

Expected ROI of solar with battery project in Spain 2025



Overview

How much energy storage will Spain have by 2030?

In its National Energy and Climate Plan (NECP), the Spanish government aims to have 22.5GW of energy storage by 2030 (see table 1). This amount of storage capacity will be needed to integrate the growing capacity of intermittent generation.

Why does Spain want a solar grid?

In just a few months, Spain has green lit more than 65 GW of solar projects that launched new hydrogen and battery storage pilots in order to increase its backing of global fusion research. It wants a grid that can generate, store, and sustain energy without import gaps or guesswork.

What's happening in Spain's solar market?

Download the full report to stay ahead in this rapidly evolving market. With Spain's solar market remaining a crucial topic, don't miss your free ticket for Solar & Storage Live España 25-26 June 2025. Spain's solar energy sector has surged to 22.45 GW of capacity by early 2023, with ground-mounted solar farms driving 77% of new installations.

Why do we need battery energy storage systems in Spain?

Due to the large capacity of installed hydroelectric and thermal storage systems and the resilience of the Spanish power grid, the need for Battery Energy Storage Systems (BESS) in Spain has been relatively low. The lack of a clear regulatory framework for BESS has also hindered its development in Spain so far.

What happens if solar prices go down in Spain?

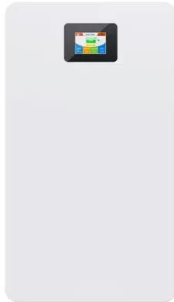
When German prices reach -€150/MWh, Spain can't import enough energy to bring the price down. Economic curtailment: Most Spanish solar installations are large commercial projects with remote control capabilities. When prices

become negative, solar operators stop generating.

Why did Spain have a power outage in April 2025?

In April 2025, a sharp power outage hit parts of southern and central Spain — not during low supply, but at the exact moment solar output was peaking. The issue wasn't a lack of energy, but rather a lack of grid flexibility and storage. There was too much supply during the day, not enough demand, and nowhere to store the excess.

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Spain

110 MW of new Spanish CSP is expected to start construction by year-end, 2023. Sener has secured permission to build near their iconic tower CSP plant near Seville, Gemasolar, with 15 hours of daily storage. Like ...

Masdar acquires Valle Solar, one of Spain's mega PV projects

Masdar has completed the acquisition of Valle Solar, one of the largest solar photovoltaic (PV) projects in Spain's Valencia region, through its subsidiary Saeta.



part 4: Spain's BESS market is heating up

For co-located storage projects, it is important to stay informed on how adding a battery impacts the business case of a wind or solar project. The emerging negative price ...

Spain reached 100 pct renewables a week before ...

The exact causes of the dramatic blackout in

Spain and Portugal are not yet known. But the lack of battery storage left its high renewables grid badly exposed.



BW ESS, Ibersun to develop 2.2 GW of battery storage in Spain

As Spain races to meet one of Europe's most ambitious energy storage targets while its grid remains under scrutiny following the April 28th outage, global energy storage ...

The economic impact of solar and battery storage

Executive summary The deployment of solar and battery storage across utility scale projects, domestic and commercial installations support economic activity and jobs.



Solarenergie Return on Investment on Investment: Was ist der ROI ...

That's why people who calculate solar power return on investment carefully often find solar to out-return traditional investments in terms of both stability and predictability. ...

Solar Power Return on Investment: What Is the ROI on Solar ...

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Maximizing Solar ROI: How to Speed Up Your ...

Today's solar economics create compelling business opportunities, with payback periods as short as 3.67 years in optimal markets. Our comprehensive analysis examines current global panel pricing, regional ...

Spain increases energy storage target in NECP to 22.5GW by 2030

Separately, the target for energy storage deployment will more than double between 2025 and 2030, with 9.2GW expected in 2025 and nearly 19GW in 2030. An ambitious target ...



Spain tilts towards the sun with a EUR17 billion ...

Spain's solar market is experiencing significant growth, creating a wave of project and investment opportunities worth watching. With a combination of natural resources, policy stability, and innovative market ...



Spain solar projects: Impressive 2025 Surge of 5 GW

As Spain continues to invest in renewables and address the challenges of grid integration and energy storage, it strengthens its position as a global leader in clean energy. ...



New analysis reveals that EU solar stalls, 2025 projected to mark ...

The new mid-year solar PV EU market analysis from SolarPower Europe reveals that for 2025, the annual market is expected to contract for the first time since 2015, ...

Solaria buys 1.1 GWh of battery storage for projects in ...

6 ???· In its Q1 2025 earnings report, released in June, Solaria outlined its goal to deploy 500 MWh of battery capacity over the next 12 months, with the first system expected to be online before the year's end. The company currently ...



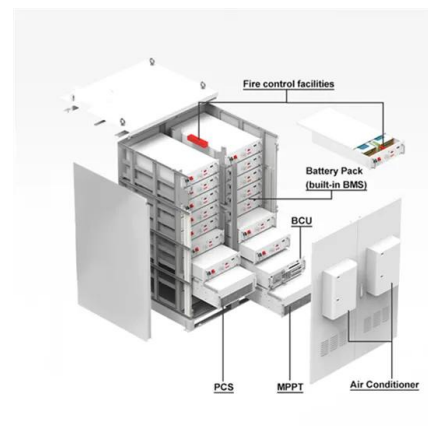


How Battery Storage Could Have Prevented Spain's 2025 Blackout

Explore how battery storage could have prevented Spain's 2025 blackout. Learn its benefits, challenges, and why it's key for Europe's solar future.

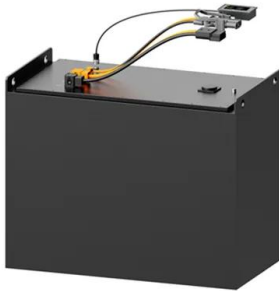
2025 Solar PV Trends in Europe: A Promising Horizon

Growth Projections to 2025 The European solar PV market is forecasted to expand its installed capacity from 56 GW in 2023 to around 110 GW by 2025, a doubling of capacity within a short timeframe. **Regional Contributions:** ...



Unlocking Opportunity

Providing insight, analysis and finance to support the global energy transition LCP Delta and Santander have combined their expertise to provide this report into the opportunity for ...



Spain solar projects: Impressive 2025 Surge of 5 GW

The average wholesale electricity price dropped to EUR93.5/MWh in 2025 from EUR105.4/MWh in 2024, partly due to the increased supply of renewable energy. **Challenges and ...**



Solar and Battery Storage Expected to Lead New Electricity

In total, new solar projects in 2025 are expected to make up more than 50% of the planned added utility-scale electric generation for 2025. Combined with planned battery ...



Energy Outlook 2025: Energy Storage

Beyond batteries, China is further developing a number of non-battery storage projects including the world's largest flywheel energy storage project (30 MW) which was connected to the grid in 2024. It would seem likely ...



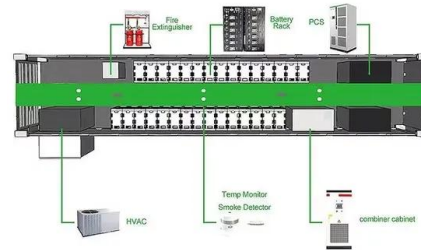
Masdar acquires Valle Solar, one of Spain's mega PV ...

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Solar PV Market in Spain: Insights into the Current

The leading annual capacity additions and significant investments in solar PV are solidifying Spain's position as a major player in the global solar market. While challenges exist, the future of solar energy in Spain ...



Battery storage in Spain: Opportunities and challenges for

The average price was EUR 42/MWh. The „duck curve" - in the Spanish „pato" - clearly shows the influence of solar power generation in Spain, while the influence of more expensive generation ...

Spain's race for infinite solar power « Euro Weekly News

In just a few months, Spain has green lit more than 65 GW of solar projects that launched new hydrogen and battery storage pilots in order to increase its backing of global fusion research.



SPAIN

Battery cost declines Rising electricity prices A broadly supportive regulatory regime Since 2019, small power generators have been able to receive compensation for their surplus solar ...



CAISO: The state of grid-scale battery energy storage ...

Which major battery projects are currently in testing and expected to reach commercial operation in 2025. How CAISO's Resource Adequacy market is shaping battery investment and financing decisions. To get full access to Modo ...



Iberia: Why are there no batteries in Spain?

But this paradox is about to end. New market mechanisms, soaring solar buildout, and grid stability challenges are converging to unlock one of Europe's most promising battery markets.

BW ESS, Ibersun to develop 2.2 GW of battery ...

As Spain races to meet one of Europe's most ambitious energy storage targets while its grid remains under scrutiny following the April 28th outage, global energy storage owner-operator BW ESS has made its entry into ...





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, ...

[Spain Solar Market Report 2025](#)

This report delves into the policies, technological advances, and market forces shaping Spain's rise as Europe's second-largest solar market. It also highlights the challenges ...



Spain Leads Europe in Solar-Plus-Storage with EUR148.5M

...

These installations use elevated solar structures that allow crops to grow beneath while solar power is generated above. Paired with battery systems, they enable 24/7 energy ...

Investor's Guide to Solar IRR: Calculating Returns for Solar PV

Learn how to calculate IRR for solar PV projects. Discover key elements to calculate to make informed investment decisions in the renewable energy sector.



The latest developments in the Spanish energy ...

According to the IEA's "Spanish Energy Policy Review 2021", Spain aims to build large-scale new renewable energy capacity, especially wind and solar energy, which is expected to reach 74% of electricity generation in 2030.



Spain Launches EUR700 Million Energy Storage Scheme to ...

This new funding builds on earlier support under Spain's Recovery, Transformation and Resilience Plan (PRTR), which has already mobilized EUR730 million for 4.5 ...



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