



Manila specific energy storage applications

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Ingrid Power Holdings Inc. plans to put up a 150-megawatt battery energy storage system in Barangay Malaya, Pililla, Rizal with estimated construction cost of P6.875 billion.

Ingrid is the special purpose vehicle of AC Energy Inc. and Axia Power Holdings Philippines Corp., a subsidiary of Marubeni Corp. of Japan. The project is in response to the call of the Department of Energy (DOE) in 2019, which released a department circular providing a framework for energy storage system in the electric power industry.

The circular provides guidelines on how energy storage systems (ESS), being an emerging technology, "may be utilized to improve the electric power system to ensure quality, reliability, security and affordability of the electric power supply of electric power."

An ESS may be registered to provide ancillary services; provide energy through bilateral supply contracts or trading in the Wholesale Electricity Spot Market; and for the management of the penetration of renewable energy.

Ingrid said in documents submitted to the Department of Environment and Natural Resources that the project would use lithium-ion BESS which has better ageing and cycle life characteristics and is primarily used for energy time-shifting.

"Being primarily offered in containerized solutions, these batteries allow convenient installation and are easily scalable for future expansions. Among the most mature and commercially available battery technologies in the market, lithium-ion batteries have relatively high specific energy, energy density and specific power. This technology is also safe to operate and has minimal environmental impact during construction and operation," the company said.

With rapid growth rates of 31.4 percent CAGR by 2027 projected, countries around the world are increasingly switching to BESS to drive greater grid reliability and broader adoption of renewable energy sources. Battery energy storage systems are particularly suitable for regions that are impacted by grid instability, such as the Philippines.

To help improve grid performance in the country, SMC Global Power Holdings Corp. (SMC), one of the major suppliers of power to the national grid in the Philippines, has partnered with ABB to install BESS facilities as part of its nationwide BESS Project, the region's largest BESS project. As part of a multi-million-dollar contract won in 2019, ABB will support two 20MW sites which will be installed by June 2021, with a further 40MW site in July 2021. The remaining sites will be completed in 2022.



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Alessandro Palin, President of ABB's Distribution Solutions Division explains: "Battery energy storage systems are transforming the market, driving wider adoption of renewable energy solutions, and helping to improve grid performance across the globe. In support of ABB's 2030 sustainability commitments, pioneering solutions like the one in the Philippines will ensure that grids are more stable and will satisfy the reliability challenges associated with moving to a stronger mix of renewables."

This project will support the Philippines' ambitious plans to build a more sustainable future for its communities, by decarbonizing energy generation and ensuring that 54 percent of its energy mix comes from renewables by 2040 (a sizeable increase from 29 percent of renewables in 2019).

To meet these targets, the country faces several challenges to ensure grid stability, including the length of power lines required to connect the diverse archipelago, as well as intermittent energy supply from wind and solar, which needs storage to act as a frequency regulator.

ABB has provided a packaged BESS solution to strengthen the reliability and stability of the local grid on Luzon, the largest and most populous island in the archipelago, and the island of Visayas. Both these fast-developing regions will benefit from BESS as part of the government's "Build, build, build" program that aims to establish a "golden age of infrastructure" to boost industry and tourism.

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