



ENERGY REPORT

Perspectives
for the Turks and
Caicos Islands

The Importance of Exploring Solar Plus Battery Storage for the TCI

ENERGY storage pilot projects are among the recommendations listed for further exploration in the Resilient National Energy Transformation Strategy (R-NETS) that has been developed for the Turks and Caicos Islands (TCI), to guide the islands' transition to renewable energy.

The R-NETS was jointly formulated by the Turks and Caicos Islands Government, FortisTCI and the Rocky Mountain Institute (including public consultation), in late 2018 and early 2019. The R-NETS will serve as a blueprint for TCI's energy future, which seeks to achieve an optimal mix of generation with 33% renewable energy added to the grid by 2040. In October, FortisTCI, TCIG and the Clinton Foundation signed a memorandum of understanding to begin implementing initiatives under the R-NETS, and reiterated a commitment to accelerate the development and integration of more clean energy sources throughout the TCI.

FortisTCI is of course pleased to have embarked on its first integrated solar plus battery storage pilot project in August this year, in line with some of the recommendations in the R-NETS. With renewable energy integration gaining momentum in regional and international utilities, energy storage has become an important technology, and it is therefore critical to understand its likely impact on the energy grid.

FortisTCI's battery storage pilot project, which is slated to last for 18 months, is also ground breaking for the TCI, because currently there is no data on energy storage in the islands, and only limited information on this technology across the Caribbean. Solar and battery technology (lithium-ion) have been installed at three locations on Providenciales. Two of these are commercial operations, and are located at FortisTCI's Providenciales plant and are both roof mounted. PV system sizes are 10.4 kW and 10.1 kW, and both have battery capacity at 9.3 kWh. The third, which is also located in Providenciales, is a residential, ground mounted system, which has a PV system size of 10.4kW and battery capacity at 9.3 kWh. All three installa-



This solar plus battery installation at a residential property in Providenciales is part of a pilot project that FortisTCI is undertaking to determine the suitability of the technology for the company's renewable energy programs.

tions are grid-tied systems, and one has the ability to export excess energy production back to the grid.

The pilot project, which is focused on behind-the-meter energy storage, will collect data on PV production, energy consumption and demand, charge and discharge duration, rate and cycle and system maintenance requirements. This data can be used to accurately reflect the economics of energy storage in the TCI.

"As FortisTCI continues to integrate more renewable energy to the grid, this solar plus battery pilot project is another timely and significant investment that the company is making as part of its efforts to lead the energy transition in the TCI," stated FortisTCI President and CEO Eddinton Powell. "This latest pilot project will provide us with direct knowledge of the system and through gathered data, we will have the means to identify potential risks and reasonably analyze their corresponding impacts. Understanding risks ahead of time will enable us to formulate mitigations through regulatory channels, create new business models,



Battery storage technology, installed at FortisTCI's Providenciales plant, is part of a pilot project that was launched in August 2019. The project will gather data to guide the company's renewable energy programs relating to energy storage.

and make other calculated actions towards protecting our stakeholders' value," Mr. Powell added.

The solar plus battery pilot project is the latest in company's renewable energy push. This summer, FortisTCI added half-megawatt (MW) solar energy generation to its Providenciales grid, in conjunction with commercial customers Caicos Depot, Carlisle Supplies, and Grace Bay Car Rental. These installations are part of the company's Utility Owned Renewable Energy Program (UORE), and the Caicos Depot project (397 kW) represents the largest single UORE installation to date, since FortisTCI began integrating solar to the grid in 2016. Today, FortisTCI has installed 1 MW of rooftop distributed solar PV, which helps to avoid 1.5 million pounds of Co2 equivalent emissions. The company plans for another 1 MW of solar installations at locations in Providenciales, North Caicos, South Caicos and Grand Turk in 2020.

In addition, with an eye on the electrification of the transportation sector, in 2018 FortisTCI launched its electric vehicle and charging station pilot project to gain insight into the technology for customers in the TCI and assess its likely impact on the electricity grid.



At 397 kW, FortisTCI's solar PV project at Caicos Depot, Providenciales, is the largest single installation under the company's Utility Owned Renewable Energy program.

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