

# **PREPA's Transformation** A Path to Sustainability

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## **Background – PREPA's Financial & Operational Challenges**



## **PREPA Historical Challenges**

#### PREPA has become one of the island's most challenged public corporations

External Challenges	<ul> <li>Prolonged and ongoing recession</li> <li>Significant drop in energy sales</li> <li>Decreasing population and demand</li> <li>Provides power to certain customers at subsidized rate</li> <li>Various customers don't pay for their use of power</li> </ul>
Internal Challenges	<ul> <li>Changing direction and policies of different administrations</li> <li>Business decisions including staffing and capital investment are often driven by political priorities rather than sound business judgment</li> <li>Antiquated rate structure does not effectively capture costs</li> <li>High dependence on fuel oil and inability to diversify fuel mix</li> <li>Lack of strategic environmental compliance plan, including MATS</li> <li>Absence of institutionalized processes and procedures</li> <li>Outdated systems and information technology</li> <li>Disorganized and ineffective customer service infrastructure</li> </ul>

#### **Challenges have resulted in a difficult financial situation for PREPA**

- No access to bond market and bank financings
- Billions needed for a capital infrastructure program for conversion to clean energy, improving operational efficiency and environmental compliance



## **PREPA Historical Financial Performance**

As demand has fallen, PREPA's financial performance has declined, cash flows have been significantly negative and PREPA has borrowed to fund operating expenses





(1) As indicated for each fiscal year in PREPA's Monthly Reports to the Governing Board for June of each of the years shown.

(2) Reflects Total Revenues per kWh as reported for each fiscal year in PREPA's Monthly Reports to the Governing Board for June of each of the years shown.

(3) Defined for fiscal years 2010 to 2013 as Operating Income plus depreciation less CILT, changes in working capital, capex and financing expenses (effectively all cash flows with the exception of principal issuances and repayments), as reported in PREPA's audited financial statements. Fiscal year 2014 reflects a preliminary estimate based on PREPA's statement of net position.

(4) Fiscal years 2010-2013 as reported in PREPA's audited financial statements. Current balance reflects PREPA's total bonds outstanding, fuel lines and GDB lines of credit.

## **PREPA Historical Operational Challenges**

Political influence has driven a lack of focus on long-term strategy and follow-through for infrastructure investment and operations

# History of Political Influence

- Political influence has prevented the development and implementation of a longterm business plan
  - Lack of focus on industry best practices
  - Limited strategy for overcoming operational and financial challenges

Board of Directors and Management Shifts

- Instability of board and management due to political cycles has complicated long-term planning required for key infrastructure projects that would have diversified PREPA's fuel mix and facilitated environmental compliance
  - South pipeline
  - North pipeline



# Case Study: Failed Development of Infrastructure Projects

PREPA had the opportunity to build two pipelines which would have generated significant fuel savings.

#### **North Pipeline**

The North Pipeline could have saved between \$230 to \$400M in fuel costs from FY 2014 to date or on average 0.7 to 1.18 cents/kwh



#### **Estimated Annual Savings Foregone**

#### **South Pipeline**

The South Pipeline could have saved between \$800 to \$1,200M in fuel costs from FY 2011 to date or on average <u>1 to 1.4 cents/kwh</u>



#### **Estimated Annual Savings Foregone**



# **PREPA Historical Operational Challenges**

Chronic underinvestment and inconsistent management have led PREPA's facilities and business practices to fall significantly behind industry standards



#### **Ineffective Collections and Monitoring**

- PREPA's customer service infrastructure is disorganized and ineffective which results in slow collections
  - Dropped call rate > 50%
  - Wait times average > 20 minutes
- PREPA regularly experiences significantly higher non-technical losses than other utilities due primarily to poor monitoring and metering standards

DuPont performed a safety analysis showing PREPA performs below fundamental levels on each metric

Safety Underperformance







# New Vision for PREPA and A Path To Transformation



#### **PREPA Presents Recovery Plan**





#### **Benefits of the Recovery Plan**

#### **Reduce Energy Costs**

- Convert existing plants to burn both natural gas and fuel oil will help lower fuel costs and allow potential for a natural hedge
- Open PREPA's network to third party investors to build new, more efficient generation plants and diversify away from expensive fuel oil
- Evaluate potential third party operators to operate PREPA's system more effectively

#### **Protect the Environment**

- Reduce reliance on heavy fuel oils and moving to greater reliance on cleaner natural gas and renewables
- Invest in PREPA's transmission and distribution to position PREPA to accelerate the integration of renewable energy into the system

#### **People of Puerto Rico**

- Modernized facilities providing clean and reliable electricity
- A non-political entity implementing best practices with long-term strategic planning
- Reduction of energy costs through efficiency and other initiatives over time

#### **Depoliticize and Professionalize Management**

- Evaluate potential third party system operators to improve customer service and operating efficiency
- Change PREPA's corporate governance to eliminate political influence and patronage

#### **Jumpstart Economic Development**

- Create a reliable utility with stable and reasonable electricity rates for Puerto Rico's businesses and residential customers
- Invest more than \$2 billion over the next five years, creating new employment opportunities



# Sharing the Burden

The Recovery Plan requires burden sharing among all of PREPA's stakeholders and aligns their collective interests to ensure the financial sustainability of the New PREPA

- PREPA's ratepayers historically have borne a higher cost relative to the mainland, negatively affecting local industry and growth
- PREPA's current rate structure doesn't cover existing costs
- For-profit municipal entities and government entities will be required to pay for their consumption
- New, transparent rate structure that ensures future changes in operating costs will be appropriately captured
- New governance will increase PREPA's independence from political interference, enhancing long-term planning, ability to attract third-party operators and financing and implementation of industry best practices
- PREPA will evaluate potential third-party operators to manage the system, develop new plants and support the execution of the Recovery Plan



- PREPA's current debt service cannot be supported by its existing cash flows
- The Recovery Plan provides for a sustainable capital structure to enable PREPA to modernize its infrastructure and become compliant with environmental laws

- PREPA's employees are critical to PREPA's turnaround
- The Recovery Plan includes safety upgrades to reduce PREPA employee accidents
- The Recovery Plan also includes savings on labor costs and improvements to the efficiency of PREPA's workforce

# **Business Plan Objectives**

#### The Recovery Plan addresses the following key issues affecting PREPA's operations

Issue	Business Plan Approach
Rates	Create a reliable utility with stable and reasonable electricity rates for Puerto Rico's businesses and residential customers
Clean energy	<ul> <li>Investment of approximately \$924 million to construct AOGP and new units at Palo Seco, convert existing units at Aguirre to burn gas and retire old units over the next six years</li> <li>Increase in renewable projects from 207MW – 1,193MW and adding flexible units to the system to allow for continued development of renewable projects</li> </ul>
System reliability and efficiency	<ul> <li>Investment of approximately \$226 million to improve T&amp;D infrastructure to accommodate demand in the North and increased capacity for distributed generation</li> <li>Investment of \$1.2 billion at Aguirre and Costa Sur to lower the cost fuel and improve heat rates</li> <li>This new investment will improve fleet efficiency and lower fuel charges for customers</li> </ul>
Third party investment	PREPA will evaluate potential investment proposals from third parties that are interested in developing generation assets and upgrading the T&D system as part of both the first and second phases of the Recovery Plan
Third party management	PREPA will evaluate potential third party operators to provide management expertise and training, selected through a competitive bidding process
Operational savings	<ul> <li>PREPA expects to capture \$318 million of annual operating savings by 2018</li> <li>PREPA is continuing to evaluate additional areas for savings</li> </ul>
Independent	Appointment of diverse and qualified board members, identified by a nationally recognized search firm

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### **Corporate Governance and Legislative Reform**

To ensure that the reforms at PREPA take hold and remain in place, the Recovery Proposal aims to reduce political influence over PREPA through a combination of the following:

- Reorganization of existing board makeup, including the appointment by the Governor (with consent of Senate) of independent, nonpolitical directors identified by a nationally recognized search firm
- Specified experience requirements for board members
- Staggered terms for board members that extend beyond the fouryear election cycle
- Replacement mechanics to ensure continued stability
- Legislative changes to reform CILT, government and residential customer collection policies and subsidies
- Build on existing legislative efforts (Act 57, ongoing Senate hearings on subsidy reform)



# **Illustrative Third Party Management Structure**

PREPA will evaluate, through a competitive bidding process, potential third party operators to provide management expertise and training





# Models for Third Party Involvement in Infrastructure

# PREPA and its advisors considered several models for third party involvement in PREPA's infrastructure

Private	Sector			Government
	Privatization	Purchased Power Agreement/ Long-Term Concession	Qualified Management Contract	Government Management
Description	Sale of assets to a private entity	Long-term agreement with independent power producer or owner/manager; usually for 30-99 years	Contract with a third party that provides management services; up to 20 years with limitations	Public board or cit council hires management team a appoints board
Owner	Private Sector	Government/Private	Government	Government
Selected Considerations	<ul> <li>Private control, subject to regulation</li> <li>Taxable financing</li> <li>Requirement to repay tax-exempt bonds</li> </ul>	<ul> <li>Ability to get private funding/expertise to develop new generation</li> <li>Private control, subject to regulation and contract</li> <li>Ability to terminate the concession based on certain parameters</li> <li>Taxable financing</li> </ul>	<ul> <li>Third party management, subject to regulation and government oversight</li> <li>Ability to terminate the contract or deduct payments</li> <li>Transfer of know-how and expertise</li> <li>Tax-exempt financing</li> </ul>	<ul> <li>Limited ability to adopt private sec expertise and bes practices</li> <li>Tax-exempt financing</li> </ul>
Examples	<ul> <li>Investor Owned Utilities (IOUs), such as ConEd, PSEG</li> </ul>	<ul> <li>PR-22/Luis Munoz Marin Airport</li> <li>AES PR/Eco Electrica</li> </ul>	<ul> <li>Long Island Power Authority (LIPA)</li> </ul>	<ul> <li>PREPA</li> <li>San Antonio CPS</li> <li>Orlando, Jackson</li> </ul>



### **Investment in New Infrastructure**

The utility will need to invest at least \$2.3 billion in new infrastructure (excluding maintenance capex) in two phases over the next 15 years. PREPA will immediately embark on an RFP process to determine the most efficient source of capital for these projects

- Phase 1 consists of infrastructure investments PREPA is required to make to comply with MATS regulations and improve system reliability
- Phase 2 includes investments to further improve PREPA's energy efficiency
  - The capital investment strategy embedded in the Business Plan reflects upgrades to the existing fleet through repowerings. However, PREPA will immediately pursue investments in the form of publicprivate partnerships, which may result in alternative build plans



### **Investment in New Infrastructure**

# PREPA's improved infrastructure will allow it to reduce fuel costs and modernize its owned generation fleet





## **New Investment Capital Expenditures Detail**

#### Following is the amount of capital investment required for each major project

PREPA could modify Phase 2 of the capital plan based on the final IRP and proposals of private investors

			Sun	nmar	y of (	Cape>	( Plan	i (\$ in	mill	ions)							
		FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	Total
	AOGP and Related Projects	96	384														481
Phase 1 - MATS Compliance / Air Quality	Palo Seco Unit 1 Unit 2 Unit 3 Retirements Total for MATS Compliance	   96	   384	24 22 20  <b>67</b>	48 45 41 37 <b>170</b>	48 45 41 41 <b>174</b>	 11 20  <b>32</b>	  	   	   	   	   	   	   	   	   	120 123 123 78 924
Phase 1 - T&D		53	61	36	44	32											226
Phase 2 - Energy Efficiency Improvements	Aguirre CC 1 Repowering CC 2 Repowering Steam 1 Repowering Steam 2 Repowering <u>Costa Sur</u> Unit 5 Repowering Unit 6 Repowering <b>Total for Energy Efficiency</b>					96 65    <b>161</b>	96 65    <b>161</b>	 65    <b>65</b>			 101 69  -7	 101 69  <b>170</b>	  69 98 67 <b>233</b>	   98 67 <b>164</b>	   67 <b>67</b>	      	192 195 203 207  196 200 1,192
	Total for New Capex Cumulative	<b>149</b> 149	<b>446</b> 595	<b>102</b> 697	<b>215</b> 912	<b>367</b> 1,280	<b>193</b> 1,472	<b>65</b> 1,537	 1,537	 1,537	<b>170</b> 1,708	<b>170</b> 1,878	<b>233</b> 2,112	<b>164</b> 2,276	<b>67</b> 2,342	 2,342	2,342
Maintenance		296	315	284	278	281	285	289	293	296	300	304	309	313	317	321	4,481
	Total Capex Cumulative	<b>446</b> 446	<b>760</b> 1,206	<b>387</b> 1,593	<b>492</b> 2,085	<b>649</b> 2,734	<b>478</b> 3,211	<b>354</b> 3,565	<b>293</b> 3,858	<b>296</b> 4,154	<b>471</b> 4,625	<b>475</b> 5,100	<b>542</b> 5,642	<b>477</b> 6,119	<b>383</b> 6,502	<b>321</b> 6,823	6,823



### **Focus on Clean Energy**

PREPA will revamp approximately 60% of its current energy sources by updating its existing owned plants and increasing its purchases of renewable energy and development of solar projects





## **Summary of Operational Improvements**

Operational improvements are projected to generate annual savings of \$245-390 million in addition to one time savings





#### **Business Plan Summary**

# The following forecast shows direct operating costs and excludes CILT, OPEB, working capital and financing costs

Direct operating expenses average \$3.0 billion per year, capital expenditures average \$455 million per year and operational improvements average \$315 million per year

Summary of Expenditures (\$ in millions)															
	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
Operating Expenses															
Fuel	(\$1,381)	(\$1,447)	(\$1,205)	(\$1,168)	(\$1,237)	(\$1,236)	(\$1,142)	(\$1,030)	(\$1,035)	(\$1,027)	(\$1,103)	(\$1,110)	(\$969)	(\$949)	(\$979)
Purchased Power	(827)	(863)	(868)	(923)	(963)	(984)	(991)	(990)	(995)	(1,030)	(1,040)	(1,045)	(1,071)	(1,088)	(1,084)
Labor	(497)	(494)	(488)	(485)	(486)	(491)	(496)	(501)	(506)	(511)	(516)	(521)	(527)	(532)	(537)
O&M and Other	(223)	(199)	(197)	(199)	(201)	(203)	(205)	(207)	(209)	(211)	(214)	(216)	(218)	(220)	(222)
Total Operating Expenses	(\$2,929)	(\$3,003)	(\$2,757)	(\$2,775)	(\$2,888)	(\$2,915)	(\$2,834)	(\$2,728)	(\$2,745)	(\$2,780)	(\$2,873)	(\$2,892)	(\$2,785)	(\$2,789)	(\$2,823)
Operational Improvements															
Customer Service	\$26	\$44	\$51	\$51	\$52	\$52	\$53	\$53	\$54	\$54	\$55	\$55	\$56	\$56	\$57
Fuel	93	129	109	109	108	110	110	110	110	110	110	110	110	110	110
Procurement	38	55	56	56	57	57	58	58	59	60	60	61	61	62	63
Other, Net	21	71	101	102	103	104	105	106	107	108	109	110	112	113	114
Total Savings	\$178	\$298	\$316	\$318	\$320	\$323	\$325	\$328	\$330	\$332	\$334	\$336	\$339	\$341	\$343
Total Opex Net of Improvements	(\$2,751)	(\$2,705)	(\$2,442)	(\$2,457)	(\$2,568)	(\$2,592)	(\$2,509)	(\$2,400)	(\$2,415)	(\$2,448)	(\$2,539)	(\$2,556)	(\$2,446)	(\$2,448)	(\$2,480)
Capital Expenditures															
Maintenance Capex	(\$296)	(\$315)	(\$284)	(\$278)	(\$281)	(\$285)	(\$289)	(\$293)	(\$296)	(\$300)	(\$304)	(\$309)	(\$313)	(\$317)	(\$321)
Investment Capex	(149)	(446)	(102)	(215)	(367)	(193)	(65)	-	-	(170)	(170)	(233)	(164)	(67)	-
Total Capital Expenditures	(\$446)	(\$760)	(\$387)	(\$492)	(\$649)	(\$478)	(\$354)	(\$293)	(\$296)	(\$471)	(\$475)	(\$542)	(\$477)	(\$383)	(\$321)
Total Opex & Capex Net of Improvements	(\$3,197)	(\$3,465)	(\$2,828)	(\$2,949)	(\$3,217)	(\$3,069)	(\$2,863)	(\$2,693)	(\$2,711)	(\$2,918)	(\$3,014)	(\$3,097)	(\$2,923)	(\$2,831)	(\$2,801)



PREPA reaches run-rate savings by FY 2018

Sources: PREPA Finance and Generation directorates, Siemens Stage 2 IRP (preliminary)

# **Other Key Operating Inputs**

	Description
Load Forecast	<ul> <li>Average annual gross load increase of 0.35% from FY16-FY20 then flat thereafter</li> <li>Average annual net load decline of 0.26% from FY16-FY20</li> </ul>
Generation	Share of demand supplied by thermal generation decreases by 12.4% from FY16-FY30 while share of demand supplied by renewable generation increases by 9.3%; DSM makes up the balance
Fuel Mix	<ul> <li>Aguirre burns No. 6 until FY18 when it switches to natural gas supply provided by AOGP</li> <li>Costa Sur continues to use blend of natural gas and fuel oil ("No. 6")</li> <li>Palo Seco, San Juan, GT's and CT's use No.6 and diesel ("No. 2") through FY21 and then use No. 2</li> <li>Purchased power uses gas and coal</li> </ul>
Purchased Power	<ul> <li>Existing IPPs included based on existing contract terms; assumed to extend contracts at rates in effect at time of the extension</li> <li>Pricing for new renewable contracts based on existing contracts, adjusted downward by ~2%</li> <li>Renewable capacity grows from 207 MW in FY16 to 1,193 MW in FY30</li> </ul>
Labor	<ul> <li>PREPA current labor force at March 2015 (7,077) and adjusted for estimated retirements</li> <li>"Net" retirements cease in FY2019 with labor force of 6,395 employees</li> <li>Average annual increase of 1% for inflation beginning in FY2017 (before cost saving initiatives)</li> <li>Elimination of "trust employee" construct</li> <li>All employees eligible for discretionary bonus based on agreed-upon milestones and funded by cost savings</li> </ul>
Pension	<ul> <li>Annual contribution increased to \$160 million to support underfunded pension, adjusted for inflation (does not yet include any savings from pension reform)</li> </ul>
Non-Labor O&M	<ul> <li>FY2015 costs include actuals through February plus four months of FY15 budget ("8+4")</li> <li>1% year-over-year increase for inflation (before reduction from cost saving initiatives)</li> </ul>
Government, CILT & Subsidies	<ul> <li>Government represents 17.6% of operating revenue</li> <li>CILT represents 36.9% of government revenue (municipalities represent 31.8% and other government appropriations (mainly subsidies) represent 5.1%)</li> </ul>
Accounts Receivable	Based on trends over trailing six months through February 2015
Accounts Payable	Based on current and anticipated contract terms



#### **Integrated Rate Structure**

PREPA will propose to the Energy Commission a new rate structure, which it believes will enable more effective cost recovery

#### **Current Rate Structure**

- Fixed components of rate structure have not been adjusted since 1989, and do not adequately support PREPA's cost structure
- Current rate structure does not include a mechanism to include funding for CapEx needed to modernize PREPA's infrastructure
- The existing fuel and purchased power cost adjustment is overly complex
- Introduction of Distributed Generation and Net Metering were not anticipated when current tariff structure was developed

#### **Preliminary Revised Rate Structure**

- Greater transparency to rate structure
  - Visibility to main components of cost structure (fixed, T&D charge, purchased power component, CILT, inclusion of net metering charge/credit)
  - Simplification of fuel and purchased power charge formula including eliminating the mark-up
- Fixed components of rate will be reviewed every three years
  - In the base year, a capital plan for the three year period will be proposed
  - At the end of each three-year cycle, revenue requirements will be trued-up to capture any operating, capital and/or cost variations



The PREPA rate structure envisioned will increase transparency and provide a framework to ensure future changes in business operations and costs are appropriately captured

#### **Current Rate Structure vs. Cost Base**

The graph is for illustrative purposes only and assumes no operational changes. The existing rate structure is not sufficient to cover costs and current debt service requirements, but the rate deficit cannot be borne by the ratepayers alone. Closing the rate deficit will require equitable burden sharing across all stakeholders.



Note: Numbers may not add due to rounding.

(1) Debt service reflects PREPA's status quo debt service obligations for FY2016-FY2018 assuming swaps are terminated and all BAB subsidies remain in place. Also assumes that fuel lines are repaid in full on July 1, 2015 and that all debt service (excluding the fuel line repayments) must have a 1.25x debt service coverage ratio.

# **Illustrative Rates Pro Forma for Operational Initiatives**

While operational savings will reduce average rates by 1.6¢, the pro forma average rate which includes the impact of operational improvements would still be 6.2¢ higher than current rates, requiring burden sharing

Illustrative rate per kwh (FY16-18 avg. projected demand and pro-forma operational savings)



- At current demand each one cent reduction in rate will require cost improvements of ~\$165 million
- Rate is illustrative and on pro-forma basis assuming projected fuel costs and demand
- Pro forma rate is based on existing cost structure, projected demand and full run-rate improvements. Illustrative rate is not meant to project actual rates



# **Negative Impact of Significant Rate Increases**

#### Rate increases will have a negative impact on demand and revenues



#### Average Annual Consumption vs. Average kWh Cost – Residential

- Average consumption reduced substantially from 2004 to 2009, while rates increased
- However during this period, PR experienced a deep recession which likely affected consumption as well

#### Net Efficiency vs. Average Residential kWh Cost

- As rates increased from 2004 to 2008, the net efficiency ratio decreased (potentially resulting from higher theft rate)
- Implementation of remote metering may have increased theft (in addition to rising rates) as fewer field operators visited meters and distribution lines





(1) Note: The data illustrate the historical comparison between increasing residential rates and the above mentioned factors; however there are several variables (i.e., outsized PR recession, switch to remote metering, etc.) which are not quantified and may affect results as well. The data show correlation but do not prove causation.

### **Eliminating the Rate Deficit**

The Recovery Plan requires all of PREPA's stakeholders to contribute to creating a sustainable entity for the long-term and bridging the significant rate deficit





## **Implementation Timeline**

#### Following is a summary of upcoming milestones and target dates for PREPA's restructuring process



