

Demand for backup energy storage at base stations in 2025





Overview

The global 5G base station energy storage market, valued at \$240 million in 2025, is projected to experience robust growth, driven by the rapid expansion of 5G networks and the increasing demand for reliable power backup solutions. Will energy storage growth continue through 2025?

With developers continuing to add new capacity, including 9.2 GW of new lithium-ion battery storage capacity in 2024 through November 2024 and comparable levels of growth expected through the fourth quarter of 2024, energy storage investments and M&A activity are expected to continue this trajectory through 2025.

Will battery storage set a record in 2025?

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 achieved record growth in 2024 when power providers added 10.3 GW of new battery storage capacity.

What is the future of battery energy storage?

Demand for energy storage continues to escalate, the global battery energy storage (BESS) landscape is poised for significant installation growth and technological advancements.

Will battery storage prices continue to decline in 2025?

We expect to see battery storage prices continue to decline in 2025, even as raw material prices rise, due to the oversupply of battery production. The rapid growth of battery manufacturing, particularly in China and Europe, has outpaced demand, which is exerting downward pressure on pricing.

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%.

How much storage capacity will be installed in 2025?

In the near term, the report expects 15 GW/49 GWh of new storage capacity to be installed across all segments in 2025, with utility-scale installations projected to grow 22% year-over-year. However, the utility-scale segment is at risk for a potential 29% contraction in 2026 due to policy uncertainty.



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[Key Trends Shaping Battery Energy Storage in 2025](#)

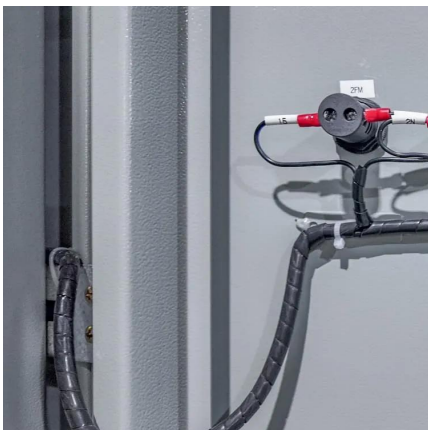
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[Energy storage: 5 trends to watch in 2025 , Wood ...](#)

The scene is set for significant energy storage installation growth and technological advancements in 2025. Outlook and analysis of emerging ...

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Battery energy storage system (BESS) integration into power ...

Topic last reviewed: May 2025 Sectors: Downstream, Midstream, Upstream Overview Battery energy storage systems (BESS) use rechargeable battery technology, normally lithium ion (Li ...

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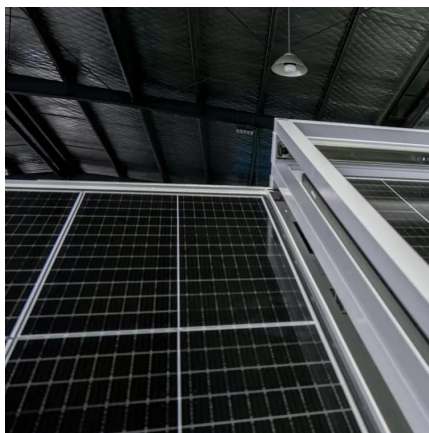
[US installs more energy storage in Q1 2025 than ever before](#)

"The Q1 2025 results demonstrate the demand for energy storage in the US to serve a grid with



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[Energy Storage Rides a Wave of Growth but Uncertainty ...](#)

In this report, our lawyers outline key developments and emerging trends that will shape the energy storage market in 2025 and beyond.

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Impact of demand flexibility on renewable energy integration, backup

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Sequential load restoration with decision-dependent 5G base station

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US energy storage set a Q1 record in 2025 with 2 GW added, but looming policy changes could put that growth at serious risk.

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Energy Outlook 2025: Energy Storage

We expect to see the global energy storage market continue to grow at a rapid pace in 2025. The increasing integration of renewable energy sources, the need for grid ...

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[Global Energy Storage to Hit 94 GW in 2025, Says BNEF](#)

The global energy storage sector is on track for another record year in 2025 as utility-scale projects expand into new regions. BloombergNEF (BNEF) forecasts that ...

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Dispatching strategy of base station backup power supply ...

capacity energy storage is proposed. The scheduling strategy reserve battery is considered when the communication traffic changes, and base station backup battery model participating in ...

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[Energy storage safety and growth outlook in 2025](#)

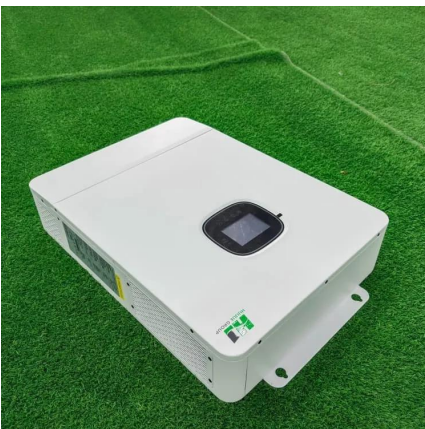
Several factors will define the energy storage market in 2025: the continued dominance of LFP chemistry and its downward impact on pricing, increased utility demand for ...

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Solar, battery storage to lead new U.S. generating capacity ...

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 achieved record ...

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Energy Storage Outlook

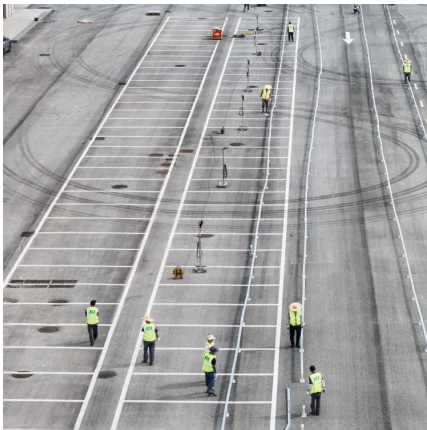
While power demand is expected to continue to see strong growth in 2025 and beyond, the growth rate of low-carbon energy sources is now close to covering the entire ...

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[Two-Stage Robust Optimization of 5G Base Stations ...](#)

However, the uncertainty of distributed renewable energy and communication loads poses challenges to the safe operation of 5G base ...

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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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Energy Outlook 2025: Energy Storage

IRENA also released an Innovation Outlook on Thermal Energy Storage, further supporting advancements in this critical area. A strong ...

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Global energy storage

Global energy storage capacity outlook 2024, by country or state Leading countries or states ranked by energy storage capacity target worldwide in 2024 (in gigawatts)

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Looking ahead: Keys to success Several factors will define the energy storage market in 2025: the continued dominance of LFP chemistry ...

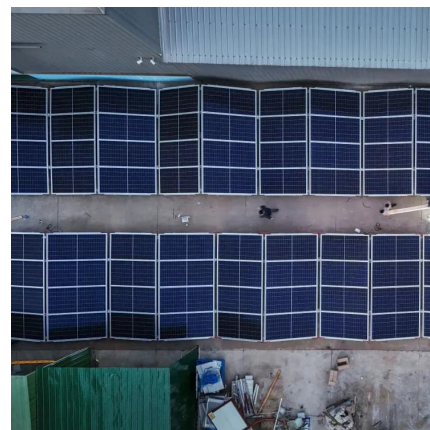
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US energy storage set a new record in Q1 2025 but the future

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Abstract The escalating deployment of 5G base stations (BSs) and self-service battery swapping cabinets (BSCs) in urban distribution networks has raised concerns ...

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[Base Station Energy Storage Quality , Huijue Group E-Site](#)

Why Energy Storage Defines 5G Network Stability? With global 5G base stations projected to exceed 7 million by 2025, base station energy storage quality has become the ...

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