Nassau solar industry

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The Caribbean island nation of the Bahamas is turning to independent power producers (IPPs), the combination of "solar plus storage" and hybrid microgrids to extend sustainable energy access, improve energy reliability and resiliency, and reduce carbon emissions and environmental footprints on four of the archipelagic nation"s 30 inhabited islands (pop. around 400,000).

State-owned utility Bahamas Power & Light (BPL), with support from the Rocky Mountain Institute (RMI) and Carbon War Room"s Islands Energy Program, recently launched the Family Islands solar energy program and issued a competitive request for proposal (RFP) to develop projects on four islands: Andros, Bimini, Eleuthera and Inagua. The islands were chosen due to projected increases in energy demand, according to BPL. Project developers need to provide complete solar energy systems solutions that encompass development, financing, ownership, operations and maintenance.

Development of the four solar-fueled power systems will set the stage to scale the Family Islands solar program across the island chain"s outlying islands, as well as contribute to the Bahamas achieving a national goal of renewable energy resources meeting 30% of electricity needs by 2030.

We have 17 to 18 islands that we want to put renewable energy in, so we want to make sure we move this process forward in a very structured manner. These four islands need some additional generation in the short-term. Given the load growth curves for these islands, we looked at the fact they need more generation sooner rather than later.

--BPL Chairman Donovan Moxey was quoted in a Tribune Business news report.

The Bahamas is a very difficult place to generate electricity, distribute it and sell it, even as compared to other Caribbean islands, Chris Burgess, Islands Energy Program projects director, told Solar Magazine.

It"s incredibly difficult to have to run 21 separate power systems, none of which are interconnected, 21, likely more, fuel sources, and provide reliable, affordable electricity to some incredibly energy-dense service areas, such as Nassau, as well. Just having the opportunity to look up from the operations window, much less try to do anything new and difficult, doesn"t come around often.

--Burgess said in an interview.

BPL"s longstanding dependence on imported diesel and heavy fuel for virtually all the Bahamas"power generation poses another obstacle. Much larger scale, fossil fuel projects are being proposed and approved. News broke this past November that BPL and Shellsigned a Memorandum of Understanding (MoU) that entails Shell developing a 220-250-MW natural gas-fired power plant to serve the main island of New

Providence that"s tentatively slated for completion in the early 2020s, for example. New Providence"s energy consumption totals around 260 MW, according to a local news report.

"The MOU is the first step towards a desired long-term power generation pact between BPL and Shell and bringing strategic change to electricity generation and supply in New Providence," BPL"s Moxey was quoted as saying. "The goals are to achieve cleaner power generation, lower-cost fuel sources, and a reduction in the cost of electricity generation."

Adding to these difficulties is the Bahamas small size, its remoteness, the geographic spread of island populations and the limited resources of government and the power utility. "There really aren"t any "deep pockets." Our assistance is key because we can provide expertise, as well as resources, to help carry out a renewable energy transition," Burgess said.

The impacts of climate change, a growing record of solar-storage project developments and associated results, and the ongoing sharp fall in the costs and improving performance of solar energy and battery energy storage technology and systems are leading Caribbean island governments and utilities to establish more ambitious solar and renewable energy goals and programs.