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KAUA'I ISLAND UTILITY COOPERATIVE TO DEVELOP SOLAR + PUMPED STORAGE HYDRO PROJECT

On 7 January 2021, Kaua'i Island Utility Cooperative (KIUC) signed agreements with The AES Corporation (AES) for the development, construction, and operation of the KIUC's solar pumped storage hydro project (the "West Kaua'i Energy Project" (WKEP)). A power purchase agreement was also executed and filed with the Hawai'i Public Utilities Commission on 31 December 2020.

WKEP will integrate pumped storage hydropower with large-scale solar power, a unique combination in the renewable energy sector. KIUC believes that the pumped hydropower will provide 12 hours of energy storage daily, compared with four to five hours of storage available from existing solar-plus-battery facilities. The long duration storage provided by the pumped-hydro component is expected to enable KIUC to generate 100 percent renewable energy for prolonged periods without sunlight. It also is expected to provide additional grid stability by balancing intermittent solar with firm hydropower.

WKEP is just one of several projects that KIUC has undertaken with AES. Previously, KIUC and AES collaborated to complete two solar-plus-storage renewable projects: a 20-megawatt (MW) facility in Lāwa'i and a 14 MW facility at the Pacific Missile Range Facility. AES has more than 200 MW of solar, solar-plus-storage, and wind resources in operation or under development across Hawai'i.

NEW YORK ANNOUNCES THE LARGEST U.S. AWARD FOR OFFSHORE WIND CONTRACTS

On 14 January 2021, New York Governor Andrew Cuomo announced the largest contract awarded by a state for an offshore wind contract as part of New York's plan to increase renewable power generation over the next decade. In his "State of the State" speech, Governor Cuomo declared that two wind projects, Empire Wind 2 and Beacon Wind 1, would produce nearly 2,500 MW of energy, supplying over one million homes with clean electricity.

New York law mandates procuring 70 percent of its power from renewables by 2030 and 100 percent of its power from carbon-free sources by 2040. In its current energy mix, only 28 percent of the state's power is generated from renewable sources, mostly originating from imported hydropower. However, the selection of these two projects will bring New York within 50 percent of its planned goal for power generated from offshore wind by the 2030 deadline.

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HYDRO-QUÉBEC INVESTS IN NEW ELECTROLYSIS PLANT

On 18 January 2021, German steelmaker Uhde Chlorine Engineers GmbH's Green Hydrogen Division announced it was awarded a contract to install an 88 MW water electrolysis plant for Canadian utility Hydro-Québec. The electrolysis plant is expected to generate 11,100 metric tons of green hydrogen annually, which would make it one of the largest hydrogen facilities in the world. Moreover, it will be the first green hydrogen facility once it is established in late 2023.

The hydrogen produced from the facility will be used to operate a biofuel plant to generate biofuels from residential waste for the transportation industry. Because water electrolysis is the only current renewable technology that can be applied on an industrial-sized scale, it will play a critical role in the development of green hydrogen.

STOREDOT TO PROVIDE SAMPLES OF FAST-CHARGING EV BATTERY

On 19 January 2021, StoreDot, an Israeli fast-charging battery technology company, announced that it will soon release sample cells of an electric vehicle (EV) lithium-ion battery that can be fully charged within minutes. This milestone is intended provide potential partners and investors with proof of the company's ability to scale its technology for commercial use.

StoreDot recently demonstrated the ability of its first-generation battery to fully charge of a two-wheeled EV in just 5 minutes. To achieve this feat, the company replaced graphite in the battery cell's anode with metalloid nano-particles. The company hopes this breakthrough will help overcome safety, battery cycle life and swelling issues that can affect lithium-ion batteries.

Rapid charging will be critical to the wide-scale adoption of EVs to assuage the “range anxiety”—the fear of a battery running out before reaching the nearest charging station— of consumers.

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