EDITORIAL

Renewable energy for Puerto Rico

Puerto Rico is not prepared for another hurricane. A year ago, Hurricane María obliterated the island's electric grid, leading to the longest power outage in U.S. history. This disrupted medical care for thousands and contributed to an estimated 2975 deaths. The hurricane caused over $90 billion in damage for an island already in economic crisis. Although authorities claim that power was restored completely, some residents still lack electricity. Despite recovery efforts, the continued vulnerability of the energy infrastructure threatens Puerto Rico's future. But disruptions create possibilities for change. Hurricane María brought an opportunity to move away from a fossil fuel–dominant system and establish instead a decentralized system that generates energy with clean and renewable sources. This is the path that will bring resilience to Puerto Rico.

Puerto Rico is representative of the Caribbean islands that rely heavily on fossil fuels for electric power; 98% of its electricity comes from imported fossil fuels (oil, natural gas, and coal), whereas only 2% comes from renewable sources (solar, wind, or hydroelectric). The distribution of 6023 MW is challenging, requiring thousands of miles of transmission and distribution lines over the island's steep topography. This makes the island's centralized electrical grid vulnerable to hurricanes that are predicted to increase in severity because of climate change.

In Puerto Rico and the rest of the Caribbean, where sun, wind, water, and biomass are abundant sources of renewable energy, there is no need to rely on fossil fuel technology. Unfortunately, the government of Puerto Rico and the U.S. Federal Emergency Management Agency have been making decisions about the local power authority that are restoring the energy system to what it was before Hurricane María hit, perpetuating fossil fuel reliance.

Despite these decisions, a transformation has begun in communities across Puerto Rico. For example, in the mountain municipality of Adjuntas, local initiatives headed by Casa Pueblo, a self-reliant nonprofit community organization, has increased the installation of solar energy systems. Fortunately, the solar power–based infrastructure of Casa Pueblo was not affected by the hurricane, allowing Adjuntas to serve as the organization's center of operations for immediate local and regional response after the hurricane. Adjuntas became an oasis of power, where people got immediate assistance. Analog solar-based energy systems were designed and installed by Casa Pueblo to supply the needs of numerous entities in the community: medical equipment, such as peritoneal dialysis for homes with patients; a radio transmitter for a community radio station; and equipment for hardware stores, minimarkets, restaurants, and other businesses. Around the island, other examples of off-the-grid local energy production reflect community resilience grounded in projects that foster renewable energy. They include a solar microgrid in Orocovis, multiple community aqueducts, and sustainable farms. These new energy systems are changing the energy landscape of the municipality. But the majority of rural communities is still in need of sustained help.

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At this juncture, when the opportunity to build a sustainable and resilient electrical system presents itself, moving away from dependency on imported fossil fuels should be the guiding vision. Puerto Rico must embrace the renewable endogenous sources that abound on the island and build robust microgrids powered by solar and wind, install hybrid systems (such as biomass biodigesters), and create intelligent networks that can increase the resilience of the island. The Puerto Rican government and U.S. Congress should use Hurricane María as a turning point for pushing Puerto Rico toward using 100% renewable energy rather than a platform to plant generators across the island. The Fiscal Plans approved and certified by the Financial Oversight and Management Board for Puerto Rico, created by Congress in 2016, should be amended to pursue this vision of sustainable development based on renewable energy.

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