

## Global PV Storage Insights

# Successful bid price of sodium ion battery storage project in Switzerland 2030



## Overview

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What is a Technology Strategy assessment on sodium batteries?

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

How much does a sodium ion battery cost?

This is around 40-80 USD/kWh for a Na-ion cell compared to an average of 120 USD/kWh for a Li-ion cell. Sodium-ion batteries also offer advantages in terms of sustainability, compared to Li-ion batteries. The large abundance of sodium opens the door for more diverse sourcing.

Are sodium-ion batteries on the verge of commercialisation?

September 11, 2023 by Carlos Ruiz, Martina Lyons, Isaac Elizondo Garcia and Zhaoyu Wu Sodium-ion (Na-ion) batteries, a much more abundant and cheaper alternative to the standard Lithium-ion, are on the verge of commercialisation, explain Carlos Ruiz, Martina Lyons, Isaac Elizondo Garcia and Zhaoyu Wu at IRENA.

Will lithium ion battery cost a kilowatt-hour in 2030?

Lithium-ion battery costs for stationary applications could fall to below USD 200 per kilowatt-hour by 2030 for installed systems. Battery storage in stationary applications looks set to grow from only 2 gigawatts (GW) worldwide in 2017 to around 175 GW, rivalling pumped-hydro storage, projected to reach 235 GW in 2030.

What is a sodium ion battery?

Sodium-ion batteries (NaIBs) were initially developed at roughly the same time as lithium-ion batteries (LIBs) in the 1980s; however, the limitations of charge/discharge rate, cyclability, energy density, and stable voltage profiles made them historically less competitive than their lithium-based counterparts

Are sodium ion batteries a good choice?

While these numbers are comparable to some lower-end Li-ion batteries, they are still behind other commercially available Li-ion chemistries, e.g. Tesla batteries in the range of 250 Wh/kg. These characteristics make sodium-ion batteries suitable for use in a number of applications.

## Successful bid price of sodium ion battery storage project in Switze

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### Sodium-ion and Na-ion batteries



15.25-16.00 "Sodium-ion as an alternative, sustainable battery technology" Prof. Montserrat Casas CiCenergigune, Spain 16.00- 16.10 Na-ion batteries and the battery market Johan Söderbom Innoenergy 16.10-16.50 Panel Discussion ...

### 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 ...



### **Battery 2030: Resilient, sustainable, and circular**

Battery 2030: Resilient, sustainable, and circular Battery demand is growing--and so is the need for better solutions along the value chain.

### **Batteries and Secure Energy Transitions - Analysis**

In the power sector, battery storage is the fastest growing clean energy technology on the market. The versatile nature of batteries means they can serve utility-scale projects, behind-the-meter

storage for households and ...



## New entrants drive sodium ion battery capacity growth ...

Sodium ion battery capacity is surging as an additional 50 gigawatt-hours (GWh) are expected to come online this year along with 14 new market entrants, taking global capacity to 70 GWh, according to Benchmark's Sodium ion Battery ...

## Energy Storage Sodium Ion Battery Market

The energy storage sodium ion battery market is projected to grow from USD 307.4 million in 2025 to USD 2,932.0 million by 2035, at a CAGR of 25.3%. Sodium sulfur battery will dominate with a 48.0% market share, while aqueous ...



## Sodium-ion batteries ready for commercialisation: for ...

A successful transition needs Storage Under these premises, the importance of storage for a successful transition cannot be overstated. IRENA's 1.5°C Scenario sees a need for battery storage to offer significant ...

## Sodium-Ion Batteries: Affordable Energy Storage for a ...

Discover how sodium-ion batteries offer a low-cost, eco-friendly alternative to lithium-ion, paving the way for efficient renewable energy storage.



## Lower-cost sodium-ion batteries are finally having ...

However, sodium-ion battery production is growing and is projected to reach 140 gigawatt-hours by 2030, about 13 times its current level, according to Benchmark.

## BESS costs could fall 47% by 2030, says NREL

The national laboratory is forecasting price decreases, most likely starting this year, through to 2050. Image: NREL. The US National Renewable Energy Laboratory (NREL) ...



## Sodium-ion battery energy storage costs in 2030

Lithium-ion batteries dominate both EV and storage applications, and chemistries can be adapted to mineral availability and price, demonstrated by the market share for lithium iron phosphate ...

## Energy Storage in Europe

2023 BNEF global average 2024 2024 Mainland China China year-to-date year-to-date Source: BloombergNEF, ICC Battery. Note: 2023 price from BNEF's Lithium-ion Battery Price Survey. ...



## Critically assessing sodium-ion technology roadmaps and

Sodium-ion batteries have garnered notable attention as a potentially low-cost alternative to lithium-ion batteries, which have experienced supply shortages and price volatility ...

## Real Cost Behind Grid-Scale Battery Storage: 2024 ...

The rapidly evolving landscape of utility-scale energy storage systems has reached a critical turning point, with costs plummeting by 89% over the past decade. This dramatic shift transforms the economics of grid-scale ...

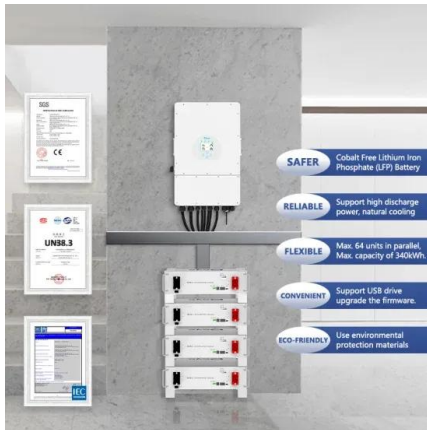


## Switzerland Sodium Ion Battery Market (2024-2030) , Outlook, ...

Market Forecast By Type (Sodium-Sulphur Battery, Sodium-Salt Battery, Sodium-Air Battery), By Application (Stationary Energy Storage, Transportation) And Competitive Landscape

## Japan Incentivizes Battery Storage Projects Amid ...

By 2030, official estimates show variable renewable energy reaching 20% of Japan's power mix. Noting the demand case and ever-growing renewables curtailment numbers nationwide, more and more firms are tapping ...

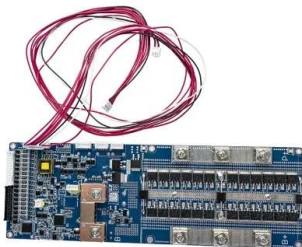


## Future Sodium Ion Batteries Could Be Ten Times ...

The first generation sodium ion are a bit cheaper than LFP but the volumes will not be worldchanging. However, the second generation sodium ion could reach \$40 per kWh. Iron LFP batteries could get to \$50/kWh with ...

## 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 an AI-based analysis that predicts technological breakthroughs based on global patent data.



## Figure 1. Recent & projected costs of key grid

The "Report on Optimal Generation Capacity Mix for 2029-30" by the Central Electricity Authority (CEA 2023) highlight the importance of energy storage systems as part of ...

## Sodium-ion batteries: the revolution in renewable ...

Discover the advantages and disadvantages of sodium-ion batteries compared to other renewable energy storage technologies, their application in the energy industry and the future of cleaner energy.



## Sodium-Ion Batteries: Commercial Potential and Future Possibilities

Sodium-ion batteries are emerging as a promising alternative in the energy storage market. With growing interest from industry leaders and investors, this technology is ...

## Sodium-ion batteries will take time to become cost ...

Sodium is coming, the question is when and how much Thanks to low cost and abundant raw materials, large operating temperature range, high round trip efficiency, competitive cycle life and safety, sodium-ion batteries are well ...



## Switzerland's Mega Energy Storage Bid: What You Need to Know

The Federal Council just launched Europe's most ambitious battery storage tender - a 900 MW capacity push to solve their Alpine energy puzzle. But why's a country drowning in hydropower ...

## Sodium-ion batteries ready for commercialisation: for ...

The cost of a Na-ion battery cell is expected to be around \$40-80/kWh compared to an average of \$120/kWh for a Li-ion cell. Na-ion batteries are safer (operating temperature range, stability), and have faster charging ...



## Sodium ion set to impact thriving US battery market

A new factory shows how sodium ion will gain an increasing share of the U.S. energy storage market as developers seek to reduce global supply chain risks.

## BATTERY 2030+ Roadmap

The BATTERY 2030+ vision is to incorporate smart sensing and self-healing functionalities into battery cells with the goals of increasing battery reliability, enhancing lifetime, improving safety, ...



51.2V  
200Ah/300Ah  
LiFePO4 battery

## The Race To Replace Lithium: Is Sodium the Future ...

Sodium-ion is perhaps the most compelling near-term challenger to lithium-ion, and many battery companies announced plans of major build out of sodium-ion manufacturing, promising pathways to lower prices than the ...

## Can Sodium-ion Batteries Disrupt the Energy Storage ...

Exponent has been at the forefront of Li-ion battery development for three decades, pushing beyond standardized tests to improve battery performance in complete, integrated products. With multidisciplinary expertise ...



## Global battery demand to quadruple by 2030 and ...

4. Solid state and sodium ion will be the only commercialized emerging technologies by 2030. Solid-state batteries promise significantly higher energy density vs. NMC, along with improved safety, faster charging, and ...

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

Sodium-ion batteries have a significant advantage in terms of energy storage unit price compared to lithium-ion batteries. This cost-effectiveness stems from the abundance and ...



## Utility-Scale Battery Storage , Electricity , 2024 , ATB , NREL

The projection with the smallest relative cost decline after 2030 showed battery cost reductions of 5.8% from 2030 to 2050. This 5.8% is used from the 2030 point to define the conservative cost ...

## Switzerland Sodium Ion Battery Market (2024-2030) , Outlook, ...

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