India's renewable energy capacity reaches 250 GW

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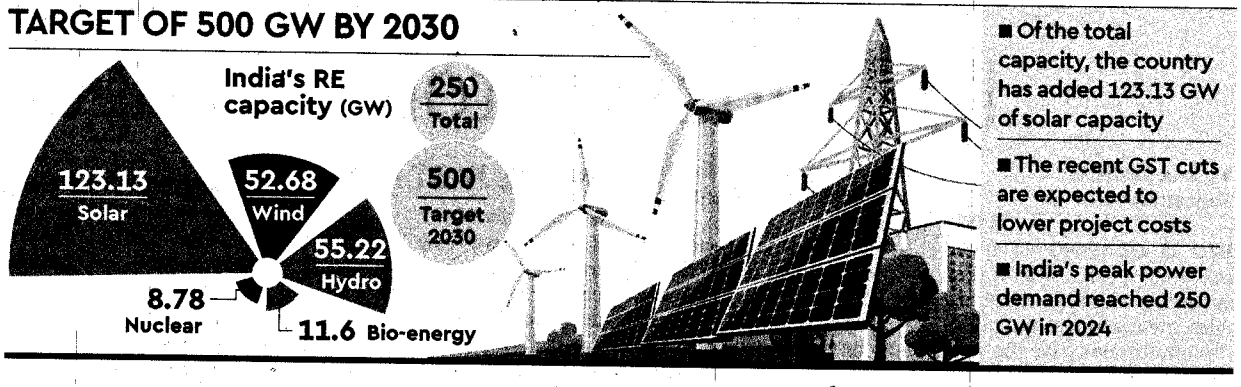

INDIA'S INSTALLED RENEWABLE capacity has reached 250 gigawatt (GW), half of its targeted installed RE capacity of 500 gigawatt (GW) by 2030.

"India has achieved a historic milestone of 250 GW of non-fossil installed capacity, reflecting a decade of unmatched growth under Prime Minister Narendra Modi," Union Minister for New and Renewable Energy Pralhad Joshi said on Wednesday in a post on X. He added that the achievement across solar, wind, hydro, bio-energy, and nuclear power strengthens the country's path to 500 GW by 2030 and positions India as a global leader in clean energy.

Of the total capacity, the country has added 123.13 GW of solar capacity, 52.68 GW of wind power, 55.22 GW of hydro capacity, 11.60 GW of bio-energy, and 8.78 GW of nuclear power.

While the country has substantially increased its non-fossil capacity, experts and the industry player emphasise on the need to enhance energy storage capacity allowing seamless grid integration and tackle the intermittency challenge of green energy.

Deloitte in its earlier report has said that the country will need an investment of around $200-250 billion by 2030 to bridge the gap between its current capacity and the announced target of 500 GW of RE capacity.

The investments will need to cover areas such as advanced manufacturing, grid integration and system expansion.

Furthermore, RE capacity addition will also need to be supported by scaling up energy storage infrastructure by eightfold, necessitating around $250-300 billion in capex by FY30, as per Deloitte.

The report points to a strong investment opportunity in green and biofuels such as bioethanol, Sustainable Aviation Fuels (SAF), methanol, Compressed Biogas (CBG) and green hydrogen.

"Government initiatives such as blending mandates and obligations will require significant capacity expansion, leading to potential investments of around $75–80 billion in biofuels and $90–100 billion in green hydrogen," the report had said.

The recent reduction of GST on renewable energy devices and equipment to a uniform 5% from 12% earlier is expected to lower project costs and accelerate the capacity addition needed to meet India's clean energy targets, as per the industry.

Moreover, a reduced GST may also result in lower tariffs for discoms which may help accelerate the signing of power purchase agreements.

India's peak power demand reached 250 GW in 2024 and is projected to reach 334 GW by 2029-30, with demand rising especially during summer months. To address the growing peak demand in the long run, the Central Electricity Authority estimates the country to have 777 GW of installed power generation capacity by 2030 out of which 62-64% is expected to come from renewable sources and around 36-38% from thermal sources.

"Energy transition for most developed countries involves replacing fossil-fuel based electricity with renewable energy. Because India needs to serve a growing demand for electricity to support its economic growth, its energy transition should be seen in terms of the incremental share of renewable energy in the overall electricity generation mix," Anujesh Dwivedi, partner at Deloitte India has earlier said.