Microgrid economics haiti

Microgrid economics haiti

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."

Photo by Ryan Shelby. The United States Agency for International Development (USAID) and NREL supported Haiti in this initiative with trainings and technical assistance to enable private sector partnerships and the scale up of advanced energy technologies. The interactive trainings hosted by the USAID-NREL Partnership focused on minigrid construction and operation for both private developers and government stakeholders.

Additionally, a geospatial analysis tool, the Renewable Energy (RE) Data Explorer, was developed by the USAID-NREL Partnership for the Dominican Republic and Haiti to analyze and visualize renewable energy potential on the island.

Microgrid economics haiti

Throughout its history, Haiti has experienced repeated natural disasters including hurricanes, tropical storms, flooding, and earthquakes. The country"s infrastructure and small national grid are vulnerable to blackouts, energy price volatility, and other destabilizing forces.

As such, rebuilding Haiti"s energy systems with a focus on stability and affordability is critical. Without access to reliable power, Haiti"s efforts to spur economic growth, improve access to education, and enhance quality of life are hindered.

Minigrids can improve energy access in rural areas by enabling power supply for communities that would otherwise be without reliable electricity. While the basic engineering principles of minigrids are well established, construction and operation methods can vary widely and be location dependent. This may result in variations in power quality and reliability.

In March 2019, a technically robust minigrid RFP was released as part of a broader plan to support the development of 54 minigrids in Haiti, incorporating significant shares of renewable energy. The RFP was developed by the Autorit? Nationale de R?gulation du Secteur de l"?nergie(ANARSE), the Government of Haiti"s electricity regulator, and the Energy Cell within the Ministry of Public Works, Transportation and Communication (MTPTC), with advisory support from the World Bank, USAID, and NREL.

The RFP lays out key regulatory elements to enable successful minigrid deployment, including licensing, service levels, power quality, technical standards, tariffs, and preparation for grid arrival.