Major examples of **pumped-storage hydroelectric plants**

1 Aldea II

Autonomous Community: Castilla and León
Province: Salamanca
Locality: Aldeadávila de la Ribera

The Aldea II plant is located in the municipality of Aldeadávila de la Ribera, in the province of Zamora, and **has a nominal generation capacity of 421 MW and 400 MW in pumping**. It houses two reversible turbine units in a cavern that pump water from the Saucelle reservoir to the Aldeadávila reservoir, with a height difference of more than 110 meters between them.

Installed pumping capacity: 400 MW

Aldeadávila reservoir

2 Villarino

Autonomous Community: Castilla and León
Province: Salamanca
Locality: Villarino de los Aires

The Villarino plant plays a vital role with its 810 MW of nominal generation power and 726 MW of pumping capacity. **This facility produces clean, renewable hydroelectric energy to supply nearly half-a-million households**. It takes advantage of the nearly 400-meter difference in elevation between the Almendra reservoir – Spain's third-largest – and the power station, which are both located in Salamanca province.

Installed pumping capacity: 726 MW

Presa de Almendra

3 La Muela II

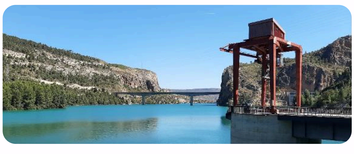
Autonomous Community: Valencian Community
Province: Valencia
Locality: Cortes de Pallás

The largest pumped-storage hydroelectric plant in Europe is La Muela II, located at the Cortes de Pallás reservoir on the right bank of the River Júcar.

Its installed capacity reaches 853.6 megawatts (MW) of nominal power in generation and 767.8 MW in pumping – enough to supply the electricity consumption of almost 200,000 households – thus doubling the generation capacity of the Cortes-La Muela complex to nearly 1,500 MW, which would be equivalent to the annual demand of almost 400,000 families.

The plant has four reversible turbine units housed within a cavern that exploit the more than 500-metre difference in elevation between the artificial La Muela reservoir and the Cortes de Pallás reservoir to produce electricity.

Installed pumping capacity: 767.8 MW



The Cortes de Pallás reservoir

4 Tâmega

Country: Portugal
Location: River Tâmega (Northern Portugal)

Another of the group's major pumped-storage initiatives is the Tâmega hydroelectric complex, made up of three new power plants along the river of the same name, which is a tributary of the Douro located in northern Portugal, near Porto. Gouvães and Daivões began operating in early 2022, while Alto Tâmega has been operational since 2024.

Together, the three plants have an installed capacity of 1,158 MW, increasing the country's total installed electric power by 6%. The Gouvães plant is the one equipped with pumping capacity, with 880 MW of power. The complex can generate 1,766 GWh per year, enough to meet the energy needs of nearby municipalities and the cities of Braga and Guimarães – roughly equivalent to the demand of 440,000 homes.

Installed pumping capacity: 880 MW

Gouvães pumped-storage plant

5 Conso

Autonomous Community: Galicia
Province: Ourense
Locality: Vilariño de Conso

Installed pumping capacity: 207 MW

Located on the left bank of Las Portas reservoir, in the municipality of Vilariño de Conso in Ourense, **the Conso plant has a nominal generation power of 228 MW and 207 MW in pumping.** The plant operates by either pumping or turbining water between two reservoirs – the upper Las Portas and the lower Bao – separated by a 230-meter difference in elevation.

Las Portas reservoir