

SolarInnovate Energy Solutions

Which lithium battery for energy storage in Togo is cheaper



Overview

Are LDEs batteries cheaper than lithium-ion batteries?

BNEF, which surveyed seven LDES technology groups and 20 technology types in this report, says the least expensive technologies are already providing cheaper storage than lithium-ion batteries for durations over eight hours.

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.

Why is the price of lithium-ion batteries dropping?

The price of lithium-ion batteries, the essential power source behind electric vehicles (EVs) and renewable energy storage systems, is steadily dropping—and it shows no signs of stopping. This ongoing price decline is largely driven by a combination of oversupply in battery metals and a recent slowdown in electric vehicle adoption.

Can LDEs outcompete lithium-ion batteries in China?

Despite China's lower costs, LDES technologies there may struggle to compete with lithium-ion batteries produced in the country, which are the cheapest in the world. Only a few LDES technologies, like natural cavern-based compressed air storage, can outcompete lithium-ion batteries in terms of per-unit capital costs today.

How much does a lithium ion battery cost?

However, with the recent crash in lithium prices, battery costs have started to decline again. In 2023, the average price of a lithium-ion battery pack was

\$139 per kWh, and it's expected to fall even further, potentially reaching \$78 per kWh by the end of 2024, as the market continues to be oversupplied.

How do lithium ion batteries work?

Lithium-ion batteries operate by shuttling lithium ions between the anode and cathode during charging and discharging cycles. The most expensive part of this process is the cathode, which accounts for more than half of the total cost of the battery.

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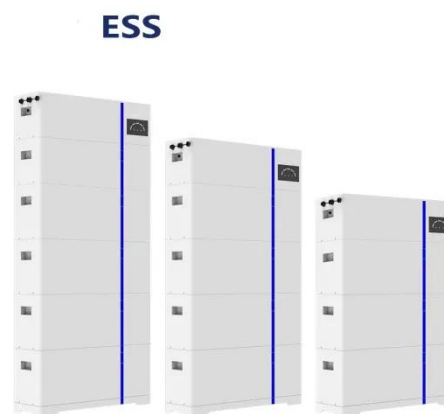


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3 Alternatives: Energy Storage

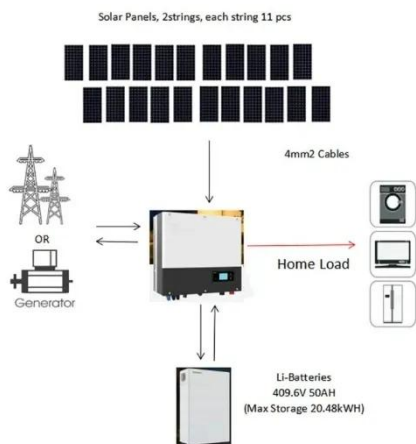


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