Haiti rural microgrids

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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.

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.

The USAID-NREL Partnership also developed a Renewable Energy Data Explorer for the Dominican Republic and Haiti. This tool performs visualization and analysis of renewable energy potential that can be customized for different scenarios. RE Data Explorer can support prospecting, integrated planning, policymaking, and broader energy sector planning to accelerate renewable energy deployment.

To support the minigrid RFP process, NREL provided a training to 30 renewable energy developers identified by the Government of Haiti as prequalified bidders. It focused on the following key topics identified as priority areas by the developers in advance of the training:

The developer training was broadly aligned with NREL"sQuality Assurance Framework(QAF) for minigrids, whichprovides a flexible approach and guidelines for developing safe, high-quality, and financially viable minigrid power systems for remote customers.Portions of the discussion sessions focused on ways to implement key minigrid approaches specific to Haiti. For more information about the QAF, see the Clean Energy Solutions Center website.

Building on the training for project developers and support for the RFP, NREL provided a three-day virtual training to Government of Haiti stakeholders on developing a broader policy environment for minigrids and use of the RE Data Explorer to support renewable energy deployment more broadly.

The training was developed in close collaboration with Energy Cell, a key Government of Haiti partner under this effort. The training and interactive discussions covered the following topics: