Microgrid energy storage samoa

Microgrid energy storage samoa

The island of Ta"u in American Samoa, located more than 4,000 miles from the West Coast of the United States, now hosts a solar power and battery storage-enabled microgrid that can supply nearly 100 percent of the island"s power needs from renewable energy. This provides a cost-saving alternative to diesel, removing the hazards of power intermittency and making outages a thing of the past.

The US$8,844,817.03 million (T$22.7m) facilities, housed at the Fiaga Power Station compound, allows the storage of electricity that is automatically injected to the grid, when there is a sudden increase in demand or sudden loss of power generated. The micro grid controller is a computer-based system. It will automatically control and regulate the operation of not only the two new battery systems, but also all the Electric Power Corporation power plants and independent solar farms.

The project is part of the Power Sector Expansion Project funded by the Asian Development Bank, Government of Japan through the Japan International Cooperative Agency (JICA), Government of Australia and Government of Samoa.

One of Tesla’s earliest microgrid projects with Powerpacks was deployed in American Samoa and now the company deployed two bigger systems in order to help the country of Samoa transition their energy production from the more expensive and polluting fossil fuels, like diesel, to renewable energy.

It started on the island of Ta"u in American Samoa where Tesla deployed a 1.4 MW solar array and a 6 MWh energy storage system with 60 Tesla Powerpacks back in 2016.

The Samoa islands are located about 4,000 miles from the West Coast of the United States and the transport of the diesel alone was a significant part of the cost of the electricity supplied to the resident of Ta"u and it wasn"t always a guarantee that the boats would come.

Now Tesla has deployed two more Powerpack projects at the Fiaga Power Station and the Faleolo International Airport on the main island for a total of 13.5 MWh of energy storage capacity.

“Without the new battery energy storage systems and micro grid controller, the system will not be able to operate efficiently with such a high percentage of solar penetration in Samoa of 55 percent,”

As of the last fiscal year, 48 percent of electricity in Samoa was generated from renewable energy and 52 percent from diesel. They aim to be completely powered by renewable energy (a mix of hydro, solar, and wind) by 2025.

"Since the batteries have been running on trial tests, the quality (voltage and frequency) of the electricity

supply has been very steady and not fluctuating as before. On least cost operation, E.P.C. is now able to reduce the use of diesel generators from four to two and sometimes limited to one generator during off-peak times. E.P.C. is now working collaboratively with Tesla in taking one step further to totally operate the system without a diesel generator,"

The latest project reportedly cost $8.8 million and was supported by development partners, including the Asian Development Bank, the Government of Japan, Government of Australia, Government of New Zealand and the European Union.