Niue data center energy storage

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Google has hailed the imminent completion of a project to retrofit one of its data centres in Europe with battery energy storage system (BESS) technology as a step towards rolling out similar solutions across its fleet of global facilities.

The search engine and tech giant this morning announced a number of milestones achieved on various renewable and clean energy projects at sites in three European countries and Chile in South America.

All of these help to take the company closer to its goal of 24/7 carbon-free energy (CFE) by 2030 in real-time, as opposed to carbon neutral through matching local energy use with renewable generation elsewhere.

Three new large-scale renewable energy facilities it has contracted with are now operational: 125MW of wind turbines delivered by AES Chile for Google"s first Latin America-based data centre in Biobio, Chile, a power purchase agreement for 60% of the output of a 211MW wind farm to power a data centre in Hamina, Finland, and a 54.5MW solar PV power plant in Denmark which takes Google"s solar capacity in the country to more than 150MWh.

Progress has also been made at the company"s data centre in Saint-Ghislain, Belgium, with a battery storage project fully installed, tested and being prepared to go into full service.

When the Saint-Ghislain retrofit was announced in December 2020, Google described it as a first step in taking data centres "from climate change problems to critical components in carbon-free systems".

Google VP of global data centres Joe Kava at the time called batteries "multi-talented team players," capable of providing grid services and integrating higher shares of renewables to local energy networks.

Previously, when the data centre facility suffered an outage of power, the main source of backup was diesel generators. Kava noted that in 2020, around 20GW of diesel generators were being used as backup by the global data centre industry.

Instead, the addition of batteries provides low-carbon backup to the data centre"s operations, but crucially, Google also recognised that battery storage can play multiple roles to help balance the electrical grid. This is especially handy as the batteries" normal mode of operation at the hyper scale data centre is to sit idly, waiting to be called upon.

Google said it has partnered with Centrica Business Solutions and energy storage technology provider and integrator Fluence on the battery project and it will soon begin providing grid services to Belgium"s transmission operator Elia.

"We have now fully installed and tested the battery and are preparing to use it to support the Belgian grid. This will advance our clean energy goals in Belgium, but what we are most excited about is the potential to scale battery-based technologies across our global portfolio of data centres," the company posted on its Google Cloud corporate blog today.

In a separate announcement, Centrica Business Solutions -- the sustainable commercial and industrial (C& I) energy solutions subsidiary of multinational utility Centrica -- said its FlexPond software will be used to control the flexible storage and dispatch of energy from the Saint-Ghislain data centre"s batteries into Elia ancillary services markets.