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## FEATURED Q&amp;A

# How Can Puerto Rico Rehabilitate its Electricity Sector?



Puerto Rico Governor Alejandro García Padilla called the U.S. territory's rolling blackouts in September "a very serious event." // File Photo: Commonwealth of Puerto Rico.

**Q** A major fire at an electricity plant in Puerto Rico on Sept. 21 caused a widespread blackout that left 3.5 million people in the U.S. territory without power. Governor Alejandro García Padilla called the blackout "a very serious event," adding that "The system is not designed to withstand a failure of this magnitude." Meanwhile, the public electricity utility, the Puerto Rico Electric Power Authority, or PREPA, is facing \$9 billion in debt and numerous corruption allegations. How should Puerto Rico go about addressing the myriad issues its electricity utility faces? How can it fortify PREPA to better withstand unexpected events? How has the U.S. territory's debt crisis affected its electricity utility?

**A** Luis Bernal, former executive director of the Puerto Rico Energy Affairs Administration: "Puerto Rico's debt crisis has limited the ability of government-owned corporations, like PREPA, in accessing capital markets to fund their capital improvement plans. Similarly, financing projects where PREPA is the offtaker have encountered significant limitations in the capital markets. The most recent blackout exposed vulnerabilities within the system and invites the entire power sector to look beyond power generation to foster economic development on the island. This event presents a great opportunity for PREPA to rethink its current business model and its role in Puerto Rico's economy. This juncture is an opportunity to shift from the current utility-centered planning model to a consumer-centered approach. This new approach would entail a systematic and gradual transition away from a vertically integrated monopoly, into a system operator model

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## TOP NEWS

## OIL &amp; GAS

## Peru Pipeline to Resume Operations in 2017

Peruvian state-owned energy company Petroperú's president, Augusto Baertl, said Monday that the company's pipeline should resume operations in four to five months after repairs are complete.

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## RENEWABLES

## Chilean Mine Holds Renewable Energy Tender

Chile's Collahuasi mine, one of the largest copper mines in the world, said Wednesday it has launched a large power tender. The mine has a particular interest in non-conventional renewable energy.

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## OIL &amp; GAS

## Brazil's Congress Approves Presalt Investment Bill

Brazil's lower house of Congress on Wednesday approved legislation that will allow more foreign investors to invest in the country's offshore oil fields. President Michel Temer is expected to sign the bill into law.

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Temer // File Photo: Brazilian Government.

than those of the international market. The vessel would explore the presalt area known as Libra, and Petrobras expects that production will begin in the second half of 2020 at the site. The company plans to finish the FPSO vessel order by the first half of 2017. Libra is being operated by Petrobras and is believed to contain between 8 billion and 12 billion barrels of oil. The concession is also owned by Royal Dutch Shell, Total, China National Petroleum Co. and Brazilian state firm PPSA.

## RENEWABLES NEWS

## Chilean Copper Mine Holds Renewable Energy Tender

Chile's Collahuasi mine, one of the largest copper mines in the world, said Wednesday that it launched a large power tender, Reuters reported. The mine has a particular interest in non-conventional renewable energy, likely solar and wind power, according to the wire service. "Collahuasi is carrying out a private request for

**Chile's mines typically hold power auctions a few times per decade, at most.**

bids for 1,200 GWh (gigawatt hours) of annual energy and approximately 150 megawatts of power, to be delivered starting in the year 2020," a spokesman from the mine said in an email. Collahuasi will accept offers on the tender until November, and will announce the winners next year. The results from the tender may reveal whether renewables can make significant inroads in Chile's copper mining sector. Chilean mines typically hold power auctions on a few times per decade. In 2015, Chilean mines sourced less than 8 percent of their energy from renewable resources, using instead coal for 76 percent of its power needs. As renewable energy auctions have driven down energy

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where employees are retrained to carry out new duties consistent with satisfying the energy needs of its customers. Empowering PREPA's customers to have efficient access to, and use of, commercially available behind-the-meter energy solutions is key to a new business model. The replacement of the current centralized power generation should be adjusted to more adequately balance a network that is experiencing constant load reductions due to distributed generation, more efficient behind-the-meter technologies and loss of population. Consistent with the above, PREPA's forthcoming investments should prioritize the modernization and upgrading of transmission and distribution systems. Micro grids ought to be embraced island-wide to enhance reliability and support grid balance. PREPA and the community can engage in collaborative efforts, in which the community shares local resources to reduce recovery time after a catastrophic event, while the utility develops technology solutions that can be monetized to have alternate revenue streams."

**A** Efraín O'Neill-Carrillo, professor of electrical engineering at the University of Puerto Rico-Mayaguez: "Puerto Rico's electricity infrastructure must move toward sustainable development. There's too much talk about 'economic growth' and very little about sustainable recovery initiatives. A better future will be achieved through sustainable energy sources and practices. It is not enough that a project is good for investors, nor that it is good for the economy in the short term. It is not enough to have 'renewable projects.' Any initiative must consider social and environmental issues as well. In order to fortify PREPA to better withstand such events, Puerto Rico must move away as much as possible from large, fossil fuel-based power plants (old or new), and embrace our local resources: the sun, conservation and efficiency. We should begin a true transition to sustainable practices through aggressive

efficiency and conservation efforts. Puerto Rico should maximize the use of distributed solar systems in residential, commercial and industrial rooftops. Decisive actions are needed to materialize solar communities and micro grids approved by PR Act 133-2016. A more distributed infrastructure, with renewables and effective citizen participation, will make our electricity system more sustainable, just, democratic and resilient against major disruptions. Puerto Rico's debt crisis prompted PROMESA, and very damaging provisions in its Title V. Financial difficulties are an excuse to expand fossil fuel dominance. Although not mandated, private generation is a criterion for so-called 'critical projects,' that might bring about new, fossil-based power plants. We do not need new power plants; we need new generators in existing plants—there is a huge difference both operationally and financially. The new generators must be efficient, flexible and ensure grid stability in the presence of an increased use of renewables. Renewable energy, conservation and efficiency must be the main players; large fossil fuel plants must play a supporting role only."

**A** Carlos Fernández Lugo, chair of McConnell Valdés LLC's Environmental, Energy and Land Use practice group: "PREPA is at a historical crossroads. It must take steps to modernize its generation fleet, comply with environmental regulations, integrate more renewable energy sources, and make significant transmission and distribution improvements—to list just a few challenges—all while it has yet to complete the restructuring of its debts, which would give it essential liquidity and access to capital. At the same time, the Puerto Rico Energy Commission just rejected and essentially rewrote PREPA's first Integrated Resource Plan (IRP), re-defining how PREPA will satisfy the island's energy needs over the next 20 years. PREPA is also seeking the approval of its new proposed rates, which are being

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revised for the first time since 1989. PREPA must manage all this, along with year-over-year reductions in population and sales

“PREPA has the opportunity to make important changes to improve its system and emerge a more modern, flexible and robust utility.”

— Carlos Fernández Lugo

of electricity, while the Commonwealth of Puerto Rico faces severe financial troubles and the Oversight Board created under PROMESA goes to work. As difficult as the circumstances are, PREPA has the opportunity to make important changes to improve its system and emerge a more modern, flexible and robust utility which can better respond to events like those of Sept. 21. The changes to PREPA's IRP mandated by the Energy Commission start PREPA in this direction with the permitting and eventual construction of small and efficient dual-fuel capable combined cycle units, repowering of certain units with dual-fuel capable turbines, retiring of older non-compliant units, contracting of new renewable energy projects and introduction of energy-efficiency and demand-response programs.”

**A** Julián Herencia, executive director at the Association of Producers of Renewable Energy (APER) in Puerto Rico: “Along the path of revolutionizing the electricity industry in Puerto Rico, whose time has finally arrived, we will encounter distractions, obstacles and assertive opposition from the entrenched beneficiaries of the current state and, disappointingly, from a few opportunistic entities that seek to embellish their

financial statements, losing sight of the fact that this revolution is for the benefit of Puerto Rico's residential, commercial and industrial consumers. The recent blackout is just one of many serious distractions that must be understood and acted upon in order to prevent a recurrence. Its causes are still unknown, but it should not surprise anyone that PREPA, under limited resources, must be making responsible decisions so as to minimize risk and ensure energy supply while minimizing expenses. Hence, it must determine what is going to be maintained, what level of capacity reserves will be kept and how the utility will provide it. Equally serious is the recognition that Puerto Rico's debt crisis continues to delay much needed investments in our energy infrastructure, especially renewable energy, and that a few private entities continue to further delay our energy revolution with time-wasting unjustifiable injunctions, just because decisions do not favor them. It must be recognized that illegal and questionable practices must be obliterated once and for all. Puerto Rico must proceed with determination, using the tools recent legislation has provided and implement a well-articulated Integrated Resources Plan—though not what PREPA submitted. It must include decentralized and diverse sources of power generation from private industry, both small and utility scales, the ability for consumers to select providers and a highly effective network of micro grids. This will prevent another widespread blackout and accelerate our much needed energy revolution.”

*Editor's note: This issue includes a correction to a sentence in Carlos Fernández Lugo's commentary that was misprinted in an earlier version of the Oct. 7, 2016 issue of the Latin America Energy Advisor.*

*he Advisor welcomes comments on its Q&A section. Readers can contact editor Gene Kuleta at [gkuleta@thedialogue.org](mailto:gkuleta@thedialogue.org).*

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