

Are battery storage costs falling?

Fortunately, this hurdle may soon be overcome due to the plummeting costs of battery storage, as outlined in a new report from the International Energy Agency (IEA). The IEA's "Batteries and Secure Energy Transitions" report finds that capital costs for battery storage systems are projected to fall by up to 40 percent by 2030.

Why are battery storage systems falling?

Battery storage system. Image by: Aurora Energy Research. The drop is driven by overcapacity in cell manufacturing, economies of scale, low metal and component costs, adoption of lower-cost lithium-iron-phosphate (LFP) batteries and slower growth in electric vehicle (EV) sales.

Why are solar and battery storage prices falling?

The study focuses on solar and battery storage, but the researchers note that wind power, heat pumps, and other clean technologies are also seeing a sharp drop in prices, too. Technological advances are making solar and battery storage smarter and more efficient.

Are battery cell prices falling?

We are in the midst of a year-long acceleration in the decline of battery cell prices - a trend that is reminiscent of recent solar cell price reductions. Since last summer, lithium battery cell pricing has plummeted by approximately 50%, according to Contemporary Amperex Technology Co. Ltd. (CATL), the world's largest battery manufacturer.

Will battery pack prices drop again next year?

Given this, BNEF expects average battery pack prices to drop again next year, reaching \$133/kWh (in real 2023 dollars). Technological innovation and manufacturing improvement should drive further declines in battery pack prices in the coming years, to \$113/kWh in 2025 and \$80/kWh in 2030.

How has battery storage changed the world?

Wider deployment and the commercialisation of new battery storage technologies has led to rapid cost reductions, notably for lithium-ion batteries, but also for high-temperature sodium-sulphur ("NAS") and so-called "flow" batteries. In Germany, for example, small-scale household Li-ion battery costs have fallen by over 60% since late 2014.

Global manufacturing capacity for battery cells now totals 3.1 TWh, which is more than 2.5 times the annual demand for lithium-ion batteries in 2024, BNEF says. Regionally, China had the lowest average battery pack prices at USD 94 per kWh, while costs in the US and Europe were 31% and 48% higher, respectively.

In early summer 2023, publicly available prices ranged from 0.8 to 0.9 RMB/Wh (\$0.11 to \$0.13 USD/Wh),

or about \$110 to 130/kWh. Pricing initially fell by about a third by the end of summer 2023. Now, as reported by CnEVPost, large EV battery buyers are acquiring cells at 0.4 RMB/Wh, representing a price decline of 50% to 56%.

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