

# INDIAN POWER SECTOR

---

**Annual transmission line addition of  
20,000 cKM required till 2030 for  
renewable integration**

**JANUARY 2025**



## 1 Highlights



## 2 Trends in Transmission Capacity



## 3 Transmission Capacity Requirements



## 4 Progress in Tendering and Execution Challenges



## 5 Counterparty Credit Risk



## 6 Performance Trends for Key Players



## 7 Outlook



## 8 Rating Trends





## Highlights

---



[Click to see full report](#)

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

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



- The power transmission sector has witnessed healthy growth over the past 10 years, with the addition of new transmission lines and transformation capacity at a CAGR of 5.2% and 9.0%, respectively. This growth aligns with the increase in installed generation capacity and electricity demand. In ICRA's assessment, the sector's growth prospects remain strong, driven by the integration of renewables (RE) into the grid amid its rising share in the overall generation, coupled with a healthy growth in electricity demand.



- The National Electricity Plan (NEP), notified by the Government of India (GoI) for the power transmission segment proposes to raise the transmission line length from 486 [1000 circuit kilo metres (ckm)] as of March 2024 to 648 (1000 ckm) by March 2032, and the substation capacity from 1,218 GVA as of March 2024 to 2,345 GVA by March 2032. The inter-regional transmission capacity is expected to rise to 168 GW by March 2032 from 119 GW as of March 2024. This expansion aims to integrate over 600 GW of RE capacity by 2032.



- The progress in transmission capacity addition has remained lower over the past three years compared to the period until 2019. The annual line addition stood at 14,000-15,000 cKM for FY2022-2024 over 20,000 cKM prior to 2020. This slowdown is due to project awards decline over 2020-22 and execution challenges. Nonetheless, the pick-up in project awards over the past 30 months is expected to scale up execution.



- Power transmission projects face execution risks, mainly due to delays in acquiring the right of way (RoW) and forest clearances. Projects awarded by Central nodal agencies through the tariff based competitive bidding (TBCB) route have faced execution delays, with only 16% commissioned within the scheduled timeline. The remaining projects faced delays ranging from two months to three years, with the majority experiencing delays of 6-12 months and a median delay of over seven months.



- ICRA expects the transmission line length to increase to 600 (1000 cKM) by March 2030, entailing an annual addition of 19,000-20,000 cKM. Also, the substation capacity is projected to increase to 1,850 GVA as of March 2030, necessitating an annual addition of 100 GVA against average addition of ~70 GVA over the past few years. Investments of Rs. 4.5 trillion are required to achieve the target over FY2025-FY2030. Such significant scale-up in capacity addition requires the need to address challenges related to RoW and clearances effectively.



ICRA

# Analytical Contact Details

Name	Designation	Email	Contact Number
Girishkumar Kadam	Senior Vice-President & Group Head	<a href="mailto:girishkumar@icraindia.com">girishkumar@icraindia.com</a>	022 – 6169 3441
Vikram V	Vice-President & Co-Group Head	<a href="mailto:vikram.v@icraindia.com">vikram.v@icraindia.com</a>	040 – 6939 6410
Ritabrata Ghosh	Vice-President & Sector Head	<a href="mailto:ritabrata.ghosh@icraindia.com">ritabrata.ghosh@icraindia.com</a>	030 – 6521 6813
Asmita Pant	Assistant Vice President	<a href="mailto:asmita.pant@icraindia.com">asmita.pant@icraindia.com</a>	0124 – 4545 846





ICRA

# Business Development/Media Contact Details

Name	Designation	Email	Contact Number
L Shivakumar	Chief Business Officer	<a href="mailto:shivakumar@icraindia.com">shivakumar@icraindia.com</a>	022-61693304
Neha Agarwal	Head – Research Sales	<a href="mailto:neha.agarwal@icraindia.com">neha.agarwal@icraindia.com</a>	022-61693338
Rohit Gupta	Head Business Development – Infrastructure Sector	<a href="mailto:rohitg@icraindia.com">rohitg@icraindia.com</a>	0124-4545340
Vivek Bhalla	Head Business Development – Financial Sector	<a href="mailto:vivek.bhalla@icraindia.com">vivek.bhalla@icraindia.com</a>	022-61693372
Vinita Baid	Head Business Development – Corporate Sector - West & East	<a href="mailto:vinita.baid@icraindia.com">vinita.baid@icraindia.com</a>	033-71501131
Shivam Bhatia	Head Business Development – Corporate Sector - North & South	<a href="mailto:shivam.bhatia@icraindia.com">shivam.bhatia@icraindia.com</a>	0124-4545803
Naznin Prodhani	Head – Group Corporate Communications & Media Relations	<a href="mailto:communications@icraindia.com">communications@icraindia.com</a>	0124-4545860





***© Copyright, 2025 ICRA Limited. All Rights Reserved.***

All information contained herein has been obtained by ICRA from sources believed by it to be accurate and reliable. Although reasonable care has been taken to ensure that the information herein is true, such information is provided 'as is' without any warranty of any kind, and ICRA in particular, makes no representation or warranty, express or implied, as to the accuracy, timeliness or completeness of any such information. Also, ICRA or any of its group companies, while publishing or otherwise disseminating other reports may have presented data, analyses and/or opinions that may be inconsistent with the data, analyses and/or opinions in this publication. All information contained herein must be construed solely as statements of opinion, and ICRA shall not be liable for any losses incurred by users from any use of this publication or its contents.





ICRA

**Thank You!**