



# Energy storage for resilience el salvador

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AES" Meanguera del Golfo solar plant--the first of its kind in Latin America--relies on enhanced solar-plus-battery storage technology to deliver uninterrupted, carbon-free electricity to isolated island communities and support economic growth in the Gulf of Fonseca region of El Salvador.

The main goals of the Meanguera del Golfo project were to improve the reliability and resilience of the local electricity grid for hard-to-reach island communities through innovative clean energy solutions. Previously, the region relied on a single undersea cable from the mainland of El Salvador for its power supply. When the cable was damaged, communities faced prolonged power outages, underscoring the fragility of the system. This dependency on a vulnerable underwater grid exposed the region to risks from harsh ocean conditions and disruptions caused by large vessels.

The development of this facility has transformed renewable energy delivery in the region, using advanced battery technology to address intermittent energy challenges and ensuring a reliable power supply in the Gulf of Fonseca region.

This solar-plus-storage plant's technology specifications include 1,929 solar panels and 208 batteries with a peak capacity to generate 1.3 megawatts (MWp) of sustainable energy and store up to 4 MWh of solar resources. All told, the plant represents a total investment of \$5.2 million.

Delivering this solution required an innovative approach to overcome the numerous barriers involved when introducing modern grid technologies to remote island communities. The construction of AES" Meanguera del Golfo Plant required meticulous coordination with local leaders and engagement with the communities and suppliers to address logistical hurdles such as weight restrictions for equipment transportation to and within the islands and sourcing the right technology. Additionally, the mountainous topography and rural conditions of the islands added to the project's complexity.

During the day, the solar panels generate electricity and charge batteries with excess electricity, driving commercial, recreational, and educational activities in the region. When night falls, the solar-charged batteries enable the continued distribution of renewable energy to island inhabitants. This innovative model transforms the way renewable energy can reach communities located in hard-to-reach areas, guaranteeing 24/7 carbon-free electricity for all, regardless of location.

Since the completion of Meanguera del Golfo project in July 2023, nearly 800 households on the islands of Conchag?ita, Meanguera del Golfo, and Zacatillo now have safe, efficient, and affordable access to sustainable energy. The plant's impact extends beyond technology; it has enhanced the quality of life for local communities:



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Towards sustainable energy, El Salvador is set to embrace a future dominated by renewable projects, contributing to the region's ambitious target of 95% renewable energy by 2024. According to the Latin American Energy Organization (Olade), this surge in green energy initiatives will revolutionize the energy landscape of the country.

Andrés Rebolledo, the Executive Secretary of Olade, recently affirmed, <<Ninety-five percent of the electrical generation projects set to go into production and operation in 2024 will be renewable. This includes parks in various stages, from implementation to those with environmental permits.>>

Statistics from Olade indicate a notable 12% increase in renewable energy generation in 2023, constituting 65% of the total electric generation in Latin America. Solar power led the charge with a remarkable 46% growth, closely followed by a 10% increase in wind energy.

Rebolledo anticipates a continued upward trajectory for renewables, stating, <<We expect that 65% to increase, driven by the region's structural potential and substantial capacity for growth. The current surge in investment projects is largely centered around renewable energies.>>

El Salvador stands at the forefront of this green revolution, with 80% of its energy matrix already being generated from renewable sources. Daniel Álvarez, President of the Executive Hydroelectric Commission of the Lempa River (CEL), highlighted the nation's commitment to furthering its green agenda in 2024.

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