

INDIAN POWER SECTOR

Demand growth puts focus on new coal-based power projects with 27 GW new capacity announced

November 2024



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Highlights



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Sector witnessed new coal-based power project announcements of 27 GW beyond the under-construction pipeline of 35 GW amid the demand recovery and 80 GW capacity target set by the Government.

Cost of generation for new coal-based power projects is expected to remain above Rs 6.0 per unit amid rising capital costs and also higher-than-average power purchase cost of the state discoms.



- The all-India electricity demand increased at a healthy compounded annual growth rate (CAGR) of 8.4% from FY2022 to FY2024, led by a mix of factors including favourable base in FY2022, healthy economic activity and changes in climatic conditions. While the growth moderated to 5.4% in the first six months of FY2025, ICRA expects it to recover in the 3rd and 4th quarters of the year and end the year with a year-on-year (YoY) growth of 6.0-6.5%.
- The sharp growth in electricity demand necessitated a rethink by the Government on thermal capacity addition. The Government is encouraging investments in new thermal power projects, including by the private sector, with the target of adding 80 GW of new thermal power capacity by 2032. This requires incremental capacity pipeline of 45 GW, beyond the existing under-construction pipeline of 35 GW.
- In line with this, the sector saw new coal-based power project announcements of 27 GW, with expected completion by 2032. Of this capacity, NTPC accounts a major share with 15.2 GW capacity, mainly through brownfield expansion. Adani Power Limited remains the second largest contributor to the pipeline with 9.6 GW under development. Also, there is increased activity in the medium-term PPA bids and a long-term PPA bid awarded by a state discom after a lull of several years.
- The capital cost of coal-based power projects has seen a sharp increase from the level of Rs. 5.0-7.0 crore per MW seen till 2017 to Rs. 8-10 crore per MW for under-construction projects and further to over Rs. 12.0 crore per MW as seen from the capital cost estimates of new projects announced by NTPC. This in turn leads to upward pressure on cost of generation for coal-based power projects. Also, given the execution challenges involved in such large projects, delays beyond the scheduled timelines cannot be ruled out.
- The cost of generation (CoG) from new coal-based power projects is estimated to be over Rs. 6.0 per unit considered the capital cost of Rs. 12.0 crore per MW. Moreover, the average tariffs discovered in the medium-term PPA bids increased from Rs. 3.9 per unit in 2021 to over Rs. 5.0 per unit in 2022 and further to over Rs. 6.0 per unit in 2023 and 2024. This remains higher than the average power purchase cost of the state discoms.
- Overall, while the prospects for new coal-based power projects has improved, the cost of generation from these projects remains relatively high. Also, there are concerns over the adverse impact on the environment. Therefore, prospects for these projects would remain sensitive to the emergence of renewables plus energy storage, apart from demand growth.



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