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Industry Expects Energy Storage to Gain More Ground in 2022

The industry has called for incentives to set up domestic battery manufacturing facilities

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India's renewable energy capacity is growing exponentially, driven by the ambitious target of achieving 500 GW of non-fossil energy capacity by 2030. Energy storage is expected to play a critical role in India reaching the target. Although the energy storage capacity addition has been negligible through 2021, developers believe that the market will take off in 2022 and expect higher storage deployments in the country. According to Mercom India Research, India currently has only 20 MW of installed battery storage capacity, with 1.3 GW of storage capacity is under various stages of development. The Solar Energy Corporation of India (SECI) and NTPC Limited have announced tenders for 4 GWh of standalone battery energy storage capacity, which is yet to be auctioned.



Outlook for 2022

Mercom spoke to executives of storage companies in India to gauge the mood in the market going into 2022.

Harendra Tomar, Lead – Business Development, Sungrow, said, "Considering the progress in 2021, and the Government's intent to develop renewables with storage, 2022 looks promising for energy storage projects. SECI has tendered two major battery energy storage system (BESS) projects and awarded engineering, procurement, and construction (EPC) contracts. A few other hybrid projects with storage were also closed. More projects may progress to the final stage of execution."

Subhamay Ganguly, AGM – Energy Storage and Innovation, Amp Energy India agreed with Tomar. He said 2021 had seen some storage projects taking off. The momentum is likely to sustain in 2022, with some government tenders expected to be bid. Around 2-3 GW of energy storage project tenders floated towards the end of 2021 are expected to progress in 2022.

Recently, Tata Power Solar Systems received the letter of award from SECI to provide EPC services for a 100 MW solar project with 120 MWh BESS.

According to Vivek Bhardwaj, Sales Head of India GoodWe, if the right policies are announced, over 1 GW of decentralized hybrid storage inverters can be installed until 2023.

Manish Kumar, COO – New Energies at Jakson Group, was equally optimistic about the storage market. "India's requirement for battery storage is estimated at 120 GWh by 2030 to support its 500 GW renewable capacity target. Lithium-ion battery technology will drive the growth of stationary storage within BESS over the next ten years. Progress on other battery chemistries like sodium-ion also continues apace."

Anil Bhat, Business CEO – Distributed Generation at Amplus Solar, said energy storage is imperative to achieving scale for India's cost-effective clean energy sector. There is an unprecedented rise in demand for renewables; the industry can offer round-the-clock grid stability if supported by integrated energy storage solutions.

"As a part of its solar Aatmanirbhar (self-reliance) vision, the Government is working towards mainstreaming the energy storage sector. Recently, it sought recommendations for bringing in a comprehensive policy framework for the energy storage sector," he said.

Bhat said the industry is consistently investing in research and development to create technologically advanced storage equipment. Lulu Tu, Brand Manager at Growatt is very optimistic about the energy storage market growth globally and believes that the more mature European and Australian markets would see significant growth in 2022. She suggests that the Indian energy storage market on the other hand needs policy push to help promote it, given the high battery prices.

Storage costs

The high cost of energy storage is one of the primary hurdles for the market's rapid expansion. Stakeholders have mixed opinions about how storage prices would behave in 2022.

Kumar feels that the cost of standalone lithium-ion battery storage systems globally declined from \$1,100/kWh in 2010 to \$200/kWh in 2020. He expects a steep decline in battery prices in the next couple of years with the support of production-linked incentive (PLI) programs for manufacturing Li-ion cells and batteries in India.

Bhat concurred. "With improved adoption of flow batteries like zinc and vanadium, we can expect enhancement of technological efficiencies that reduce storage cost in long-duration applications."

Citing the supply chain disruptions caused due to the global pandemic and trade disputes, Amp Energy's Ganguly debated the lithium-ion battery prices going down anytime soon. He suggested that according to different studies, it is forecasted that the battery storage prices are expected to come down only by 2023.

According to Tomar, it is difficult to forecast the reduction in battery cell costs, which makes up 80-85% of BESS project costs, as there is a big gap in demand and supply globally. "However, if the supply chain achieves stability, a cost reduction may be expected in the near future. Some breakthroughs are expected on the technology and R&D front, which may help cut down the costs; however, it is a time-consuming process."

Industry's expectations

The industry is counting on the Government to provide financial support to domestic battery manufacturing facilities and lower the Goods and Services Tax on batteries, which is 28% currently.

Bhat wants the Government to focus on policies and tax benefits to attract investments into the battery manufacturing sector on the lines of the incentives for the battery ecosystem for electric vehicles. The reduction in GST for batteries could certainly help improve storage projects' viability for commercial and industrial consumers.

Kumar said higher subsidies on energy storage systems that help increase deployments would be welcome.

Regarding the Government's policies for the storage sector, Bhardwaj said, "If the Government passes the Electricity Amendment Bill 2021, it will allow delicensing of the distribution sector, letting private firms enter the distribution sector and compete with distribution companies (DISCOMs). This would give consumers more choices and allow decentralized technologies to take off."

"Unprepared to handle complexity, the Government is giving too much attention to simplistic centralized storage technology compared to the decentralized one. The decentralized storage technology simultaneously allows energy generation and consumption, increasing efficiency and saving India billions by avoiding adding more transmission infrastructure," he added.

Tomar from Sungrow said the Government must support the deployment of more BESS projects to boost the confidence of storage developers and suppliers.

According to Wartsila and KPMG, supply-side flexibility is needed at the pan-India level to integrate the 2030 renewable energy target. The study indicated that by 2030, India would need 38 GW of four-hour battery storage and 9 GW of thermal balancing power projects for cost-efficient and reliable integration of renewables.