

'India's energy demand to triple by 2050'

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THE HINDU BUREAU

With a Gross Domestic Product (GDP) growth of 7% and power demand rising by over 8% this year, India is now the third-largest power market globally, and its energy demand is set to triple by 2050, making it a critical investment destination, Alex Whitworth, Vice President & Head of Asia Pacific Power & Renewables Research, Wood Mackenzie said in a statement.

He was speaking at industry event Renewable Energy India (REI) Expo organised by Informa Markets in India.

"India's role in the global energy transition is becoming increasingly prominent as its economy has overtaken the UK, surpassed France, and is on track to overtake major markets like Germany and Japan within the next five to ten years, he added.

Stating that renewables are expanding rapidly, with over 200 GW of solar and wind capacity expected by 2030, he said India's emergence as the second-largest solar module manufacturer, exporting to key global markets, highlights its potential.

"However, 70% of India's power still comes from coal, with 50 GW of coal and 10 GW of nuclear expected by 2030. In a net-zero scenario, electrification would need to exceed 50%, a crucial focus for India as it balances its development of fossil fuel and electric economies in parallel to meet its growing energy demands," he said.

He said the country must address challenges in energy storage, grid infrastructure, and renewable deployment, while leveraging its domestic market and global partnerships to drive a low-carbon future.

Speaking on the occasion Shantanu Jaiswal, Head of India Research, Bloomberg New Energy Finance (NEF), said the year 2023 marked an unprecedented climate milestone, for the first time, global surface temperatures exceeded 2°C above pre-industrial levels for several days.

“What’s more concerning is that greenhouse gas emissions have not yet peaked, indicating that global temperatures will continue to rise for decades. In response to these challenges, there is a growing global focus on energy transition. India is at the forefront of this transition, with estimates from Bloomberg India suggesting that by 2030, the country will have more solar and wind projects than coal power plants,” he said.

Emphasising that intermittency of renewable energy presents a significant challenge, making battery energy storage systems (BESS) essential for ensuring grid stability and enhancing renewable integration, he said global energy demand is projected to triple, increasing from 1.8 terawatt hours to over 5 terawatt hours by 2050, primarily due to advancements in storage technology.

“Batteries play a crucial role not only in the power sector but also in transportation. India’s electric mobility sector is growing rapidly, with major automakers establishing battery assembly plants and leveraging the Production Linked Incentive (PLI) scheme to create 50 gigawatt hours of battery manufacturing capacity,” he said in a statement.

“Demand for lithium-ion batteries is anticipated to rise from 10 gigawatt hours today to 200 gigawatt hours by 2035, fueled by the electric vehicle market and grid-scale storage needs,” he added.

Yogesh Mudras, Managing Director, Informa Markets in India, said “India’s strides in domestic lithium-ion battery production were particularly noteworthy, with production capacity expected to reach 150 gigawatt hours by 2030, covering 13% of total cell demand.”

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