

Standalone energy storage cost breakdown in Spain 2025



Overview

Thermal storage can be competitive by 2025: By 2025, there are thermal energy storage (TES) assets already competitive with existing technologies by only charging in the hours of lowest price each day (reducing variable costs), resulting in LCOH of ~32 €/MWh.

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The 2023 NECP proposes a 173% increase (or 85 GW) in renewable capacity by 2030 from current capacities¹; storage² is expected to increase by 487%, or 15 GW from installed capacity. Long Duration Energy Storage (LDES) can ensure renewable energy is utilised in the system while decreasing reliance.

Spain's solar boom is collapsing revenues. As installed capacity has soared from under 10 GW in 2018 to 33 GW in 2025, the average capture price for solar generators has collapsed. Annual capture rates for solar have fallen from 83% in 2023 to 67% in 2024 and have averaged 56% so far in 2025.

Spain has launched an ambitious €700 million (around \$796 million) program to increase its energy storage capacity. This plan will add 2.5 to 3.5 gigawatts (GW) of storage. It includes pumped hydro, thermal energy storage, and battery systems. The goal is to improve how Spain uses renewable energy.

Subsidies will be available for standalone energy storage sites, projects installed alongside renewable energy facilities, and storage planned as part of thermal power plants. The €700 million (\$763 million) program, run by Spain's Ministry for Ecological Transition and the Demographic Challenge.

It is open to standalone battery energy storage system (BESS) projects, thermal energy storage projects and pumped hydro energy storage (PHES) projects as well as those that are hybridised with renewable generation facilities. Eligible costs include civil works, storage systems, auxiliary equipment.

Spain has taken a decisive step in strengthening its energy infrastructure with the launch of a €700 million support scheme aimed at expanding large-scale energy storage across the country. This initiative, coordinated by the Ministry for the Ecological Transition and the Demographic Challenge. How will the European Commission support large-scale energy storage in Spain?

From ESS News The European Commission on Monday approved a new aid scheme for the deployment of large-scale electricity storage in Spain. Subsidies will be available for standalone energy storage sites, projects installed alongside renewable energy facilities, and storage planned as part of thermal power plants.

Why should Spain invest in energy storage?

Investing in energy storage helps Spain meet its climate goals. This includes achieving carbon neutrality by 2050. Storing renewable energy instead of wasting it helps the country rely less on fossil fuels. This also cuts down greenhouse gas emissions. Pumped hydro, thermal storage, and battery systems are effective technologies.

How long does it take to build energy storage in Spain?

Projects will need to be built within 36 months of being granted the aid, with a final commercial operation date no later than 31 December, 2029. Spain is targeting around 22.5GW of energy storage by 2030 as part of its National Energy and Climate Plan (NECP).

Can Spain deploy large-scale energy storage with co-financing of 85%?

The European Commission on Monday greenlit a new aid scheme to enable Spain to deploy large-scale energy storage with co-financing of up to 85%. From ESS News The European Commission on Monday approved a new aid scheme for the deployment of large-scale electricity storage in Spain.

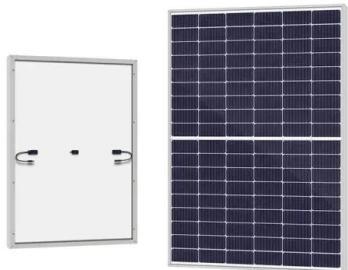
How much grid-scale storage will Spain have in 2025?

As of early 2025, Spain has roughly 1 GWh of grid-scale storage under construction, according to industry sources. This new wave of funding could accelerate the build-out, enabling developers, integrators, and OEMs to expand their footprint in one of Europe's most promising emerging markets.

How much money is available for energy storage projects?

A total of €700 million (US\$800 million) is available in the form of capex grants. It is open to standalone battery energy storage system (BESS) projects, thermal energy storage projects and pumped hydro energy storage (PHES) projects as well as those that are hybridised with renewable generation facilities.

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Utility-Scale Battery Storage , Electricity , 2023 , ATB

Projected Utility-Scale BESS Costs: Future cost projections for utility-scale BESS are based on a synthesis of cost projections for 4-hour duration systems as described by (Cole and Karmakar, 2023). The share of energy and power ...

Lazard says US energy storage cost reduction in 2025 ...

Saticoy, a 4-hour duration 100MW standalone BESS project in California, US. Image: Arevon Asset Management. The levelised cost of storage (LCOS) for battery storage in the US has declined enough recently to offset ...



EU approves Spain's EUR700m energy storage subsidy ...

The European Commission on Monday approved a new aid scheme for the deployment of large-scale electricity storage in Spain. Subsidies will be available for standalone energy storage sites, projects installed ...

A 2025 Update on Utility-Scale Energy Storage ...

While the energy storage market continues to rapidly expand, fueled by record-low battery costs and robust policy support, challenges still

loom on the horizon--tariffs, shifting tax incentives, and supply chain uncertainties ...



The Standalone Energy Storage Market in India 1

Key Findings Standalone Energy Storage Systems (ESS) are rapidly emerging as a key market, with 6.1 gigawatts of tenders issued in the first quarter of 2025 alone, accounting for 64% of the ...

Spain Energy Storage Program Launches with EUR700 Million in ...

Spain has launched a EUR700 million energy storage program to support battery, thermal, and pumped hydro projects, aiming to deploy 2.5-3.5 GW of capacity. The initiative, ...



SPAIN

The market for utility-scale storage projects remains comparatively small at around 100MW, though a pipeline of projects is beginning to emerge.^{2,3,4,5} Much of Spain's existing utility ...

White paper BATTERY ENERGY STORAGE SYSTEMS ...

In Germany, Aquila Clean Energy is developing a large portfolio of battery storage projects consisting of 45 - 85 MW projects with two-hour storage duration, marking Aquila Clean ...



Spain Energy Storage Program Launches with EUR700 ...

Spain has launched a EUR700 million energy storage program to support battery, thermal, and pumped hydro projects, aiming to deploy 2.5-3.5 GW of capacity. The initiative, led by MITECO and backed by EU funding, ...

Iberia: Why are there no batteries in Spain?

Spain's battery energy storage market is at a critical point. Despite being a leader in renewable energy deployment in Europe, the country has only 18 MW of standalone batteries installed, ...



COUNTRY REPORT SPAIN

Program that seeks to promote the energy transition in Spain, specifically in the renewable energy, renewable hydrogen, and storage sectors. 6,5 MEUR for 10 Thermal Energy Storage ...

cost of bess per mwh

performance values and provide current cost ranges; 2) increase fidelity of the individual cost elements comprising a technology; 3) provide cost ranges and estimates for storage cost ...



811 MW/3.6 GWh of storage projects set for Spain's PERTE funding

Pending approval, a total of EUR167.6 million (\$187.1 million) has been allocated toward 46 standalone thermal and electrical energy storage projects, with a cost range from ...



Aurora

Thermal storage can be competitive by 2025: By 2025, there are thermal energy storage (TES) assets already competitive with existing technologies by only charging in the hours of lowest ...

Commercial and Industrial ESS

Air Cooling / Liquid Cooling

- Budget Friendly Solution
- Renewable Energy Integration
- Modular Design for Flexible Expansion

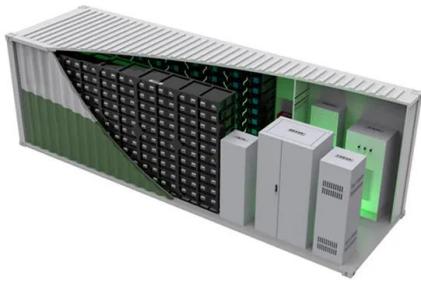


Energy storage in Spain

Energy storage systems in Spain are a key element in the fight against climate change, as they help us to address the challenge of the energy transition. These systems make renewable ...

Spain launches two energy storage programmes with EUR280 million

The government of Spain is launching two programmes with EUR280 million in grants for standalone energy storage projects, thermal and PHES.



Spain's EUR700 Million Plan to Boost Energy Storage ...

It targets large-scale energy storage projects in Spain. It focuses on technologies like standalone battery energy storage systems (BESS), pumped hydro energy storage (PHES), and thermal energy storage. The program ...

EU approves Spain's EUR700m energy storage subsidy ...

Subsidies will be available for standalone energy storage sites, projects installed alongside renewable energy facilities, and storage planned as part of thermal power plants.



Cost Projections for Utility-Scale Battery Storage: 2023 Update

Executive Summary In this work we describe the development of cost and performance projections for utility-scale lithium-ion battery systems, with a focus on 4-hour duration ...

Spain: EUR699m EU scheme to support 2.5-3.5GW of ...

The European Commission has approved a EUR699 million state aid scheme in Spain to support the deployment of up to 3.5GW of energy storage.



Spain's EUR700 Million Plan to Boost Energy Storage ...

Spain has launched an ambitious EUR700 million (around \$796 million) program to increase its energy storage capacity. This plan will add 2.5 to 3.5 gigawatts (GW) of storage. It includes pumped hydro, thermal energy ...

The future of energy storage in Spain

Energy storage has become a fundamental building block for the energy transition in Spain. The need for sound technical solutions and an adequate regulatory ...







Spain Launches EUR700 Million Energy Storage Scheme to ...

The aid is targeted at various storage technologies, including stand-alone battery systems, reversible pumped hydro, thermal storage, and hybrid systems integrated with ...

Global Energy Storage Market Outlook

Battery costs have fallen dramatically owing to scale and investment of automotive sector Note: Battery price is benchmark price for an LFP energy storage module in the United States Data ...



Spain offers EUR 700m in aid for large-scale energy ...

Spain's ministry for the ecological transition said on Friday it will allocate EUR 700 million (USD 799.4m) in grants through competitive tendering to support large-scale energy storage projects in an effort to improve grid ...

How to qualify for energy storage grants in Spain

Jon Ander López Ibarra, product manager for battery energy storage systems (BESS) at Spanish power conversion system company Jema Energy, says Spain needs to ...



Microsoft Word

There exist a number of cost comparison sources for energy storage technologies For example, work performed for Pacific Northwest National Laboratory provides cost and performance ...

Energy Storage Rides a Wave of Growth but Uncertainty ...

Continued expansion of intermittent renewable energy, ESG-focused investments, the growing versatility of storage technologies to provide grid and customer services, and declining costs ...



Grid-Scale Battery Storage: Costs, Value, and

Grid-Scale Battery Storage: Costs, Value, and Regulatory Framework in India Webinar jointly hosted by Lawrence Berkeley National Laboratory and Prayas Energy Group

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