

How are battery storage cost projections developed?

The projections are developed from an analysis of recent publications that include utility-scale storage costs. The suite of publications demonstrates wide variation in projected cost reductions for battery storage over time. We use the recent publications to create low, mid, and high cost projections.

How much does battery storage cost?

The suite of publications demonstrates wide variation in projected cost reductions for battery storage over time. We use the recent publications to create low, mid, and high cost projections. Projected storage costs are \$245/kWh, \$326/kWh, and \$403/kWh in 2030 and \$159/kWh, \$226/kWh, and \$348/kWh in 2050.

Does battery storage cost reduce over time?

The projections are developed from an analysis of recent publications that consider utility-scale storage costs. The suite of publications demonstrates wide variation in projected cost reductions for battery storage over time.

What are base year costs for utility-scale battery energy storage systems?

Base year costs for utility-scale battery energy storage systems (BESSs) are based on a bottom-up cost model using the data and methodology for utility-scale BESS in (Ramasamy et al., 2023). The bottom-up BESS model accounts for major components, including the LIB pack, the inverter, and the balance of system (BOS) needed for the installation.

Are battery storage costs based on long-term planning models?

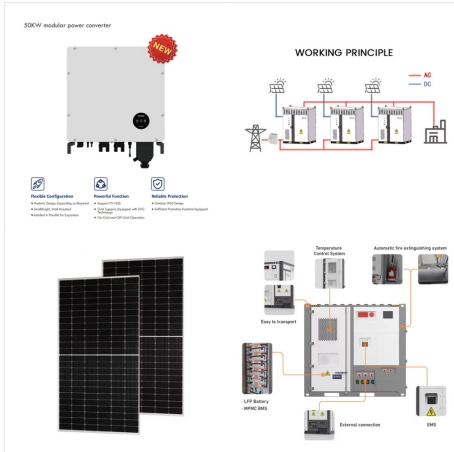
Battery storage costs have evolved rapidly over the past several years, necessitating an update to storage cost projections used in long-term planning models and other activities. This work documents the development of these projections, which are based on recent publications of storage costs.

Do battery storage technologies use financial assumptions?

The battery storage technologies do not calculate levelized cost of energy (LCOE) or levelized cost of storage (LCOS) and so do not use financial assumptions. Therefore, all parameters are the same for the research and development (R&D) and Markets & Policies Financials cases.



# COST OF LARGE SCALE BATTERY STORAGE ANTARCTICA



The battery storage technologies do not calculate LCOE or LCOS, so do not use financial assumptions. Therefore all parameters are the same for the R&D and Markets & Policies Financials cases. The 2023 ATB represents cost and performance for battery storage across a range of durations (2-10 hours).



Cost and Performance Assessment provides the levelized cost of storage (LCOS). The two metrics determine the average price that a unit of energy output would need to be sold at to cover all project costs inclusive of taxes, financing, operations and maintenance, and others.



The Storage Futures Study (Augustine and Blair, 2021) describes that the majority of this cost reduction comes from the battery pack cost component with minimal cost reductions in BOS, installation, and other components of the cost.



# COST OF LARGE SCALE BATTERY STORAGE ANTARCTICA



In this work we describe the development of cost and performance projections for utility-scale lithium-ion battery systems, with a focus on 4-hour duration systems. The projections are developed from an analysis of recent publications that include utility-scale storage costs.



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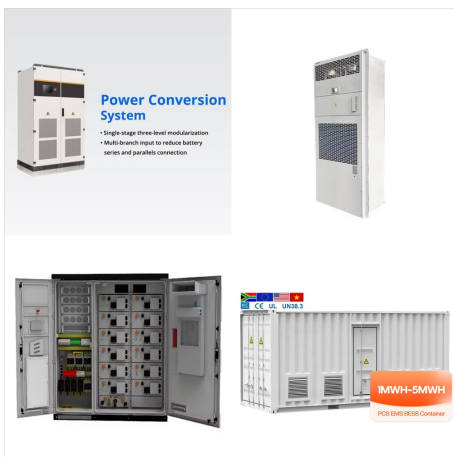
They already account for 98 per cent of the grid-scale energy storage market, according to consultancy Rho Motion. Battery installations are getting bigger as the industry scales ??? and new solar power plants are being built next to containers of lithium-ion batteries in order to store their output. What are the pros and cons?



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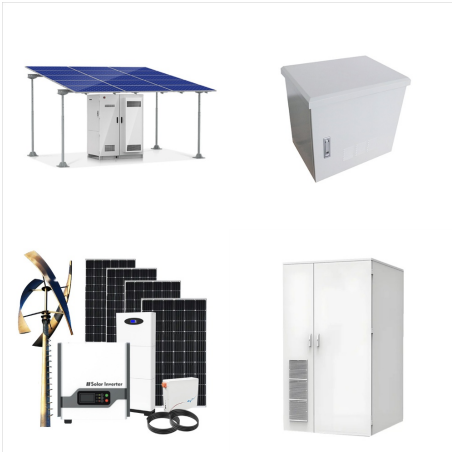
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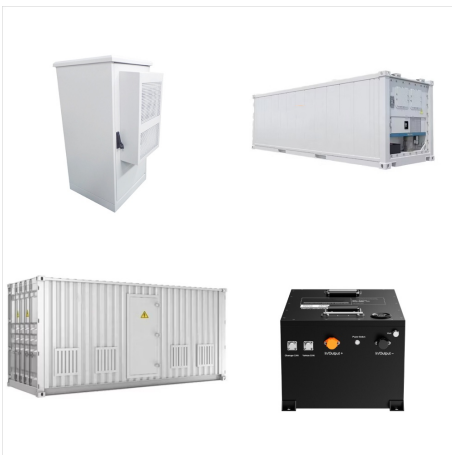
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The Storage Futures Study (Augustine and Blair, 2021) describes how a greater share of this cost reduction comes from the battery pack cost component with fewer cost reductions in BOS, installation, and other components of the cost.