



Puerto Rico Aqueduct and Sewer Authority

2023 FISCAL PLAN

Fiscal Years 2023 to 2028

AS CERTIFIED BY THE FINANCIAL OVERSIGHT AND
MANAGEMENT BOARD FOR PUERTO RICO | MAY 26, 2023



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Acronyms and other defined terms

2008 Senior Bonds	2008 Senior Revenue Bonds, Series A&B, issued on March 18, 2008
2008 Guaranteed Bonds	Revenue Refunding Bonds, Series A&B, issued on March 18, 2008
2008 Bonds	2008 Senior Bonds and 2008 Guaranteed Bonds Collectively
2012 Senior Bonds	2012 Senior Revenue Bonds, Series A&B, issued on February 29, 2012
2017 Hurricanes	Hurricanes Irma and María
2020 Senior Bonds	2020 Senior Revenue Refunding Bonds, Series A&B, issued on December 17, 2020
2021 Senior Bonds	2021 Senior Revenue Refunding Bonds, Series A&B, issued on August 25, 2021
2021/2022 Bonds	2021 Senior Bonds and 2022 Senior Bonds Collectively
2022 Senior Bonds	2022 Senior Revenue Refunding Bonds, Series A (forward delivery bonds) to be issued on June 15, 2022
Senior Debt	2008 Bonds, 2020 Senior Bonds, 2021 Senior Bonds, and Federal Debt
Fiscal Plan	Puerto Rico Aqueduct and Sewer Authority 2023 Fiscal Plan
AAFAF	Puerto Rico Fiscal Agency and Financial Advisory Authority
ARPA	American Rescue Plan Act of 2021
ASES	Puerto Rico Health Insurance Administration
Authority	Puerto Rico Aqueduct and Sewer Authority
AWIA	America Water Infrastructure Act of 2018
AWWA	American Water Works Association
B	Billion
BANs	Bond Anticipation Notes
BBA	Bipartisan Budget Act of 2018
BIL	Infrastructure Investment and Jobs Act of 2021, also known as the Bipartisan Infrastructure Law
CAA	Consolidated Appropriations Act
CARES	Coronavirus Aid, Relief and Economic Security
CDBG-DR	Community Development Block Grants – Disaster Recovery
CDBG-MIT	Community Development Block Grants – Mitigation
CGI	Commonwealth Guaranteed Indebtedness
Commonwealth	Commonwealth of Puerto Rico

CIF	Capital Improvement Fund
CIP	Capital Improvement Program
CSO	Commonwealth Supported Obligations
COR3	Central Office for Recovery, Reconstruction, and Resilience
CRRSA	Coronavirus Response and Relief Supplemental Appropriations
CWSRF	Clean Water State Revolving Fund
DG	Distributed Generation
DOJ	Puerto Rico Department of Justice
DRA	GDB Debt Recovery Authority
DSA	Debt Sustainability Analysis
DWSRF	Drinking Water State Revolving Fund Programs
EPA	Environmental Protection Agency
EPCs	Energy Performance Contracts
EQB	Environmental Quality Board
ERAP	Emergency Rental Assistance Program
ERPs	Emergency Response Plans
ERS	Employees Retirement System of the Government of the Commonwealth of Puerto Rico
FAASt	FEMA Accelerated Award Strategy
Federal Debt	Debt held by EPA (SRFs) and USDA RD
Federal Lenders	EPA and RD
FEMA	Federal Emergency Management Agency
FOMB	Financial Oversight and Management Board for Puerto Rico
FTE	Full-Time Employee
FY	Fiscal Year
GAAP	Generally Accepted Accounting Principles
GDB	Government Development Bank for Puerto Rico
GIS	Geographical Information System
Government	Government of Puerto Rico
Governor	Governor of Puerto Rico
HFA	Housing Financing Authority for Puerto Rico
HMGP	Hazard Mitigation Grant Program
HUD	United States Department of Housing and Urban Development

KPIs	Key Performance Indicators
kWh	Kilowatt-Hours
LIHWAP	Low-Income Household Drinking Water and Wastewater Assistance Program
LUMA	LUMA Energy, LLC, responsible for the operation and maintenance of Puerto Rico's electric power transmission and distribution system owned by PREPA
M	Million
MAT	Master Agreement of Trust
MGD	Million Gallons per Day
MHI	Median Household Income
MTBF	Mean Time Between Failure
NFMP	Non-Federal Match Program
NPV	Net Present Value
NRW	Non-Revenue Water
OH	Overhead
OMB	Puerto Rico Office of Management and Budget
O&M	Operations and Maintenance
ORF	Operating Reserve Fund
Oversight Board	Financial Oversight and Management Board for Puerto Rico
P3	Public-Private Partnership
P3 Authority	Puerto Rico Public-Private Partnership Authority
P3 Project	Metering System and Customer Service Optimization Project
PAN	Nutritional Assistance Program
PAPPG	Public Assistance Program and Policy Guide
PayGo	Pay-As-You-Go
PFC	Puerto Rico Public Finance Corporation
PM	Project Manager
PMC	Project Management Consortium
PMO	Project Management Office
PMIS	Project Management Information System
PPAs	Power Purchase Agreements
PPE	Personal Protection Equipment
PRASA	Puerto Rico Aqueduct and Sewer Authority

PRDNER	Puerto Rico Department of Natural and Environmental Resources
PRDOH	Puerto Rico Department of Health
PREB	Puerto Rico Energy Bureau
PREPA	Puerto Rico Electric Power Authority
PRHUD	Puerto Rico Department of Housing
PRIFA	Puerto Rico Infrastructure Financing Authority
PROMESA	Puerto Rico Oversight, Management, and Economic Stability Act
PSI	Pounds per Square Inch
PWSIDs	Potable Water System Identification
RD	USDA Rural Development
Regions	Operational Regions
RFC	Raftelis Financial Consultants
RFP	Request for Proposals
RFQ	Request for Qualifications
RRAs	Risk and Resiliency Assessments
R&R	Renewal and Replacement Projects
RSA	Rate Stabilization Account
SA	Robert T. Stafford Disaster Relief and Emergency Assistance Act
SAP	Proprietary Computer Software
SBA	Small Business Administration
SCADA	Supervisory Control and Data Acquisition
SSOMP	Sewer System Operation and Maintenance Program
SOP	Standard Operating Procedure
SIM	Integrated Maintenance System
SPI	Schedule Performance Index
SRF	State Revolving Fund
System	Authority's Public Water Supply and Wastewater System
TANF	Puerto Rico Temporary Assistant for Needy Families
TBD	To Be Determined
STS	Sludge Treatment System
UIA	Unión Independiente Auténtica (Independent Authentic Union)
US	United States of America
USACE	United States Army Corps of Engineers

USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
WRF	Water Research Foundation
WPS	Water Pump Station
WRO	Water Recovery Office
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plants
WWPS	Wastewater Pumping Stations



Disclaimer

The Financial Oversight and Management Board for Puerto Rico (the “FOMB,” or “Oversight Board”) has formulated this 2023 Certified Fiscal Plan (“Fiscal Plan”) based on, among other things, information obtained from the Puerto Rico Aqueduct and Sewer Authority (the “Authority” or “PRASA”) and the Commonwealth of Puerto Rico (the “Commonwealth,” or “Government”).

This document does not constitute an audit conducted in accordance with generally accepted auditing standards, an examination of internal controls or other attestation or review services in accordance with standards established by the American Institute of Certified Public Accountants or any other organization. Accordingly, the Authority, the Commonwealth, and the Oversight Board (together herein, the “Parties”) do not express an opinion or any other form of assurance on the financial statements, any financial or other information, the internal controls of the Authority and the information contained herein. Numbers throughout this document may not perfectly reconcile due to rounding.

This Fiscal Plan is directed to the Governor and Legislature of Puerto Rico based on underlying data obtained from the Government. No representations or warranties, express or implied, are made by the Oversight Board with respect to such information.

This Fiscal Plan is not a Title III plan of adjustment. It does not specify classes of claims and treatments. It neither discharges debts nor extinguishes liens. This Fiscal Plan is based on what the Oversight Board believes is the best information currently available to it. To the extent the Oversight Board becomes aware of additional information after it certifies this Fiscal Plan that the Oversight Board determines warrants a revision of this Plan, the Oversight Board will so revise it.

For the avoidance of doubt the Oversight Board does not consider, and has not considered, any provision in this Fiscal Plan as a “recommendation” pursuant to PROMESA Section 205(a). Nevertheless, to the extent that anything in prior Fiscal Plans is ever deemed by the Governor or Legislature or determined by a court having subject matter jurisdiction to be a “recommendation” pursuant to PROMESA Section 205(a), the Oversight Board hereby adopts it in this Fiscal Plan pursuant to PROMESA Section 201(b), unless such recommendation is directly contrary to specific language in this Fiscal Plan, in which case the specific language of this Fiscal Plan controls.

Any statements and assumptions contained in this document, whether forward-looking or historical, are not guarantees of future performance and involve certain risks, uncertainties, estimates and other assumptions made in this document. The economic and financial condition of the Authority, Government and its instrumentalities is affected by various legal, financial, social, public health, economic, environmental, governmental and political factors. These factors can be very complex, may vary from one fiscal year to the next and are frequently the result of actions taken or not taken, not only by the Authority or the Government, but also by the Oversight Board and other third-party entities such as the government of the United States. Examples of these factors include, but are not limited to:

- The amount of federal aid and the efficacy and speed of disbursement of such aid;
- The amount and timing of receipt of any distributions from FEMA, HUD, USDA and USEPA to repair damage caused by Hurricanes Irma and Maria in 2017, the January 2020 earthquakes and Hurricane Fiona in 2022;
- The behavior of the economic indicators, including inflation and population changes;
- The impact of the measures and situation described herein on outmigration;
- The impact of the resolution of any pending litigation in the Title III cases, including PREPA’s and its potential impact on the electricity cost; and
- The impact of geopolitical events outside the control of Puerto Rico and the Authority, including but not limited to, the ongoing conflict between Russia and Ukraine in several areas, including oil and electricity cost.

Because of the uncertainty and unpredictability of these and other factors, their impact cannot be reasonably included in the assumptions contained in this document. Future events and actual results may differ materially from any estimates, projections, or statements contained herein. Nothing in this document should be considered an express or implied commitment to do or take, or to refrain from taking, any action by the Parties or an admission of any fact or future event. Nothing in this document shall be considered a solicitation, recommendation or advice to any person to participate, pursue or support a particular course of action or transaction, to purchase or sell any security, or to make any investment decision.

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Executive Summary

The Puerto Rico Aqueduct and Sewer Authority (the “Authority” or “PRASA”) is committed to providing reliable, affordable, and safe water and wastewater services to the people of Puerto Rico.

Over the past several years, PRASA has made substantial progress implementing measures that have improved its fiscal condition and set the Authority on a path towards fiscal responsibility. However, PRASA has a long road ahead to address the historical challenges that have previously hindered, and continue to affect, its operational performance. Therefore, improvements in key operational areas are being pursued by PRASA with the support of the Oversight Board, including:



Non-revenue water (“NRW”): In addition to the operational constraints and inefficiencies with PRASA’s treatment and distribution system, the significantly high levels of NRW, estimated at nearly 65%, also presents challenges to PRASA’s operations and financial condition to the extent the cost of production rises. Recently, PRASA completed the installation of meters to properly measure most of its water production at treatment facilities. PRASA must continue to focus on reducing physical water losses from leakage and overflows as well as reducing commercial losses resulting from inaccurate water consumption metering and theft.



Accurate metering and effective customer service: PRASA’s aged mechanical customer meters present a high level of inaccuracy and degradation. Dependence on these meters precludes PRASA from properly billing for actual consumption, measuring the scale and impact of NRW, understanding customer consumption patterns and improving efficiency. With the FEMA grant funding agreement in place, PRASA has been in the process of procuring advanced metering solutions, which are expected to commence with a pilot program during FY2024.



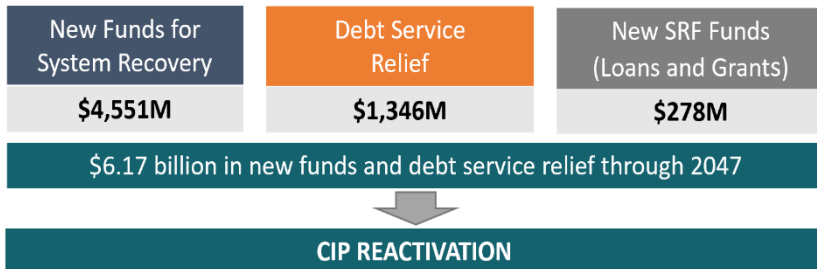
Capital delivery: The expected influx of federal grants (including \$3.7B FEMA award¹) will allow PRASA’s Capital Improvement Program (“CIP”) to reach its highest historical level and implement transformational capital improvements to its Systems that can gradually reduce operating costs (including financing costs), generate new revenue, increase resiliency, and most importantly, improve the quality of service and customer experience. It is crucial that new capital projects are executed on-budget and on-

¹ In connection with this award, PRASA is required to meet a 10% local cost share match of ~\$400M. It anticipates meeting this match requirement with CDBG-DR funds, of which \$200M has already been obligated. Refer to Chapter 4 (Federal Funds for Disaster Recovery and Resiliency) for additional detail.



schedule to rebuild PRASA’s infrastructure to top-tier water utility standards.

PRASA’s financial condition has improved materially since 2017 mainly due to the implementation of various revenue enhancing and debt restructuring measures, including modest and gradual rate increases across all customer segments, proactive collection of past-due amounts from government accounts, and various debt restructuring transactions. PRASA’s debt restructuring efforts resulted in about \$1.3 billion in debt service relief through a debt modification



with its Federal Lenders, the 2020 and 2021 refunding agreements of the Authority’s outstanding debt, and the executed loan settlement with GDB/DRA. Furthermore, renewed access to \$278 million in SRF loans and grants, \$3.7 billion in FEMA grant, and \$200 million in CDBG-DR for a portion of PRASA’s local (state) match requirement, are collectively expected to provide the necessary financial support to improve, rebuild, recover, and upgrade critical water and wastewater facilities.

With a total of \$6.17 billion in new funds and debt service relief, PRASA has a unique and generational opportunity to (i) invest in its infrastructure at a much lower cost than usual without the need to access capital markets and (ii) reduce the prospect of systemic operating deficits over the Certified Fiscal Plan time period – and beyond. FEMA obligations, which have been available since January of 2021, represent the largest source of these monies by a wide margin, yet PRASA has barely deployed these funds. The long awaited and much required capital works and operational improvements that the PRASA systems needs could be performed in the near to mid-term at almost no cost to the ratepayer through the use of these funds. A better service and a more resilient system that protects and values water resources in the face of an increasingly challenging climate environment is before us if proactive steps are taken by PRASA and the Government. PRASA must urgently take advantage of this historic opportunity to accelerate the transformation of PRASA’s finances and operations which began with PROMESA in 2017.

Given PRASA’s steady fiscal improvements and its urgent need to prioritize improving System performance, the 2023 Certified Fiscal Plan outlines areas of opportunity largely related to operations and capital investment, such as NRW, capital delivery, and metering infrastructure upgrades. Through the successful and timely implementation of each of the measures identified herein, PRASA will further improve its financial condition and the operational capacity of its System, thereby ensuring top-tier water utility standards in the provision of safe, reliable, and affordable water and wastewater services for the people of Puerto Rico.

The 2023 Certified Fiscal Plan provides a roadmap for PRASA’s fiscal and operational transformation by continuing to address the following areas of opportunity:

- Collecting sufficient revenues to continue improving fiscal responsibility;
- Eventually and if needed, accessing credit markets at reasonable interest rates in order to meet borrowing needs in connection with the CIP and overall System operations;

- Executing an aggressive CIP to maintain and upgrade the System’s safety, reliability, resiliency, and overall performance;
- Investing in water metering infrastructure in a cost-effective manner to address commercial water losses (theft, water metering errors, human error); and
- Implementing a robust action plan to mitigate physical water losses resulting in water production reduction;
- Maximizing federal funding opportunities to allow for low or no-cost financing for the execution of the CIP;

The 2023 Certified Fiscal Plan outlines several measures that, if successfully implemented, would improve PRASA’s financial performance and operational condition. Therefore, the 2023 Certified Fiscal Plan includes measures related to revenue enhancement, cost reduction and operational efficiencies, CIP delivery and federal funding.

These measures must be executed (or continued) by PRASA to derive a net impact of \$1,171 million over the Fiscal Plan period², consisting of:

1. **Rate Adjustments (\$327 million):** to continue with the scheduled implementation of modest rate increases in FY2024 and beyond, as needed, consistent with the recently simplified rate structure which should target an adequate cost recovery and service affordability.
2. **Metering Optimization (\$144 million):** to replace existing mechanical meters with more precise smart meter technology, PRASA will be able to measure water consumption more accurately, provide real time information for the benefit of its customers, identify commercial water losses more rapidly, and thus increase efficiency and billed revenues.
3. **Electricity expense reduction (\$36 million):** to reduce electricity costs through increased efficiency and procurement of additional distributed generation capacity.
4. **Physical water loss reduction (\$40 million):** to reduce physical water losses through leak reduction, pressure management, and water balance monitoring, among other efforts.
5. **New Financing for CIP (\$624 million):** to maximize funding from Federal programs to take advantage of low financing costs.

Table 0-1 provides an annual and cumulative summary of PRASA’s pre-measures and post-measures financial results. By implementing each of the measures identified in this Certified Fiscal Plan, and continuing to commit to invest in its Systems, PRASA projects balanced budgets during the Fiscal Plan Period.

² Unless provided otherwise, measure projections cover FY2023 through FY2028

TABLE 0-1: POST-MEASURES FINANCIAL RESULTS FOR FY2023-FY2028 (IN \$ MILLIONS)

<i>in \$Millions</i>	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY23/28
Authority Revenues	1,083.5	1,107.3	1,123.6	1,107.6	1,092.1	1,080.7	6,594.7
Senior Debt Service	(244.5)	(246.5)	(243.7)	(246.2)	(245.0)	(245.7)	(1,471.5)
Net Operating Expenses	(802.3)	(835.9)	(894.1)	(888.0)	(898.1)	(916.5)	(5,234.8)
Operating Reserve Fund	(12.1)	(6.4)	(12.5)	3.8	(0.3)	(2.4)	(29.8)
Capital Improvement Fund	(89.7)	(258.3)	(242.6)	(151.3)	(140.3)	(145.9)	(1,028.1)
Pre-Measures Financial Need	(65.1)	(239.8)	(269.2)	(174.1)	(191.6)	(229.8)	(1,169.4)
Measures Benefit	66.9	240.8	270.3	175.2	193.0	231.5	1,177.7
Financial Result	1.8	1.1	1.1	1.1	1.5	1.7	8.3

In addition to the quantifiable benefits listed above, this Certified Fiscal Plan also incorporates critical enabling measures. These include:

- **10-year Master Plan:** update with the results from the 2020 US Census to provide a long-term roadmap to transform PRASA's systems into a simpler, safer, operationally efficient, and financially sustainable systems and serve to consolidate recommendations from other plans and strategies (e.g., Fiscal Plan, Emergency Response Plans, Climate Change Adaptability Plan).
- **Asset Management and Maintenance:** to properly track and monitor the condition of all PRASA assets and revamp maintenance program from primarily corrective to a more balanced target that promotes higher preventative maintenance practices.
- **Chemical Expense Stabilization:** to conduct an independent assessment on the current challenges, risks, and opportunities within chemical expenditures and consumption and identify a remediation plan to optimize chemical-related expenditures.
- **CIP Delivery:** committing with the timely and on budget execution of capital projects in order to take advantage of the Federal funding obligated for recovery and reconstruction projects after the 2017 Hurricanes (which must accelerate), as well as from the recently approved funding to address the coronavirus pandemic (CARES and ARPA) and an aging water and wastewater infrastructure (BIL Act).
- **Interagency Coordination:** actively pursue interagency agreements and MOUs to harness the benefits of operational efficiency, cost reduction, and improved service delivery by identifying relevant agencies, assessing synergies and implementing feasible projects or initiatives; and
- **Organization optimization:** to gradually adjust the Authority's workforce size during the Fiscal Plan Period based on the results of a comprehensive productivity and rightsizing assessment.
- **Competitive Compensation:** to allow for a motivated and efficient workforce to operate the Systems that provide an essential service for Puerto Rico.
- **Project Management Office (PMO) execution:** to maintain a PMO tasked and empowered to ensure the successful execution of the measures outlined in the Certified Fiscal Plan and other key internal projects.

Considering the broader demographic and structural environment of Puerto Rico, the continuous progress and improvements to PRASA's financial condition, as highlighted in this Certified Fiscal

Plan, will largely depend on whether the Authority is capable of (i) developing a comprehensive NRW entity-wide plan designed to control water losses, (ii) stabilizing rising operating costs like electricity and chemical expenditures; and (iii) investing heavily into its system through its federally-funded CIP.³ Achieving these strategic objectives will not only bolster the Authority's improved financial condition, but it will provide the foundation for PRASA to become a more stable water utility capable of investing capital at sustainable asset replacement levels. For this reason, this Certified Fiscal Plan projects that PRASA will deploy billions of federal funds from partners such as FEMA and HUD (CDBG-DR funds), among others, to invest in critical infrastructure such as water quality testing laboratories, advanced metering technology, distribution and sewer pipe replacement, and treatment plant upgrades.

Lastly, this Certified Fiscal Plan reflects the financial and operational goals of PRASA in compliance with the requirements mandated by PROMESA to provide a method to achieve fiscal responsibility and access to the capital markets at reasonable rates. In sum, the Certified Fiscal Plan sets forth several strategic objectives and key investments targeted to enable PRASA to continue providing essential water and wastewater services to the residents of Puerto Rico.







³ Refer to Chapter 2 for further details on macroeconomic conditions.

1 Introduction

As the sole provider of public water and wastewater services in Puerto Rico, PRASA is committed to providing reliable, affordable, and safe water and wastewater services to the people of Puerto Rico. The Certified Fiscal Plan outlines the actions that will continue PRASA’s transformation into a well-performing, safe, efficient, and sustainable water and wastewater utility to benefit the people of Puerto Rico.

1.1 Purpose of this Certified Fiscal Plan

The Certified Fiscal Plan has been developed with the commitment of delivering reliable, affordable, and safe water and wastewater treatment services while ensuring PRASA’s continued fiscal responsibility and operational efficiency. To implement this Certified Fiscal Plan, PRASA should direct efforts, in no particular order, as follows:

	Enhance revenues
	Reduce expenses
	Improve operational performance
	Improve customer satisfaction and reduce NRW
	Increase water availability and reduce service rationing potential
	Execute a timely, on budget CIP that will maximize federal funding, including recovery funds

Successful implementation of measures and initiatives to meet these objectives will keep PRASA on a path towards financial and fiscal responsibility and operational efficiency, establishing the foundation for PRASA to become a top tier utility with access to short-term and long-term credit markets at reasonable rates to meet borrowing needs.

1.2 Changes from Previous Fiscal Plan

The major changes from the prior fiscal plan certified by the Oversight Board on May 20, 2022, are as follows:

1. Updated projection period. This Certified Fiscal Plan covers the period from FY2023 through FY2028, which is referred herein as the Fiscal Plan Period.
2. Revised projections based on updated information available, including current service rates, electricity rates and macroeconomic assumptions as well as more recent financial information.
3. Inclusion of known and preliminary projected impact of the COVID-19 pandemic and Hurricane Fiona on PRASA’s financial projections.

4. Incorporation of (i) salary adjustments based on current legislation for minimum wages, and (ii) headcount requirements update.
5. Update of expected levels of federal funding arising from disaster recovery (FEMA, CDBG), COVID stimulus (ARPA, BIL) and from SRF programs.
6. Inclusion of revised and updated action plans and financial projections for proposed measures set forth herein.
7. Updated CIP projections.

1.3 Authority's General Information

PRASA is a public corporation and governmental instrumentality of the Government. PRASA owns and operates the public water and wastewater Systems throughout Puerto Rico.












1.3.1 Authority's Mission and Vision

PRASA's core mission is to provide high-quality, safe, reliable, and affordable water and wastewater services to the people of Puerto Rico, to help ensure the protection of the people's health and the environment. To accomplish its mission, PRASA has adopted a vision to become a top-performing utility while continuously exceeding customer expectations and ensuring sustainable water resources management.

1.3.2 History of the Authority

PRASA is an instrumentality of the Government created by Act 40 of 1945 for the purpose of owning and operating the Government’s public water supply and wastewater systems. Exhibit 1-1 below provides a timeline of PRASA’s history.

EXHIBIT 1-1: THE AUTHORITY’S HISTORICAL BACKGROUND TIMELINE

	1945	PRASA was created through Act No. 40-1945
	1990– 1993	PRASA state of emergency declared by Governor <ul style="list-style-type: none"> PRASA subsidized by Government (over \$400 million annually)
	1994	<ul style="list-style-type: none"> Debt downgraded below investment grade, no capital market access Severe drought impacted Puerto Rico
	1995– 2004	PRASA’s Management Privatization: <ul style="list-style-type: none"> Operations directed by private operators and performed by both private and PRASA’s employees
	2004	Operational restructuring through Act No. 92-2004 <ul style="list-style-type: none"> PRASA management transferred back to public sector Operations reorganized into five Regions and Infrastructure Directorate
	2005– 2006	<ul style="list-style-type: none"> Rate increase implemented in two phases (128% on average across customer segments) Elimination of Government subsidies Bond anticipation note obtained from private banks
	2008	Investment grade rating recovered , allowing return to capital markets <ul style="list-style-type: none"> Master agreement of Trust was created \$1.3 billion in revenue bonds were issued and \$284 million in refunding bonds
	2008– 2012	<ul style="list-style-type: none"> Lines of credit from GDB and BANs used to finance PRASA’s CIP
	2012	<ul style="list-style-type: none"> \$2.1 billion in revenue bonds issued by PRASA
	2013– 2014	<ul style="list-style-type: none"> Credit ratings downgraded to “non-investment grade“ Rate increase of 60% on average across customer segments \$200 million bond anticipation note to finance CIP
	2015	<ul style="list-style-type: none"> Severe drought required water rationing plan, resulting in decreased billings
	2016	<ul style="list-style-type: none"> PROMESA enacted in response to Puerto Rico’s financial and debt crisis PRASA designated as covered territorial instrumentality under PROMESA

●	2017	<ul style="list-style-type: none"> • Hurricanes Irma and Maria caused extensive system damage • Series of gradual rate increases adopted from FY 2018 to FY2022
●	2019	<ul style="list-style-type: none"> • Federal debt reprogramming allowing for re-access to federal funds and debt service savings of \$370 million in 10 years
●	2020	<ul style="list-style-type: none"> • January 2020 earthquakes caused extensive system damage • COVID-19 pandemic caused collection delays due to its economic impact • New \$163 million CWSRF loan dated August 18, 2020 • Return to capital markets on December 17, 2020, refunding \$1.4 billion of the 2008 outstanding bonds for savings of \$348 million in debt service
●	2021	<ul style="list-style-type: none"> • \$3.7 billion were obligated by FEMA on January 8, 2021, for projects to rebuild the Authority infrastructure after the 2017 Hurricanes impact • \$1.8 billion in 2012 Bonds were refunded for savings of \$570 million in debt service
●	2022	<ul style="list-style-type: none"> • New simplified rate structure implemented on July 1, 2022 • Hurricane Fiona (category 1) affected Puerto Rico and PRASA system <u>islandwide</u> • New SRF loans for CIP and RD funds for Irma related expenditures

Beginning in the early 1990s, due to an inability to control operating expenditures and implement consistent, modest rate increases, the Authority’s revenues became insufficient to meet all its obligations, including paying debt service on its outstanding revenue bonds. As a result, the Government provided the Authority with subsidies, including direct Government appropriations to fund the Authority’s capital projects. In 1994, the Governor declared the Authority in a state of emergency, and its debt was downgraded below investment grade, eliminating the Authority’s access to the capital markets at reasonable rates to finance its CIP.

Between 1995 and 2004, to improve service and overall efficiency, the Government and the Authority engaged and contracted with private companies to manage, operate, and maintain its System. In 2004, the Government enacted Act 92-2004 and transferred all responsibilities back to the Authority. Post-privatization, and in an effort to allow the Authority to become more autonomous, a two-phased rate increase was implemented in October 2005 and July 2006; the first rate increases in almost 20 years. Implementation of the rate increases allowed the Authority to meet all operational and debt service obligations without the need for Government subsidies, which were discontinued shortly thereafter. However, the Authority still faced challenges in generating sufficient revenues to invest in its CIP. As such, the Authority covered CIP costs through short-term, interim financing until 2008.

In 2008, the Authority recovered its investment grade credit rating and was able to access the capital markets at reasonable rates. The Authority raised \$1.3 billion in new senior lien debt in March 2008 to finance its CIP and repay outstanding lines of credit. Also, \$284 million of PRASA’s 1995 bonds were refunded for a total bond issuance of approximately \$1.6 billion.

Once the proceeds of the 2008 Senior Bonds were used for the construction of CIP projects, the Authority resumed financing its CIP with interim lines of credit from GDB and BANs from commercial banks until 2012. In 2012, the MAT was amended to enhance bondholder protections, including providing a gross revenue pledge (i.e., absent an event of default, senior lien debt service would be paid ahead of the Authority’s operating expenses). The MAT amendments facilitated the

Authority's issuance of its \$2.1 billion 2012 Senior Bonds to term out \$1.1 billion in BANs and GDB lines of credit, and to provide \$350 million in additional CIP funds.

In 2013, a new rate structure was implemented to generate enough revenue to cover the Authority's operating needs (i.e., expenses and debt service) at the time. In addition, a \$200 million BAN was extended to the Authority by a syndicate of local commercial banks to fund its CIP costs until a new, long-term bond issuance could be completed. The bond issuance was expected to be completed during FY2014, but was not executed due to downgrades in the Government's credit ratings, leading to subsequent downgrades in the Authority's credit ratings below investment grade.

The lack of access to capital markets to finance its system improvements forced the Authority to suspend its CIP and accumulate approximately \$150 million in debt to its vendors and suppliers by FY2016⁴.

In 2016, the U.S. Congress enacted PROMESA to address the fiscal crisis in Puerto Rico.

PROMESA created the Oversight Board to provide financial and other oversight of the Government and its agencies and instrumentalities, including the Authority, by virtue of the Board's designation of PRASA as a covered territorial instrumentality, subject to the requirements of PROMESA on September 30, 2016.

Starting in 2016 and through July 2019, the Authority had in place various forbearance agreements that allowed for deferral of payments on its Federal Debt. On July 26, 2019, the Authority and AAFAF consummated definitive agreements that reprogrammed approximately \$1 billion in Federal Debt, both SRF and USDA RD. This resulted in \$370 million in debt service relief over the next ten years, \$30 million in interest forgiveness, and renewed access to potential sources of federal funding for the Authority's CIP. Thereafter, the Authority re-activated regulatory-driven CIP projects.

In September 2017, Hurricanes Irma and María struck Puerto Rico (the "2017 Hurricanes") and caused devastating and lasting damage to the Island. Both hurricanes badly damaged the electric power infrastructure, which in turn affected the continuity of water and sewer services to numerous customers throughout the Island. The hurricanes also caused widespread damage to the Authority's infrastructure Islandwide, some of which is still affecting its operational performance.

In August 2020, the Authority obtained its first loan after the 2019 SRF debt modification from the CWSRF program for \$163 million at a 1% interest rate with a 30-year maturity. Subsequently, PRASA continued to execute a financial assistance agreement for SRF funding.

On December 17, 2020, the Authority issued the 2020 Senior Bonds to refinance most of its 2008 Bonds through a limited public offering. The issuance of the 2020 Senior Bonds resulted in \$350 million in total debt service savings. Also, the new bondholders consented to a MAT amendment that will modify the revenue pledge from a gross revenue pledge to a net revenue pledge. This

⁴ By the end of fiscal year 2018, the Authority was able to pay vendors and suppliers.

amendment will become effective when all the remaining senior indebtedness holders, including the Federal Lenders, consent to the change.

On January 5, 2021, after over three years of collaborative work by and among the Authority, COR3 and FEMA, the President of the United States announced a total award of \$3.66 billion for infrastructure projects to rebuild PRASA’s Systems from the devastation caused by the 2017 Hurricanes. Such funds were obligated by FEMA on January 8, 2021. The amount obligated by FEMA represents the federal government’s 90% funding share of the \$4.07 billion fixed cost estimate for repairing such damage to the Authority’s facilities. As required by this award, the Authority must meet a 10% cost share (“match”) requirement for its FEMA-funded permanent work projects (approximately \$400 million). The Authority plans to meet its cost-share portion with HUD CDBG-DR grant funds, as they become available. On September 2, 2021, the PRHUD and the Authority entered into a sub-award agreement for \$200 million under the CDBG-DR Non-Federal Match Program to fund the half of the state match requirement of the FEMA award.

On August 25, 2021, the Authority issued a portion of its 2021/2022 Bonds in a total principal amount of \$1,089.8 million and on June 15, 2022, the Authority issued the remaining 2021/2022 Bonds in a total principal amount of \$565.2 million to refinance all of the \$1,806 million 2012 Senior Bonds. This refunding resulted in total debt service reduction of \$570 million when compared to the 2012 Senior Bonds. The holders of the 2021/2022 Bonds have also consented to the MAT amendments referred to above.

On July 1, 2022, PRASA implemented a new simplified rate structure, including a minimum annual rate increase of 2% as further described in Chapter 3. Furthermore, during September 2022, Puerto Rico was impacted by the Category 1 Hurricane Fiona, requiring incremental emergency expenditures and revenue reductions as a result of service interruptions and the untargeted credit awarded by the Authority to its customers. Despite the impact of Hurricane Fiona, PRASA managed to protect its liquidity mainly through potential savings from lower than expected electricity expenditures for FY2023 and the inclusion of federal funds from several sources, including FEMA (Hurricane Maria and Fiona) and ARPA. PRASA did this all while using cash reserves during FY2023 to settle outstanding balances owed to ERS and PREPA, allowing PRASA to shift its focus on operational efficiency and capital delivery.

As previously summarized, during recent years, the Authority has made measurable progress towards reaching fiscal responsibility, as evidenced by its Federal Debt modification and subsequent access to SRF loans, the refunding for substantial debt service savings of its 2008 and 2012 senior revenue bonds, and the obligation of ~\$3.7B of disaster recovery funds from FEMA.

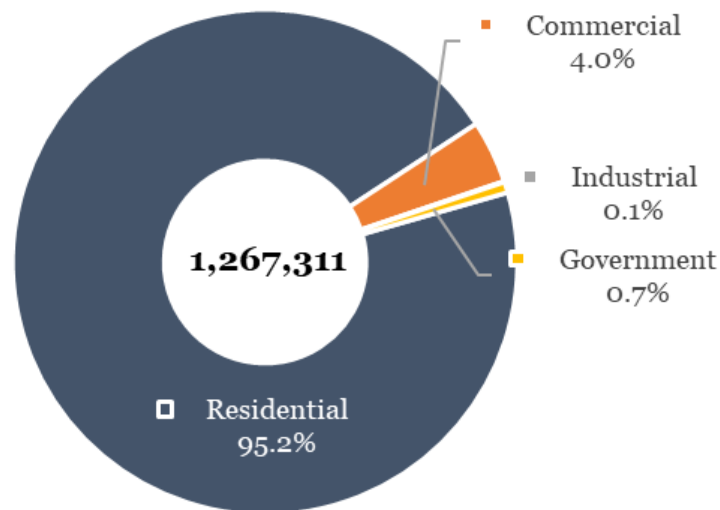
1.4 Overview of the Authority’s System

The Authority serves most of Puerto Rico’s population, which, based on the 2020 census, as of April 2020 was 3,285,874 residents⁵ and millions of tourists every year. The Authority is the sole provider of two distinct services in Puerto Rico—clean water supply and wastewater

⁵ Source: US Census Bureau – <https://www.census.gov/library/visualizations/2021/dec/2020-resident-population-map.html>

management—serving approximately 96% and 59% of the population, respectively.⁶ As of March 31, 2023, PRASA had 1,267,311 active accounts, of which 95% were residential accounts. Exhibit 1-2 provides a breakdown of customers by category.

EXHIBIT 1-2: CUSTOMER BREAKDOWN BY CATEGORY (AS OF MARCH 31, 2023)



The Authority provides water and wastewater services throughout the Island, which has an approximate area of 3,535 square miles. Because of Puerto Rico’s varied topography, dispersed demographic distributions, and a diverse mix of users, the Authority has a fragmented and localized system of water sources, treatment, and delivery (as shown in Exhibit 1-4 and Exhibit 1-5). While a few facilities serve the large urban centers and several adjacent communities in a single area, most of the Authority’s facilities are small in terms of service capacity and coverage.

⁶ Remaining 41% of wastewater service customers use septic tanks and other forms of wastewater disposal (smaller private effluent disposal systems).

EXHIBIT 1-3: OVERVIEW OF THE AUTHORITY’S INFRASTRUCTURE SYSTEM⁷



8 dams



112 Filter Plants with 112 intakes,
producing
~520 MGD



51 Wastewater Plants
treating
~200 MGD



Over 3,700 auxiliary facilities:
Tanks - 1,568
Pump Stations – 1,966
Water wells - 238



Over 20,000 miles of pipes

EXHIBIT 1-4: PRASA WATER TREATMENT PLANTS⁸



⁷ Preliminary information on facilities is retrieved from PRASA’s GIS database as of March 31, 2023

⁸ Active facilities as of March 31, 2023, according to PRASA’s GIS database.

EXHIBIT 1-5: PRASA WASTEWATER TREATMENT PLANTS⁹



1.5 Governance and Organizational Structure

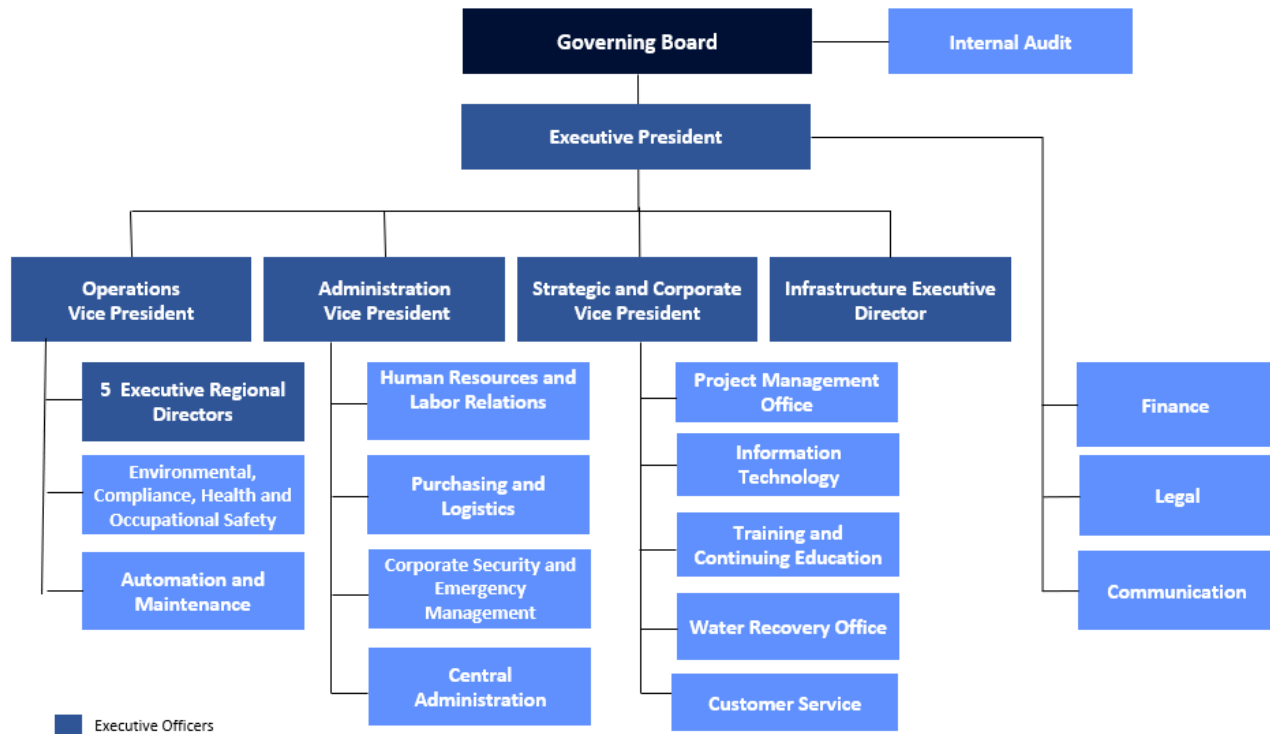
The Authority’s organizational structure and governance model are designed to facilitate the achievement of its mission, implementation of its Fiscal Plan and its Five Year Strategic Plan (2021-2025), and for the improvement of operational efficiency and accountability.

Exhibit 1-6 shows PRASA’s current organizational structure. Key departments and offices to highlight are:

- **Infrastructure Department** plans and executes the CIP, in collaboration with, and the support of, the Finance Department.
- **Strategic and Corporate Planning Department** is responsible for the PMO that ensures the successful execution of PRASA’s Strategic and Fiscal Plan measures. Its WRO is specifically responsible for all NRW-related measures. This office has also been recently tasked with overseeing the Customer Service office, coordinating efforts with the WRO and implementing critical and strategic projects such as meter replacements.
- **Office of Environmental, Compliance, Health and Occupational Safety** focuses on providing quality water service and oversees compliance requirements related to the Authority’s agreements with the USEPA and the PRDOH.

⁹ Active facilities as of March 31, 2023, according to PRASA’s GIS database.

EXHIBIT 1-6: ORGANIZATIONAL STRUCTURE



1.5.1 Governing Board

PRASA has an experienced Governing Board that is independent from direct political influence and has the ability to effectively carry out its duties. Moreover, existing law promotes board members serving their entire term—rather than being replaced with changes in the Government administrations—which is essential to maintaining consistency and institutional knowledge in decision-making.

Pursuant to Act No. 68-2016, which sets requirements for a diversified and professionalized board, PRASA’s Governing Board was restructured to include seven members, consisting of four Independent Directors appointed by the Governor (with advice and consent from the Senate), two ex officio members, and one Consumer Representative, with the following qualifications:

1. One Professional Engineer licensed to practice in Puerto Rico with at least ten years of experience
2. One attorney with at least ten years of experience in Puerto Rico and licensed to practice in the Commonwealth of Puerto Rico
3. One Corporate Finance Specialist with wide knowledge and experience in the field
4. One Professional with expertise in any field related to PRASA’s functions
5. The Executive Director of the Mayor’s Association (ex officio member)
6. The Executive Director of the Mayor’s Federation (ex officio member)
7. One Consumer Representative, a private citizen representing the Authority’s customers

Additionally, an AAFAF representative will sit on the Governing Board while the Authority is a covered territorial instrumentality under PROMESA, thus temporarily increasing its size to eight board members as required by Act 2 of 2017.

Members appointed by the Governor are selected from a list of at least ten candidates, vetted by a recognized executive search firm, and evaluated according to objective criteria that includes the professional and educational backgrounds of the candidates.

Members not named by the Governor include the consumer representative, the Executive Director of the Mayor's Association, the Executive Director of the Mayor's Federation and the AAFAF representative. The consumer representative is elected by PRASA's customers through a process under the jurisdiction of the Puerto Rico Ombudsman.

Term lengths for non-ex-officio members are as follows:

- The Consumer Representative serves a three-year term with no term limits.
- The Governor-appointed members serve staggered five-year terms and may only hold office for three terms¹⁰.

PRASA's Governing Board is responsible for making and approving all major decisions taken by the Authority, including decisions related to overall institutional policies, strategies and programs, operational budget and capital improvement programs, executive and key management recruitment and terminations, approval of collective bargaining agreements, major procurements and professional services and other contracts that exceed the materiality limits for Executive President approval.

1.5.2 Executive Officers

Executive Officers are appointed by the Governing Board. Having an independent and experienced Board select the Authority's executive leadership further protects the Authority from political influence and ensures only the most qualified individuals are selected for these roles.

The Executive Officers include:

- **Executive President:** The Authority's chief executive officer, based solely on experience, ability, and other qualities that especially enables them to lead the Authority, achieving its strategic mission and vision.
- **Infrastructure Executive Director:** Preferably a Licensed Professional Engineer with experience in activities related to the development and management of infrastructure projects.
- **Five Regional Executive Directors:** For the Metro, North, South, East, and West Regions.
- **Three Vice Presidents:** Operations, Administration, and Strategic & Corporate Planning.

¹⁰ Initially, two members were appointed for five years and two members for six years in order to achieve the staggered term requirement. After this, all members were shifted to five-year terms.

The Executive President, the Infrastructure Director and the Regional Executive Directors, unless appointed on an interim basis, serve five-year terms as established by Act No. 68-2016.

1.6 The Authority's Challenges

Over the past several years, Puerto Rico has faced significant economic and demographic challenges that have adversely affected the Authority, the effects of which have been aggravated by the 2017 Hurricanes, 2020 Earthquakes, 2022 Hurricane Fiona and the ongoing COVID-19 pandemic. In addition, the Authority faces major financial, strategic, and operational challenges specific to water utilities.

PRASA faces a specific set of challenges related to the complexity of its Systems and Puerto Rico's economic environment, such as:

- Maintaining large, complex, and capital-intensive facilities (managing over 20,000 miles of pipelines and a combined 163 water and wastewater treatment plants);
- Reducing longstanding and significant volumes of NRW;
- Addressing Systems vulnerabilities to climate change and natural disasters;
- Declining population and water consumption;
- Meeting environmental and safety regulatory requirements, including implementing EPA and PRDOH consent decree and agreements requirements; and
- Maximizing and effectively utilizing available federal funding to enable the restoration of and improvements to the Systems affected by the 2017 Hurricanes, 2020 Earthquakes and Hurricane Fiona to industry standards.

While many of these challenges are not unique to water utilities, the Authority's challenges also represent an opportunity to rebuild better and more resilient Systems for the benefit of Puerto Rico.

1.6.1 Vulnerability to Climate Change and Natural Disasters

Worldwide, water utilities have been exposed to increasing vulnerability from climate change and natural disasters, such as droughts, storms, flooding, rising sea levels, and earthquakes. Research findings also indicate concerns about fluctuations in global water usage. The estimated annual increase in consumption of approximately 1% over the past four decades is expected to persist until 2050. This trend is primarily driven by a combination of factors, including changes in population size, socio-economic growth, and diverse water consumption patterns.¹¹

The Authority is not immune to these risks. In recent years, Puerto Rico has experienced a severe drought from October through December 2015, hurricanes (Irma and Maria in September 2017 and most recently Fiona), and several earthquakes concentrated in the southern region, with the largest occurring on January 7, 2020, with a magnitude of 6.4 on the Richter scale. These events caused significant damage to infrastructure throughout the Island.

¹¹ The United Nations World Water Development Report 2023 – UNESCO Digital Library

To better understand the potential effects of climate change on PRASA operations, during FY2015, the Authority developed a Vulnerability Study on the impacts of climate change in all its infrastructure. In the Vulnerability Study, the Authority assessed its infrastructure to identify potential climate change risks and impacts caused by five indicators or stressors: increases in temperature; changes in precipitation (including an increase in heavy downpours in the short-term and an increase in drought events in the long term); sea level rise; increases in hurricane and tropical storms' intensity and frequency; and ocean acidification. The Vulnerability Study concluded that the stressors that present highest impact risk to water and wastewater infrastructure are sea level rise, precipitation changes, and hurricanes and tropical storms. Sea level rise threatens flooding coastal infrastructure, which could force the Authority to discontinue using infrastructure along the coasts altogether. Changes in precipitation patterns also have the ability to negatively impact the Authority's infrastructure. On one hand, more precipitation in the short term causes more turbidity, affecting the overall System water quality; on the other hand, less precipitation in the long-term causes droughts and threatens the reliability of the System by causing service interruptions. Finally, damages caused by higher intensity hurricanes and storm events will generate significant and costly expenses to the Authority as evidenced after the 2017 Hurricanes and most recently, Hurricane Fiona.

The risks associated with climate change and natural disasters, combined with PRASA's longstanding issues related to NRW and the ability to meet project execution timelines in compliance with the EPA's and PRDOH consent decrees, reflect the need for Authority to take preventive action on these matters. Although each water system is unique, PRASA has recognized these matters represent a significant challenge to day-to-day operations, resource planning, overall water resource conservation efforts, and its ability to withstand even moderate periods of water stress such as droughts. Given the potential impact of these issues on PRASA's intricate water and wastewater infrastructure, the Authority must incur greater operating and capital costs to prevent and react to such issues. This imposes an unnecessary economic burden on a projected shrinking customer base.

2 Pre-Measures Financial Projections

The Pre-Measures Financial Projections consider the Authority’s current financial situation and assumes PRASA will continue its current state of operations without implementing any new measures to enhance revenues or reduce expenses. This includes the benefits from measures and initiatives that have already been implemented such as the debt modification with the Federal Lenders, the 2020 and 2021 refunding of outstanding debt, the rate adjustments implemented as of July 1, 2022, as well as other implemented measures described in Section 2.1

2.1 Recently Implemented Measures

PRASA has successfully implemented several initiatives that had a material beneficial impact on the Authority’s financial results. The benefits from these initiatives have been included in the baseline or pre-measures financial projections. They include:

1. **Rate adjustments:** implemented regularly scheduled rate increases ranging from 2.5% to 4.5% between FY2018 and FY2021 for all customer segments.
2. **Government account collections:** collected past due government receivables and improved government collections.
3. **Pre-retirement program:** reduced payroll costs by incentivizing early retirement for eligible employees.
4. **Electricity Expense Reduction:** reduced energy costs through efficiency measures and installation of renewable distributed generation (“DG”).
5. **Federal Debt modification:** consolidated and modified SRF and USDA RD loans as senior debt and with more favorable repayment terms.
6. **Debt Refunding:** refunding of \$3.2 billion of 2008 Bonds and 2012 Senior Bonds resulting in significant debt service savings without extending final maturities of the refunded bonds.

These measures resulted in a benefit of \$1,108 million from FY2018 to FY2023. Table 2-1 summarizes the benefits of the implemented measures.

TABLE 2-1: FINANCIAL RESULTS OF IMPLEMENTED MEASURES (FY2018-FY2023, IN \$ MILLIONS)

<i>In \$' Millions</i>	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023 (Projected)	FY2018 to 2023
Revenue Enhancement Initiatives							
Rate Adjustments	13.3	60.3	79.6	101.9	133.6	161.6	550.3
Government Account Collections	55.9	72.6	5.9	1.0	39.2	10.0	184.6
Cost Saving Initiatives							
Pre-Retirement Program	-	5.9	7.4	7.5	6.7	5.8	33.3
Electricity (current PPAs)	0.3	0.4	0.5	0.3	0.9	1.2	3.7
Debt Service Reduction							
Federal Debt Restructuring	55.6	32.4	43.4	42.0	40.1	39.7	253.3
Debt Refunding (2020 Bonds)	-	-	-	13.0	13.4	13.4	39.8
Debt Refunding (2021&2022 Bonds)	-	-	-	-	21.6	21.2	42.8
Total	125.1	171.6	136.8	165.7	255.5	252.9	1,107.8

The projected benefits from the implemented measures shown above have resulted in meaningful, measurable economic benefits over the six fiscal year periods ending on June 30, 2023.

2.1.1 Implemented Revenue Enhancing Measures

PRASA implemented a series of measures to increase its revenues while attempting to minimize negative impacts on service affordability.

2.1.1.1 Rate Adjustments

In 2017, the Oversight Board required PRASA to implement moderate, but consistent multi-year rate adjustments to ensure its costs are fully covered by service revenues. The increase was meant to address years of failure to perform an industry standard practice of consistently revising rates to cover changes in operating costs.

Rate adjustments
(FY2018 through FY2023)

\$550 million

PRASA’s rate structure until June 30, 2022 provided for a maximum annual rate adjustment of 4.5%, up to a cumulative 25% through the application of an “Annual Adjustment Coefficient.”¹²

PRASA’s Governing Board had approved a moderate rate adjustment schedule for five years between FY2018-FY2022, summarized in Table 2-2 below, which has been fully implemented.

TABLE 2-2: IMPLEMENTED RATE INCREASES (FY2018/FY2022)

Type of Client	Jan 1, 2018 (FY2018)	July 1, 2018 (FY2019)	July 1, 2019 (FY2020)	July 1, 2020 (FY2021)	July 1, 2021 (FY2022)
Residential	2.5%	2.5%	2.5%	2.5%	2.5%
Commercial	2.8%	2.8%	2.8%	2.8%	2.8%
Industrial	3.5%	3.5%	3.5%	3.5%	3.5%
Government	4.5%	4.5%	4.5%	4.5%	4.5%

Additional rate adjustments after FY2022 are discussed in Section 3.1.1.1.

2.1.1.2 Government Account Collections Improvement

The Authority has four different government client categories: (i) Central Government agencies, paid from the General Fund; (ii) public corporations, generally paid from their own revenues; (iii) municipalities; and (iv) Federal agencies. During the last several years, PRASA has worked jointly with the Government to reconcile balances of accounts receivable, speed up their collection process and receive payment of

Government accounts
recovered receivables
(FY2018 through FY2023)

\$185 million

¹² PRASA’s prior rate structure was adopted after the public hearing process of Act 21 and approved by the Governing Board pursuant to Resolution No. 2794 on July 3, 2013 and as amended by Resolution No. 2825, approved on December 18, 2013.

receivables in arrears. As a result of these efforts, PRASA recovered \$185 million of outstanding government accounts receivables.

Although, municipalities' outstanding balances have also been recently reduced, total accounts receivable for municipalities amount to \$60 million as of March 31, 2023, which represents 56% of total accounts receivable from government accounts.

2.1.2 Implemented Cost Saving Measures

PRASA has implemented several cost-reduction measures, including various measures focused on the two largest expense categories: payroll and electricity.

2.1.2.1 Pre-retirement Program

As a result of the fiscal crisis, the Government created a Voluntary Pre-Retirement Program in FY2016.¹³ The program provides incentives to certain eligible government employees to voluntarily retire early from service.¹⁴ The program was implemented to reduce the workforce progressively and voluntarily, allowing employees to retire with an orderly transition process. The vacant positions resulting from the retirement program must be closed unless the OMB specifically determines in writing that each vacant position should not be closed and provides an explanation for such determination.

Pre-Retirement Program
Savings
(FY2018 through FY2023)

\$33 million

Over 350 PRASA employees have retired under the program, generating estimated savings of \$33.3 million projected through June 30, 2023.

2.1.2.2 Electricity

PRASA implemented energy supply projects through Power Purchase Agreements ("PPAs") to reduce its electricity costs.

The Authority currently has 10 facilities under PPA mechanisms using photovoltaic energy, producing approximately 11.3 million kWh per year at a \$0.15 per kWh blended rate, which is less than rates charged by PREPA/LUMA. Annual savings from these PPAs vary based on PREPA rates. Facilities currently

Electricity Expense
Reduction from PPAs
(FY2018 through FY2023)

\$4 million

¹³ Enacted through Act 211-2015 on December 8, 2015.

¹⁴ Incentives include: 60% payment of average salary, payout of unused vacation and sick days (as per Act 66-2014) and maintaining their health insurance coverage for a term of two years. These incentives are applicable to pre-retired employees and payable by PRASA until each eligible employee reaches full retirement age under ERS's rules.

under PPAs along with their associated average annual solar energy production, are shown in Table 2-3.

TABLE 2-3: FACILITIES WITH SOLAR ENERGY

Facility	Million kWh/yr
Yunque WTP	3.43
Arecibo WTP	1.71
Canóvanas WWTP	1.71
Guaynabo WTP	0.86
Aguada WWTP	0.86
Humacao WWTP	0.86
Cayey WWTP	0.86
Culebra WWTP	0.49
Vieques WWTP	0.33
Arcadia WPS	0.19
Total kWh	11.30

Additional reductions in electricity expense as a result of future PPAs and ongoing regional measures to reduce electric consumption are included in Section 3.1.2.1: *Electricity Expense Reduction*.

2.1.3 Debt Service Reduction

PRASA has implemented two debt service reduction measures to date: Federal Debt modification and refunding of most of its remaining outstanding debt.

In addition, with respect to the PFC debt, the Authority does not assume any payments during the Fiscal Plan Period. The Authority has no legal obligation to pay the PFC debt because such debt is payable solely from legislative appropriations received from the Government. As provided in the MAT, if the Authority is unable to make this payment, the obligation is not cumulative and, therefore, does not carry forward to future periods. Failure to make the payments or deposits related to this debt is not an event of default under the MAT.

Furthermore, on January 20, 2022, AAFAF, on behalf of PFC, entered into a Restructuring Support Agreement (the “PFC RSA”) with holders of a majority of those certain Series 2011A, Series 2011B, and Series 2012A Commonwealth Appropriation Bonds (the “PFC Bonds”). The PFC RSA provides for a restructuring and discharge of the PFC Bonds under a Title VI Qualifying Modification (the “PFC Qualifying Modification”). The PFC RSA further provides that the Notes, including by the Authority, for the repayment of the PFC Bonds will be cancelled and extinguished under the PFC Qualifying Modification and the Authority will be discharged from any liability arising from or related to such promissory notes.

On October 25, 2022, AAFAF, on behalf of PFC, and the Oversight Board launched solicitation of the PFC Qualifying Modification. On October 28, 2022, the Oversight Board, as the Title VI Administrative Supervisor, commenced a Title VI proceeding in the U.S. District Court for the District of Puerto Rico.

On December 30, 2022, the Court entered an order approving the PFC Qualifying Modification. On January 12, 2023, the PFC Qualifying Modification became effective. The PFC Bonds and Notes were thus discharged and extinguished. Therefore, from January 2023, PRASA did not have any outstanding PFC debt or obligations thereunder.

2.1.3.1 Federal Debt Modification

Historically, the Authority has received federal funds for its CIP through loans from the CWSRF and DWSRF—collectively known as the “SRFs”—and bonds or loans under the USDA Rural Development (“USDA-RD”) Program.

Federal debt service relief
(FY2018 through FY2023)

\$253 million

On June 30, 2016, the Authority executed a Forbearance Agreement with the PRDOH and EQB (administrators of the DWSRF and CWSRF, respectively). PRASA also signed a short-term Forbearance Agreement under the USDA-RD Program. The original Forbearance Agreements were subsequently extended on several occasions, allowing for the deferral of payments due from July 2016 through July 2019, subject to certain conditions and partial payments.

On July 26, 2019, the Authority and AAFAF consummated definitive agreements (the “Agreements”) that modified the Authority’s debt obligations under the SRF and USDA-RD loans, which totaled approximately \$1 billion in Federal Debt. The Agreements were approved by the Oversight Board pursuant to Section 207 of PROMESA on July 3, 2019. The benefits of the Agreements to PRASA and the Government include (i) the reduction of interest rates and extension of the amortization periods, resulting in debt service relief to the Authority of approximately \$370 million between FY2021 and FY2031 and \$253 million from FY2018-FY2023, (ii) the termination of existing Commonwealth guarantees of the Federal Debt, thus reducing overall Government contingent liabilities by approximately \$1 billion, and (iii) access to new infrastructure project loans from the SRF and USDA-RD Program, including \$26 million granted under the SRF program (coupled with increased protection of the interests of the Federal Lenders). The modified Federal Debt was designated as “Other System Indebtedness” on a parity as to payment with other senior debt under PRASA’s MAT.

A summary of the modification to the Federal Debt terms is summarized in Exhibit 2-1

EXHIBIT 2-1: MODIFICATIONS TO FEDERAL DEBT TERMS

	Prior to debt modification	After debt modification	Projected Impact (FY21-FY31)
SRF			
Balance	\$581M	\$596M (including new loans)	\$250M
Amortization term	20 years	30 years	
Interest rate	2%	0% for years 1-10/ 1% thereafter	
Annual debt service	\$36M	\$10M for years 1-10/ \$27M thereafter	
RD			
Balance (incl. accrued interests)	\$392M	\$392M	\$120M
Amortization term	40 years	40 years	
Interest rate	4% (average)	2%	
Annual debt service	\$24M	\$10M for years 1-10/ \$17M thereafter	

2.1.3.2 2020 Refunding

On December 17, 2020, the Authority issued its 2020 Senior Bonds in the principal amount of \$1,370 million to refund a significant portion of its outstanding 2008 Senior Bonds (excluding the non-callable 2008 Senior Bonds with a principal current balance of \$46.2 million that mature on July 1, 2023 and 2024), and all of the Authority’s 2008 Guaranteed Bonds.

2020 Refunding debt service savings (FY2021 through FY2023)

\$40 million

The 2020 Senior Bonds bear coupons at rates ranging from 4% to 5% per annum with yields at the time of issuance ranging from 2.5% to 4.5% and maturity dates ranging from July 1, 2021 to July 1, 2047. The issuance of the 2020 Senior Bonds resulted in a reduction in average annual senior debt service of \$13 million, total debt service savings to final maturity of approximately \$348.2 million or approximately \$213.3 million NPV savings, representing 15% of refunded par amount, and the termination of the Commonwealth guarantee over the Authority’s 2008 Guaranteed Bonds, that were payable by the Authority on a basis subordinate to its senior debt.

After the Federal Debt modification in July 2019 and the issuance of the 2020 Senior Bonds, no Commonwealth Guaranteed Indebtedness remains outstanding.

Furthermore, each purchaser of 2020 Senior Bonds consented, by its purchase and execution of an investor letter, to certain amendments to the MAT, effective upon the receipt of the written consent of the holders of all outstanding senior indebtedness under the MAT, including the Federal Lenders, that will, among other changes, convert the security for the Authority’s revenue bonds under the MAT from a gross revenue pledge to a net revenue pledge.

2.1.3.3 2021 Refunding

On August 25, 2021, the Authority issued its 2021 Senior Bonds in a total principal amount of \$1,089.8 million and on June 15, 2022, the Authority completed the issuance of its 2022 Senior Bonds in a total principal amount of \$565.2 million to refinance in the aggregate all of the Authority’s 2012 Series A and B senior revenue bonds.

2021/22 Refunding debt
service savings
(FY2022/23)

\$43 million

The 2021/2022 Senior Bonds bear interest at rates ranging from 4% to 6% per annum with yields at the time of issuance ranging from 1.17% to 3.75% and maturity dates ranging from July 1, 2022 to July 1, 2047.

The proceeds of the 2021/2022 Senior Bonds were used as follow (in \$’000):

Refunded Bonds	Transaction	New Series	Refunding Bonds Par	Closing Date
2012A	Tender of a portion of 2012 Series A senior revenue bonds for cash purchase by Authority	2021A	\$92,330	August 25, 2021
2012A	Exchange of a portion of 2012 Series A senior revenue bonds for new senior revenue refunding bonds	2021B	\$842,410	August 25, 2021
2012B	Current refunding of 2012 Series B senior revenue bonds	2021C	\$155,090	August 25, 2021
Remaining 2012A	Forward delivery current refunding of remaining 2012 Series A senior revenue bonds	2022A	\$565,180	June 15, 2022
			\$1,655,010	

The issuance of the 2021/2022 Senior Bonds resulted in a reduction of average annual senior debt service of \$22 million and total debt service savings to final maturity of approximately \$569.7 million or approximately \$361.5 million NPV savings, representing 20% of refunded par amount.

Each purchaser of the 2021/2022 Bonds also consented, by its purchase and execution of an investor letter, to certain amendments to the MAT, effective upon the receipt of the written consent of the holders of all outstanding senior indebtedness under the MAT, including the Federal Lenders, that will, among other changes, convert the security for the Authority’s revenue bonds under the MAT from a gross revenue pledge to a net revenue pledge.

2.2 Main Assumptions

The main assumptions underlying the four components of PRASA’s financial projections—(i) revenues, (ii) expenses, (iii) CIP, and (iv) financing and debt service—are explained in this Chapter.

PRASA’s Pre-Measures Financial Projections presented herein reflect the best projections of future results based on (i) PRASA’s current financial situation, and (ii) several assumptions, including the following:

- PRASA’s service rates as approved in 2022 and as published on PRASA’s website for FY2023. The Pre-Measures Financial Projections do not include the minimum approved rate adjustment of 2% for subsequent years;
- Payroll costs adjusted to reflect updated headcount and revised pay scales to allow for adequate personnel compensation and retention;
- Electricity cost projected as described in detail in Section 2.4.2;
- Expenses based on the FY2023 Amended Budget and the identified needs for FY2024, as adjusted by inflation thereafter, and excluding impact from extraordinary circumstances;
- Current contractual debt service takes into account the Federal Debt modification completed on July 26, 2019 and the debt refinancing agreements closed on December 17, 2020 and August 25, 2021 including the forward delivery bonds;
- Capital Improvement Program, as updated to reflect current System needs and funding agreements; and
- Macroeconomic indicators as included in the 2023 Fiscal Plan for the Commonwealth of Puerto Rico, as certified by the Oversight Board on April 3, 2023.

A summary of some specific assumptions used to develop the six-year Pre-Measures Financial Projections are included in Table 2-4.

TABLE 2-4: ASSUMPTIONS SUMMARY TO DEVELOP THE FISCAL PLAN

Revenues	<ul style="list-style-type: none"> • Billings: Residential, Commercial and Government billings are projected based on demographic indicators. Industrial billing is projected based on real GNP macroeconomic indicators. • Collections Rate: FY2023 adjusted to reflect the impact of recent events in collections and a 96% collections rate is assumed for all customers categories during the subsequent years.
Expenses	<ul style="list-style-type: none"> • Payroll and related costs: Based on average revised cost per FTE, including salary adjustments, and assuming the headcount level will increase from 4,700 in FY2023 to 4,950 by FY2028 to properly operate the Systems. • Electricity: Based on FY2023 preliminary consumption projections and electricity rates provided by the Oversight Board on March 16, 2023, as further adjusted by PRASA. • Other expenses: Projected based on the FY2023 amended budget, the identified needs for FY2024 and

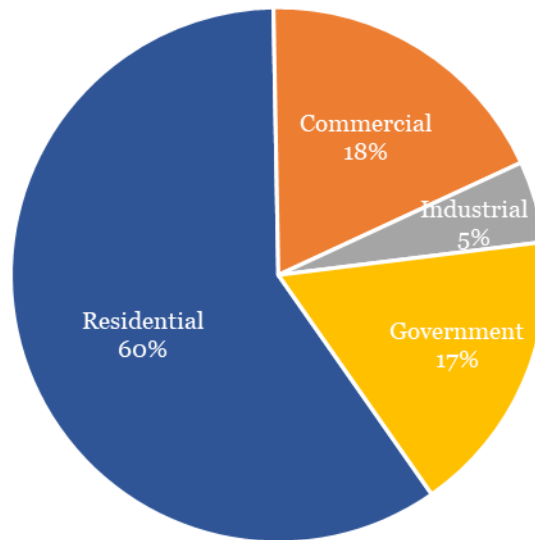
	subsequently (FY2025-FY2028) adjusted by projected inflation rate.
Capital Improvement Program	<ul style="list-style-type: none"> • Reconstruction and Recovery Projects: Estimated funding based on FEMA funding obligations (for 90% of the total estimate) to address the impact from the 2017 Hurricanes to PRASA’s infrastructure, assuming the 10% match for such projects will be provided by the CDBG-DR Program. • Compliance Projects: Based on agreements with USEPA and PRDOH as negotiated or resulting from ongoing negotiations. • Renewal and replacement: Estimated based on expected needs of the Systems and funding availability.
Contractual Debt Service	<ul style="list-style-type: none"> • Debt Service: Projected based on current debt service as per amortization tables, reflecting the benefit of the Federal Debt modification, the refunding of a substantial portion of the 2008 Senior Bonds, all of the 2008 Guaranteed Bonds and all of the 2012 Senior Bonds.

2.3 Revenues

2.3.1 Customers and Revenue Base

As of March 31, 2023, PRASA had 1,267,311 active accounts, of which over 95% were residential. Residential customers accounted for around 60% of the Authority’s revenues during FY 2022. Exhibit 1-2 included in Chapter 1 provides the breakdown of customers by category. Billings by customer type during FY2022 are presented in Exhibit 2-2.

EXHIBIT 2-2: FY2022 REVENUE BREAKDOWN BY CUSTOMER CATEGORY



2.3.2 Service Revenue

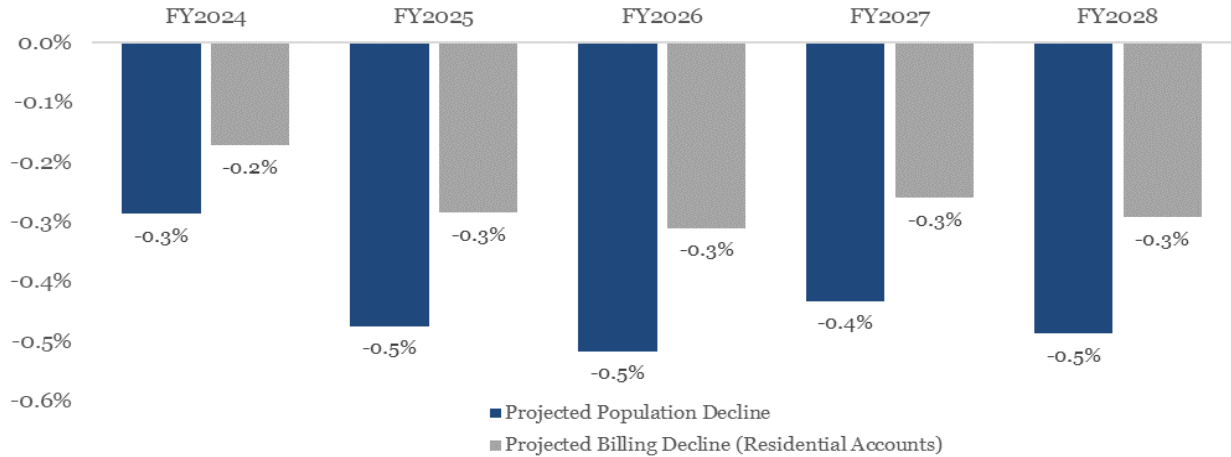
The Authority’s service revenues (base fee and service charges) are derived from water and wastewater service billings and are presented net of current subsidies (i.e., PAN, TANF, ASES and Public Housing). Service revenue projections are based on FY2023’s actual and projected billings and are presented based on the simplified rate structure as implemented on July 1, 2022. The minimum annual adjustments already approved by PRASA’s Governing Board by 2% per year starting in FY2024 are included as a New Measure as further described in Chapter 3.

2.3.2.1 Billing Trend

Since the 2017 Hurricanes, and more recently due to the impact of the 2020 Earthquakes, the COVID-19 pandemic, and Hurricane Fiona in 2022, revenue projections have been reduced as a result of declines in population, water consumption, and overall levels of economic activity in Puerto Rico.

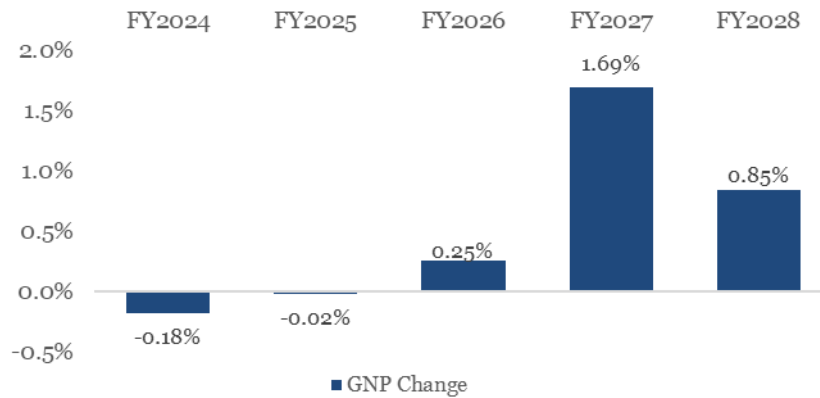
Exhibit 2-3 illustrates the projected population decline as well as the expected reduction in billings.

EXHIBIT 2-3: POPULATION AND RESIDENTIAL BILLINGS TREND¹⁵



Billings for Industrial accounts are projected using the real Gross National Product (GNP) forecast as included in Exhibit 2-4.

EXHIBIT 2-4: GNP GROWTH RATES¹⁶



2.3.2.2 Collections Rate

Historically, PRASA’s collection rate averaged 96% under ordinary conditions. Situations such as the 2017 Hurricanes, the 2020 Earthquakes, the COVID-19 pandemic and the 2022 Hurricane

¹⁵ Based on macroeconomic indicators as considered in the 2023 Fiscal Plan for the Commonwealth of Puerto Rico as certified by the Oversight Board on April 3, 2023.

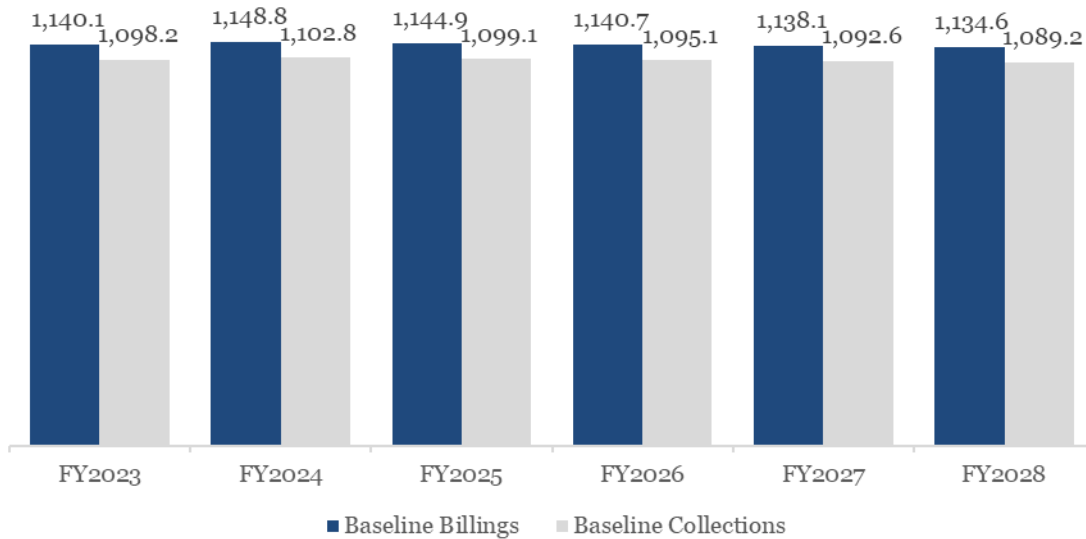
¹⁶ Based on macroeconomic indicators as considered in the 2023 Fiscal Plan for the Commonwealth of Puerto Rico as certified by the Oversight Board on April 3, 2023.

Fiona resulted in reduced service collections. However, for FY2024 and subsequent years PRASA projects to reach and maintain a 96% collection rate.

2.3.2.3 Projected Service Revenues

Based on the assumptions set forth above, PRASA’s projected service revenue and collections are presented in Exhibit 2-5.

EXHIBIT 2-5: PRE-MEASURES BILLINGS AND COLLECTIONS (IN \$ MILLIONS)



2.3.3 Miscellaneous Income

Miscellaneous income includes revenues received mainly from interest income and Developers’ Contributions.¹⁷ Based on historical results, miscellaneous income is projected at \$5.3 million during FY 2023 and \$4.5 million per year during the subsequent fiscal years of the projected period.

2.3.4 Transfers to and from the Rate Stabilization Account

The MAT stipulates the Authority can deposit into the Rate Stabilization Account amounts in its Surplus Fund, after covering all obligations as required under the MAT.

Operating Revenues will include the amounts paid from the Rate Stabilization Account into the Operating Revenue Fund in any fiscal year minus the amounts, if any, paid from the Operating Revenue Fund into the Rate Stabilization Account during the same Fiscal Year.

¹⁷ Fees paid by developers to connect their projects to the Authority’s Systems

The intention of the RSA is to minimize or eliminate the need for rate adjustments to cover temporary needs. As of March 31, 2023, PRASA had \$11 million deposited into the RSA. Additionally, PRASA is projecting to deposit \$38 million during the Fiscal Plan Period into the RSA and to use \$28 million during fiscal years 2025 and 2026 to cover for the increase in electricity and payroll costs while the benefit of the measures starts to materialize.

2.3.5 Summary of Projected Pre-Measures Revenues

Table 2-5 summarizes projected pre-measures revenues for the Fiscal Plan Period, presented on a cash basis.

TABLE 2-5: PRE-MEASURES PROJECTED REVENUES (IN \$ MILLIONS)

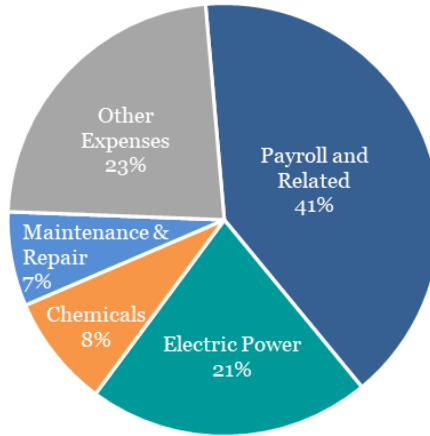
<i>in \$'Millions</i>	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY23/28
Service Collections	1,098.2	1,102.8	1,099.1	1,095.1	1,092.6	1,089.2	6,576.9
Transfer (to) RSA	(20.0)	-	-	-	(5.0)	(13.0)	(38.0)
Transfer from RSA	-	-	20.0	8.0	-	-	28.0
Miscellaneous Income	5.3	4.5	4.5	4.5	4.5	4.5	27.8
Total Revenues	1,083.5	1,107.3	1,123.6	1,107.6	1,092.1	1,080.7	6,594.7

The benefit for projected rate adjustments to be implemented in the future is included in Chapter 3 under Revenue Enhancement Measures.

2.4 Expenses

Exhibit 2-6 provides the operating expense breakdown by category. Approximately two-thirds of PRASA's expenses are made up by payroll and electricity costs. Adding maintenance & repairs and chemicals, these four cost categories represent approximately 77% of total expenses. Other expenses consist largely of costs directly related to operations, including rentals, security services, insurance, billings and collections related costs, water purchase, sludge disposal, and water transport, among others.

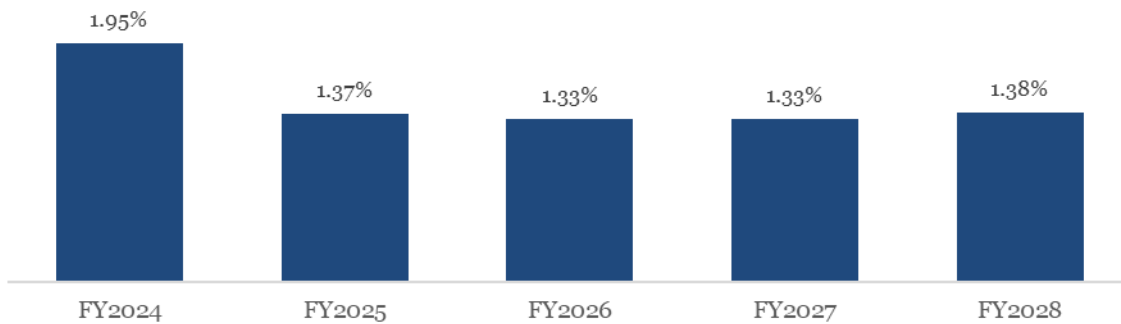
EXHIBIT 2-6: EXPENSE BREAKDOWN BY CATEGORY (FY2023), %



For the Pre-Measures Financial Results, the amended FY2023 budget and identified FY2024 needs were used as a guideline. Most of the expenses were then increased year-over-year to account for projected inflation. However, PRASA used different assumptions for payroll & related and electricity expenses, which assumptions are explained below.

Inflation rates used to project expenses (with the exception of payroll & related and electricity expense) are included in Exhibit 2-7.

EXHIBIT 2-7: PROJECTED INFLATION RATE¹⁸



2.4.1 Payroll and Related Costs

¹⁸ Based on macroeconomic indicators as considered in the 2023 Fiscal Plan for the Commonwealth of Puerto Rico as certified by the Oversight Board on April 3, 2023.

PRASA's largest expense category, representing 41% of its annual operating budget, is Payroll and Related Costs. This cost category includes direct labor costs and associated benefits, such as healthcare and pension obligations, and is the presented net of capitalized labor costs related to capital projects (estimated at 2.7% of total operational expenses¹⁹).

The following main assumptions were applied to develop the Payroll and Related Costs projections:

- Headcount of 4,700 employees for FY2023, increasing by 50 FTE until reaching 4,950 employees by FY2028.
- Minimum salaries based on current legislation and as projected to increase based on available information.
- New salary scales as implemented on July 1, 2022.
- New incentives for critical operational positions to allow for their retention.
- Compliance with Act 26-2017, as amended, including the following change in benefits:
 - Maximum overtime factor to 1.5 times the normal pay
 - 24 days of vacations, with a maximum of 15 days to be accumulated each year
- 18 days of sick leave per year maximum as set forth by Act 176-2019
- Healthcare plan costs based on current contract for FY2023 and FY2024 increased by projected healthcare cost inflation thereafter,
- Pension costs paid through "PayGo" based on the projections provided by the Employees Retirement System (ERS).

2.4.2 Electricity

The cost of electricity represents PRASA's second largest expense and is highly sensitive to fluctuations in electricity rates, which are established by the Puerto Rico Energy Bureau's (PREB). To illustrate, a ±\$0.01 variation in the cost per kWh may represent approximately \$6.5 million per year in PRASA's annual electricity cost.

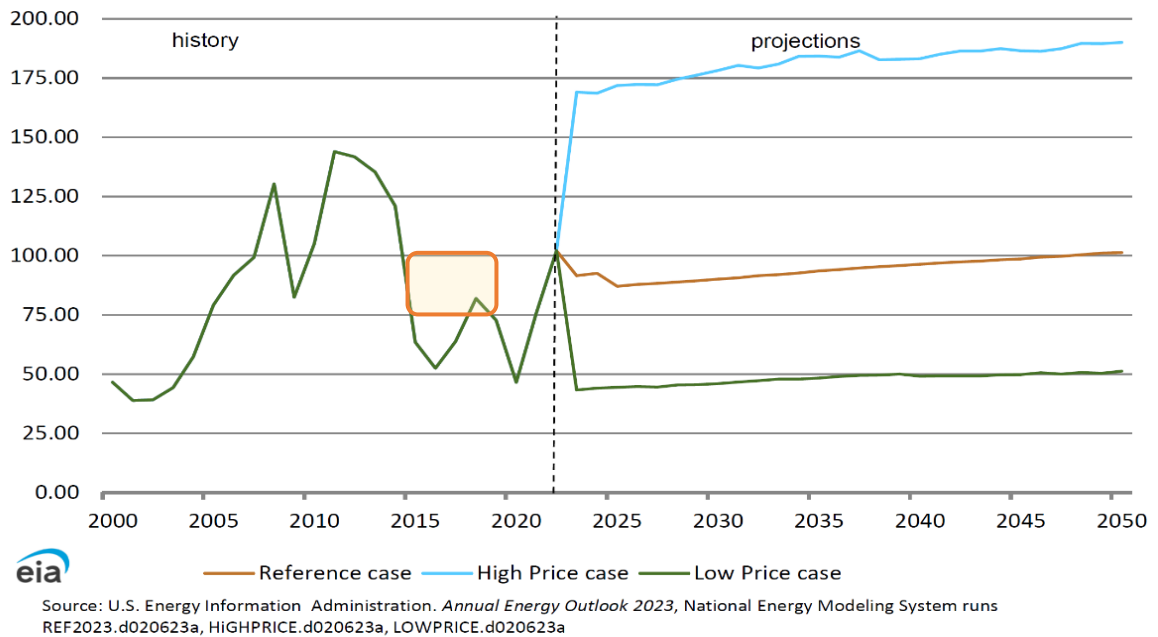
The expected cost of electricity purchased from PREPA/LUMA is based on rates applicable to PRASA during the Fiscal Plan Period. For FY 2023, the cost was based on actual rates billed by LUMA as of February 2023. Whereas the expected cost of electricity for the remaining months of the FY 2023 was based on (i) the rate approved by PREB until March 31, 2023 and (ii) the rates proposed by LUMA to PREB for the last quarter of the fiscal year. For subsequent fiscal years (FY 2024 – FY 2028) the electricity rate was projected applying the following components and assumptions:

- a) Purchase of fuel (Fuel Charge Adjustment or "FCA"): FCA was projected based on the 2023 rates and forecasted using the projected cost of crude oil during the Fiscal Plan Period as included in the U.S. Energy Information Administration short-term energy outlook and the long-term prices on the Annual Energy Outlook, both published in March 2023. Such projections as shown in

¹⁹ Source: Arcadis, Fiscal Year 2022 Overhead and Capitalization Rate Study dated August 2022

- b) Exhibit 2-8 below, show the reference case, experiencing a slight reduction in crude oil prices in the first years with a stabilization after year 2026, and then experiencing a slight increase each year thereafter.

EXHIBIT 2-8: BRENT CRUDE OIL PRICES



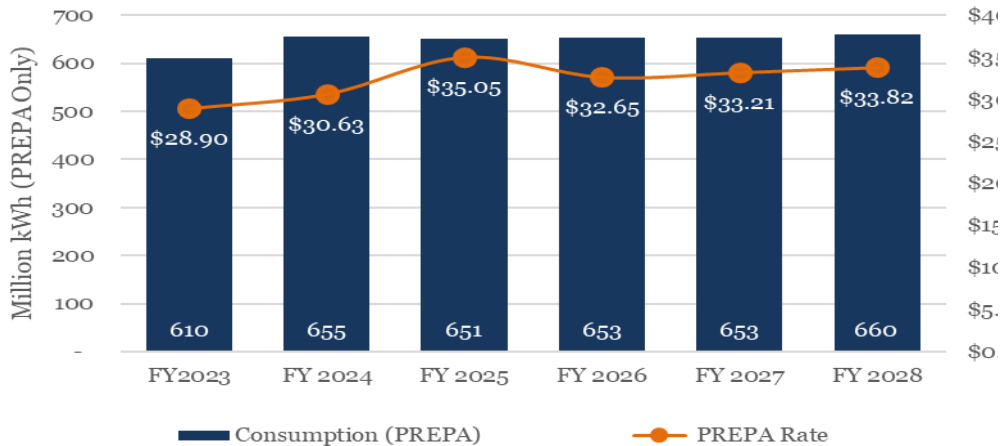
- b) Purchase of power (Purchased Power Charge Adjustment or “PPCA”): PPCA was assumed to remain constant during the Fiscal Plan Period.
- c) Non-fuel & PP O&M (Energy base rate, demand charges and LUMA invoice fixed charges): Projected based on information provided by the Oversight Board on March 16, 2023.
- d) Contribution in Lieu of Taxes and Subsidies Rider and other non-fuel and O&M costs: Projected based on information provided by the Oversight Board on March 16, 2023.
- e) ERS Pension Charge: Projected based on values provided by the Oversight Board on March 16, 2023 and assumed to start during the last quarter of FY 2024 .
- f) Surcharge for PREPA debt service payment: Projected based on information provided by the Oversight Board on March 16, 2023, adjusted to commence in January 2024 and assuming it will represent 20% of charges a) through d) above.

Electricity consumption (expressed in kWh) is presented based on current usage levels plus necessary adjustments to improve the projection precision, prior to the implementation of any additional electricity consumption saving measures.

As described in Section 2.1.2.2, PRASA has entered into PPA agreements that set electricity cost at \$0.15 per kWh. Currently, PRASA consumes around 10 million kWh per year produced through such PPAs, approximately 2% of its total annual energy consumption.

Exhibit 2-9 below includes the projected electricity rates for energy supplied by PREPA/LUMA (based on the assumptions previously discussed) and PRASA’s projected annual consumption for such energy supplied by PREPA/LUMA during the Fiscal Plan Period.

EXHIBIT 2-9: PROJECTED ELECTRICITY COSTS AND CONSUMPTION (PRE-MEASURE)



Hurricane Fiona negatively impacted energy consumption and caused electric service interruptions at several sites for different periods of time. The increase in rates starting in FY 2024 is due primarily to the incorporation of additional charges stemming from potential PREPA Title III outcomes to cover legacy debt service and pensions.

2.4.3 Chemicals

PRASA’s chemical spend has steadily risen since 2015, mainly due to increased chemical costs and consumption to ensure compliance with environmental and health standards.

PRASA’s chemical expense includes costs for coagulants, flocculants, chlorine, and other chemicals required to properly treat water and wastewater. This expense is projected based on the requirements for treatment and disinfection at PRASA’s treatment plants and wells, which is necessary to comply with environmental standards and regulations set by federal and local agencies (e.g., EPA and PRDOH).

PRASA FY2023 and FY2024 projected chemical cost is based on actual identified needs as a base to project future costs. For subsequent years, the Authority has included an annual increase for this cost category based on the projected inflation rate (see Exhibit 2-7 above).

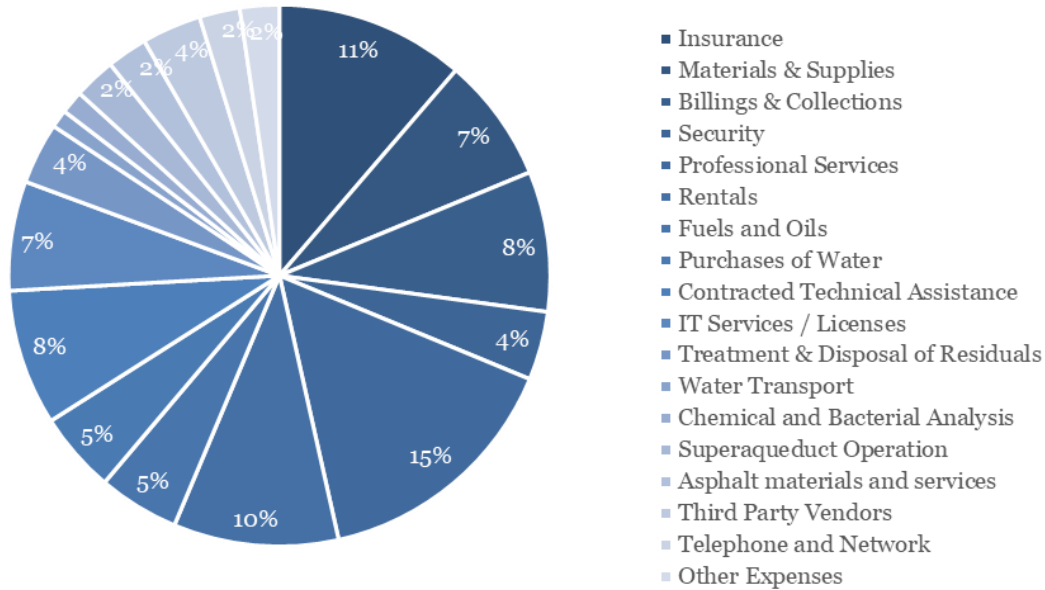
2.4.1 Maintenance and Repair

Maintenance and repair costs are projected at over \$60 million per year, representing PRASA’s fourth largest expense category within its operating budget. The maintenance cost includes only external contractor spend for both corrective and preventive maintenance and incremental costs of complying with the SSOMP, as required by the USEPA. FY2023 and FY2024 costs have been projected based on the specific requirements from operations and for subsequent years, PRASA has included an annual increase for this cost category based on the projected annual inflation rate (see Exhibit 2-7 above).

2.4.2 Other Expenses

This expense category includes all other Operating Expenses, at around 23% of the total operating budget, not covered in the prior categories. This category of “other” Operating Expenses increases over time at the projected inflation rate (see Exhibit 2-7 above). Exhibit 2-10 included below presents the dispersed nature of the Other Expenses category.

EXHIBIT 2-10: OTHER EXPENSES BREAKDOWN (FY2023 PROJECTION)



2.4.3 Summary of Projected Pre-Measures Expenses

Total operating expenses during the Fiscal Plan Period are summarized in Table 2-6.

TABLE 2-6: PRE-MEASURES PROJECTED EXPENSES (IN \$ MILLIONS)

<i>in \$'Millions</i>	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY23/28
Payroll and Related	338.8	335.4	347.1	351.2	353.5	361.4	2,087.3
Electric Power	177.0	202.5	230.1	215.1	218.5	224.7	1,268.0
Chemicals	69.9	73.4	74.4	75.4	76.4	77.5	446.9
Maintenance & Repair	60.5	61.3	62.2	63.0	63.8	64.7	375.5
Other Expenses	193.5	203.4	205.2	207.9	210.7	213.6	1,234.4
FEMA Reimbursement	(15.0)	(17.0)	-	-	-	-	(32.0)
Capitalized Expenses	(22.3)	(23.2)	(24.8)	(24.6)	(24.9)	(25.4)	(145.3)
Operating Expenses, Net	802.3	835.9	894.1	888.0	898.1	916.5	5,234.8

2.5 Capital Improvement Program

One of PRASA’s main priorities is the successful and efficient execution of its CIP projects. In the aftermath of the 2017 Hurricanes and the 2020 Earthquakes and more recently Hurricane Fiona in 2022, a material portion of the CIP was designated for the reconstruction of all critical infrastructure required to achieve compliance with industry standards and protect public health and the environment. Additionally, the CIP includes projects aimed at meeting mandatory compliance with the 2015 USEPA Consent Decree and the 2006 Drinking Water Settlement Agreement, as well as projects to renew and replace aging infrastructure, optimize and simplify the System mitigation and resiliency projects, and modernize technology.

Specific funding matters for CIP reconstruction projects as provided by FEMA are discussed in greater detail in Chapter 4.2. Given the large number of PRASA’s assets eligible for funding, FEMA developed FAASt, an accelerated award strategy, using the cost estimates of a sample of assets to extrapolate the results to the total population of assets. As a result of FAASt, PRASA agreed to a total award of \$4.1 billion with a net obligation of \$3.66 billion of FEMA funds for the System’s recovery and over \$400 million in projected cost share is expected to be met with CDBG-DR funds. This federal obligation process required a detailed review of the CIP with the objective of maximizing the award by including new projects and consolidating others.

The Pre-Measures Financial Results do not include any expected bond issuance or external financing for the CIP. Instead, for the baseline projections, the CIP is expected to be financed exclusively through operating revenues and obligated FEMA, ARPA, and CDBG-DR funds. Additional funding from SRF (including Bipartisan Infrastructure Law funding) and USDA-RD Programs is incorporated under the New Financing for CIP in Section 3.1.3.

2.5.1 CIP Phases and Components

Once a project has been developed to the point that it has a clear project charter that formalizes its requirement and existence, the CIP construction projects are implemented through phases, as illustrated in Exhibit 2-11.

EXHIBIT 2-11: CIP PHASES & ACTIVITIES



Costs associated with project construction include direct construction costs, planning, studies, engineering design, inspection, services during construction, owner-controlled insurance, project management, administrative expenses, financing costs and other expenses related and inherent to construction. The CIP cost projections also include a contingency reserve for unexpected costs that could occur during the life cycle of the project. The contingency amount is based on industry guidelines, historical experience, and complexity of the project. If unspent after completion of the project, this reserve is released to be used for other CIP projects.

2.5.2 CIP Projects Classification and Prioritization

PRASA’s CIP projects are classified into the following categories:

- **FAASt or Reconstruction & Recovery Projects:** Projects to repair capital infrastructure impacted by the 2017 Hurricanes, 2020 Earthquakes and 2022

Hurricane Fiona to industry standards and based on a workplan submitted to FEMA on April 8, 2021, as subsequently updated for costs related to the 2017 Hurricanes.

- **Renewal and Replacement (R&R):** Projects aimed at renewing or replacing aging infrastructure at or near the end of its useful life (e.g., pipelines, pumps, motors, etc.).
- **Compliance (Mandatory/Non-mandatory):** Projects required by agreements—including USEPA Consent Decree, PRDOH Drinking Water Settlement Agreement, civil actions, administrative orders, court orders, and other mandatory projects—or those that would be included in future agreements if not completed.
- **Mitigation and Resiliency:** Mitigation projects aim (i) to reduce risks posed by natural disasters and disaster losses, and (ii) to protect life and property from future disasters. Resiliency projects are planned to create an infrastructure to withstand and adapt to changing conditions, and recover promptly and positively from shocks and stresses.
- **Quality:** Projects aimed at increasing the quality of the water and wastewater service provided to customers.
- **Fleet and IT:** Replacement of vehicles in PRASA’s fleet and IT infrastructure improvements.
- **Optimization and Emergencies:** Projects to increase efficiency and infrastructure emergencies and contingencies.
- **Safety and Growth:** Projects to allow for Systems growth and increased security at PRASA’s facilities.

A clear and objective project prioritization process is key to identifying critical projects across the CIP portfolio and ensuring the most important projects are prioritized. A well-defined scoring criterion for all capital projects is standard practice across water and wastewater utilities.

Currently, PRASA’s prioritization methodology is focused on mandatory compliance projects, but through its updated 10-year Master Plan, PRASA expects to develop a prioritization methodology for all projects in PRASA’s CIP. The implementation schedule for future long-term projects will then be subject to its prioritization position and funds availability.

2.5.3 CIP Projects Status

As of March 31, 2023, PRASA had 224 active projects in different stages for a total investment of \$4,414 million as included in Table 2-7.

TABLE 2-7: ACTIVE PROJECTS BY STAGE

Stage	# Projects	Investment (\$M)	%
Pre-Planning	5	\$ 921	20%
Planning	61	1,196	27%
Design	37	845	21%
Bidding/Contracting	38	757	28%
Construction	57	632	13%
Completed	26	63	1%
Total	224	\$ 4,414	100%

2.5.4 CIP Main Projects

As of March 31, 2023, PRASA had 57 active projects in construction. The projects included in Table 2-8 are the major projects – based on impact – currently under construction.

TABLE 2-8: MAIN PROJECTS UNDER CONSTRUCTION

Project	Funding Source	Expected Investments (\$M)	Status/Progress
Carraizo Lake Dredging	FEMA / CDBG-DR	\$107 M	Construction started on Feb 12, 2023
Rehabilitation of Guayama WWTP	FEMA / CDBG-DR	\$93M	6 % progress
Los Angeles Trunk Sewer (Liner)	FEMA/CDBG-DR	\$15M	20% progress
Caguas Laboratory	FEMA	\$32M	89% progress
New Dorado Trunk Sewer	CWSRF	\$37M	41% progress
Salinas/Guayama Trunk Sewer – Phase 3	CWSRF	\$26M	50 % progress
Rehabilitation Trunk Sewer 42” from PR684 to Barceloneta WWTP	FEMA/CDBG-DR	\$31	Construction started on Feb 20, 2023
Rehabilitation of Arroyo Guayama Trunk Sewer	FEMA/CDBG-DR	\$20	35% progress
Rehabilitation of Ponce Trunk System	FEMA/CDBG-DR	\$16	10% progress
Arroyo Wastewater PS Improvements	CWSRF	\$17	33% progress
Improvements to the Ponce Nueva WTP	DWSRF	\$19	81 % progress
Sewer System at Coabey- Phase II	CWSRF	\$19	1% progress
Rio Grande Estates Trunk Sewer	CWSRF	\$13	69% progress
Coto Laurel WFP Improvements	DWSRF	\$12	80% progress

As of March 31, 2023, PRASA had 37 projects on design and 38 projects on bid process. Some of the most impactful projects under the design or bidding phases as of that date are included in Table 2-9 below.

TABLE 2-9: MAIN PROJECTS UNDER BIDDING OR DESIGN PHASES

Project	Funding Source	Expected Investments (\$M)	Status/Progress
Meter Replacement	FEMA	\$330M	Proposals received Mar. 18, 2022. Master Contract agreed. Pending approvals.
Rehabilitation of Enrique Ortega WTP	FEMA/ CDBG-DR	\$165M	Bid awarded, under impugnation period
Rehabilitation Culebrinas WTP	FEMA / CDBG-DR	\$76M	Bid announced in December 2022
Completion of Valenciano WTP	DWSRF	\$39M	Second bid announced in January 2023
Trunk Sewer Isabel Aguada	FEMA/ CDBG-DR	\$40	Contract signed in April 2023. Construction starts in May 2023
Rehabilitation of Camuy Trunk Sewer	FEMA/ CDBG-DR	\$68	Bid awarded, under impugnation period
Rehabilitation of Caguas Trunk Sewer	FEMA/ CDBG-DR	\$34	Contract signed in April 2023. Construction starts in May 2023
Rehabilitation of Hormigueros and Mayaguez Trunk Sewer	FEMA/ CDBG-DR	\$28	Bid Award scheduled for May 2023
Patillas -Guayama Trunk Sewer	CWSRF	\$26	Contract to be signed on May 2023
Drainage, Sewer and Water Distribution System at Buena Vista Community - Santurce	ARPA	\$113	Design in progress
Carolina WWTP Improvements Phase 2	FEMA/ CDBG-DR	\$75	Design in progress
Mayaguez WWTP Improvements	FEMA/ CDBG-DR	\$74	Design in progress
El Yunque WTP Improvements	FEMA/ CDBG-DR	\$50	Design in progress
Elimination of Maunabo WWTP & Trunk Sewer Maunabo-Patillas	FEMA/ CDBG-DR	\$45	Design in progress
New WTP at Salinas	FEMA/ CDBG-DR	\$44	Design in progress
Improvements to Vieques WWTP	FEMA/ CDBG-DR	\$42	Design in progress

Project	Funding Source	Expected Investments (\$M)	Status/Progress
Rehabilitation Hatillo Camuy – WTP	FEMA/CDBG-DR	\$34	Design in progress
Improvements to Santa Rosa water intake at Guaynabo WTP	FEMA/CDBG-DR	\$48	Design started in January 2023

2.5.5 CIP Projections

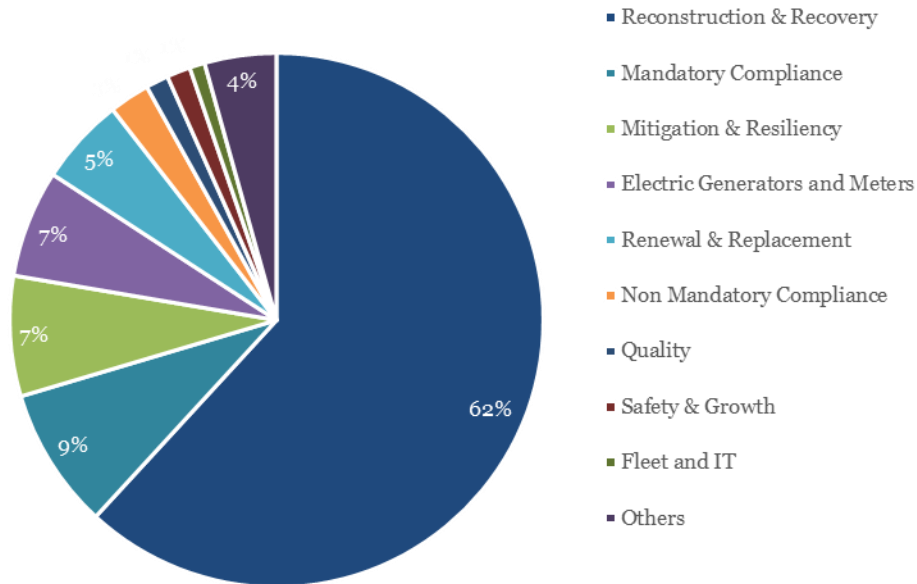
The projected CIP spending during the Fiscal Plan Period is included in Table 2-10 below.

TABLE 2-10: PROJECTED CIP (IN \$ MILLIONS)

<i>in \$Millions</i>	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY23/28
Reconstruction & Recovery	117.0	526.8	925.0	1,106.1	828.1	545.2	4,048.3
Mandatory Compliance	34.4	119.5	165.2	101.9	84.3	54.1	559.5
Mitigation & Resiliency	0.8	7.1	41.9	171.2	127.8	128.1	476.8
Renewal & Replacement	49.4	67.4	44.1	45.0	65.0	75.0	345.9
Non Mandatory Compliance	34.4	62.8	40.9	9.1	5.7	7.6	160.6
Quality	12.8	30.7	35.0	10.2	0.5	0.7	89.8
Safety & Growth	7.3	30.8	39.9	13.7	0.3	1.5	93.5
Fleet and IT	16.0	13.8	12.8	5.0	5.0	8.0	60.5
Electric Generators and Meters	16.1	42.5	115.4	84.0	82.3	85.2	425.5
Others	21.1	54.5	82.1	66.0	46.3	14.9	284.9
Total	309.2	955.9	1,502.4	1,612.3	1,245.3	920.3	6,545.3

Exhibit 2-12 illustrates that almost 80% of the CIP is related to Reconstruction & Recovery, Mitigation & Resiliency, and Compliance projects (mandatory and non-mandatory).

EXHIBIT 2-12: CIP BREAKDOWN BY CATEGORY (FY2023-FY2028)



The CIP is assumed to be fully funded by PRASA’s operating revenues and reserves in addition to insurance, FEMA, CDBG-DR²⁰ and ARPA proceeds.

A summary of the pre-measures projected sources for the CIP spending over the Fiscal Plan Period is included in Table 2-11 below:

TABLE 2-11: REQUIRED SOURCES FOR CIP (IN \$ MILLIONS)

<i>in \$Millions</i>	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY23/28
Beginning Cash Balance Use	83.5	99.3	54.1	3.1	-	-	240.1
FEMA/CDBG DR	128.6	553.7	1,103.7	1,361.9	999.4	684.7	4,832.0
CDBG Mitigation	0.4	13.4	15.6	23.2	50.5	79.5	182.6
ARPA and Other Funds	7.0	31.2	86.4	72.7	55.1	10.2	262.6
Operating Revenues	89.7	258.3	242.6	151.3	140.3	145.9	1,028.1
Total	309.2	955.9	1,502.4	1,612.3	1,245.3	920.3	6,545.3

Additional sources of funds for the CIP, such as SRF and RD funding are included as the results of the new measures, as further described in Section 3.1.3, New Financing for CIP.

²⁰ Assumes the obligation of FEMA funds for 90% of the total Reconstruction and Recovery projects and CDBG-DR Program funds for the local cost share portion of 10%

2.6 Debt Service and Other Deposits Required Under the Master Agreement of Trust (MAT)

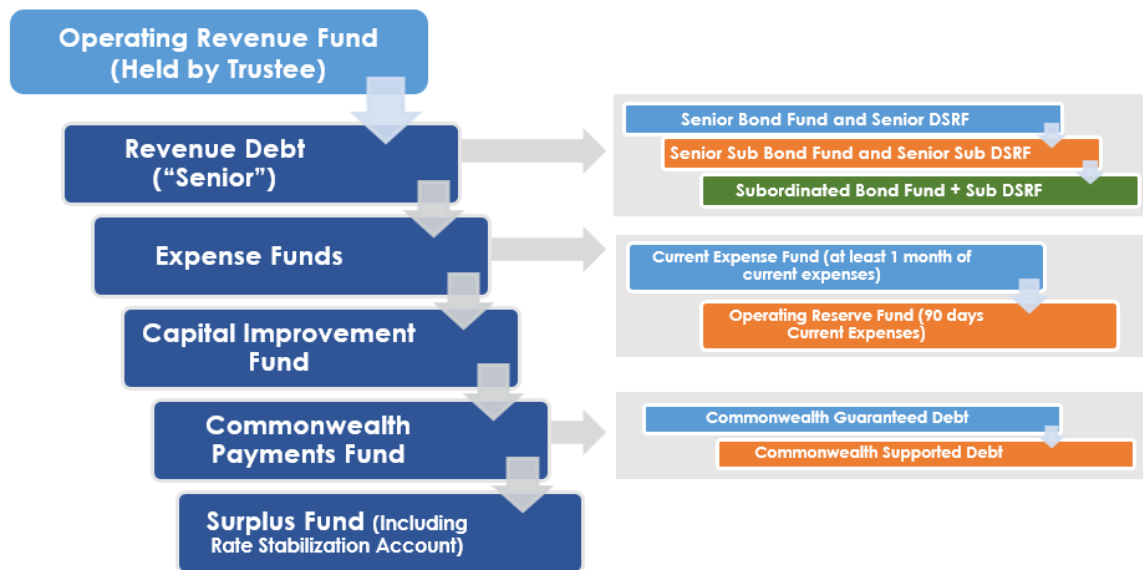
Debt service costs included in the Pre-Measures financial results reflect PRASA’s current debt structure and contractual obligations, incorporating the benefits from the Federal Debt modification completed in July 2019, the refunding of a substantial portion of the 2008 Senior Bonds and all of the 2008 Guaranteed Bonds, completed in December 2020, and the refunding of the 2012 Senior Bonds completed in August 2021 and June 2022.

2.6.1 MAT Payment Priorities

The MAT, executed in 2008, as subsequently amended, establishes the way that PRASA’s revenues are to be applied to the payment of debts and the lawful priorities for payment thereof, among other things.

The payment priority of the different levels of debt service and other required deposits under the MAT is presented in Exhibit 2-13.

EXHIBIT 2-13: MAT PAYMENT PRIORITIES²¹



The payment priority established by Article V of the MAT is outlined below:

- **Revenue or Senior Debt:** Currently, all of PRASA’s debt consists of Senior Debt—including Other System Indebtedness held by the Federal Lenders—which is paid from operating revenues prior to the payment of current expenses.
 - Senior debt service includes payments related to the 2008 Senior Bonds (CABs), 2020 Senior Bonds, 2021/2022 Bonds, and the Federal Debt.

²¹ Bondholders consented to amend the MAT to change the revenue pledge from a gross revenue pledge to a net revenue pledge, to become effective when the holders of all senior indebtedness, including the Federal Lenders, consent to the amendment.

- The remaining 2008 Senior Bonds outstanding are entitled to the benefits of a Debt Service Reserve Fund that is currently funded in full and is expected to be released on or before July 1, 2024, subject to certain conditions. The remaining senior debt does not have the benefit of a debt service reserve fund.
- **Expense Funds:** Accounts for two funds to cover operating expenses:
 - Current Expense Fund: On a monthly basis, after the payment of debt service, the Trustee deposits in the Current Expense Fund, at PRASA’s request, at least one month and up to three months (90 days) worth of current expense needs.
 - Operating Reserve Fund: PRASA is required to maintain an Operating Reserve Fund equal to three months of current expenses. The Operating Reserve Fund is currently fully funded.
- **Capital Improvement Fund:** The amount to be deposited in the Capital Improvement Fund is set forth in PRASA’s annual budget and is used to pay for the portion of CIP funded from the Authority’s revenues. Under the Pre-Measures Financial Projections, the total amount required for the CIP (net of FEMA, CDBG-DR and ARPA proceeds) is expected to be funded solely by PRASA’s cash balances and operating revenues. The benefit of expected additional funds for the CIP from SRF and USDA-RD Programs is included in Chapter 3, under Section 3.1.3, “New financing for CIP”.
- **Commonwealth Payments Fund:** Currently PRASA has no outstanding balance from debts to be paid from this fund, which are the CGI and CSO.
 - **Commonwealth Guaranteed Indebtedness (CGI):** Included debt issued by PRASA guaranteed by the Commonwealth. After the modification of the Federal Debt and the issuance of the 2020 Senior Bonds that refunded all of the 2008 Revenue Refunding Bonds, guaranteed by the Commonwealth, there is no outstanding debt under this category.
 - **Commonwealth Supported Obligations (CSO):** Included a portion of the 2011 Series B Bonds issued by PFC in December 2011 to refinance certain outstanding debt related to the construction cost of the North Coast SuperAqueduct.

On January 20, 2022, AAFAF, on behalf of PFC, entered into a Restructuring Support Agreement (the “PFC RSA”) with holders of a majority of those certain Series 2011A, Series 2011B, and Series 2012A Commonwealth Appropriation Bonds (the “PFC Bonds”). The PFC RSA provides for a restructuring and discharge of the PFC Bonds under a Title VI Qualifying Modification (the “PFC Qualifying Modification”). The PFC RSA further provides that the Notes, including by the Authority, for the repayment of the PFC Bonds will be cancelled and extinguished under the PFC Qualifying Modification and the Authority will be discharged from any liability arising from or related to such promissory notes.

On October 25, 2022, AAFAF, on behalf of PFC, and the Oversight Board launched solicitation of the PFC Qualifying Modification. On October 28, 2022, the Oversight Board, as the Title VI Administrative Supervisor, commenced a Title VI proceeding in the U.S. District Court for the District of Puerto Rico.

On December 30, 2022, the District Court entered an order approving the PFC Qualifying Modification. On January 12, 2023, the PFC Qualifying Modification went effective. The PFC Bonds and Notes were thus discharged and extinguished. Therefore, PRASA does not have any outstanding CSO debt nor obligations thereunder since January 2023.

- **Surplus Fund:** After making all required deposits to the funds set forth above and any other fund required under the terms of the MAT, any excess cash can be deposited into the Surplus Fund to be used at the discretion of PRASA. As part of the Surplus Fund, a Rate Stabilization Account (RSA) can be created to cover any operating needs in the future and minimize the need for rate increases.

In connection with the issuance of the 2020 Senior Bonds and the 2021/2022 Bonds, as further explained in Section 1.3.2, PRASA has proposed certain amendments to the MAT to, among other things, change the current order of payments, under which revenues are applied to provide for the payment of current operating expenses ahead of deposits for debt service on outstanding Senior Debt. The holders of the 2020 Senior Bonds and the 2021/2022 Bonds have consented to these amendments. The amendments will become effective upon receipt of written consent of all the holders of Senior Debt, including the Federal Lenders.

2.6.2 Contractual Debt Service

PRASA's debt as of March 31, 2023, is presented in Table 2-12.²²

TABLE 2-12: OUTSTANDING LONG-TERM DEBT AS OF MARCH 31, 2023

<i>In \$ Millions</i>	31-Mar-23
<i>Senior Bonds</i>	
2008 Series A Bonds (CAB)	46.2
2020 Series A Bonds	1,305.5
2020 Series B Bonds	17.1
2021 Series A Bonds	85.3
2021 Series B Bonds	827.5
2021 Series C Bonds	155.1
2022 Series A Bonds	527.7
	2,964.4
<i>Other Senior Indebtedness</i>	
2019 State Revolving Fund Loans	560.7
New State Revolving Fund Loans*	41.5
2019 Rural Development Loans	395.4
	997.6
Total Senior Debt	3,962.0

* Since August 2020, the Authority has closed on \$237.4 million in new SRF loans. The balance shown reflects amounts drawn down under the new SRF loans as of March 31, 2023

The Authority's Pre-Measure projected debt service, excluding new SRF funds received after the 2019 debt modification, during the Fiscal Plan Period is included in Table 2-13:

²² <https://www.acueductospr.com/outstanding-senior-bonds>

TABLE 2-13: PROJECTED DEBT SERVICE (IN \$ MILLIONS)

<i>in \$Millions</i>	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY23/28
Senior Debt	244.5	246.5	243.7	246.2	245.0	245.7	1,471.5
Commonwealth Payment Fund	-	-	-	-	-	-	-
Projected Debt Service	244.5	246.5	243.7	246.2	245.0	245.7	1,471.5

2.6.3 Other Deposits Required by the MAT

Deposits under the baseline scenario that are projected to fund a portion of PRASA’s CIP and to maintain the Operating Reserve Fund balance required under the MAT (varying based on the projected level of operating expenses) are included in Table 2-14:

TABLE 2-14: OTHER DEPOSITS REQUIRED BY THE MAT (IN \$ MILLIONS)

<i>in \$Millions</i>	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY23/28
Operating Reserve Fund	12.1	6.4	12.5	(3.8)	0.3	2.4	29.8
Capital Improvement Fund	89.7	258.3	242.6	151.3	140.3	145.9	1,028.1
Total Other Deposits	101.7	264.7	255.0	147.5	140.6	148.3	1,057.9

Projected deposits to the ORF assume that PRASA does not make any withdrawals from such reserve throughout the Fiscal Plan Period. The ORF is projected to be fully funded at the end of each fiscal year during the Fiscal Plan Period.

Deposits to the Capital Improvement Fund reflect the amount required to be deposited in such fund from operating revenues, after using funds available for the CIP and projected federal funds, including sources for Reconstruction and Recovery projects, are deducted from the CIP needs. The deposits are presented prior to considering the projected inflow of additional federal funds for the CIP such as SRF and RD funding.

2.7 Pre-Measures Financial Projections Summary Pre-Measures Financial Projections.

Table 2-15 describes the major assumptions discussed above and used for the development of the Pre-Measures Financial Projections.

TABLE 2-15: SUMMARY OF THE PRE-MEASURES FINANCIAL PROJECTIONS (2024/2028)

Revenues	Average Annual Billing Change (Residential)	-0.26%	Expenses	Headcount by FY 2028	4,950
	Average Collections Rate	96%		Average Electricity Cost (cents/kWh)	\$0.33
	Average Annual Rate Increase	2%		Average Expenses Growth (inflation)	1.47%
CIP	Average Annual CIP FY24/28 (in \$'M)	\$1,247	Expenses	Expense Capitalization Rate	2.70%
CIP Funding	Operating Revenues, FEMA, CDBG-DR and ARPA		Debt Service	Contractual debt as reprogrammed and refunded	

Table 2-16 included below presents a summary of the Pre-Measures Financial Projections for FY2023-FY2028. Total pre-measures need/deficit of \$1,169.4 million is shown with the majority attributable to CIP needs, assuming no external funding or additional federal funds beyond the forecasted funds for Recovery and Reconstruction projects and ARPA.

TABLE 2-16: PRE-MEASURES FINANCIAL PROJECTIONS (IN \$ MILLIONS)

<i>in \$Millions</i>	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY23/28
Authority Revenues	1,083.5	1,107.3	1,123.6	1,107.6	1,092.1	1,080.7	6,594.7
Senior Debt Service	(244.5)	(246.5)	(243.7)	(246.2)	(245.0)	(245.7)	(1,471.5)
Net Operating Expenses	(802.3)	(835.9)	(894.1)	(888.0)	(898.1)	(916.5)	(5,234.8)
Operating Reserve Fund	(12.1)	(6.4)	(12.5)	3.8	(0.3)	(2.4)	(29.8)
Capital Improvement Fund	(89.7)	(258.3)	(242.6)	(151.3)	(140.3)	(145.9)	(1,028.1)
Pre-Measures Financial Need	(65.1)	(239.8)	(269.2)	(174.1)	(191.6)	(229.8)	(1,169.4)

This Certified Fiscal Plan, as further discussed in Chapter 3, identifies several measures, including but not limited to the already approved rate increase for future years and the metering optimization program which are projected to generate additional revenues. Additionally, this Certified Fiscal Plan includes new funding for the CIP and other expense reduction measures with the goal of eliminating the projected baseline financial need/deficit and ensuring PRASA's financial responsibility as demonstrated in the following Chapter.

3 Certified Fiscal Plan Measures and Post-Measures Financial Projections

One of PRASA’s primary financial objectives is to achieve fiscal responsibility while ensuring continued investments in the System. Achieving fiscal responsibility through the elimination of structural deficits and the implementation of the measures set forth herein will ensure the Authority has the necessary resources to provide safe, reliable, and affordable water and wastewater services to the people of Puerto Rico. PRASA has already made significant strides toward achieving these goals, and has completed the following milestones: (i) implementing moderate, annual rate increases since 2018 and a new revised structure implemented in July 1, 2022; (ii) modifying of the terms of the Federal Debt in 2019; (iii) reducing debt service through the refunding of a substantial portion of the 2008 Bonds, and all of the 2012 Bonds in 2020 and 2021/2022, respectively; and (iv) securing \$3.66 billion in FEMA funds in 2021 for Systems recovery and reconstruction after the 2017 Hurricanes. These improvements in PRASA’s financial condition have in turn positioned the Authority to invest additional resources to upgrade key operational areas and its infrastructure.

PRASA is now focusing on investments to ensure delivery of essential public services, including: (i) addressing its high Non Revenue Water (NRW) levels through initiatives to reduce commercial and physical water losses and (ii) investing in critical upgrades to its aging Systems with available federal funding.

This Chapter summarizes a set of new measures across categories, such as revenue enhancement, cost savings, and new funding for infrastructure projects. In addition to measures that will improve PRASA’s fiscal responsibility, several enabling measures have been identified that will help to improve operational performance and project delivery.

If successfully implemented and maintained, the measures outlined in this Chapter will further improve PRASA’s financial situation along with its operational performance and capital delivery.

3.1 New Measures Summary

PRASA must implement the new measures discussed herein to ensure PRASA’s long-term fiscal responsibility and to ensure the Authority can continue to provide safe, reliable, and affordable water and wastewater service that the people of Puerto Rico deserve. Four broad categories of measures are incorporated in the Post-Measures Financial Results:

1. **Revenue Enhancement Measures:** measures targeting adequate cost recovery levels executed through future rate adjustments and improvements in billing accuracy.
2. **Expense Reduction Measures:** measures to reduce PRASA’s overall expenditures through operational optimization, mostly by reducing physical water losses and electricity costs.
3. **New Financing for CIP:** securing additional federal funding to finance the CIP.
4. **Enabling Measures:** measures to facilitate the successful implementation of this Certified Fiscal Plan help to instill principles of long-term financial responsibility and operational sustainability throughout the organization.

A summary of the expected net benefit for each individual measure is included in Table 3-5, at the end of this chapter.

3.1.1 Revenue Enhancement Measures

PRASA is pursuing two major measures directed at increasing revenues:

- **Rate Adjustments:** the new simplified rate structure includes a minimum annual adjustment of 2% alongside an annual cap of 5%, subject to actual projected needs. These moderate adjustments are consistent with standard utility practices to allow PRASA to increase revenue while ensuring citizens can afford the cost increases.
- **Metering and customer service optimization:** several key initiatives, such as replacing old meters with modern, accurate and reliable meters, addressing theft, improving data quality, and improving customer experience and satisfaction, will help PRASA reduce commercial water losses.

3.1.1.1 Rate Structure Simplification and Adjustments

Since 2018, PRASA implemented five moderate rate adjustments as enumerated in Section 2.1.1.1. However, PRASA still required (and requires) additional revenues to continue delivering reliable, affordable, and safe water and wastewater services without reducing critical investments in its System. Therefore, on July 1, 2022, PRASA implemented a new simplified rate structure to incorporate minimum annual adjustments for the subsequent years.

For FY2024 and beyond, PRASA is projecting 2% annual rate adjustments across all customer segments. The new rate structure provides for a minimum of 2% and up to a maximum of 5% rate adjustments, subject to actual needs with a cumulative rate increase cap of 30%. The scope and magnitude of future rate adjustments (FY2024 and beyond) will therefore be dynamic and guided by PRASA's fiscal needs to finance its operations and capital needs, as well to comply with the reserves required by the MAT.

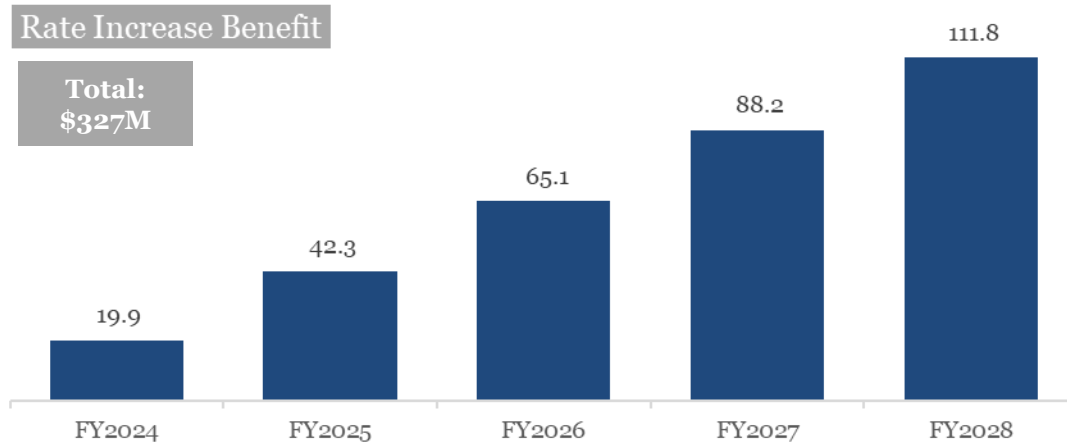
These rate adjustments are not only necessary for PRASA to balance budgets and keep up with rising operating costs, but are also critical to ensure the Authority achieves fiscal responsibility, while maintaining sufficient liquidity for PRASA to fund the large and ambitious CIP described in Section 2.5.

As a result of the new, minimum rate adjustments, PRASA should have sufficient funding to meet all of its current obligations (operational & deposits), while deploying capital as projected in its CIP work schedule, and maintaining healthy levels of cash reserves. Finally, best practices in the water sector²³ suggest that water utilities implementing moderate annual increases should be able to stabilize their service revenues and be better positioned to deliver capital projects.

The accumulated projected impact of future rate increases is illustrated in Exhibit 3-1.

²³ Study on rate increases by water and wastewater utilities of 37 of the top 50 U.S. cities as conducted by Bluefield Research in August of 2021.

EXHIBIT 3-1: RATE ADJUSTMENT PROJECTED BENEFITS (IN \$ MILLIONS)



The following table outlines the key future action items for successful and timely delivery of this measure.

EXHIBIT 3-2: ACTION PLAN FOR RATE ADJUSTMENT MEASURE

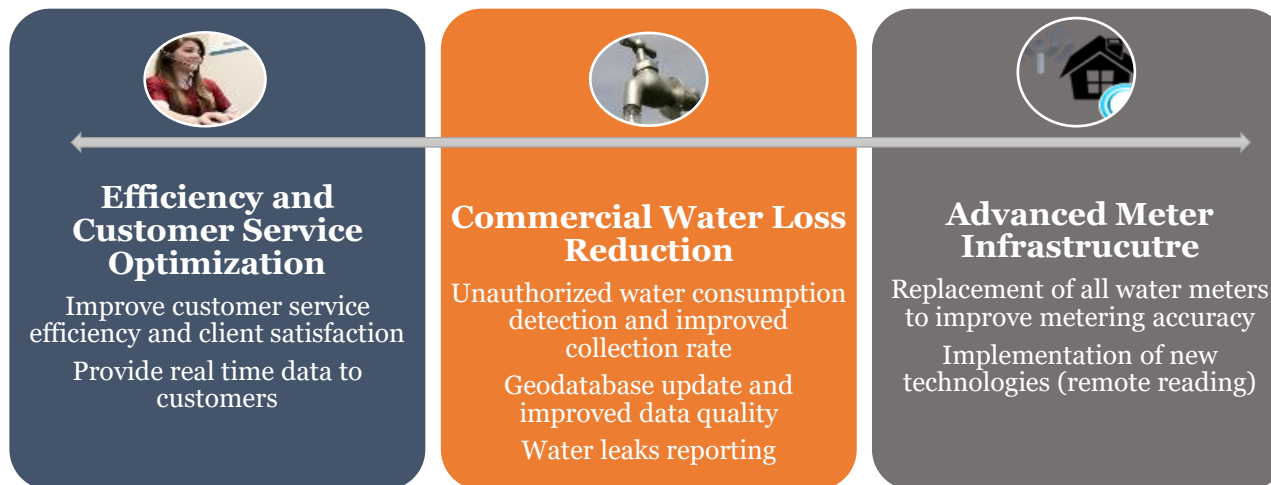
Action Item	Deadline	Owner
Review of actual need for subsequent FY	31-May-23	Finance
Implementation of applicable Rate Adjustment	1-Jul-23	VP of Strategic Planning
Provide status to the Oversight Board on the analysis to assess financial needs	1-Jan-24	Finance

3.1.1.2 Metering Optimization

With respect to NRW reduction one of PRASA’s primary priorities, the Authority analyzed alternative projects to reduce commercial water losses and improve customer experience and satisfaction.

The main objectives of this measure are summarized in Exhibit 3-3.

EXHIBIT 3-3: GOALS FOR METERING & CUSTOMER SERVICE OPTIMIZATION MEASURE



This measure aims to (i) install new, non-mechanical meters (ultrasonic or electromagnetic) in order to implement real-time smart meter technologies, (ii) implement plans to decrease commercial water losses, (iii) identify physical water losses sources, and (iv) improve customer service operation and efficiency.

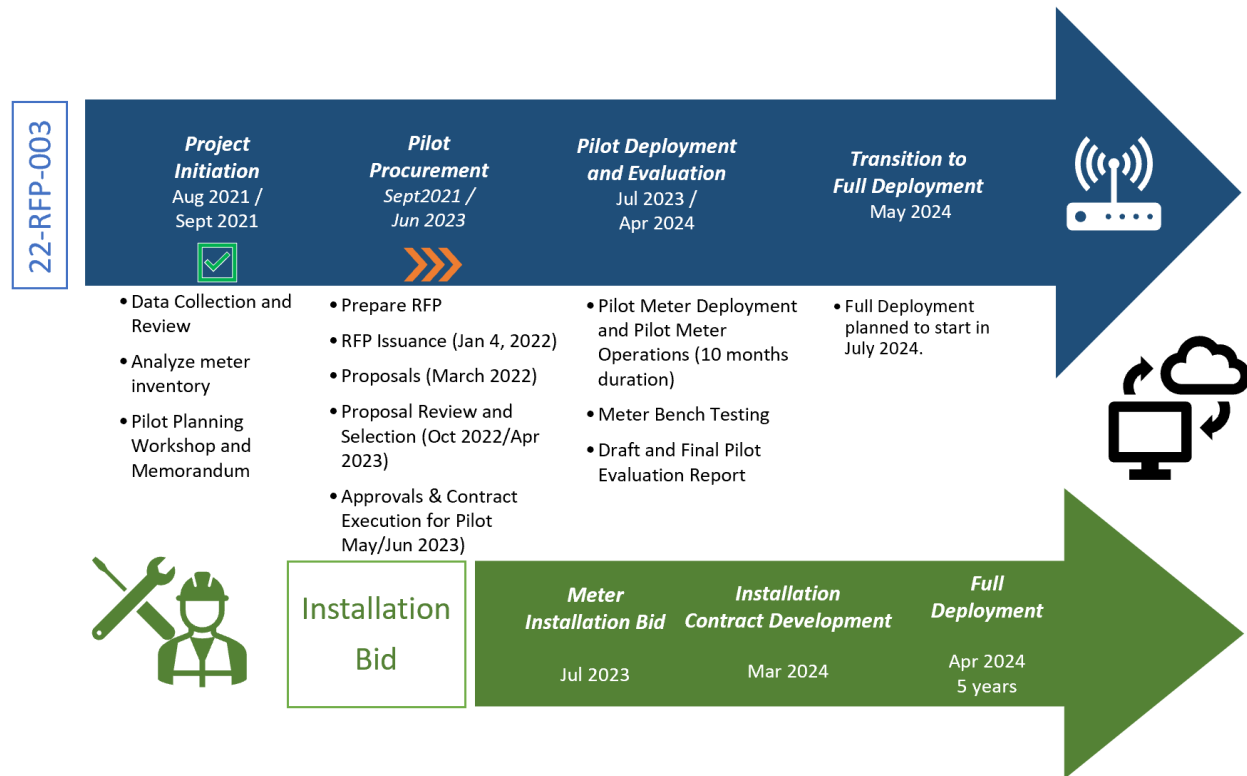
By increasing the accuracy of water meters, PRASA will be able to transition away from estimated commercial losses and achieve a greater level of precision in its measurements. Moreover, by reducing the uncertainty of the System’s apparent losses (commercial losses), PRASA will be able to recover revenues lost to theft and unmetered usage and determine with greater accuracy the volume of actual physical water losses. Ultimately, through this measure, PRASA will be able to appropriately plan its CIP needs and intelligently address the renewal and replacement of its linear (pipe) assets to reduce physical losses.

On January 4, 2022, PRASA, with the support of Arcadis, as its technical advisory for this project, published an RFP for water meters and advanced metering infrastructure (AMI). As a first step, PRASA intends to implement one or more metering pilot projects, which will include approximately 1,000 meters for each pilot/meter brand to be installed by the selected proponents. The results of the pilot projects will be evaluated and will be used to inform the selection of the type of water meters and reading technology that will be deployed across the island. Master contracts will be used, among other things, to purchase water meters, and meter reading technology, to implement integration measures, and to secure specialized services for the island-wide meter replacement program. PRASA will separately select a contractor for the water meter installation services after the pilot phase.

Several proposals in response to the RFP were received on March 18, 2022 and extensive conversations have been held with the proponents. The award is currently under the corresponding approval process. The pilot phase must start after executing the corresponding master contracts. The timeline from pilot start-up, to deployment, operation, and final close-out, as well as proponent selection for the full deployment phase is expected to last 9 to 10 months.

As presented in Exhibit 3-4, the pilot projects are expected to be completed by April 2024, with the transition to full deployment expected to commence by early FY 2025. The full deployment phase will be approximately 5 years.

EXHIBIT 3-4: METER REPLACEMENT PROCUREMENT TIMELINE



This project is expected to (i) improve meter accuracy and precision and therefore increase revenues, (ii) increase the detection and remediation of unauthorized water consumption, and (iii) improve customer service by allowing for remote reading, which will enable PRASA to focus resources on NRW loss reduction. FEMA already assigned \$330 million to finance the project and PRASA expects to receive additional funds from mitigation programs. Exhibit 3-5 illustrates the projected impact of this measure.

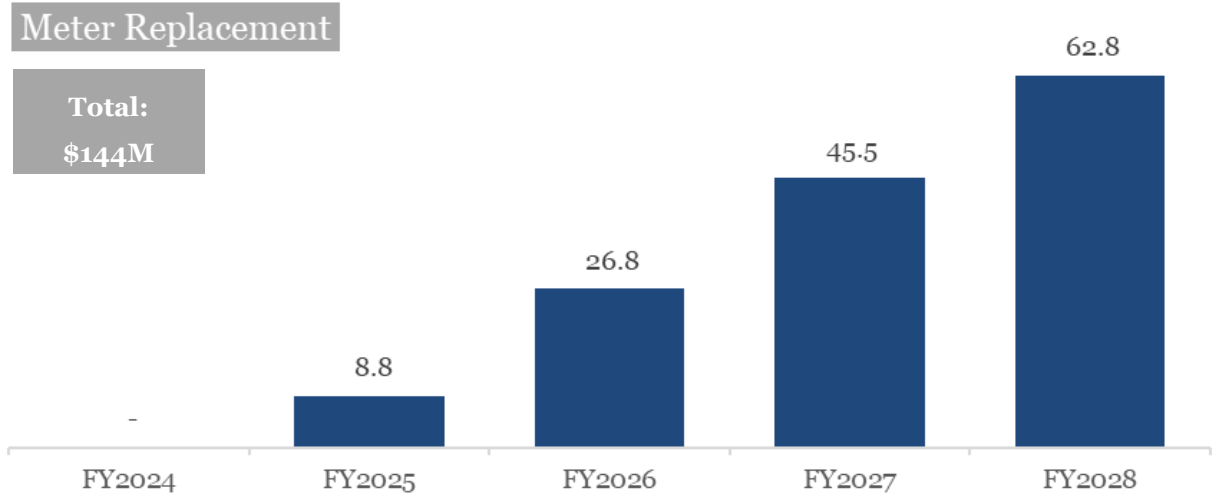
During the pilot phase and prior to its completion, the following studies must be delivered by the selected proponents to be reviewed and if appropriate, accepted by PRASA:

- Full Deployment Implementation Plan –The Plan shall be revised at least annually or more frequently as may be agreed by the Parties in good faith, and must include, but will not be limited to, demand forecast for delivery of Goods (which forecast may be revised on a 12-month rolling basis taking into account supply chain availability restrictions), inventories to be maintained by PRASA, on-going installation planning, schedules for training, network deployment and integration, and related Services. The Full Deployment Implementation Plan must also take into account the necessary steps and actions to implement the Network Design and Integration Design as contemplated and approved by PRASA during the Pilot Phase.
- Integration Design – The purpose of this design is to determine the exchange of data between the proponent of the Automated Meter Infrastructure (“AMI) system, and PRASA’s SAP ISU (billing system) and applicable PRASA information systems. The Integration Design, which shall be PRASA’s property, will include, at a minimum, an overall system integration framework, functional and technical requirements for all integrations, identification of all software components,

implementation approach and timelines, dependencies, maintenance requirements, resources required, level of effort, and cost to implement the integrations.

- Network Design – The network design will involve a technical assessment of the data collection equipment needed for the Island-wide deployment stating key design parameters. This network design will include a final island-wide propagation study and network design as a deliverable during the Pilot Phase. The proponents should develop and deliver a network design for the island-wide deployment, including the development of an updated propagation study. The network design will establish the performance criteria for the system and become the basis for the full deployment and the associated system acceptance testing performed throughout the full deployment.

EXHIBIT 3-5: METERING OPTIMIZATION BENEFITS (IN \$ MILLIONS)



The Action Plan proposed for this measure is included in Exhibit 3-6.

EXHIBIT 3-6: ACTION PLAN FOR METERING OPTIMIZATION MEASURE

Action Item	Deadline	Owner
Proponent Selection and Master Contract	30-Jun-23	VP of Strategic Planning
RFP for meter installation	31-Jul-23	VP of Strategic Planning
Provide status to the Oversight Board on proponent selection and performance	31-Aug-23	VP of Strategic Planning
Meter installation contract award	29-Feb-24	VP of Strategic Planning / Legal
Full Deployment Implementation Plan	29-Feb-24	Selected Proponents
Network and Integration Design	29-Feb-24	Selected Proponents
Pilot deployment completion and acceptance	30-Apr-24	Technical Advisor
Full deployment commencement	31-May-24	VP of Strategic Planning

3.1.2 Expense Reduction Measures

PRASA is pursuing the following measures to reduce operating expenses:

1. **Electricity expense reduction:** reduce electricity costs through increased efficiency and new distributed generation under PPAs or Turn-Key projects.
2. **Physical water loss reduction:** reduce physical water loss through leaks reduction and pressure management, while improving water production measure to detect major areas of opportunity.

3.1.2.1 Electricity Expense Reduction

Electricity expenses are PRASA’s second largest operating cost. Given unpredictable and often rising energy prices, reducing PRASA’s electricity expenses by improving efficiency measures and alternate sources of energy is one of PRASA’s priorities.

PRASA has implemented, among other initiatives, a set of regional level commitments to execute non-capital-intensive energy conservation measures throughout its facilities. Regional initiatives include measures such as facility consolidations, minor repairs, operational optimization, and installations improvements. Since FY2013, PRASA has reduced its electricity consumption by over 13%, from over 740 million kWh to around 640 million kWh.

Efficiency measures can be achieved by some non-capital-intensive measures such as:

- Performing further operational improvements focused on conservation measures in its water treatment plants (WTPs) and wastewater treatment plants (WWTPs)

- Leveraging hydraulic modeling analyses and optimization efforts to reduce energy consumption in the water distribution and wastewater collection system (i.e., pump station facilities)
- Providing more flexibility to the System, reducing, and optimizing the hours of operation at the facilities
- Identifying energy conservation measures in equipment operation

Through the measures set forth above, PRASA must further reduce its consumption by almost 15 million kWh by FY2028, which is roughly 2.5% of its total energy consumption.

PRASA has received proposals for additional renewable/alternate energy, such as waste-to-energy, hydroelectric generation, hydrogen cells, liquefied natural gas, liquefied propane gas, biogas (anaerobic digestion) and additional photovoltaic energy projects. These projects will be evaluated and ranked on a case-by-case basis. Evaluations will take into account the Master Plan priorities in order to make an informed decision based on: (i) most convenient economic performance, (ii) viability, (iii) purpose (savings vs. resiliency), (iv) PRASA's prior experience with different technologies, (v) applicable regulatory and other requirements and limitations (such as PREPA/LUMA requirements and/or PREB regulations), (vi) the all-in life cycle cost of the project (which must be lower than the avoided utility electricity cost), and (vii) the financing source (priority given to projects qualifying for available reconstruction funds or other federal grants).

The financial projections included herein reflect the increased efficiency associated with a project recently included in PRASA's CIP. The project consists of implementing a microgrid for the Superaqueduct raw water pumping station, with an annual energy consumption of approximately 60 million kWh, or around of 10% of PRASA's yearly consumption. This pumping station would operate totally off-grid and would be powered by liquid natural gas and photovoltaic energy. This project would provide resiliency for one of PRASA's main facilities, which pumps 100MGDs to one of PRASA's main water filtration plants that produces 20% of the island's total water production. The project is expected to be operational by the end of calendar year 2026 and shall be financed with hazard mitigation funds.

The Master Plan, as further described in Section 3.2.1, will define the priorities and the guide for implementing additional efficiency and renewable/alternate energy projects. Based on such guidelines and the projects priorities, PRASA will define the approach to be used for implementing these additional energy projects.

The actual electricity cost savings produced by these measures will largely depend on the best multicriteria opportunities identified in the Master Plan, the funding availability, the cost of electricity supplied by PREPA/LUMA, the implementation timing and on the existence of a well-defined and viable regulatory framework (for instance, wheeling). Based on current projected electricity rates, the financial impact of the measure described herein is illustrated in Exhibit 3-7.

EXHIBIT 3-7: PROJECTED ELECTRICITY EXPENSE REDUCTION (IN \$ MILLIONS)

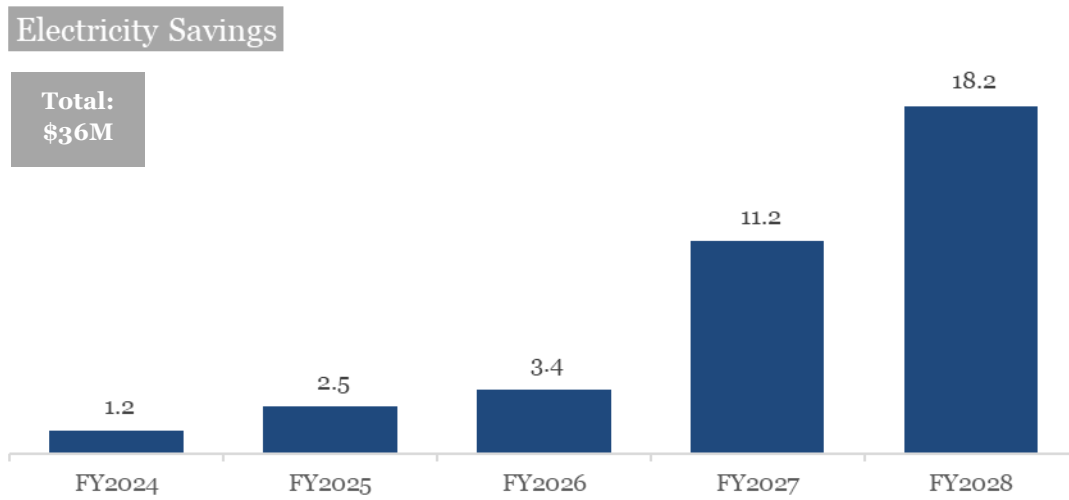


Exhibit 3-8 outlines the required key action items for successful and timely delivery of this measure.

EXHIBIT 3-8: ACTION PLAN FOR ELECTRICITY EXPENSE REDUCTION MEASURE

Action Item	Deadline	Owner
Superaqueduct Microgrid Request for Proposal (RFP)	31-Jul-23	Infrastructure
Superaqueduct Microgrid Design Start	31-Oct-23	Infrastructure
Provide status to the Oversight Board for the Superaqueduct Microgrid and Master Plan energy projects	1-Nov-23	Infrastructure
Present deployment plan for energy projects based on the Master Plan guidance	31-May-24	Infrastructure
Based on the energy deployment plan, define an action plan for implementing new renewable/alternate energy projects	30-Sep-24	Infrastructure
Superaqueduct Microgrid Project Completion	31-Oct-26	Infrastructure

3.1.2.2 Physical Water Loss Reduction

High levels of physical water losses continue to be one of PRASA’s major challenges. Physical losses are due to leaks and breaks throughout the Water System that fails to reach the customer and therefore is not billed. A large percentage of this water is lost following treatment and the incurrance of other production costs. As such, by addressing the high levels of physical water losses, PRASA can adjust water production requirements, thus reducing the strain on its

infrastructure and lowering water treatment costs such as electricity and chemical expenditures. These actions would also potentially reduce the amount of water extracted from the environment, benefiting the preservation of broader water resources of the Island.

PRASA's Water Recovery Office (WRO) is responsible for guiding the Authority's three main physical water loss reduction programs:

1. **Master Meters:** accurately measuring water production by the installation of water meters at critical water treatment facilities;
2. **Pressure Management:** incorporating pressure management best practices across the distribution network; and
3. **Leak Detection and Reduction:** improving identification, prioritization, and resolution of unreported leaks across PRASA's System.

These three measures are central to achieving PRASA's goal of reducing its water losses and therefore its water production. PRASA has contracted an external project manager and engineering consultant since 2020, who has been actively providing support in the execution of these Physical Water Loss reduction measures.

3.1.2.2.1 Master Meters Program

The validation, calibration, or replacement of the meters at water treatment plants and wells (master meters) enables PRASA to obtain accurate information on water production for evaluating and adjusting System performance and to perform water balance calculations.

The goal of this program is to increase the percentage of the Authority's water production that is accurately and reliably measured. As of December 2022, the program replaced or validated/calibrated 159 master meters measuring around 90% of the total potable water throughout the Water System. Currently, the master meters are providing reliable and valuable information on real water production. This is a key component to more accurately define the amount of water losses and to identify reduction opportunities.



PRASA's goal is to reduce the level of estimated water production (i.e., non-metered water) to 5% or less and maintain it at such levels, upon the expected completion of the master meter installation program by the end of FY 2025.²⁴

A total of 87 additional master meters are expected to be installed and/or calibrated from FY2024 to FY2027 with an investment of \$4 million during that period to increase the actual production measured to 100%.

3.1.2.2.2 Pressure Management Program

Pressure management is one of the most basic and effective tools available to address total water losses. Lowering the water pressure within the System promotes a healthy infrastructure, extends

²⁴ Pending master meter installations represent less than 10% of PRASA's water production; due to their smaller scale and large quantity, these pending facilities will be completed within a 2-year timespan to reach the 100% target threshold.



physical life expectancy of the distribution lines, reduces leakages, and thereby minimizes water production requirements. Therefore, implementing a robust pressure management program is an essential effort to significantly reduce its leakage volumes through other means.

Most of the pressure zones in the Island are designed to operate with a focus on minimum pressure requirements and not maximum pressure limits. This results in numerous areas operating with higher than optimal pressure. In an effort to align operational approaches with the execution of the pressure management initiative, the WRO has been working on defining NRW Pressure Zones (NRWPZ). A careful analysis of these zones must then be performed to maximize opportunities to reduce physical losses and therefore reduce water production. The repair, replacement, and installation of new pressure control equipment will allow reducing excess pressure events in the system.²⁵



Pressure management will be the WRO's main priority starting in FY2024, through the implementation of software (Innovyze) to monitor the system components primary variables, such as flow, pressure, and levels. Once implemented, the software will be aligned with telemetry and PRASA's GIS, to enable the balancing of pressure zones Island-wide. This in turn will reduce the possibility of pipeline breaks, leaks and increased operational costs, allowing for greater water availability. Also, the tool will help in forecasting scenarios to identify patterns for production trends, unreported leaks, and pressure fluctuations with the goal of reducing overall reaction times and most important, an expected reduction in water production.

PRASA already identified 45 potential pressure zones to focus the pressure monitoring efforts and adjust pressure zones. The WRO will keep visiting and monitoring the adjusted pressure zones that are required to achieve the MGD reduction goals under this initiative as presented in Exhibit 3-10 below.

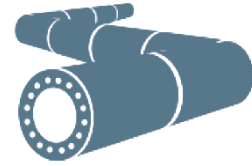
From FY2024 to FY2028 PRASA expects to visit over 100 pressure zones to determine additional areas of improvement at an average annual cost of approximately \$600,000, including equipment, labor, and the operational costs of Innovyze, with a goal of reducing 11MGD (nearly 2% of total water production for FY2022) during that period.

3.1.2.2.3 Leak Reduction Program

Water leaks are one of the main reasons for physical water losses. Leaks can occur in transmission or distribution lines, tanks, and service connections up to the customer meter. An active leak detection program paired with prompt repair is an essential component for lowering and controlling NRW levels.

²⁵ Each PSI lowered is expected to result in 1% reduction of physical water loss; J. Schwaller, Modelling The Effects Of A Large Number Of Leaks In A Water Distribution Network Using The Favard Equation. In Civil Engineering, Water Infrastructure Engineering, M.Sc. Thesis, University of Applied Sciences Karlsruhe. Karlsruhe, Germany, 2012.

PRASA has service contracts with external contractors to identify leaks and prioritize underground infrastructure repairs and replacements. Moreover, PRASA has specialized equipment used to support this initiative, not only to identify existing unreported leaks, but for emergency responses to effectively identify affected distribution pipelines. The WRO is responsible for collecting field data on leak occurrences and guiding regional teams to make repairs.



PRASA is in the process of optimizing its processes, incorporating new technologies such as:

- Detection of leaks through satellite images to visualize the signature of potable water leaks underground, namely moist or wet soil. This specific di-electric signature can be detected by the reflected radar signal and points of interest of likely leaking locations.
 - PRASA invested in a pilot project consisting of satellite imagery for leak identification in an area with 505 miles of pipes. The image provided by ASTERRA, proved to increase the brigade efficiency associated with identifying possible leakage point of interests.
- Comprehensive water distribution analysis and modeling tools to create hydraulic models, spatial analysis, and visualization. These models feed from existing SCADA flow, level and pressure data to define specific additional areas of interest for leak detection in pipelines and information to strategically guide the renewal and replacements of pipes.

During FY2023 additional brigades were finally contracted to accelerate the program in PRASA's five regions in order to increase leak reparations commonly referred to as operational brigades. As of February 27, 2023, PRASA has analyzed 658 miles of water pipes to detect leaks, located 141 leaks, and recovered approximately 9 MGD of water.

During FY2024 PRASA must keep optimizing the Leak Detection initiative, maintaining the usage of ASTERRA for additional test scenarios like gravity feed distribution and/or multiple satellite images on pre-selected areas. At the same time, Innovyze (previously mentioned) will help to identify additional leakage areas of interest based on pressure and flow correlations. In addition to the investment in such innovative tools, PRASA will benefit from proven software algorithms to predict water loss, promote production reduction, and direct asset management investments.

During the next fiscal year, the WRO will focus on the Metro Region which represents approximately 38% of the total Island's physical loss.

PRASA expects to analyze over 1,600 miles of pipeline on an annual basis and based on a 0.36 leaks per mile and 0.0175 MGD lost per leak, an annual recovery of approximately 10MGD per year is projected at an average annual cost of \$2.8 million, including brigades and the additional cost for the ASTERRA services.

3.1.2.2.4 Physical Water Loss Reduction Projected Financial Impact

The projected savings and costs of the physical water loss initiatives is included in the following Table 3-1.

TABLE 3-1: PROJECTED BENEFITS AND COSTS

<i>In \$Millions</i>	FY2024	FY2025	FY2026	FY2027	FY2028	Total
Recovered MGD	11.1	11.4	13.2	14.1	14.4	64.1
<u>Benefit / Cost Savings</u>						
Pressure Management	\$ 0.9	\$ 1.6	\$ 2.0	\$ 2.6	\$ 3.2	\$ 10.4
Leak Detection	4.0	7.0	9.7	13.3	16.9	50.9
Total Savings	4.9	8.6	11.8	15.8	20.1	61.3
<u>Incremental Costs</u>						
Master Meter	(0.6)	(0.5)	(1.5)	(1.5)	-	(4.1)
Pressure Management	(2.5)	(2.6)	(2.9)	(3.1)	(3.1)	(14.2)
Leak Detection	(0.6)	(0.6)	(0.6)	(0.6)	(0.6)	(3.1)
Total Incremental Costs	(3.7)	(3.7)	(5.1)	(5.2)	(3.8)	(21.4)
Net Benefit Initiative	\$ 1.2	\$ 4.9	\$ 6.7	\$ 10.6	\$ 16.3	\$ 39.8

All three initiatives are underway and designed under the guidelines set forth by the AWWA which are not a quick fix and require continued effort through Leak Detection and Pressure Management to proactively identify water losses and correct them.

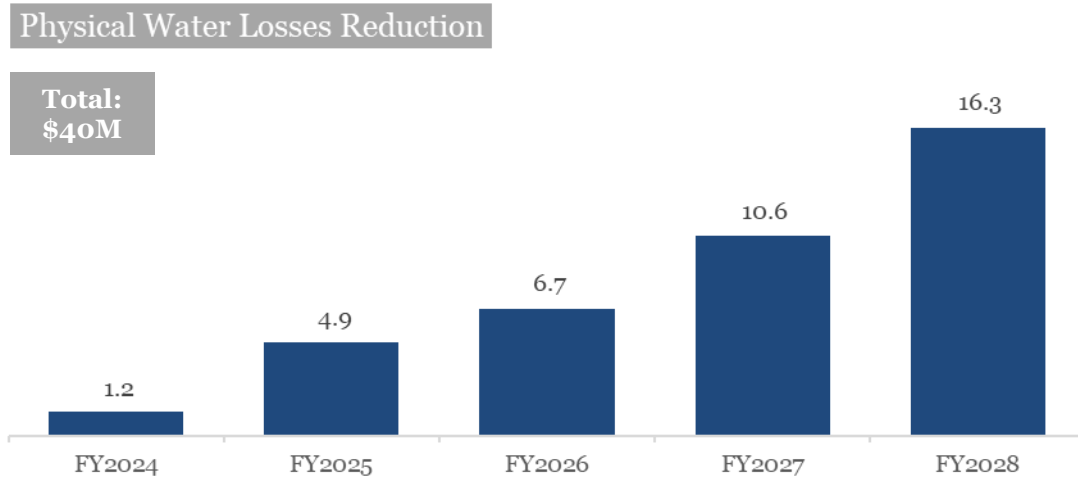
For the next fiscal years, additional investment in the following areas is required to enable reductions to the high levels of physical water losses:

- Acquisition of vehicles with adequate equipment to support pressure management activities.
- Meters to measure water transfer between regions, requiring heavy work investment.
- Additional leak repair brigades (initially estimating 1 or 2 per region)
- Additional tools to better equip field teams.
- Training and knowledge retention.
- Converting valves to WRO Valves (intelligent valves to measure pressure and flow)
- Adding to SCADA (telemetry) system: \$5,000 per facility or equipment.
- Additional field brigades for valve and equipment installations (initially estimating 4 additional brigades)
- Equipment for measuring and visualizing pressure points along distribution lines (initially estimating around 500 equipment for the first year)
- GIS Pro training for internal regional resources (5 resources): \$15,000 per resource.

Additional investments to the NRW program will provide the WRO with more tools, technology, and knowledge to keep improving current results. As previously mentioned, the program will focus its efforts on the Metro Region as it reflects the higher levels of NRW.

Exhibit 3-9 illustrates the total estimated financial impact for FY2024-FY2028 from this measure. Depending on the unit cost of chemicals and electricity, total projected savings by FY2028 are estimated to be up to \$16 million per year, net of the measure’s costs.

EXHIBIT 3-9: PHYSICAL WATER LOSS REDUCTION PROJECTED BENEFIT (IN \$ MILLIONS)



3.1.2.2.5 Milestones and Action plan

In order to implement these NRW reduction measures, PRASA established specific goals for each fiscal year, which are summarized in Exhibit 3-10. Chapter 6 of this Certified Fiscal Plan includes a list of KPIs applicable to this initiative to ensure completion of the goals on a timely basis.

EXHIBIT 3-10: GOALS FOR PHYSICAL WATER LOSS MEASURE

	FY2024	FY2025	FY2026	FY2027	FY2028	Total
Master Meters (MM):						
Installed / Calibrated Meter by year	14	7	20	46	0	87.00
Additional Production Measured (in MGD)	10	10	10	10	0	40.88
Additional % of Measured Production	1.90%	1.90%	1.90%	1.90%	--	7.60%
Pressure Management (PM):						
New Pressure Zones Visits	20	20	20	20	20	100
Projected MGDs Recovery	2.1	2.2	2.3	2.3	2.3	11.13
Leak Detection (LD):						
Projected MGDs Recovery	8.95	9.21	10.87	11.77	12.15	52.96
Total Recovery MGDs	11.1	11.4	13.2	14.1	14.4	64.1

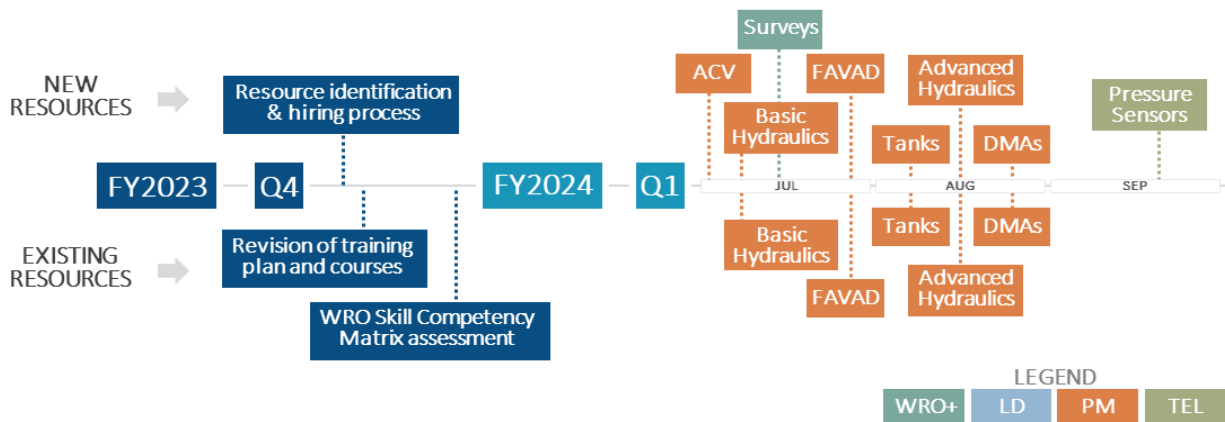
As previously mentioned, PRASA already has in place one field brigade per region. Each brigade consists of two resources equipped with the necessary tools to perform the first two stages of the Leak Detection cycle (Awareness – Location). As for the third stage, Repair, PRASA is planning to contract repair brigades in each region to close the Leak Detection cycle. In FY2024 additional focus must be given to the Pressure Management initiative. As such, PRASA must follow through on plans to hire to work with field pressure management activities.

Thus, PRASA needs to continue focusing on the hiring of new brigades (for Pressure Management and Repair brigades), training for new hires and training refresh for current resources, and the deployment (or redeployment) of every field brigade to continue PRASA’s efforts to reduce NRW Levels.

The WRO expects to recruit two electricians to be trained and dedicated to advanced pressure management to perform installation and troubleshoot issues with the new ACVs (automatic control valves) on selected pressure zones. At the same time, PRASA will re-train existing brigades (North and East), to perform hydraulic assessments on ACVs on specific polygons being serviced from water transfers from the metropolitan area. During the first quarter of FY2024, the resources will be trained to ensure understanding of all ACVs and basic hydraulics concepts. They will also be trained so that the application of FAVAD (Fixed Area Variable Area Discharge) and field electronic survey data gathering are properly understood and applied. In addition, visualization efforts on tanks will be pursued in order to combine pressure management level controls with a status condition signal to the existing level telemetry to be able to determine possible valves malfunction and predict tank overflows. Also, new DMA’s (District Metered Areas) are being evaluated by two WRO Hydraulic Managers, creating new flow district to be controlled and added to the new visualization tools incorporating Advance Hydraulics (Telemetry and control on ACV’s).

The next image is a visual representation of the WRO high-level hiring-training-deployment plan.

EXHIBIT 3-11: HIGH-LEVEL TRAINING PLAN TIMELINE



The plan described above is expected to result in increased efficiency of the WRO. Sites for investigation will be assigned to the brigades, either for PM (pressure management) or LD (leak detection) exercises as needed and pre-programmed. Specifically on the LD exercises, the regional brigades perform the awareness stage for Leak Detection and finalize valve condition assessment and adjustment for Pressure Management. As pre-located points are identified, the field brigade will mark a precise pinpointing and mark them for operational brigades to repair.

Another tool to be used by the WRO team is the ‘Competency Matrix’. This tool will allow the team to visualize the current standing of the WRO and identify individual skillsets in the essential activities the office performs.

The Competency Matrix depicts both the “as is” (current level) and the “to be” (desired or planned) level of competency. Every team member will be listed in the matrix, and each team member will have an identified “as is” and “to be” level for each WRO activity within the initiatives. With this, each team member will identify what skill set they need to be focusing on to increase their knowledge. WRO continuously uses a skill competency matrix (developed internally) to keep track of the training levels and needs for each of the resources.

Exhibit 3-12 lays out the actions required for timely and effective delivery of the overall NRW reduction measure.

EXHIBIT 3-12: ACTION PLAN FOR PHYSICAL WATER LOSS REDUCTION MEASURE

Action Item	Deadline	Owner
Define 20 pressure zones to be optimized and monitored during FY2024	31-Jul-23	WRO
Recruit/contract two electricians for advanced Pressure Management	31-Jul-23	WRO
Complete a plan to achieve the leak detection goal for FY2024	31-Jul-23	WRO
Contract additional brigades, as needed for leak detection/repair or pressure management civil works	31-Oct-23	WRO
FY2023 Water Balance Submission to FOMB	31-Oct-23	WRO
Complete training plan	29-Mar-24	WRO
Complete Master Meters calibration and installation goal for FY2024	30-Jun-24	WRO

3.1.3 New Financing for CIP

In addition to the funds obligated by FEMA, CDBG-DR, and ARPA, PRASA expects to obtain new financing for CIP from SRF and USDA-RD Programs.

After the modification of the Federal Debt, PRASA recovered access to future funding from SRF and USDA-RD Programs. Table 3-2 describes the two federal funding programs for which PRASA now qualifies.

TABLE 3-2: FEDERAL FUNDING PROGRAMS

Program	Description
State Revolving Funds (SRF) Loans	<ul style="list-style-type: none"> Annual grants from USEPA of around \$25 million from DWSRF and CWSRF Programs. Commonwealth match of 20% of annual grants provided by PRDOH and PRDNER. The program’s Repayment Funds are also available, currently with a balance of around \$220 million to be assigned through new loans for qualifying projects without a state match requirement. Additionally, the BIL will grant new funding for water and wastewater infrastructure projects as further described in Chapter 4. During the fiscal plan period over \$190 million are expected to be allocated to PRASA.
Rural Development (RD) Program	<ul style="list-style-type: none"> Based on qualifying projects, annual allocation for Puerto Rico may be up to around \$10 million per year. The funds are expected to be assigned through grants and loans.

PRASA’s opportunities for funding are limited to the cost of qualifying projects and capped at Puerto Rico’s share of the annual appropriation or allocation and repayment funds available through these programs.

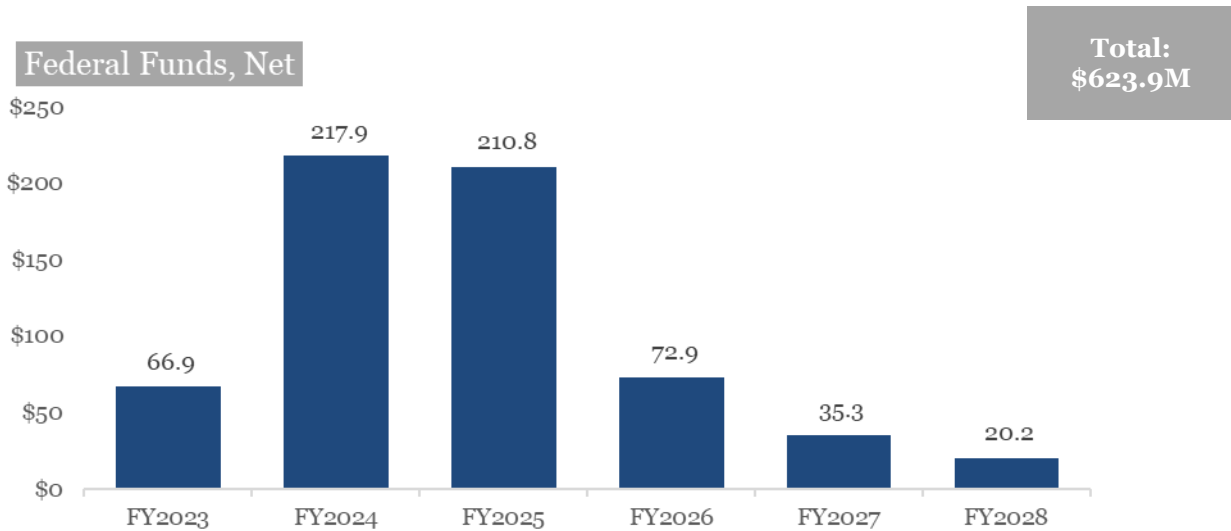
The new funds are the projected net of the expected debt service for such funds, calculated assuming 30-year loans at 1% for the SRF Program and 40-year loans at 4% for the USDA-RD Program. Table 3-3 presents the expected federal funding and corresponding costs during the Fiscal Plan Period.

TABLE 3-3: EXPECTED FEDERAL FUNDING AND COST (IN \$ MILLIONS)

<i>in \$Millions</i>	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY23/28
SRF Funds	68.3	219.6	218.7	92.5	60.6	47.4	707.1
RD Funds	0.8	6.1	8.6	2.9	-	-	18.5
SRF DS	(2.3)	(7.7)	(15.9)	(21.6)	(24.3)	(26.3)	(98.1)
RD DS	(0.0)	(0.2)	(0.6)	(0.9)	(0.9)	(0.9)	(3.5)
New Federal Funds, Net	66.9	217.9	210.8	72.9	35.3	20.2	623.9

A total of \$725.5 million of federal funds are projected to be received during the Fiscal Plan Period with a net impact after debt service of \$623.9 million as presented in Exhibit 3-13.

EXHIBIT 3-13: PROJECTED NEW NET FEDERAL FUNDS MEASURE (IN \$ MILLIONS)



The projections included herein may change based on the projects and progress of federally funded capital improvements and annual funding appropriations and availability.

Exhibit 3-14 outlines the key action items for successful and timely delivery of this measure.

EXHIBIT 3-14: ACTION PLAN FOR NEW FINANCING FOR CIP

Action Item	Deadline	Owner
Execute Financial Assistance Agreement for new CWSRF funds – FY2022 Appropriation	31-Dec-23	Finance
Execute Financial Assistance Agreement for new DWSRF funds – FY2022 Appropriation	30-Jun-24	Finance
Execute Loan Agreements for USDA RD funds	TBD	Finance

3.2 Enabling Measures

Beyond the measures discussed above, PRASA is developing additional measures with the goal of achieving organizational optimization, ensuring CIP delivery and allowing the successful and timely implementation of the measures included in this Certified Fiscal Plan. The enabling measures are listed below:

- **10-year Master Plan:** PRASA’s 10-year master plan, which is currently under development, will take the recently released 2020 US Census results into account, and will provide a long-term roadmap to transform PRASA’s Systems, making them simpler, safer, more operationally efficient and sustainable. The master plan must serve to consolidate measures and requirements from this Certified Fiscal Plan, as well recommendations from other plans and strategies (e.g., Emergency Response Plans, Climate Change Adaptability Plan).
- **Asset Management and Maintenance:** assess the condition of PRASA’s organization-wide asset management program in connection with asset tracking activities and efforts to promote a higher proportion of preventive-to-reactive maintenance spend; this effort is expected to lower the Authority’s reliance on more expensive corrective/emergency maintenance allowing an improvement on PRASA’s condition of its facilities.
- **Chemical Expense Stabilization:** conduct an independent assessment on the current challenges, risks, and opportunities within chemical expenditures and consumption. Identify a remediation plan to optimize chemical-related expenditures.
- **CIP Delivery:** to revitalize its infrastructure, the Authority must execute capital projects on time and on budget, while leveraging the assigned and obligated Federal funding for the recovery and reconstruction projects stemming from the 2017 Hurricanes, as well as from the recently approved funding to address the coronavirus pandemic (CARES and ARPA), Hurricane Fiona in 2022, and an aging water and wastewater system infrastructure (BIL Act).
- **Interagency Coordination:** actively pursue interagency agreements and MoUs to harness the benefits of operational efficiency, cost reduction, and improved service delivery. To accomplish this, PRASA must identify relevant agencies, assess synergies and implement feasible projects or initiatives.
- **Organization Optimization:** reach the optimal headcount level while identifying opportunities for personnel training and transfers among departments to maximize FTEs’ availability and capacity focused on addressing critical needs.
- **Competitive Compensation:** to allow for a motivated and efficient workforce to operate the Systems that provide an essential service for Puerto Rico.

- **Project Management Office (PMO) Execution:** responsible for the execution of the measures outlined in the Certified Fiscal Plan and other key internal projects within PRASA under the purview of the Strategic and Corporate Planning Department.

3.2.1 10-year Master Plan

Every ten years, using the data published in the United States Census, PRASA develops its Water and Wastewater Master Plan (“Master Plan”). The current Master Plan was last completed in 2010 and then revised in 2014 to account for adjusted population projections.²⁶

The updated Master Plan focuses on setting the basis for achieving long-term structural integrity, ensuring clean, affordable, and safe water and wastewater for the island, while also ensuring operational sustainability and the achievement of fiscal responsibility. As part of the plan, the Authority must prepare a roadmap for transforming Puerto Rico’s water and wastewater infrastructure to a simpler, safer, resilient, operationally efficient, and financially viable system.

The updated Master Plan must incorporate the recommendations of the Certified Fiscal Plan, Emergency Response Plans, and Climate Change Adaptation Plan. The updated Master Plan must also reflect expected amendments to the 2015 Consent Decree, any agreements with regulatory agencies, including PRDOH, and other inputs that have long-term implications on the Systems, including the impact of new federal funds.

Finally, the Master Plan must also include a section defining PRASA’s energy roadmap guidelines and a gap analysis of current PRASA design standards. The Master Plan will provide PRASA with an updated prioritization tool to help determine the priority or order of projects in the CIP as well as the plan for alternate energy options.

PRASA’s CIP projects must be developed in accordance with the Master Plan, and the CIP must be constantly updated to be aligned with the System’s needs. In line with this requirement, once the projects included into the CIP are better defined, for future Fiscal Plans PRASA must size and incorporate potential benefits from these projects into the forecasts for operational measures as those described in Section 3.1.2 of this Certified Fiscal Plan. Exhibit 3-15 outlines the key action items for the successful and timely delivery of this measure.

EXHIBIT 3-15: ACTION PLAN FOR MASTER PLAN MEASURE

Action Item	Deadline	Owner
Provide draft of the Updated Master Plan to the Oversight Board	1-Dec-23	Infrastructure
Complete the Updated Master Plan	29-Feb-24	Infrastructure
Size potential benefits from Master Plan priority projects and include as preliminary projections in the measures to be included in the 2024 Proposed Fiscal Plan	29-Mar-24	Infrastructure
Incorporate findings from Master Plan into the CIP	31-May-24	Infrastructure

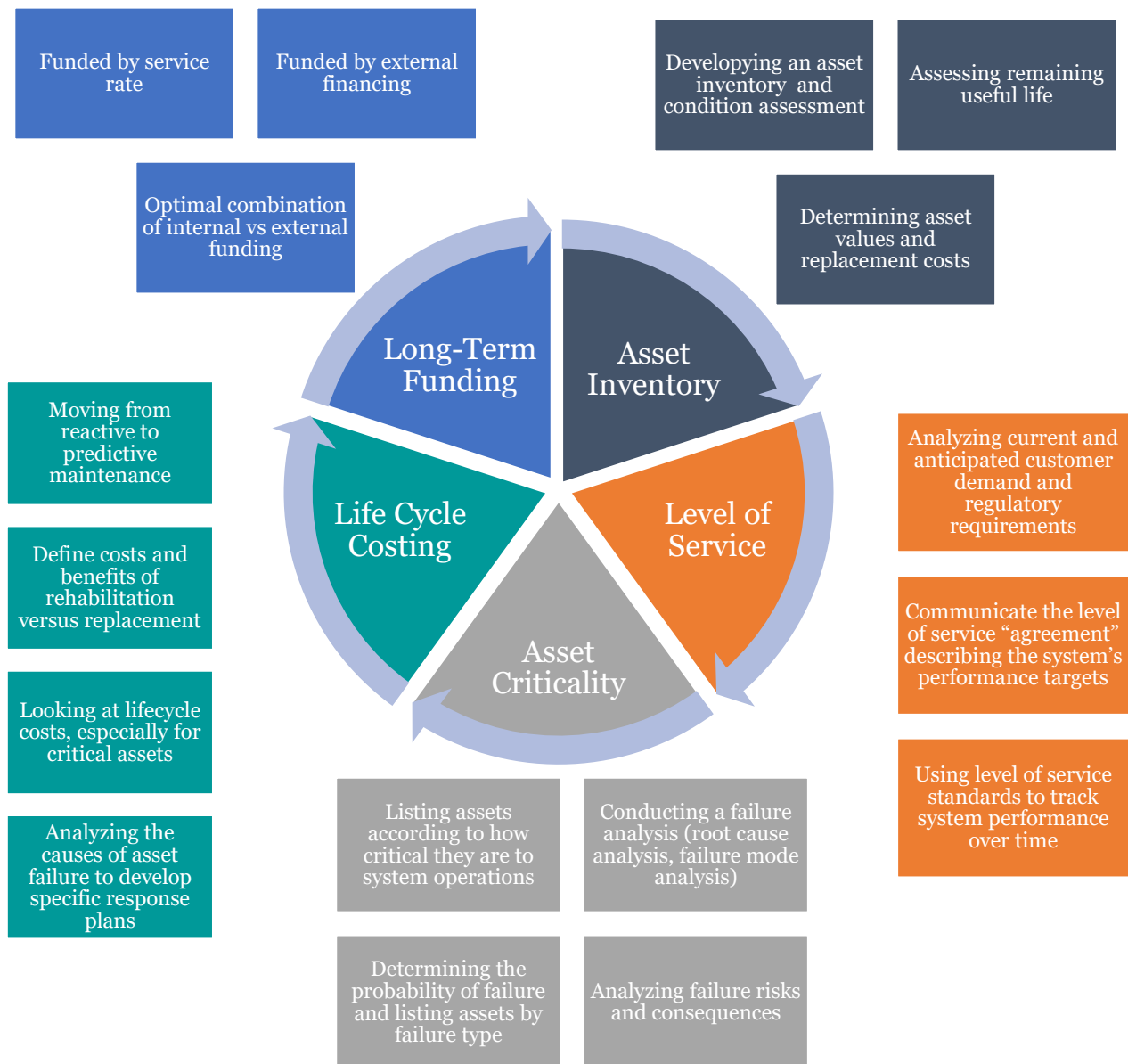
²⁶ Population projection adjustments provided in 2013 by the Puerto Rico Planning Board reflected a reduction in population, as opposed to the data from the 2010 Census which showed an increase in population. In significant part, this increase can be attributed to migration trends from Puerto Rico to the continental United States.

3.2.2 Asset Management and Maintenance

Asset management is the practice of managing capital assets to minimize the total cost of owning and operating them and achieving sustainable infrastructure, while delivering the service level customers expect.

The asset management framework, as defined by the USEPA, consists of five core concepts with related activities as included in Exhibit 3-16 below:

EXHIBIT 3-16 ASSET MANAGEMENT FIVE CORE CONCEPTS AND BEST PRACTICES



There are many benefits to implementing the asset management framework, including working more efficiently, improving knowledge management, and applying limited finances as efficiently as possible. Asset management will provide guidance on scheduling O&M tasks, and replacement versus repair to minimize service interruptions.

PRASA developed a more formal and established Asset Management Program in FY2021 to properly track and monitor the condition of all PRASA assets. PRASA expects to gradually shift from its current, primarily corrective, maintenance strategy to a program that focuses more on systematic, data-driven, and preventive measures. This shift will help prolong asset life, reduce operating and capital expenditures, improve security and safety, and shorten response time to maintenance and repair needs.

PRASA has collaborated with a consulting partner that specializes in process improvements and project management defining an updated structure of the Maintenance Department to establish and create the following:

- A new Planning Center of Excellence, which will be focused on improved planning processes, external services, and supply monitoring and coordination.
- A systematic approach to project portfolio management and training compliance.
- An improved cycle time tracking system by maintenance activity with clear differentiation between corrective and preventative work.
- A master planning schedule process focused on preventive maintenance plans agreed upon qualified technical resources.
- New and updated Maintenance Department procedures with clear roles and responsibilities in compliance with the operation.
- Redesigned KPIs for asset management and maintenance and improved visualization tools and automation.

Recently PRASA re-launched its predictive maintenance program aimed at anticipating the needs of the Systems by monitoring asset condition and equipment wear during the operational cycle. This allows PRASA's maintenance teams to adjust or intervene prior to reaching equipment failure. Such a predictive (or preventative) maintenance approach allows for reductions in the maintenance frequencies, increasing the MTBF in PRASA's assets, and reducing maintenance and repair costs, thereby increasing the reliability of service levels (as a result of reduced service interruptions).

Adequate metrics coupled with up-to-date cost data will allow the Maintenance Department to make more informed, data-driven decisions on whether to repair or replace an underperforming or failing asset.

Exhibit 3-17 outlines the high-level action plan for successfully delivering this measure.

EXHIBIT 3-17: ACTION PLAN FOR ASSET MANAGEMENT AND MAINTENANCE MEASURE

Action Item	Deadline	Owner
Procure a consultant to evaluate current Asset Management policies and status	31-Aug-23	Maintenance Director
Assess and report on current Asset Management status and areas of improvements on processes, strategies, and practices	29-Mar-24	Maintenance Director
Establish plans to address areas of improvement and to implement the consultant’s recommendations, subject to financial and other resources limitations	30-Sep-24	Maintenance Director

PRASA continues monitoring activities already implemented to assure correct and reliable data is being captured from maintenance execution in order to perform analyses on the assets and their conditions to eventually support future decisions.

In the long term, PRASA expects to develop a full Asset Management Program incorporating the lifecycle assets management into SAP, prioritizing critical assets in the implementation of the preventive and predictive maintenance program.

3.2.3 Chemical Expense Stabilization

Chemical expenditure is now PRASA’s third largest operating expense (previously being fourth), representing around \$70 million for FY2023. Despite PRASA’s current efforts to reduce overall chemical costs through non-capital-intensive initiatives such as improved procurement strategies and/or chemical usage, rising input costs associated with chemical production coupled with heightened compliance requirements for water quality, have effectively offset PRASA’s efforts to generate savings.

The sharp increase in chemical costs for FY2023 is driven primarily by market factors, including supply and demand, which is outside PRASA’s control. However, PRASA continues to work on options to change chemical consumption at its plants in search of savings, while ensuring water quality and compliance with environmental regulation. PRASA issued an RFP to have a third-party evaluate the chemical dosage process and inventory, in part to identify an area for growth. The benefit of such initiatives, if any, cannot be determined at this time and therefore no benefits are projected herein. If the evaluation results in the identification of potential benefits, PRASA must then evaluate potential measures to be included in future fiscal plans.

PRASA received two proposals to optimize chemicals application. These proposals are being evaluated and a selection is expected by the first quarter of FY-2024. Exhibit 3-18 outlines the high-level action plan to address chemical expense stabilization.

EXHIBIT 3-18: ACTION PLAN FOR CHEMICAL EXPENSE STABILIZATION

Action Item	Deadline	Owner
Selection of a consultant to evaluate current chemical management practices and provide recommendations	31-Aug-23	VP of Operations
Complete assessment and report to the Oversight Board on areas of opportunity with potential benefits	31-Oct-23	VP of Operations
Develop strategies for implementation as recommended in the consultant’s report	1-Dec-23	VP of Operations
Deploy implementation as recommended in the consultant’s report	1-Feb-24	VP of Operations

3.2.4 CIP Delivery

A timely and budget conscious execution of the CIP is essential in order to take advantage of the multibillion-dollar grant and other funding available for recovery and reconstruction projects following the 2017 Hurricanes and Hurricane Fiona, as well as from the recently approved funding to address the coronavirus pandemic (CARES and ARPA), and an aging water and wastewater infrastructure (BIL Act).

The total CIP consists of 440 projects with an estimated investment of \$6.5 billion during the fiscal plan period. Currently PRASA has 224 active projects across the island as presented in Exhibit 3-19 an estimated investment of \$4.4 billion.



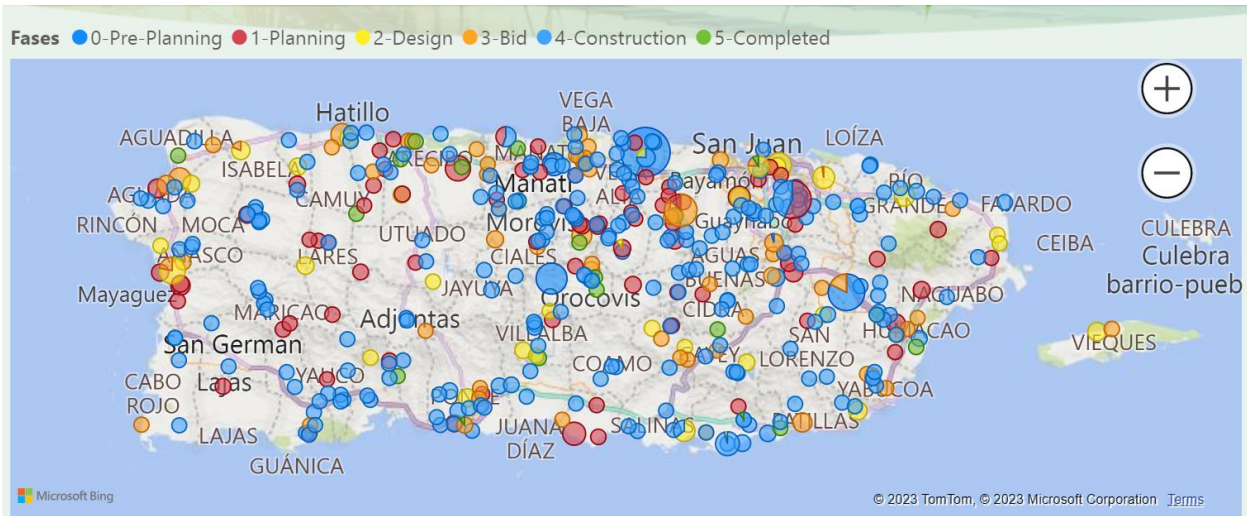
PRASA Reorganized
Infrastructure Department

+

Four consortiums for services such as project management, planning, design and services during construction



EXHIBIT 3-19: ACTIVE PROJECTS BY REGION



The work needed to complete the projects and their level of investment, from their planning phase to completion, requires both internal and external personnel. For such purposes the Infrastructure Department structure has been redefined, updated, and provided with external support from major multinational engineering firms currently under contract.

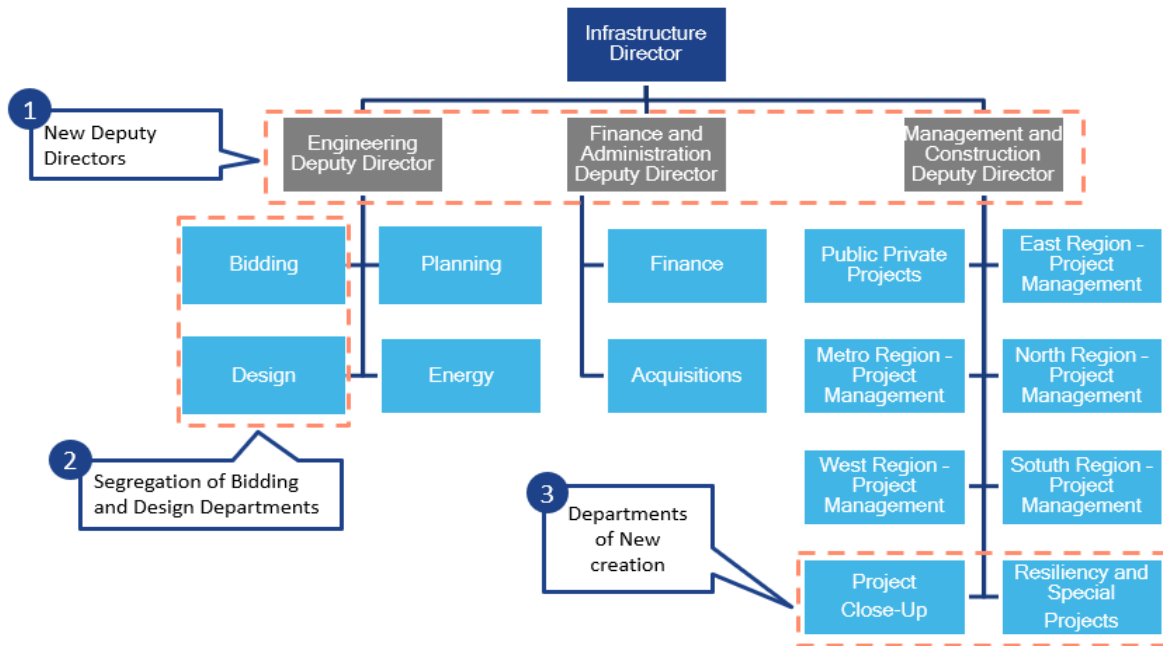
PRASA’s Infrastructure Department reorganization was approved during November and December 2021, to the reorganization aimed to address the incremental needs of an executed a CIP with an average annual investment over \$600 million for the five-year period ending on FY2028.

The new structure includes three main changes:

- 1) Creation of three sub-directorates (Engineering, Administration and Finance, and Management and Construction) under supervision of the Infrastructure Director;
- 2) Separation of Design and Biddings into two directorates (Directorate of Design and Directorate of Bidding); and
- 3) Creation of two new directorates related to Project Management (Directorate for Closing Projects and Directorate for Resiliency & Special Projects).

These main changes are focused on effectively monitoring and managing the implementation of a revitalized and expanded use of PMCs. This revised structure is included in Exhibit 3-20.

EXHIBIT 3-20: INFRASTRUCTURE REVISED STRUCTURE



With the Infrastructure structure changes in place, covering the required positions for the department, and with the support of the PMCs, PRASA expects to successfully deliver an aggressive CIP to maximize the available funding and revamp Puerto Rico’s water and wastewater infrastructure at unprecedented levels.

Project Management Consortiums

Following an RFQ/RFP process, PRASA selected and contracted with four firms to serve as a PMC and assist the Authority in the execution of its CIP. The contracted firms are Black & Veatch Puerto Rico PSC, CH Caribe Engineers PSC, Arcadis Caribe PSC, and CSA-Louis Berger JV, LLC. Currently, each PMC has been assigned projects that are set forth in Exhibit 3-21.

EXHIBIT 3-21: CIP PROJECTS ASSIGNED BY PMC & ESTIMATED CIP INVESTMENTS



Contracted on: November 2020
 Assigned CIP Projects: 56
 Estimated CIP Investment: \$880M



Contracted on: February 2021
 Assigned CIP Projects: 50
 Estimated Investment: \$1,103M



Contracted on: April 2021
 Assigned CIP Projects: 65
 Estimated CIP Investment: \$1,450M



Contracted on: July 2021
 Assigned CIP Projects: 38
 Estimated CIP Investment: \$746M

A total of 209 CIP projects have been assigned to the PMCs with a total CIP investment estimated at over \$4.2 billion. PRASA is directly managing 15 construction projects with a total investment of \$237 million.

Partnering with the PMCs will allow PRASA to focus on project administration and financing with the PMCs supporting the design through construction phases.

CIP Execution Tracking

Through a CIP tracking tool, PRASA tracks CIP execution by looking at established project metrics and monitoring compliance and execution the capital works.. Moreover, PRASA implemented a new module in SAP (its enterprise operating system) to enable the review and update of its current tracking tool to enhance compliance with expected execution schedules and costs.

The established metrics allow for high level planning and management of the CIP, while the tracking tool provides a detailed tracking of CIP compliance against what was planned.

Typically, the construction phase includes the highest potential for deviations in cost and time. To maintain control of this phase, PRASA keeps a monthly tracker of two industry standard KPIs:

- **Cost Performance Index (CPI):** Measures the cost efficiency of resources committed to the project, evaluating whether the project will be completed on budget.
- **Schedule Performance Index (SPI):** Measures the relationship between the earned value of the executed work versus the planned work, assessing whether the project will be completed on time.

Metrics have also been established to monitor compliance with all requirements in each project phase, including four Pre-Construction Metrics, two Construction Metrics, and one Closeout Metric

Through this monitoring, PRASA will be able to track the project status and take actions when needed.

3.2.5 Interagency Coordination

To further enhance operational efficiency and reduce costs, PRASA must actively pursue binding interagency agreements or Memorandum of Understanding (MoUs) with other infrastructure related agencies and municipalities. By engaging in coordinated efforts, PRASA can ensure successful collaboration and forge synergies with these agencies.

Building upon the successful settlement of outstanding debts with other agencies such as PREPA and ERS during FY2023, PRASA has demonstrated the effectiveness of MoUs and interagency coordination as a means of resolving financial obligations and improving overall government relations. The signed MoU with PREPA facilitated the payment of past due amounts for water purchases and electricity services, while the negotiations with ERS resulted in the successful elimination of legacy debts.

Recognizing the positive outcomes achieved through interagency cooperation, PRASA must now extend its coordination efforts to encompass a broader range of operational matters. By establishing binding agreements or MoUs with other relevant agencies, PRASA can proactively address issues related to infrastructure development, maintenance, and resource allocation.

The key objectives of pursuing interagency coordination include:

- **Enhanced Operational Efficiency:** Collaboration with other agencies allows PRASA to optimize resource allocation, streamline processes, and minimize duplication of efforts. By sharing expertise, best practices, and infrastructure assets, PRASA can improve the overall efficiency of its operations.
- **Cost Reduction:** Coordinated efforts with other agencies enable PRASA to avoid unnecessary costs and achieve economies of scale. By leveraging shared resources, and jointly procuring goods and services, PRASA can effectively reduce operational expenses.
- **Improved Service Delivery:** Though the alignment of strategies and harmonization of operations with other agencies, PRASA can ensure the continuous supply of water and wastewater services while improving the reliability of its operations.

To facilitate effective interagency coordination, PRASA must consider the following steps:

- **Identify Relevant Agencies:** Assess the outstanding collaborative agreements with agencies and municipalities and identify other government parties that have direct or indirect involvement in water and wastewater infrastructure development, maintenance, or related services. This assessment may include entities responsible for energy, transportation, public works, environmental management, municipal services and emergency response, among others.
- **Define Roles, Responsibilities, and Synergies:** Evaluate the potential synergies and areas of collaboration with each identified agency while simultaneously defining the roles, responsibilities, and expectations of each agency involved in the interagency coordination. This process involves identifying common goals, shared challenges, and opportunities for resource sharing or joint initiatives.
- **Implementation and Evaluation of Joint Projects and Initiatives:** Identify specific projects or initiatives that can be pursued with partner agencies. These could include joint infrastructure, development, and maintenance plans, shared training programs, or coordinated emergency response protocols. Simultaneously, establish mechanisms to monitor and evaluate the progress of interagency coordination efforts by defining performance metrics and conducting periodic assessments to measure the effectiveness of collaborative activities.

By actively pursuing interagency agreements and MoUs, PRASA can harness the benefits of collaboration, synergize efforts, and achieve operational excellence. Such coordinated efforts will not only enhance PRASA’s operational efficiency but also contribute to the overall development and resilience of the infrastructure sector.

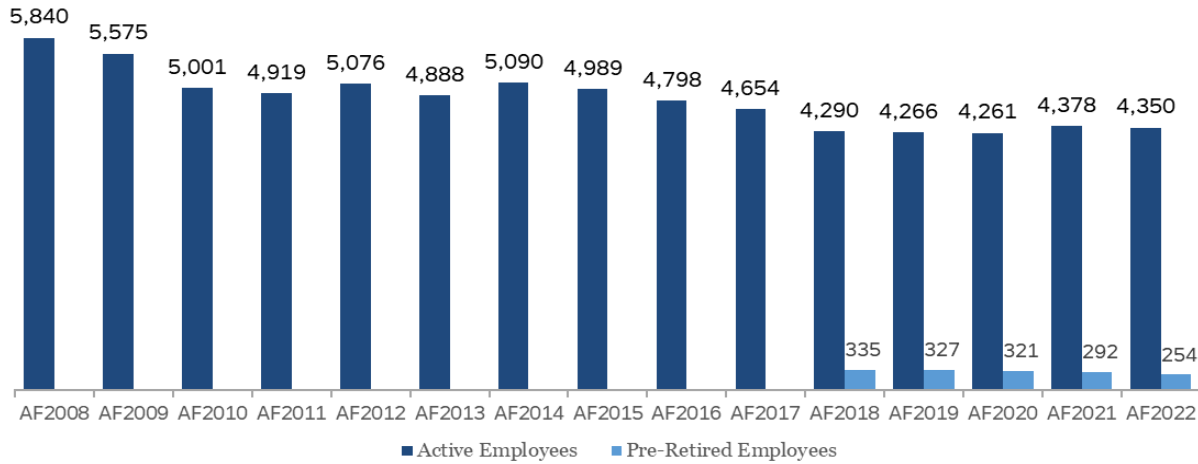
EXHIBIT 3-22: ACTION PLAN FOR INTERAGENCY COORDINATION

Action Item	Deadline	Owner
Identify Relevant Agencies	31-Aug-23	VP of Operations
Define Roles, Responsibilities, Synergies, and report to the Oversight Board	31-Oct-23	VP of Operations
Implementation of Joint Projects and Initiatives	31-Jan-24	VP of Operations

3.2.6 Organization Optimization

Since FY2008, the Authority has experienced a headcount reduction of over 1/5 of its personnel. In part, this reduction was exacerbated between FY2016 and FY2017 with over 300 employees accepting the terms²⁷ of the Pre-Retirement Program. As part of the program, despite participants being on the payroll, they do not render any services to the Authority. Therefore, PRASA has fewer active employees leading to increases in overtime costs and greater reliance on more expensive third-party services.

EXHIBIT 3-23: PRASA HEADCOUNT FY2008-FY2022



During FY2021 PRASA engaged an external consultant to perform a labor capacity and productivity assessment study to determine PRASA’s optimal staffing levels. In January 2022, the selected firm presented its final recommendations, amended to incorporate updates on Customer Service and Infrastructure Department, presenting a need of 5,030 employees, compared with PRASA’s actual headcount of 4,604 as of June 30, 2022 (of which 254 employees are under the Pre-Retirement Program). PRASA expects to cover this employee gap, gradually, by:

- Recruiting key technical and operating positions such as plant operators, electro-mechanicals, and other workers for operations.
- Gradually recruiting to cover positions as the pre-retired employees reach full retirement age, increasing personnel availability as positions are filled.
- Filling headcount needs in the Infrastructure, Customer Service and Compliance Departments, among others.

PRASA expects to reach a headcount of 4,950 FTEs by FY2028 and maintain it at such level afterwards, as presented in the Table below.

²⁷ Incentives include: 60% payment of average salary, payout of unused vacation and sick days (as per Act 66-2014) and maintaining their health insurance coverage for a term of two years. These incentives are applicable to pre-retired employees and payable by PRASA until the eligible employee reaches full retirement age under ERS’s rules.

TABLE 3-4: HEADCOUNT PROJECTION

	2023	2024	2025	2026	2027	2028
Base Employees	4,373	4,373	4,373	4,373	4,373	4,373
PreRetired Employees	252	216	167	127	82	53
Accum Net Additions	75	161	260	350	445	524
Employees by the end of FY	4,700	4,750	4,800	4,850	4,900	4,950
Annual Additions	75	86	99	90	95	79

The additional 80 employees to reach 5,030 (the level recommended in the staffing study) must be reevaluated based on the results and benefits of the projected headcount additions and the balancing of FTEs with overtime and external resources as well as fleet and other resources availability.

PRASA implemented SmartTool, a centralized management tool, to administer and manage organizational needs for effective human resources management. Using this tool allows PRASA to identify opportunities for personnel training, movements and/or transfers among departments to maximize FTE availability and capacity focused on addressing critical needs within the Authority. Such actions will always prioritize overall compliance with safety and health codes as well as the employees’ wellbeing. With this tool PRASA now has greater visibility regarding areas of need and personnel surpluses to then develop a detailed and systematic recruitment plan.

Additionally, PRASA historically has tracked its overtime and absenteeism levels but is now in the process of redefining certain KPIs as well as specific goals on those labor efficiency indicators.

EXHIBIT 3-24: ACTION PLAN FOR ORGANIZATION OPTIMIZATION MEASURE

Action Item	Deadline	Owner
Provide status to the Oversight Board on the potential evaluation system expected to be used in the workforce efficiency plan	31-Aug-23	Human Resources
Develop a plan to measure workforce efficiency	29-Mar-24	Human Resources
Continue tracking absenteeism and overtime levels to identify areas of opportunities	Ongoing	Human Resources

3.2.7 Competitive Compensation

To maintain a motivated and efficient workforce to operate the overall System, during fiscal year 2023, PRASA reviewed its pay scales and implemented incentives for some critical operating positions, such as plant operators and electro-mechanicals. The additional costs for these measures are incorporated in PRASA’s financial projections included herein and are expected to allow for proper and competitive compensation levels for the employees.

3.2.7.1 Pay Scale Review

During 2021, PRASA retained an external firm to evaluate current pay scales among the different labor groups at PRASA with the goal of aligning Authority compensation levels with the broader Puerto Rico labor market and the new minimum salary wages recently announced by the Government, while taking special consideration to critical recruitment and retention issues.

Public Corporations, such as PRASA, are not part of the Uniform Classification and Compensation Plans developed by the Office of Human Resources Management and Transformation.

PRASA implemented the new pay scales starting in FY2023, for the benefit of all labor groups at PRASA, except for appointed employees. These changes are expected to improve personnel recruiting and retention, which in turn may result in increased operating efficiencies.

For subsequent years, PRASA must assess the need to adjust its minimum salary scales based on the minimum salary regulations applicable for Puerto Rico and the salaries for other governmental agencies. However, salary increases that are not required by a minimum salary regulation will be contingent upon the commencement of the Metering Optimization measure as explained in Section 3.1.2.2 above and the materialization of its benefits, as they come due. Furthermore, it is recommended that forthcoming updates to compensation focus on roles that are challenging to fill and be conditional upon performance assessments aligned with the principles of the Civil Service Reform. This approach will facilitate the growth of essential skills and foster avenues for career progression.

3.2.7.2 Labor Relations

To maintain labor relations in good order, in an environment of limited resources and increasing operating costs, PRASA and its largest union, the UIA, reached a Negotiation Agreement (Negotiation Agreement). As a result of the Negotiation Agreement, the Collective Bargaining Agreement with the UIA (which expired in 2015 and was extended until June 30, 2021, pursuant to Act 3-2017) was further extended until the negotiations of a new labor agreement is reached, as provided by Act 9-2021. The Negotiation Agreement provides for the continuing negotiation of the revised pay scales as well as of several incentives that benefit both parties, subject to compliance with PROMESA and PRASA's Fiscal Plan.

The parties, UIA or PRASA did not provide notice of their intention to negotiate a new labor bargaining agreement at least 90-days prior to July 1, 2023. Since the notification was not received, the labor agreement is extended for an additional year and successively, each year thereafter.

The parties did, however, negotiate other provisions as included in the Negotiation Agreement such as:

1. The impact on labor condition and salaries for UIA employees in case of a privatization or P3 project implementation will be subject to negotiation.
2. The positions identified as difficult recruitment positions are the ones of Licensed Plant Operators and electro-mechanicals. The parties will promote the payment of incentives to such positions to be implemented in FY2023.
3. Payment of a \$600 premium pay by June 30, 2022 to recognize UIA employees' commitment during the last years.
4. Payment of Christmas Bonus balances for FY2015 and FY2016, which were legally disputed by UIA, without interest or penalties.

The main milestones to implement this measure are presented in Exhibit 3-25.

EXHIBIT 3-25: ACTION PLAN FOR COMPETITIVE COMPENSATION MEASURE

Action Item	Deadline	Owner
Annual adjustment of minimum salaries, when applicable	Ongoing	Human Resources
Payment of 2016 Christmas Bonus balance	31-Jul-23	Human Resources

3.2.8 PMO Execution

PRASA established a PMO under its Vice-President of Strategic and Corporate Planning, to effectively implement and monitor its initiatives and measures, excluding implementation of its CIP. The infrastructure projects’ delivery and implementation are under the responsibility of the Infrastructure Department, as explained in Section 3.2.4.

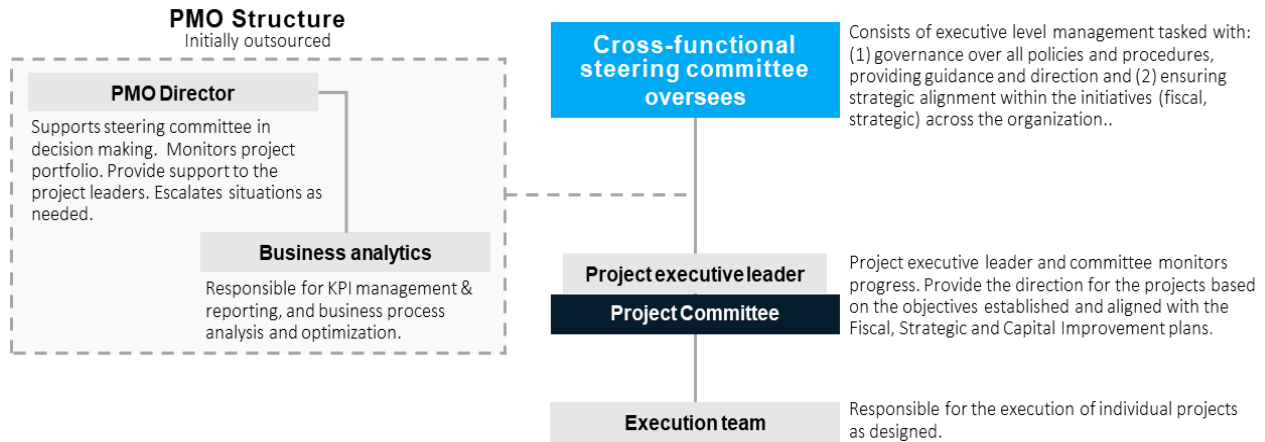
A Cross Functional Steering Committee (or “Steering Committee”) at the executive level has been implemented. It is chaired by the Executive President and composed of direct reporting heads of departments, including the three Vice-Presidents. The Steering Committee is responsible for the definition of the strategic initiatives and for monitoring their progress, ensuring alignment across all plans and priorities, and providing oversight, guidance, and direction to ensure the goals of the plans are met in a timely, efficient, and cost-effective manner. The PMO Director serves as the Committee Coordinator.

A PMO Director was appointed in 2022 to coordinate efforts across Project Managers and Project Committees (or Sub Committees). The PMO Director provides necessary support, monitoring, and reporting on progress, and escalating decisions and issues to the Steering Committee as needed.

The PMO Director and its team, in conjunction with Project Committee Leaders, define key performance indicators (KPIs) and monitor these to ensure the objectives are being met and their performance is optimal. Throughout the life of the projects, and based on actual results, adjustments to goals might be necessary, subject to approval from the initiative’s Steering Committee. In turn, each initiative’s leader is accountable for any deviation and is monitored by the Steering Committee.

The PMO governance and structure is demonstrated in Exhibit 3-26

EXHIBIT 3-26: PMO STRUCTURE



PRASA has instituted several elements to facilitate the efficient implementation of its initiatives, such as establishing ownership over each measure, creating project committees and execution teams, setting meetings and reporting cadences, and establishing KPIs for the measures and underlying projects.

An RFP was issued to help create and implement the PMO at PRASA. We expect to sign the contract with the proponent and begin the process by the first quarter of fiscal FY2024. The focus during these first stages of the PMO’s implementation will be on developing the methodology and reports to be used by PRASA, as well as the definition of the guides and standards for the office. Once this process is complete, pilot projects will be chosen to start formalizing the PMO structure at PRASA.

Key responsibilities of the PMO are summarized in Exhibit 3-27 included below:

EXHIBIT 3-27: RESPONSIBILITIES OF THE PMO

PMO roles	PMO responsibilities
Strategic business planning	1 Evaluate corporate risks and provide guidance to project teams
	2 Develop departmental strategies aligned with PRASA's Fiscal and Strategic Plans
	3 Develop and launch new transformational initiatives
Initiative implementation	4 Direct initiative execution
	5 Support project teams with guidance and alignment
	6 Ensure alignment across departmental stakeholders, goals, and objectives to support project teams
	7 Problem solve and escalate program level bottlenecks, risks, issues, and interdependencies
Transparency, control, and accountability	8 Ensure standardization and tracking of project documentation
	9 Monitor progress and overall performance with a clear set of KPIs and milestones
	10 Provide progress updates and escalate issues to different governance boards

Exhibit 3-28 outlines the key action items for successful and timely delivery of this measure.

EXHIBIT 3-28: ACTION PLAN FOR PMO EXECUTION

Action Item	Deadline	Owner
Contract signing with selected proponent	31-Jul-2023	PMO
Defining and implementing PMO reports and methodology	30-Sep-2023	PMO
Identifying pilot projects and creating the project portfolio	31-Dec-2023	PMO

3.3 Summary of Proposed Measures

The benefit of the five key new measures with financial impact is projected at ~\$1,178 million during the Fiscal Plan Period. A summary of projected net benefit from the New Measures is set forth in Table 3-5.

TABLE 3-5: NEW MEASURES PROJECTED BENEFIT (IN \$ MILLIONS)

<i>in \$Millions</i>	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY23/28
Rate Adjustment	-	19.9	42.3	65.1	88.2	111.8	327.3
Meter Replacement	-	-	8.8	26.8	45.5	62.8	143.9
Electricity Savings	-	1.2	2.5	3.4	11.2	18.2	36.4
Physical Water Loss Reductio	-	1.2	4.9	6.7	10.6	16.3	39.8
Federal Funds, Net	66.9	217.9	210.8	72.9	35.3	20.2	623.9
Measures Benefit	66.9	240.3	269.3	174.8	190.8	229.4	1,171.5
Impact in OH	-	(0.0)	(0.2)	(0.2)	(0.6)	(0.9)	(1.9)
Impact in ORF	-	0.6	1.2	0.6	2.8	3.0	8.2
Initiatives Benefit, Net	66.9	240.8	270.3	175.2	193.0	231.5	1,177.7

3.4 Post-Measures Financial Projections

Implementation of the measures outlined in this Chapter will allow PRASA to improve both its financial and operational positions.

Table 3-6 presents the Post-Measures Financial Projections during the Fiscal Plan Period.

TABLE 3-6: POST-MEASURES FINANCIAL RESULTS (IN \$ MILLIONS)

<i>in \$Millions</i>	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY23/28
Authority Revenues	1,083.5	1,107.3	1,123.6	1,107.6	1,092.1	1,080.7	6,594.7
Senior Debt Service	(244.5)	(246.5)	(243.7)	(246.2)	(245.0)	(245.7)	(1,471.5)
Net Operating Expenses	(802.3)	(835.9)	(894.1)	(888.0)	(898.1)	(916.5)	(5,234.8)
Operating Reserve Fund	(12.1)	(6.4)	(12.5)	3.8	(0.3)	(2.4)	(29.8)
Capital Improvement Fund	(89.7)	(258.3)	(242.6)	(151.3)	(140.3)	(145.9)	(1,028.1)
Pre-Measures Financial Need	(65.1)	(239.8)	(269.2)	(174.1)	(191.6)	(229.8)	(1,169.4)
Measures Benefit	66.9	240.8	270.3	175.2	193.0	231.5	1,177.7
Financial Result	1.8	1.1	1.1	1.1	1.5	1.7	8.3

In summary, the projections included herein reflect a balanced budget in all years of the Fiscal Plan Period, which is consistent with PROMESA Section 201(b)(1)(d). The projections ensure proper maintenance of the system and provide for gradual improvement in PRASA's financial condition, as the full benefits of proposed measures are realized by the end of the fiscal plan period.

4 Federal Funds for Disaster Recovery and Resiliency




To address the damage that the 2017 Hurricanes, 2020 Earthquakes, 2022 Hurricane, and COVID-19 pandemic caused to PRASA’s system and operations, PRASA qualifies for federal funding for disaster recovery efforts. This federal funding is further described in this Chapter.

4.1 Disaster Recovery Programs

PRASA’s main sources of federal funding identified for disaster recovery are: (1) FEMA’s Public Assistance Program; and (2) the HUD’s Community Development Block Grant – Disaster Recovery (CDBG-DR) Program. A brief description of these programs is included below with a summary of the funding identified, obligated and received by PRASA.

FEMA’s Emergency and Permanent Work Program:

Under Stafford Disaster Relief and Emergency Assistance Act (SA), PRASA receives FEMA funds through COR3, the officially designated recipient of the Federal grant funding. COR3 is a division of the P3 Authority and was created to ensure adequate management and use of federal funds for Puerto Rico’s recovery and reconstruction. FEMA’s Public Assistance Program addresses both emergency work (e.g., debris removal and emergency protective measures), and permanent work (e.g., reconstruction to current industry standards of the Authority’s Systems to address damage resulting from natural disasters). In addition, FEMA’s Hazard Mitigation Grant Program (HMGP) provides funding to improve resiliency for facilities not damaged by a declared disaster.

Type of Works	Relevant Legislation
Emergency Work 	403 (Cat A&B)
Permanent Work 	Section 406 of SA (Cat C-G) Section 428 of SA (Cat C-G)
Hazard Mitigation 	Section 406 of SA (PA HM) Section 404 of SA (HMGP) Section 20601 of BBA

and permanent work (e.g., reconstruction to current industry standards of the Authority’s Systems to address damage resulting from natural disasters). In addition, FEMA’s Hazard Mitigation Grant Program (HMGP) provides funding to improve resiliency for facilities not damaged by a declared disaster.

HUD CDBG-DR Programs: The Community Development Block Grant – Disaster Recovery (CDBG-DR) Program provides annual grants on a formula basis to U.S. states, as well as Puerto Rico, cities, and counties to develop viable urban communities by providing decent housing and a suitable living environment, and by expanding economic opportunities, principally for low- and moderate-income persons. The program is authorized under Title 1 of the Housing and Community Development Act of 1974, Public Law 93-383, as amended, 42 U.S.C. 5301 et seq. PRDOH is the designated grantee of CDBG-DR funds, while PRASA is the subrecipient, meaning that funds are managed by HUD.

4.2 FEMA’s Public Assistance and Hazard Mitigation Programs

4.2.1 Emergency Work

Under the Public Assistance Program, FEMA is authorized to provide funding for Emergency Works²⁸, including emergency protective measures and debris removal. Emergency Works are performed immediately after a disaster to:

- Save lives;
- Protect public health and safety;
- Protect improved property; and
- Eliminate or lessen an immediate threat of additional damage.

Emergency Work is comprised of work that address immediate threats: Category A for debris removal, and Category B for emergency protective measures.

4.2.2 Permanent Work

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. This work is typically completed under Section 406 of SA in which project worksheets are submitted by qualifying sub-recipients for qualifying work. If the repairs or restoration is under the Alternative Procedures Program (Section 428 of the SA), FEMA funds all large permanent work projects based on fixed cost estimates. This is applicable to projects submitted under Hurricane Maria and could include other projects in other declared events if PRASA chose to enter the Alternative Procedures Program.

In light of the damage caused by the 2017 Hurricanes, the BBA allows FEMA to provide assistance to restore the disaster-damaged facilities to industry standards provide critical services without regard to pre-disaster condition.

FEMA may approve projects developed based on codes and 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 an approved industry standard or standards. The pre-disaster condition of damaged or undamaged components is not a factor in determining the eligible scope of work.

PRASA, FEMA, and COR3 have been working collaboratively for years to adequately define the full need of reconstruction projects after the 2017 Hurricanes, size the cost estimates, and determine an efficient way of disbursing and utilizing pertinent federal funding to reconstruct the Systems.

²⁸ 44 CFR § 206.201(b).

On January 5, 2021, the President of the United States announced a net award of \$3.66 billion for infrastructure projects to rebuild PRASA’s Systems from the devastation caused by the 2017 Hurricanes. The total amount obligated for permanent work projects has been agreed to by PRASA, COR3, and FEMA pursuant to the FAASt Initiative. This obligation of funds from FEMA does not constitute an authorization for construction, and each project must be submitted to FEMA for eligibility determination and formulation.

As a requirement associated with this funding obligation, FEMA and COR3 required PRASA to submit a work plan, called PRASA’s FAASt Workplan, within 90 days of the funding obligation date. PRASA submitted the initial work plan on April 8, 2021. This plan outlines PRASA’s proposed investments in its Systems over the next ten years. The Authority has been updating and submitting the work plan to COR3 and FEMA every 90 days after the initial submission, as required by FEMA.

4.2.3 Public Assistance Hazard Mitigation (Section 406 of the SA)

Section 406 mitigation measures are funded under the Public Assistance Program. This program provides funding for cost-effective measures that would reduce or eliminate the threat of future similar damage to facilities that were damaged by previous disasters. The 406 funding provides discretionary authority to fund mitigation measures in conjunction with the repair of the disaster-damaged facilities and is limited to the eligible damaged facilities. Section 406 funds should be applied to work on the disaster-damaged facilities when the mitigation measure directly reduces the potential of future, similar disaster, damages to the eligible facility. The projects expected to be funded under this program are included in Table 4-1.

TABLE 4-1: DISASTER RELATED HAZARD MITIGATION (406) PROJECTS (IN \$ MILLIONS)

Projects	Requested Amount	Approved Amount
Dorado-Barceloneta	\$ 792.0	\$ -
Rehabilitation E. Ortega WTP	\$ 2.3	\$ 2.3
Isabela Lake Membranes	\$ 6.9	\$ 6.9
	\$ 801.2	\$ 9.2

4.2.4 Hazard Mitigation Grant Program (Section 404 SA)

Funds under Section 404 can be used to provide mitigation funding to undamaged parts of a facility or to prevent or substantially reduce the risk of damage caused by future disasters. Section 404 mitigation measures are funded under the HMGP.

Puerto Rico receives a percentage of the total federal share of the declared disaster damage amount (20%), which it uses to fund projects anywhere in Puerto Rico, regardless of where the declared disaster occurred or the disaster type.

Federal grants provided under Section 404 may be used in conjunction with 406 mitigation funds to bring an entire facility to a higher level of disaster resiliency, only when portions of the facility were damaged by the current disaster event.

PRASA has submitted HMGP 404 Applications requesting \$438.5 million in assistance as shown in Table 4-2.

TABLE 4-2: HMGP (404) APPLICATIONS (IN \$ MILLIONS)

Projects	Amount Requested	Amount Approved
East Region Water System Improvements (Valenciano)	\$ 417.0	\$ 418.6
San Sebastián WWTP Elimination	17.1	0.0
Enrique Ortega La Plata Generators for RWI	1.5	1.5
Salinas WTP - Phase I	2.9	2.9
	\$ 438.5	\$ 423.0

4.3 HUD CDBG Programs

HUD provides flexible grants to help U.S. cities, counties, territories and states to recover from Presidentially-declared disasters, especially in low-income areas, subject to the availability of supplemental appropriations. In response to Presidentially-declared disasters, Congress may appropriate additional funding for the CDBG Program through Disaster Recovery grants to rebuild the affected areas and provide financial assistance to start the recovery process. Financial assistance from CDBG-DR will fund a broad range of recovery activities allowing HUD to help communities and neighborhoods that otherwise might not recover due to limited resources.

Each CDBG-DR activity, including CDBG-MIT (Mitigation), must meet the following criteria: (1) address a disaster-related impact (direct or indirect) in a Presidentially-declared disaster area; (2) be a CDBG-DR eligible activity; and (3) meet a CDBG-DR national objective. The national objectives include: (1) benefit low-and moderate-income persons; (2) aid in the prevention or elimination of slums or blight, or; (3) meet community development needs having a particular urgency. The Puerto Rico Department of Housing has been designated by the Government of Puerto Rico as the agency responsible for administering CDBG-DR funds. Under the commitment to administer the Funds in an efficient and transparent manner, PRDOH built its “Action Plan” to govern the recovery and reconstruction of the Island, after receiving multi-sector recommendations. The latest version of the Action Plan is available on the Department of Housing’s website.

4.3.1 HUD CDBG-DR Program

CDBG-DR funding supplements other Federal recovery assistance programs administered by FEMA, the Small Business Administration (SBA), and USACE. CDBG-DR funds cannot duplicate funding available from federal, state or local governments, private and non-profit organizations, insurance proceeds, or any other source of assistance and can be applied to fund the local match requirement – NFMP (Non-Federal Match Program). NFMP uses CDBG-DR funds to provide a separate grant to meet the local cost share requirement for other federal programs, including FEMA and consists of three sub-programs:

- FEMA Public Assistance (PA) Match;
- FEMA Individual Assistance (IA) Match; and

- HMGP Global Match.

Most of FEMA funding for permanent works requires the recipient to match 10% of the total amount. The Authority plans to meet its cost-share portion with CDBG-DR Program funds, as they become available and as designated in accordance with the Department of Housing’s Action Plan. Under the NFMP, the Authority has \$406.9 million in eligible costs from the FAASt obligation and additional costs from the Section 404 and 406 programs to cover the state match needs for funding under FEMA Programs.

In the event that these funds are not available or otherwise not designated in the Action Plan, PRASA must identify alternate options to cover the required local cost share obligation.

On September 2, 2021, PRDOH and the Authority entered into a sub-award agreement for \$200 million under the CDBG-DR NFMP to fund the state match of the FEMA FAASt award.

Under CDBG-DR Program, in June 2021, \$2 billion were appropriated for electric power system enhancements and improvements for Puerto Rico and the U.S. Virgin Islands. CDBG-DR funds for electrical power system improvements provide a unique and significant opportunity for Puerto Rico and the USVI to carry out strategic and high-impact activities to address necessary expenses and mitigate disaster risks to their electrical power systems; improve system reliability, resiliency, efficiency, and sustainability; and address each system’s long-term financial viability. On June 22, 2021, HUD published Federal Register Vol. 86, No. 117 (June 22, 2021), 86 FR 32681, which governs the use of the \$2 billion CDBG-DR allocation for enhanced or improved electrical power systems in Puerto Rico and the U.S. Virgin Islands. Of those \$2 billion, \$1,932,347,000 was allocated to Puerto Rico to enhance the Puerto Rico electrical power system.

4.3.2 HUD CDBG-MIT Program

CDBG-MIT Program is a unique and significant opportunity for eligible grantees to use this financial assistance to support areas impacted by recent disasters to carry out strategic and high-impact activities to mitigate disaster risks and reduce future losses.

The program defines mitigation as activities that increase resilience to disasters and reduce or eliminate the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship by lessening the impact of future disasters.

The CDBG-MIT Program applies for costs not covered or in excess of funding available from the FEMA Public Assistance Non-Disaster Related Hazard Mitigation (Section 404) Program. Therefore, availability of these funds will be subject to Congressional appropriation under Section 404.

Table 4-3 lists the CDB-MIT Applications that PRASA has submitted for the projects.

TABLE 4-3: CDBG-MIT APPLICATIONS (IN \$ MILLIONS)

Projects	Amount Requested	Amount Approved
EGUs La Plata - Phase II	\$ 20.6	\$ 20.6
Bauta	257.4	0.0
Salinas WTP - Phase II	24.9	24.9
New PF San Lorenzo	43.3	0.0
	\$ 346.2	\$ 45.5

4.4 Consolidated Appropriations Act, 2021 (CAA)

On December 27, 2020, the CAA was enacted, providing coronavirus emergency response and relief funds.

Section 533 of the CAA provides for \$638 million to prevent, prepare for, and respond to the coronavirus pandemic. This includes necessary expenses to carry out the LIHWAP to assist low-income households, particularly those with the lowest incomes, that pay a high proportion of household income for drinking water and wastewater services. It does so by providing funds to owners or operators of public water systems or treatment works to reduce arrearages of and rates charged to such households for such services.

The funds were be allocated to recipients (including Puerto Rico) based on the following (1) the percentage of households in the State with income equal to or less than 150 percent of the Federal poverty line, and (2) the percentage of such households in the state that spend more than 30 percent of monthly income on housing.

ARPA also assigned funding for the LIHWAP as explained in Section 4.5.2. PRASA requested funding allocated to Puerto Rico for the benefit of qualifying low-income households through the Office of Administration for the Families Socioeconomic Development (ADSEF by its acronym in Spanish). On February 1, 2022, ADSEF received notification that the LIHWAP State Plan for Puerto Rico was approved and in October 2022 \$4.5 million was received and applied to low-income clients' debt relating to water and wastewater services.

Additionally, Section 501 of the 2021 CAA provides up to \$25 billion to assist households that are unable to pay rent or utilities under the Emergency Rental Assistance Program (ERAP). Subsequently, on March 11, 2021, ARPA increased the amount for such program by \$21.55 billion. As of March 31, 2023, PRASA received \$21.8 million and applied it to outstanding balances for water and wastewater services of qualifying beneficiaries through the PRHUD.

4.5 American Rescue Plan Act (ARPA)

ARPA was signed into law on March 11, 2021. It provides additional relief to respond to the continued impact of COVID-19 in the United States and its territories.

ARPA provides \$1.9 trillion in total stimulus, building upon the \$2.2 trillion provide under the CARES Act and the \$910 billion provided under CAA Act.

A summary of the ARPA provisions that are relevant to the Authority is included below.

4.5.1 State and Local Assistance

Under Subtitle M, Section 9901 of ARPA, Coronavirus State and Local Fiscal Recovery Funds of \$350 billion were allocated to state, territorial and local governments support their response to and recovery from the COVID-19 public health emergency.

The funds must be obligated by December 31, 2024, spent by December 31, 2026, and must be used for the following purposes:

- Respond to the COVID-19 public health emergency and its negative economic impacts;
- Provide premium pay to eligible workers performing essential work during the COVID-19 public health emergency;
- Replace revenue that was lost, delayed, or decreased as a result of the COVID-19 public health emergency; and
- Make necessary investments in water, sewer, or broadband infrastructure.

The aid to the U.S. Territories^[1] amounted to \$6.67 billion (\$4.5 billion for the Territories and \$2.17 billion for local governments) And was allocated as follows:

- 50% to be allocated equally among the territories, and
- 50% to be allocated to each territory proportionally based on population.

\$2.47 billion was allocated to Puerto Rico’s central government (allocation as a U.S Territory) and \$1.5 billion was allocated to Puerto Rico’s municipalities (allocation for local governments).

The Governor of Puerto Rico subsequently released his spending plan for the \$2.47 billion allocation which included the following allocations to PRASA:

- On September 14, 2021, PRASA received \$7.5 million to provide premium pay to its essential employees working in-person during the pandemic and complying with the parameters required by the applicable guidelines.
- On December 19, 2022, PRASA received \$4.7M to provide an additional premium pay to its employees complying with the parameters required by the applicable guidelines.
- On December 1, 2021, \$65 million was assigned to PRASA’s infrastructure projects. On February 15, 2022, an additional \$130 million was allocated to PRASA for projects related to “Caño Martín Peña Program.” These amounts have been accounted for in the financial projections included herein. Table 4-4 details the projects to be funded with ARPA funds.

^[1] Includes American Samoa, Guam, Northern Mariana Islands, Puerto Rico, the U.S. Virgin Islands

TABLE 4-4: ARPA FUNDS ALLOCATED FOR PRASA PROJECTS – (IN \$ MILLIONS)

Project	Municipality	Allocation Date	Allocation to PRASA
Naranjito WTP	Naranjito	01-Dec-21	54.88
Improvements Santa Rita Sanitary Sewer System	Fajardo	01-Dec-21	6.37
Ceiba Norte and Gurabo Abajo Juncos Sanitary Sewer System	Juncos	01-Dec-21	1.25
Improvements to La Piedra & Pasto Viejo Distribution Systems	Cayey	01-Dec-21	2.50
Improvements to Pajita Falcon Water Supply System	Aguas Buenas	01-Dec-21	0.44
Caño Martin Peña Program	San Juan	15-Feb-22	130.00
Total ARPA Allocation for Infrastructure			195.43

PRASA must pursue additional funding to complete these projects, and any other projects, but there is no guarantee that any additional funds will be received. Only the funds required for the listed projects were included in the Certified Fiscal Plan projections.

4.5.2 Water and Sewer Utilities

Allocation of funds under ARPA specifically for water and sewer utilities includes \$500 million for water assistance grants to states and territories (including Puerto Rico) “to assist low-income households, particularly those with the lowest incomes, that pay a high proportion of household income for drinking water and wastewater services”. The Government will provide the funds under this provision to “owners or operators of public water systems or treatment works to reduce arrearages of, and rates charged to such households for such services” under the LIHWAP.

This funding supplements the one provided by the CAA for LIHWAP.

4.5.3 Other Provisions

ARPA provided additional funding of up to \$9.96 billion to provide relief to the most vulnerable homeowners under the Homeowner Assistance Fund (HAF) to prevent mortgage delinquencies and defaults, foreclosures, loss of utilities or home energy services, and displacement of homeowners experiencing financial hardship after January 21, 2020. Funds from the HAF may be used for assistance with mortgage payments, homeowner’s insurance, utility payments, and other specified purposes. The law prioritizes funds for homeowners who have experienced the greatest economic hardships, leveraging local and national income indicators to maximize the impact.

In April 2021, \$75.6 million was assigned to Puerto Rico. As of April 30, 2023 PRASA received and applied \$3.2 million for the benefit of its clients.

4.6 Infrastructure Investment and Jobs Act

In November 2021, the Infrastructure Investment and Jobs Act of 2021, Public Law 117-58 (IIJA), also known as the Bipartisan Infrastructure Law (BIL), was signed into law. BIL allocates \$550 billion in new spending over the next five years, divided between improving the surface-transportation network (including roads and bridges, public transit, and electric vehicles) and core infrastructure, which includes water infrastructure. BIL will provide more than \$50 billion to address aging water infrastructure, provide funding to replace lead pipes, upgrade water treatment facilities, address emerging contaminants in small and disadvantaged communities, and ensure that water systems are resilient.

The funding will be administered through programs managed by USEPA, and will be divided as follows:

- \$20+ billion for safe drinking water
- \$15 billion to replace lead pipes
- \$12+ billion to ensure clean water for communities and
- \$1.8 billion to protect regional waters, including \$135 million for additional water improvements.

TABLE 4-5: BIL FUNDS FOR WATER PROJECTS – (IN \$ BILLIONS)

Program	Objective	Funding Source	Grant	Loan	State Match	Amount (\$B)
Drinking Water	Lead Service Line Replacement	DWSRF	49%	51%	No	15.0
	Drinking Water Infrastructure	DWSRF	49%	51%	10%	11.7
	Addressing Emerging Contaminants	DWSRF	100%	0%	No	4.0
	Addressing Emerging Contaminants in Disadvantaged Communities	SUDC ²⁹	100%	0%	No	5.0
Clean Water	Waste and Storm Water Infrastructure	CWSRF	49%	51%	10%	11.7
	Addressing Emerging Contaminants	CWSRF	100%	0%	No	1.0
						48.4

BIL also provides for an additional \$2 billion in funding for regional water protection, including estuaries and other specific projects.

On December 2, 2021, USEPA notified the Government that the estimated allocation to Puerto Rico for FY2022, the first year of the five-year funding under BIL, will be \$78.4 million. On March

²⁹ Small, Underserved, and Disadvantaged Communities Program

8, 2022, USEPA published the guidelines to request these funds. PRASA has assumed that a portion of the projects qualifying for SRF funds will be financed with these proceeds.

The appropriation under the BIL Act, excluding funds for emerging contaminants and lead elimination projects, for PRASA for FY2023 is estimated at \$23 million and approximately \$40 million per year for FY2024 through 2026.

4.7 Funding Status

The total federal funds for (i) Reconstruction and Recovery projects after the 2017 Hurricanes and 2020 Earthquakes, (ii) Coronavirus relief, and (iii) water and wastewater infrastructure funds identified, obligated and received as of April 30, 2023 are presented in Table 4-6.

TABLE 4-6: IDENTIFIED, OBLIGATED AND RECEIVED FEDERAL FUNDS (IN \$ MILLIONS)

Program	Funding Source	Identified Amount (\$M)	Obligated/ Approved (\$M)	Received (\$M)
Emergency Work (Cat A&B)	FEMA (PA)	\$ 212.1	\$ 212.1	\$ 196.2
Permanent Work (FAASt, Sec 428)	FEMA (PA)	\$ 3,663.0	\$ 3,663.0	\$ 29.7
Disaster Related Hazard Mitigation	FEMA (406)	801.2	9.2	-
Non Disaster Related (HMGP)	FEMA (404)	438.5	423.0	-
CDBG - MIT	HUD	346.2	45.5	-
CDBG – DR (Non Federal Match)	HUD	406.9	200.0	4.2
Direct Administrative Costs (DAC)	FEMA (PA)	203.5	-	-
Working Capital Advance (Perm Work)	FEMA (PA)	-	-	204.8
Hurricanes Recovery Funds		\$ 6,071.4	\$ 4,552.9	\$ 434.9
Cares Act	OMB	\$ 2.1	\$ 2.1	\$ 2.1
Revenue Loss	ARPA	TBD	-	-
Projects (Naranjito, Sta Rita, etc)	ARPA	66.0	66.0	65.0
Caño Martin Peña	ARPA	130.0	130.0	-
Premium Pay	ARPA	12.3	12.3	12.3
LIHWAP	ARPA/CAA	4.5	4.5	4.5
ERAP – Emergency Rental Assistance	HUD	TBD	16.1	16.1
Mortgage Assistance Program	HFA	TBD	2.8	2.8
Total Coronavirus Relief Funds		\$ 214.9	\$ 233.8	\$ 102.8
CWSRF	EPA	237.9	237.9	58.2
DWSRF	EPA	127.8	65.9	24.5
RD - Harvey, Irma and Maria Grant	RD	24.7	24.7	24.7
RD - Rural Utility Services (ULOs)	RD	22.0	-	-
Total Funds for Infrastructure Projects		\$ 412.4	\$ 328.5	\$ 107.5
TOTAL		\$ 6,698.7	\$ 5,115.2	\$ 645.2

A total of \$6.7 billion of federal funding has been identified, of which \$5.1 billion has been obligated and \$640 million received. The amounts presented in the table above are subject to projects' final needs, eligibility, cost-benefit analysis and program funds availability.

As of April 30, 2023, the funds for infrastructure projects received by fiscal year and the total requested to be received is included in

Table 4-7 and the total amount pending to be reimbursed amounted to \$6.4 million.

TABLE 4-7: FEDERAL FUNDS RECEIVED FOR INFRASTRUCTURE (IN \$ MILLIONS)

Program	Funding Source	FY2020	FY2021	FY2022	FY2023	Total FY2020/FY2023
Permanent Work (FAASt, Sec 428)	FEMA (PA)	-	0.9	15.2	13.6	29.7
CDBG – DR (Non Federal Match)	HUD	-	-	1.6	2.6	4.2
Direct Administrative Costs (DAC)	FEMA (PA)	-	-	-	-	-
Working Capital Advance (Perm Work)	FEMA (PA)	-	-	-	223.4	223.4
RD - Harvey, Irma and Maria Grant	RD HIM Grant	-	-	23.3	1.4	24.7
Hurricanes/Eartquakes Recovery Funds		\$ -	\$ 0.9	\$ 40.1	\$ 241.0	\$ 282.0
Naranjito, S Rita and Others	ARPA	-	-	65.0	-	65.0
Caño Martin Peña	ARPA	-	-	-	-	-
Total Coronavirus Relief Funds		\$ -	\$ -	\$ 65.0	\$ -	\$ 65.0
CWSRF	EPA	18.4	11.0	16.6	12.2	58.2
DWSRF	EPA	3.4	1.8	10.9	8.5	24.5
Total Funds for Infrastructure Projects		\$ 21.8	\$ 12.8	\$ 27.4	\$ 20.7	\$ 82.7
TOTAL		\$ 21.8	\$ 13.7	\$ 132.5	\$ 261.7	\$ 429.7

The federal fund inflow for capital projects expected during the fiscal plan period is presented in Table 4-8, included below.

TABLE 4-8: PROJECTED FEDERAL FUNDS NEEDS FOR INFRASTRUCTURE (IN \$ MILLIONS)

Program	Funding Source	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	Total FY2020 /FY2023
Permanent Work / CDBG DR	FEMA (PA)/ HUD	111.6	515.1	1,000.4	913.3	550.6	248.0	3,338.9
Disaster Related Hazard Mitigation	FEMA (406)	1.5	19.0	64.5	311.7	306.1	293.6	996.4
Non Disaster Related (HMGP)	FEMA (404)	0.5	4.6	23.8	121.9	127.8	128.1	406.7
CDBG - MIT	HUD	0.4	13.4	15.6	23.2	50.5	79.5	182.6
Direct Administrative Costs (DAC)	FEMA (PA)	15.0	15.0	15.0	15.0	15.0	15.0	90.0
Hurricanes/Eartquakes Recovery Funds		\$ 129.0	\$ 567.1	\$ 1,119.4	\$ 1,385.1	\$ 1,049.9	\$ 764.2	\$ 5,014.6
Naranjito, S Rita and Others	ARPA	3.3	15.9	26.4	24.7	18.8	9.5	98.5
Caño Martin Peña	ARPA	1.4	9.6	47.9	47.9	36.1	-	143.0
Total Coronavirus Relief Funds		\$ 4.7	\$ 25.5	\$ 74.3	\$ 72.6	\$ 54.9	\$ 9.5	\$ 241.5
CWSRF	EPA	42.7	144.1	138.3	53.1	47.0	45.4	470.6
DWSRF	EPA	25.6	75.5	80.4	39.4	13.6	2.0	236.5
Rural Development	RD	0.8	6.1	8.6	2.9	-	-	18.5
Total Funds for Infrastructure Projects		\$ 69.2	\$ 225.8	\$ 227.3	\$ 95.4	\$ 60.6	\$ 47.4	\$ 725.5
PROJECTED FEDERAL FUNDS FOR CIP		\$ 202.9	\$ 818.3	\$ 1,420.9	\$ 1,553.0	\$ 1,165.4	\$ 821.1	\$ 5,981.6

5 Long-Term Fiscal Responsibility and Operational Sustainability

Since FY2016, PRASA has been able to fund some of its CIP needs with the savings achieved through the implementation of measures included in prior fiscal plans. For example, at the beginning of FY2020, PRASA successfully modified its Federal Debt by reducing interest rates and extending the amortization periods, resulting in debt service relief to the Authority of approximately \$370 million between FY2021 and FY2031. Furthermore, in November 2020, the Authority was able to settle a non-secured loan with the GDB Debt Recovery Authority, resulting in over \$55 million in savings against the asserted claims. Subsequently, in December 2020, PRASA was able to issue via a limited public offering approximately \$1.4 billion in its 2020 Senior Bonds, achieving \$350 million in total debt service savings. This was followed in August 2021 with the issuance of the 2021 Senior Bonds to similar investors that, coupled with the issuance of its 2022 Senior Bonds in June 2022, enabled PRASA to refinance all of the Authority's 2012 Senior Bonds, resulting in total debt service savings of \$570 million. The 2020 and 2021/2022 senior debt refinancing agreements resulted in the Authority obtaining written consent from holders of almost all of the Authority's outstanding senior bonds³⁰ to modify the MAT. This consent allowed the Authority to convert the current pledge of revenues to pay senior debt service from a gross revenue pledge to a net revenue pledge, subject to obtaining the written consent of the Federal Lenders to such a change.

PRASA currently pays its operating expenses, debt service obligations, and the non-federally funded portion of critical CIP projects with operating revenues. The capital-intensive nature of water utility operations will likely require, in the long term, restoring PRASA's access to credit markets at reasonable rates in order to raise the necessary funding for CIP costs not covered by federal grants and low-cost loans. However, as a result of the January 5, 2021 FEMA obligation to provide \$3.66 billion for recovery projects and the availability of other significant federal grants and other funding described in Chapter 4, the need to access credit markets for CIP financing may not be required in the near-term. This funding has placed PRASA in a relatively stable financial situation that should allow it to improve the condition of the Systems and the Authority operations for the benefit of the people of Puerto Rico.

Although no debt issuances are expected for the Fiscal Plan Period, in future years PRASA's CIP may be partially financed through the issuance of long-term debt, subject to market access, market conditions, and PRASA's needs. Such a debt issuance could make sense if it would help distribute the financial burden of major capital works to customers across a longer time period and to maintain affordable rates while funding essential works on the System.

³⁰ The remaining 2008 Senior Bonds that were not refinanced (the holders of which have not consented to the MAT pledge modification) will mature on July 1, 2024.

5.1 Plan for Maintaining Long-Term Fiscal Responsibility

To achieve fiscal responsibility and maintain it for the long-term, PRASA must (a) implement measures outlined in Chapter 3 to build on improvements made in financial and operational performance in order to mitigate future demographic, economic, environmental/climate, and fiscal challenges the Commonwealth and (b) maximize federal funding from the programs described in Chapter 4 any additional funding that may become available.

PRASA must be committed to building on its past financial accomplishments particularly in further improvements to the conditions of its Systems, increasing operational efficiencies, and a timely, on-budget implementation of its CIP. These areas are expected to be properly addressed with the projected inflow of federal funds to cover (with appropriate contributions from PRASA’s internal funds) its CIP needs, allowing for both a more robust infrastructure and a more efficient and resilient water and wastewater systems.

Table 5-1 sets forth key steps being taken by PRASA which demonstrate its commitment to long-term fiscal responsibility through meaningful and measurable actions.

TABLE 5-1: PLAN TO RESTORE COST-EFFECTIVE CAPITAL MARKET ACCESS

Authority action plan	STATUS	
Implementation of Measures in the Certified Fiscal Plan	<ul style="list-style-type: none"> • Ensure implementation of measures discussed in Chapter 3 through the management and oversight of the Steering Committee. 	In progress
Federal Funds Maximization	<ul style="list-style-type: none"> • Maximize FEMA funds for Systems recovery and reconstruction in a manner consistent with best industry practices. • Maximize use of low-cost funding resources, such as SRF program or USDA RD bonds, by ensuring project compliance with these programs. • Identify and maximize funding of other federal program as described in Chapter 4 and any additional funding that may become available. 	In progress
Systems health, service area, and economy	<ul style="list-style-type: none"> • Ensure long-term planning by updating the Authority’s Master Plan, ten-year CIP, and Emergency Response Plan. 	In progress
Financial strength of operations	<ul style="list-style-type: none"> • Budgeting to comply with or exceed MAT covenant requirements, including proper funding for operating expenses, debt service, reserves, and CIP. • Publish long-term financial projections (Fiscal Plans). • Quarterly interim financial results and key operational information. • Maintain 90-days cash balance in the ORF. 	Implemented

Authority action plan		STATUS
Rate setting process and regulatory compliance	<ul style="list-style-type: none"> Timely, systematic annual rate increases from FY2024 and onward, consistent with industry best practices, economic factors, and feedback from key stakeholders. Ensure rate affordability. 	Ongoing
Strength and independence of governance	<ul style="list-style-type: none"> Limit turnover of key decision makers by continuing current succession process. Compliance with Act No. 68-2016: (i) a diversified, independent, and professionalized Governing Board; (ii) Executive Officers appointment by the Governing Board complying with specific requirements; and (iii) specific terms for non-ex-officio Governing Board members and key executive officers. 	Implemented
Operational and financial management assessments	<ul style="list-style-type: none"> Develop and implement disclosure best practices, including: <ul style="list-style-type: none"> Operational and financial measure tracking; Timely publication of audited financial statements; Quarterly interim operating reports; and Annual consulting engineer reports. 	Implemented In progress Implemented Implemented
CIP delivery	<ul style="list-style-type: none"> Ensure efficient execution of capital projects through capital delivery optimization. 	In progress

5.2 Debt Sustainability Analysis

The DSA provides a framework to assess PRASA’s long-term capacity to pay debt service under the terms of the MAT and future market access. PRASA’s debt levels need to be consistent with industry standards in order to ensure market access for future borrowing to fund, when needed, ongoing infrastructure investment and/or refunding opportunities for savings.

As described in this Certified Fiscal Plan, PRASA must be focused on executing a set of financial, operational, and non-financial measures to ensure continued access to capital markets at reasonable rates.

The annual projected debt service is presented in Exhibit 5-1 included below.

EXHIBIT 5-1: PROJECTED ANNUAL DEBT SERVICE (IN \$ MILLIONS)

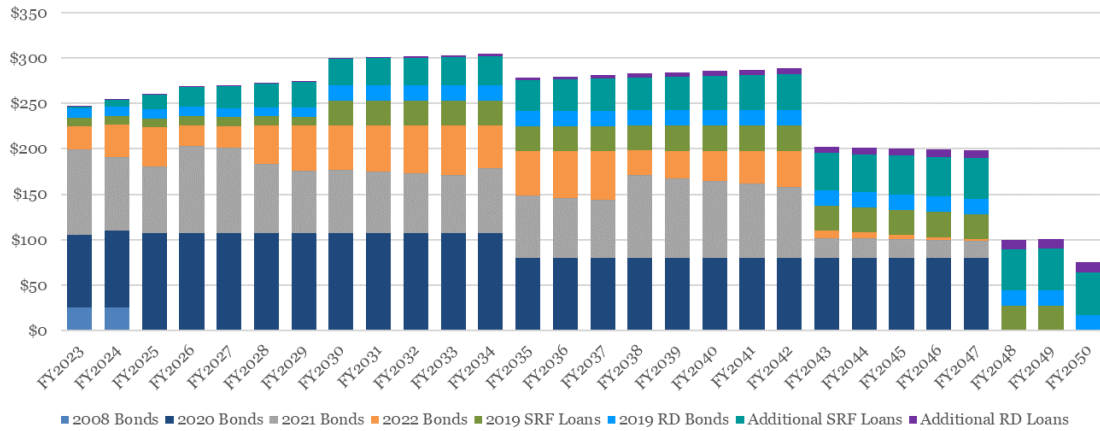
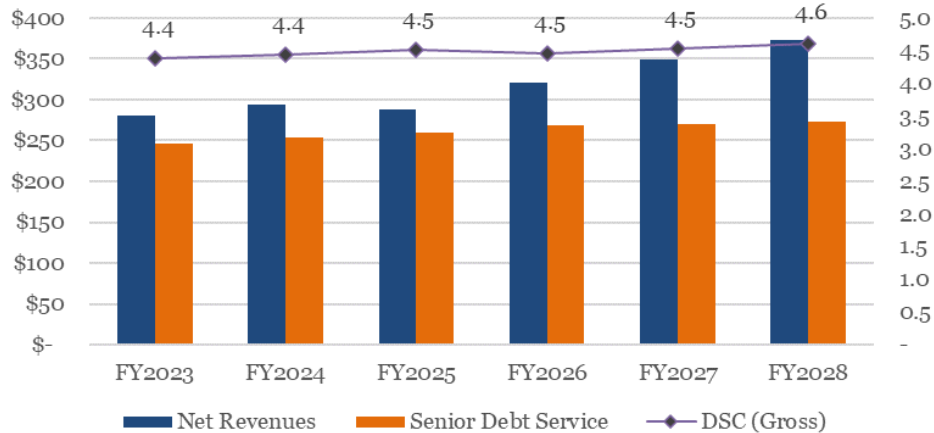


Exhibit 5-2 below illustrates PRASA’s capacity to pay current and projected debt within the constraints of the current MAT (gross revenue pledge) during the Fiscal Plan period.

EXHIBIT 5-2: DEBT SERVICE COVERAGE (GROSS REVENUE PLEDGE), (IN \$ MILLIONS)³¹



As explained in Section 2.6.1 herein, the proposed MAT amendment will modify the revenue pledge from a gross revenue pledge to a net revenue pledge. This amendment will become effective when all the remaining senior indebtedness holders, including the Federal Lenders, consent to the change.

³¹ PRASA’s current outstanding debt has a mixture of varying coupons that are different from the illustrative 4%, 5% and 6% discount rates. Additionally, PRASA’s current outstanding debt has a mixture of maturity terms and amortization that varies from the illustrative 30-year level debt service analysis. Please refer to PRASA’s recent Official Statement and/or continuing disclosures for up-to-date information on PRASA’s indebtedness and annual debt service obligations.

6 Reporting Requirements

As part of monitoring progress of the Certified Fiscal Plan measures, PRASA is required to submit periodic reports to FOMB and, on occasions, to the public. Table 6-1 lists these reports and their frequency.

TABLE 6-1: REPORTS TO BE PRESENTED

Report Type	Details	FOMB Reporting Timing	Public Reporting Timing
Budget to actuals (B2A)	<p>Tracking of budgeted to actual spend per budget certification agreement with the FOMB:</p> <ul style="list-style-type: none"> • Explanation for material variances for YTD (>10% and >\$1 million or > \$10 million) • Accounts receivable by type of client (residential, commercial, industrial, and governmental) • Schedule with amounts owed by each government client • Government collections and payment plans (for all govt. customers) • Collections by customer segment • Monthly headcount roll forward by function • Monthly profit and loss statement 	<ul style="list-style-type: none"> • Monthly reporting after budget is certified • Quarterly, PROMESA Section 203 reporting after budget is certified 	<ul style="list-style-type: none"> • Quarterly
Liquidity	<p>Cash flow report:</p> <ul style="list-style-type: none"> • Actual and projected cash flows for the FY, including Current Expense Fund beginning and ending balances • Total cash balance by account, available upon FOMB request 	<ul style="list-style-type: none"> • Monthly 	<ul style="list-style-type: none"> • Monthly (cash flow actuals)

Report Type	Details	FOMB Reporting Timing	Public Reporting Timing
Measures	Status, schedule, and fiscal impact of Fiscal Plan measures	<ul style="list-style-type: none"> Based on each measure's due date as established in this Fiscal Plan 	<ul style="list-style-type: none"> N/A
CIP: implementation tracking	CIP monthly progress reports and actual spend to date	<ul style="list-style-type: none"> Project-level reporting: monthly 	<ul style="list-style-type: none"> N/A
Water quality KPIs and environmental compliance	<ul style="list-style-type: none"> Summary of compliance KPIs Detailed compliance reports, by plant, available upon the FOMB's request 	<ul style="list-style-type: none"> KPI reports: quarterly 	<ul style="list-style-type: none"> Annual Consumer Confidence Report
Water Balance	Publish water balance in accordance with AWWA M36 standards to include the following components: <ul style="list-style-type: none"> Water supply; Water consumption; and Water losses. 	<ul style="list-style-type: none"> Annual 	<ul style="list-style-type: none"> Annual
FEMA	Provide updates on FEMA Federal funding, particularly on the summary of YTD FEMA disbursements for permanent works <ul style="list-style-type: none"> summary of YTD FEMA disbursements for permanent works 	<ul style="list-style-type: none"> Quarterly FAASt status and summary of disbursements 	<ul style="list-style-type: none"> Quarterly

6.1 Monthly KPIs for Measures

Table 6-2 identifies the critical KPIs to be tracked monthly and the start date of tracking such measures. All start dates are assumed to be August 15 of the Fiscal Year unless otherwise listed or modified by the FOMB through prior authorization.

TABLE 6-2: NEW MEASURE KPIs

Measure	KPI	Frequency	Start Date
Rate Adjustment	Financial Impact of Measure	Monthly	FY2024
	Meters replaced (starting in FY2025)	Quarterly	FY2025

Measure	KPI	Frequency	Start Date
Metering Optimization	Increase in revenues due to meter replacement (starting in FY2025)	Semi-Annually	FY2025
Electricity Expense Reduction	Track energy consumption vs. annual targets	Quarterly	FY2024
	Energy from new PPAs	Monthly	FY2026
Physical Water Loss Reduction-Overall	Annual Water Balance including real and apparent losses	Annual 60 days after FY end	FY2024
	Infrastructure Leakage Index (ILI)	Annual 60 days after FY end	FY2024
	Benefit of the initiative	Quarterly	FY2024
Physical Water Loss Reduction-Master Meters	Measured and estimated average production (in MGDs)	Quarterly	FY2024
	Master Meters to be replaced and number replaced / installed	Quarterly	FY2024
	Water production measured (as % of total water production)	Quarterly	FY2024
Physical Water Loss Reduction-Pressure Management	Number of pressure zones visited	Monthly	FY2024
	MGDs saved due to pressure management	Monthly	FY2024
Physical Water Loss Reduction-Leaks Detection	Unreported Leaks Pre-Located	Monthly	FY2024
	Unreported Leaks Pinpointed	Monthly	FY2024
	Average Leak Cost per Day (identified leaks)	Monthly	FY2024
	Leak Mean Time to Repair	Monthly	FY2024
	MGDs saved due to leaks repaired	Monthly	FY2024
	Percentage (%) of Identified Leaks Repaired	Monthly	FY2024
CIP tracking	Cost Performance Index	Monthly	FY2024
	Schedule Performance Index	Monthly	FY2024
New Federal Funds	Federal Funds Received	Monthly	FY2024

7 Risks and Mitigating Strategies

As a large and complex utility operating in an uncertain environment, PRASA’s implementation of its key measures is subject to risks and unforeseen events, many of which are outside of the Authority’s control. Table 7-1 summarizes an analysis of the key risks that have been identified as having the potential to impact or delay PRASA’s Fiscal Plan implementation and the corresponding mitigation strategies. However, it is worth noting that this outlook is based on the best information available as of the date of preparation of this Fiscal Plan, and over time PRASA may become aware of additional existing risks or new risks may arise that could significantly affect the Authority’s financial and/or operational performance, including actions by Local or Federal Government and/or the US Congress.

TABLE 7-1: RISKS TO FISCAL PLAN IMPLEMENTATION AND MITIGATING STRATEGIES

Risk Category	Potential Impacts	Mitigating Strategies
Natural Disasters & Climate Vulnerability	Catastrophic natural disasters – Events such as droughts, floods, pandemics, hurricanes, and earthquakes could have significant financial and operational impacts, including system failures, water rationing, and environmental noncompliance. The severity of some of these events and their impacts on the Authority may be exacerbated over time due to climate change.	<ul style="list-style-type: none"> • Emergency Response Plans and a Climate Change Vulnerability Study and Adaption Plan are partially integrated into operations and whereas capital requirements are integrated into the updated Master Plan. • Maintain a cash ORF fully funded.
Revenue risks	<p>Decreased demand – Decreases in population and reduced consumption among customers are expected to reduce revenues during the Fiscal Plan Period.</p> <p>Lower collections rates – Collections rates may be lower than forecast due to overall inability of customers to pay for services, resulting in decreased revenues.</p>	<ul style="list-style-type: none"> • Meter replacement program focused on resiliency and increasing the precision of water consumption and billings. • Maintain a fully funded ORF (90-days cash). • Increase and enhance digital payment options and collection capabilities. • Offer payment plans to eligible customers. • Service disconnection restart after Act-39 application expired.
Expenditures and Regulatory Risks	Major change in Systems performance – A decrease in Systems performance (e.g., major infrastructure failure, water quality crisis) due to deteriorating Systems conditions may significantly increase operating and capital expenses to address issues.	<ul style="list-style-type: none"> • Keep ORF fully funded. • Ensure CIF is funded to appropriate levels to address CIP project outlays and potential emergency projects not identified at the time of this Fiscal Plan. • Maximize federal funding to materially improve the Systems condition, rebuilding it to industry standards.



Risk Category	Potential Impacts	Mitigating Strategies
	<p>Changes in payroll legislation – Payroll expenses account for over 40% of projected operating expenses.</p> <p>Changes in payroll legislation, including changes to the state or federal pay scales and minimum wages, will materially impact PRASA’s largest cost component, the execution of right-sizing measures, capacity and PRASA’s salaries competitiveness and employee’s retention in a high demand labor market.</p>	<ul style="list-style-type: none"> • PRASA executed a Negotiation Agreement with UIA providing for the negotiation of revised pay scales, among others. • The impact of updated pay scales projected minimum wages and incentives for critical positions were incorporated into the financial projections included herein.
	<p>Changes in electricity rate costs – Electricity accounts for around 20% of projected operating expenses. Variations of \$0.01/kWh can lead to annual expense variances of \$6.5 million.</p>	<ul style="list-style-type: none"> • Closely monitor the implemented energy efficiency and electricity consumption reduction measures. • Seek more renewable energy alternatives as described in this Fiscal Plan.
	<p>Increase in chemicals costs – As a result of the current market prices and chemicals availability, material changes may impact PRASA’s financial projections.</p>	<ul style="list-style-type: none"> • Increased costs were incorporated into the financial projections. • Continuous analysis and implementation of efficiency measures. • Competitive process for chemicals acquisitions when available (for non-exclusive suppliers of chemicals).
	<p>Availability of contracted resources to execute the CIP as planned – The recent inflow of FEMA and other federal funds will increase demand of contractors and materials which will create challenges to execute the CIP as planned, regarding both timing and cost. Additionally, changes to salaries in the construction industry and increased prices of commodities and other raw materials may further increase the CIP projected costs and therefore create incremental financing needs.</p>	<ul style="list-style-type: none"> • Attract contractors to PRASA projects through timely payment and long-term contracting. • Close monitoring of CIP implementation and timely correction of deviation when possible. • Frequent revisions to reflect material CIP changes to adjust timing or the required needs of funding, when applicable.
	<p>More stringent environmental regulations – Changes in environmental legislation (e.g., more stringent drinking water standards) may increase overall expenses for chemical and lab usage, in addition to possible requirement of mandated project costs.</p>	<ul style="list-style-type: none"> • Prioritize projects to address environmental compliance and agreement of a new Consent Decree, adapted to PRASA’s updated situation and condition. • Frequent revisions to reflect material CIP changes to adjust timing or the required needs of funding, when applicable.
Financing Risks	<p>Reduction in federal funds availability or timing delays – either would require additional self-funding for the CIP or interim financing to cover any shortfalls or delays in the federal funding disbursement process</p>	<ul style="list-style-type: none"> • Maintain a healthy balance in the CIP Fund to allow for the required payments to contractors prior to receipt of federal funds. • Proper and efficient management of federal funds requests and documentation, including the reorganization of the Infrastructure Department to address the increased volume of projects federally funded. • Accessing the capital market for interim financing, as and if needed.

Risk Category	Potential Impacts	Mitigating Strategies
Operational Risks	Management capability – Lack of capability to execute and fully deliver on assigned measures in the Fiscal Plan. If benefits are not achieved and/or fall short of targets that could negatively affect the financial projections included herein.	<ul style="list-style-type: none"> • Ensure PMO has a clear oversight role over the Fiscal Plan measures and the ability to escalate problems to the appropriate decision-making parties. • Ensure continuous and consistent monitoring of KPIs and milestones for all measures identified in the Fiscal Plan, so that the PMO has the ability to measure and report progress, identify roadblocks, and address them in a timely manner.
	Coordination gaps – Some measures require coordination across many functional groups, agencies, and stakeholders. There is a risk that a lack of coordination prevents the full implementation of measures in a timely manner, which would delay the Fiscal Plan objectives of long-term financial and operational sustainability.	<ul style="list-style-type: none"> • Assign clear owners for each measure and establish an operating model for cross-department collaborations under the PMO. • Maintain fluid and continued communication with federal and local agencies, such as FEMA, EPA, PRDOH, PRDNER, PRHUD and RD.
	Workforce availability – Personnel recruiting challenges due to the lack of resources and below market salary levels can impact PRASA’s operations and the provision of adequate service.	<ul style="list-style-type: none"> • Gradually achieve appropriate headcount level, resulting from the Organizational Capacity Study • Adjustments to the compensation structure implemented to allow for competitive salaries, reduce employee turnover and improve competitiveness of PRASA in the labor market.

8 Conclusion

This Fiscal Plan reflects the financial and operational goals of PRASA in compliance with the requirements mandated by PROMESA to ensure fiscal responsibility and access to credit markets at reasonable rates, while prioritizing delivery of reliable, safe, and affordable water and wastewater services. In providing these essential services, the Authority prioritize compliance with applicable federal and local environmental and other regulations, safeguarding the health of the population, and protecting the environment.

As shown throughout this Fiscal Plan, PRASA has made material progress in stabilizing its finances, while it recognizes there are still areas of opportunity to address NRW, stabilize rising operational costs, and ensure proper CIP execution while properly maintaining Systems' infrastructure.

The inflow of federal funds for critical CIP projects and PRASA's improved financial condition are expected to allow PRASA to leverage a unique opportunity to ensure it achieves and maintains long-term fiscal responsibility, operational sustainability, and a reliable and resilient infrastructure.

For an entity that is reliant on capital-intensive works to maintain, and potentially improve, its performance, finally having the financial wherewithal for capital execution at its disposal, PRASA recognizes the historic opportunity to transform and upgrade its System.

To reinvigorate PRASA as a sustainable utility the full implementation of the comprehensive fiscal and operational measures outlined in this Fiscal Plan is essential. Provided that all the Fiscal Plan measures are implemented in an efficient and timely manner, PRASA will be able to achieve its objectives of long-term fiscal responsibility and operational sustainability, thus enabling the sustained provision of reliable, affordable, and safe water and wastewater services to the people of Puerto Rico.

Appendix

Consolidated Action Plan

Measure	Action Item	Deadline	Owner
Rate Simplification & Adjustment	Review of actual need for subsequent fiscal year	31-May-23	Finance
Metering Optimization	Proponent Selection and Master Contract	30-Jun-23	VP of Strategic Planning
Rate Simplification & Adjustment	Implementation of applicable Rate Adjustment	1-Jul-23	VP of Strategic Planning
Metering Optimization	RFP for meter installation	31-Jul-23	VP of Strategic Planning
Electricity Cost Reduction	Superaqueduct Microgrid Request for Proposal (RFP)	31-Jul-23	Infrastructure
Competitive Compensation	Payment of 2016 Christmas Bonus balance	31-Jul-23	Human Resources
PMO	Contract signing with selected proponent	31-Jul-23	PMO
Physical Water Loss	Define 20 pressure zones to be optimized and monitored during FY2024	31-Jul-23	WRO
Physical Water Loss	Recruit/contract two electricians for advanced Pressure Management	31-Jul-23	WRO
Physical Water Loss	Complete a plan to achieve the leak detection goal for FY2024	31-Jul-23	WRO
Asset Management	Procure a consultant to evaluate current Asset Management policies and status	31-Aug-23	Maintenance Director
Chemical Expense Stabilization	Selection of a consultant to evaluate current chemical management practices and provide recommendations	31-Aug-23	VP of Operations
Metering Optimization	Provide status to the Oversight Board on proponent selection and performance	31-Aug-23	VP of Strategic Planning
Organization Optimization	Provide status to the Oversight Board on the potential evaluation system expected to be used in the workforce efficiency plan	31-Aug-23	Human Resources

Measure	Action Item	Deadline	Owner
Interagency Coordination	Identify relevant Agencies	31-Aug-23	VP of Operations
PMO	Defining and implementing PMO reports and methodology	30-Sep-23	PMO
Chemical Expense Stabilization	Complete assessment and report to the Oversight Board on areas of opportunity with potential benefits	31-Oct-23	VP of Operations
Electricity Cost Reduction	Superaqueduct Microgrid Design Start	31-Oct-23	Infrastructure
Physical Water Loss	Contract additional brigades, as needed for leak detection/repair or pressure management civil works	31-Oct-23	WRO
Physical Water Loss	FY2023 Water Balance Submission to FOMB	31-Oct-23	WRO
Interagency Coordination	Define roles, responsibilities, synergies, and report to the Oversight Board	31-Oct-23	VP of Operations
Electricity Cost Reduction	Provide status to the Oversight Board for the Superaqueduct Microgrid and Master Plan energy projects	1-Nov-23	Infrastructure
Chemical Expense Stabilization	Develop strategies for implementation as recommended in the consultant's report	1-Dec-23	VP of Operations
Master Plan	Provide draft of the Updated Master Plan to the Oversight Board	1-Dec-23	Infrastructure
New Financing for CIP	Execute Financial Assistance Agreement for new CWSRF funds - FY2022 Appropriation	31-Dec-23	Finance
PMO	Identifying pilot projects and creating the project portfolio	31-Dec-23	PMO
Rate Simplification & Adjustment	Provide status to the Oversight Board on the analysis to assess financial needs	1-Jan-24	Finance
Interagency Coordination	Implementation of Joint Projects and Initiatives	31-Jan-24	VP of Operations
Chemical Expense Stabilization	Deploy implementation as recommended in the consultant's report	1-Feb-24	VP of Operations
Metering Optimization	Meter installation contract award	29-Feb-24	VP of Strategic Planning / Legal
Metering Optimization	Full Deployment Implementation Plan	29-Feb-24	Selected Proponents

Measure	Action Item	Deadline	Owner
Metering Optimization	Network and Integration Design	29-Feb-24	Selected Proponents
Master Plan	Complete the Updated Master Plan	29-Feb-24	Infrastructure
Physical Water Loss	Complete training plan	29-Mar-24	WRO
Asset Management	Assessment and report on current Asset Management status and areas of improvements on processes, strategies, and practices	29-Mar-24	Maintenance Director
Organization Optimization	Develop a plan to measure workforce efficiency	29-Mar-24	Human Resources
Master Plan	Size potential benefits from Master Plan priority projects and include as preliminary projections in the measures to be included in the 2024 Proposed Fiscal Plan	29-Mar-24	Infrastructure
Metering Optimization	Pilot deployment completion and acceptance	30-Abr-24	Technical Advisor
Metering Optimization	Full deployment commencement	31-May-24	VP of Strategic Planning
Electricity Cost Reduction	Present deployment plan for energy projects based on the Master Plan guidance	31-May-24	Infrastructure
Master Plan	Incorporate findings from Master Plan into the CIP	31-May-24	Infrastructure
Physical Water Loss	Complete Master Meters calibration and installation goal for FY2024	30-Jun-24	WRO
New Financing for CIP	Execute Financial Assistance Agreement for new DWSRF funds - FY2022 Appropriation	30-Jun-24	Finance
Organization Optimization	Develop a plan to measure workforce efficiency	30-Jun-24	Human Resources
Electricity Cost Reduction	Based on the energy deployment plan, define an action plan for implementing new renewable/alternate energy projects	30-Sep-24	Infrastructure
Asset Management	Plans to address areas of improvement and implement the consultant's recommendations, subject to financial and other resources limitations	30-Sep-24	Maintenance Director

Measure	Action Item	Deadline	Owner
Electricity Cost Reduction	Superaqueduct Microgrid Project Completion	31-Oct-26	Infrastructure
Organization Optimization	Continue tracking absenteeism and overtime levels to identify areas of opportunities	Ongoing	Human Resources
Competitive Compensation	Annual adjustment of minimum salaries, when applicable	Ongoing	Human Resources
New Financing for CIP	Execute Loan Agreements for USDA RD funds	TBD	Finance