

# INDIAN POWER SECTOR

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**Power transmission sector to witness  
Rs.3.0 trillion investments by 2030  
driven by integration of renewables**

**FEBRUARY 2024**



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## Highlights

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*Integration of the growing share of renewables with the grid necessitating large investments in the power transmission sector.*

*Implementation delays remain a key risk for power transmission projects with median delays of over eight months observed for projects awarded through the bidding route.*



- The power transmission sector witnessed a healthy growth over the past 10 years with the addition of new transmission lines and transformation capacity, at a CAGR of 5.3% and 9.0%, respectively. This is in line with the growth in the installed generation capacity and electricity demand. In ICRA's assessment, the sector's growth prospects are strong considering the integration of renewables (RE) with the grid amid growing share in the overall generation and the healthy growth in the electricity demand.
- The Government of India (GoI) set a target to achieve 500-GW non-fossil fuel capacity by FY2030, necessitating the need to augment transmission infrastructure to evacuate the power generated. ICRA estimates the installed generation capacity to increase to 670 GW by March 2030 from 416 GW as of March 2023, with the non-fossil capacity increasing to ~400 GW by 2030. While ICRA's estimated capacity is lower than the GoI's target, the capex requirement in transmission infrastructure would remain large.
- The National Tariff Policy notified by the GoI in Jan '06 opened up the power transmission segment for private sector participation through tariff-based competitive bidding (TBCB). While the adoption of the bidding process remained slow in the initial years, the same has improved since 2011, with 128 projects awarded so far, with most of them in the inter-state segment.
- Power transmission projects face execution risks mainly owing to delays in acquiring right of way and forest clearances. The projects awarded by the Central nodal agencies through the TBCB route have faced delays in execution, with only 14% of these commissioned within the scheduled timeline and the balance witnessing delays varying from two months to three years. The extent of the delay remains largely in the 6-12 months range, with the median delay of over eight months.
- ICRA expects the capital investments in the power transmission segment to remain large at Rs. 3.0 trillion over the period from FY2024 to FY2030. This would be mainly towards setting up evacuation infrastructure for upcoming RE projects and to improve network reliability amid growing demand. An increase of intra-state network would be required to meet the growing demand and to improve the network reliability, while the inter-state network is required for transfer of surplus capacity from one region to another.



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