

Red Eléctrica completes construction of the Chío 66 kV sub-station in Guía de Isora: a strategic asset for Tenerife and the interconnection with La Gomera

Chío 66 kV enhances Tenerife's power transmission grid and facilitates greater integration of renewable energies

With an investment of €17.5 million, this sub-station is part of the new submarine interconnection linking the Tenerife and La Gomera electricity systems

Guía de Isora, Tenerife, 9 January 2025.

Red Eléctrica, Redeia's subsidiary responsible for the operation and transmission of electricity in Spain, has completed the construction of the new Chío 66 kV sub-station in Guía de Isora. This infrastructure is a strategic asset for Tenerife's electricity system, serving as the submarine interconnection point with the island of La Gomera.

The company invested €17.5 million in this sub-station, marking a significant milestone in strengthening and modernising the transmission grid on Tenerife's western side. This improvement enhances supply quality and reliability, facilitating greater integration of renewable energies. Additionally, this new infrastructure will contribute to building a more resilient electricity system by connecting Tenerife with La Gomera.

The facility features Gas Insulated Switchgear (GIS) technology, allowing the sub-station to be housed inside a building. This way, its spatial footprint and visual impact have been reduced. This unique design, combined with its specialised equipment and multiple bays, ensures secure operation of the submarine interconnection. Therefore, this sub-station has become one of the most critical on the island. An interconnected node improves grid connectivity, strengthening system reliability in Tenerife. Once the interconnection is operational in 2025, it will also enhance the reliability of the new unified electricity subsystem comprising Tenerife and La Gomera.

The infrastructure has been carefully designed to blend with its surroundings and the region's agricultural landscape. Its façade replicates local terracing and integrates visually with nearby greenhouses. Besides, the structure employs colour schemes inspired by the islands' volcanic origins and geological ties.

A pivotal link for La Gomera's decarbonisation

The infrastructure, included in the 2021–2026 Energy Transmission Grid Development Plan, is the first completed component of the submarine electrical interconnection. This interconnection also integrates a new sub-station at El Palmar in La Gomera, associated onshore transmission lines, and the submarine-undersea transmission line connecting the two islands.

The double-circuit 66 kV underground-submarine transmission line, with a capacity of 50 MVA per circuit, spans around 36 km underwater at a maximum depth of 1,145 meters and features two onshore segments in La Gomera and Tenerife. Its completion is expected by late 2025.

Thanks to this new link, La Gomera will be able to generate and integrate a renewable quota higher than the total demand of the island, reducing dependence on the El Palmar Thermal Power Plant and improving the quality of supply on the island.

Furthermore, Tenerife's system will benefit from the surplus renewable generation of La Gomera, reducing fossil fuel usage and contributing to lower GHG emissions.