Energy storage applications haiti

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Online, television, radio and print news services are awash with reports of Hurricane Harvey and Irma"s devastating effects in Texas, Florida and neighboring southeastern U.S. states, and justifiably so. Attaining record-setting proportions and sustained wind speeds, Hurricane Irma swept across the Caribbean"s Greater and Lesser Antilles from the Leeward Islands of Antigua and Barbuda to Cuba this past week, leaving a path of destruction in its wake before proceeding to batter and inundate Florida and parts of neighboring Georgia and Alabama.

An executive from NextEra Energy-owned Florida Power & Light, the third largest rate-regulated utility in the U.S., said that more than half the state had lost grid power during the hurricane. That would amount to more than 10 million people. Furthermore, he added that the subsequent rebuilding effort may amount to the largest, most complex undertaking of its kind in U.S. power industry history.

Hope springs eternal, however; and the devastation left in Harvey and Irma"s wake also presents golden opportunities to design and build more resilient, reliable, efficient and environmentally ways to produce, store and distribute energy and power. Rather than pitting strength against strength and using force against force, distributed solar and renewable energy services providers and their customers are designing, engineering, rolling out, operating and maintaining on-site and local power and energy systems and microgrids that promise to be more sustainable - economically and in terms of reliability, as well as when it comes to human and environmental health and integrity.

That includes pioneering climate-smart solar PV-energy storage and distributed energy services providers in the Caribbean, as well as in the U.S. and worldwide. Micro-utility Sigora Haiti, for example, went to great lengths to ensure that its solar PV-battery energy storage microgrids withstood Irma"s onslaught, as well as re-energized and soon after began delivering emissions-free electricity services to some 8,000 customers in rural towns in northwestern Haiti. Their efforts have paid off.

Hurricanes Harvey and Irma were the latest of nature"s extreme weather phenomena to reveal the weaknesses and faults in even the most modern, high-tech and disaster-hardened communications, water, power and energy grids and infrastructure. Whether living in a small Caribbean island nation or overseas territory, such as the Dominican Republic, Haiti or Puerto Rico, or in a modern city in a thoroughly industrialized country, such as Houston or Miami Beach, power grids, as well as water distribution systems and telecommunications networks, were shut down or knocked out if not completely leveled, leaving residents without critical public services.

Harvey and Irma should lend yet more urgency to current U.S. and international initiatives aimed at

developing and deploying a new generation of more resilient, more efficient, socioeconomically equitable and environmentally friendly emissions-free power and energy technologies and network systems.

Occupying the western one-third or so of the Caribbean island of Hispaniola just east of Cuba, Haiti has borne more than its fair share of natural disasters and strife. Hurricane Irma strafed the Caribbean island nation, knocking down and flooding buildings, homes and roads and leaving residents along the north coast largely in the dark.

Non-profit, public and private sector organizations flocked to Haiti to lend assistance in the wake of the 2010 earthquake that left large portions of the population homeless and devastated much of what existed in the way of public infrastructure. Keen to make a lasting, positive difference, some have stayed on while others have arrived and are pitching in to help Haitians with ongoing recovery efforts, as well as take on a host of persistent issues and challenges, such as population growth, unemployment, lack of education and training, deforestation, freshwater, land and natural resources degradation, agricultural production and access to safe, reliable and affordable electricity.

Sigora Haiti numbers among a small but fast growing crop of sustainable energy development-minded social enterprises that have taken root in developing countries worldwide. They have found fertile ground for growth amid global efforts to reduce carbon and greenhouse gas (GHG) emissions and address longstanding issues that have been serving as barriers to sustainable socioeconomic development.

Founded with the intention of bringing safe, sustainable electricity to a single health clinic, Sigora Haiti now finds itself managing just over 1-MW of solar power generation capacity and having earned a place at the leading edge of the shift to building out sustainable power and energy infrastructure and fostering equitable socioeconomic development.

Sigora Haiti connected its first solar-storage microgrid customer, the M?le-St. Nicolas Public Health Clinic in the rural northwest Haitian town it was named after, in December 2015. The ambitious founders then went on to build and commission their first community solar-storage microgrid less than a year later, and then gained a concession from the Haitian government to build out microgrid infrastructure and connections to some 100,000 residents, VP of Operations Drew Lebowitz explained in an interview.