

A-Core Container

BESS price drops after energy storage power station



Overview

Around the beginning of this year, BloombergNEF (BNEF) released its annual Battery Storage System Cost Survey, which found that global average turnkey energy storage system prices had fallen 40% from 2023 numbers to US\$165/kWh in 2024. Why are battery energy storage systems (BESS) costs falling?

A growing industry trend towards larger battery cell sizes and higher energy density containers is contributing significantly to falling battery energy storage system (BESS) costs.

How much does a BESS system cost?

As of most recent estimates, the cost of a BESS by MW is between \$200,000 and \$450,000, varying by location, system size, and market conditions. This translates to around \$200 - \$450 per kWh, though in some markets, prices have dropped as low as \$150 per kWh. Key Factors Influencing BESS Prices.

Are energy storage systems reducing the cost of batteries?

The scale of the reduction suggests that in addition to the falling cost of batteries—BNEF's recent Lithium-ion Battery Price Survey found that battery pack prices fell 20% year-on-year to 2024, again the biggest drop recorded to date—energy storage system providers are working on cost reduction in other areas, Kikuma said.

How much does BESS cost in China?

It is nonetheless still eye-opening to note just how big those differences in cost are. The average for a turnkey system in China including 1-hour, 2-hour and 4-hour duration BESS was just US\$101/kWh. In the US, the average was US\$236/kWh and in Europe US\$275/kWh, more than double China's average cost.

How much does a BESS DC block cost?

Similarly, BNEF found in its annual survey that BESS DC blocks in 4MWh or larger enclosures came in 27% cheaper on average than those in the 2MWh to 4MWh range, at US\$128/kWh versus US\$176/kWh. The firm's survey found that the price differential is expected to continue into 2025.

How much storage capacity does a Bess container have?

Driven by bigger cells sizes and other technology advances, the industry is also increasingly seeing 20-foot BESS containers with 5MWh storage capacity from system integrators and vertically integrated battery manufacturers. Some are even exceeding that capacity, such as CATL with its 6.25MWh Tener solution.

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