Press release
12 March 2024

Iberdrola gets the green light for Valdecañas (Spain) pumping project

- *The total capacity is 275 MW and includes a hybridised battery system with a storage capacity of 15 and 7.5 MWh.*
- *It will reduce emissions by 200,000 tonnes of CO_2 per year and improve water quality in the Tagus basin.*
- *It will create 165 direct jobs and another 500 indirect jobs.*

The Valdecañas pumping project (in Cáceres) received administrative authorisation from the Ministry for Ecological Transition and Demographic Challenge. This will improve the Tagus River's energy potential by seasonally storing the system's surplus energy in the Valdecañas reservoir.

It will have a total power output of 275 MW and includes a battery system hybridised with the gensets. The battery has a capacity of 15 MW and when fully charged can reach 7.5 MWh of stored energy. The battery and hydraulic units together have an energy reserve of 210 GWh – equivalent to 5.2 million electric vehicle batteries.

The capacity of a reversible pumped-storage power plant allows large amounts of energy to be stored and released quickly, which facilitates balancing the electricity grid as the plant acts as a "giant battery" – storing potential energy in the form of water in the upper reservoir. In this way, energy can be stored when there is excess production and retrieved when needed, operating as a "closed loop" with no water consumption. This is providing "large-scale" resilience to demand-generation fluctuations and a long service life.

Iberdrola stressed that this project has a minimal impact, as the scope is exclusively electromechanical and does not require the construction of any civil infrastructure. It makes use of existing infrastructure and the Valdecañas and Torrejón reservoirs – without changing operating levels. In addition, there is no need to build new transmission network lines, as the existing ones are used.

The implementation of this pumping project will reduce 200,000 tonnes of CO2 per year – thanks to the greater integration of renewables. In addition, it will create 165 direct jobs and another 500 indirect jobs – promoting skilled employment. It will also have a major impact on the economy of the area, with the participation of small and medium-sized enterprises in the province of Cáceres, which will also help to fix the population.

Leading-edge technology

The pumping project uses cutting-edge technological solutions by using a hybrid battery system allowing rapid start-up of the units in pump mode, as well as optimising the capacity to regulate generation or demand for the integration of renewable energies into the electricity system by combining the rapid response of the battery with the energy firmness of the turbine.

Pumped hydro generation at Alcántara

This pumping is part of Iberdrola's commitment to hydroelectric storage. In the Tagus basin, the project for the construction of a pumped hydroelectric generation facility called Alcántara II, with 440 MW of power, is also in the pipeline.

Along the same lines, Iberdrola has commissioned the Gouvaes Gigabattery (Portugal) with a capacity of 880 MW and a storage capacity of 24 GWh. Pumping has also been recovered at the Valparaíso hydroelectric plant (Zamora) with a capacity of 68 MW and a storage capacity of 1 GWh. In addition, work is scheduled to be completed this year on the Santiago Jares hydroelectric plant, which will recover the flexibility of a 50 MW and 3 GWh pumping capacity.