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MARKET DEMAND FOR SODIUM-ION BATTERIES – GLOBAL MARKET ANALYSIS 2030

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With increasing in concerns about availability of raw materials and higher cost of lithium-ion batteries, sodium-ion batteries (SIBs) owing to natural abundance, wide distribution, and low price of sodium resources have been considered as an ideal replacement for lithium-ion battery. The global battery market is detecting a shift from the development of lithium-ion batteries to sodium-ion batteries.

Based on our model, the global demand for sodium ion batteries is expected to grow from 1.47GWh in 2021 to \$1069.78 GWh by 2030 with a compound annual growth rate (CAGR) of 108% for the period of 2021-2030. And the demand for sodium ion batteries in Chinese market will grow form 0.84 GWh in 2021 to \$431.91GWh by 2030 with a compound annual growth rate (CAGR) of 100%. The Chinese market demand accounts for about 40% of the global market demand.



From the application scenario, Sodium-ion batteries have good application prospects in the fields of energy storage, electric two-wheeled vehicles and low-speed electric vehicles. In 2030, the global battery demand in these three areas will reach 762.08GWh. In terms of energy storage, the global installed demand for energy storage in 2030 is expected to be 48GWh; for two-wheelers, the domestic demand for two-wheeler batteries in 2030 is about 79.04GWh; for low-speed electric vehicles, the global demand for sodium-ion batteries in 2030 is about 53.96GWh.





Figure 2 Global sales of electric two-wheelers and

Figure 3 Global chemical energy storage shipments and sodium battery penetration rate(GWh/%)



Figure 4 Total installed capacity and sodium battery penetration rate in the field of low-speed electric vehicles(GWh/%)



In addition, considering that with the maturity of sodium-ion battery technology, the endurance of sodium batteries continues to increase, and sodium batteries are expected to be applied in high-end electric vehicles after 2025. It is assumed that the penetration rate of sodium-ion batteries in this electric vehicle is 27.3%, we predict that the demand for sodium-ion batteries on high-end electric vehicles will reach 307.7GWh in 2030.

Figure 5 Total installed capacity and sodium battery penetration rate in the field of high-end electric vehicles(GWh/%)



Overall, in the short term, sodium batteries are mainly used in **low-end energy storage**, **two-wheeled vehicles**, **and low-speed electric vehicles**; in the medium term, **high-end energy storage** applications will be faster than high-end electric vehicles; in the long-term, sodium batteries will last more than 500 kilometers, and sodium batteries and lithium batteries will coexist for a long time in **Electric vehicle** field. The penetration rate and demand of sodium ion batteries in each scenario are as follows.

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