T&D operator – to accelerate the implementation of transformation measures in order to achieve fiscal sustainability and operational improvements. The completion of the Front-End Transition process in FY2022 will mark the beginning of the period in which LUMA will be responsible for day-to-day operations and maintenance of the T&D system, long-term planning, generation dispatch, asset management, financial management, emergency response, and customer service. In the early stages of this period, residents of Puerto Rico will benefit from the experience and expertise of a private operator to administer a more reliable and resilient T&D system. The primary driver of noticeable service and system improvements are expected to come from LUMA's ability to expedite the execution of their improvement programs and federal funds reimbursement. The T&D OMA must be adhered to, and effort to undermine or interfere with its terms and implementation must be rebuffed.

The 2021 Fiscal Plan also lays out the path to transition PREPA's legacy generation assets to private operator(s). This required transition will improve the efficiency and reliability of Puerto Rico's generation stack, ultimately reducing outages and strengthening the resilience of the energy system. The eventual agreement must be focused on securing the best arrangement to achieve this purpose, with political interference.

In the longer term, implementation of the IRP Modified Action Plan, 10-year Infrastructure plan, and LUMA's improvement programs, will be essential to building a modern, safe, reliable, and resilient electricity sector for Puerto Rico. The 2021 Fiscal Plan sets PREPA on a course to fully transform the energy system with best-in-class operational technology and expertise.