

India Battery Energy Storage Systems Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The Indian battery energy storage systems market is expected to record a CAGR of approximately 10.5% during the forecast period of 2022-2027. The COVID-19 pandemic had a considerable impact on the market due to declines in power demand from the industrial and commercial sectors during the pandemic-induced lockdowns. For example, out of 489 manufacturing firms in India, 51 had to shut their operations due to the pandemic, which reduced the overall power demand in the sector. The Indian battery energy storage systems market is propelled by mainly two drivers: the declining cost of energy storage technologies and the ability to provide grid flexibility. However, the market growth can be hindered by uncertainty in the rules governing energy storage operations and ownership.

□ The lithium-ion battery type is expected to dominate the market during the forecast period due to its favorable chemistry and the low average cost of energy storage projects.

□ The continuous growth of renewable energy projects in the country is the most significant opportunity for battery energy storage systems in India. India has set a target to reach around 500 GW of renewable capacity by 2030. Though many renewable power generation projects are in progress, it's not practically possible to achieve the target without the interference of energy storage solutions as they offer a flexible grid integration opportunity. Thus, renewable power projects create significant opportunities for the market.

□ Government initiatives to promote energy storage deployment in India are likely to steer the market to the greatest extent.

India Battery Energy Storage Systems Market Trends

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tel. 0048 603 394 346 e-mail: support@scott-international.com

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Lithium-ion Battery Segment Expected to Dominate the Market

□ Lithium-ion batteries witness high demand in renewable power projects. Many renewable industry experts believe that the growth of renewables in India is incomplete without energy storage systems, and lithium batteries offer the most cost-effective integration.

□ Lithium solar batteries are a rechargeable energy storage solution that can be paired with a solar power system to store excess solar power. India's installed solar energy capacity stood at around 40 GW in 2021, and the government has planned many projects to reach its ambitious target of increasing its share to 100 GW by 2022. But due to the intermittency of solar power supply, many private players have planned solar plus energy storage projects to ensure a continuous supply of power to the grid.

□ In December 2021, Tata Power Solar Systems Limited (Tata Power Solar) bagged a solar plus storage project in Chattisgarh from Solar Energy Corporation of India Ltd (SECI). The project includes EPC services for a 100 MW solar power plant with a utility-scale Battery Energy Storage System (BESS) of 120 MWh capacity. The total outlay of the project was approximately INR 945 crore. It is likely to get commissioned in the second half of 2023.

□ The Ramagiri Solar-Wind-Hybrid project, integrated with battery energy storage systems, is a perfect example of energy storage development in India. Located in Anantapur, Andhra Pradesh, the project is owned by the Solar Energy Corporation of India (SECI). It is currently under construction and is expected to be completed by 2022.

□ Due to such developments, the lithium-ion battery segment is expected to hold the largest market share during the forecast period.

Government Initiatives Expected to Drive the Market

□ The Indian battery energy storage market is likely to be further driven by government plans to ease technological implementation.

□ The power capacity additions in India were not as per the expectations of the Indian government, and thus, the government is trying to boost the sector with the inclusion of various thermal and renewable projects. As of FY 2020-21, India had renewable energy installed capacity of around 92.54 GW.

□ Out of the total renewable installed capacity, India's installed battery energy storage capacity was around 20MW as of 2021, and the required capacity is estimated to be about 38 GW by 2030. Several projects have been planned to integrate energy storage systems in renewable power projects by the Indian government and affiliated entities.

□ In December 2021, NTPC Renewable Energy Ltd (NREL) announced plans to float an engineering procurement and construction (EPC) tender to develop a 3 GW renewable energy project, such as a solar or wind power project, with a battery storage system by 2022. The decision will help India achieve its target of 175 GW of renewable energy by 2022, including 100 GW of solar and 60 GW of wind energy.

□ In July 2021, the Solar Energy Corporation of India (SECI) floated a tender to develop 2000 MWh of standalone energy storage projects. The government entity will enter into a long-term agreement with the selected bidders for about 25 years. This is believed to be the largest energy storage tender floated ever in India.

□ Owing to these developments, government policies are expected to be the most significant market drivers in the near future.

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India Battery Energy Storage Systems Market Competitor Analysis

The Indian battery energy storage systems market is consolidated. Some of the key players in this market include Toshiba Corp., AES Corp., Exide Industries Ltd, Delta Electronics Inc., and Amara Raja Group.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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