

Cook islands energy storage

The Cook Islands in the Pacific will host a 5.6MWh lithium-ion battery energy storage system for the integration of renewables, in a project funded by the Asian Development Bank, European Union and Global Environmental Fund.

The Cook Islands have, in its government's own words, a "precarious reliance" on importing diesel to generate electricity. As a Pacific Island nation they are also in the frontline of climate change, with a target and plan in place to eliminate emissions and hit full reliance on renewables by 2020.

The latest project, expected to cost around NZ\$4.3 million (US\$3.09 million), is considered an important part of that Renewable Energy Sector Project, and is meant to provide the utility of the territory's biggest island and capital, Rarotonga, with increased flexibility for the integration of renewables on its grid.

Australia headquartered developer MPower has been awarded the contract by the Cook Islands' government to build the plant, which will be connected to a grid-connected 1MW solar PV plant, Te Mana Ra Solar PV. The company said it will be its biggest battery project to date and is thought to be larger than any single installation so far in its home country. MPower said it would rely on expertise in working on the Pacific Islands it had gained through developing 5MW of PV in Samoa.

"We're pleased to be able to deliver a new era energy to the Cook Islands, employing the latest technologies and building on the renewables program that is well underway," Nathan Wise, CEO of MPower's parent company, Tag Pacific Limited, said.

When operational, the plant will be operated and looked after by local workers, which was part of the conditions through which the contract was awarded. The system needs to be able to withstand high temperatures and humidity and will be "physically and operationally modular", MPower said, implying that it can be scaled up further or other adjustments made in future.

The project is "tentatively" scheduled for completion in the first half of next year. After the design and build phase, MPower will bring in local contractors to work on the project.

The commissioning of these assets is part of the CookIslands Renewable Energy Project to reach its goal of delivering renewableenergy to all its islands and reducing the nation's dependency on fossil fuelsby constructing solar-powered plants.

Designed to enable a reduction in the number of dieselgenerators operating, TAU's BESS system will also provide grid stabilityfunctions such as frequency support and voltage support in the event of rapidchanges in solar PV output or faults in the network for the island's power station.

Te Aponga Uira's 6MW/3MW system uses Rolls Royce Solutions MTU Energy Packs (Samsung batteries and Danfoss inverters), and the system will support the operation of the grid so it remains robust even with additional high levels of renewable energy.

Installed by New Zealand-based company Vector Powersmart Ltd, the battery system was completed last month and the system was opened by the chairman of the TAU Board, Mata Nooroa, and Asian Development Bank (ADB) executive director, Arif Baharudin.

The Airport West BESS system is located on the northern side of the airport; the purpose of its design is to alleviate constraint on new solar PV installations to the grid.

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