India Power Grid Market Size and Share - Outlook Report, Forecast Trends and Growth Analysis (2025-2034)

Market Report | 2025-10-09 | 129 pages | EMR Inc.

AVAILABLE LICENSES:

- Single User License $3599.00
- Five User License $4249.00
- Corporate License $5099.00

Report description:

The India power grid market attained a value of USD 11.04 Billion in 2024 and is projected to expand at a CAGR of around 5.90% through 2034 . Grid modernisation projects under the RDSS and Green Energy Corridor Phase-II central schemes facilitate growth through an increasing number of initiatives. During the period from April 2024 to March 2025, India received clean grid investments exceeding USD 4 billion which specifically supported inter-state transmission systems (ISTS). Furthermore, the development of electric vehicle charging stations together with rural electrification projects creates additional requirements for dependable and expandable electricity distribution systems. These investments align with India's energy transition targets and ensure grid resilience amid rising renewable penetration, propelling the market to achieve USD 19.59 Billion by 2034 .

The market is currently transforming due to the government's dedication to energy security, decarbonisation and digitalisation. The country aims to achieve 500 GW of non-fossil fuel capacity by 2030 which drives substantial modernisation of power grid infrastructure. The Indian power system reached a demand of 243 GW in 2024 with a projected annual growth rate of 6% which demands an adaptable and intelligent power grid, thereby boosting the India power grid market expansion.

The implementation of smart grid projects through substantial financial backing enables the market to expand. The Ministry of Power released INR 3,970 crore in March 2025 through the Revamped Distribution Sector Scheme (RDSS) to support grid modernisation projects in Maharashtra and Tamil Nadu. The implementation of automation systems alongside real-time monitoring and advanced metering infrastructure (AMI) enhances the digital grid capabilities during these programmes.

The introduction of distributed energy resources (DERs) including rooftop solar and battery energy storage systems (BESS) drives innovative changes, reshaping the India power grid market dynamics. Power utilities across states deployed advanced control systems and flexible distribution solutions as state grids had integrated more than 4.6 GW of rooftop solar capacity by mid-2025. The integration of renewable-heavy and distributed energy systems into India's transmission and distribution networks creates a future-ready power grid landscape.

India Power Grid Market Report Summary

Description	Value
Base Year	
USD Billion	
2024	
Historical Period	
USD Billion	
2018-2024	
Forecast Period	
USD Billion	
2025-2034	
Market Size 2024	
USD Billion	
11.04	
Market Size 2034	
USD Billion	
19.59	
CAGR 2018-2024	
Percentage	
XX%	
CAGR 2025-2034	
Percentage	

5.90%

CAGR 2025-2034 - Market by Region

South India

6.5%

CAGR 2025-2034 - Market by Region

East India

6.3%

CAGR 2025-2034 - Market by Power Source

Renewable

7.8%

CAGR 2025-2034 - Market by Application

Distribution

6.6%

2024 Market Share by Region

North India

27.2%

Key Trends and Recent Developments

April 2025

PURE unveiled PuREPower Grid, a 5 MWh battery energy storage system designed to enhance grid stability and support renewable energy integration. The containerised solution features high-density batteries, advanced power electronics, and AI-powered cloud monitoring. This launch supports the India power grid market value by bolstering grid resilience and facilitating higher renewable energy penetration.

March 2025

Damodar Valley Corporation (DVC) initiated an INR 1,500 crore project to modernise its power distribution network across West Bengal and Jharkhand. The initiative aims to ensure 24/7 quality power supply and reduce aggregate technical and commercial (AT&C) losses. DVC's INR 1,500 crore grid modernisation project strengthens regional distribution efficiency and reliability, contributing to India's broader smart grid transformation.

March 2025

Powergrid Corporation of India launched a smart meter training programme under the Revamped Distribution Sector Scheme (RDSS) to empower youth with self-reliance, confidence, and economic independence through sustainable income opportunities. Powergrid Corporation's smart meter training under RDSS nurtures a skilled workforce pipeline essential for scaling intelligent grid infrastructure across India.

January 2025

Hartek Power secured an INR 117 crore order from Power Grid Corporation of India for a substation extension project. The contract includes GIS bays, transformer bays, and associated works to enhance grid infrastructure and transmission reliability. Hartek Power's substation expansion contract enhances transmission capacity and operational stability in India's power grid network.

Government-backed Grid Modernisation Schemes

The national distribution network is currently undergoing a major transformation because of the Revamped Distribution Sector Scheme which received a total investment of INR 3.03 lakh crore. The approval by 20 Indian states in March 2025 for the installation of smart meters and feeder separation marks a significant achievement. The operational efficiency of power systems in Gujarat and Kerala shows improvement through their implementation of real-time SCADA systems and digital substations. The initiatives to reduce aggregate technical and commercial (AT&C) losses while increasing power availability directly result in heightened grid infrastructure demand, thus promoting the India power grid market development.

Rising Renewable Energy Integration

With renewable sources contributing over 43% of India's installed capacity in 2025, players are under pressure to accommodate variability. The Green Energy Corridor Phase-II, worth INR 12,031 crore, targets seamless integration of 20 GW of renewable energy by 2026. In Rajasthan and Tamil Nadu, advanced STATCOMs and synchronous condensers are being deployed to enhance grid stability. This shift in the India power grid market necessitates robust transmission upgrades and flexible grid technologies, creating new opportunities for OEMs and EPC players.

Digitalization and Smart Grid Technologies

Indian utility companies have started implementing digital technologies which include artificial intelligence (AI) based grid analytics and automated metering infrastructure (AMI) along with remote fault detection systems. Tata Power established India's first AI-based grid operation centre in Delhi during January 2025 to optimise load distribution and reduce power outage times. The utility sector is testing digital twin technology to build real-time simulations of grid behaviour. The technology-first approach delivers improved operational reliability and efficiency together with next-generation maintenance forecasting capabilities for transmission lines and distribution networks. Such factors are primarily shaping new trends in the India power grid market.

Private Sector Participation and PPPs

Power sector liberalisation has triggered substantial private funding for the industry. Through the tariff-based competitive bidding process companies like Adani Transmission and Sterlite Power have won significant ISTS projects. Sterlite Power secured a 1300-crore contract for the Odisha Intra-State Grid project during March 2025. The active involvement of private companies leads to new innovative solutions which speed up projects while decreasing financial stress on public DISCOMs, thus broadening the India power grid market scope, with large grid capacity development.

EV Infrastructure Expansion Fuelling Grid Demand

India's EV stock is projected to exceed 3 million units by 2026. This surge is compelling utilities to augment grid capacity and introduce smart load management systems. For example, the substations launched by Delhi Transco Ltd focuses solely on charging electric vehicles. The grid operators are studying the implementation of Vehicle-to-Grid (V2G) integration models and time-of-use (ToU) tariffs to help them control peak load periods. The need to implement distribution grid upgrades together with software platform enhancements and advanced power electronics continues to gain speed.

India Power Grid Industry Segmentation

The EMR's report titled "India Power Grid Market Report and Forecast 2025-2034? offers a detailed analysis of the market based on the following segments:

Market Breakup by Component

? Variable Speed Drives
? Transformers
? Cables
? Switchgears
? Others

Key Insight: In the component category, switchgears are currently dominating the market as they are essential for power system protection, control, and fault isolation. Increasing demand is being observed in the country due to the substation upgrades under schemes like RDSS and GEC-II. The grid integration of renewables in India also requires modern switchgears for load management and safety especially in urban and industrial areas. Modern switchgear technologies comprising GIS and AIS systems are well adopted in both transmission and distribution networks, thereby contributing to the India power grid market growth.

Market Breakup by Power Source

? Oil
? Natural Gas
? Coal
? Renewable
? Hydroelectric
? Others

Key Insight: Renewable energy leads the energy source category in India, driven by the nation's target of achieving 500 GW of non-fossil capacity by 2030. To support the integration of solar and wind power into the grid, the country is upgrading its transmission infrastructure through smart grid initiatives. Programmes like Green Energy Corridor (GEC) Phase II are specifically designed to facilitate the evacuation of renewable energy. Additionally, the growing demand from green hydrogen projects and solar parks is accelerating grid infrastructure needs, reinforcing renewable energy's central role in shaping grid investments and advancing the India power grid market.

Market Breakup by Application

? Generation

? Transmission
? Distribution

Key Insight: By application, transmission has the biggest impact on the power grid market, with the majority of investments going into interstate and intra-state transmission systems. ISTS and HVDC corridors help make the grid more stable and move renewable energy between regions. The focus on better long-distance power transmission to support industry and cities especially in growing economic areas, has led to steady growth. Smart transmission with live monitoring and automatic controls has become the norm, which further supports its dominance in the India power grid market share.

Market Breakup by Region

? North India
? East India
? South India
? West India

Key Insight: North India leads the market with high energy demand, dense urbanisation, and robust industrial presence. Places like Delhi, Haryana, and Uttar Pradesh have made big changes to modernise their grids, including SCADA upgrades and putting cables underground as part of RDSS, thus boosting the India power grid demand. Companies are working hard to add more renewable energy and expand transmission lines to handle higher peak loads. The government keeps funding smart grid projects and city connections to improve infrastructure keeping North India at the top of grid development.

India Power Grid Market Share

Switchgears Enable Efficient Grid Safety and Are Essential in Power Infrastructure

The extensive usage of switchgears in substations together with industrial plants makes them the dominant system for power distribution. Transmission and distribution networks depend heavily on these components which fulfil essential functions such as circuit protection and load distribution and isolation. The continuous development of smart substations alongside grid automation and urban electrical infrastructure expansion ensures consistent high-voltage network switchgear requirements in India. Their combination of reliability and safety features supports the current grid modernisation programmes that address energy security concerns among utility companies and industrial organisations, thus bolstering the growth of the India power grid market.

The highest growth rate among all components belongs to variable speed drives as they improve both energy performance and motor management. The combination of rising industrial automation with energy-saving mandates from governments has led to increased VSD implementation across manufacturing facilities, water treatment plants and HVAC installations. The operational cost reductions and carbon emission minimisation abilities of these systems align with the sustainability targets, aligning with the India power grid market trends. Smart energy systems benefit from rapid market expansion through their digital and IoT integration capabilities.

Renewable Energy Dominates the Market Backed by Solar-Wind Expansion

Renewable energy occupies a substantial share of the India power grid market revenue, as a power source due to aggressive national targets and favourable policies like GEC-II. In March 2025, the Ministry of Power announced the commissioning of the largest smart grid project in Rajasthan's solar park region, enhancing grid stability and renewable integration. Nationwide efforts include subsidies and open access policies backed by international funding, reinforcing renewables' leadership in India's energy transition. The development of solar and wind projects on a large scale depends on building strong transmission networks since

these developments directly influence grid investment requirements. The Indian government backs the move from fossil fuels to renewable sources through subsidies and open access policies together with worldwide funding which enhances renewables' grid leadership position in India's energy transition plans.

The country has experienced rapid growth in natural gas power generation due to its commitment to minimise thermal power emissions while maintaining electricity reliability, thus boosting the demand in the India power grid market. In January 2025, the Petroleum Ministry expanded city gas distribution to 75 cities under the CGD network scheme. Combined-cycle plants using natural gas provide flexible, efficient power that complements renewables by balancing supply fluctuations, meeting emission standards, and supporting India's clean energy goals. The government's efforts to expand city gas distribution networks and liquefied natural gas facilities play a key role in driving gas adoption. The combination of emission reduction benefits with quick start-up capabilities and enhanced power plant efficiency makes gas-based power systems the best choice for emission standards compliance and energy shift requirements.

Transmission Leads with Long-distance power flows and high-voltage grid growth

Transmission holds the dominant position in the market as India invests heavily in expanding interregional and renewable evacuation infrastructure. The increasing power requirements alongside variable renewable outputs require robust transmission systems to deliver load balancing services with improved reliability. Interstate power transmission systems benefit from ultra-high voltage AC/DC technology along with real-time monitoring features and automation capabilities. The development of key infrastructure projects focuses on uniting distant power production sites with end-use locations which establishes transmission as the leading technological solution for this area.

As per the India power grid market report, distribution is growing rapidly as demand for electricity in semi-urban and rural India accelerates. Government schemes like RDSS and Saubhagya have increased last-mile connectivity, improving access and network quality. Modernisation through smart meters, underground cabling, and real-time monitoring tools is transforming the distribution sector. The rise of electric vehicles, rooftop solar, and prosumers necessitates smarter, more responsive distribution grids, making this category a critical focus of utilities and technology providers.

India Power Grid Market Regional Analysis

2024 Market Share by

Region

North India

27.2%

South India

XX%

East India

XX%

West India

XX%

North India leads power grid growth with major upgrades and renewable integration.

North India continues to dominate the market, backed by high transmission infrastructure, high population concentrations, and huge industrial load. Uttar Pradesh and Delhi have witnessed substantial investments under RDSS and GEC-II, with a focus on SCADA systems and underground cables. Haryana's recently sanctioned INR 2,100 crore transmission upgrade in 2025 is linking urban load centres with RE sources. The region's dominance is also backed by increased access to huge thermal generation and hydropower assets, thereby augmenting the India power grid market revenue growth.

On the other hand, South India emerges as a high-potential region for power grids. Karnataka and Tamil Nadu are rapidly adopting renewables, driven by adaptive grid infrastructure. Andhra Pradesh's Energy Storage Roadmap and Kerala's smart city plans are leading grid digitalisation innovations. The southern region has witnessed more than INR 6,800 crore of ISTS investment commitments in FY 2024-25. DER penetration, urban electrification, and industrial corridors such as Bengaluru-Hosur are driving steady demand for adaptive grid systems.

Competitive Landscape

The industry has a robust blend of government ownership and growing intervention of private firms. The Power Grid Corporation of India Ltd. is the largest India power grid market player, managing over 1,75,000 kilometres of transmission lines. Private firms like Adani Transmission and Sterlite Power are, however, employing competitive bidding to establish their business. These players are focusing on smart grid links, green energy avenues, and cross-border transmission corridors._x000D_
_x000D_
India power grid companies like Siemens and GE are collaborating with the Indian utility sector for the digitalisation and automation of substations. Firms such as Schneider Electric are introducing AI-based grid management systems that are suitable for urban and rural India. Public-private partnerships (PPPs) are assisting DISCOMs in the implementation of new technology at affordable rates. Emphasis on local manufacturing with the ?Make in India' initiative and the support of the National Smart Grid Mission (NSGM) are boosting competition in the market.

Power Grid Corporation of India Ltd.

Power Grid Corporation of India Ltd. specialises in India's transmission systems. It operates critical Inter-State Transmission System (ISTS) projects and sophisticated substations. It was established in 1989 and is headquartered in Gurugram. It aims at developing a better Indian electricity grid.

Schneider Electric SE

Schneider Electric SE, founded in 1836 and headquartered in France, offers advanced grid automation, advanced metering infrastructure (AMI), and digital substation technologies. These solutions play a key role in supporting India's smart grid and industrial energy transformation efforts.

GE Power India Limited

GE Power India Limited operates to deliver high-voltage transmission equipment, digital protection, and grid monitoring solutions. It began operations in 1911, and its Noida plant helps India transition to smart and efficient power systems.

Siemens Aktiengesellschaft

Siemens Aktiengesellschaft designs innovative HVDC systems, grid-edge solutions, and SCADA software for India's utility industry. Established in 1847, the Munich-based company contributes significantly to grid stability and renewable integration.

Other key players in the India power grid market report include Hitachi Energy Ltd, Eaton, ABB Ltd, and Toshiba Transmission & Distribution Systems (India) Pvt. Ltd, among others.

Key Highlights of the India Power Grid Market Report:

? Grid load expansion and capacity enhancement trends thoroughly mapped through 2034.
? Evaluation of smart grid innovations, like digital substations, AI-based load forecasting, and grid-scale BESS (battery energy storage systems).
? Detailed profiling of public sector entities, private EPC firms, and global technology vendors driving transmission growth.
? Zonal analysis revealing infrastructure gaps and modernisation priorities across North-Eastern and rural Western corridors.
? Commercially relevant insights into policy support, PPP models, and inter-state transmission system (ISTS) expansions.
? Investment flow patterns analysed in sync with green energy integration mandates and cross-border transmission initiatives.

Why Rely on Expert Market Research?

? Sector-focused analysts with grounded understanding of India's power infrastructure and energy policy framework.
? Actionable insights drawn from regulatory filings, DISCOM trends, grid operators, and EPC project pipelines.
? Custom modelling to project CAPEX cycles, demand-supply shifts, and tech implementation timelines.
? Credible intelligence blending macro-level electrification goals with asset-level implementation strategies.
? Deliverables tailored for utilities, grid tech OEMs, policy advisors, and infrastructure investors.

Call to Action

Explore the latest trends shaping the India power grid market 2025-2034 with our in-depth report. Gain strategic insights, future forecasts, and key market developments that can help you stay competitive. Download a free sample report or contact our team for customised consultation on India power grid market trends 2025 .

Table of Contents:

9.5.9 Others

India Power Grid Market Size and Share - Outlook Report, Forecast Trends and Growth Analysis (2025-2034)

Market Report | 2025-10-09 | 129 pages | EMR Inc.

To place an Order with Scotts International:

- - Print this form
- - Complete the relevant blank fields and sign
- - Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User License	$3599.00
	Five User License	$4249.00
	Corporate License	$5099.00
	VAT	
	Total	

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*		Phone*	
First Name*		Last Name*	
Job title*			
Company Name*		EU Vat / Tax ID / NIP number*	
Address*		City*	
Zip Code*		Country*	
		Date	2026-02-18
		Signature