



BUHLE POWER

Are lithium batteries for energy storage cheap





Overview

Battery pack prices for stationary storage fell to \$70/kWh in 2025, a 45% drop from 2024, making it the cheapest lithium-ion category for the first time, according to BloombergNEF (BNEF). From ESS NewsHow much does a lithium ion battery cost?

The average price of lithium-ion battery packs is \$152/kWh, reflecting a 7% increase since 2021. Energy storage system costs for four-hour duration systems exceed \$300/kWh for the first time since 2017. Rising raw material prices, particularly for lithium and nickel, contribute to increased energy storage costs.

Are long-duration energy storage technologies cheaper than lithium-ion batteries?

BloombergNEF (BNEF)'s inaugural Long-Duration Energy Storage Cost Survey shows that while most long-duration energy storage technologies are still early-stage and costly compared to lithium-ion batteries, some have already or are set to achieve lower costs for longer durations.

How much does energy storage cost?

Energy storage system costs for four-hour duration systems exceed \$300/kWh for the first time since 2017. Rising raw material prices, particularly for lithium and nickel, contribute to increased energy storage costs. Fixed operation and maintenance costs for battery systems are estimated at 2.5% of capital costs.

Why are lithium-ion batteries so expensive in 2025?

In 2025, lithium-ion battery pack prices averaged \$152/kWh, reflecting ongoing challenges, including rising raw material costs and geopolitical tensions, particularly due to Russia's war in Ukraine. These factors have led to high prices for essential metals like lithium and nickel, impacting the production of energy storage technologies.



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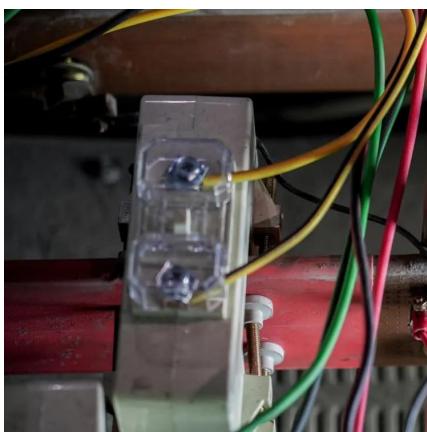
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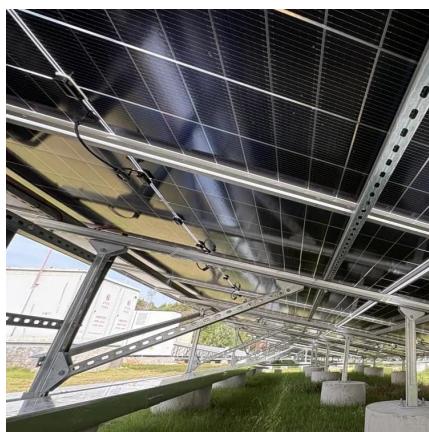
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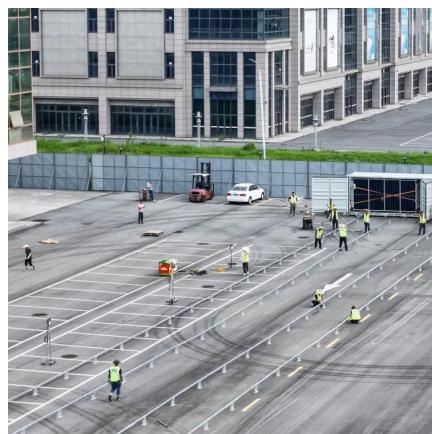
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