Sodium Ion Battery Market By Application (Residential, Commercial, Industrial), By End Use (Stationary Energy Storage, Transportation): Global Opportunity Analysis and Industry Forecast, 2021-2031

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Report description:

The global sodium ion battery market was valued at $0.3 billion in 2021, and is projected to reach $1.2 billion by 2031, growing at a CAGR of 15.9% from 2022 to 2031.

Sodium ion batteries (SIBs) are currently evolving as a viable substitute for lithium-ion batteries (LIBs) because of the abundant availability and reasonable cost of sodium. As Na is thrice heavier and possesses a lower standard electrochemical potential than Li, it makes it the built-in SIBs difficult to outclass the LIBs in terms of energy density, specific capacity, or rate capability. Sodium ion batteries (SIBs) have attracted much interest as an alternative to lithium-ion batteries for energy storage due to their low cost and natural abundance of sodium resources. Furthermore, as nature possesses a large amount of sodium and it can provide a replacement for lithium chemistry, sodium ion batteries could be a competitor to lithium-ion batteries in commercial markets. The abundance of sodium can be estimated by the fact that 23 billion of soda ash that is regarded as sodium precursor is only located in the United States. The presence of these advantages has driven the demand for the sodium ion battery market.

The popularity of electric cars has grown as a result of people being more aware of the benefits of using them in daily life. The demand for diverse batteries has increased as a result of the rise in electric car sales. Researchers create nanomaterial-based sodium ion batteries and capacitors for use in electric cars. Because sodium is abundant in nature and results in inexpensive batteries, it has been thought of as a potential complementary technology to lithium-ion batteries. Electric cycles coupled with batteries would be substantially less expensive thanks to the low cost of battery technology. Electric cars might be made to cost under $200, making them around 25% more inexpensive than lithium-ion storage solutions.

Energy storage services are being developed favorably as a result of the fast expansion in the use of renewable energy throughout the world and the increased investment by the public and private power sectors in the construction of solar and wind power plants. The demand for low-cost, reliable batteries has increased as a result of the steadily rising demand for energy storage services. The market for sodium ion batteries is more in demand now that there is a need for batteries. Additionally, as

fossil fuel supplies are depleting and the price of crude oil is rising globally, consumers are gradually switching from conventional to electric automobiles. The market for sodium ion batteries has seen growing demand as a result of rising demand for electric cars as well as government initiatives and regulations to commercialize electric vehicles. During the projected period, the aforementioned aspect is anticipated to offer lucrative prospects for the advancement of the sodium ion battery market.
The active usage of sodium ion batteries is not supported by a reliable industrial supply chain, which limits the market's expansion for these batteries. Compared to Lithium-Ion Batteries, they are heavier. The weight of sodium metal is greater than that of lithium metal. As a result, the usage of sodium batteries in electric cars is constrained. Furthermore, the sodium ion battery's use is hampered by key issues such high impedance, poor capacity, short cycle life, and sluggish charge/discharge rate. This reason is constraining the Sodium Ion Battery Market's growth.
Asia-Pacific also accounted for a significant share of the global market revenue in 2021. Asia-Pacific is the largest consumer in the global sodium ion battery market, owing to the presence of key developing economies such as China, India, and Japan, which registered the highest market share in the sodium ion battery market in the year 2020. India could well emerge as a global hub for manufacturing sodium ion batteries, which is seen as an alternative or complementary technology to the more expensive lithium-ion-powered batteries. Some prominent players have entered the business, too, such as Contemporary Amperex Technology (CATL) from China, which showcased its first generation of sodium batteries last year and plans a commercial launch next year. Companies around the world are working furiously to commercialize the technology and manufacture batteries to power electric vehicles. On the other hand, the market in LAMEA is estimated to register the fastest growth rate over the forecast period.
The sodium ion battery market is segmented on the basis of application, end-use, and region. On the basis of application, the market is fragmented into residential, commercial, and industrial. On the basis of end-use, the market is bifurcated into stationary energy storage and transportation. Region-wise, the market is analyzed across North America, Europe, Asia-Pacific, and LAMEA. Presently, Europe accounts for the largest share of the market, followed by North America, Asia-Pacific, and LAMEA.
The major companies profiled in this report CATL, Faradion, Natron Energy, HiNa Battery, Ronbay Technology, Zoolnash, Natrium, Kishida Chemical, Panasonic, and Mitsubishi Chemical. An increase in the demand for eco-friendly power generation has led to an increase in investment in solar and wind power plants which led to an increase in the demand for low-cost and stable batteries. Additional growth strategies such as an expansion of storage capacities, acquisition, partnership, and research & innovation in the optimization and improvement in the efficiency and reliability of sodium ion batteries have led to attaining key developments in the global sodium ion battery market trends.
Impact of Covid-19 on Global Sodium Ion Battery Market
During the pandemic, there was a high demand for stationary energy storage devices as most people were working from home, which led to the demand for the UPS system that created a huge demand for the sodium-ion battery market. The shutdown of industrial facilities across the globe has led to delays in the construction of solar and wind power plant facilities, which have led to a decline in the demand for stationary energy storage devices manufactured using sodium-ion batteries during the COVID-19 outbreak.
The demand for fossil-based energy resources has decreased significantly, while the demand for renewable energy resources has grown significantly. Although renewable energy sources have significant advantages in areas such as carbon emission, they need energy storage systems with large capacities due to the significant relationship between air exchange and their efficiency. The changes in renewable energy demand significantly affect energy storage technologies. The presence of the above-mentioned demand for energy storage devices in renewable power plants is anticipated to provide lucrative opportunities for the development of the market.
Key Benefits For Stakeholders
-This report provides a quantitative analysis of the market segments, current trends, estimations, and dynamics of the sodium ion battery market analysis from 2021 to 2031 to identify the prevailing sodium ion battery market opportunities.
-The market research is offered along with information related to key drivers, restraints, and opportunities.
-Porter's five forces analysis highlights the potency of buyers and suppliers to enable stakeholders make profit-oriented business decisions and strengthen their supplier-buyer network.
-In-depth analysis of the sodium ion battery market segmentation assists to determine the prevailing market opportunities.

-Major countries in each region are mapped according to their revenue contribution to the global market.
-Market player positioning facilitates benchmarking and provides a clear understanding of the present position of the market players.
-The report includes the analysis of the regional as well as global sodium ion battery market trends, key players, market segments, application areas, and market growth strategies.
Key Market Segments
By Application
- Residential
- Commercial
- Industrial
By End Use
- Stationary Energy Storage
- Transportation
By Region
- North America
- U.S.
- Canada
- Mexico
- Europe
- Germany
- France
- Italy
- UK
- Spain
- Rest of Europe
- Asia-Pacific
- China
- Japan
- India
- South Korea
- Australia
- Rest of Asia-Pacific
- LAMEA
- Brazil
- South Africa
- Saudi Arabia
- Rest of LAMEA
- Key Market Players
- CATL
- faradion limited
- Natron Energy
- Panasonic Corporation
- Mitsubishi Corporation
- Kishida Chemical
- Zoolnasm
- Ronbay Technology
- HiNa BATTERY

- Natrium Energy

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