Haiti microgrid energy storage

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Nearly three-quarters of Haiti"s 10 million citizens lack access to reliable electricity. A primary cause is the nation"s limited and unreliable power grid, which forces many small towns to seek their own solutions in order to provide power to local households, schools and the nation"s growing economic sectors. Through a partnership with Washington, DC-based nonprofit EarthSpark International, USTDA is helping plan and deliver clean microgrid solutions in communities across Haiti.

The study, conducted with EarthSpark"s Haitian-affiliated company, En?ji Pw?p, as well as local universities and a think tank, led to the 2019 implementation of a new solar-powered microgrid in the southwestern town of Tiburon, where 500 homes and businesses now have access to clean, reliable electricity. In addition, the deployment of SparkMeter"s advanced equipment has also enabled greater energy efficiency and stronger resilience in the event of severe hurricanes.

Tiburon is now one of a small handful of communities in Haiti with reliable 24-hour electricity. And EarthSpark now has plans to dramatically scale up its microgrids in Haiti to 24 smart, solar-powered grids in the next four years, to be financed in part by a $9.9 million commitment from the Green Climate Fund.

"Microgrids hold enormous potential to quickly bring electricity to communities across rural Haiti," said Allison Archambault, President at EarthSpark International. "With local and national government support as well as international cooperation, the launch of the Tiburon grid is a success story for multi-sector partnerships building a market that can scale-up to sustainably electrify the 70 percent of the Haitian population still living without electricity."

USTDA"s Acting Director Enoh T. Ebong added: "This project has already helped Haiti vastly expand its microgrid operations, providing more citizens with access to reliable power and clean energy. We are confident that the innovation of U.S. technology will continue to make the decisive difference in Haiti and integrate microgrids in communities throughout the country."

"This solar hybrid grid is the first of its kind in Haiti. It is a very good model and should serve as a pilot to allow Haitian students and technicians to strengthen their capacities for rural electrification and microgrid [work]."

EarthSpark spun off SparkMeter Inc, a company that is now commercializing smart meters for grid operators in developing markets around the world. ZeroBase looks forward to future partnerships with EarthSpark and other organizations to bring reliable and clean energy to remote areas. Creating scalable power solutions that are adapted to the needs and constraints of each community is how ZeroBase aims to build and support communities around the world.

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After nearly a decade of work demonstrating the economic and technical feasibility of microgrids–as well as their ability to reduce carbon emissions–EarthSpark International has the go-ahead to begin work on a massive project that will ultimately bring clean, renewable electricity to over 80,000 people in 22 towns in Haiti.

EarthSpark brings more than a decade of experience to this venture. As part of a larger $45 million dollar package that will blend funding from multiple sources, the commitment from the Green Climate Fund calls for an additional 5.8 MW of installed solar capacity for Haiti, and will allow EarthSpark to launch a project development company and begin work immediately on two new Haitian microgrids. EarthSpark will partner on the project with the Nordic Environment Finance Corporation (NEFCO).

With resources of over $10 billion, the Green Climate Fund was established under the United Nations Framework Convention on Climate Change (UNFCCC). It is the world"s largest funding source for developing countries to reduce their greenhouse gas emissions and adapt to climate change.

EarthSpark President Allison Archambalt said ""This is a huge achievement because GCF"s backing will enable other funders to join the project and bring solar-powered smart grids to communities most in need. Aside from the money, we are really gratified that microgrids have been recognized as a key solution to climate change."

Haiti is the least electrified country in the western Hemisphere, Archambault explained. But it is home to multiple densely packed communities. That"s ideal for microgrids, because it reduces the cost of constructing local electricity distribution systems.