Cuba builds first battery storage facilities in fight against energy crisis

Part of the first battery storage systems (source: J.M. Solis/KI-scaled)

Cuba has begun installing battery storage systems in several substations. The so-called BESS (Battery Energy Storage System) plants are to be built in the Cueto 220, Bayamo 220, Cotorro 220, and Habana 220 substations, as journalist José Miguel Solís announced on Facebook. Each unit can store 50 megawatts.

The battery storage systems, which mainly use lithium-ion technology, will collect excess solar energy during the day and release it again when generation is low or demand is high. According to Solís, the systems enable “a more stable and continuous energy supply” and optimize the use of solar energy. In addition to the batteries, the systems also include inverters and control systems and are part of the ongoing large-scale project to expand solar energy. According to the images, they were supplied by Chinese manufacturer Shanghai Electric.

At the same time, Cuba's most powerful floating power plant has left the country. The power plant ship “Suheyla Sultan,” with a capacity of 240 megawatts, left the port of Havana on Wednesday, according to media reports citing images from social media. With its departure, only one of the eight floating power plants that were leased by Turkish provider Karpowership since 2019 remains in operation.

Solar expansion makes progress

Despite the tense situation, the expansion of solar energy that began at the start of the year continues to make good progress. In the province of Sancti Spíritus, the Arroyo Laja solar park was successfully synchronized with the power grid on Wednesday. The plant, which uses Chinese technology, has a nominal capacity of 21.87 megawatts and covers 32

hectares with 1,638 solar panels, according to Odeivys Valdés Alba, technical director of the local power supplier UNE.

During a test phase, the park already delivered 19.4 megawatts. Maximum daily generation is expected between 10:00 and 11:30 a.m., when solar radiation is at its strongest. Two more solar parks are under construction in the province: the project in Tuinucú is about 45 percent complete, while planning work has begun in El Meso (Jatibonico municipality).

In the province of Granma, construction of the Las Tapias solar park in the coastal municipality of Manzanillo is also progressing. Like all projects of the same design, the plant will contribute 21.8 megawatts to the power grid and will be the fourth solar park of its kind in the province.

Power grid still under pressure

On Tuesday, the deficit in power generation reached 1911 megawatts at 9:50 p.m., the time of peak demand. A shortfall of 1550 megawatts was forecast for midday. Several power plant units remain offline, including the Energás plant in Varadero, blocks 5 and 6 in Nuevitas, and block 2 of the Felton power plant. In addition, other plants are undergoing maintenance.

The 25 new solar parks currently generate 2,086 megawatt hours with a maximum output of 375 megawatts at midday.

Nevertheless, 390 megawatts remain out of service due to thermal restrictions, while 61 decentralized generation plants with a total capacity of 430 megawatts are affected by fuel shortages. Cuba plans to build 55 solar parks with a total installed capacity of 1,200 megawatts by the end of the year.

By 2028, there should be a total of 92 parks with a capacity of 2012 megawatts. The fact that the expansion of battery storage is already taking place this year is a positive sign. Nevertheless, given the loss of capacity from the power ships, the expansion of solar energy remains more than ever a race against time. (Cubaheute)