

Issues Facing Puerto Rico Electric Power Authority Beyond Its Debt

The Problem

In addition to \$13 billion of debt that needs to be restructured, the Puerto Rico Electric Power Authority (“PREPA”) will likely need to confront and address a myriad of issues to avoid a repeat bankruptcy. These issues include:

- A shrinking population of consumers because of outmigration and consumer efforts to become less dependent on the electrical grid.
- High cost of electricity in Puerto Rico.
- An electrical grid that remains fragile and cannot sustain another natural disaster like Hurricane Maria, and that—even in the absence of natural disasters—fails on occasion.

Fragile Electrical Grid

Puerto Rico’s electrical grid is weaker today than it was before Hurricane Maria.¹ The Puerto Rico Resiliency Working Group, whose members included PREPA, the Puerto Rico Energy Commission and the U.S. Department of Energy, estimated it would cost approximately \$17.6 billion to upgrade Puerto Rico’s electrical grid over a period of five to ten years.² The unreliability of the electrical grid and high energy bills (discussed below) are causing some consumers to leave the grid and install alternative independent sources of electricity.

¹ See Tim Johnson, *Puerto Rico: The Forgotten Island*, THE MIAMI HERALD (reporting that Puerto Rico’s grid is more fragile than before Hurricane Maria and quoting Jose F. Ortiz, PREPA’s chief executive, as saying “It’s weaker today than before.”), available at <https://www.mcclatchydc.com/news/nation-world/national/hurricane/article217480370.html> (last visited on Feb. 16, 2019).

² See Build Back Better: Reimagining and Strengthening the Power Grid of Puerto Rico at 7, Table E-1 (Dec. 2017), available at https://www.governor.ny.gov/sites/governor.ny.gov/files/atoms/files/PRERWG_Report_PR_Grid_Resiliency_Report.pdf (last visited Feb. 18, 2019).

Shrinking Consumer Base

Another problem that PREPA faces is a shrinking consumer base. Unfortunately, less demand will likely affect the cost of electricity in Puerto Rico (by increasing it) because there will be less consumers to absorb PREPA's fixed costs. This in turn may only encourage more consumers to explore options to become less dependent on—or completely independent of—the grid posing a potential threat to PREPA's profitability.

1. Outmigration

The U.S. Census Bureau estimates that Puerto Rico's population decreased by almost 15% between 2010 and 2018 from approximately 3.7 million to 3.2 million.³ Without economic growth and job creation,⁴ outmigration is likely to continue.

2. Energy Independence

Both commercial and residential consumers are trying to lessen their dependency on the electrical grid. Homeowners are installing solar panels and storage systems.⁵ Reports indicate that shopping malls are using solar panels and selling power to stores for less than PREPA's

³ See U.S. Census Bureau, Puerto Rico Population Table, available at https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml?src=bkml (last visited Feb. 15, 2019).

⁴ Per the U.S. Department of Labor's Bureau of Labor Statistics, Puerto Rico's unemployment rate was 8.3% as of December 2018, which was more than twice as high as the unemployment rate in the United States, including in nearby Florida (Florida's unemployment rate was 3.3% as of December 2018). Compare U.S. Dep't of Labor, Bureau of Labor Statistics, *Economy at a Glance: Puerto Rico*, available at <https://www.bls.gov/eag/eag.pr.htm> (last visited Feb. 16, 2019) with U.S. Dep't of Labor, Bureau of Labor Statistics, *Economy at a Glance: Florida*, available at <https://www.bls.gov/eag/eag.fl.htm> (last visited Feb. 16, 2019).

⁵ See James Ellsmoor, *Puerto Rico's Utility PREPA Plans to Divide Island Into Renewable Energy Microgrids*, FORBES, Feb. 12, 2019, available at <https://www.forbes.com/sites/jamesellsmoor/2019/02/12/puerto-ricos-utility-prepa-plans-to-divide-island-into-renewable-energy-microgrids/#6ad6d49c55fc> (last visited Feb. 16, 2019); see also John Berger, Opinion, *Can Puerto Rico Become the Model for Energy Independence?*, INSIDESOURCES, Sept. 26, 2018 ("Many are updating their homes to make them more energy efficient by installing smart thermostats, adopting solar power or adding battery storage to maintain power even during a grid failure. These changes — especially the powerful combination of solar plus battery storage — are upending the outdated energy system by liberating homeowners from their dependency on the old and antiquated grid."), available at <https://www.insidesources.com/can-puerto-rico-become-the-model-for-energy-independence/> (last visited Feb. 16, 2019).

electricity costs and that the pharmaceutical sector is exploring microgrids organized by region that could serve clusters of companies.⁶

High Energy Cost

The cost of electricity in Puerto Rico is significantly higher than in the mainland United States in part because Puerto Rico imports most of the commodities used to create electricity. The chart below from the U.S. Energy Information Administration highlights the significant cost difference between the island and the mainland.

Prices			
Electricity	Puerto Rico	United States	Period
Residential	19.58 cents/kWh	12.87 cents/kWh	Oct-19
Commercial	19.99 cents/kWh	10.74 cents/kWh	Oct-19
Industrial	18.69 cents/kWh	6.91 cents/kWh	Oct-19

7

Lowering the cost of electricity is important not only to retain consumers, but also for Puerto Rico’s economic growth. Governor Ricardo Rosselló made this clear in a speech last year at the Aspen Ideas Festival: “We want to lower the costs. This is a major driver of economic growth.”⁸

In the fiscal year ending June 30, 2017, 47% of Puerto Rico’s electricity came from petroleum, 34% from natural gas, 17% from coal, and 2% from renewable energy (two wind farms supplied 41% of Puerto Rico’s renewable generation).⁹ A recent draft of PREPA’s Integrated

⁶ See Andrew Scurria & Arian Campo-Flores, *Puerto Rico Picks Bidders for Ailing Power Utility*, WALL ST. J., Jan. 20, 2019, available at <https://www.wsj.com/articles/puerto-rico-picks-bidders-for-ailing-power-utility-11548000001> (last visited Feb. 16, 2019).

⁷ See U.S. Energy Information Administration, *Puerto Rico Territory Energy Profile*, available at <https://www.eia.gov/state/print.php?sid=RQ> (last visited Feb. 15, 2019).

⁸ See James Ellsmoor, *Puerto Rico’s Utility PREPA Plans to Divide Island Into Renewable Energy Microgrids*, FORBES, Feb. 12, 2019, available at <https://www.forbes.com/sites/jamesellsmoor/2019/02/12/puerto-ricos-utility-prepa-plans-to-divide-island-into-renewable-energy-microgrids/#6ad6d49c55fc> (last visited Feb. 16, 2019).

⁹ See U.S. Energy Information Administration, *Puerto Rico Territory Energy Profile*, available at <https://www.eia.gov/state/print.php?sid=RQ> (last visited Feb. 18, 2019) (“Until 2012, Puerto Rico obtained two-

Resource Plan (“IRP”)—a detailed plan that analyzes and makes recommendations for PREPA’s energy supply resources for the next 20 years—includes (a) an emphasis on *utility-owned* solar energy with storage, (b) gradual phasing out of coal and oil to produce electricity with greater focus on natural gas, (c) construction of new terminals to import liquified natural gas (“LNG”) (which is consistent with increasing reliance on natural gas, since LNG gets converted into natural gas once it is imported and arrives in Puerto Rico), and (d) dividing the island into regional “mini-grids.”¹⁰ Notably, the IRP does not include specifics (*i.e.*, encourage or discourage) customers to install their own solar panels and storage systems.

Potential Solutions & Options:

- **Privatization:** PREPA and the Public-Private Partnerships Authority are considering the semi-privatization of PREPA’s transmission and distribution business lines. Four utilities have been selected to submit bids for managing and operating PREPA’s transmission and distribution system. Candidates will have an opportunity to submit requests for proposals; the contract is expected to be awarded in late August.¹¹
 1. Duke Energy Corp.
 2. Exelon Corp.
 3. Public Service Enterprise Group
 4. The Quanta Consortium
 - **Consideration:** Should PREPA also privatize its power generation business or completely privatize PREPA’s generation, transmission and distribution business lines?
- **Dealing with “Off Grid” Consumers:** Depending on regulatory, political and legal feasibility, consideration should be given to modifying PREPA’s tariffs/regulated rates to

thirds of its electricity from petroleum, generated mainly at six PREPA stations with steam turbines, combustion turbines, combined cycle technology, or some combination of the three. The other one-third of PREPA’s power supply was almost evenly divided between natural gas and coal generation, provided by two independent power producers, plus a small fraction from hydroelectric generators. In 2012, natural gas firing capability was added to PREPA’s Costa Sur petroleum-fired generating station in Guayanilla.” (footnotes omitted)).

¹⁰ See Siemens Industry, Puerto Rico Integrated Resource Plan 2018-2019: Draft for the Review of the Puerto Rico Energy Bureau (Prepared for PREPA), Jan. 22, 2019, available at <http://energia.pr.gov/wp-content/uploads/2019/01/Motion-CEPR-AP-2018-0001-2.pdf> (last visited Feb. 18, 2019).

¹¹ See John Downy, *Duke Energy Mulls Bid to Operate Puerto Rico’s Troubled Electric Grid*, CHARLOTTE BUS. J., Jan. 22, 2019, available at <https://www.bizjournals.com/charlotte/news/2019/01/22/duke-energy-mulls-bid-to-operate-puerto-rico-s.html> (last visited Feb. 18, 2019).

address customers that leave the grid. Potential changes could include: (i) charging customers an “exit fee” if they elect to leave PREPA’s service; (ii) setting a low cost at which customers can sell excess stored electricity back to PREPA or to other PREPA customers; or (iii) charging a fee or higher rate to customers who use the grid on an intermittent basis (*i.e.*, when their independent source of electricity or stored electricity is insufficient to meet their needs)—the reasoning here is that these intermittent consumers should pay a premium for getting on-demand access to the grid primarily through the ongoing financial contributions of customers that are fully reliant on PREPA.

- **Distributed Power**: Regardless of whether PREPA is privatized or remains under government control, Puerto Rico needs a more resilient power supply structure, probably one that uses a distributed power concept. Distributed power systems have been popular with communities in California that want enhanced reliability and that want to “go green” (renewables can be used with distributed power structures). Distributed power agreements have also been used by large industrial facilities which also want more reliability and more cost control than the grid can supply.

Ultimately, PREPA needs to develop a business model that allows it to operate profitably while providing customers with reliable electricity at relatively reasonable prices.