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Large-scale energy storage plants in the EU



Overview

How many energy storage facilities are there in Europe?

Europe currently has 913 energy storage facilities in operation, with a combined capacity of 67 GW. The predominant technology is mechanical storage (54.6 GW) with pumped storage hydropower plants. However, electrochemical storage, including lithium - ion and flow batteries, is catching up, at 11 GW.

Why is energy storage growing so fast in Europe?

The fleet of energy storage projects in Europe, including both pumped hydro and battery energy storage systems of all sizes, is expanding rapidly. This growth is set to continue at a strong pace through 2030, fueled by technological advancements, supportive policies, and other key factors.

How big is Europe's battery energy storage system?

Europe is racing to add very large grid batteries to balance rising wind and solar output. As of mid-late 2025, four utility-scale Battery Energy Storage System (BESS) projects stand out by size — each designed in the 0.5–2.8 GWh class and backed by reputable developers and public filings.

Which energy storage technology is the most popular in Europe?

Pumped hydro is the most widely used technology for energy storage in Europe and worldwide, but batteries and hydrogen have come into the spotlight over the last decade as a recent trend in the energy storage market.

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The main energy storage method in the EU is by far 'pumped storage hydropower', which works by pumping water into reservoirs when there is an electricity surplus in the grid - ...

Supplier of the first four-hour 20MW grid-scale battery energy storage system in Co. Offaly, which is being built by Statkraft. Key figure: Brian Perusse, managing director of ...

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European Energy Storage Inventory - projects under construction by technology Europe currently has 913 energy storage ...

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21.9 GWh of battery energy storage systems (BESS) was installed in Europe in 2024, marking the eleventh consecutive year of record breaking-installations, and bringing ...

A total of 11.9GW of energy storage across all scales and technologies was installed in Europe in 2024, bringing cumulative installations to 89GW. According to the ninth annual ...

The status of PHS and other large-scale storage technologies in the EU-28 countries, supplemented by Norway and Switzerland, is presented. First, this paper defines a ...

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Each European Country promotes the use of Renewable Energy Sources (RESs) to meet decarbonisation targets, but not all pay the same attention to the flexibility needs ...

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