Energy storage for backup power mauritius

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The 14 MW Grid-Scale Battery Energy Storage System (BESS), spread over four Central Electricity Board (CEB) sub-stations namely La Tour Koenig (2MW), Anahita (4MW), Wooton (4MW) and Jin Fei (4MW), was inaugurated, today, at the Jin Fei substation, in Riche Terre. The Minister of Energy and Public Utilities, Mr Georges Pierre Lesjongard, was present.

The UNDP Resident Representative for Mauritius and Seychelles, Ms Amanda Serumaga, the General Manager of the CEB, Mr Jean Donat, and the National Project Director, Renewable Energy and Strategic Projects Manager, Mr Chavan Dabeedin, were also present.

He indicated that in order to achieve the set target of 35% of RE by 2025 and 60% by 2030, the CEB has embarked on a number of grid enhancement projects with emphasis on RE systems monitoring and control. They include: the BESS system; the CEB RE Scheme for the charging of electric vehicles; the CEB RE scheme for public enterprises; and introduction of a scheme by the CEB whereby Government entities can install PV installations and sell the electricity produced.

The UNDP Resident Representative, Ms Serumaga, for her part commended the Government of Mauritius for its decarbonisation efforts adding that there is an urgent need to shift to a low-carbon economy. She recalled that the UNDP is providing financial and technical support to Mauritius as regards the project "Accelerating the transformational shift to a low-carbon economy in the Republic of Mauritius".

The project, she underlined, aims at enabling the Government of Mauritius to meet its target of using renewables to supply 35 percent of the country"s electricity needs by 2025, under its Renewable Energy Roadmap 2030 for the Electricity Sector.

For his part, the General Manager of the CEB, Mr Jean Donat, pointed out that the new 14 MW installation at La Tour Koenig, Anahita, Wootun, and Jin Fei substations, together with those already installed at Amaury and Henriette substations in 2018, are an integral part of the roll-out of a total 18 MW Grid-Scale BESS in Mauritius.

Speaking about the prime mission of the CEB which is to provide sufficient power in a timely manner to meet the electric demand of the country, he indicated that emphasis is being laid on the exploitation of RE sources. As at date, over 100 MW of solar PV have already been integrated into the grid, he added.

Furthermore, Mr Donat emphasised that with the assistance of the Green Climate Fund and the UNDP, the CEB is moving forward with the installation of latest design and technology solutions to enable the integration of a total of 185 MW of intermittent RE into the grid, without jeopardising the grid stability.

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Following the installation and commissioning of the first batch of 4 MW utility-scale battery energy storage system (BESS) in Mauritius in 2018, the second batch comprising of a total of 14 MW spread over four CEB sub-stations namely La Tour Koenig (2MW), Anahita (4MW), Wooton (4MW) and Jin Fei (4MW) is now also completed, with the last sub-station Jin Fei having been handed over last week.

The 14 MW BESS, which cost some MUR 450 million to implement, benefitted from a UNDP-facilitated grant to the tune of USD 7.5 million from the Green Climate Fund. They were supplied, installed and commissioned by SIEMENS France, a world leader in industrial electrical and electronic systems including utility-scale battery storage. In total, some USD 10 million have been received from the GCF to procure and install the 18 MW batteries.

The 18 MW BESS comprise the latest lithium ion, high efficiency battery module technology with an extremely low response time of less than twenty milliseconds. They adopt the "containerised" format, that is, they are enclosed in standard size, but customised (mainly in terms of wall structure, sound and weather proofing and reinforcements) containers.

The main purpose of the BESS is to help stabilise the grid frequency in view of incorporating more and more renewable energy on the national grid. This is because renewable sources such as solar and wind, the two most appropriate for the local context, are typically intermittent in nature. This means that they tend to create instabilities on the grid when connected to same in large amounts (MWs).