Asia Battery Energy Storage Market Opportunity Analysis

Description: Across the world, efforts are underway to improve the way to store and distribute energy, as electricity generation mix is shifting towards more sustainable but intermittent forms of energy generation, such as wind and solar power. The rapid growth in variable renewable energy is catalyzing efforts to modernize the electricity system. At high levels of penetration, variable renewable energy increases the need for resources that contribute to system flexibility. This ensures that system stability is maintained by matching supply and demand of electricity. Battery storage is one of the options for enhancing system flexibility in these circumstances by managing electricity supply fluctuations. Battery storage can also increase local penetration and self-consumption from small solar PV facility installed at commercial facilities and at households.

Asian countries that include some of the highly industrialized and geographically vast sized ones are pushing for massive growth in the electricity generation capacity from renewable sources. Deployments of renewable based power generation projects have gained momentum across the region. The integration of most of those generating facilities with battery based energy storage system has opened the most important market for batteries along with reinforcing the role of renewable energy in electricity generation mix of any country. The massive capacity addition targets in almost all the countries in the region will obviously need more BESS as more such renewable electricity generation facilities will be required to integrate with the electric grid.

The number of grid connected renewable electricity generation plants is increasing exponentially and is projected to increase continuously in at least two decades across the region particularly in China, India, Japan, South Korea and Philippines. As a result the need for frequency regulation in the electric grid to accommodate the intermitted generation from solar or wind power plants will also grow. The current trends of using battery based energy storage have already eliminated the need of having spinning reserves for emergency power backup. Large sized battery energy storage systems are likely to replace a majority of existing spinning reserves in the form of gas or diesel generation sets by 2022 and by 2025 the energy storage systems with the electric utilities will be battery only. Frequency response is likely to represent the largest share of applications of BESSs in terms of storage capacity in the coming years. Grid frequency regulation and renewable integration – these two main areas of applications of BESEs are estimated to occupy more than three-fourth of market leaving the rest for off-grid electricity, residential and electric vehicles.

Four Asian countries - Japan, China, South Korea and Taiwan are already home to several leading battery manufacturers. In fact, some of them are included among the top 10 battery making companies in the world. As per all projections Asian market for battery energy storage systems is going to share the largest segment. At present, the entry of foreign battery suppliers is quite difficult in South Korea, Japan or China due to limited size and presence of large number of domestic suppliers. But as the market is poised to expand substantially more foreign investments are very likely to flow in Asia including these three countries.

Batteries are already facilitating the transition towards a renewables-based power system in islands, rural areas and local households. Various projects across the region have also demonstrated that batteries are capable of supporting such a transition in larger interconnected networks. In order to achieve sustainable growth in Asia that is the home of over 45% of world population, renewable energy is the future. In order to serve renewable energy the purpose for which it is deployed, BESS is as necessary as the generation system. This is going to have a big impact on the electricity generation mix along with opening a new avenue of enormous potential for economic growth.

“Asia Battery Energy Storage Market Opportunity Analysis” Report Highlights:

- Asia Battery Storage Market Analysis by Country
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Research and Markets,
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