Battery technologies guyana



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Also called the Western French Guiana power plant, the project includes a 55MW photovoltaic (PV) solar park and a 128MWh hydrogen-based energy storage system, along with a battery for short-term energy storage.

While HDF conceptualised and designed the innovative project, Meridiam, an infrastructure investment firm and asset manager based in France, became the majority equity partner of the project in September 2018.

French Guiana is situated in northern South America, close to the equator. It, therefore, boasts 12 hours of daylight throughout the year, which will allow the CEOG solar-cum-green hydrogen power project to operate consistently as a baseload facility all year round.

The facility will provide reliable and clean electricity to power up to 10,000 French Guiana households. It will meet half of the energy demand in Saint-Laurent-du-Maroni and the Mana commune of French Guiana.

The CEOG power project will combine a 55MW PV solar farm and a 16MW high-pressure alkaline electrolyser to break water into hydrogen and oxygen using photovoltaic electricity.

The facility will house a hydrogen storage unit to store 128MWh of electricity in the form of hydrogen and use fuel cells to combine hydrogen and oxygen to generate 3MW of electricity during night. The project will also include a battery storage system.

The innovative power plant will produce 100% renewable, stable and cheaper electricity by preventing the combustion of approximately 12 million litres of diesel and offsetting approximately 39,000 tonnes (t) of carbon dioxide (CO2) emissions a year.

The CEOG project is based on the Renewstable(R) power plant technology designed and developed by HDF to provide continuous or on-demand clean electricity from intermittent renewable energy sources.

HDF is also supplying multi-megawatt hydrogen fuel cell systems for the project. It collaborated with Ballard Power, a fuel cell technology company based in Canada, to build two 1.5MW fuel cell systems in December 2019.

McPhy Energy, a leading hydrogen production and distribution equipment supplier based in France, is providing its Augmented McLyzer high-pressure alkaline electrolysis technology for the project.



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