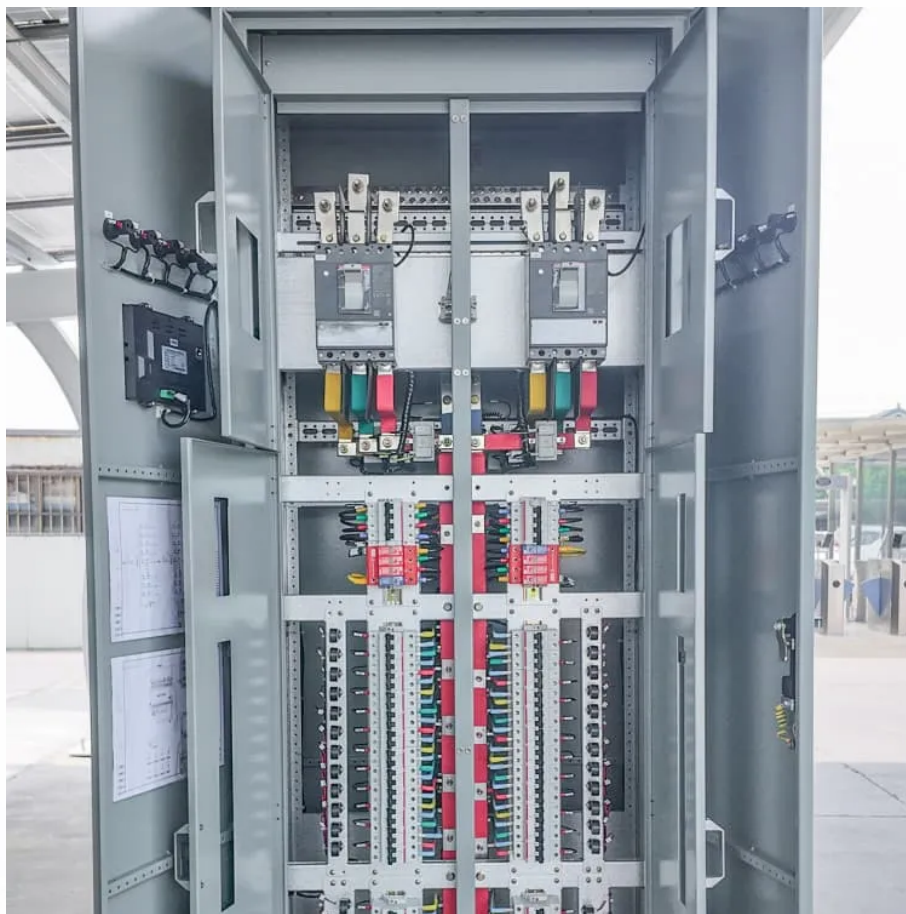


# Battery energy storage forecast





## Overview

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From just under 0.5 terawatts (TW) in 2024, total capacity is expected to rise ninefold to over 4 TW by 2040, driven by battery energy storage systems (BESS). Last year saw a record-breaking 200 gigawatt-hours (GWh) of new BESS projects coming online, a growth rate of 80%. What is the future of battery storage?

Batteries account for 90% of the increase in storage in the Net Zero Emissions by 2050 (NZE) Scenario, rising 14-fold to 1 200 GW by 2030. This includes both utility-scale and behind-the-meter battery storage. Other storage technologies include pumped hydro, compressed air, flywheels and thermal storage.

What is battery energy stationary storage forecast?

Battery Energy Stationary Storage Forecast delivers a complete overview and analysis of the current and future BESS market. The report can be used as both a reference tool to understand the OEM strategies, market dynamics, key drivers, and technologies.

What is the future of energy storage?

Global installed energy storage is on a steep upward trajectory. From just under 0.5 terawatts (TW) in 2024, total capacity is expected to rise ninefold to over 4 TW by 2040, driven by battery energy storage systems (BESS). Last year saw a record-breaking 200 gigawatt-hours (GWh) of new BESS projects coming online, a growth rate of 80%.

What will China's battery energy storage system look like in 2030?

Battery energy storage systems (BESS) will have a CAGR of 30 percent, and the GWh required to power these applications in 2030 will be comparable to the GWh needed for all applications today. China could account for 45 percent of total Li-ion demand in 2025 and 40 percent in 2030—most battery-chain segments are already mature in that country.



Are lithium-ion batteries the future of energy storage?

Image: BloombergNEF Cumulative energy storage installations will go beyond the terawatt-hour mark globally before 2030 excluding pumped hydro, with lithium-ion batteries providing most of that capacity, according to new forecasts. Separate analyses from research group BloombergNEF and quality assurance provider DNV have been published this month.

How important are batteries in EVs & storage applications?

Batteries in EVs and storage applications together are directly linked to close to 20% of the CO<sub>2</sub> emissions reductions needed in 2030 on the path to net zero emissions. Investment in batteries in the NZE Scenario reaches USD 800 billion by 2030, up 400% relative to 2023.



## Battery energy storage forecast

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### [5-Year Forecast: Battery Innovations, Markets Drive BESS](#)

Established technologies, such as lithium-ion batteries, and emerging solutions, like organic water-based flow batteries, will drive this eight-fold increase in energy storage ...

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### **Outlook for battery demand and supply - Batteries and Secure Energy**

Batteries account for 90% of the increase in storage in the Net Zero Emissions by 2050 (NZE) Scenario, rising 14-fold to 1 200 GW by 2030. This includes both utility-scale and behind-the ...

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### **U.S. battery storage capacity expected to nearly double in 2024**

U.S. battery storage capacity has been growing since 2021 and could increase by 89% by the end of 2024 if developers bring all of the energy storage systems they have ...

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### **Energy storage: 5 trends to watch in 2025 , Wood Mackenzie**

How will lithium-ion and alternative technologies fare in the global long-duration energy storage (LDES) revolution? To read our view on this and



more, read the full report.

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### [European Market Outlook for Battery Storage 2025-2029](#)

The Platform is working to accelerate the implementation of existing legislation and complement it with a dedicated Energy Storage Action Plan and Flexibility Package to unleash ...

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Battery storage. In 2025, capacity growth from battery storage could set a record as we expect 18.2 GW of utility-scale battery storage to be added to the grid. U.S. battery storage already ...

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### [Lithium-ion battery demand forecast for 2030 . McKinsey](#)

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### **World's energy storage capacity forecast to exceed a terawatt ...**

Cumulative energy storage installations will go beyond the terawatt-hour mark globally before 2030 excluding pumped hydro, with lithium-ion batteries providing most of that ...

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Welcome to our European Market Outlook for Battery Storage 2025-2029 Though the battery energy storage revolution continued to unfold across Europe in 2024, setting yet another ...

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### **2025 Energy Predictions: Battery Costs Fall, Energy Storage ...**

We foresee a more dynamic battery energy storage system project execution pace in 2025 with FERC's Order No. 2023 and approval of the cluster study process that will ...

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