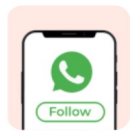


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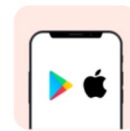
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# India faces energy security challenge amid push for renewables: SBICaj Report

The study sheds light on the energy paradox: while there's a concerted push for renewable energy, the growth in energy demand is outstripping the ability of green energy infrastructure to keep up.



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New Delhi: Amid an unusually intense summer that saw peak energy demand soar to a record 240 GW, India's reliance on thermal power generation plants remains high, highlighting the challenges the country faces in its transition towards green energy, according to a report by SB Capital Markets (SBICaps).

The study sheds light on the energy paradox: while there's a concerted push for renewables, the growth in energy demand is outstripping the ability of green energy infrastructure to keep up. The growth of thermal power facilities is also sluggish, putting energy security and environmental sustainability at odds.

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The report notes a shift in power

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demand seasonality over the past decade. While peak energy supply traditionally occurred in Q4FY, it has now shifted to Q2FY, influenced by changing domestic consumption patterns due to extreme weather events. The aftermath of the COVID-19 pandemic saw an intra-year energy supply variability. Although Q1FY24 energy supply remained consistent year-on-year, Q2FY24 experienced a growth of around 9 per cent. This places an expected plant load factor (PLF) for thermal plants at over 80 per cent by Q4FY25.

Coal supply is another significant concern. Stocks at power generators have been dwindling, particularly at non-pithead plants. This depletion, a result of persistent logistical issues and inadequate domestic production, calls for smoother logistics and bolstered coal mining to reduce reliance on costly imports.

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Gas-based thermal plants, vital during transition and peak demand, remain underutilized. Despite lower gas prices improving the feasibility of these plants, two-thirds of the country's 25 GW gas plants had a PLF below 10 per cent in YTFY24. The solution, SBICaps suggests, lies in increasing gas supply, subsidizing gas during peak times, and ensuring a minimum guaranteed offtake.

The transition to renewables requires close attention. While renewables are expected to supply roughly 50 per cent of electricity demand by FY30, thermal plants are still essential for the balance. One challenge is the ageing infrastructure, with 46 GW of plants over 25 years old. Another is the lack of investments in new plants. Solutions include extending power purchase agreements (PPAs) for existing, efficient producers and allowing transferability of PPAs from old to new plants by the same developer.

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Although the focus remains on peak

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demand solutions, the report emphasizes the crucial role of renewables. To meet the FY30 target, solar capacity growth needs acceleration, and while wind energy projects have a consistent pipeline, they face sectoral delays.

The projected investment requirement for power generation until FY30 is approximately Rs 20 trillion, with a significant portion allocated to renewables. As the grid gets greener, around Rs 5 trillion is expected to be invested in Battery Energy Storage Systems (BESS) and Pumped Storage Projects (PSP) over the next decade.

The report concludes that energy firms are well-placed for this transition, with government reforms ensuring timely payments and introduction of smart meters, and many firms diversifying into renewables to prepare for the future. The pathway to a greener energy landscape in India, SBICaps suggests, will need a strategic approach that includes coal supply improvements, rejuvenating gas-based plants, and ramping up project funding.

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