



पावरग्रिड

Power Grid Corporation of India Limited
(A Government of India Enterprise)

2015-17 SUSTAINABILITY REPORT

POWERGRID

‘One Nation’ - ‘One Grid’ - ‘One Frequency’



Vision

World Class, Integrated, Global Transmission Company with
Dominant Leadership in Emerging Power Markets Ensuring
Reliability, Safety and Economy

About the Report

This 5th Sustainability Report is for the period 2015-17. The previous report was for the period 2013-15, disclosed in January 2018. Our reporting cycle is biennial. The report has been prepared in accordance with GRI-G4 guidelines (Core).

Reporting Parameters

This report presents our approach towards Social, Environmental and Economic responsibilities and the progress made in the reporting period 2015-17 ending March 2017. It is recommended that this report may be read in conjunction with POWERGRID's Annual Reports.

The Joint Venture companies, supply chain have been excluded from the reporting boundary. Our fully-owned subsidiary company, Power System Operation Corporation Limited (POSOCO) has been included for FY 2015-16. Data for POSOCO has not been included for FY 2016-17, as it was hived off into a separate independent company. Wherever we don't have sufficient data capturing systems, computation has been done on the basis of standard assumptions. Required indication of the procedure/ system of data collection has been given at appropriate places in the Environment, Economic & Social disclosures.

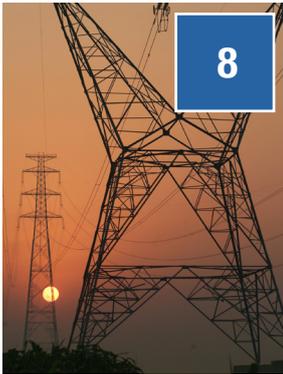
There is no restatement from the last reporting period and the reporting boundary is maintained.

The report details the key material topics for POWERGRID and approach towards addressing each one of them. The report has been created in alignment with relevant Electric Utilities Sector Supplement and in accordance with GRI-G4 Guidelines (Core). The information/ data has been gathered from reliable sources like inventories, log books, other records, etc. International Standards like AccountAbility, UK Standard 'AA1000 AP(2018)' and 'AA1000 SES (2015)' have been followed to make the process inclusive, responsive and focused on material/ significant aspects. The report has been externally assured by accredited assurance provider M/s Intertek India Private Limited.

The Sustainability Report from POWERGRID will be released on a regular basis. We welcome any feedback on our approach to sustainability and on our report. You could write in with such feedback or communication to: esmd@powergrid.co.in

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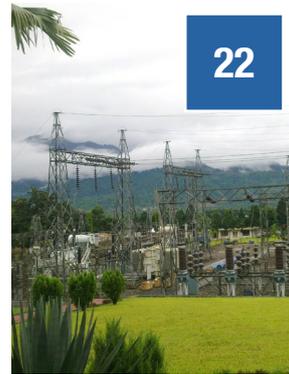
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From the desk of CMD

Two recent major initiatives of the United Nations – introduction of 17 Sustainable Development Goals (SDGs), and the landmark UN Paris Agreement setting a clear direction for a low-carbon future – have played a pivotal role in shaping our future sustainability strategy. Getting there will require collaboration between business and civil society as no one company or nation can address the sustainability challenges that we collectively face.

POWERGRID has partnered with its relevant stakeholders to accelerate such changes and make progressive growth by aligning its business and sustainability concerns. Our past approach, together with determined focus on sustainable growth strategies, has helped us establish a strong foothold amidst headwinds in 2015-17. We have already aligned our business actions against the 11 SDGs with particular emphasis on energy, good health & well-being, sustainable and lasting economic growth.

Sustainability as our driving force, feeds the business growth in a way that paves the path to a better future. All our actions are measured through the lens of these fundamental ideas. We continue to put our people, their safety, communities and the environment at the heart of our approach.

POWERGRID's thoroughly crafted ESPP has been playing a crucial role in mitigating social and environmental risks associated with its business. During the reporting period, our ESPP has also been accepted by the Asian Development Bank (ADB) under the "Country

“ We have been able to accelerate change and make progressive growth by aligning our business and sustainability concerns. ”

Safeguard System” (CSS). With this, POWERGRID attained the unique distinction of becoming the first organization in the world, whose safeguard policy (ESPP) has been accepted by two major multilateral agencies – The World Bank and ADB.

During the reporting period, our business grew by 42% over the previous reporting period. Maintaining Transmission Availability above 99.5% has been our constant endeavor and we haven't faltered. Various technological initiatives adopted to conserve RoW resulted in timely and efficient implementation of projects. Optimizing Right of Way remains the most critical aspect of our business and during the reporting year the principle of diminution value of land for tower base and line corridor was approved paving the way for actual inclusive growth through enhanced compensation to farmers and land owners.

Amidst this business growth commitment, we remain mindful of the interests of the communities around whom we operate. During the reporting period, we constructed a ten-storied Vishram Sadan at All India Institute of Medical Sciences (AIIMS) for the families of underprivileged patients. We have also collaborated with Tata Memorial Centre, Mumbai for construction of country's largest Nuclear Medicine Theranostics Unit.

Health & Safety remained our core concern and we are constantly working towards complete prevention of accidents and fatalities. Through the provisions of Safety pact as a part of the bidding documents and various other initiatives, we have been able to reduce the number of accidents as well as fatalities during the reporting period.

POWERGRID is also playing a major role in implementing Government of India's ambitious plan for integration of

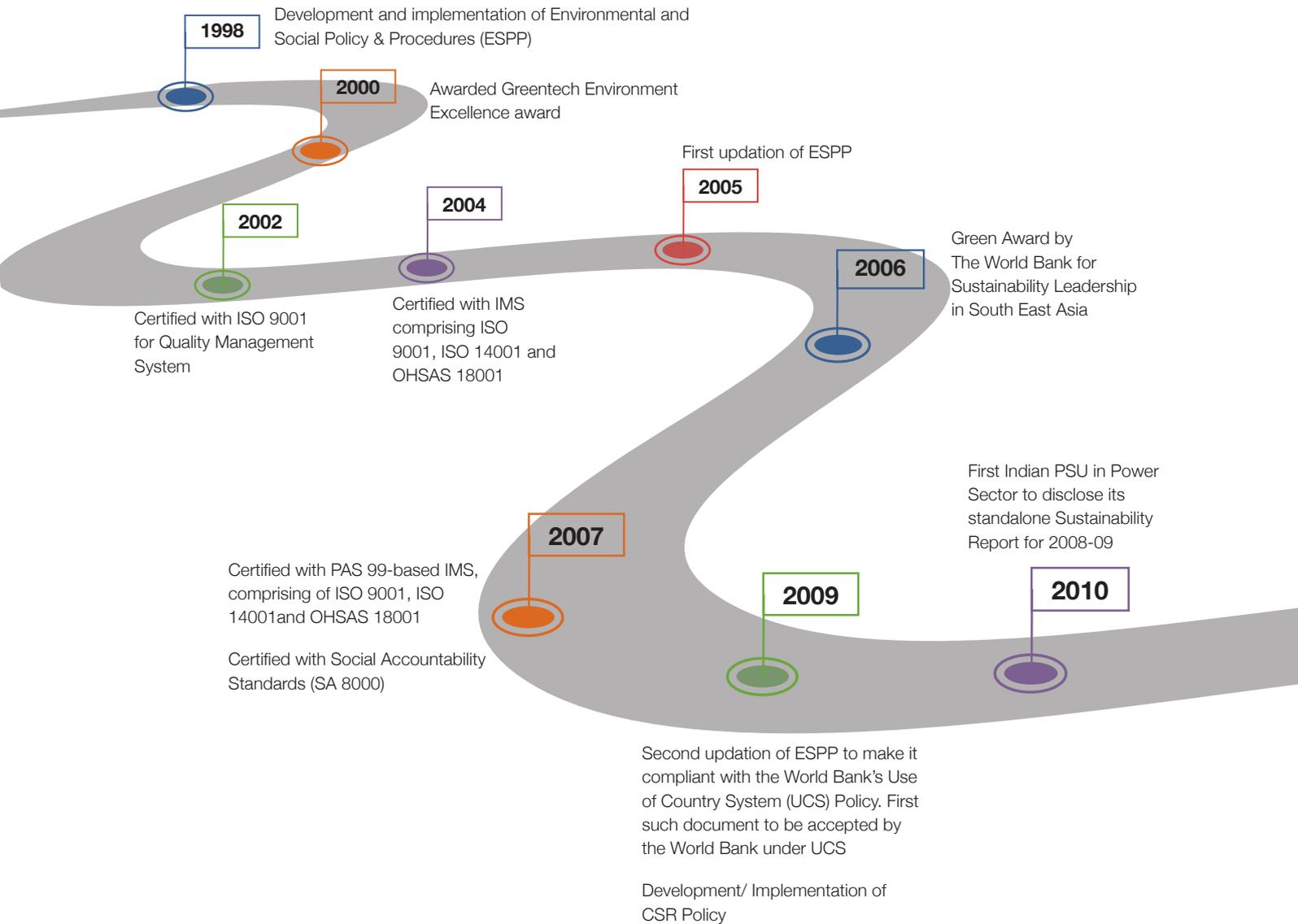
renewable energy with the national grid. This will help in meeting the Nationally Determined Contribution of 175 GW of renewable energy by 2022. Similarly to facilitate Government of India's E-Mobility mission, we are setting Electric Vehicle Charging Stations across India. Agreement for such stations has been finalized with Hyderabad Metro & decisions are underway with various other agencies. We are also in the process of replacing fuel-operated vehicles in our establishments with electric vehicles. To fulfil our commitment of being a sustainable business enterprise, we are tirelessly working towards expanding our transmission assets along with business opportunities in Smart Grid, Railway Electrification, Telecom data centre, etc.

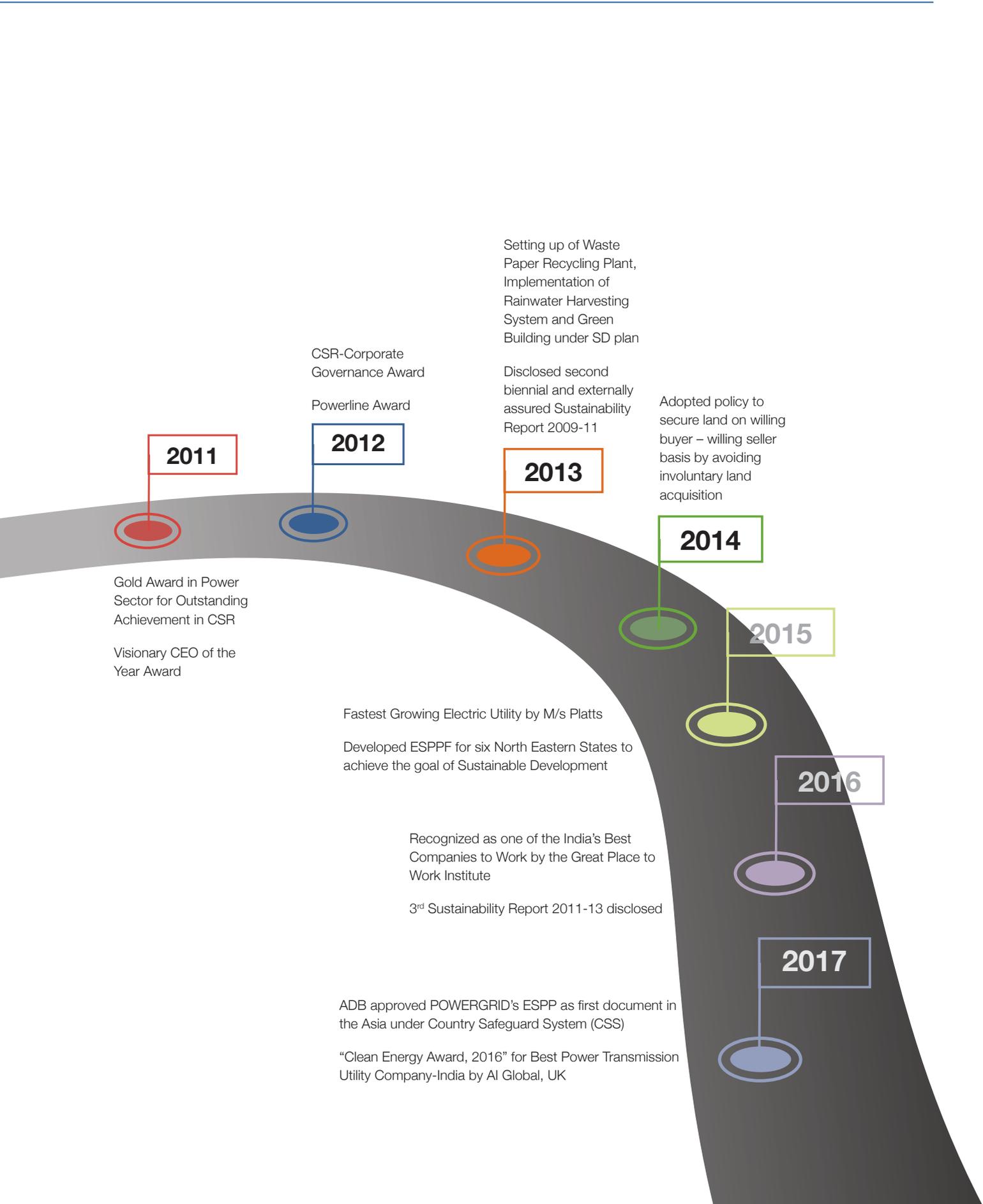
I would like to sincerely thank my fellow Directors on the Company's Board, the management team, and all our employees for playing an active part in our ongoing sustainability journey. We also appreciate the inputs from leading sustainability experts of the External Review Committee who played an important role in our reporting process. I also thank all our customers, partners and shareholders who have supported us through tough challenges. We will continue to listen, process, and act on the constructive feedback our stakeholders are willing to provide to ensure that we not only meet but exceed their expectations.

I. S. JHA

Chairman & Managing Director

Sustainability Journey





2011

Gold Award in Power Sector for Outstanding Achievement in CSR
Visionary CEO of the Year Award

2012

CSR-Corporate Governance Award
Powerline Award

2013

Setting up of Waste Paper Recycling Plant, Implementation of Rainwater Harvesting System and Green Building under SD plan
Disclosed second biennial and externally assured Sustainability Report 2009-11

2014

Adopted policy to secure land on willing buyer – willing seller basis by avoiding involuntary land acquisition

2015

Fastest Growing Electric Utility by M/s Platts
Developed ESPPF for six North Eastern States to achieve the goal of Sustainable Development

2016

Recognized as one of the India's Best Companies to Work by the Great Place to Work Institute
3rd Sustainability Report 2011-13 disclosed

2017

ADB approved POWERGRID's ESPP as first document in the Asia under Country Safeguard System (CSS)
"Clean Energy Award, 2016" for Best Power Transmission Utility Company-India by AI Global, UK

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Fastest Growing Electric Utility in Asia for three successive years (2016, 2015, and 2014) by M/s Platts

CBIP Award ‘Best Performing Transmission Utility 2016’

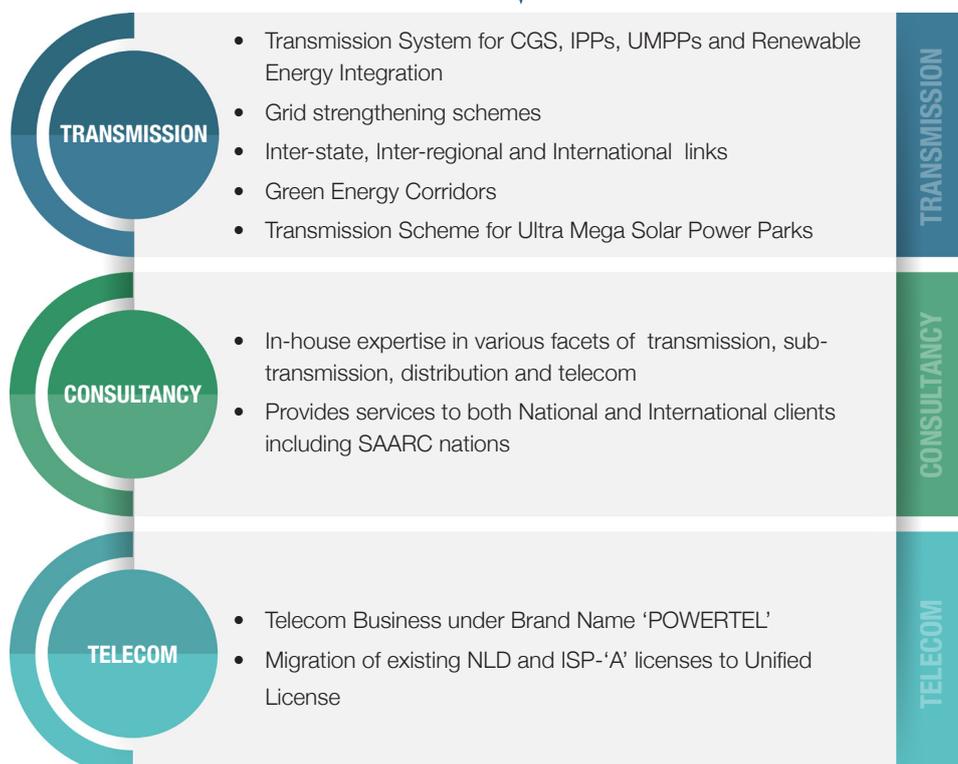
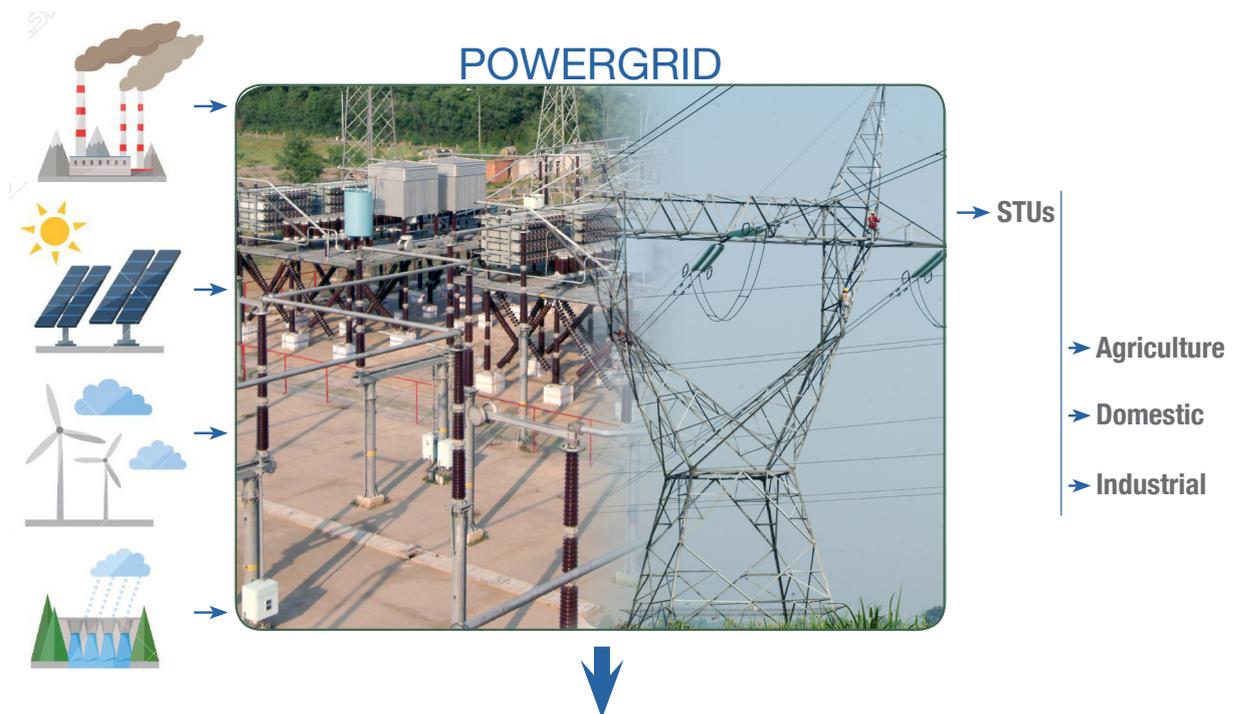
“Most Valuable Company” and “Best Performing Company” award by India Today in Navratna (PSU) category

‘Industry Excellence Awards 2017’ in the category of ‘Energy & Power’ at the BRICS International Conclave

Power Grid Corporation of India Limited (POWERGRID), a Navratna public sector enterprise under the Ministry of Power, Government of India, is a notified Central Transmission Utility (CTU) of the country. It is engaged in planning, implementation, operation & maintenance of Inter-State Transmission System (ISTS) making it one of the largest Power Transmission Utilities in the world.

through development of National Grid. It has consistently demonstrated excellence and exceeded most of the performance targets agreed under the MoU signed with the Ministry of Power, Government of India. Its sustained performance, also reflected through continuous asset capitalization, increasing revenues and profits, has led to creation of value for its stakeholders.

POWERGRID, since its inception in 1989, has been a major contributor to the development of Indian power sector



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Transmission

As on 31st March, 2017, POWERGRID owns and operates **1,39,077 Ckm** network of EHV lines, **2,89,543 MVA** transformation capacity and **219 EHVAC & HVDC** substations.

75,050 MW cumulative inter-regional power transfer capacity.

During 2015-16, POWERGRID commissioned 13,717 Ckm of EHV transmission lines and 23,139 MVA transformation capacity with 15 new substations.

During 2016-17, POWERGRID commissioned 9,723 Ckm of EHV transmission lines and 34,696 MVA transformation capacity with 12 new substations.

Transmission is POWERGRID's core business and our technological initiatives in transmission have been recognized globally at multiple forums.

As the CTU of the country, POWERGRID is involved in planning short and long term availability of transmission systems and demand management, planning, coordination, supervision and control over Inter-state Transmission System. It ensures development of an efficient, coordinated and economical system of Inter-state transmission lines for smooth flow of electricity from generating stations to the load centres. It provides non-discriminatory open access to its transmission system for use by all licensee or generating companies.

POWERGRID is a power infrastructure company and its growth is largely dependent on the efficient implementation of the transmission projects. It has an exceptional record of implementing challenging transmission projects running over hundreds of kilometres of length across tough terrains and mitigating the socio-economic issues. In order to ensure timely implementation of

its projects, POWERGRID has administered project management tools such as Enterprise Resource Planning (ERP), Integrated Project Management and Control Systems.

The Company continues to take pioneering steps in bringing **Smart Grid technology** to all facets of the power supply value chain.

Integration of Renewable Energy (RE) sources into the grid is one of the top priorities of the Government of India. Towards this, POWERGRID is implementing Green Energy Corridors comprising Intra-state and Inter-state transmission infrastructure which will facilitate integration of large scale renewable power into the National Grid. Transmission schemes for 7200 MW Ultra Mega Solar Power Parks worth ₹ 4300 Crore are under implementation in various states as part of Green Energy Corridors-II.

Renewable Energy Management Centers (REMC) are being established at 11 RE locations, which would enable forecast of renewable energy generation and its efficient management.



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Open Access: As of March 2017, POWERGRID has granted connectivity to 136 eligible applications for a quantum of 95,800 MW and LTOA/LTA to 204 applications for a quantum of 99,260 MW. Based on the transmission capacity margins availability, MTOA has also been granted to 106 applications for a quantum of 12,204 MW cumulative capacity.

Operational Excellence

The management and maintenance of a vast transmission network requires meticulous planning and strict adherence to norms/ processes. Our systems and procedures are aligned with Public Available Specification PAS 99 based Integrated Management System (IMS) comprising ISO 9001 for Quality Management System, ISO 14001 for Environmental Management System and OHSAS 18001 for Occupational Health. We are also accredited with Social Accountability Management System as per SA 8000, Energy Management Systems as per ISO 50001 and Information Security Management Systems as per ISO 27001.

During the reporting period, transmission system availability for 2015-16 and 2016-17 was **99.72%** and **99.79%** respectively.

High transmission system availability is attained through state-of-the-art maintenance activities and technologies such as Annual Maintenance Plan, Frequency Response Analysis for Transformers and Reactors, Dynamic Contact Resistance Measurement for Circuit Breakers, Third Harmonic Resistive Current measurement for Surge Arrestors, Thermo-vision scanning of substation equipments etc. Moreover, technologies like Aerial Patrolling & Maintenance of transmission lines using helicopters and Unmanned Aerial Vehicles (UAVs/ Drones) are extensively deployed.

POWERGRID foresees the importance of automation in the transmission sector and NTAMC is a formidable step in that direction. 122 substations are being managed remotely by State-of-the-art 'National Transmission Asset Management Centre' (NTAMC). NTAMC has helped in making operations smoother and helped in increasing visibility of the various parameters of the grid so as to ensure continued availability of the network.

POWERGRID deploys state-of-the-art 'Emergency Restoration System' for immediate restoration of collapsed transmission lines due to natural calamities. This was evident in the prompt support that was extended after the cyclone in Tamil Nadu (December 2015) and the earthquake in Manipur (January 2016). In April 2015, POWERGRID's highly specialized engineers worked closely with Nepal Electricity Authority to restore about 85% of power supply in the first 3-4 days after the earthquake.



Consultancy

Consultancy assignments in **19 Countries**

26 new Domestic Assignments

14 International Assignments



Revenue from consultancy during the reporting period: **₹ 1,047 Crore**

POWERGRID provides techno-managerial solutions in transmission, sub-transmission, distribution management and Telecom. The quality of its services is evident in the increasing numbers and nature of assignments bagged by the company.

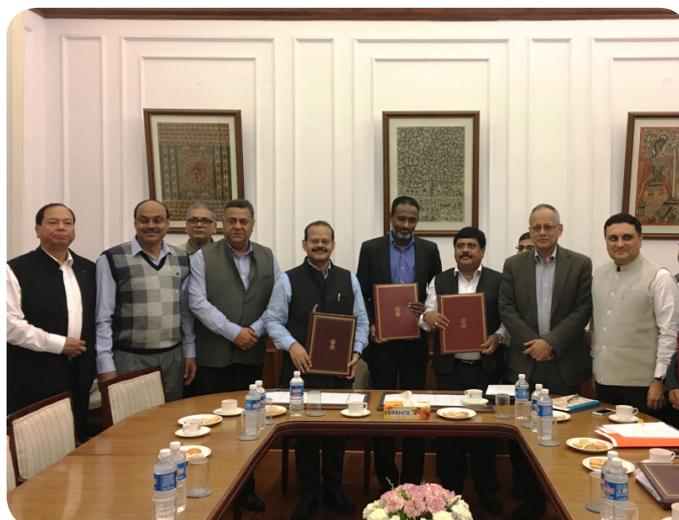
Some of the major projects for Indian Railways are track electrification for four different Zonal Railways, techno-managerial services for implementation of 220 kV & 132 kV transmission system, services for transmission lines and substations for providing up-stream transmission connectivity for their traction substations.

POWERGRID is also executing Government of India's prestigious projects in difficult geographical terrains such as North Eastern Region Power System Improvement Project (NERPSIP), Comprehensive Scheme for Strengthening of Transmission & Distribution System for Arunachal Pradesh & Sikkim, Connectivity of Leh/ Kargil Area with NR Grid at 220 kV level.

With a client base spanning State owned utilities, Private utilities, Central Public Sector Undertakings and Government departments, the current value of POWERGRID's pan-India consultancy projects is over ₹ 17,000 Crore.

In **International Consultancy**, some of the major projects include Memorandum of Co-operation with Norwegian Centre of Expertise (NCE), Agreement with Fiji Electricity Authority, MoU with Abu Dhabi Water & Electricity Authority (ADWEA), Management Contract of Ethiopian Electric Power Service Corporation.

POWERGRID has also emerged as a leader in the proposed cross country grid involving SAARC nations. It has strengthened its relations with Bangladesh, Nepal and Bhutan by establishing inter-connections and mutual exchange of power. A milestone has been achieved in this direction with the commissioning of 400 kV D/c Muzaffarpur (India)- Dhalkebar (Nepal) inter-connection between India & Nepal. Further, for evacuation of power from various upcoming Hydro-Electric Power (HEP) projects in Bhutan, Punatsangchu-I HEP (Bhutan) - Alipurduar (India) 400 kV Double Circuit (D/c) line between Bhutan & India, is under implementation. Also, for transfer of power between India and Bangladesh, 400 kV D/c Baharampur (India) - Bheramara (Bangladesh) line is under implementation.



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Telecom

Owns and operates **≈ 41,988 km of Telecom Network**

Points of Presence in **662 locations**

Telecom **Network Availability 100% in 2015-16 and 99.9% in 2016-17**

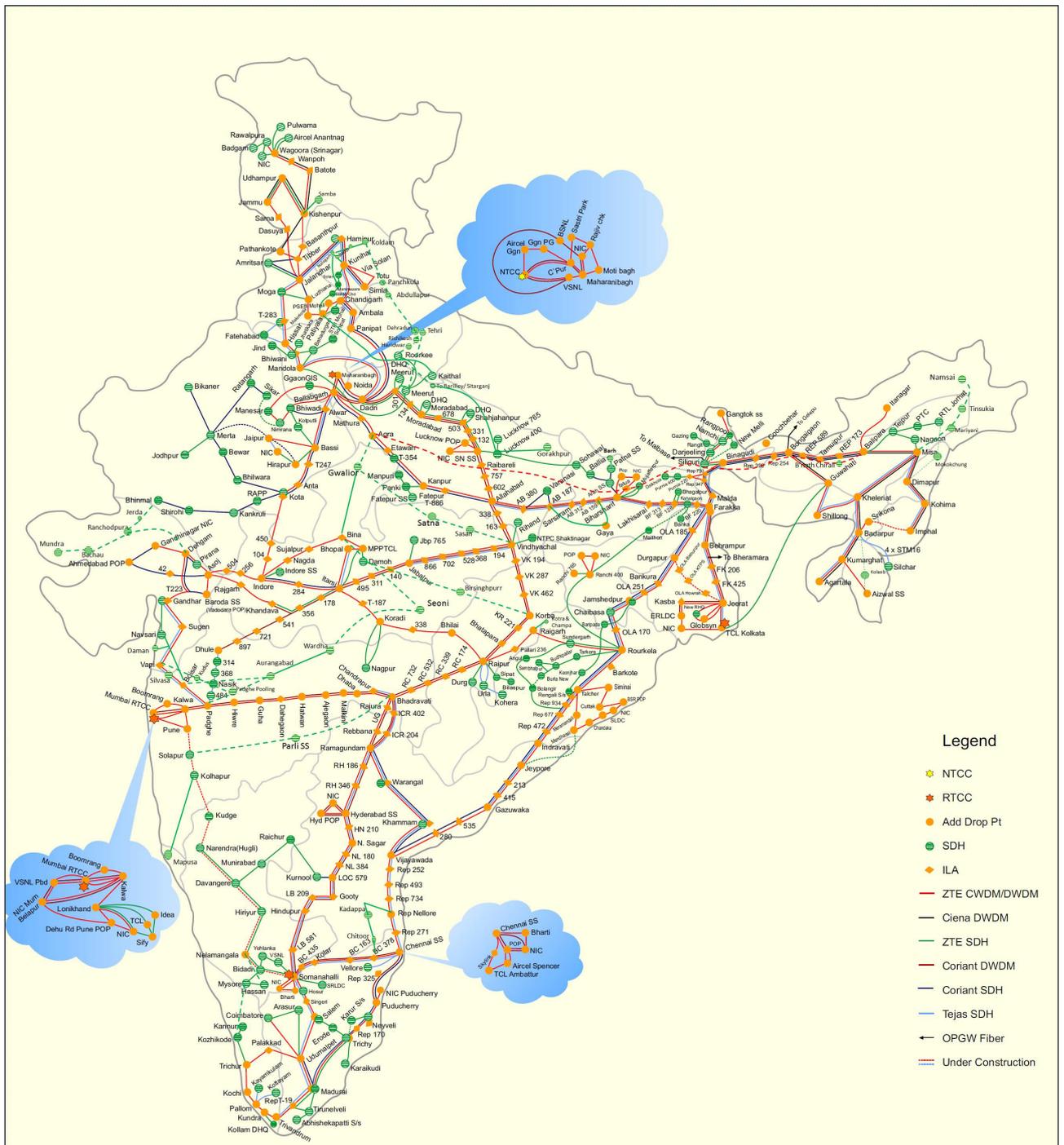
POWERGRID contributes to the telecommunication landscape of the country by leveraging its transmission infrastructure for telecom business under the brand name 'POWERTEL'. The existing National Long Distance (NLD) and Internet Service Provider – Category 'A' (ISP-'A') licenses have been migrated to Unified License for providing telecom services. POWERGRID has played an important role in providing telecom bandwidth, Virtual Private Network (VPN), internet and other communication services to Telecom Service Providers and enterprise customers.

POWERGRID, as one of the implementing agencies of the prestigious National Knowledge Network (NKN) project devised by Gol, successfully connected all knowledge centers across the country such as Indian Institute of Technology (IITs), Indian Institute of Science (IISc) etc., on high speed connectivity. We are also one of the implementing agencies of National Optical Fiber Network (NOFN) project of Gol and by March 2017, we have connected 6699 GPs through incremental fiber, 4454 GPs have been connected End to End and broadband is operational in 1133 GPs.

Technology Development

POWERGRID has always been at the forefront of adopting state-of-the-art technologies to create environment-friendly transmission systems for improving the efficiency in power transmission and for overcoming the challenges associated with establishment of high capacity power transmission corridors. We create value for society, environment and economy, by adoption and application of advanced technologies and finding solutions to meet future challenges. The main focus is on reduction of transmission losses and optimization of RoW requirement while establishing transmission corridors as well as reducing the land requirement for construction of substations.

In this direction, major projects undertaken/ under implementation during the reporting period are 1200 kV National test station, Geographic Information System Tools, Process Bus Technology, POWERGRID Advanced Research and Technology Centre, Pollution mapping, etc. POWERGRID invested ₹ 35.9 Crore and ₹ 30.03 Crore in Research & Development activities during 2015-16 and 2016-17 respectively.



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Corporate Governance

‘North American Synchrophasor Initiative (NASPI) Award’ for Outstanding Utility during 2016-17

“Rajiv Gandhi National Quality Award” by BIS under Large Scale Service Utilities category

“Dun & Bradstreet PSU Award 2015” under the Power Transmission & Distribution sector category & “Dun & Bradstreet Infra Award 2015” under Power Transmission category

‘Best Risk Management Practise’ Award at the 3rd India Risk Management Awards in PSU category by CNBC TV18

POWERGRID's Corporate Governance

01

Meets the short term, medium term & long term objectives and specific targets set by the Government of India and by the Board, by empowering people at the appropriate levels

02

Responds to the challenges & the emerging opportunities and plays a pivotal role in the economic development of the country

03

Entails trusteeship, empowerment and accountability of the management while remaining proactive to Government policies

POWERGRID's commitment to transparency and accountability derives from its vision to be a "World Class, Integrated, Global Transmission Company with Dominant Leadership in Emerging Power Markets Ensuring Reliability, Safety and Economy". In line with SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015, POWERGRID follows the Guidelines on Corporate Governance issued by Department of Public Enterprises, Government of India.

Our corporate governance structure specifies the distribution of rights, responsibilities and powers among different participants in the corporation. All strategic decisions regarding investment, diversification and major

decisions regarding procurement, commercial & finance are implemented after approval by the Board.

As a "NAVRATNA PSE", POWERGRID has been given more flexibility and autonomy to make investments and take operational decisions. Its Board has the power to approve capital expenditure on purchase of new items or for replacement without any monetary ceiling. However, the ceiling on equity investment to establish joint ventures and wholly-owned subsidiaries in India or abroad is 15% of the net worth of POWERGRID. In a single project, the ceiling on equity investment is limited to ₹ 1000 Crore. The overall ceiling on such investment in all projects put together is 30% of the net worth of POWERGRID.

Leadership and Governance



Board of Directors as in September 2016

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Chairman & Managing Director

Functional Directors

Government Nominee Directors & Independent Directors

7 Directors in FY 2016 including 2 Government Nominees and 1 Independent Director (increased to 10 Directors in FY 2017 including 2 Government Nominee and 3 Independent Directors)

27 meetings held during FY 2016 & FY 2017

Details regarding number of meetings, role of the committees, members, etc., are available in our Annual Reports at the following links:

http://www.powergridindia.com/sites/default/files/Investor_Relation/Reports_Filings/Annual_Report/Powergrid_Annual%20Report-Final%20File-New-06_09.pdf (Pages 100-120)

<http://www.powergridindia.com/sites/default/files/AR-2016-17.pdf> (Pages 125-147)



Audit

Stakeholders' Relationship

Nomination and Remuneration

Investment on Projects

Award of Contracts

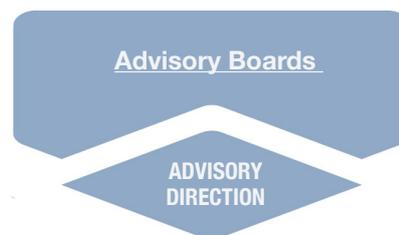
Transfer/ Split/ Rematerialisation etc. of Shares

Bonds

Award of Contracts relating to RE and other Deposit Works

CSR

Risk Management



Environmental and Social Policy & Procedures

R&D

Telecom

The responsibility of appointing the Board of POWERGRID rests with the Government of India. The services of the Directors cease on either the completion of the tenure or upon superannuation, whichever is earlier. The ratio of Basic Salary of the Board of Directors to the Executive Director to the Executive Trainee is 3.01:2.49:1.

POWERGRID has a dedicated Board Level Stakeholders' Relationship Committee to

look after grievances of share-/ debenture-holders and other security holders of the company. As on March '17, the committee is headed by an Independent Director and comprises of 2 full time directors.

Details on external initiatives can be accessed through the above links and in the Annual Report 2016-17 (page 87-88).



Transparency in Governance

POWERGRID advocates the principles of Good Governance, Transparency, Probity and Ethics in its management functioning. Our Board follows a completely transparent approach in discussing all project matters from inception to completion of projects and also provides necessary direction and assistance.

Through efficient means of disclosures and communication, all our stakeholders are well informed and kept involved through a positive and open relationship. Such mediums of disclosures/communication include Annual Reports, Sustainability Report, Quarterly results, website (www.powergridindia.com), etc. As part of the 'Green Initiative in the Corporate Governance', a lot of these reports are communicated in electronic form.

We have a well-established process to respond to our stakeholder queries under the Right to Information Act, 2005. Appellate Authorities have been nominated at Corporate and Regional offices across the country to provide required information to the citizens under the provisions of Act.

Ethics and Code of Conduct

POWERGRID has two distinct Codes of Business Ethics & Conduct – one for Board Members and another for Senior Management Personnel. Such codes are also aligned with Company's Vision & Mission for enhancing ethical and transparent process in managing the Company's affairs.

POWERGRID's CDA Rules define the desirable and non-desirable acts and conduct for the employees and extend to all employees working with it. The aspects of bribery and corruption are also covered under CDA rules. There are laid down procedures for actions in cases of non-compliance of the defined terms as well as for any misconduct.

Whistle Blower and Fraud Prevention Policy provides a system for disclosures made by employees or complaint of any fraud or suspected fraud involving employees of POWERGRID as well as representative of vendors, suppliers, contractors, service providers or any outside agencies doing any business in POWERGRID. In order to further strengthen integrity, transparency and fairness, a number of business practices have been put in place such as well defined "Delegation of Powers", implementation of Works & Procurement Policy and Procedure (WPPP) for Pre-award and Post-award Stages, Integrity Pact Program, Monitoring of Contracts above ₹ 100 Crore by a panel of Independent

External Monitors (IEMs), e-procurement mechanism, e-Reverse auction mechanism is in place, Enterprise Resource Planning (ERP) etc.

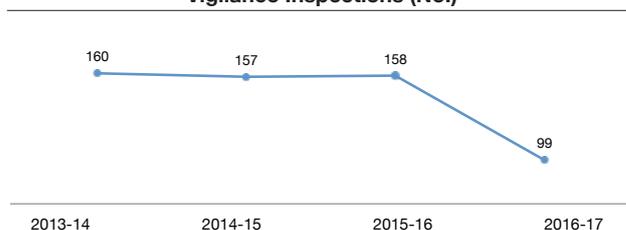
POWERGRID has a dedicated Vigilance Department with emphasis on preventive and proactive vigilance. Vigilance Team mainly conducts 3 types of inspections – Process (online), CTE and Surprise inspections to prevent any unscrupulous activity in the allotment or implementation of projects. On the basis of inspections, system improvement initiatives have been recommended in the area of construction, vehicle booking, deletion of multi-package rebate, local representative for foreign bidders, etc.

In order to increase the awareness and enhance capacity, we conducted various workshops/training programmes on Preventive Vigilance, Ethics and RTI Act, across the country. During the reporting period, 43 employees in FY 2016 and 47 employees in FY 2017 were disciplined for corruption.

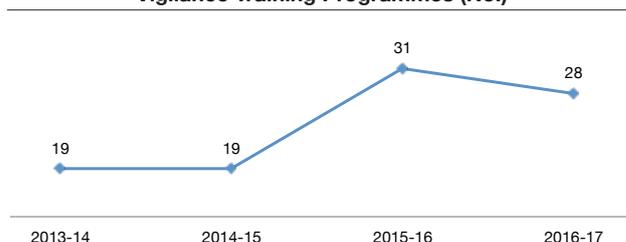
Vigilance Awareness Week was organized during the reporting period. Activities such as essay competitions, quiz competitions, debates, panel discussions etc. were held in the company & also in various colleges and schools. For spreading awareness amongst general public, media tools such as roadshows, nukkad natak, Doordarshan, news channels, FM Radio channel were also utilized. Also, a film on POWERGRID Vigilance was telecasted on DD National on 29.10.15 in the programme "Aaj Savera".

During the reporting period, no significant fines were levied on account of non-compliance with applicable laws and regulations.

Vigilance Inspections (No.)



Vigilance Training Programmes (No.)



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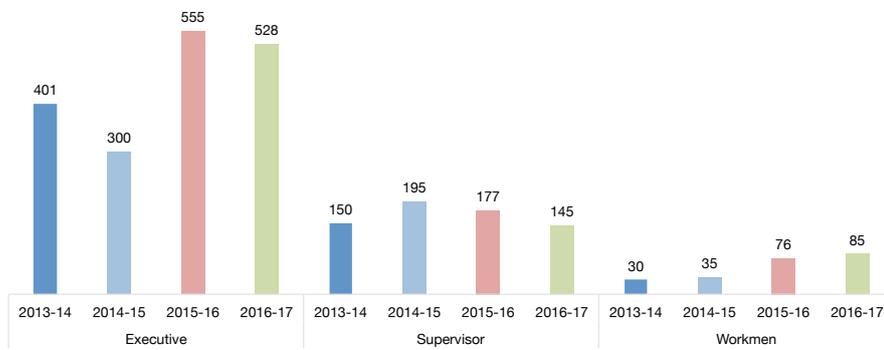
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Anti-Corruption Training (No. of Employees)



Managing Risks

POWERGRID constantly innovates and develops technologies to mitigate risks and challenges involved with providing reliable and uninterrupted power to all.

Enterprise Risk Management framework has been implemented at POWERGRID as a structured, consistent and continuous process for identification, assessment, monitoring and management of risks. The significant business processes/risks are monitored and controlled through various Key Performance Indicators (KPIs).

POWERGRID has a dedicated Board level Risk Management Committee headed by Director (Operations) with Director (Finance) and Director (Personnel) as members. The Committee meets at regular intervals and reviews KPIs on regular basis and provides updates to the Audit Committee/Board. During the reporting period, five meetings of Risk Management Committee were held and General Manager (Corporate Planning) was appointed as Chief Risk Officer of the Company.

A comprehensive mapping of Risks & Challenges and Mitigation strategies is presented herewith:

Risks

Financial Risks <ul style="list-style-type: none"> • Revenue Realization
Operational Risks <ul style="list-style-type: none"> • Synchronization Risks with generation projects • Grid Failure
Health & Safety Risks <ul style="list-style-type: none"> • Safety of Employees/ workers in construction activities
Compliance & Statutory Risks <ul style="list-style-type: none"> • Right of Way • Forest Clearance • Land for substation

Mitigation

Regulation notices, Graded Rebate Scheme, Tri-Partite Agreements (TPA) and Timely payment rebate to clients
Signing of Agreements with power generating companies to share the transmission charges
Improved Grid Standards/Strict Compliance
Issue of Personal Protective Equipment, mandatory safety trainings to all employees engaged in construction activities
Route alignment & detailed survey using modern techniques
Development of High Voltage Transmission Systems for bulk power transfer
Use of High Performance Conductors in Existing & New lines
Land management practice to reduce land requirement
Securing land through private purchase on “willing buyer - willing seller” basis
Avoidance, Minimization, Mitigation
Increased Public consultation & community development
Compliance of provisions of MoP Guidelines for payment of compensation towards damages in regard to Right of Way for transmission lines
Collaboration with national/ international research institutions and manufacturers for designing state-of-the-art transmission systems
Pollution mapping, SMART Grid, Digital Substation, use of GIS/ GPS during surveys, High Temperature Low Sag Conductor configuration
ERS/Hotline maintenance, live line insulator washing, Aerial Patrolling & preventive maintenance
Training to enhance availability of skilled manpower for construction
Campus recruitment from reputed institutions
Improved costing standards

Challenges

<ul style="list-style-type: none"> • Environmental & Social Pressures • Way leave/RoW
<ul style="list-style-type: none"> • Enhancing operational efficiency • Maintaining 99% system Availability • Development of Long distance High capacity transmission corridors • Strengthening of National Grid and Communication network
<ul style="list-style-type: none"> • Attracting Skilled Manpower
<ul style="list-style-type: none"> • Tariff-based competitive bidding

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Sustainability Management

The first organization in the world, whose Safeguard Policy, ESPP, has been accepted by two major multilateral agencies – The World Bank & Asian Development Bank

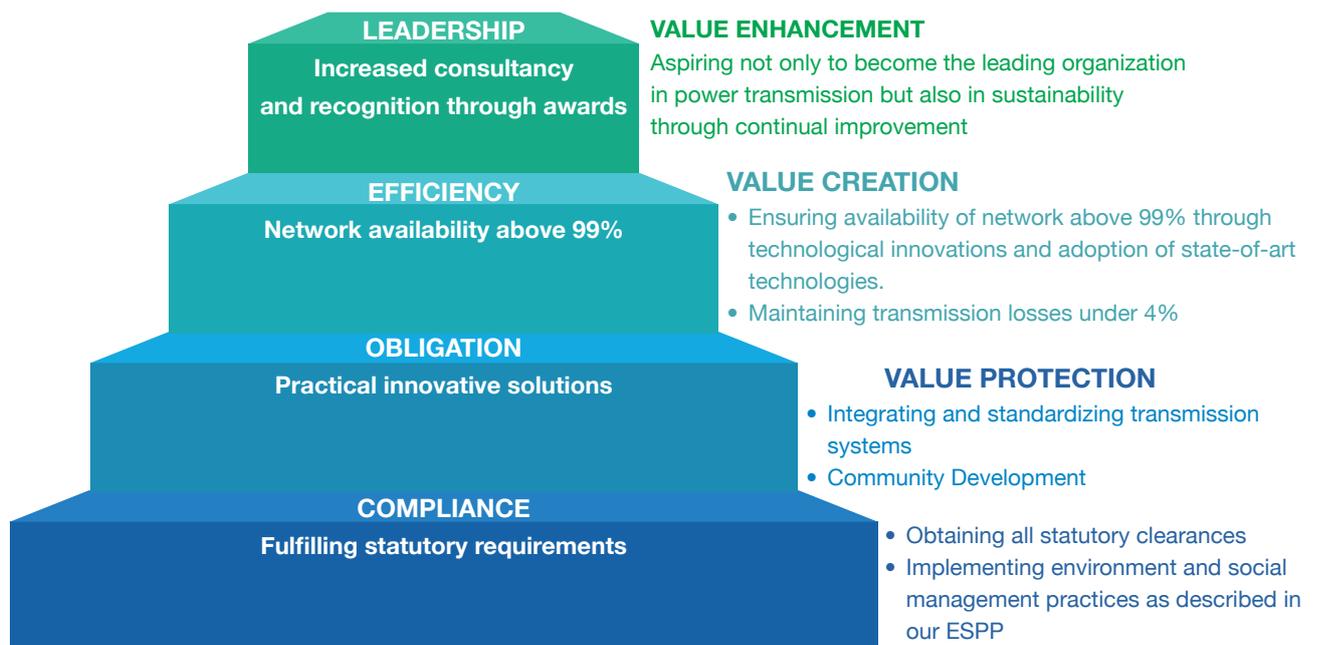
“CBIP Award for Best Transmission Utility” by Central Board of Irrigation and Power (CBIP)



Sustainability is a strategic & integrated part of business management, growth and development with a view to create long-term value for POWERGRID and for all its stakeholders.

We developed Sustainability framework as a tool to understand the concept of Sustainable business and its integration in all aspects of our business planning and operations. Under the framework, we have organized our Sustainability Steps under three pillars: Value Protection, Value Creation and Value Enhancement, which are further broken down to 4 focus areas.

Sustainable Development Framework



Sustainability Statement

“POWERGRID is committed to the goal of sustainable development and conservation of nature and natural resources. While continually improving its management system, accessing specialist knowledge and introducing state of the art and internationally proven technologies, POWERGRID strictly follows the basic principles of Avoidance, Minimization and Mitigation in dealing environmental and social issues. Where necessary, restoration and enhancement is also undertaken.”

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Sustainability is a cornerstone of our business strategy that enables us to deliver our services in the most efficient and cost effective manner. Our commitment to sustainability is manifested in our pursuit to understand the need of the people, and our persistence to develop new efficient technologies that can meet the needs of the present and the future generations. It is also reflected in our investment in social causes and our close collaboration and engagement with our stakeholders.

Environmental and Social Policy & Procedures

POWERGRID takes utmost care in dealing with Environment and Social issues due to its activities. We are the first company in Asia to come up with a comprehensive and written environment & social policy document viz. **“Environmental and Social Policy & Procedures” (ESPP)** in year 1998 through extensive national consultations.

Social Objectives

Follow prescribed precautions to minimize disturbance to habitation, tribal areas and places of cultural heritage

Consult/involve Affected Persons during all stages of project implementation particularly on issues related to RoW and land acquisition

Guarantee entitlements and compensation at market rate to affected persons as per “Social Entitlement Framework”

Special attention to marginalized and vulnerable groups and secure their active participation

Maintain highest standards of health and safety to avoid possible accidents

Environmental Objectives

Avoid operations in environmentally sensitive areas, eco-sensitive zones, forests, sanctuaries, national parks, tiger/biosphere reserves, and coastal areas covered under CRZ through study of alternatives

Consider/design innovative/practical Engineering/biological solutions by considering environmental implications of project implementation

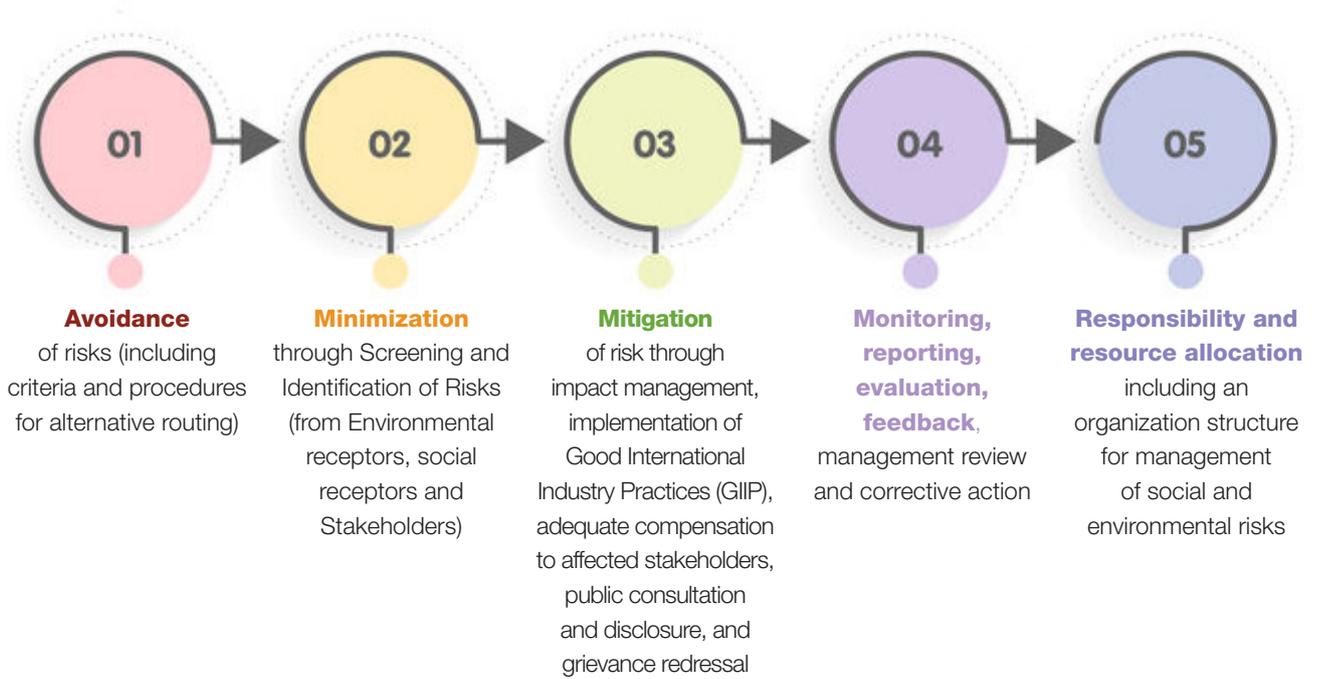
Application of efficient and safe technology Practices

Abate pollution in all activities and operations

Minimize energy losses and promote energy efficiency

Revised in 2005 and 2009, the ESPP provides a framework for identification, assessment, and management of environmental and social concerns at both organizational and project levels, within the adopted principles of Avoidance, Minimization and Mitigation.

In 2017, POWERGRID’s ESPP was accepted as the first safeguard document of a company to match international best practices by the Asian Development Bank (ADB) under its policy of “Country Safeguard System” (CSS)



Alignment with SDGs

The announcement of the United Nation's Sustainability Development Goals (SDGs) in September 2015 set the foundation for the alignment of our core business priorities to the Global Goals and targets. In future, it will form the basis of our long-term business strategy. Our business priorities are focused under four aspects- Economic Performance, Our People, Our Environment and Our community. These are consistent with the Sustainability Framework as well as other disclosure requirements.

In 2017-18, we will focus more on prioritizing the relevant goals and organize ourselves to take up initiatives alongside those goals.



Highlights of alignment with UN Sustainable Development Goals

Though Sustainable Development Goals came into force on 1st January 2016 after being adopted by the member countries at the United Nations Sustainable Development Summit (September 25-27, 2015), it is a matter of great pride that POWERGRID has already aligned its business activities in line with the applicable listed SDGs. This also perfectly falls in line with the principles of Avoidance, Minimization and Mitigation as mandated by our ESPP that has been a guiding force in adoption of a proactive approach towards achieving Environmental Excellence and Social Welfare. During this reporting period, that also co-incided with the adoption of the SDGs, we have identified the SDGs most relevant to our business and mapped them to our existing sustainability initiatives. New initiatives continue to be introduced, keeping in mind the global development agenda.

1 NO POVERTY



- Free of cost service connections provided to more than 1,50,000 BPL Households under DDUGJY.
- Expenditure of ₹ 10.39 Crore incurred on Rehabilitation Assistance and ₹ 4.28 Crore on Community Development Works.
- CSR activities worth ₹ 263 Crore undertaken.

- ₹ 139 Crore of Medical benefits for employees, their dependents and retired employees.
- Construction of Vishram Sadan at AIIMS, New Delhi.
- Construction of POWERGRID Centre for Capacity Development at Dr. B Baruah Cancer Institute, Guwahati.
- More than 7,290 persons with disabilities provided with aids and appliances.
- 30,000 villagers benefitted through Health checkup camps at more than 100 locations across the country.

3 GOOD HEALTH AND WELL-BEING



5 GENDER EQUALITY



- Policy is in place to ensure no discrimination on the basis of gender.
- Focused information campaign against Female infanticide around Chekkanoorani Substation Madurai.
- More than 150 women trained in various capacities building programme for rural women in the project for "Improvising Rural Livelihood".
- Installation of 53 sanitary napkin vending machines at 46 places in Satna district.
- Vocational Training Programme for 500 rural women in fruit & vegetable processing by Krishi Vigyan Kendra.

7 AFFORDABLE AND CLEAN ENERGY



- Development of dedicated Green Energy Corridors.
- Infrastructure created for electrification of 7,325 partially/ un-electrified villages.

- Procurement from MSEs of ₹ 777 Crore out of total eligible limit of ₹ 3,410 Crore during 2016-17.
- 38% increase in PAT per employee in 2016-17 w.r.t. 2014-15.
- More than 5,000 youths trained in various fields such as tower erection & stringing, CNC lathe, milling, advanced welding technology etc.

8 DECENT WORK AND ECONOMIC GROWTH



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



- Estimated Savings in major material consumption during 2015-17 was 32,42,691 MT.
- Transmission network availability maintained above 99.5%.
- Telecom network availability above 99.8%.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



11 SUSTAINABLE CITIES AND COMMUNITIES



- Development of GIS substations which requires 1/4th of the land required for traditional AIS Substation.
- Development/Adoption of latest technologies to enable power transmission at higher voltage levels (765 kV HVAC/ 800 kV HVDC) saved 66397.5 ha of Right of Way (RoW).
- Implementation of Smart Grid Projects.
- Usage of innovatively designed tall/ multi-circuit towers in urban/ city area.

13 CLIMATE ACTION



- Massive plantations with suitable species at all our sub-stations.
- Commissioned a study titled "Assessment of Impacts of power lines on Avifauna in the Arid planes of Western Gujarat" which will help all Transmission and distribution utilities in formulating and implementing better safeguard measures for Avifauna protection.
- 59,782 equivalent tons of tCO₂ reduction during the reporting period as GHG reduction measure.

15 LIFE ON LAND



- Development of 1200 kV HVAC System is collaboration with 35 Indian equipment manufacturers.
- Pollution Mapping with State Utilities in Eastern and Southern Region.
- A number of CSR initiatives undertaken in collaboration with reputed agencies/institutions such as ICRISAT, WII etc.

17 PARTNERSHIPS FOR THE GOALS



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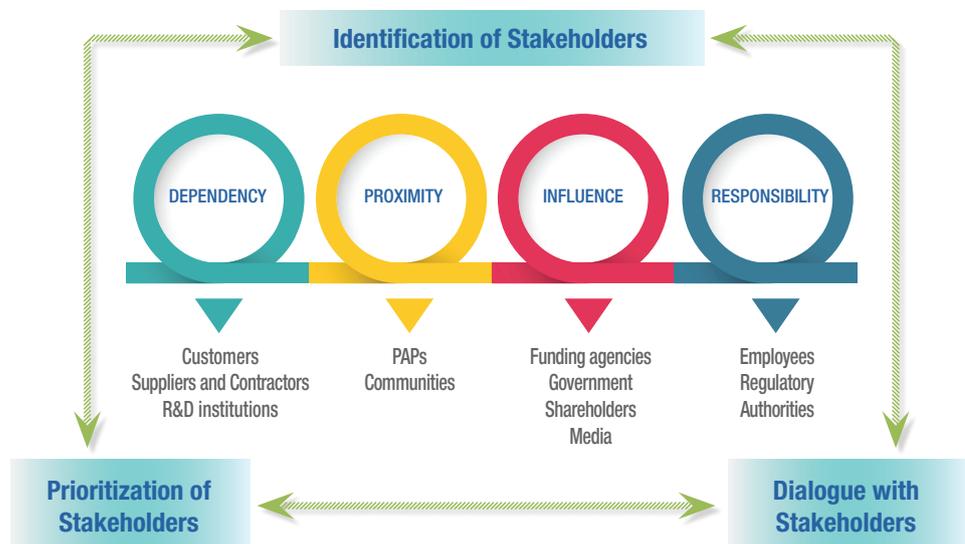
Corporate Social Responsibility



Building Trust

“SCOPE Award 2016” for “Innovative Stakeholders Engagement”

Stakeholders are the most important link to conducting business ethically and profitably. We believe in building trust and communicating transparently with our stakeholders at various levels. We have mapped our internal and external stakeholders and engage with them on a regular basis. Our Stakeholder Engagement Matrix details specific engagement mechanisms, including mode & frequency of engagement, for each stakeholder category. The matrix guides us in delivering our commitments to our stakeholders and ensures sustainability of our business.



Stakeholder Engagement Matrix

STAKEHOLDER CATEGORY	MODES OF ENGAGEMENT	FREQUENCY
Shareholders	Annual General Meeting	Once a year
	Board meetings	Minimum 4 times a year
	Annual Report	Once a year
	Analyst meetings	Minimum 4 times a year
Customers ▶ SEBs ▶ Telecom -Private firms, Consultancy (National & International)	Signing of Transmission Service Agreement (TSA)	With every project
	Billing Collection & Disbursement Meetings	Quarterly
	Meetings with customers	Once a month
Funding Agencies (World Bank, ADB, IFC, KfW, etc.)	Signing of Loan Agreements	With each Loan
	Review Missions	Half-yearly
	Progress Reports	Quarterly and Half-yearly
Employees	Employee Engagement Survey	As per HRD plan
	Open House	Quarterly
	Performance Review	Once in year
	Magazines	
	▶ e-Transmit	Monthly
	▶ Regional Magazines (10)	Quarterly
	▶ Saudamini Vaarta	Quarterly
	▶ Grid Darpan (Rajbhasha)	Half-yearly
	▶ Candour (Vigilance)	Yearly
	Department specific meets	
▶ HRD Conclave	Twice a year.	
▶ PNBC meetings	Thrice a year.	
▶ HR meetings	As and when required	
Community	Public Consultation	At every stage of the project from conceptualization to Operation & Maintenance
	Participation of community through community development	At projects where involuntary land acquisition takes place
	CSR initiatives	Need based
Government	Compliance to Laws	On a continuous basis
	Comments/observations on proposed legislations	As & when a new enactment is proposed
	RPC (Regional Power Committee)	15 during reporting period
Suppliers & Contractors	Pre-award discussions	With every award
	Open bid discussions (OBD)	With every award
	Review meeting at various management levels	Monthly
	MPR of each contractor & suppliers	Monthly
	Joint discussions on technological advancements including Research & Development institutions	On a regular basis
Media	Press Briefing/Invitations to events	Over 1000 Media coverage/ Press briefings 19 Domestic exhibitions 4 International exhibition

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Communication Management

POWERGRID maintains transparency and accountability with its stakeholders by communicating on various aspects such as achievements, growth and recent developments through press communiqué, web portal, advertisements, sponsorships, exhibitions etc. Live interviews as well as interaction of CMD and Directors are organized with leading business newspapers, magazines and channels to convey the Company's strengths, achievements and future strategy to the investors.

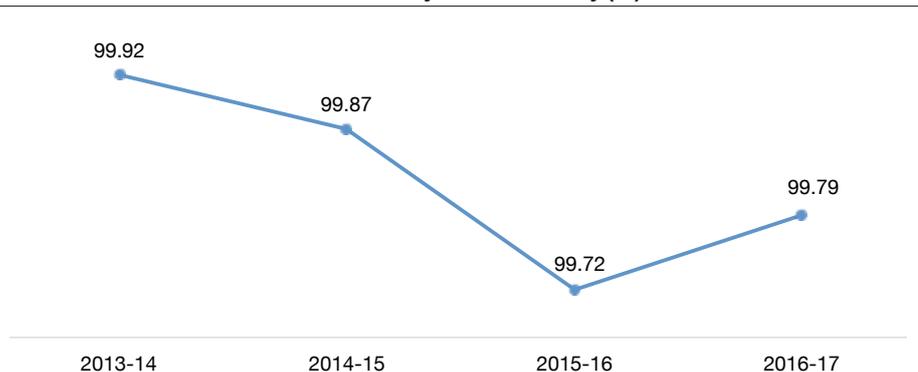
During the reporting period, POWERGRID participated in various Domestic and International Exhibitions such as INNOPROM Exhibition (Russia), India Sourcing Fair (Kazakhstan), POWERLINE, PowerGen etc.

Building Trust in Customers

Our primary responsibility towards our customers is to provide uninterrupted power supply. We have constantly maintained our transmission system availability well above 99%, achieving 99.72% and 99.79% availability during 2015-16 and 2016-17 respectively. We have also restricted the number of tripping per line to 0.66 and 0.68 in 2015-16 and 2016-17 respectively.

We have continuously maintained transmission losses to international benchmark of less than 4% level that makes POWERGRID the most trust-worthy power transmission entity in the country. There were no major grid disturbances in the current reporting period. No incident of customer privacy breach or loss of customer data was reported either.

Transmission System Availability (%)



We monitor and maintain our infrastructure with technologies at par with international standards. Some of the major advancement in the techniques are Aerial Patrolling of transmission lines, Hotline maintenance using Helicopter, Insulated bucket trucks for Hotline maintenance of lines upto 765 kV voltage level etc.

POWERGRID has adopted state-of-the-art condition monitoring techniques for detection of defects at incipient stage such as frequency response analysis for Transformers and Reactors, Dynamic Contact Resistance Measurement for Circuit Breakers, Third Harmonic Resistive Current measurement for Surge Arrestors, Thermo-vision scanning etc. These techniques have proved to be very useful in detection of defects at an early stage & lead to Preventive/ corrective actions in advance to avert major failures. Major technological improvements include Online condition monitoring of transformers/ reactors (detection of faults at initial phase), implementation of process bus technology (reduction in material), Tablet based monitoring, etc.

A well laid down Disaster Management Plan ensures prompt restoration of power supply to disaster-affected EHV transmission network. We also play a role in emergency restoration of power transmission system as part of National Disaster Relief system.

POWERGRID's Emergency Restoration Systems (ERS) being lightweight & modular can be deployed even in inaccessible locations and considerably reduces the restoration time. The strategic location of the system at places such as Rengali, Jalandhar, Nellore, Vizag, Varanasi, Kishenpur etc. ensures rapid restoration of transmission lines damaged during natural/ manmade disasters. Special teams have been trained and deployed in all the regions and have gained sufficient expertise and experience in the specialized field. Necessary support facilities like communication equipment, portable generators, tools and plants etc. are also available with the ERS team so they can work effectively without local assistance which is normally not available during such natural calamities.

POWERGRID lays special emphasis on integration of new technologies for improving the safety, security, quality and reliability of power supply while minimizing the environmental impact and maximising social benefit.

1200 kV Test Station, Bina

The 1200 kV National Test Station was established at Bina, MP under public private partnership model in collaboration with 35 Indian equipment manufacturers and Central Power Research Institute (CPRI). 1200 kV National Test Station was successfully commissioned by synchronizing with the Grid and commencement of power flow in May 2016.



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Process Bus system at Bhiwadi Substation

Process bus based protection system was commissioned in one 400 kV bay at Bhiwadi Substation, Rajasthan. The cables from the kiosk to equipment were replaced by optical fiber thereby reducing large quantities of copper cables. The new scheme will ease the maintenance and troubleshooting in future. Restoration time will be extremely low in case of any eventuality.

Implementation of IEC 61850 based scheme at Neemrana Substation

A transformer cable reduction project was undertaken at Neemrana substation, Rajasthan. The cables measuring approximately 100 m were terminated at an adjacent new panel and connection between the new panel and the Control & relay protection panel was provided by means of an optical fiber, thereby reducing copper cable requirement by 78% and increasing in reliability of the system.

Pollution Mapping

Following the pollution mapping of the Northern and Southern Regions, POWERGRID has taken up pollution mapping of Eastern Region in collaboration with State Transmission Utilities of Bihar, Jharkhand, West Bengal, Sikkim and Odisha.

GIS mapping of Assets of Bhuvan platform

POWERGRID carried out a pilot project using Geographic Information System (GIS) for asset mapping and vulnerability studies. Based on the available resources in GIS

Optical Fibre replacement of large amount of cables resulted in reduction of copper cables by 78% and increase in reliability of the system, thus reducing the carbon footprint.

technology, procedure for asset mapping has been developed. Method for finding vulnerability of asset based on disaster situation (flood, cyclone, earthquake etc.) has also been developed.

Subsequently, Northeast Agra HVDC line has been mapped and analyzed on Assam flood areas. Similarly, Talcher-Kolar HVDC line has been mapped and analyzed on cyclone hazard areas using Bhuvan web GIS. This pilot project will help POWERGRID classify its assets based on vulnerability, enable quick decision-making in disaster situations, and optimize resources for operation and maintenance of Transmission lines.

R&D Centre, Manesar

To pursue its R&D objective of commanding the power transmission sector, POWERGRID is establishing an R&D Centre at Manesar, Gurgaon (Haryana). State-of-the-art simulation and laboratory facilities for power system simulation, Advanced Diagnostics, Wide Area Monitoring Systems, Substation Automation system, Material Science Lab, Civil Engineering simulations, Transmission line and substation design, simulation and validation, Smart Grid knowledge centre etc. are being developed in the centre.



Building Trust in Community and Rural Areas

**Till March 2017, infrastructure has been created for electrification
of 79,000 villages in 70 districts of 9 states**

Service connections have been provided to about 37.5 lakh BPL households

POWERGRID initiates all development activities with active involvement of the all stakeholders, respecting the rights of the community without violating any national and state laws. Public consultation & information dissemination is an indispensable part of our project planning and implementation. Our commitment towards Social Responsibility is amply reflected in our policies such as ESPP, OHSAS 18001, Social Accountability SA 8000 and CSR Policy.

In line with the Government of India's aim of providing electricity for all citizens, **during the reporting period, infrastructure was created for electrification in 7325 partially electrified / un-electrified villages and Service connections were provided to more than 1,50,000 BPL households.**

Rural Electrification (RE) work in Uttar Pradesh (UP) and Odisha has also been assigned to POWERGRID. In Odisha, RE work in 15 districts at an estimated cost of around ₹ 1,800 Crore, for electrification of 11,897 villages (590 un-electrified and 11,307 partially electrified) and for providing service connections to about 3 lakh BPL households, is under progress.

The implementation of IPDS work in Varanasi assigned by Purvanchal Vidyut Vitaran Nigam Limited (PuVVNL) involves conversion of existing overhead distribution network to underground system. Till March 2017, 1,000 km of 1,340 km cable work has been completed. Further, 30,000 consumers were connected to the new underground system.

We ensure safety of the community by complying with General Safety Provisions and Standards as laid down in our policies. Improved mechanisms of emergency rescue and user-side safety checks ensure that there are no major accidents during the construction and maintenance activities. We also spread awareness on safe and proper usage of electricity via newspaper advertisements. Both in-house and independent studies have confirmed that Electro Magnetic Field (EMF) levels are well within the prescribed international limits/norms. There were no public fatalities during the reporting period.

Building Trust in Employees

We have maintained a culture that ensures personal and professional development of our employees. The employee attrition rate was considerably low at 1.47% and 2.05% during FY 2016 and FY 2017 respectively. Employees are kept abreast of the latest development and policies of the company through newsletters, house journals, wall magazines, lounge and regular media updates. Open house sessions are regularly organized for one-to-one interaction between management and employees.

As an OHSAS 18001 certified organization, we ensure that all the processes and systems regarding safety and health at work are strictly adhered to, creating a safe working environment for our employees. All employees are given training on basic health & safety norms and undergo regular preventive checkups.



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Building Trust in Supply Chain

Strong and reliable supply chain is integral to our growth and our open, transparent and non-discriminatory processes ensure that our vendors are selected on the basis of innovation quotient, supply assurance, product quality and cost competitiveness. In order to enhance transparency, we follow a structured e-tendering/award process.

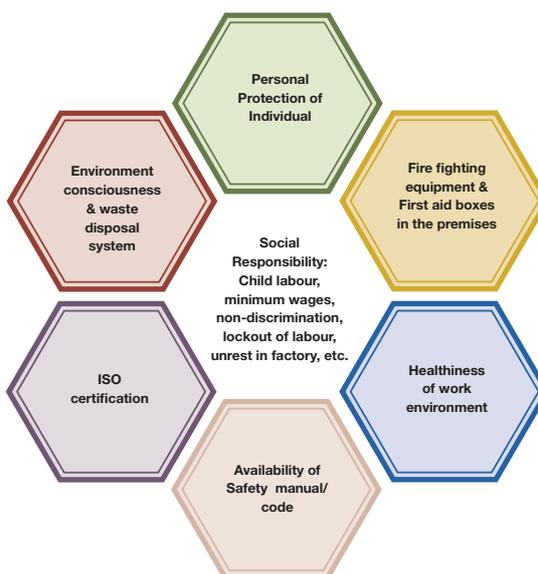
We promote local sourcing and encourage technical cooperation with suppliers, promoting localization and domestic production. Over the decade, we have been successful in developing indigenous technologies through well-established supply chain.

In order to give an impetus to the Government's 'Make in India' initiative, a mandatory provision in many of the procurements under global bidding provisions regarding establishment of manufacturing facility in India by all foreign suppliers has been made a part of the bidding document. Few Indian suppliers have also been promoted by providing some relaxation in qualifying parameters without compromising on quality, with a provision of extended warranty of their equipment. Indian manufacturers are also given an opportunity to bid in technical collaboration with a foreign supplier as a partner.

Micro and Small Enterprises (MSE) are given certain relaxations such as exemption from bidding document fee, submission of bid security, relaxation of 20% on financial criteria of MAAT and LA, consideration of award upto 20% of the package award to MSEs in few cases etc. During 2016-17, the total eligible value of annual procurement of goods produced and services rendered by MSEs (including MSEs owned by SC/ ST entrepreneurs) was ₹ 3,410 Crore. Total procurement from MSEs (including MSEs owned by SC/ST entrepreneurs) was ₹ 777 Crore (22.79%).

"National Vendor Development Programme cum Industrial Exhibition for Micro & Small Enterprises" was also organized in association with MSME Development Institute, Okhla, New Delhi.

During the reporting period, we empanelled 232 new suppliers (210 Domestic and 22 International). Process audits continued pan-India in the manufacturing units of various vendors, sub-vendors and across the supply chain to achieve the target of optimization of product. Smart Inspections have been taken up on a wide scale. Quality Inspections and assessment of vendors covers various technical aspects and performance of vendors on labour issues, human rights, social issues etc.

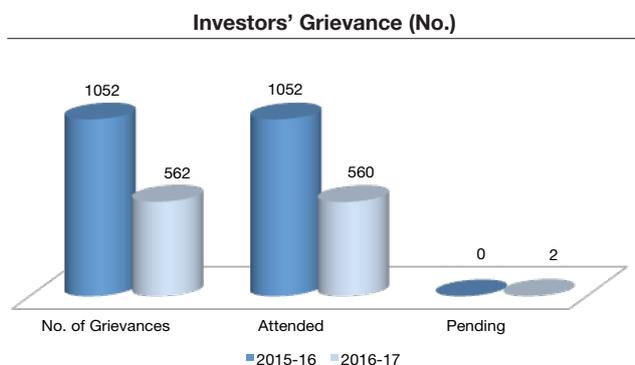


Year	Total Contracts Awarded*		Domestic Bidding		International Bidding	
	Numbers	Amount (₹ Crore)	Numbers	Amount (₹ Crore)	Numbers	Amount (₹ Crore)
2015-16	214	17,427	118	8,550	96	8,877
2016-17	304	30,271	162	8,178	142	22,093

Safety plan is an integral part of contract document and all vendors are advised through various vendor meets regarding such plans and their compliances before submitting their bid. The environment, social issues, labour compliance and sustainability issues are also given due importance in such vendor meets.

Building Trust in Shareholders

The company has been continuously outperforming all targets set by MoU and expanding its business. The CMD addresses all its shareholders in the presence of a board at least once a year at the Annual General Meeting and at several other analyst meets.



Building Trust in Government

As the backbone of the Indian Power Sector, we interact extensively with various state and national level government departments such as MoP, MoEFCC, CERC, CEA etc. on a regular basis. Interactions cover the following aspects -



Our annual targets are set in association with the Government of India through a formal Memorandum of Understanding (MoU). Year on year we challenge our capacities to achieve bigger targets, strengthen our policies to operate efficiently and minimize the impact on communities affected by our business. While implementing the same, Government of India plays a very important role in facilitating necessary approvals, securing settlement of dues with the State Discoms and providing sovereign guarantee for loans from multilateral funding agencies such as World Bank, Asian Development Bank and KfW.

The basic responsibility of transmission system planning lies with the CEA based on the projection of energy demand and supply. The intricacies of transmission system are discussed and planned in consultation with CTU, POSOCO and other State Utilities. POWERGRID being the CTU of the country acts as a coordinator of all stakeholders including CEA, RPCs,

* Corporate Office

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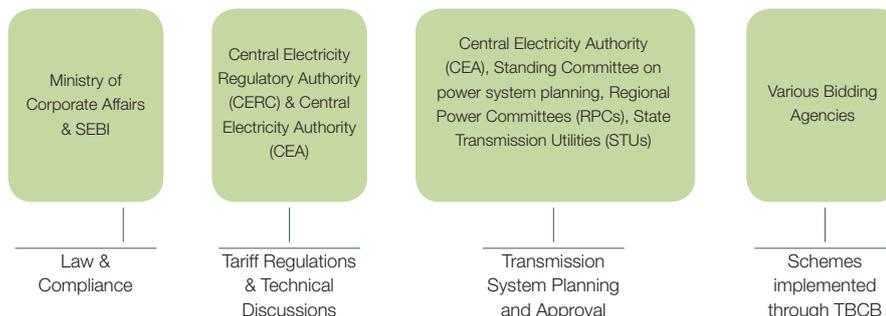
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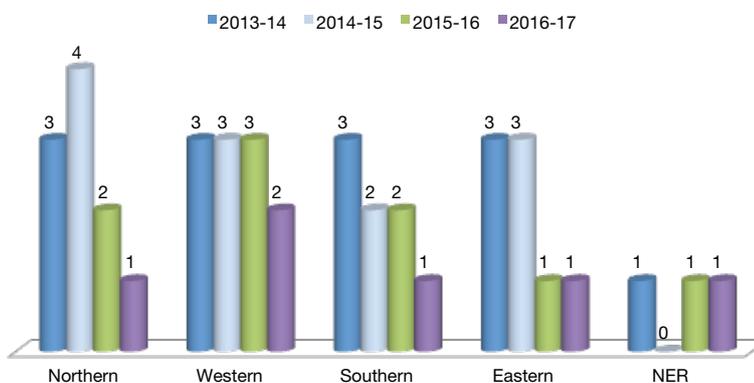
STUs, Generating Companies, etc. As a listed Public Sector entity, POWERGRID is regulated by the guidelines of Ministry of Corporate Affairs and SEBI. For ensuring revenue generation from our transmission business, various technical discussions are held with Central Electricity Regulatory Commission (CERC).

We regularly interact with the Ministry of Environment, Forests and Climate Change and State Forest Department, for forest and wildlife clearances.

STAKEHOLDERS



No. of Standing Committee Meetings



Materiality Analysis and Mapping

POWERGRID's sustainability strategy is aligned with its principal business and operational risks. Over the years, the strategy has been reassessed and reworked to align the organization with the existing market conditions. Our sustainability prioritization exercise helps us segregate and prioritize sustainability issues on severity of impact/ importance.



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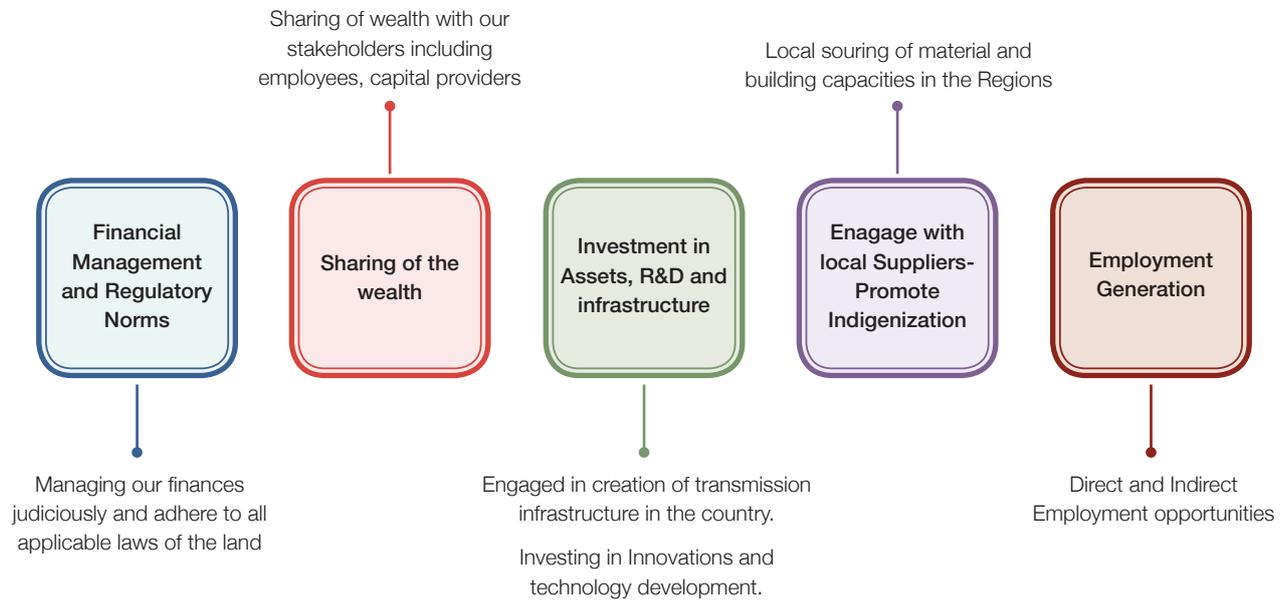
Corporate Social Responsibility



Economic Performance

Felicitated at The Economic Times Power Focus 3rd Annual Summit for commendable initiatives and excellent contribution in Power Sector

Our corporate strategy is designed to closely align with strategic government initiatives so that we contribute to achieving the country's vision and goals for a sustainable economy. POWERGRID aims to maximize its direct economic contribution through sound management of its core business and its investments. Our indirect contribution is a consequence of our procurement, infrastructure investments and the involvement of local people and businesses in our supply chain.



**Growth of 42%
over the net profit
gained in 2013-15**

We have recorded a total profit of ₹ 13,468.65 Crore in the current reporting period, an increase of 42% over the net profit gained in 2013-15. POWERGRID's stock has shown tremendous performance continuously over the years. Earnings per share (EPS) increased to ₹ 14.37 in FY 2017 from ₹ 9.52 in FY 2015.

During the reporting period, POWERGRID took up new projects for implementation worth more than ₹ 49,500 Crore. Moreover, POWERGRID has invested ₹ 47,013 Crore for implementation of its projects and achieved assets capitalization of more than ₹ 62,788 Crore during the reporting period. Funds for the same were mobilized through private placement of bonds, term loans, external commercial borrowings, internal resources and loans from multilateral funding agencies.

POWERGRID continues to maintain its rating of 'AAA' by CRISIL, ICRA and CARE ratings.

Transmission business is the main focus of POWERGRID that continues to be the highest contributor to the revenue of the company. However, the reporting period has seen giant leaps in consultancy assignments and telecom revenue. Consultancy and Telecom have contributed more than ₹ 1,943 Crore to our revenue during the reporting period.

POWERGRID received ₹ 1,230.02 Crore in tax relief from the Government of India in 2015-16. The Company has been consistently paying dividends to its shareholders throughout the reporting period.



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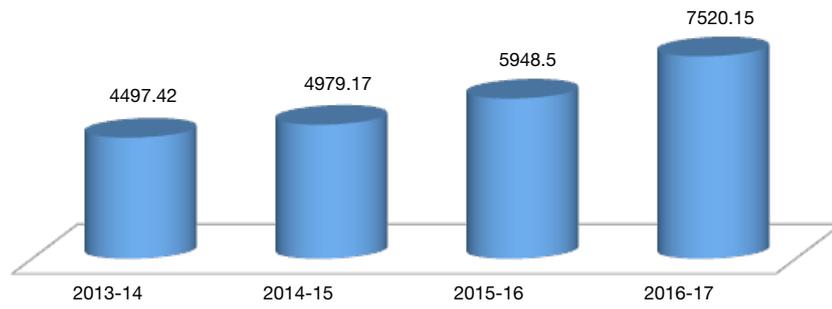
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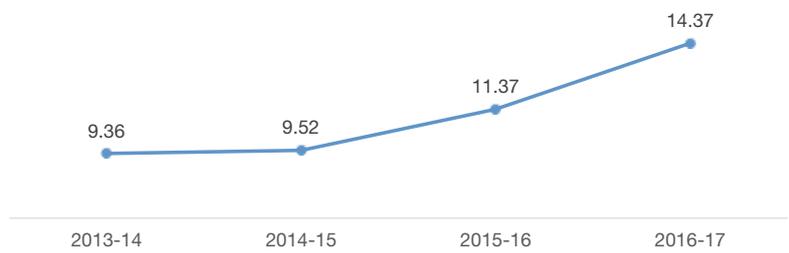
Corporate Social

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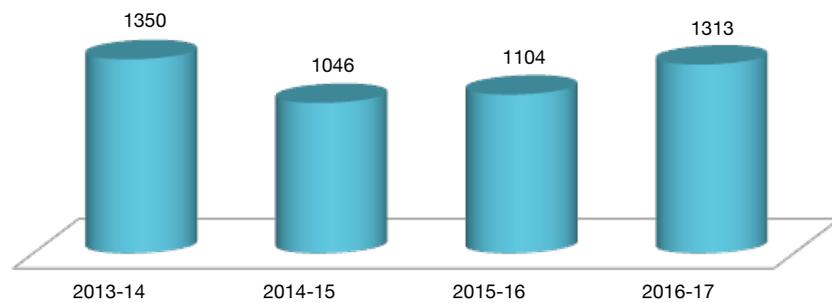
Net Profit (₹ Crore)



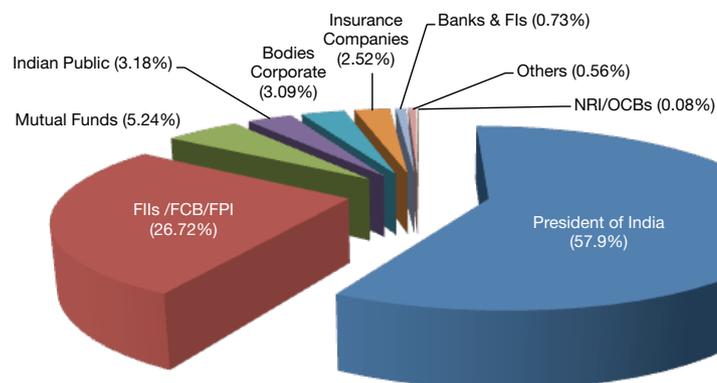
Earnings per Share (₹)



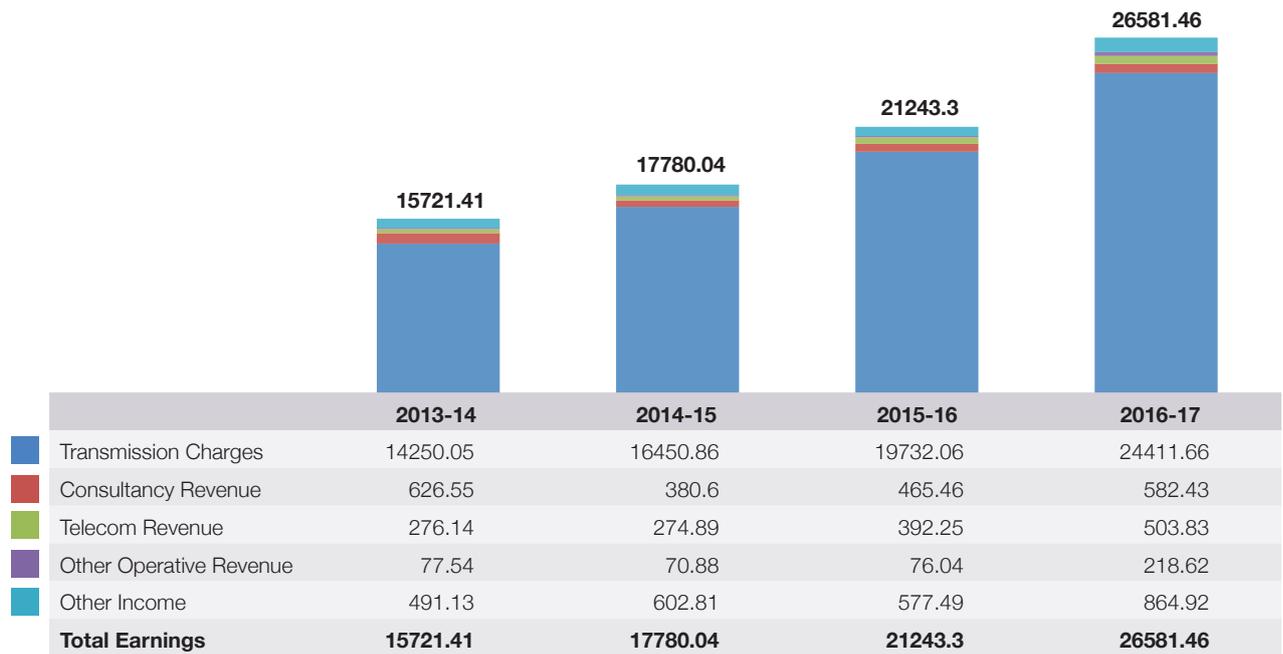
Dividend (₹ Crore)



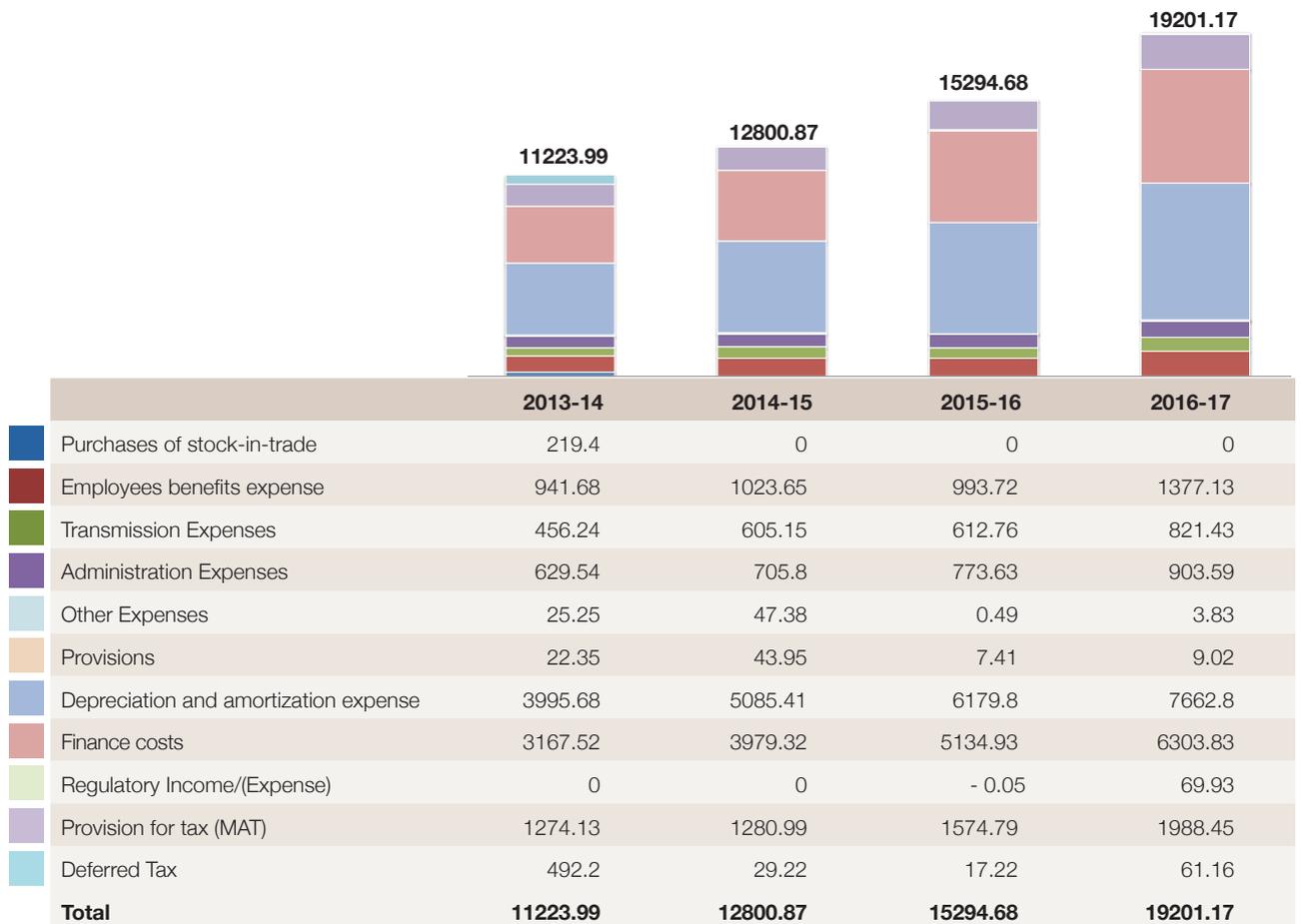
Shareholding pattern (%)



Direct Economic Value Generated (₹ Crore)



Direct Economic Value Distributed (₹ Crore)



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“Reduce where we can and mitigate where we cannot.”

Environmental Stewardship

“Clean Energy Award, 2016” for Best Power Transmission Utility Company-India for its remarkable efforts in the field of Sustainable Development and promoting clean energy transmission by AI Global, UK

Our business activities are non-polluting in nature and do not involve disposal of any pollutant in land, air, water or any large scale excavation resulting in soil erosion. However, due to our large scale of operations, we realize that there may be some impact on natural environment. POWERGRID, being a responsible corporate entity, always endeavors to protect and conserve environment in areas of its activities from inception to implementation. It developed a comprehensive Environmental and Social Policy & Procedures (ESPP) in 1998 and has upgraded the same from time to time, in line with changing regulatory norms and international best practices, to pre-empt all possible environmental and social issues.

POWERGRID has now attained the unique distinction of becoming the first organization in the world, whose safeguard policy (ESPP) has been accepted by two major multilateral agencies viz. The World Bank & ADB. The ESPP has also been greatly appreciated by other international organizations of high repute like KfW and JBIC, etc.

Maintaining our commitment towards environment protection, we incurred an expenditure of ₹ 605 Crore during the reporting period and we are pleased to report that no issues were reported relating to non-compliance with environmental laws and regulations.

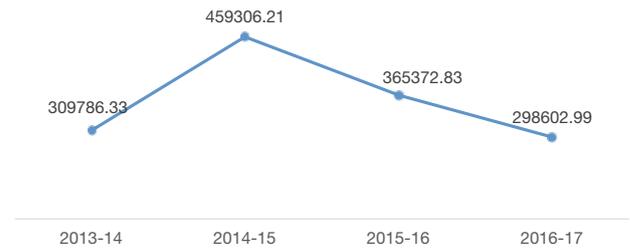
We have a dedicated Environment and Social Management Deptt. (ESMD) at the Corporate Level headed by an Executive Director and supported by professionals with Technical, Social and Environment expertise. Dedicated Environment and Social Management Cells (ESMC) at all regional headquarters and Environment and Social Management Teams (ESMT) at site level manage environment and social activities under the supervision of Corporate ESMD.

Conservation of Right of Way

POWERGRID is fully conscious of the need to conserve natural resources and avoids forest, ecological sensitive



RoW Savings due to Construction of 765 kV lines ('000 sq. m.)



Note: Savings have reduced due to decrease in number of 765 kV lines commissioned during the period.

areas like Wildlife Sanctuaries/ National Parks/Biosphere Reserves and Coastal Regulation areas as far as possible through optimization of route alignment.

During finalization of route alignment of the line, ecologically sensitive areas are avoided even if it involves increase in the length of the line. This was evident in cases such as complete avoidance of Nongkhyllam Wildlife Sanctuary in Meghalaya for 220 kV D/c Byrnihat-Mawngap-New Shillong line under NERPSIP, avoidance of the Great Indian Bustard Sanctuary and Achanakmar - Amarkantak Biosphere Reserve by increasing the line lengths for construction of 765 kV S/c Indore-Dahod line & 765 D/c Dharamjaygarh-Jabalpur line, respectively.

In spite of best efforts, 765 kV D/c Gwalior-Jaipur was routed through 1 Km of Chambal Crocodile Sanctuary and 4.1 Kms of Great Indian Bustard (GIB) Sanctuary in Madhya Pradesh & 1 Km of Chambal Crocodile Sanctuary in Rajasthan due to peculiarity of terrain and geographical constraints.

Following the basic principle of avoidance & minimization, involvement of forest has been reduced progressively from 6% in 1998 to 2.26%. However, in some cases where involvement of forest area becomes unavoidable, forest clearance is obtained under Forest (Conservation) Act, 1980.

New technologies like Gas Insulated Switchyard (GIS) require substantially lesser land area in comparison to the traditional Air Insulated Switchyard (AIS). Recognising its benefit, POWERGRID has taken a policy decision to establish GIS substations in city area and install multi-circuit tower in one km radius of all new substations.

Our continuous effort towards ensuring fair compensation for diminution land value for tower base and line corridor has been recognised by the Government of India. Accordingly, the Ministry of Power has come up with guidelines on payment of compensation for Right of Way in addition to crop and tree compensation. Adoption of these guidelines will have a revolutionary impact on the transmission sector

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and will pave the way for inclusive growth through enhanced compensation to farmers/land owners and end of resistance for such infrastructure projects in the country.

POWERGRID's key initiatives towards addressing environmental externalities

associated with its business processes are:

- Design & Installation of innovative towers such as multi-circuit & pole towers in lines have not only conserved the precious Right of Way (RoW) but also substantially reduced felling of trees as well as facilitated conservation of wildlife in ecologically sensitive areas.
- Installation of Gas Insulated Switchyard (GIS), instead of Air Insulated Switchyard (AIS) near habitation/town areas has substantially reduce land requirement.

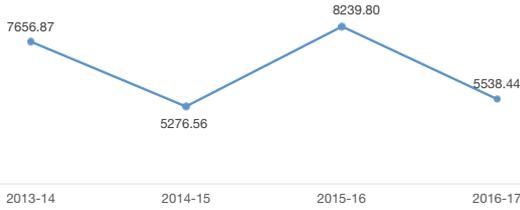


- Installation of LED bulbs & solar street lighting in substation, fuel catalysts devices for DG sets etc.
- Installation of a 40 kWp Solar PV System at RHQ Building, Nagpur in addition to 50 kWp Solar PV System at Gurgaon Office Complex. resulted in reduction of about 47 tons of CO₂ annually.
- Plantation of more than 15,000 trees across 175 locations.
- The Company is providing professional and financial support to Varanasi Nagar Nigam for efficient and effective collection, storage, transportation system and decentralized composting for MSW Waste in 25 wards of Varanasi.
- Usage of fly ash bricks, wherever possible for construction of new buildings.
- Metallic return in HVDC system instead of earth electrode stations resulting in further reduction in requirement of precious land and enhanced safety due to reduced risk of exposure to electro-magnetic field.
- Provision of Rain Water Harvesting facility has been made a mandatory part of all substation design.

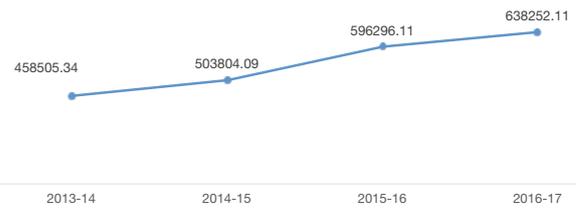
Energy Efficiency

Our approach to energy conservation focuses on reduction in total energy consumption and enhancing the use of renewable energy sources. Since lighting at substations, colonies and office buildings, is where we consume most electricity, initiatives such as installation of LED bulbs, fuel catalysts devices for DG sets, installation of solar photovoltaic in office buildings, have been taken up to reduce energy consumption.

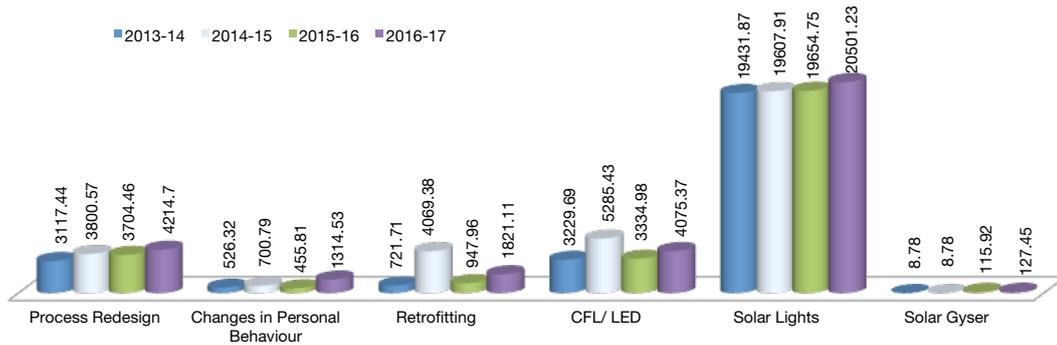
Direct Energy Consumption (GJ)



Indirect Energy Consumption (GJ)



Energy Savings (GJ)



Solar lights and LEDs are also being installed/replaced in control rooms and for street lighting at substations. We are focusing on energy efficiency initiatives and sourcing energy from renewable sources. During the reporting period, Southern Region-II Headquarter building at Bangalore and National Transmission Asset Management Centre (NTAMC) at Manesar were certified for Energy Management Systems as per ISO 50001 requirements.

Renewable Energy Integration

POWERGRID is playing a crucial role in the integration of Renewable Energy resources with the grid and is undertaking development of Green Energy Corridors as well as transmission schemes for Ultra Mega Solar Power Parks. A high capacity Green Energy Corridor is being established which will serve a dual purpose of facilitating inter-connection of large scale renewable energy into the National Grid as well as enlarging the balancing area to address renewable volatility. In addition, transmission schemes for 7200 MW Ultra Mega Solar Power Parks are also under implementation in various states. Besides, we have established country's first grid interactive energy storage pilot project with different battery technologies. POWERGRID is taking up the flagship responsibility of establishing maiden Renewable Energy Management Centers (REMC) at 11 locations in various RE resource rich states (Tamil Nadu, Andhra Pradesh, Karnataka, Maharashtra, Gujarat, Madhya Pradesh, Rajasthan), Regional Load Dispatch Centers at SR, WR, NR, and at National Load Dispatch Centre. This would enable forecasting of renewable resources and efficient management of variable renewable generation ensuring grid stability & security.

POWERGRID has established country's first grid interactive energy storage pilot project with different battery technologies. The findings of the energy storage project would be helpful in its large scale deployment to address intermittency and variability of renewable generation.

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Smart Grid

POWERGRID, through continuous research & development, has implemented Smart Grid applications over the past few years and is providing consultancy for nine projects covering distribution infrastructure, advanced metering infrastructure, intelligent outage management, electric vehicle charging stations, power quality management, distributed generation and net metering.

POWERGRID is also closely associated with implementation of Smart Grid at Varanasi and Gurgaon as part of Government's endeavour towards Smart City development.

Towards Smart transmission, POWERGRID is implementing Phasor Measurement Unit (PMU) based Unified Real Time Dynamic State Measurement (URTDSM) project, integrating all State and Central grids for Wide Area Measurements (WAMS). In addition, analytics using PMU data are being developed in association with IIT Bombay.



Water Conservation

We do not have any significant impact on water resources since water is not required for any of our operations & processes and is only used for domestic consumption for offices, colonies and horticulture.

Various initiatives have been taken for improving water use efficiency and achieving zero discharge. No industrial effluents are generated in our operations. All substations have implemented an integrated water management approach focused on rain water harvesting system, which is an integral part of every new substation design.



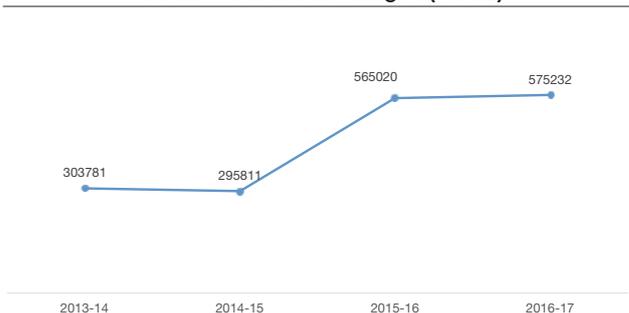
Emission Control

The direct GHG emission is attributed to DG sets, which are used for backup and emergency power. All installed DG sets are well-maintained and comply with the prescribed emission standards/norms.

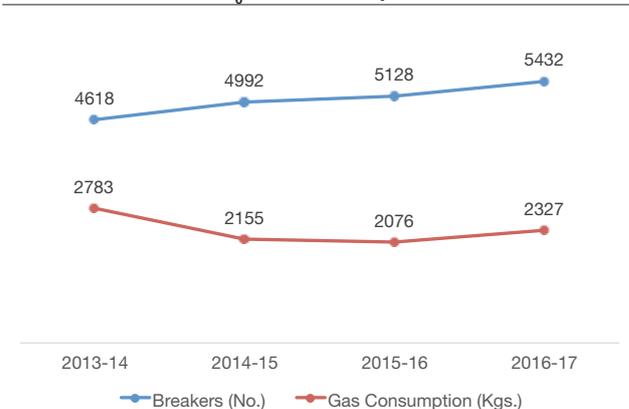
Leakage of SF₆, a potent GHG used in Circuit Breakers, is arrested through systematic and regular monitoring. All SF₆ filled equipment are monitored regularly and any drop in pressure is acted upon immediately. Equipment in question is tested for leakage points by a very sensitive SF₆ Leakage Detector. The Leakage points are immediately attended to arrest any SF₆ discharge into the atmosphere. Considering the potential impact of SF₆ gas, efforts are being made to find its replacement as well as to make the leakage norms stringent.

For instance, permissible limit of SF₆ leakage for GIS has been restricted to 0.5% instead of 1%. Due to operational measures already in place, the gas consumption has reduced by 17% w.r.t. 2013-14 inspite of 17% increase in the number of breakers. Procurement of equipment using ODS like CFC, Halon, has been banned in line with the Montreal protocol signed by India.

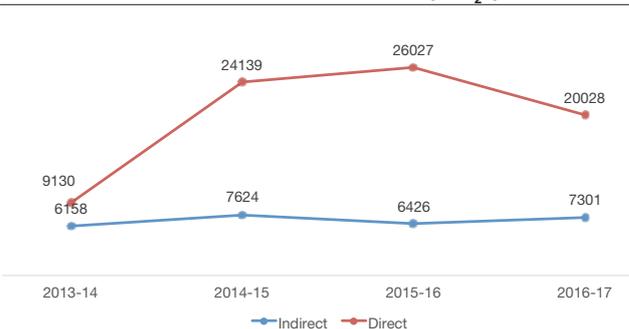
Volume of Water Recharged (cu. m.)



SF₆ Gas Consumption



Reduction in GHG Emission (tCO₂e)



119% increase in reduction of direct GHG emission w.r.t 2013-14

18% increase in reduction of indirect GHG emission w.r.t 2013-14

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Waste Management

The 3-R Waste hierarchy – Reduce, Reuse, Recycle – forms the cornerstone of our waste management programme at POWERGRID. Due to the nature of our activities, there is no major solid or liquid waste generated except metal scraps, used batteries, transformer oil and electronic waste.

Disposal of used batteries follow the norms laid down by MoEF under 'Batteries (Management and Handling) Amendment Rules, 2010' that is either through buyback or registered recyclers. Since used transformer oil has been declared as a hazardous waste, it is disposed off once every 10 to 15 years and its disposal process is as per the norms stipulated in the 'Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016'.

To arrest any oil spill, construction of oil sump/pits are made an integral part of design with connection of individual pits to main collection sump. During the reporting period, no major spills resulting in contamination of ground water were reported and there was no transportation or treatment of hazardous waste as per the terms of Basel Convention.

Our "Waste Paper Recycling" initiative at our Gurgaon GIS has led to a substantial reduction in procurement of paper and stationary items from the open market which has further reduced our carbon footprint.

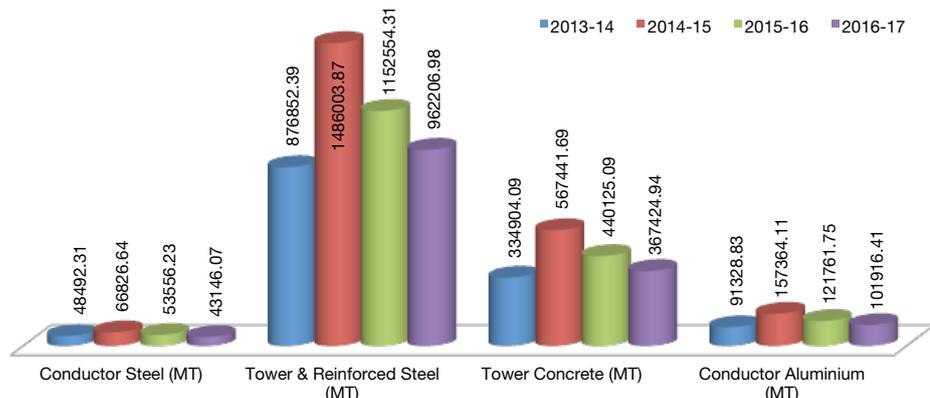
Material Management

Our focus is on reducing the consumption of major raw materials like Steel, Aluminum etc., through efficient designs. Accordingly, the specific consumption of these raw materials have been reduced over the years through technological innovation using high capacity transmission lines i.e. 765 kV, ±800 HVDC for transmitting bulk power.

The scrap is recycled again to reproduce finished products which may be reused in our tower parts/equipment.

Savings in Raw Material Consumption due to shifting from 400 kV to 765 kV lines

(765 kV D/c: 5000 MW, 400 kV D/c: 1000 MW)



Consolidated Environment Performance Data

EN-1: Materials used by weight or volume

Raw materials Used/Consumed	Materials Used	
	2015-16	2016-17
Steel (Tower Parts & Reinforcement) (MT)	12,92,141	8,67,045
Steel (Conductor) (MT)	43,894	30,482
Aluminium (Conductor) (MT)	1,66,405	1,20,624
Concrete (MT)	15,35,636	12,93,208
Transformer Oil (KL)	17,656	25,934
Insulators (120 KN & 160 KN) (Nos)	64,34,194	44,49,334

EN-23: Total weight of waste by type & disposal method

Type of waste	2015-16		2016-17	
	Non Hazardous			
Steel (Scrap) (MT)	1,155		28,085	
Aluminium (Conductor) (MT)	813		1,693	
Insulator (Nos)	1,40,884		4,95,363	
Hazardous				
Used Batteries (Nos)	1,319		2,300	

EN-28: Products sold and their packaging materials that are reclaimed by category

Name of Packaging Material	Quantity Sold/Disposed off (Kg)	
	2015-16	2016-17
Wood such as Wooden Boxes, Cable drums etc	13,00,965	5,81,884
Oil Drums	7,57,155	4,71,612
Steel	80,834	3,14,547

EN-31: Total environmental protection expenditures and investments by type

Description of Protection measures	Cost Incurred (₹ Crore)	
	2015-16	2016-17
Plantation activity undertaken at substation	0.61	1.18
Cost of Compensatory afforestation (CA), Net Present Value (NPV), Wildlife Management Plan, supervisory charges, tree cutting cost, Medicinal plantation and any types of expenditure as per forest clearance	470.07	119.23
Installation of Rain water harvesting system	0.53	0.62
Implementation of EMP/certification	7.56	5.36
Total	478.77	126.39

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Human Capital

“Most Innovative use of Training & Development as an HR Initiative for Organization Development” by World HRD Congress

“Training Excellence in HR-Silver Award” for Outstanding Achievements in Training at the 5th Annual Greentech HR Award 2015

“Training Excellence Award” and “Knowledge Management Leadership Award” by World HRD Congress.

**POWERGRID has been recognized as
one of the India's Best Companies to Work by the Great Place to Work Institute and its ranking has
improved to 31 in FY 2016-17 from 58 in FY 2015-16 out of 700+ companies**

POWERGRID's emphasis on employee wellbeing ensures a happy and productive workplace. Our policies are focused on development of human potential through sustained efforts by providing adequate skill upgradation, career enhancement and job rotation, to help our employees achieve personal and organizational goals.

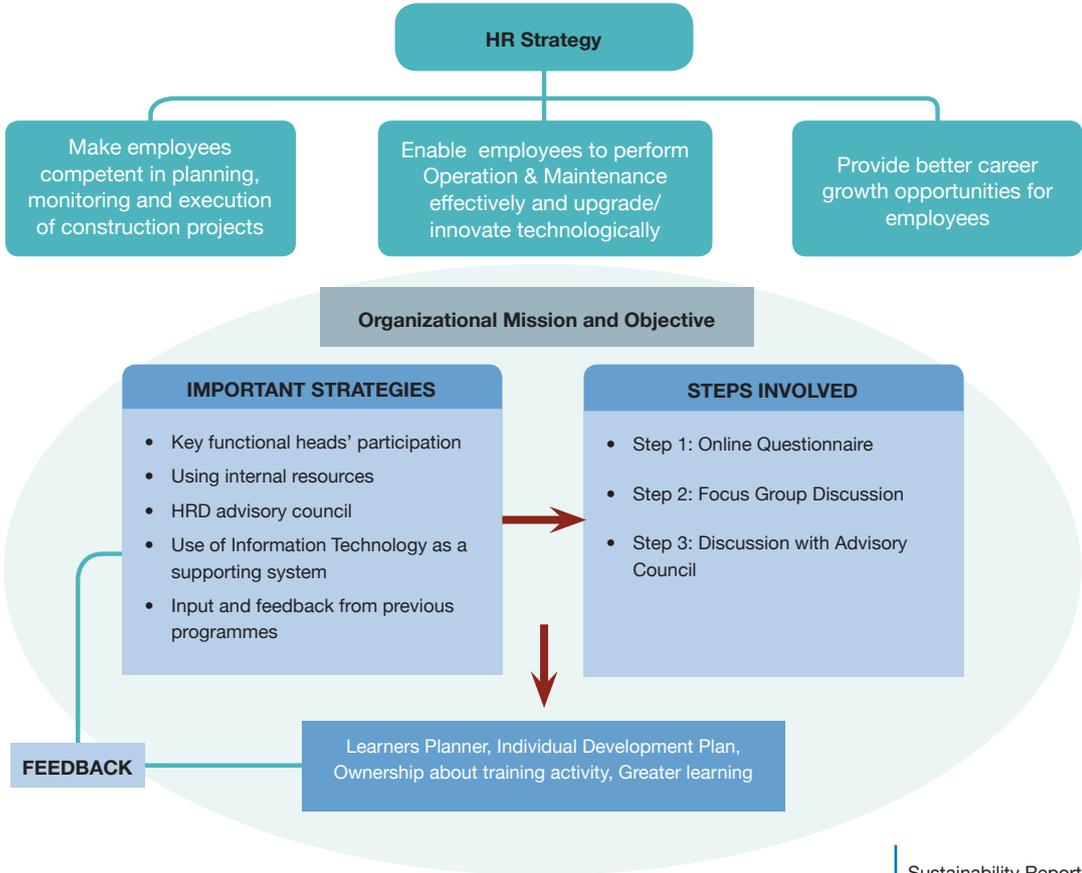
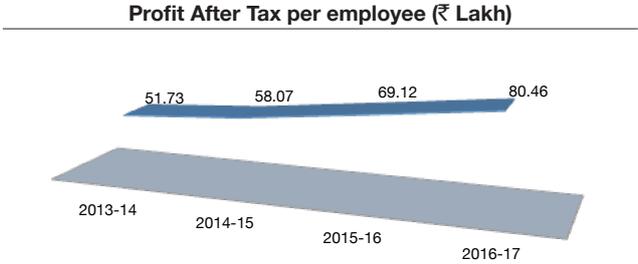
Our performance-oriented culture and a constant endeavour to build competencies, has helped us retain highly competent employees, as well as attract new talent that increasingly contributes to our growth.

Our policies encourage our workforce to stay abreast of global skills and technologies. POWERGRID has thus been able to create a world-class learning organisation.

Learning and Development

HRD, through its training and development interventions, has played a key role in creating a future-ready workforce. Organizational Need Assessment (ONA) and competency-based Training Need Analysis (TNA) are conducted regularly. These assessments help determine individual competency enhancement requirements, on the basis of which the training programmes are formulated and planned.

HRD Action Planner, finalized through multi-disciplinary interaction, is a strategic instrument to encounter performance challenges and evolve programmes for operational excellence and strategic value addition. Employees are trained in the respective areas based on their training needs and Training Plan Matrix.



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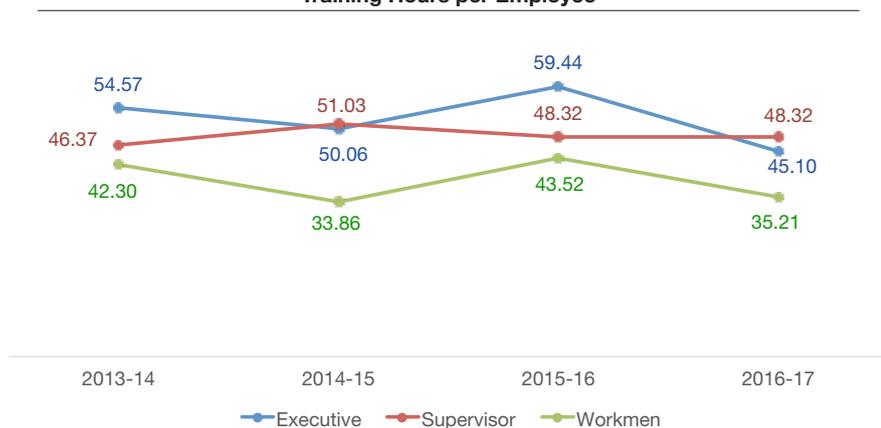
Competency Based Training Need Assessment Process

POWERGRID's 5-step training alignment process



In 2015-16 and 2016-17, the average training man days per employee were 6.48 and 5.6 respectively. The training expenditure (excluding Travelling Expenses) was ₹ 25.4 Crore and ₹ 22.13 Crore in 2015-16 and 2016-17 respectively.

Training Hours per Employee



In order to inculcate and further strengthen the leadership qualities of our employees, various training programmes are also taken up in association with leading institutes through MoU like IIT (Delhi), BIMTECH (Noida), IIM (Lucknow), IIM (Bangalore), CPRI (Bangalore), IIT (Chennai), IIFT (New Delhi), ISB (Hyderabad), ASCI (Hyderabad) and IIT (Roorkee).

Apart from focused functional and behavioral development of its employees, POWERGRID also conducted Programmes on Women Empowerment and Empowerment of employees by self-growth (for reserve category employees) and special programme for differently abled employees.

For enabling senior executives in their career advancement, Transformational Leadership Programme (TLP) and Transformation Management Programmes (TMP) were conducted at



reputed institutions. POWERGRID Academy of Leadership (PAL), a state-of-the-art, World Class Institute commissioned by POWERGRID at Manesar has been providing induction training, managerial and behavioural programmes to its employees and various power utilities at National and International levels.

Career Development

At POWERGRID, Appraisal System is used as a tool to manage performance and achieve organizational MoUs. The focus is on managing quantifiable targets and make the system as objective as possible. Key features of the system are:

- ▶ Performance planning, analysis and review
- ▶ Generating a healthy problem-solving dialogue between reporting officer and subordinate
- ▶ Improving communication and performance counseling
- ▶ Improving levels of motivation through goal clarity.

The Performance Management System of the company under "HR Policy" provides the basis for determination of merit, efficiency, potential and suitability of Executives and Managers for positions of higher responsibility. Departmental succession planning is also carried out in POWERGRID based on the job-rotation and retirement pattern of executives and non-executives in their respective areas of work. Heads of departments are groomed and trained to assume leadership positions with posting in similar jobs or parallel orientation planning. Performance appraisals are carried out annually. The process involves setting of KRAs in consultation with seniors and followed by mid-year and year-end review.

At a very initial phase, employees undergo an exhaustive programme comprising of both technical and soft skills trainings on various aspects/ functions of the company. The Middle Management executives are groomed by top management and trained in various management skills to assume senior leadership positions.

Accelerated Career Growth Scheme for non-executives is already in place to encourage employees to have learning orientation.



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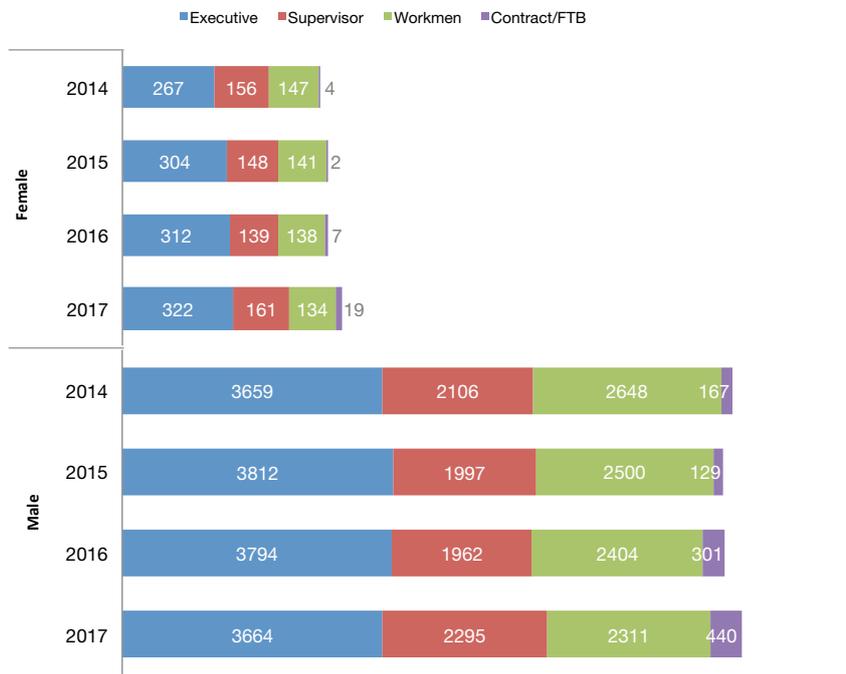
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Diversity and Inclusion

POWERGRID ensures diversity at all levels. The same is also reflected in our composition of the Board. The details for the same can be assessed at the link given in the Corporate Governance chapter.

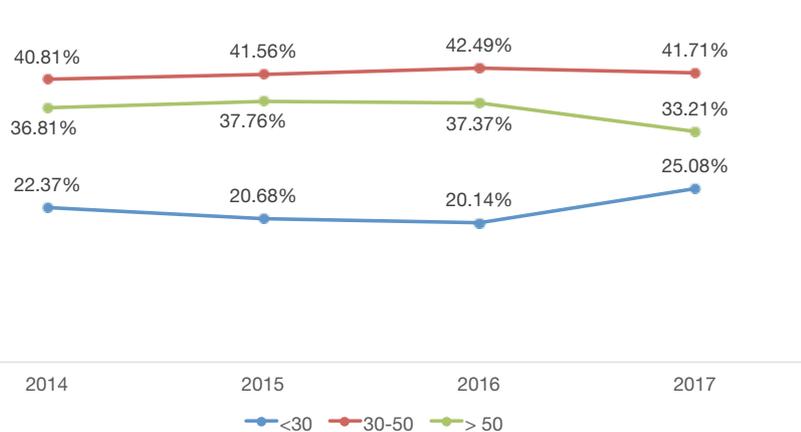
POWERGRID is an equal opportunity employer, strictly adhering to payment norms. All our employees are compensated equally based on the level or grade of their employment. Equal remuneration is paid to men & women, and salaries are uniform across the country for a given grade. Due to locational constraints, our sector is traditionally dominated by male working force, and therefore we are making efforts to make our workplace more gender balanced. The strength of women in our company has improved from 5.95% in FY 2010 to 6.8% in FY 2017.

Employee Distribution by Gender (No.)



As on 31.03.17, the average age of our employees is 41.08 years, with Executives forming major part of the > 30 years age group.

Employee Distribution by Age

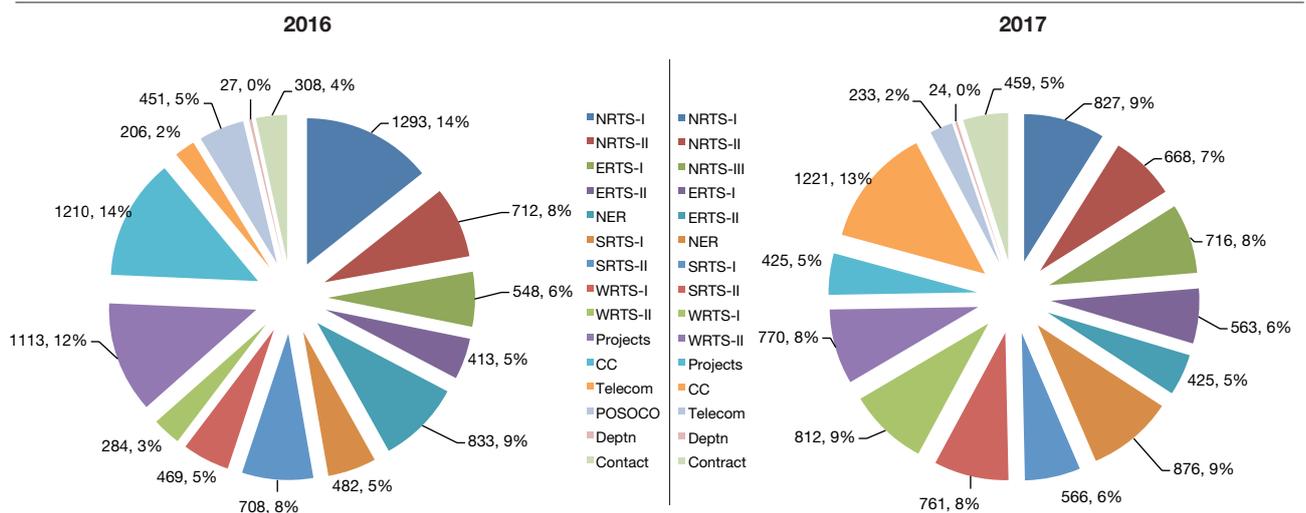


Transmission projects generally takes 2 to 5 years and are spread over many locations. Due to the nature of activity and deployment of manpower at different locations, it is very difficult to document the exact number of man-days spent.

As on 31.03.17, POWERGRID is operating through 14 regions/projects, for better implementation of our policies and efficient management:

- Corporate Centre: Located at Gurgaon
- Northern Region Transmission System I: RHQ: New Delhi
- Northern Region Transmission System II: RHQ: Jammu
- Northern Region Transmission System III: RHQ: Lucknow
- Eastern Region Transmission System I: RHQ: Patna
- Eastern Region Transmission System II: RHQ: Kolkata
- Odisha Proj. HQ: Bhubaneswar
- Southern Region Transmission System I: RHQ: Hyderabad
- Southern Region Transmission System II: RHQ: Bangalore
- Western Region Transmission System I: RHQ: Nagpur
- Western Region Transmission System II: RHQ: Vadodara
- North Eastern Region Transmission System: RHQ: Shillong
- Raigarh-Pugalur-Trichur IC: HQ: Bangalore
- NERPSIP: HQ Guwahati
- W-N I/c Project: Kurukshetra and Champa

Regionwise Workfore Distribution (No., %)



POWERGRID undertakes job rotation as an effective means to ensure availability of skilled workforce across its locations. However, in states such as J&K, NER etc., involving difficult terrains and states in which local language is dominant, employees belonging to the same state are posted at locations, to ensure smooth functioning in coordination with locals. 42.4% and 42.9% employees were posted in the domicile state in FY 2016 and FY 2017 respectively.

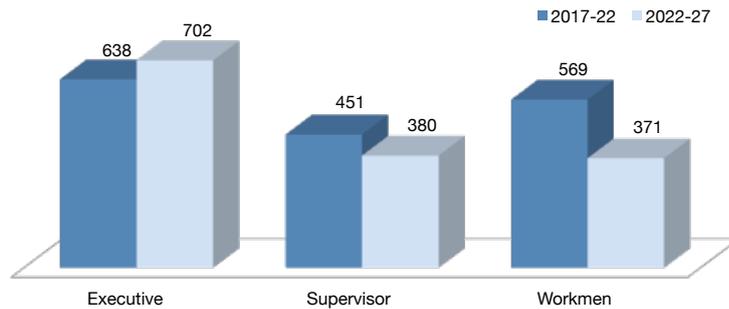
Recruitment & Turnover

For maintaining quality, efficiency and fairness, the recruitment process of executives is centralized at Corporate Office and for non-executives recruitment is done on regional basis. However, for specialized projects which necessitate the engagement of local talent, we conduct campus recruitment drive in and around the region of operation. During FY 2016 & FY 2017, 468 & 1198 people were recruited respectively.

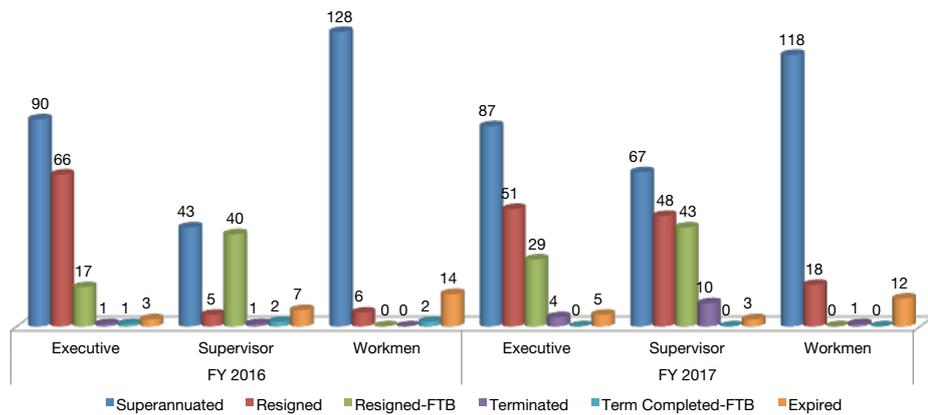
Our policies, best practices and the growth opportunities make us an attractive employer which is evident in our low attrition rate of 1.47% and 2.05% during FY 2016 and FY 2017, respectively.

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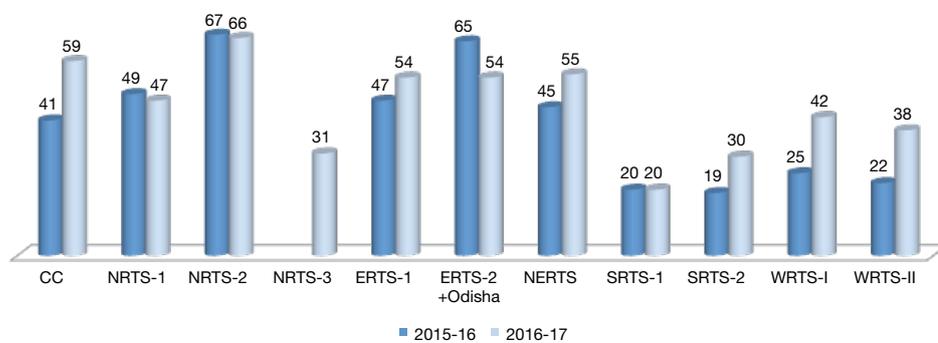
Employees due for Retirement (No.)



Employee Separation Trend (No.)



Regionwise Separation (No.)



Workplace Policies

We recognize that employees have responsibilities outside of work, therefore we have progressive leave options which enable our employees to have paid time off for their personal commitments.

POWERGRID adheres to all applicable National and State Laws regarding contract labour. Payment of wages to labour is ensured through contract provisions and regular monitoring at site level by its representatives. POWERGRID ensures that contract workers are paid wages as per local minimum wages prevalent for skill category.

POWERGRID provides superannuation benefits as per statutory requirements and DPE (Department of Public Enterprises) Guidelines. The following benefits are provided to all employees as per their entitlement:



Provident Fund is contributed by both employer & employee. The provident fund is maintained by POWERGRID Employees Provident Fund Trust. The total assets of the Trust were ₹ 2081.24 Crore and ₹ 2375.57 Crore at the end of FY 2016 and FY 2017 respectively.

Pension (Defined Contribution): The pension fund is maintained by the POWERGRID Pension Trust. At the time of superannuation, the employee may commute one third of the amount accumulated in the pension fund and the remaining amount is paid in the form of annuity to enable them to draw pension from reputed financial organizations like LIC. As on 31st March 2017, total assets of the Trust were ₹ 942.79 Crore.

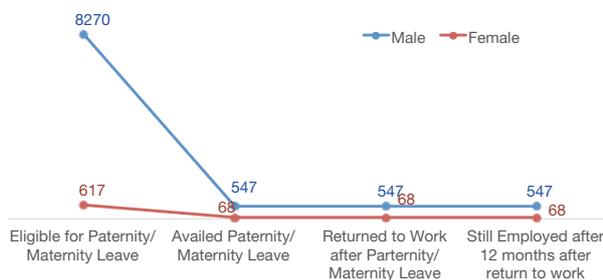
Gratuity: Gratuity is paid upto a maximum of ₹ 10 Lakhs and is paid only in case of completion of minimum 5 years of continuous service; however this condition does not apply in case of death of employee. The POWERGRID Employees Gratuity Fund Trust maintains the gratuity account. As on 31st March 2017, total assets of the Trust were of ₹ 587.31 Crore. During the reporting period, ₹ 59.92 Crore was paid to employees as gratuity.

Post-Retirement Medical Benefit (PRMB) under which retired employees and their spouse are provided medical facilities on making a one-time contribution. The total liability of the company on 31st March 2017 was ₹ 340.28 Crore.

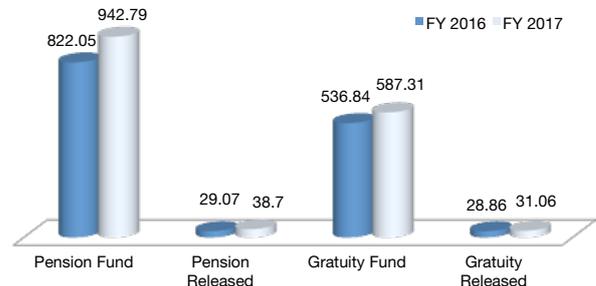
Apart from above, POWERGRID provides many other benefits such as Other Defined Retirement Benefits (ODRB), Medical coverage (Self, Spouse, dependent children and dependent parents), Group Personal Accident Insurance Scheme, Death Relief Scheme, House Building Advance (HBA) & Conveyance Advance etc. (low rate of interest). In case of death of employee, spouse and the minor children of the deceased employee are provided with medical facility. Children can avail medical facilities till the deemed date of retirement of deceased employee or till they reach 25 years of age, whichever is earlier. However, spouse can avail medical facility lifelong.

Full time employees are provided all above facilities. However, Contract/ FTB employees are not eligible for Pension (Defined Contribution), Gratuity, Post-Retirement Medical Benefit (PRMB), Other Defined Retirements Benefits, HBA & Conveyance Advance and Medical Facility to spouse & dependent children in case of death of employee.

Maternity/Paternity leave in 2016-17 (No.)



Benefits (₹ Crore)



We take special care of the employees who are posted at tough locations with benefits such as facilities of additional leave/leave permission, retention of company quarters/leased accommodation/HRA anywhere in India for keeping family members, special leave passage for visiting family members, transfer benefits by allowing 1/3 of baggage allowance besides all other transfer facility and choice in next posting. In case of eventuality resulting in death or disability, an additional ex-gratia payment equal to 100 times (Category-2) or 50 times (Category-1) of maximum pay scale and DA is provided to employees posted in hardship areas like Northeast, Uri etc. Other monetary benefits such as North-East allowance and special allowance are also provided to employees. Extra weightage in promotion is given to employees posted in hardship locations. Free lodging and air travel are provided between certain sectors while on tour. Woolen uniforms are also provided to employees working in chilly weather conditions.

Human Rights

Human Rights issues are incorporated under related policies & practices of POWERGRID which extend to all of our employees and relative aspects pertaining to Vendors/ Suppliers/Contractors through contract provisions/ conditions. The Conduct and Discipline Appeal rules (“CDA Rules”) define the desirable and non-desirable acts and conduct for the employees. There is a laid procedure for actions in case of non-compliance with the defined terms as well as any

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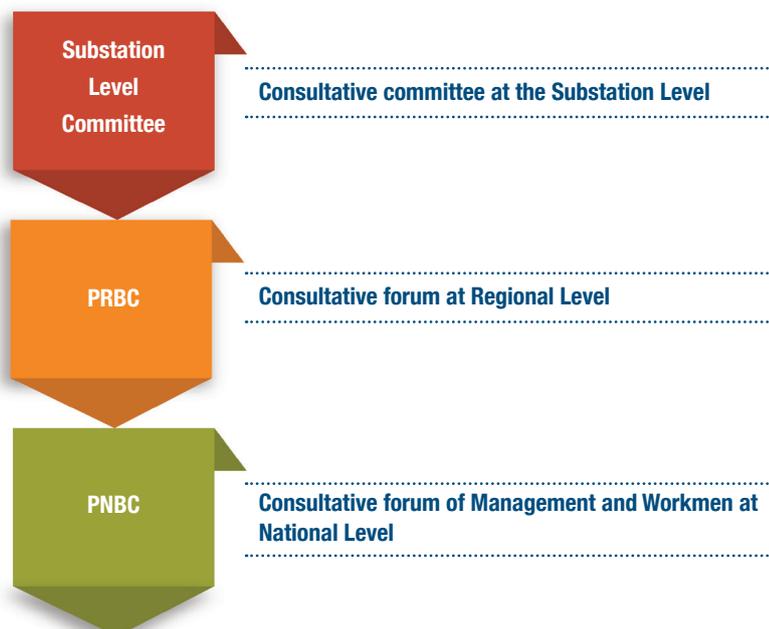
inappropriate or unwelcome sexually-determined behavior. To promote fair and equitable employment relationship, a scheme for Grievance Redressal of employees is in place which ensures a time bound mechanism for the redressal of grievances. POWERGRID has an Internal Complaints Committees (ICC) as per the requirement of The Sexual Harassment of Women at Workplace (Prevention, Prohibition & Redressal) Act, 2013 and Rules to investigate all complaints of discrimination and harassment, ensuring fairness and independence in the investigation process, and respecting for the confidentiality of the parties involved. During the reporting period, 2 complaints were received which were successfully resolved. POWERGRID promotes awareness of the importance of respecting Human Rights within its value chain and discourage instances of abuse. Besides conducting technical and behavioral trainings, the training on Human Rights issues to sensitize people towards women, the differently-abled and the socially weaker sections of the society have also been imparted.

POWERGRID also got certified to Social Accountability standard SA 8000:2014 for its human resource and labour management policies and practices. Vendors / Suppliers / Contractors are required to comply with the provisions of the labour laws/ Human rights etc. through stipulations in the conditions of contract. As per the Contract agreement, contractors are prohibited from subjecting their workers to forced or compulsory labour. All contractors are required to comply with various compensation and regulatory acts. All POWERGRID suppliers have to conform to General Conditions of Contract and SA 8000 clauses. POWERGRID takes declaration regarding Social Accountability from the bidders/contractors for compliance of all requirements of Social Accountability Standards i.e. SA 8000, this declaration forms part of the contract documents.

Provision of penalties for non-adherence of the same are also included in the contract conditions.

Grievance Redressal

POWERGRID has a very effective Grievance Redressal System that addresses all the grievances in a fair, transparent and time bound manner. It has led to increase in employee satisfaction and lower attrition rate. Complaints raised by the workmen are also resolved through the National and Regional bipartite Committee (PNBC/PRBC).



Issues related to harassment of women are resolved through Internal Complaints Committee.

A Reservation Cell is under functioning at the corporate level as well as Regional level to comply with Gov directives on reservation matters for SC/ST/OBC/Ex-servicemen/ Persons with Disabilities (PWD). This cell is under control of nominated liaison officer(s). Wide publicity regarding availability of the liaison officer is ensured amongst SC/ST employees. Regular meetings with SC/ST/OBC Employee's Association are conducted. 'Awareness Programme' are also organized to acquaint the SC/ST/OBC/PWD employees about the relaxations and concessions available to them under Government directives.

During the reporting period, no grievances were received related to environment issues and Human rights. However, 2 and 123 grievances related to labour issues and community/ society respectively were filed which have been successfully resolved.

Employee Engagement

POWERGRID is continuously working on formulating new welfare policies and upgrading the existing ones to meet the changing needs of its employees. Keeping health as one of the important issues for the employees, we have empanelled various hospitals near our establishments including Corporate Centre for the healthcare of employees and their dependents.

An effective work culture has been established in the Company through empowerment, transparency, decentralization and practice of participative management. Healthy community living is spread periodically through cultural programmes for celebrating various occasions like Diwali get together, Holi Milan, New Year, etc., in all establishments of the Company. Employees are also encouraged to participate in various sport competitions for boosting the interest of employees in sports and games at

intra and inter-regional level for Kabaddi, Cricket, Volleyball, and Badminton etc. We also participate regularly in Inter-PSU Sports meet and our players stood meritorious in Table Tennis, Cricket, Carrom, Badminton & Kabaddi tournaments and bagged a number of awards.

Collective Bargaining

POWERGRID activities have been classified as Public Utility Service under the Industrial Disputes Act, 1948. POWERGRID management has facilitated workmen to exercise the right of freedom of association and collective bargaining through the functioning of the POWERGRID National Bipartite Committee (PNBC) since the inception of the company. PNBC is an apex level joint consultative forum comprising of management and workmen representatives. Unions represented in the PNBC are selected through an Election Process – Secret Ballot. PNBC provides a platform for addressing issues related to the workmen category at the national level. Regional / local level issues are addressed in the POWERGRID Regional Bipartite Committee (PRBC) and Sub-station level Joint Committees. All the workmen are covered under collective bargaining agreements. The workmen represent 28% in 2015-16 & 26% in 2016-17 of the total strength in POWERGRID. The forum has also been instrumental in communicating company's vision, business plans, core values and important business developments upto the grass root level. During the reporting period, the IR scenario in the corporation has been cordial and no man-days have been lost due to strike.

	Promoting Right to Exercise Freedom of Association and Collective Bargaining
Initiatives	1. Regular PNBC, PRBC & S/s Level Joint Meetings
	2. Training of Union Leaders
	3. Behavioral / soft skills training programs for workmen

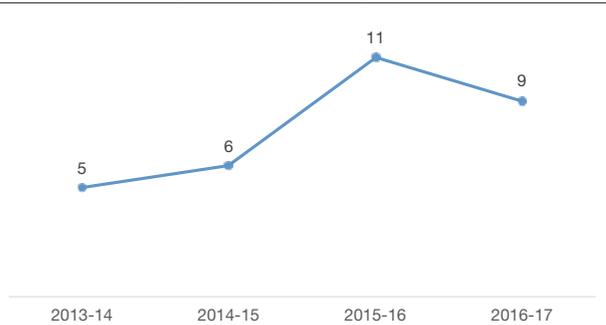


Safety

In line with our mission statement, we have carefully defined our Safety Policy that dedicates our safety performance and strives towards zero accidents. POWERGRID is certified with OHSAS 18001:2007, ensuring a healthy work environment for employees by strict adherence to norms on Occupational health & safety at workplace. Designated safety officers at the grass root level ensure the absolute implementation of the safety policy.

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Apex Safety Meetings (No.)



POWERGRID APEX SAFETY BOARD, with CMD as Chairman and the functional Directors as members, has been established at the Corporate level to periodically review the safety performance. Accidents are reviewed in details by the Apex Safety Board and corrective actions are taken to prevent recurrence of such incidents. Review Meetings/ Safety Meets are held at Corporate / Regional level wherein the Regional / Project In-charges / Executives of POWERGRID as well as the Construction Agencies are invited to discuss the Safety related issues. At the substation level, the station in-charges hold monthly meetings with the worker representatives wherein the safety issues are also discussed. In addition, safety issues, if any, are also discussed in PRBC at Regional level and PNBC at Corporate level.

A detailed procedure for reporting of accidents, investigation and analysis has been established. Standing Committees have been established at Regional level to enquire into the accidents. A member from Corporate Office associates with the enquiry process in case of fatal accidents. All incidents / accidents are reported by the construction agencies to POWERGRID, which are put up to the senior management.

A Safety Cell under Corporate Asset Management Department is established to coordinate all safety promotion & accident prevention related activities of transmission lines and substations under construction as well as under operation, and to provide technical support to sites for ensuring proper implementation of the Safety Policy & Procedures of the Company and applicable safety requirements during various activities.

Heath Check-up of workers are done to ascertain their healthiness to work at the respective construction sites / activities.



Site surveillance inspections/ audits are carried out by the POWERGRID Regional Safety Officers in all the construction sites in their region to identify the hazardous conditions / activities and the concerned construction agencies are notified for rectification of the same.

All contractors are required to comply and adhere to POWERGRID Safety Rules & applicable laws and are bound by contract terms and conditions. The Project Manager monitors the health and safety conditions provided by the contractors to the workmen. Contracts provide penalties to be imposed on the Vendors/ suppliers / contractors in the event of breach of the said provisions.

Contractor gang leader/supervisor/senior most member available at site briefs each worker daily before start of work about safety requirement and warn about imminent dangers and precautions to be taken (Daily safety drill). Trainings are conducted on many aspects of health & safety such as safety in construction of line & substation, safety management in transmission system, safety practices in O&M of substation, rural electrification works, stress and health management, fire safety, first aid, etc. Moreover POWERGRID also undertakes awareness programs for labour on serious diseases such as HIV, Cancer etc. Video films on “Safety” and “Health & Hygiene” have been made in English and Hindi, and circulated for promoting general

awareness of the workers. More than 800 training programs on health and safety were organized during the reporting period which involved participation of more than 19,500 mandays.

During the reporting period, major decisions like change in technical specifications i.e. stopping use of tractor in tower erection and stringing, use of power operated winch machines in place of tractors, use of sagging bridge/platform for final sagging etc. have been taken to reduce accidents. Further, the provisions of Safety pact as a part of the bidding documents, Workmen Compensation policy and other contract provisions related to health and safety of workers are being implemented in true spirit.

100% of our employees and contractor workers working on our site undergo job related safety training. During the reporting period, there were 33 fatalities and a total of 2,580 mandays were lost. Due to the various measures adopted, the fatalities have been reduced by more than 50% over the previous reporting period.

	No. of fatal accidents	No. of non-fatal accidents	Total persons affected	
			No. of Fatalities	No. of injuries
2015-16	19	4	21	10
2016-17	12	7	12	13



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Social Enrichment

“Delhi Management Association Award 2016” for “Improving Rural Livelihoods and Protecting Environment through Farmer-centric Integrated Watershed Management”

POWERGRID, being a responsible corporate entity always addresses negative externalities associated with its business processes. We sincerely believe and appreciate that meaning of business sustainability is not limited to financial sustainability only, but includes minimization and mitigation of environmental impacts, addressing social issues arising from business practices and taking up relevant CSR projects and activities aimed at community development.

Securing Land

Land Acquisition for developmental projects may cause social, economic and environmental distress among the affected population, on account of depletion of productive assets, habitat, community assets, etc. Such impacts however, are not associated with land requirement for transmission projects.

Transmission project involve transmission lines and substations. As per applicable law, POWERGRID is not required to acquire land for transmission lines as it has been vested with the powers of Telegraph Authority under Sec. 164 of the Indian Electricity Act, 2003 and ownership of land remains with the owner who is allowed to continue cultivation after construction. Even for substation land, POWERGRID keeps the land requirement to the barest minimum.

Our endeavour is always to locate government land first for substations. In absence of availability of Government land, structure free private land is secured. In order to further

reduce land requirement, we have adopted new technologies like Gas Insulated Switchyard (GIS) which requires almost ¼ of the land required for the traditional Air Insulated Switchyard (AIS). Further, our policy decision for opting for GIS substations in City areas and installation of multi-circuit towers in and around substations has led to reduction of public distress caused due to land acquisition and RoW restrictions.

A well-defined “Social Entitlement Framework” was developed as part of ESPP to address issues of Rehabilitation and Resettlement. The framework was based on the national policy and other progressive directives emanating from the government or the multilateral funding agencies. In addition to land compensation, we provide Rehabilitation Assistance (RA), in cash as well as Income Generating Scheme (IGS), to promote alternate mode of livelihood. As part of R&R, various ‘Community Development Works’ for overall upliftment of the affected area are also undertaken. During the reporting period, expenditure of ₹ 10.39 Crore was incurred on Rehabilitation Assistance (RA) for project affected persons and ₹ 4.28 Crore on community development work.

New Land Acquisition Act “**The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013**” had become effective from 1st January’2014. POWERGRID is not acquiring land involuntarily through Land Acquisition Act and all land is being secured through direct purchase on “Willing Buyer Willing Seller” basis at negotiated rates.



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Public Disclosure

Public disclosure and participation are the principal steps in POWERGRID's project planning and implementation. Our corporate policy is aligned to minimize communication gap between the company and its stakeholders, thereby ensuring long-term symbiotic relationship.

Consultations are carried out during construction of transmission lines and substations.

In cases of securing land through willing-buyer willing-seller agreements, disclosures and consultations begin much before the negotiation meeting.



Transmission line Construction

Public Consultation for Screening, Assessment and Route/ Site finalization



Consultation at individual and community level



Resolution of issues raised during initial screening and walkover surveys



Affected person(s) compensated as per provisions/ Issues Resolved

Substation Construction

Public Consultation as per Land Acquisition Act



Social Impact assessment of Land acquisition activity based on socio-economic survey



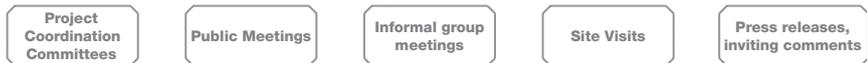
Compensation designing in consultation with people



Meetings with PAPs to develop RAP



Compensation to PAP



Modes & techniques of Public Consultation





Corporate Social Responsibility

Vision

“To be a corporate that sets a long term strategy for Social & Economic Development of communities through initiatives in Rural Development, Education, Skill Development, Health and other areas of national importance and adhere to sustainable environmental practices”

Mission

“To align CSR and Sustainability policy with the business policy so as to conduct business in a sustainable manner adhering to the principles of Avoidance, Minimization and Mitigation in dealing with environmental and social issues and to undertake high impact community development projects of national and local importance in consultation with stakeholders”

POWERGRID constantly endeavours to align its CSR and Sustainability policy with the business policy so as to conduct business in a sustainable manner, continuously improving its social practices to make a meaningful change in the lives of people. The Company carries out various CSR activities with thrust on Rural Development/Infrastructural Development, Skill Development, Health, Education and Environment.

CSR Governance

In line with the requirements of the Companies Act, 2013 and Department of Public Enterprises Guidelines on Corporate Social Responsibility and Sustainability for Central Public Sector Enterprises, POWERGRID has a dedicated Board level CSR Committee looking after the CSR of the company. As on 31.03.17, the committee, headed by the CMD, comprised of 5 other members including 2 Independent Directors. Corporate CSR department is responsible for servicing the Board through the CSR

Committee in all matters relating to the CSR Policy of the Corporation. A Nodal Officer at the rank of Executive Director heading the CSR Department of POWERGRID is responsible for coordinating the overall CSR activities in POWERGRID.

Implementation of the CSR project

CSR activities are mostly implemented as projects. The implementation of various activities is normally done through placement of award by the Corporation as per Works & Procurement Policy of the Corporation. Services of various departments of Central/State Government, Panchayat Raj Institutions, etc., are also availed for implementation of CSR activities as deposit works.

POWERGRID has undertaken CSR initiatives in the area of **Rural Development, Health & Sanitation, Environmental Sustainability, Education, skill development and other developmental projects.**

Understanding the Impact of Organization on the Community

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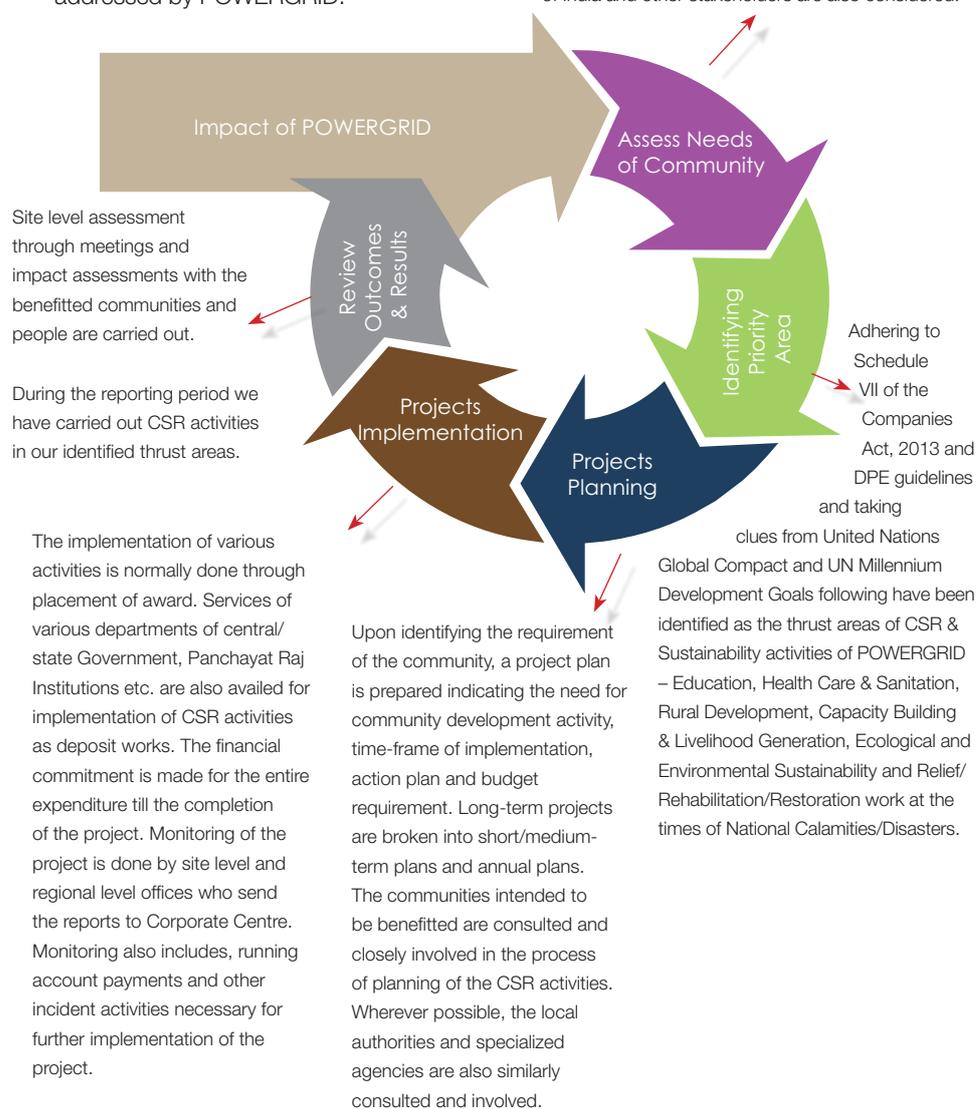
Public Disclosure

▶ Corporate Social Responsibility

While continually improving its management systems and introducing state-of-the-art technologies, **POWERGRID strictly follows the basic principles of Avoidance, Minimization and Mitigation in dealing with Environmental and Social issues.**

Feedback & inputs received by society/communities during the public disclosure, consultation & participation activity are addressed by POWERGRID.

In-house experts or external agencies assess the needs through survey/study. The affected communities are consulted and closely involved in the process of identifying, planning and implementation of the CSR activities, programs or projects. Wherever possible, the local authorities and specialized agencies are consulted and involved. Further, recommendations of state/district administration/ Panchayat Raj institutions, Ministries of Government of India and other stakeholders are also considered.





Health & Sanitation

- ▶ More than 30,000 villagers benefitted from health checkup camps in over 100 locations across the country. Besides diagnostic tests and physician's consultation, free medicines were also distributed to the patients as per the prescription of the attending physicians.
- ▶ 4,790 Persons with disabilities provided with aids and appliances with the support of ALIMCO to make them more self-reliant.
- ▶ Construction of Centre for capacity development in Oncology at Dr. B. Barooah Cancer Institute, Guwahati.
- ▶ Construction of a 300-bedded 'POWERGRID Vishram Sadan' at AIIMS, New Delhi, to mitigate acute shortage of accommodation for patients in waiting and their attendants. The ₹ 33 Crore facility has a built up area of 8,050 sq. m. comprising of basement, ground-level and 10 floors, with provisions for rooftop helipad, skill development centre, treated drinking water in each floor, attached toilets, geyser and solar power heated water, kitchen and canteen facilities for subsidized food, provision stores for day-to-day needs of occupants and parking facility. Considering an average stay of 3 days, 36,000 people are expected benefit annually.
- ▶ Supply of 202 ambulances and portable mobile labs, mobile dental vans, mortuary vans to Government hospitals across India.
- ▶ Collection and disposal of Municipal Solid Waste in 25 wards of Varanasi.
- ▶ Construction of 56 toilets at Government Schools.
- ▶ Contribution of ₹ 30 Crore to the 'Swachh Bharat Kosh' of Government of India.
- ▶ Project Sanjeevani: Medical Treatment of 250 malnourished children in villages near Bina Substation.
- ▶ Supply of Medical Equipment to Government health facilities.

Environment Sustainability

- ▶ Plantation of more than 20600 saplings
- ▶ Rainwater harvesting at substation and building
- ▶ Paper recycling plant at Gurgaon, POWERGRID
- ▶ Installation of SPV Power Plant of 100 kWp capacity at Bhopal.
- ▶ Organizing painting competition of Bureau of Energy Efficiency (BEE) for promoting energy Conservation (2016-17) in 9 states/Union territories for students



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Education

- ▶ Construction of 40 Room boys hostel at Ravi Shankar Shukla University, Raipur, and sourcing of the entire furniture of the hostel from the Central Jail, Raipur. 110 sets of furniture, comprising of beds, chairs, tables etc., were also provided for the existing girls hostel.
- ▶ Financial Assistance for education of 2,465 Students of Assam, Manipur and J&K.
- ▶ Subhroto scholarship to 75 talented youth foot-ballers.
- ▶ Construction of Girls' toilets in schools to provide a conducive and safe learning environment.
- ▶ Supply of computers/ projectors at various Government institutions.
- ▶ Various construction and renovation works such as classrooms, library, compound wall, stage, multipurpose hall at 12 Government schools across India.
- ▶ Sponsoring 4,166 wards of war-widows/ Armed Forces Veterans through Kendriya Sainik Board.
- ▶ Setting up of Toll Free help line and a website for students in Assam.
- ▶ Modernization of Industrial Training Institutes (ITI) at UT of Daman & Diu (DD) and Dadra and Nagar Haveli (DNH) under SKILL INDIA initiative.

Skill Development

- ▶ Training to 3,622 youth as operators, construction workers, electrician, beauty therapist, agriculture practice etc.
- ▶ Training to 560 youths in CNC milling, injection moulding, blow moulding through Central Institute of Plastic Engineering and Technology.
- ▶ Five months training to 40 underprivileged girls/women in tailoring at Gurgaon.
- ▶ Training to 314 youth in CNC lathe, milling and advanced welding technology through Indo Danish Tool room at Jamshedpur.
- ▶ Training to 125 youth in machine tool operation, welding basics, CNC Milling, CNC turning through Indo-German tool room, Indore.
- ▶ Pre-recruitment Army & Para-military training to 150 Tribal youth.
- ▶ Skill Development of local youth in Lahaul Spiti district through infrastructure additions & capacity building.
- ▶ 937 youths were trained in tower erection & stringing at POWERGRID substations.



- ▶ Vocational Training Programme for 500 rural women in fruit & Vegetable processing by Krishi Vigyan Kendra
- ▶ Capacity building of 1017 farmers in the latest agriculture techniques

Women Empowerment

- ▶ Employment linked Skill Development programmes are undertaken to improve the economic condition of the women with self-employment opportunities. Over 150 women participated in various capacity building programmes under the “Improving Rural Livelihood” project.
- ▶ POWERGRID’s Shristi Samaj (Group of female employees/wives of employees of POWERGRID) is conducting training programmes on tailoring at POWERGRID Township Complex, Gurgaon for girls and women belonging to the weaker sections of the society.
- ▶ About 17,000 women underwent health checkup and received free medicine in preventive health checkup camps.

- ▶ Installation of 53 sanitary napkin vending machines at 46 places in Satna district.

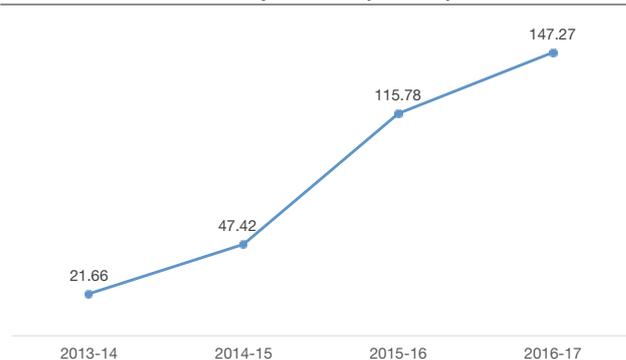


Rural Development

- ▶ Improving Rural Livelihoods through Farmer-centric Integrated Watershed Management in about 10,000 ha. of semi-arid land in Vijayapura district (Karnataka) and Kurnool (Andhra Pradesh) through ICRISAT.
- ▶ Construction of 19 community centers at various villages across India.
- ▶ 1,250 solar lanterns in 6 villages of Thane, Maharashtra
- ▶ Installation of 4,200 Solar Street lights, 1500 hand pumps/ borewells/ tubewells.
- ▶ 17 water coolers, 42 water filters, 3 water ATM, 14 water purification plants at various public places.
- ▶ Construction of Culvert/bridges.
- ▶ 28 km road construction.
- ▶ 5 waiting sheds and cremation sheds.
- ▶ Digging / renovation of 17 ponds.



CSR Expenditure (₹ Crore)



Independent Assurance Statement

Introduction

Intertek India Private Limited ('Intertek') has carried out an independent assurance on 5th Sustainability Report 2015-17 ('the Report') of Power Grid Corporation of India Limited, a Government of India Enterprise (POWERGRID, "the Company"). The Report is prepared by the Company based on the Global Reporting Initiative Guidelines Version 4 (GRI G4) "In Accordance-Core" including Electric Utilities Sector Supplement (EUSS). Intertek performed Assurance, based on their professional experience, international assurance best practices including principles of AccountAbility Principles Standard AA1000AP (2018), AccountAbility Stakeholder Engagement Standard AA1000SES (2015) and the GRI G4 Guidelines.

The intended user of this assurance statement is the management of the Company who is responsible for all information provided in the Report as well as the processes for collecting, analyzing and reporting the information presented in the Report. Our responsibility in performing this task was limited to the verification of the Report, in accordance with the agreed scope of work. This assurance engagement is based on the assumption that the data and information provided to us is authentic and complete. Our assurance task was planned and carried out during June 2018.

Scope, Boundary and Limitations of Assurance

The scope of the assurance includes the verification of the content of the Report, prepared based on GRI G4 "In Accordance-Core" and EUSS. In particular the assurance covers following:

- Verification of the application of the Report content, principles set out in GRI G4 and quality of information presented in the Report covering reporting period from 1st April, 2015 to 31st March, 2017;
- Review of the disclosures with respect to policies, initiatives, practices and performance described in the Report;
- Review of the Report against the requirements of Type 1, Moderate level assurance based on AccountAbility's AA1000 Assurance Standard 2008 AA1000AS (2008);
- Verification of the reliability of GRI G4 & EUSS performance indicators and specific information related to the requirements for "In Accordance-Core".

The reporting boundary is as set out in the Report, covering sustainability performance of POWERGRID. During the assurance process, we did not come across limitations to the scope of the agreed assurance engagement. No external stakeholders were interviewed as part of this assurance engagement.

Verification Methodology

The assurance task was planned and carried out in accordance with the AA1000AS (2008) i.e. Type 1, Moderate and based on assessment criteria of principles of Inclusivity, Materiality, Responsiveness and Impact as per AA1000AP (2018) as well as Reliability of specified sustainability performance information as per of GRI G4 "In Accordance-Core" and EUSS.

Risk based approach was adopted and verification efforts were concentrated on the identified issues of high material relevance to Company's business and its stakeholders.

We did following to form our conclusions:

- Visited POWERGRID's 400/220 kV Lucknow Substation at Plot No. A-1, UPSIDC Industrial Area, 20km Mile Stone, Lucknow, Kursi Road, P.O - Anwari, Distt. Barabanki , UP, India
- Reviewed approach to stakeholder engagement and its materiality determination process;
- Verified the sustainability-related statements and claims made in the Report and assessed the robustness of the data management system, information flow and controls;
- Examined and reviewed documents, data and other information made available;
- Conducted interviews with key representatives including data owners and decision-makers from different functions;
- Performed sample-based reviews of the mechanisms for implementing the company's sustainability related policies, as described in the Report;

Performed sample-based checks of the processes for generating, gathering and managing the quantitative data and qualitative information included in the Report.

Conclusions

Based on the assurance task, the Report provides a fair representation of the Company's sustainability related disclosures. The Report includes statements and claims that reflect Company's achievements and challenges supported by documentary evidences and internal records. It is confirmed that the Report, along with the referenced information meets the requirement of Type-1, Moderate Assurance according to the AA1000AS (2008) and GRI G4 "In accordance – Core" & EUSS

Inclusivity: The Company engages in direct and indirect dialogue with key stakeholders to identify emerging issues through different channels. The material issues emerging from the stakeholder consultation were collected and prioritized, and the results are fairly reflected in the Report.

Materiality: The Company has reported its material issues of significance. The identified material issues are adequately covered in the Report.

Responsiveness: We consider that the Company's response to key stakeholder concerns, through its policies and management systems including governance are fairly reflected in the Report.

Impact: The company has adequately captured the impact of its business on the community and environment and has taken effective measures to mitigate or reduce it.

Specific evaluation of the information on Sustainability Performances

We consider the methodology and processes for gathering information developed by the Company for its sustainability performance reporting to be appropriate and the qualitative and quantitative data included in the Report was found to be identifiable and traceable; the personnel responsible were able to demonstrate the origin and interpretation of the data and its reliability. We observed that the Report presents a faithful description of the Company's sustainability activities.

Positive Observations

- Enhanced level of connect with Sustainability, materiality test and related data capturing
- POWERGRID's ESPP has been accepted as the first safeguard document to match international best practices by the Asian Development Bank (ADB) under its policy of "Country Safeguard System"
- SDGs have been aligned to the Sustainability activities of the company.

Opportunities for Further Improvement

- Being 5th report, data comparability be fine-tuned to present organization's own performance vis-a-vis other similar organizations.
- To make the report more comprehensible, interpretation/ explanation may be incorporated, wherever needed.

Intertek's Competence and Independence

Intertek is a global provider of assurance services with a presence in more than 100 countries employing more than 45000 people. The Intertek assurance team included Certified Sustainability Assurance Professionals, who were not involved in the preparation of any statements or data included in the Report except for this Assurance statement. Intertek maintains complete impartiality towards any people interviewed.

For Intertek India Private Limited,

Intertek



Dr. Manish Chandekar
Lead Verifier
New Delhi, June 26, 2018



Sandeep Vig
Director



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List of Abbreviations

ADB	Asian Development Bank	MoP	Ministry of Power
AIS	Air Insulated Switchyard	MoU	Memorandum of Understanding
APS	AccountAbility Principles Standard	MPR	Monthly Progress Report
BPL	Below Poverty Line	MT	Metric Ton
BU	Billion Units	MTOA	Medium Term Open Access
CDA	Conduct Discipline and Appeal	MVA	Mega Volt Ampere
CEA	Central Electricity Authority	MW	Megawatt
CFC	Chloro Fluoro Carbon	NKN	National Knowledge Network
Ckm	Circuit kilometre	NLD	National Long Distance
CPRI	Central Power Research Institute	O&M	Operation & Maintenance
CPSE	Central Public Sector Enterprises	ODRB	Other Defined Retirement Benefits
CRZ	Coastal Regulation Zone	OHSAS	Occupational Health and Safety Assessment Series
CSR	Corporate Social Responsibility	PAP	Project Affected Persons
CTE	Chief Technical Examiner	PAS	Publicly Available Specification
CTU	Central Transmission Utility	PAT	Profit After Tax
D/c	Double Circuit	PMU	Phasor Measurement Unit
DA	Dearness Allowance	PNBC	POWERGRID National Bipartite Committee
DDUGJY	Deen Dayal Upadhyaya Gram Jyoti Yojana	POSOCCO	Power System Operation Corporation Limited
DG	Diesel Generator	PPE	Personal Protective Equipment
DPE	Department of Public Enterprises	PRBC	POWERGRID Regional Bipartite Committee
EHV	Extra High Voltage	PRMB	Post-Retirement Medical Benefit
EHVAC	Extra High Voltage Alternating Current	PSU	Public Sector Undertaking
ERS	Emergency Restoration System	RA	Rehabilitation Assistance
GHG	Green House Gases	RAP	Rehabilitation Action Plan
GIS	Gas Insulated Switchyard	RoW	Right of Way
GJ	Giga Joule	RTI	Right to Information
GoI	Government of India	S/c	Single Circuit
GRI	Global Reporting Initiative	S/s	Substation
HR	Human Resource	SA	Social Accountability
HRD	Human Resource Development	SAARC	South Asian Association for Regional Cooperation
HVDC	High Voltage Direct Current	SDGs	Sustainable Development Goals
IFC	International Finance Corporation	SEB	State Electricity Board
IP	Internet Protocol	SES	Stakeholder Engagement Standard
IPP	Independent Power Producers	SF ₆	Sulphur Hexafluoride
ISO	International Organization for Standardization	T/L	Transmission Line
ISP	Internet Service Provider	TBCB	Tariff Based Competitive Bidding
ISTS	Inter-state Transmission System	WB	The World Bank
kV	kilo Volt	WII	Wildlife Institute of India
kWh	kilo Watt-hour		
LED	Light Emitting Diode		
LTOA/LTA	Long Term Open Access/ Long Term Access		





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