

Sodium ion energy storage system price





Overview

The scalability of sodium-ion technology supports the alignment of China's ambitious clean energy objectives with economic development. The \$150/kWh price mark ensures accessibility to these technologies for use in global renewable systems, making them an attractive option for utilities.

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China has officially announced the procurement of sodium-ion batteries, setting a price ceiling at \$150/kWh. This exciting development comes alongside the construction of a groundbreaking energy storage project in the suburban district of Fengxian, south of Shanghai. The Fengxian Xinghuo.

Let's unpack the numbers behind the \$45-\$65/kWh price range that's making engineers rethink century-old energy paradigms. Lithium carbonate prices have swung wildly from \$6,000/ton in 2020 to \$78,000/ton during the 2023 supply crunch. This volatility exposes three critical vulnerabilities: You.

GS-1.1 is the first commercially available sodium-ion battery energy storage system built for grid-scale deployment. Powered by NFPP chemistry, it operates without active cooling— a global first at scale. Infrastructure-ready, drop-in compatible, and built for harsh environments from day one.

The global energy storage sodium ion battery market was valued at USD 245.3 million in 2024 and is set to reach USD 2.32 billion by 2034, growing at a CAGR of 25.3% from 2025 to 2034. Sodium ranks as the sixth most abundant element in the earth's crust, with an approximate 2.6-3.0%, which makes it.

By harnessing the natural abundance of sodium, an element found in something as common as table salt, CATL has slashed energy storage costs to an unprecedented \$10 per kilowatt-hour. This innovation has the potential to transform not just electric vehicles (EVs) but also renewable energy systems.



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. Small-scale lithium-ion residential battery systems in the German. What is energy storage sodium battery technology?

In the energy storage sodium battery technology, the sodium ion battery has better performance at high and low temperatures. The capacity retention rate is 70% at - 40°C, and it can be recycled at 80°C. At the level of energy storage system, the air conditioning power quota can be reduced, and there is room for cost reduction.

Are sodium ion batteries good for stationary energy storage?

Although sodium-ion batteries are currently less energy-dense (the MC Cube-SIB ESS packs 2.3MWh per 20-foot container, compared to the 5MWh standard in lithium-ion BESS), they are still highly suitable for stationary energy storage applications.

Will CATL's sodium-ion batteries reshape the energy storage landscape?

In this breakdown, Matt Ferrell explains how CATL’s sodium-ion batteries are poised to reshape the energy storage landscape.

Can sodium-ion batteries help power a sustainable future?

After all, the race to power a sustainable future is as much about bold ideas as it is about overcoming the obstacles in their path. CATL has introduced sodium-ion batteries with a potential cost reduction to \$10/kWh, using sodium’s abundance and safety to address energy storage challenges.

Are sodium ion batteries a viable alternative to lithium-ion?

CATL has introduced sodium-ion batteries with a potential cost reduction to \$10/kWh, using sodium’s abundance and safety to address energy storage challenges. Sodium-ion batteries are a sustainable alternative to lithium-ion technology, offering lower costs, inherent safety, and suitability for EVs and renewable energy systems.

What is CATL doing with sodium ion technology?

CATL’s advancements in sodium-ion technology underscore the potential for innovation to drive progress in energy storage. By using sodium’s abundance



and addressing historical limitations, CATL is working to redefine the market for EVs and renewable energy applications.



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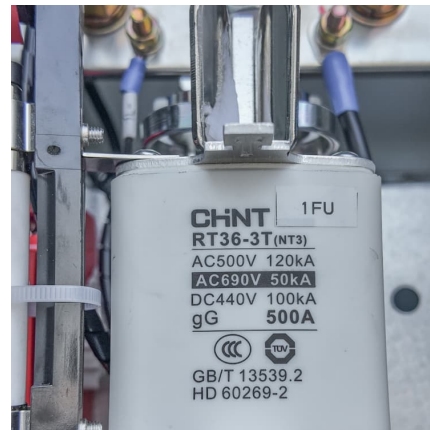


China's 1st large-scale sodium battery energy storage ...

A 10-MWh sodium-ion battery energy storage station has been put into operation in Guangxi, southwest China, the country's first large-scale ...

Sodium-Ion Battery Price Trends: A Comprehensive Guide for 2023

Sodium-ion batteries are becoming increasingly competitive in the energy storage market. As reported by poweringautos , the projected price for sodium-ion ...



First sodium-ion battery storage station at grid level ...

The low cost of the sodium cells can lead to electricity generation at a price of less than \$0.03 per kWh, and this is one of the greatest ...

Peak Energy launches first U.S. grid-scale sodium-ion storage system

In a shared pilot with utilities and IPPs, Peak Energy's passively cooled sodium-ion system targets a 20% lifetime cost drop and a 33% cut



in degradation over 20 years.



Energy Storage Technology and Cost Characterization Report

Abstract This report defines and evaluates cost and performance parameters of six battery energy storage technologies (BESS) (lithium-ion batteries, lead-acid batteries, redox flow batteries, ...

BYD details first 2.3 MWh sodium-ion battery pack for grid-level energy

The world's second-largest battery maker BYD has managed to develop a sodium-ion battery pack covering all the requirements for a grid-level battery energy storage ...



[CATL Sodium-Ion Batteries Cuts Costs By 90% : \\$10/kWh ...](#)

CATL's sodium-ion batteries promise \$10/kWh storage and 90% lower costs. See how they could transform EVs and grid energy worldwide fast.



BATTERY ENERGY STORAGE SYSTEMS (BESS) --

The majority of newly installed large-scale electricity storage systems in recent years utilise lithium-ion chemistries for increased grid resiliency and sustainability. The capacity of lithium ...



China announces procurement of sodium-ion batteries with price ...

The innovative project located in a suburban district in the south of Shanghai will integrate five different energy storage technologies, including sodium-ion batteries.

Lithium-ion battery, sodium-ion battery, or redox-flow battery: A

Abstract Battery energy storage systems (BESSs) are powerful companions for solar photovoltaics (PV) in terms of increasing their consumption rate and deep-decarbonizing ...



Battery Prices Drop, BYD's Sodium-Ion Innovation Leads the ...

As the cost of lithium-ion batteries continues to fall, BYD, the world's largest electric vehicle (EV) manufacturer, has unveiled its first high-performance sodium-ion battery ...



Sodium-ion batteries: Charge storage mechanisms and recent ...

Battery technologies beyond Li-ion batteries, especially sodium-ion batteries (SIBs), are being extensively explored with a view toward developing sustainable energy ...

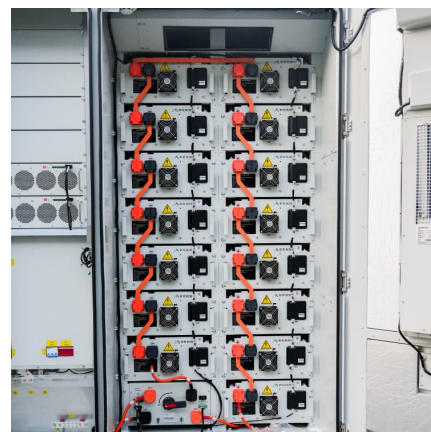


Sodium-ion Batteries: Inexpensive and Sustainable Energy ...

Introduction With an increasing need to integrate intermittent and unpredictable renewables, the electricity supply sector has a pressing need for inexpensive energy storage. There is also ...

[Sodium-ion batteries need breakthroughs to compete](#)

A thorough analysis of market and supply chain outcomes for sodium-ion batteries and their lithium-ion competitors is the first by STEER, a new Stanford and SLAC ...



China Announces Sodium-Ion Battery



Procurement at \$150/kWh

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[Peak Energy Plans Sodium-Ion Grid-Scale Battery ...](#)

Peak Energy designs and deploys next-gen sodium-ion energy storage that is safer, lower-cost, and more reliable. Our systems remove ...

Sodium-Ion: A Serious Challenger to Lithium-Ion in Batteries?

The growth of renewable energies over the last decade has created a surging demand for better energy storage solutions. While lithium-ion (Li-ion) technology remains the ...





Technology Strategy Assessment

About Storage Innovations 2030 This technology strategy assessment on sodium batteries, released as part of the Long-Duration Storage Shot, contains the findings from the Storage ...

[China announces procurement of sodium-ion batteries ...](#)

The innovative project located in a suburban district in the south of Shanghai will integrate five different energy storage technologies, including ...



Techno-economics Analysis on Sodium-Ion Batteries: Overview ...

Sodium-ion batteries are considered compelling electrochemical energy storage systems considering its abundant resources, high cost-effectiveness, and high safety. ...

Peak Energy launches first U.S. grid-scale sodium-ion ...

In a shared pilot with utilities and IPPs, Peak Energy's passively cooled sodium-ion system targets a 20% lifetime cost drop and a 33% cut in ...



[Northvolt develops state-of-the-art sodium-ion battery](#)

Northvolt is proud to add sodium-ion to its cell chemistry portfolio, enabling safe, low-cost, sustainable power for energy storage systems.



[World's largest sodium-ion battery goes into operation](#)

The first phase of Datang Group's 100 MW/200 MWh sodium-ion energy storage project in Qianjiang, Hubei Province, was connected to the grid.



Bluetti debuts world's first sodium-ion portable power station

Bluetti, a Chinese manufacturer of energy storage and portable power systems, has unveiled what it calls "the world's first sodium-ion portable power station". Announced at ...

[Biwatt Rolls Out Scalable Sodium-Ion Energy](#)



Storage ...

Chinese battery maker Biwatt unveiled its complete portfolio of sodium-ion energy storage systems, marking a significant product release for ...



Sodium Ions for BESS , Black & Veatch

Today around 98 percent of Battery Energy Storage System (BESS) capacity is based on lithium ion batteries. Lithium, being relatively scarce, is subject to ...

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