

# The Last Ten Percent: A Brave New Island

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*Street art adorns the roofless coast in Old San Juan*

CAGUAS, Puerto Rico – Six months after Hurricane Maria hit this municipality of 200,000, stripping the surrounding mountains of dense foliage and plunging the region, and the whole Island, into the [biggest blackout](#) in American history.

On this day in early March, 40 percent of Caguas remained without power, and the Puerto Rico Electric Power Authority (PREPA), the monopolistic public power utility beset by (according to [its own analysis](#)) long-term mismanagement and a \$9 billion bankruptcy, was assuring full restoration in the city by the end of the month.

“Sorry that I laugh,” Mayor William Miranda Torres chuckled incredulously at the prospect, noting the reality facing his constituents is no laughing matter, particularly for the elderly and most vulnerable.

“Can you imagine being 80-years-old, trying to start up a generator? And making the maintenance routine every period?” Miranda asked, recounting the recent death of an elderly man who couldn’t keep up his dialysis routine properly while trying to survive in the blackout.

“Six months after, they get tired. And if they don’t have people to go out there and help them, you feel that inside; that you can’t do more,” he said. “Six months is a little too late, so we need to act now.”

Restoration has been an inexplicably protracted, agonizing, and yet unfinished fight for actual lives across Puerto Rico. More than 25,000 PREPA ‘customers,’ homes or businesses that usually support multiple people, are in the dark to this day. Many of them remain in Caguas.

As the last tens of thousands of citizens are reached, the fight for a livable future on the Island, and any semblance of an economy that functions for its actual residents, is now reaching fever pitch.

The April 19 [Fiscal Plan](#) certified by the federal Financial Oversight and Management Board (Oversight Board) calls for hard-nosed austerity and privatization. Accordingly, only a strong regulatory structure that incentivizes transformative privatization can protect the Island’s infrastructure from another disaster; environmental or economic.

Modernization plans for Puerto Rico center on microgrids – literally smaller grids that can be interconnected and easily supplied by renewables or cleaner fossil fuels. They offer savings, stabilization, resiliency, and energy independence, all the way down to a community level.

AES, a large energy firm that generates 17 percent of PREPA's power, submitted a regulatory [comment](#) to advocate microgrids and *mini-grids* – “small partially self-sufficient” systems that reliably support emergency demand and lower costs for normal operation.

“We envision these mini-grids could range in size from a few MW’s (megawatts) to one serving all of San Juan,” AES asserted.

Early in the recovery there were [calls on all sides](#) to modernize Puerto Rico’s energy infrastructure, turning the catastrophe into an opportunity to staunch ongoing hemorrhaging – of money, people, infrastructure, expertise, and opportunity.

Its industrial base has been in decline since the mid-1990s, tracking a ten-year legislative phase-out of the federal tax incentives that sustained it. The resultant avalanche of debt and austerity, in turn, has spurred an ongoing exodus of its population to the mainland.

Now, the desperation wrought by Maria is pushing everything to a breaking point. Almost a half-million people may [leave permanently](#) from 2017-2019 – equal to the entire depopulation of the previous decade.

The Commonwealth's finances, including its \$72 billion in bond debts and \$50 billion unfunded-pension crisis, are subject to the Oversight Board's priorities. Paradoxically, major investment to modernize its energy infrastructure is, and has been for some time, an absolute necessity – for security *and* economic growth.

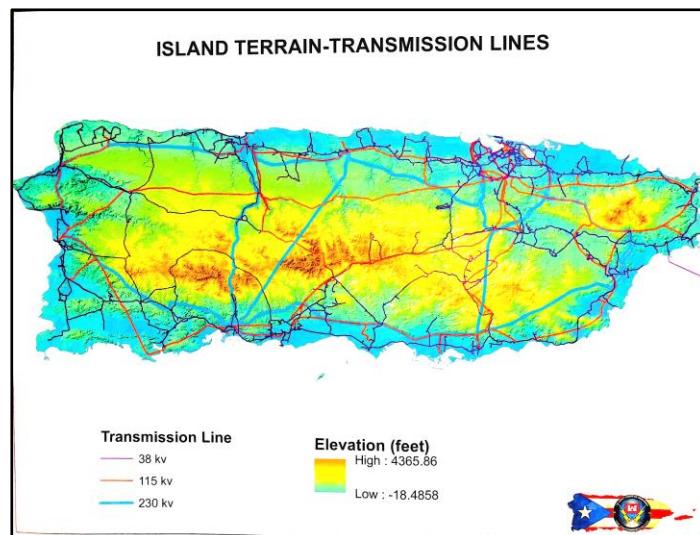
In early May, as Puerto Rico inches closer to 100 percent restoration, PREPA continues to bleed money while holding together a now mostly rebuilt and still staggeringly inefficient system.

About half of its power is produced by burning imported oil – [\\$1.2 billion](#) worth last year. Most of this generation is centered in the south of the Island, and is produced in large, obsolete plants that are an average quarter-century older than their stateside counterparts.

Delivery relies on long, vulnerable transmission lines crisscrossing the mountainous interior to urban and industrial centers mostly clustered in the north. Some 30,000 miles of smaller distribution lines actually reach its 1.5 million customers.

A devastating, Island-wide April 18 blackout put the reconstruction's failure to address the pre-existing problems of PREPA's fragile and unwieldy infrastructure in stark relief.

Triggered when a subcontractor of Cobra Energy – itself contracted for almost \$1 billion by PREPA – disrupted a single line leading from AES's plant in Guayama to a PREPA plant further down the southern coast



U.S. Army Corps of Engineers transmission and distribution map – Task Force headquarters, San Juan

in Salinas, recovery from the outage took more than a day.

Earlier that week, more than 870,000 residents temporarily lost power when a tree fell on a remote section of transmission line. Frequent outages have been characteristic of PREPA's system for years, and remain unabated.

As work crews continue the daily grind toward full replacement of the old system, Governor Ricardo Rosselló has been on a months-long mission to privatize the Island's power – something he, and the Oversight Board, advocated for well before Maria.

Rosselló [announced](#) an 18-month plan in January, “through which PREPA assets will be sold to companies who will transform the generation system into a modern, efficient, and less expensive one for the people.” At the time, [one-third](#) of the Island languished without electricity.

Yet despite missing details about incentives for buyers to prioritize modernization, efficiency, or rate reduction; the public’s frustration with PREPA is so great that privatization is generally popular.

Still, many, [including Congress](#), have raised questions about the underlying methods and motivations of Gov. Rosselló’s promise to shepherd the swift sale of PREPA in the public interest.

It was the Governor’s own PREPA appointees, after all, that [failed to invoke](#) existing mutual aid agreements for emergency help from mainland utilities in the immediate aftermath of Maria. Instead, the board expedited a \$300 million deal with a tiny Montana firm, conveniently based in Interior Secretary Ryan Zinke’s equally tiny hometown.

When the [Whitefish contract](#) erupted in scandal in October, it sparked an FBI probe and forced the resignation of PREPA Executive Director Ricardo Ramos. One particularly brazen clause read:

*In no event shall PREPA, the Commonwealth of Puerto Rico, the FEMA Administrator, the Comptroller General of the United States, or any of their authorized representatives have the right to audit or review the cost and profit elements of the labor rates specified herein.*

By the time the contract was cancelled, and [mutual aid requested](#) and deployed, nearly two months had passed with most of the Island in darkened ruin.

## **“I sleep well at night”**

“The main question is, what is the actual energy model that will be put into practice?” former Senate Committee on Energy Chairman, Luis Raul Nieves, said. “Will that energy model benefit the people of Puerto Rico with low energy costs and more access to renewables?”

“The devil is in the details,” he said. “They seem to want to privatize PREPA without any kind of control, oversight, or regulatory decisions.”

Conceptually, privatization is not a particularly partisan issue, and much of Nieves’ party (the *PPD*, major opposition to Gov. Rosselló’s *PNP*) supports it. The Senate Energy Committee itself was born in 2013 out of bipartisan mistrust of PREPA’s self-regulated bond-issuance.

“Our first order of business was a comprehensive energy reform package that created the Island’s current energy policies,” said Nieves. “One of the most important features was the creation of the Energy Commission.”

In a short four years, and on a shoe-string \$5 million annual budget, the impartial Puerto Rico Energy Commission – PREPA’s first and sole regulator – has managed some robust oversight.

An unprecedented [2016 audit](#) of PREPA’s rates led to transparent recommendations and significant customer savings. A swift investigation of Whitefish resulted in new contractor controls and ongoing investigations into contracts including Cobra’s [\\$1 billion deal](#).

Crucially, the Energy Commission has also produced forthcoming comprehensive regulations facilitating and incentivizing microgrids – America’s first such state or territorial framework.

Commission Chairman José Román Morales believes the Oversight Board’s posture is leading “PREPA to become an unregulated monopoly again, by not following the Commission’s orders and spending money without oversight.”

PREPA consistently challenges Energy Commission enforcement actions in federal court, claiming that its operational authority overlaps, and is negated by the Oversight Board’s fiscal purview.

A lawsuit was finally [voluntarily dismissed](#) on April 10, after District Judge Laura Taylor Swain denied an Energy Commission [injunction request](#) to review

a secret PREPA fiscal plan before Oversight Board approval. The plan was certified on April 19 without any Commission input or review

This setback, though, doesn't worry Sen. Nieves. "The Energy Commission has been fighting for its life since it was created," he said. "Both governments have been fighting them, and I sleep well at night because I'm quite confident that's the real evidence of their independence."

While expediting PREPA's sale, Rosselló and the legislature have tried to roll the Energy Commission into another agency or dissolve it altogether, raising alarms among stakeholders and observers that appear to have derailed its fast-tracking.

The Administration's original [privatization bill](#) exempted buyers from Energy Commission regulation, eliminated adjusted rate and [integrated resource plan](#) requirements, and even enabled tailored statutory exemptions for individual buyers – literally selling the rule of law.



March 5 – Gov. Rosselló greets press and supporters after 'State of the State speech pitching privatization (Photo: Ben Moffat, Cronkite Border Initiative)

An April Institute for Energy Economics and Financial Analysis [report](#) asserted it won't "address the fundamental drivers of the high price of electricity...Instead, the bill establishes a mechanism to sell PREPA's assets via politically driven contracts – rich in fees for lawyers, accountants, consultants, and advisors."

"You can try to get a transaction in place to get the most out of the price of the asset, and then performance and policy takes a backseat," said Chairman Román. "Or you can restructure the market so that we can provide the best performance for the people of Puerto Rico."

On April 11, Asst. Sec. Bruce [Walker testified](#) that the Department of Energy has contracted the Southern States Energy Board – a group of governors and legislators – to work with Gov. Rosselló

and the Puerto Rican legislature to "develop a policy and legal framework to provide a regulatory process for privatization."

Five days later, Puerto Rico Senate Vice President Larry Seilhamer (PNP) said the [bill will be limited](#) to public-private partnerships for transmission. The

matter of generation asset sales, presumably, will be held pending this framework. Further amendments are expected.

“We have created a strong Energy Commission that has gained a lot of credibility before the private sector and even Congress,” Senator Nieves said, emphasizing that industry has “been very active defending its role.”

AES and the Puerto Rico Manufacturers Association, of which it is a part, are such examples.

“The Commission has a role; one it has been doing very well because of the law that formed it;” Vice President of the Union of Electrical and Irrigation Industry Workers (*UTIER*) Fredyson Martinez explained labor’s support for the regulator.

UTIER has existed for 75 of PREPA’s 77-year history and currently represents 60 percent of its employees. It staunchly opposes privatization and was opposed to the Energy Commission’s authority early on; cynical about the meaning of such a body for its commitment to public power.

Now, its detractors argue the Energy Commission must be dismantled because it is *only* capable of regulating a public utility, its expertise insufficient for the complexities of a private market.

“Time’s given us reason to support the Commission, because the government’s preparing the terrain to cultivate what they want. The Governor is going harder in this direction than in the past,” said Martinez, a former PNP supporter. “I call him a technocrat, he’s not the normal politician.”

The Oversight Board itself has called for a “transitional” regulatory role for “cases pertaining to microgrids and distributed generation development,” and a strong replacement regulator with a proposed budget some six times that of the Commission’s.

## “You replace a pole with a pole”

In its busy San Juan headquarters, U.S. Army Corps of Engineers (USACE or Army Corps) leadership was keenly aware of Caguas’ need, but said it was unable to move any faster. The Corps shares operational responsibility with PREPA, splitting district level assignments decided by PREPA.

“About the Caguas region, it was determined by FEMA that we should focus on the major population centers first,” Army Corps Deputy Commander for Task

Force Power Restoration Lt. Col. Cullen Jones said in early March, while nearly half of Caguas was still in the dark.

Cullen pointed to the difficult terrain of the Caguas region as a constraint, but said that, moving toward the final five percent of electrification, “all efforts have been looking at how we can focus our resources into Caguas.”

The Army Corps had just declared Puerto Rico [90 percent](#) electrified – three months past its first full-recovery goal – and was ending contracts and pulling out teams as it exhausted its \$2 billion of FEMA emergency restoration funds.

Though Puerto Ricans had little faith in PREPA’s efficacy, expectations were raised for a rapid restoration, and even a real transformation, when the Army Corps was assigned to anchor the rebuild. But legal and institutional lag has cost precious time and resources, indicating the broader disorganization of the recovery.

Federal law provided only for replacement of infrastructure, not improvement, as the Army Corps was obliged to explain for months. Beyond this, materials were already severely depleted by hurricane recovery efforts in Texas and Florida, delaying even emergency repairs.

“In accordance with the Stafford Act, our mission is to repair in kind. So, you replace a pole with a pole,” Lt. Col. Jones said on March 8. “Looking forward, that’s (modernization) going to be the mission of the government of Puerto Rico and PREPA to see about other potential alternatives to maintain resiliency and redundancy.”

But U.S. Reps. José Serrano (D-NY) and Jenniffer González-Colón (R-PR), had been working on an [amendment to the Stafford Act](#) that would remove this constraint since November. Attached to the Bipartisan Budget Act of 2018, it was signed into law by President Trump on Feb. 9.

According to Rep. González-Colón’s office, she had to inform the Army Corps’ Task Force Commander, Col. Jason Kirk, of this development on March 3 – five days before his second-in-command, Lt. Col. Jones again cited the Stafford prohibition.

On April 11, Asst. Secretary of Energy Bruce Walker acknowledged the amendment before the House Committee on Energy and Commerce, stating that he intends to help expand the amendment’s scope to facilitate major



USACE Lt. Col. Cullen Jones explains mission

improvements, while the Army Corps is replacing inadequate equipment to code and standards.

The draw-down continues, although the Army Corps is still delivering materials to PREPA and working on the ground in limited areas; [recently extending](#) a large contract with PowerSecure Inc. totaling \$510 million.

The Oversight Board's fiscal plan is the first to recognize the amendment's benefit for both the Island and its bondholders, pointing out that "FEMA has expanded overall flexibility and willingness to support more transformational investments" like micro- and mini-grids.

## "One reality behind the scenes"

"How can you bankrupt an energy utility with a monopoly over power?" Sen. Nieves posed. "Politics, that's the answer."

For years, PREPA has been subject to egregious political interference, practiced by both of Puerto Rico's dominant political parties. Both parties have also alternately tried to bring PREPA in line.

In 2007, for example, former Senate President Kenneth McClintock (PNP) passed legislation requiring PREPA to facilitate net metering – sale from *and to* the grid, necessary for residential solar installations.

PREPA failed to comply, likely anticipating the status quo party hand-off that followed the next year; eyeing a new transactional relationship with *La Fortaleza* (the Governor's residence). Almost a decade later, a similar act would be Senator Nieves' last piece of legislation before the PDP lost power again in 2016.

"PREPA can't serve the people the way it has in the past," Martinez said, drawing on twenty years of experience with the company. "We have 2,000 public utility companies in the U.S. They don't have such political intervention, so they work well and serve their people."

"The government changes every four years here. When one comes in, it shuts down all the plans that the other administration had. There goes \$200, \$300, \$400, \$500 million down the pipe – like that," he said. "They see it as their turn."

The partisan duopoly has alternated governments every cycle since Governor Rosselló's father was re-elected to the office in 1996 with a PNP legislative majority, and PREPA has learned that onerous regulations can simply be waited out.

"The employees from the opposition party, on the management level, have a silent agreement between all of them that, 'Ok, it's your turn for the next four years, but when my party wins back power, it will be my turn,'" Nieves said. "You cannot operate a utility like that."

Mayor Miranda, a veteran of PREPA, also described this fracture: "You have two groups in PREPA: one that favors the active administration, and one that is in the opposition. When things change, they start fighting for positions."

The political corruption problem, though, has taken on much darker connotations post-Maria.

"PREPA is more politicized than ever. And for that reason, I have more than half of my population without electricity service," Morovis Mayor Carmen Maldonado (PPD) declared in early March.

"I can personally attest that (Gov. García-Padilla) helped every mayor no matter their political party. Everyone was equal," said Maldonado, who worked for the previous administration. "That doesn't happen today."

Mayor Maldonado echoed several PPD mayors from around the Island. By the 90 percent mark, a belief took hold that PREPA's leaders saw emergency resource distribution as a favor system rather than a life-saving mission.

"Because I understood the damage, I didn't point out who was or was not responsible for work not being done in Caguas," Mayor Miranda said at the time. "And now, I have to say I feel discriminated against by the Governor, because he is the one who appointed the Secretary Director of PREPA."

Miranda remembered October and November, when the need was greatest, seeing other municipalities, which he declined to name, with "20, 25 brigades. We could have some weeks with only one, two."

"You want there to be some kind of equality, some kind of fair distribution in these matters, but it doesn't work that way," Miranda said.

"The Executive Director (Gonzaléz) told a few mayors with lots of damage that he had no power to decide where the brigades go," Martinez affirmed the mayors' complaints.

“It was that way when I was in politics 15 years ago,” he said. “There was one message to the audience, and one reality behind the scenes.”

PREPA’s political chokehold is tabling long-term solutions as well.

Obed Santos, Plant Manager for AES Illumina in Guayama, oversees a 100-acre solar plant with one-third the production cost of PREPA’s oil plants. Yet over six months, he said, PREPA only allowed him to ramp up to ten percent of its 20 MW capacity.

“Even more frustrating is the lack of communication,” he said.

PREPA continued to give him the same reasons about needed grid repairs to handle fluctuations, even through 90 percent restoration, and it took until February to receive payment for AES’s July 2017 delivery.

“Puerto Rico is an ideal place for solar generation, and it will help us reduce our use of petroleum,” said Santos, to whom this is more than a talking point.

When Maria hit, he and his wife were celebrating their anniversary in Europe. Their children were with his mother at their home in Caguas, directly in the path of the storm’s eye. It took ten long days of delays and disrupted communications to get back home.

“The hurricane taught us we need to be more prepared in terms of fuel independence,” he said. “This is a way of harnessing the power that nature gives us for free.”

Santos was relatively lucky to have his power restored three months later, on December 20. His mother’s home – ten minutes away – was still among those in Caguas awaiting power at the end of April.

## “They’ll sell you a cat for a rabbit”

Finally, a March 12 House Natural Resources [Committee letter](#) to Interim Director Justo González highlighted reported PREPA employee misconduct. Personal and quid pro quo restorations, it said, delayed those of a San Juan hospital and the Island’s international airport, possibly causing fires and additional damage.

The letter also reiterated USACE claims that PREPA had not properly distributed materials and kept at least one entire warehouse off digital records.

PREPA responded that it does not tolerate corruption, pointing to three employees suspended pending an administrative procedure related to allegedly soliciting bribes. It also repeated calls for the public to report any employee misconduct to itself.

On March 25, Walter Higgins III was installed as PREPA's Chief Executive Officer (CEO) – a new position in the still-public company – and charged with disposing of its monumental problems.

The Oversight Board's [PREPA fiscal plan](#) touts Higgins as "PREPA's first-ever non-politically appointed CEO;" elaborating the office "replaces the Executive Director, and is a permanent position" reporting directly to the Board itself.

The 73-year-old American energy executive does not speak Spanish, and former Interim Director Justo González continues to be the [face of the company](#), especially during emergencies such as the recent blackouts.

Yet Higgins' compensation is an eyebrow-raising \$450,000 base salary, with performance bonuses possibly doubling it.

On April 12, Mayor [Miranda received Higgins](#), along with USACE Commander Lt. Gen. Todd Semonite and Asst. Secretary of the Army R.D. James, to discuss

completion. The Caguas region was still only 86 percent restored; the city having just broken 90 percent.



April 12 – Mayor Miranda discusses completion in Caguas with PREPA CEO Higgins and Task Force Power Restoration leaders

"PREPA feels your pain, and feels pain itself," Higgins told Mayor Miranda. "This was an overwhelming event for PREPA, in every way."

"This would have been an almost impossible task without the people who came to work. The citizens would have long ago come to find you and me and..." the newly arrived Higgins joked awkwardly, gesturing at Miranda.

"Want to kill us," Miranda finished for him, drawing laughter from the room. He moved the conversation along, informing Higgins, to his surprise, that he was in fact technically an employee of PREPA under a special license.

It was unclear if the CEO was aware of Miranda's career with PREPA, or the fact that his late father, Mayor William Miranda Marín, had also served in the renamed role of executive director of PREPA in the 1970's.

Caguas' citizens, in fact, came "to find" their mayor many times over more than half a year in the dark, demanding answers and action.

"The citizens go first to the mayor to ask for help," Miranda said more than a month earlier. "The Corps never gave us a plan. Never. On the other hand, even though they don't tell you the things you want to hear, PREPA sits with us at least two times a week."

Those things that the Mayor didn't want to hear turned out to be largely untrue. On Feb. 28 Mayor Miranda received a text message with a picture taken by his Vice Mayor, attending a meeting called by the Governor in San Juan.

"The Governor was sitting with PREPA and the Army Corps, showing a Powerpoint presentation," Miranda said. "One slide clearly stated the Corps of Engineers' responsibility was emergency grid work, and the role of PREPA was to assign the work priorities."

"I got lost there," he said.

"All this time it was the opposite of what they were saying. PREPA had been telling us that the Corp of Engineers assigns priorities and controls materials." But blaming the Corps for all the delays was just one more thing that Miranda said he was misled about.

In January, he retained a retired PREPA director to explain the meaning of technical information shared by the Army Corps so he could evaluate the truth of their promises. As for those of PREPA, the Mayor said he "never believed that they could accomplish" their stated goals.

"There is a saying here in Puerto Rico, 'they'll sell you a cat for a rabbit,'" he said, regretting his inability to tell his citizens what had actually been going on during their long months of neglect.

## **"Every one of us are the pillars"**

When Task Force leadership arrived in Caguas, Miranda said he had begun to see advances in certain wards where PowerSecure was fulfilling its extended

contract. This time, the Mayor was assured of full restoration by the third week of May.

“From what I saw yesterday, I feel more secure that they can accomplish what they’re saying,” he said. “At this point they have the material and the personnel. I believe it’s a reasonable date to have the city restored.”

On the other hand, Miranda said he had “lost all confidence in the government, and the way they are still managing everything – the amount of improvisation, and unmet commitments they have made.”

Caguas’ \$92 million budget, according to Miranda, was decimated by \$10.5 million in withheld FEMA funds, \$8.5 million taken by the central government, and \$26 million in deposits disappeared from the defunct Government Development Bank (GDB) – liquidated by the Oversight Board in the months preceding Maria.

“We have received no money to start rebuilding our cities, because the federal government has also lost confidence in the central government,” Miranda said. “FEMA is combing over every sentence and comma, having had past issues like Whitefish.”

Still, most in Caguas are finally getting back to normal, and there are more encouraging signs around the city.

“I visited a sector that will finally be fully restored tomorrow. Their frustration levels were very high, and they were kind of angry with me,” Miranda said with an uneasy laugh. “When I visited them on Tuesday they were giving hugs and kisses, and ‘thank you Mayor!’”

Looking forward, Caguas has submitted plans for five projects, bidding for part of \$1.5 billion in federal community development block grants authorized in February, including hundreds of solar residential installations connected by microgrids.

Despite enormous systemic barriers, inspiring projects are springing up all over the Island as Puerto Ricans find their own means, and partners, to take the first small steps toward securing their future.

When Hurricane Maria darkened the whole western municipality of San Germán, the lights never shut off at Hospital de la Concepción. In the aftermath of the storm the Catholic hospital, founded in 1511, became its own island of refuge, for its patients, staff, community, and region.

After Gustavo Almodóvar, Executive Director of the state-of-the-art 170 bed facility, experienced a hospital-wide outage during a storm, he felt obligated to prevent future blackouts and protect the lives of his patients.

Soon, he and his Engineering Director, Edgar Crespo, formed a partnership with Roberto Acosta, President of Accurate Solutions and Design, Inc. (ASD) to make the hospital completely self-sufficient. It now runs a microgrid on redundant propane generators, powering a water well and purification, while simultaneously capturing thermal energy to heat and cool the facility.

“I never expected the hospital to be running for months without electricity,” Acosta said, recalling that a prudent decision to fast-track the generation units before fully integrating other components coincidentally preceded the successive Hurricanes Irma and Maria.



*Hospital de la Concepción in San Germán took only superficial damage during the storm and maintained its own power throughout*

When Maria passed, Concepción was the only institution open for miles, and the only hospital on the Island that did not depend on scarce diesel. Over the next few weeks it became the center of the community, providing water, food, and laundry. Eventually it ran clinics in and around San Germán, serving many hundreds.

“Walking the corridors, you’d see many people. The Navy helped the hospital pull in doctors to help. Many lives were saved,” Acosta said.

Today, Hospital de la Concepción, Puerto Rico’s first to employ this system known as cogeneration, is a striking model; one that multiple government agencies and corporations have expressed interest in. It enjoys 86 percent efficiency – triple PREPA’s, at half the price, and with harmful emission reductions of up to 98 percent.

While mitigating climate change, an operating principle of ASD, Acosta also pointed out the overwhelming economic advantages of micro- and mini-grids. PREPA and its plants, he said, use “about \$1.5 billion of fuel, \$1.1 billion of which is wasted. If those \$1.1 billion are in the pockets of the people, that has to incentivize the economy.”

Acosta sees the Energy Commission as key to ensuring this model can be reproduced. “We were able to start the engines by the time Irma came,” he said,

but recalled PREPA's delays and resistance to the project, which would likely not have been operational in time if Concepción hadn't finally threatened to disconnect entirely.

"My hope is that the Energy Commission gets stronger. We need a strong Commission, not a weak one," he said. "Don't think only about what you need, think about what your country needs."

While remarkable collaborations like Hospital de la Concepción are proving the value of microgrids, nano-grid projects have the potential for rapid deployment, supporting vital and inexpensive small-scale infrastructure in isolated and rural communities.

These projects have perhaps the greatest proportionate ability to directly improve, and even save lives.



Miriam Matos, community leader in Buenos Aires, outside of Caguas

One such project reached the remote Buenos Aires community in the mountains between Caguas and San Lorenzo. It remains without power but was most devastated by the loss of the electric pump that supplied its aqueduct with clean water.

For months, Buenos Aires' 70 families relied solely on stream water, funneled into a single pipe.

On March 2, Mayor Miranda attended the ribbon-cutting ceremony for a nano-grid running a new water pump, powered by a solar array with a Tesla storage battery. [The project](#) – designed to function for 20 years – was a collaborative effort of APE Electrical, Blue Planet Energy, Tesla, and the non-profit Water Mission.

Addressing the gathered community, corporate and NGO representatives, and government officials, the Mayor delivered a message that

captured the attitude with which Puerto Ricans have endured the untold suffering from Hurricane Maria:

*If this sad experience has taught us something, it is not to give up and to work harder every day, to be creative and innovative when it comes to solving our problems.*

*This system of safe, reliable solar energy symbolizes a community that reinvents itself, that rebuilds, and that will continue working for*

*the well-being of all those who comprise it. Because each and every one of us are the pillars in our communities. We do not have to wait for a natural disaster to assess what we have, and to share with those around us. This is making community.*

In Sept. 2015 – during Gov. García-Padilla’s administration – Melba Acosta-Febo, then-GDB President, spoke [before the U.S. Senate](#) Committee on Finance to advocate moving PREPA into bankruptcy. During her testimony she gave the Senators a grave warning.

“If negotiations continue for any lengthy period of time as they have so far,” she said, “or an event beyond PREPA’s control occurs, such as a hurricane that generates unanticipated costs, PREPA could be left unable to provide power to millions of Americans. I need not explain the health and humanitarian consequences in such a scenario.”

In terms of power, most of Puerto Rico will soon be effectively back to normal – meaning mostly where it was on September 15, 2017.

But now PREPA is being restructured by a federal board, the Army Corps and many U.S. utilities have worked on the ground with the Island’s grid, countless hours of congressional testimony have been taken. And the suffering and neglect has been witnessed by all of our leaders, if not many citizens in the states.

If a disaster of this kind happens again, it will be utterly man-made, and the whole nation will be unquestionably responsible for the fates of more than three million Americans.

The Tropical Meteorology Project at Colorado State University issued its 2018 Atlantic [hurricane forecast](#) on April 5. It calculates a 52 percent chance of a Category 3-5 hurricane making landfall in the Caribbean.

Heads or tails?

- PREPA did not grant multiple requests for an interview by the author, although it did provide press releases available at its [website](#).
- Governor Rosselló did not respond to interview requests by the Cronkite Border Initiative.
- Senator Lawrence Seilhamer’s communications staff did not respond to interview requests by the author.