



Saft Li-ion batteries helps Gran Canaria's STORE project to integrate renewables

Megawatt-scale Intensium® Max 20 + Energy Storage System (ESS) makes the most of the island's existing infrastructure.

Wind and PV integration into weak or isolated grids

Endesa, part of the Enel Group and Spain's largest utility, is one of the largest electric power companies in the world. In Gran Canaria, Endesa operates two large thermal power plants and operates the island's transmission and distribution network. Endesa is leading the €11 million STORE project, part funded by the Spanish government's Centre for the Development of Industrial Technology (CDTI) and partly by Endesa itself.

It aims to demonstrate how energy storage can maximize the integration of renewable energy (wind or photovoltaic) within utility networks and optimize the grid infrastructure.

A particular aim of the project is to show how ESS can address the problems inherent in isolated networks with low installed generation capacity, such as on Gran Canaria, where grid stability can be influenced by the intermittent nature of renewables, while conventional generation costs are higher than on the mainland due to variable costs such as fuel. ▶



Case study



SAFT

► The project on Gran Canaria is demonstrating the technical and economic viability of large-scale energy storage as a solution for three main challenges:

- Reducing the need for grid infrastructure upgrades
- Improving the reliability and operation of the grid in island networks
- Further increasing the penetration of intermittent renewable generation

The Canary Islands were selected because of the difficulty of upgrading their remote electrical infrastructure together with the higher penetration of renewable energies into the grid.

Fully integrated ESS turnkey solution

Saft has delivered a fully integrated turnkey ESS based on Intensium® Max 20+ containerised systems tailored to meet Endesa's power, energy and voltage window requirements.

Key features include:

- Rating of 1 MW power and 3 MWh energy storage capacity
- Integration of Li-ion battery modules, power management and control interfaces, air conditioning and safety devices, power conversion system for grid connection
- Standard industrial container for smooth delivery, installation and commissioning
- Built up from Saft's well-proven reliable and maintenance-free Li-ion cells
- 20-year design life

A new paradigm for island energy networks

"Energy storage is one of the new paradigms that will determine the direction of the electricity business in the medium term. The constant growth in renewable energy generation on the Canary Islands places a much greater load on their transmission infrastructures and electrical distribution, while the nature of the local geography makes it extremely difficult to carry out traditional upgrading projects. Installing Saft's ESS on Gran Canaria is an ideal opportunity to evaluate the technical and economic viability of this innovative solution by making reserves of energy available in isolated locations, distribution substations and even for energy arbitrage."

Pablo Fontela Martinez
Project Manager STORE, Endesa



Benefitting from stable and reliable renewable energy

The Saft system is now enabling Endesa to store and dispatch energy on Gran Canaria with a number of important benefits:

- Shaving peak demand on the grid substation
- Compensating for the intermittent production of wind farms and solar photovoltaic (PV) installations
- Providing ancillary services such as regulating frequency and voltage control for the grid



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