

POWER TRANSMISSION IN INDIA 2020

Sector Analysis, Recent Developments, Project Pipeline and Outlook

- ❖ Report (PDF)
- ❖ Data-set (Excel)

The report will help you:

- ❖ Gain insights into the recent trends and developments
- ❖ Evaluate utility performances and learn about their technology initiatives
- ❖ Learn about major programmes such as GEC, IR 41k and cross-border interconnections
- ❖ Analyse utilities' plans for network expansion and investments
- ❖ Assess private sector experience
- ❖ Identify opportunities for both developers and suppliers

India's power grid is transforming at an exceptional rate. Large-scale integration of renewable energy to catering to new demand loads and provide reliable electricity is motivating transmission utilities to redesign their grid strategies. It is estimated that an investment of Rs 2.6 trillion is required in the transmission sector by 2021-22. While most of the future investment will be for the expansion of physical grid infrastructure, utilities are expected to invest significant sums in new technologies to make grids more reliable, resilient, secure and smart. Competitive bidding has picked up at both interstate and intra-state levels, thus offering significant opportunities for the private sector. The sector is also expected to immensely benefit from major policy and regulatory reforms such as the new tariff regulations and early regulatory approvals to transmission schemes.

1. Executive Summary

SECTION I: MARKET TRENDS AND DEVELOPMENTS

2. Sector Size and Growth

- ❖ Growth in Transmission Line Length
- ❖ Growth in Transmission Transformer Capacity
- ❖ Trends in Substation Additions
- ❖ Growth in Interregional Transfer Capacity
- ❖ Growth in Transmission against Generation Capacity
- ❖ Growth in Total Transfer Capacity
- ❖ Trends in Network Reliability
- ❖ Ancillary Services Operations
- ❖ Trends in Sector Investments
- ❖ Key Issues and Challenges

3. Recent Developments

- ❖ Key Commissioned Projects
- ❖ TBCB Projects Secured in the Past Year
- ❖ Changing Dynamics of the Private Transmission Sector
- ❖ M&A Deals in the Operator, EPC and Supplier Space
- ❖ Key Loans and Financing Deals
- ❖ Update on Smart Grid Projects
- ❖ Technology Advancements
- ❖ Grid Integration with Neighbouring Countries
- ❖ Telecom Opportunities for Transmission Operators
- ❖ Status of India's First Offshore Wind and Grid Integration Project
- ❖ Others (Powergrid's Maharatna status, international projects won, etc)

4. Policy and Regulatory Initiatives

- ❖ Reconstitution of National Committee on Transmission
- ❖ Early Regulatory Approval to Transmission Schemes
- ❖ National Open Access Registry
- ❖ CERC Tariff Regulations for 2019-24
- ❖ EV Charging Infrastructure-related Policy Updates
- ❖ CERC Order on AGC Implementation
- ❖ CERC's DSM (Fifth Amendment) Regulations
- ❖ CERC's Power System Development Fund Regulations
- ❖ CERC's Sharing of Inter-State Transmission Charges and Losses Regulations
- ❖ CERC's (Sharing of Revenue Derived from Utilisation of Transmission Assets for Other business) Regulations
- ❖ SAMAST Implementation
- ❖ Others (FRAS, Proposed framework for Real-Time Market for Electricity, etc)

5. Network Growth and Investments (till 2024-25)

- ❖ Growth Drivers
- ❖ Projected Line Length
- ❖ Projected Transformer Capacity
- ❖ Projected Substation Additions
- ❖ Expansion in Interregional Transfer Capacity
- ❖ Investment Projections
- ❖ TBCB Opportunities
- ❖ Issues and Concerns
- ❖ Future Outlook

6. Project Pipeline (till 2024-25)

- ❖ Overall Pipeline
- ❖ Interstate Projects
- ❖ Line Length (by voltage and utility)
- ❖ Transformer Capacity (by voltage and utility)
- ❖ Intra-state Projects
- ❖ Line Length (by voltage and utility)
- ❖ Transformer Capacity (by voltage and utility)

7. Forecasted Equipment Demand (till 2024-25)

- ❖ New and Emerging Technology Trends
- ❖ Projected Requirements
- ❖ Conductors
- ❖ Towers
- ❖ Transformers
- ❖ Switchgear
- ❖ Reactive Power Equipment

8. Private Sector Experience: Project Development and Financing

- ❖ Private Participation Experience so far
- ❖ TBCB Update
- ❖ Status of Projects awarded through TBCB (interstate and intrastate)
- ❖ Analysis of Recent Bids
- ❖ Projects Under Bidding
- ❖ New Projects Identified for Bidding
- ❖ Projects Developed under JVs
- ❖ New and Emerging Players
- ❖ Financing Models for Project Development and Operation
- ❖ Issues and Concerns

9. Analysis of Transmission Tariffs

- ❖ PoC Methodology and Charges
- ❖ Interstate Transmission Tariffs
- ❖ Intra-state Transmission Tariffs (Long-term and STOA)
- ❖ SLDC Charges

SECTION II: UTILITY PERFORMANCE AND INITIATIVES**10. Growth in Network and Capacity**

- ❖ Transmission Line Length
- ❖ Transformer Capacity
- ❖ Number of Substations

11. Operational Performance

- ❖ Transmission Line Length
- ❖ Transformer Capacity
- ❖ Number of Substations
- ❖ Transmission Losses
- ❖ System Availability

12. Financial Performance

- ❖ Trend in Utility-wise Revenues
- ❖ Trend in Utility-wise Expenditure
- ❖ Net Profits
- ❖ O&M Costs
- ❖ Capital Expenditure Trends

13. Grid Modernisation Initiatives and Programmes

- ❖ Substation Digitilisation and Automation
- ❖ Advanced Communication Infrastructure
- ❖ Robotics and Aerial Technologies
- ❖ Others

SECTION III: GRID EXPANSION AND REGIONAL INTEGRATION**14. Renewable Energy Integration and Management**

- ❖ RE Growth So far
- ❖ Expected Penetration of Renewables
- ❖ Transmission Infrastructure Supporting RE
- ❖ Green Energy Corridors I and II
- ❖ Transmission Scheme for RE Zones by 2022
- ❖ REMCs
- ❖ Battery Energy Storage Systems
- ❖ Issues in Renewables Integration
- ❖ Outlook

15. Cross-border Interconnections

- ❖ Overview
- ❖ Current Transmission Links with Neighbouring Countries
- ❖ Recent Developments
- ❖ Interconnections under Implementation
- ❖ Planned Transmission Links
- ❖ Issues and Concerns
- ❖ The Way Forward

16. IR Plans for Transmission

- ❖ IR's mission electrification
- ❖ Overview of 41k initiative
- ❖ Planned Additions in Transmission Network
- ❖ Issues and Challenges
- ❖ The Way forward

SECTION IV: TRANSMISSION UTILITY PROFILES**17. Profiles of CTUs**

- ❖ Power Grid Corporation of India Limited
- ❖ Damodar Valley Corporation
- ❖ Bhakra Beas Management Board

18. Profiles of STUs

- ❖ GETCO
- ❖ MSETCL
- ❖ RRVPNL
- ❖ UPPTCL
- ❖ KPTCL
- ❖ TANTRANSCO
- ❖ MPPTCL
- ❖ APTRANSCO
- ❖ TSTransco
- ❖ HVPNL
- ❖ WBSSETCL
- ❖ OPTCL
- ❖ BSPTCL
- ❖ CSPTCL
- ❖ PSTCL
- ❖ KESBL
- ❖ AEGCL
- ❖ JUSNL
- ❖ JKPDD
- ❖ PTCUL
- ❖ MePTCL
- ❖ TSECL
- ❖ DTL
- ❖ HPPTCL

19. Profiles of Private Utilities

- ❖ Sterlite Power Transmission Limited
- ❖ Adani Transmission Limited
- ❖ Essel Infraprojects
- ❖ Kalpataru Power Transmission
- ❖ L&T Infrastructure Projects
- ❖ Essar Power Transmission
- ❖ CLP India
- ❖ Sekura Energy
- ❖ Others

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