

Battery storage: India, China to outpace other Asia-Pacific countries

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The world's top energy guzzlers — India and China — will increase the use of pumped storage solutions in their power mix compared to other Asia-Pacific (APAC) countries such as Japan.

"We expect Australia, China and India will enhance the use of battery storage in their power systems at a faster pace than the other APAC countries," Moody's Investor Service said in a report on Wednesday.

The agency attributed this to the stronger cost competitiveness of solar and wind power with battery storage in those countries than in the other countries, such as Japan, which mainly stems from higher resource quality and economies of scale of solar and



KEY PLAYERS. The edge that countries like India and China have in battery storage is attributed to the strong cost competitiveness of their solar and wind power sectors

wind power projects and lower charging costs.

Moody's pointed out that low-emission, long-duration energy storage is crucial to energy transition. However, most current energy storage options are not economically viable on a large scale. For the time being, long duration storage will likely focus on green hy-

drogen, while battery and pumped storage will provide shorter duration storage.

STORAGE SOLUTIONS

Moody's noted that Australia, China, India, Japan and Korea will continue to invest in hydrogen for more cost efficient production, storage, distribution, trans-

formation and end-use applications.

In addition, Australia, Japan and Korea aim to increasingly use clean hydrogen to generate power and/or form a supply chain to export or import clean hydrogen in the next 5-15 years.

"The use of clean hydrogen in China and India's power systems may take longer, given the presence of cheaper alternative clean power sources. Clean hydrogen is at an earlier stage in ASEAN countries," it added.

Pumped storage, the current main power storage system in APAC, is likely to grow, particularly in China and India. However, pumped storage has limitations because it is dependent on a suitable geography that allows for pumped storage to be built. It is not, therefore, available in all jurisdictions in APAC, even

if they wanted to build it, Moody's pointed out.

China aims to increase pumped storage capacity at a CAGR of around 18 per cent to 120 gigawatts (GW) from 2022 to 2030 under its 'Medium to Long Term Plan for the Development of Pumped Storage (2021-2035)'.

Similarly, India plans to increase pumped storage capacity at a CAGR of around 19 per cent to 27 GW from

2022 to 2032, as per the revised draft National Electricity Plan by the Central Electricity Authority (CEA).

BATTERY STORAGE

The International Energy Agency (IEA) assumes a large capacity expansion of battery storage in the APAC region in the medium and long term.

Under the IEA's assumptions, battery storage in APAC will grow at a com-

pound annual growth rate (CAGR) of 25 per cent (Stated Policy Scenario) to 28 per cent (Announced Pledges Scenario) to 93-242 GW from 2021 to 2030 and by 14-16 per cent to 606-1,845 GW from 2021 to 2050.

For India, it will grow at a CAGR of 112 per cent (STEPS) to 115 per cent (APS) to 34-39GW and 36-38 per cent to 287-417GW during the same period.