

The Port of Barcelona and Red Eléctrica jointly drive the decarbonisation of port facilities

Collaboration between the Port and Red Eléctrica is essential for the energy transition of the port facilities

Redeia Chairwoman Beatriz Corredor visited the Port of Barcelona to see projects such as the implementation of the Nexigen Plan first-hand.

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The Port of Barcelona and Red Eléctrica are working together to roll out the various projects included in the port's Energy Transition Plan, which aims to decarbonise port operations and transform the port's energy model, with the goal of becoming a sustainable energy hub and promoting the energy transition beyond the port area.

Securing access to the energy needed for this transformation was the central focus of the meeting held this morning by representatives of the Port of Barcelona and Redeia (Red Eléctrica's parent company), led by Port of Barcelona President José Alberto Carbonell and Redeia Chairwoman Beatriz Corredor.

Indeed, this collaboration is already a reality thanks to the high-voltage connection between Red Eléctrica's Cerdà substation and the Port substation. In its first phase, this will enable the expansion of the Nexigen Plan rollout to electrify the Port of Barcelona's main wharves, installing new Onshore Power Supply (OPS) systems that enable ships to switch off their engines while berthed at the port.

The connection between the Cerdà and Port substations is a strategic milestone resulting from the close collaboration between Red Eléctrica and the Port of Barcelona. Thanks to this project, the Port has an allocated 80 MW bay on the transmission grid – essential power capacity to enable the wharf electrification envisaged under the Nexigen Plan and advance the decarbonisation of port operations. This project has also entailed extensive joint planning and technical coordination between the two entities, building a shared base of knowledge and experience that will help drive future phases of energy development and new infrastructure linked to the Port of Barcelona's energy transition.

For its part, this summer Red Eléctrica completed the expansion works at the Cerdà 220 kV substation, a project designed to boost the energy transition, stimulate the economy, and electrify industry in the region.

Representing an investment of €37 million, the construction and recent expansion of the Cerdà substation also involved building three new lines: Cerdà–Hospitalet, Cerdà–Aeropuerto, and Cerdà–Zona Franca, all of which are currently in service.

The Port substation, which will be operational early next year, will enable the first OPS system at a cruise terminal to enter service in 2027. However, this is just one example of the projects that will transform the Port of Barcelona over the coming years to make it more sustainable, while simultaneously increasing its electricity supply requirements.

Increasing and guaranteeing the Port of Barcelona's electricity supply capacity is crucial for its development and for the competitiveness of the local area it serves, as it will enable the rollout of the projects set out in its Energy Transition Plan. The new green methanol plant to be located on the Energy Wharf (*Muelle de la Energía*), which will generate clean fuel to decarbonise maritime transport, is one such example, as is the new infrastructure required to develop the hydrogen economy and the planned electrification of existing and future operations.

Beatriz Corredor, Chairwoman of Redeia, noted that “in a context where ports are set to play a key strategic role as infrastructure for the energy transformation of maritime transport, collaboration and joint efforts between Red Eléctrica and the Port of Barcelona will lay the foundations for a much more sustainable, competitive, and decarbonised port model. In this process, the connection between the Cerdà substation and the Port substation is a key project to provide the port with the power capacity needed to move forward with major initiatives such as the electrification of the wharves and the rollout of new energy solutions for maritime transport.”

“Decarbonising port operations to make them more sustainable means electrifying every possible process. By installing photovoltaic panels on the roofs of the Logistics Activities Zone (ZAL) and in various spaces across the port area, we will sustainably generate part of this energy, but having greater power capacity will be essential”, said the President of the Port of Barcelona, José Alberto Carbonell, adding that “Red Eléctrica is a key partner in making this transformation a reality.”

“The Nexigen Plan”, Carbonell noted, “was the starting point for a strategic partnership between the Port and Red Eléctrica that is proving vital to delivering this transformation. The knowledge and experience gained together during this process will provide a solid foundation for continuing to develop future energy projects that will allow us to move towards a port that is more sustainable, competitive, and ready for the challenges of the future.”