Sodium ion battery storage cost breakdown in New Zealand 2025

Overview

Sodium-ion technology is often positioned as a lower-cost alternative to lithium-ion, but initial pricing may be higher than expected. According to IDTechEx research, the average Na-ion cell cost is currently ~US$87/kWh, considering variations in chemistry and manufacturing scale.

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Likewise, Veken Tech has postponed its 2 GWh project, originally set for completion in December 2024, now rescheduled to begin operations in December 2025. These setbacks underscore the ongoing challenges related to demand uncertainty, financing, and scaling up production. This latest IDTechEx.

The global sodium ion battery market was valued at USD 270.1 Million in 2024 and is set to grow at a CAGR of 26.1% from 2025 to 2034. Rising demand for cost-effective sustainable solutions with reduced supply chain risk is set to boost product adoption. Growing adoption of environmentally friendly.

Lithium-ion’s spectacular growth has exposed hard limits—price spikes for lithium and nickel, fire-safety worries, and a supply chain concentrated in just a few countries. Sodium is 500 × more abundant than lithium and costs pennies per kilogram at commodity scale. Swapping copper current.

With costs fast declining, sodium-ion batteries look set to dominate the future of long-duration energy storage, finds AI-based analysis that predicts technological breakthroughs based on global patent data. Sodium-ion batteries’ rapid development could see long-duration energy storage (LDES) enter.

Sodium-ion batteries are rapidly emerging as a promising solution for cost-effective energy storage. What Are Sodium-Ion Batteries?

Sodium-ion batteries (SIBs) represent a significant shift in energy storage technology. Unlike Lithium-ion batteries, which rely on scarce lithium, SIBs use abundant.

Currently, SIBs cost about $125/kWh, but a technoeconomic study by Yao et al. [2] suggests costs could fall to $30/kWh by 2045, as shown in Figure 1. This opens a vast opportunity for innovation in all aspects of SIB production. In contrast, LIBs are approaching their minerals cost floor, limiting. Are sodium-ion batteries a cost-effective energy storage solution?

Sodium-ion batteries are rapidly emerging as a promising solution for cost-effective energy storage. What Are Sodium-Ion Batteries?

Sodium-ion batteries (SIBs) represent a significant shift in energy storage technology. Unlike Lithium-ion batteries, which rely on scarce lithium, SIBs use abundant sodium for the cathode material.

Will sodium-ion batteries dominate the future of long-duration energy storage?

With costs fast declining, sodium-ion batteries look set to dominate the future of long-duration energy storage, finds AI-based analysis that predicts technological breakthroughs based on global patent data. Sodium-ion batteries’ rapid development could see long-duration energy storage (LDES) enter mainstream use as early as 2027.

How much will sodium ion batteries cost in 2028?

Assuming a similar capex cost to Li-ion-based battery energy storage systems (BESS) at $300/kWh, sodium-ion batteries’ 57% improvement rate will see them increasingly more affordable than Li-ion cells, reaching around $10/kWh by 2028.

Are sodium ion batteries sustainable?

Sodium-ion batteries (SODIUM BATTERY) represent a promising alternative to traditional battery technologies, with significant advantages in terms of cost, resource availability, and environmental impact. As these batteries continue to evolve, their role in sustainable energy storage is expected to expand.

Will sodium-ion batteries disrupt the LDEs market?

Credit: Fahroni/Shutterstock. Sodium-ion batteries are set to disrupt the LDES market within the next few years, according to new research – exclusively

seen by Power Technology’s sister publication Energy Monitor – by GetFocus, an AI-based analysis platform that predicts technological breakthroughs based on global patent data.

Will sodium ion batteries increase energy density?

This company continues to progress in the development of sodium-ion batteries with the intent to increase energy density and market their solutions as substitutes for lithium-ion batteries. In December 2022, Svolt Energy unveiled its inaugural sodium-ion battery prototype, boasting an energy density of 100 Wh/kg.

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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 ...

New Zealand's Electrochemical Energy Storage ...

With strategic investments and cross-sector collaboration, electrochemical storage will anchor New Zealand's clean energy future, ensuring its landscapes remain pristine while powering progress.

EV Battery Costs in 2025: How Pricing is Changing ...

EV battery costs have dropped from $1,100 per kWh in 2010 to just $130 per kWh in 2025! Find out how innovation, economies of scale, and new battery technologies are making electric cars more affordable than ever. Learn ...

The Hidden Costs of Solar and Battery Systems in New Zealand: ...

Discover the true costs of solar and battery systems in New Zealand for 2024. Explore

pricing trends, key insights, and what to expect for solar and battery prices in 2025.

Sodium Ion Battery Market Size, Growth Opportunity ...

While slightly lower than lithium-ion's typical 200 Wh/kg, the cost-to-performance ratio makes Na-ion more attractive for certain applications, such as low-cost EVs and stationary energy storage.

Energy storage costs

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 ...

BESS Costs Analysis: Understanding the True Costs of Battery

Exencell, as a leader in the high-end energy storage battery market, has always been committed to providing clean and green energy to our global partners, continuously ...

Future Sodium Ion Batteries Could Be Ten Times ...

Based on material costs of $4 per kWh there could be $8 to $10 per kWh sodium ion batteries in the future. This would be ten times cheaper than energy storage batteries today.

Sodium-ion Batteries 2025-2035: Technology, ...

Sodium-ion technology is often positioned as a lower-cost alternative to lithium-ion, but initial pricing may be higher than expected. ...

The Rise of Sodium-Ion Batteries: The Next ...

The Rise of Sodium-Ion Batteries: The Next Generation of Sustainable Energy Storage Sodium-ion batteries are emerging as a powerful alternative to lithium-ion, offering abundant materials, lower costs, and a ...

A cost and resource analysis of sodium-ion batteries

Himax Electronics is dedicated to advancing sodium-ion battery technology to make it more efficient, cost-effective and sustainable. For those looking to realize the full potential of sodium-ion batteries or explore innovative ...

Lithium-Ion Battery Pack Prices See Largest Drop ...

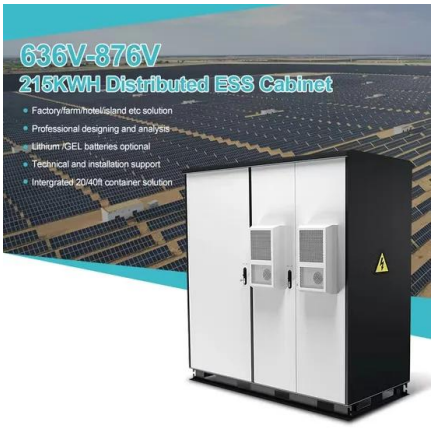
New York, December 10, 2024 - Battery prices saw their biggest annual drop since 2017. Lithium-ion battery pack prices dropped 20% from 2023 to a record low of $115 per kilowatt-hour, according to analysis by research provider ...

Comprehensive review of Sodium-Ion Batteries: Principles, ...

Sodium-ion batteries (SIBs) are emerging as a viable alternative to lithium-ion batteries (LIBs) due to their cost-effectiveness, abundance of sodium resources, and lower ...

The Real Cost of Commercial Battery Energy Storage ...

With fluctuating energy prices and the growing urgency of sustainability goals, commercial battery energy storage has become an increasingly attractive energy storage solution for businesses. But what will the ...



Advancements and challenges in sodium-ion batteries: A ...

Sodium is abundant and inexpensive, sodium-ion batteries (SIBs) have become a viable substitute for Lithium-ion batteries (LIBs). For applications including electric vehicles ...

Sodium-ion: The Three Big Promises of Sodium-Ion ...

Sodium-ion batteries are emerging as a compelling alternative to lithium-ion, offering a unique blend of material abundance, system compatibility, and enhanced safety. As the energy storage market searches for ...

Global Market for Sodium-ion Batteries 2026-2036:

The sodium-ion battery market is gaining significant traction as a sustainable and cost-effective alternative to lithium-ion technology. With sodium priced

Sodium-ion Batteries 2024-2034: Technology, ...

Sodium-ion Batteries 2024-2034 provides a comprehensive overview of the sodium-ion battery market, players, and technology trends. Battery benchmarking, material and cost analysis, key player patents, and 10 year ...

China announces procurement of sodium-ion batteries ...

Shanghai Shenneng New Energy Storage Research and Development Co., Ltd., a subsidiary of Shenneng Group, which is in charge of the project development, has announced the first technology procurements. On ...

Sodium-ion batteries face uphill struggle to beat lithium-ion on cost

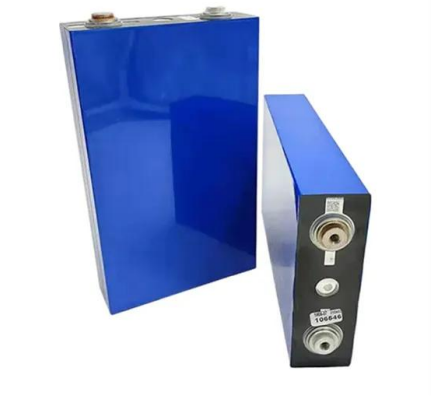
A new Stanford University study finds that there are several several key routes that sodium-ion battery developers can take to compete on price, specifically against a low ...

Cost Projections for Utility-Scale Battery Storage: 2023 Update

Executive Summary 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 ...

Battery price per kwh 2025, Statista

The cost of lithium-ion batteries per kWh decreased by 20 percent between 2023 and 2024. Lithium-ion battery price was about 115 U.S. dollars per kWh in 202.



CATL Introduces First Mass-Produced Sodium-Ion Battery

CATL has officially unveiled the Naxtra Battery, claiming it to be the world's first Sodium-ion Battery produced on a mass scale. The announcement at CATL's Super Tech Day ...

Sodium-Ion vs Lithium-Ion Batteries Differences and ...

Compare Na-ion vs Li-ion batteries in 2025. Discover differences in cost, energy density, safety, and applications for sustainable energy storage.

Exclusive: sodium batteries to disrupt energy storage ...

With costs fast declining, sodium-ion batteries look set to dominate the future of long-duration energy storage, finds AI-based analysis that predicts technological breakthroughs based on global patent data.

A cost and resource analysis of sodium-ion batteries

This article explores the economic and resource-based aspects of sodium-ion batteries, offering a comprehensive analysis of their cost-effectiveness and resource utilization, and detailing how Himax Electronics is ...

Sodium-ion: The Three Big Promises of Sodium-Ion Batteries

Sodium-ion batteries are emerging as a compelling alternative to lithium-ion, offering a unique blend of material abundance, system compatibility, and enhanced safety. As ...

Figure 1. Recent & projected costs of key grid

V, the storage capital cost would be lower: $187/kWh in 2020, $122/kWh in 2025, and $92/kWh in 2030. The tariff adder for a co-located battery system storing 25% of PV ...

Cost Projections for Utility-Scale Battery Storage: 2021 ...

Executive Summary 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 ...

Sodium-ion batteries in 2025: a snapshot of the fast-emerging ...

Bottom line: With CATL's Naxtra heading for mass production and more than 100 GWh of cumulative capacity now financed across three continents, sodium-ion is no longer ...

Sodium-Ion Batteries at NOVONIX: Market Landscape, Materials ...

The industry can't just rely on market penetration and economies of scale to drive down the cost of sodium ion batteries. While LIB gigafactories can adapt to SIB ...

Battery storage and renewables: costs and markets to 2030

This study shows that battery electricity storage systems offer enormous deployment and cost-reduction potential. By 2030, total installed costs could fall between 50% and 60% (and battery ...

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