

पावरग्रिड

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

SUSTAINABILITY REPORT 2011-13

GRI G3 & EUSS Compliant
A+ Level

POWERGRID

One Nation One Grid



Vision

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



SUSTAINABILITY REPORT 2011-13



Power Grid Corporation of India Limited
(A Govt. of India Enterprise)

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About the Report

This is our third Sustainability Report and is for the period FY 2011-13. Our earlier two reports are in public domain. The current report covers 96 indicators as per GRI-G3 Guidelines including Electric Utilities Sector Supplement. The information/data has been gathered from reliable sources like inventories, log books, other records, etc. We have followed International Standards like Accountability, UK Standard 'AA1000 APS (2008)' and 'AA1000 SES (2011)' to make the process inclusive, focus on material/significant aspects and responsiveness. The report has been externally assured by accredited assurance provider M/s Intertek India Private Limited.

Reporting Parameters

We would like to inform our stakeholders that our reporting cycle is biennial. Our first Sustainability Report for the year 2008-09 was released in March 2010 and second sustainability report for 2009-11 was released in February 2013.

Since our first Sustainability Report was for the year 2008-09, we have used this as the base year for comparisons wherever relevant.

The Joint venture companies, supply chain have been excluded from the reporting boundary. However, our 100% subsidiary companies, like Power System Operation Corporation Limited (POSOCO), are included. The sustainability data has been gathered from relevant sources. 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.

Please send your suggestions/feedback to esmd@powergrid.co.in



Building Trust

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| Report Application Level | | C | C+ | B | B+ | A | A+ |
|--------------------------|---|---|---------------------------|---|---------------------------|---|--|
| Standard Disclosures | Profile Disclosures <small>OUTPUT</small> | Report on 1.1 2.1 - 2.10 3.1 - 3.8, 3.10 - 3.12 4.1 - 4.4, 4.14 - 4.15 | Report Externally Assured | Report on all criteria listed for Level C plus: 1.2 3.9, 3.13 4.5 - 4.13, 4.16 - 4.17 | Report Externally Assured | Same as requirement for Level B | Report Assured by Intertek India Private Limited |
| | Disclosures on Management Approach <small>OUTPUT</small> | Not Required | | Management Approach Disclosures for each Indicator Category | | Management Approach Disclosures for each Indicator Category | |
| | Performance Indicators & Sector Supplement Performance Indicators <small>OUTPUT</small> | Report fully on a minimum of any 10 Performance Indicators, including at least one from each of: social, economic, and environment.** | | Report fully on a minimum of any 20 Performance Indicators, at least one from each of: economic, environment, human rights, labour, society, product responsibility.*** | | Respond on each core and Sector Supplement* indicator with due regard to the materiality Principle by either: a) reporting on the indicator or b) explaining the reason for its omission. | |

* Sector supplement in final version
 ** Performance indicators may be selected from any finalized Sector Supplement, but 7 of 10 must be from the original GRI Guidelines
 *** Performance indicators may be selected from any finalized Sector Supplement, but 14 of 20 must be from the original GRI Guidelines

From the Chairman's Desk



“ Public disclosure of economic, environmental, and social performance through sustainability reporting enables us to align with the best and to unlock the opportunity to position ourselves as a forward-thinking organization among an increasingly sophisticated constituency of stakeholders. ”

It gives me immense pleasure to present our third Sustainability Report for the period 2011-13. This is my second address through our Sustainability Report and it is a matter of pride for me to present our achievements in the field of Sustainable Development.

Our approach towards Sustainable Development is guided through our Environmental and Social Policy & Procedures (ESPP) that lays down the framework for identification, assessment and management of environmental and social risks and impacts associated with our projects based on the principles of avoidance, minimization and mitigation.

While we continue to touch new milestones and achieve higher performance standards with each passing year, we firmly believe that relentless and single-minded pursuit of profit is endangering the planet and people. We are aware of our responsibility towards all our stakeholders.



Over these past two years, we have taken proactive measures in the field of environment protection, employee growth and community development. We have introduced various technological advancements with specific emphasis on avoidance of Forest, National Parks/Wildlife Sanctuaries and other ecologically sensitive and biologically diverse areas which has resulted in reduction of forest area involvement to 0.8% in 2013 from 6% in 1998. Specific consumption of raw materials in our business has been reduced through technological innovations using high capacity transmission lines – 765 kV, ±800 kV HVDC, 1200 kV UHV AC and Multi-circuit/ High Temperature Low Sag conductor system for bulk power transmission.

We have taken a lead initiative and developed a comprehensive master plan for integration of renewable energy into the national grid through “Green Energy Corridors”. We have also taken pioneering steps in bringing Smart Grid technology to all facets of power supply value chain in the country.

We continue to maintain highest standard of governance and as a result we have been conferred with Certificate of Recognition for Excellence in Corporate Governance, 2012 by the Institute of Company Secretaries of India.

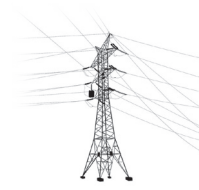
We have initiated various programs for widening and enhancing the knowledge of our employees through sharing, capacity building and nurturing the intellectual capital. Through various company guidelines and policies, we have also protected the rights of our internal and external stakeholders.

Through these reports, we have brought more transparency in the form of better and detailed disclosures, incorporating the voices of internal and external stakeholders. This is clearly evident as we have increased the number of reporting indicators from 37 in 2008-09 to 96 in 2011-13 and enhancing the value from B to B+ and now A+. Having successfully brought out reports based on GRI G3 guidelines, we are now fully geared to bring out our next report based on the new GRI G4 guidelines.

While we carry forward this legacy of Sustainable Growth safeguarding the economic, social and environmental interests of our future generations, I would like to thank each one of our stakeholders for their continuous support and inspiration provided to achieve the vision of becoming an Integrated and Globally recognized Transmission Company.



R. N. NAYAK
Chairman & Managing Director



“Fifth fastest growing electric utility in the world.”

- A study conducted by Platts, a division of the McGraw-Hill Companies

POWERGRID: An Overview*

1,00,200 Ckm
of EHV transmission lines

World's highest
voltage level

(1200kV) UHVAC transmission
system tested successfully

167 EHVAC & HVDC substations

43 substations
being operated remotely (unmanned)

Operate Telecom Network
of 29,300 km
covering all major cities

Availability of Transmission Lines always
maintained **above 99%**

Line losses maintained at
< 4%

Transformation capacity of
1,64,763 MVA

Part of prestigious **NKN**
(National Knowledge Network) &
NOFN
(National Optical Fiber Network)
projects

9347 employees

Wheels about **50%** of country's
power through its transmission network

Rendering consultancy
services across
11 countries

* As on 31st March 2013



Organization Profile

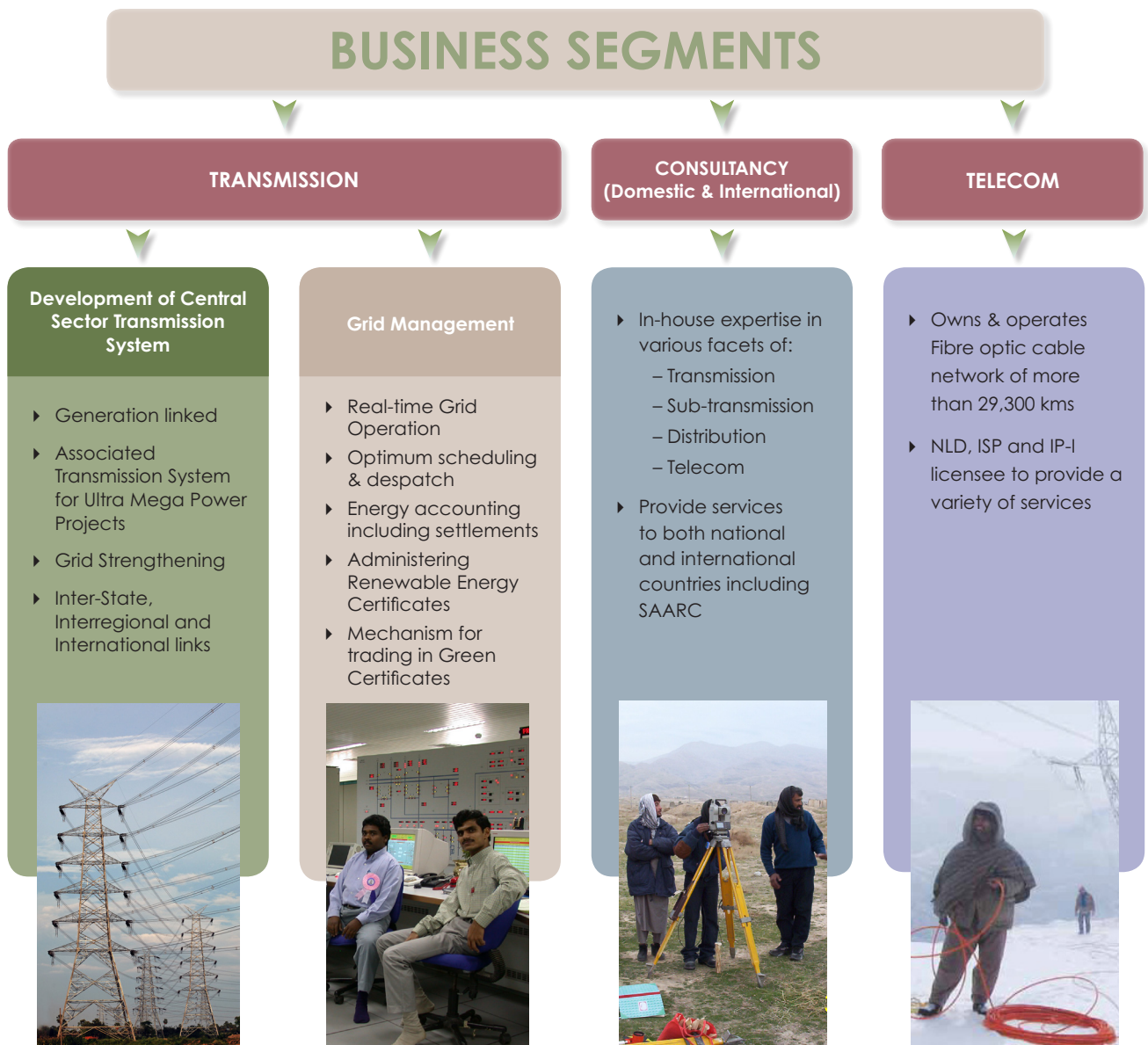
Power Grid Corporation of India Limited (POWERGRID), a Navratna public sector enterprise under the Ministry of Power, Government of India (GoI) and a listed company, is one of the largest Power Transmission Utilities in the world. It is a notified Central Transmission Utility (CTU) of the country. It operates with the mandate to plan, coordinate, supervise and control the complete interstate transmission system and operate the national & regional power grids.

POWERGRID has been regularly featured in the **Platts list of Top 250 Energy Companies** of the World since 2009 and in 2012 was **ranked as the fifth fastest growing electric utility in the world.**

As one of the most well-managed transmission utilities of the world with a remarkable growth over the previous two decades, it wheels about fifty percent of the country's total power through its transmission network.

POWERGRID is playing a vital role in the growth of Indian power sector, firstly, by developing a robust Integrated National Grid and secondly, by associating in the flagship programme of GoI – **Power for All.**

We have been consistently rated as 'Excellent' since signing of our first MoU with Ministry of Power in 1993-94.



Transmission

Transmission is our core business and we are globally recognized as technology leaders in power transmission.

POWERGRID being the Central Transmission Utility is involved in planning short and long term availability of transmission systems and demand management, planning, coordination, supervision and control over Interstate Transmission System (ISTS) and operation of National & Regional Power Grids. It ensures development of an efficient, coordinated and economical system of Interstate 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.

After commissioning and operating 765 kV EHVAC & \pm 500 kV HVDC transmission system, we are also implementing world's first \pm 800 kV HVDC transmission system and have successfully test charged 1200 kV UHVAC technology – the highest

AC voltage level in the world with the capacity to transfer of 7000-8000 MW power.

We are also taking pioneering steps in bringing the smart grid technology in all facets of power supply value chain in the country.

As highlighted in the previous report, implementation of High Capacity Power Transmission Corridors (HCPTCs) is progressing as per schedule with its completion in a phased manner matching with generation projects. In fact, some of the elements under HCPTCs of Chhattisgarh and Odisha have already been commissioned in 2012-13 and the rest are expected to be completed progressively by 2015-16.

During 2011-13, 67 new projects involving about 22,430 Ckm of transmission lines, 26 new substations were taken up for implementation.



Operational Excellence

We operate around 90% of inter-state/inter-regional networks and wheel about 50% of the total power generated in the country. With the use of state of the art preventive maintenance techniques, average availability of transmission system during 2011-12 was maintained at 99.94%, the best recorded till date.

High transmission system availability is attained through deployment of technology driven operational techniques such as hot line maintenance, washing of insulators with the use of helicopters, thermo-vision scanning, etc. Techniques such as aerial patrolling and robotic technology are also being explored for enhanced efficiency.



State-of-the-art Emergency Restoration Systems (ERS) are positioned at strategic locations to enable restoration of collapsed lines within shortest possible time in case of natural calamities.

Maintenance Service Hub facility has also been set up where specialised group of experts are available for immediate deployment in the event of a shut down or hotline maintenance.

National Transmission Asset Management Centre (NTAMC) is being established for centralized remote monitoring, operation & control of substations. As on March 31, 2013, 43 substations are operated remotely and many new substations are being designed for similar operation.

Technology driven operational techniques:
Hot line maintenance,
thermo vision scanning,
Emergency Restoration System
and Aerial Patrolling

Average availability of transmission system during 2011-12 was maintained at 99.94%, the best recorded till date

Development of National Grid

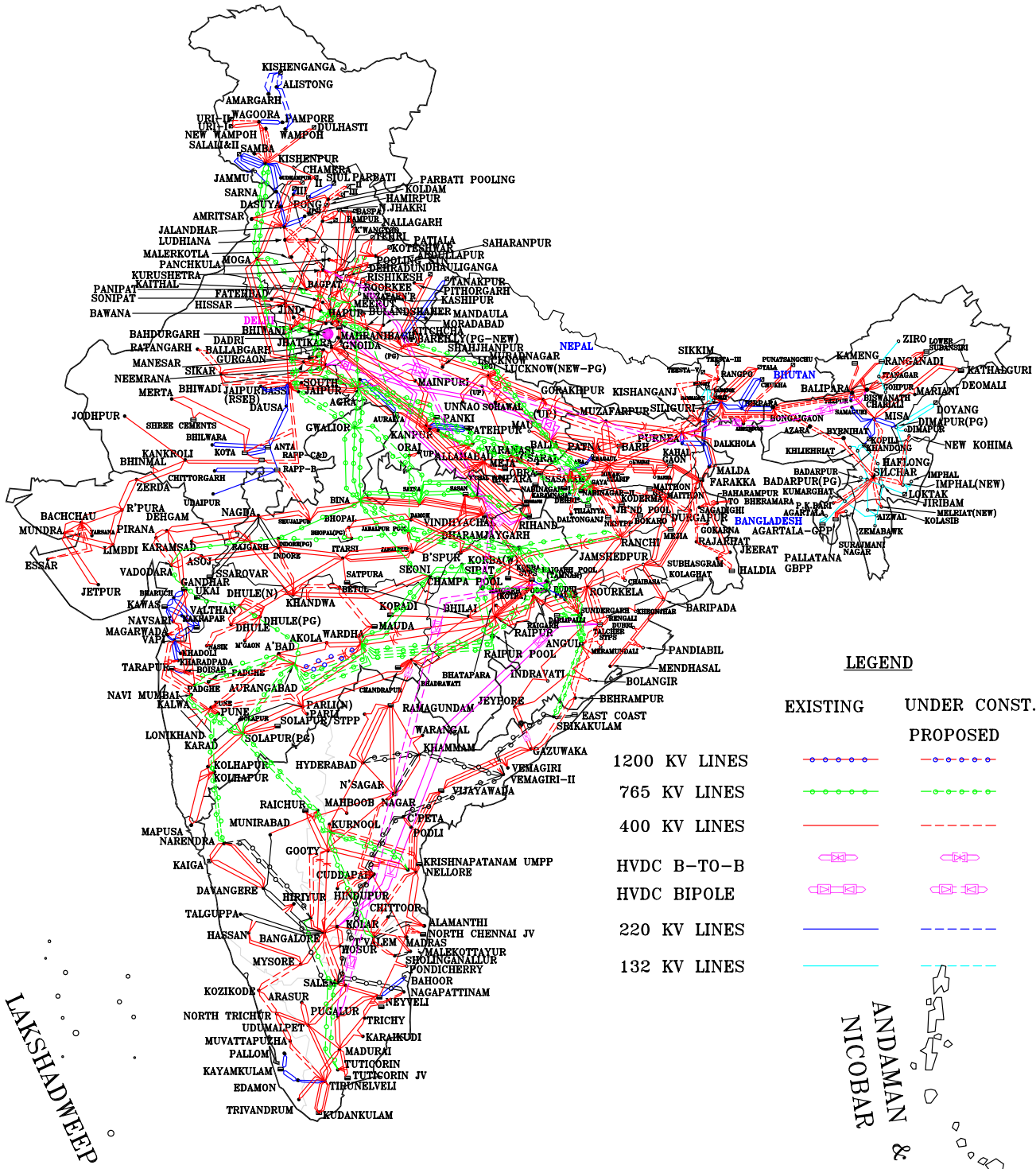
Recognizing the need to integrate the regional grids into a national grid, thrust was given for development of a national grid in a phased manner. In 2011-13, inter-regional capacity addition of 7600 MW was achieved by commissioning of Rourkela-Raigarh 400kV D/c, Sasaram-Fatehpur 765kV S/c & Gaya-Balia 765kV S/c inter-regional links and upgradation of both 765 kV Gwalior-Agra S/c transmission lines to 765 kV voltage level from 400 kV voltage level. As on March 31, 2013, the cumulative inter-regional power transfer capacity was about 29,750 MW.

An all India synchronous grid is envisaged for facilitating bulk transfer of power across regions and to achieve optimal utilization of resources in the country. Regional Grids of Northern, Eastern, Western and North-Eastern regions (NEW grid) are synchronously connected and Southern grid is asynchronously connected through HVDC links of over 4000 MW.



POWER MAP OF INDIA

POWERGRID LINES



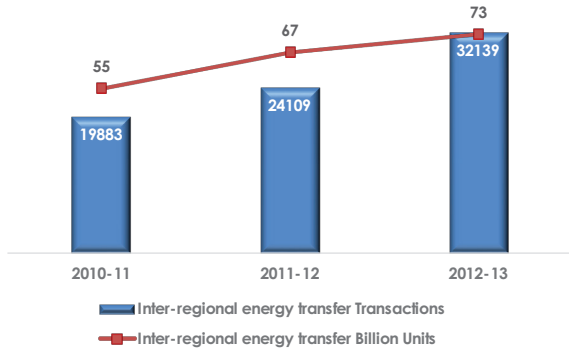
LEGEND

| | EXISTING | UNDER CONST./ PROPOSED |
|---------------|----------|------------------------|
| 1200 KV LINES | | |
| 765 KV LINES | | |
| 400 KV LINES | | |
| HVDC B-TO-B | | |
| HVDC BIPOLE | | |
| 220 KV LINES | | |
| 132 KV LINES | | |

ANDAMAN & NICOBAR



Short Term Open Access



Grid Management & Open Access:

Grid Management responsibility lies with the Power System Operation Corporation Limited (POSOCO), a fully owned subsidiary of POWERGRID, with its state of the art Unified Load Dispatch & Communication facilities. These facilities are updated continuously to improve quality and operational cost of power systems besides improving data availability.

POWERGRID is the nodal agency for processing & granting of Connectivity, Long, Medium and Short term Open Access to various applicants.

During the reporting period 2011-13, 56,248 transactions involving about 140 BUs of energy were approved under Short Term Open Access (STOA). This is a substantial improvement over the previous reporting period that recorded 38,127 transactions involving about 94.5 BUs of energy.

Two incidents of grid disturbances during 2012-13 were

reported. However, we were able to restore the grids in minimal time.

Consultancy

POWERGRID provides consultancy globally in the field of Transmission, Sub-transmission, Distribution and Telecom.

During 2011-13, we bagged 67 new domestic assignments aggregating to ₹1717 Crore. In the international arena, we bagged 9 new assignments worth ₹332 Crore. As on March 31, 2013, 17 assignments were under execution in 11 countries viz. Nepal, Bhutan, Bangladesh, Afghanistan, Sri Lanka, Myanmar, UAE, Nigeria, Ethiopia, Kenya, Tajikistan.

76 new assignments aggregating to ₹2049 Crore

POWERGRID international presence



POWERGRID has formed a Joint Venture (JV) with Nepal, Cross Border Power Transmission Company Ltd, with a 10% equity participation from Nepal Electricity Authority.

Joint Venture Companies (JVCs) have also been formed for development of sub-transmission system. Bihar Grid Company Limited with Bihar State Power (Holding) Company Limited and Kalinga Bidyut Prasaran Nigam Private Limited with Odisha Power Transmission Corporation Limited were set up on 50:50 equity participation basis for development of intra-state transmission system in the state of Bihar & Odisha, respectively.

POWERGRID has earned ₹315 Crore from consultancy business surpassing previous year's revenue of ₹290 Crore.

It has emerged as a strong player in South Asia by the formation of a strong South Asian Association for Regional Cooperation (SAARC) grid for effective utilization of resources for mutual benefit. It has undertaken various inter connections between Bhutan and Nepal for substantial exchange of power across borders. An asynchronous inter connection between India and Bangladesh is under implementation.

POWERGRID has signed MoUs with Steel Authority of India Ltd (SAIL), National Aluminium Company Limited (NALCO) and Rashtriya Ispat Nigam Limited (RINL) for manufacturing of transmission line towers and conductors.

Telecom

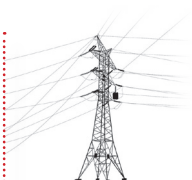
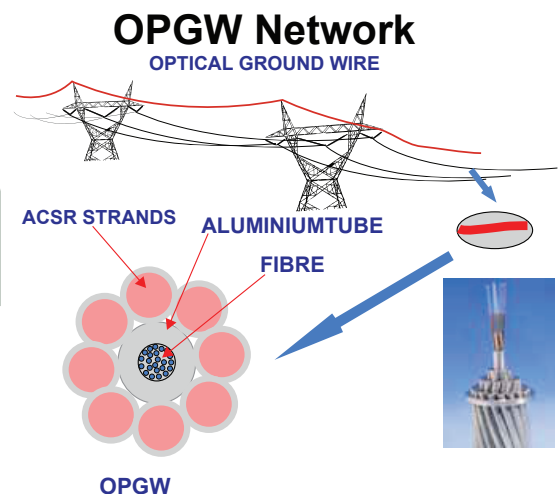
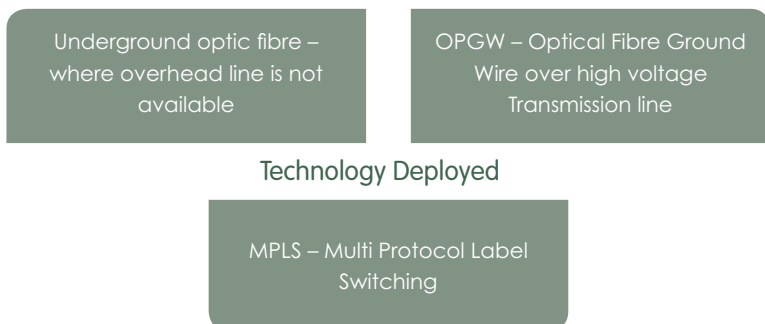
In 2000, POWERGRID had diversified into telecom business under the brand name 'POWERTEL' to expand its revenue base and provide connectivity to all metros, major cities, towns, state capitals, including remote areas of North-Eastern Region and Jammu & Kashmir. Spread across 29,300 km and covering about 290 Points of Presence (PoPs), it is the only utility in the country providing telecom services on overhead optic fibre network using Optical Ground Wire (OPGW) on power transmission lines.

POWERGRID has been granted National Long Distance Service License (NLD), Internet Service Provider (ISP 'A') and Infrastructure Provider Category - I (IP-I) licenses to provide variety of services.

Availability of telecom system has been maintained above 99.90% during 2011-13 (99.97% during 2011-12 and 99.92% during 2012-13).

POWERGRID is one of the implementing agencies of the prestigious National Knowledge Network (NKN) project devised by GoI which plans to connect all knowledge centers across the country such as Indian Institutes of Technology (IITs), Indian Institute of Science (IISc) etc., on high speed connectivity. Total advance amount received from National Informatics Centre (NIC) against NKN order is ₹640.85 Crore till March 31, 2013.

We are also member of advisory body and core committee of the ambitious National Optical Fiber Network (NOFN) project through which GoI plans to connect 2,50,000 Gram Panchayats (GPs) on optical fiber network utilizing existing facilities of Bharat Sanchar Nigam Limited (BSNL), POWERGRID and Rail Tel Corporation of India Limited.



A pilot project utilizing existing fibers of BSNL & POWERGRID and laying incremental fiber has been completed on October 15, 2012, at Viskhapatnam in Andhra Pradesh. MoU has been signed with Bharat Broadband Network Limited (BBNL) on December 04, 2012 for developing NOFN in four states – Andhra Pradesh, Himachal Pradesh, Jharkhand and Odisha covering about 36,000 GPs. The work is to be carried out in about 89 districts covering 1,769 blocks across these four states with estimated cost of about ₹2,700 Crore.

increase of 8.5%. New technologies have been explored to ensure more efficient, safe, secure & reliable operation of grids. The Technology Development Division (TDD) or the R&D wing focuses on

- strengthening the portfolio of applied research in the field of transmission for efficiency improvement & high system availability;
- optimizing costs of delivered power;
- entering into arrangements with manufacturing industries, academic/research institutions to develop latest technology and practices suitable to Indian context.

Our focus on innovation is aimed at discovering where and how new transmission technology can address effective delivery of transmission services to its customers with minimum impact on natural resources. Towards this, we, in collaboration with 35 manufacturers and Central Power Research Institute (CPRI), have developed indigenous 1200kV transmission technology, the highest transmission voltage in the world.

Focused R&D

POWERGRID increased its R&D expenditure from ₹30.71 Crore in 2011-12 to ₹33.31 Crore in 2012-13, an



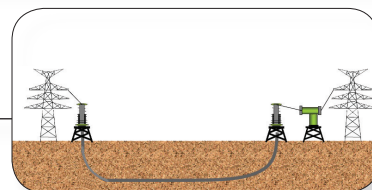
In-house design of transmission towers & pile foundations

Indigenous development of 1200 kV UHVAC technology



Pollution & Lightning mapping

Superconducting Transmission Technology



Mobile test van

Four converter transformer arrangement to minimise outage time



Indigenous Development of SF6 gas filled Current Transformer with BHEL



“Avoid & Minimize where we can and mitigate where we cannot.”

- Our Sustainability Motto

Sustainability Journey

- ▶ Pro-actively formulated & followed ESPP for the conservation of natural resources like land, forests, flora & fauna and to ensure resettlement & rehabilitation of PAPs
- ▶ Use of energy efficient LED bulbs
- ▶ Set up a waste paper recycling plant at Gurgaon substation
- ▶ Established First Smart Grid Control Center at Puducherry
- ▶ Mandated Rain Water Harvesting facility in all establishments/substations
- ▶ Replaced conventional lights with Solar lights at the substations
- ▶ Development of 'Green Energy Corridors' for transfer of renewable energy to different load centres
- ▶ Undertaken community development activities in areas of health, education, drinking water and infrastructure development

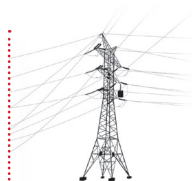
At POWERGRID, we have always thought of sustainability as a context within which our business operates. We are committed to the goal of Sustainable Development and maintaining high standards of ethical business conduct.

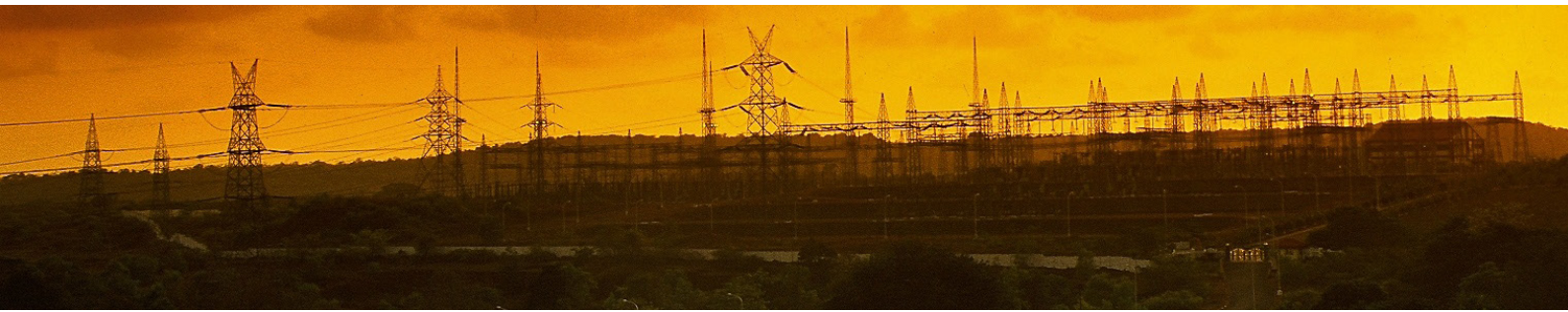
POWERGRID is sensitive towards the environmental and social impacts that arise due to its projects and takes utmost care to address such issues.

With the introduction of Environmental and Social Policy & Procedures (ESPP) in 1998, the commitment towards achieving Sustainable Development objectives and targets was further fortified. This document has been revised and upgraded in 2005 and 2009 in accordance with changes in Indian policy, law, regulation and judicial decisions.

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, while strictly following the basic principles of Avoidance, Minimization and Mitigation in dealing environmental and social issues. Where necessary, restoration and enhancement is also undertaken.”

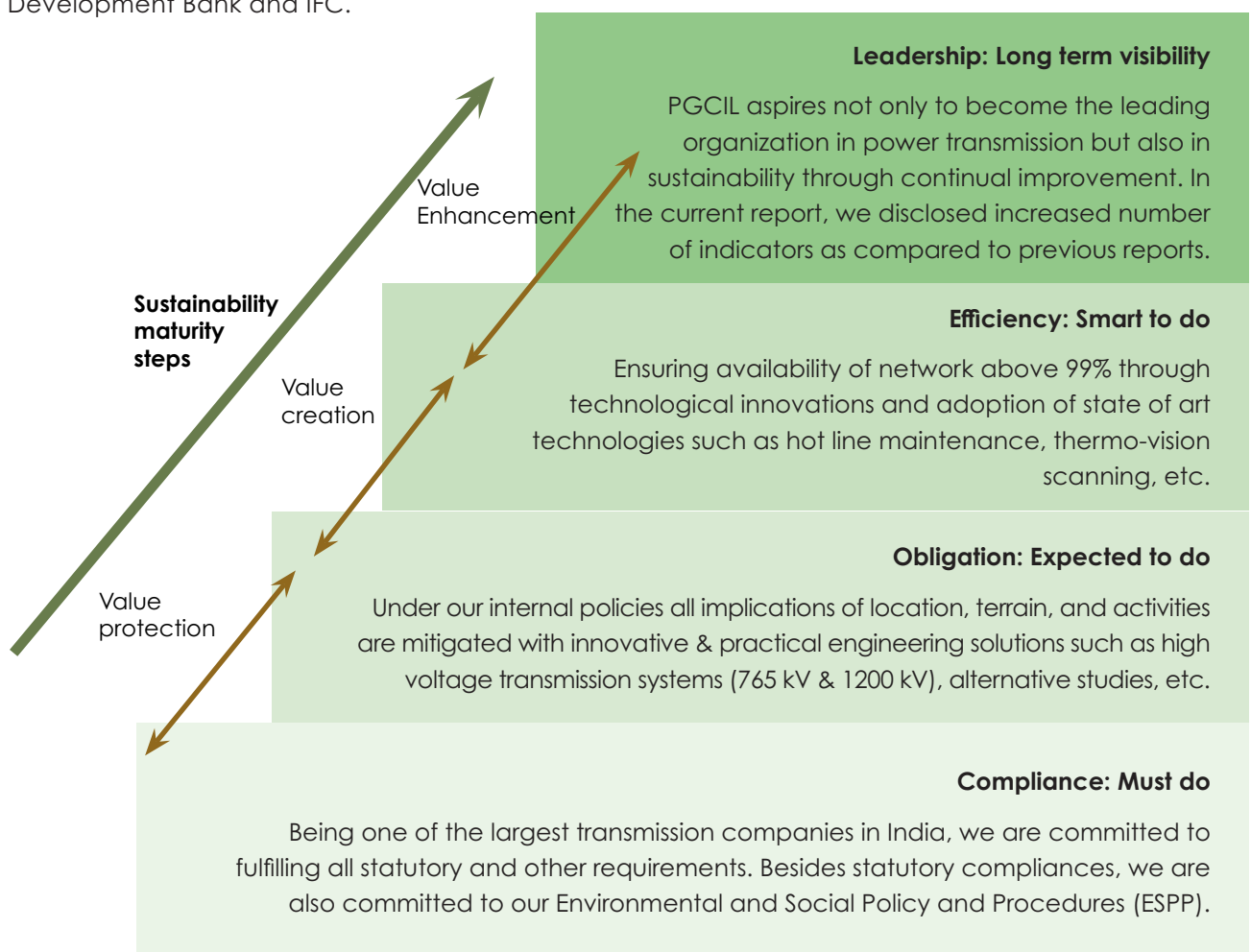




The three principles of ESPP – Avoidance, Minimization and Mitigation – guide the organization in its approach towards achieving its environmental and social objectives. It helps identify management parameters and enables the creation of management plans to facilitate effective implementation of projects across the country. With the implementation of ESPP, POWERGRID has taken up initiatives, both procedural and behavioral, to effectively minimize its environmental and social impact. This policy is applied across all our activities and has been highly appreciated by multilateral funding agencies like the World Bank, Asian Development Bank and IFC.

As an organization, we have been very forthcoming in aligning ourselves with internationally recognized management systems like PAS 99-based Integrated Management System comprising ISO 9001, ISO 14001 and OHSAS 18001. We have also obtained SA 8000 for our human resources and labor management policies and practices.

POWERGRID undertakes various community development activities promoting socio-economic development and enriching the quality of life of communities around areas of its operation. The community development works are implemented under Rehabilitation Action Plan and CSR initiatives.



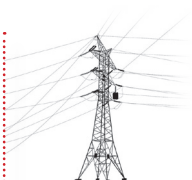


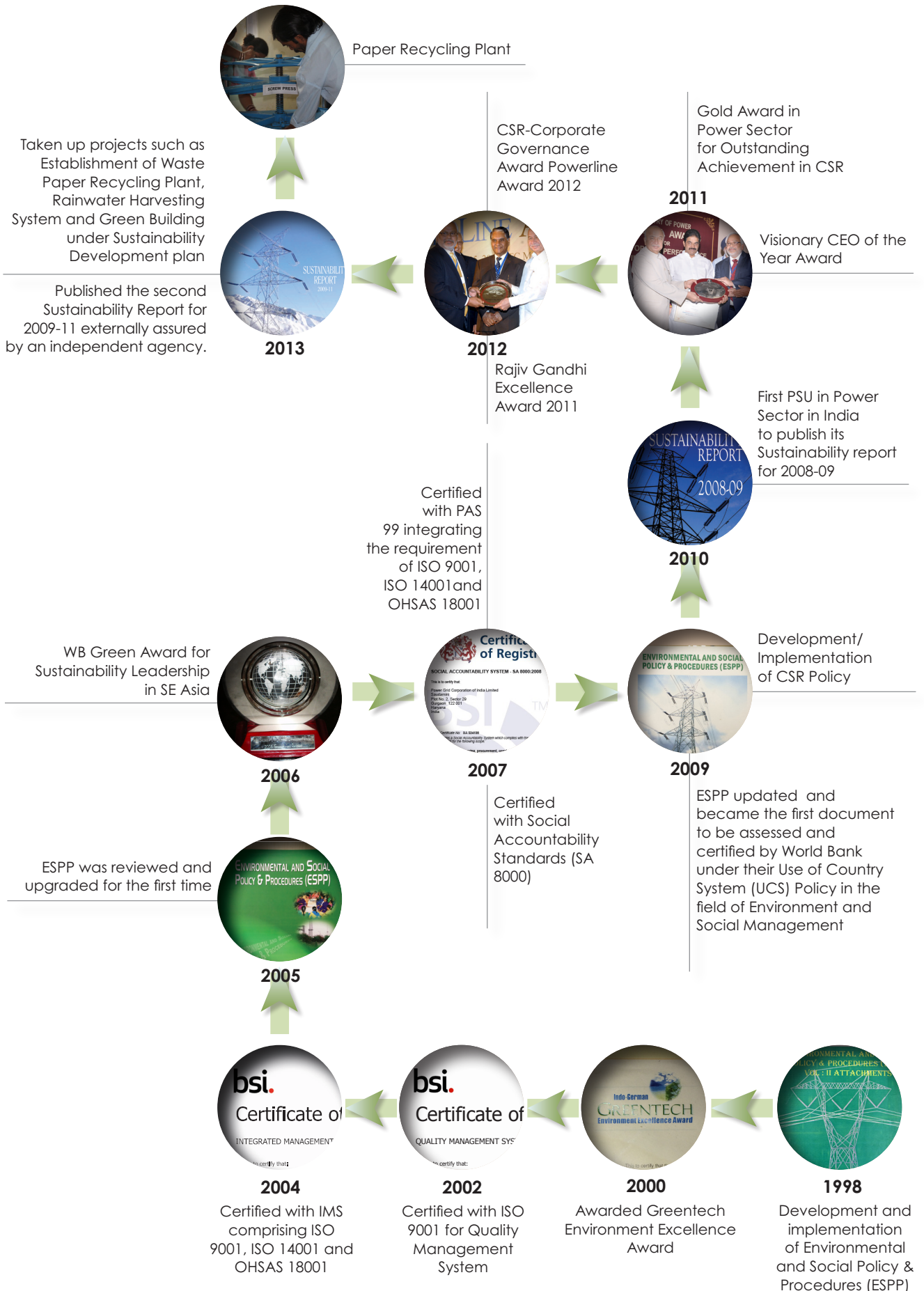
Environmental Objectives

- ▶ Take due precautions to minimize disturbance to human habitations, tribal areas and places of cultural significance
- ▶ Involve Project Affected People (PAP) from inception stage to operation and maintenance and carry out consultations with regard to issues of RoWs and land acquisition
- ▶ Guarantee entitlements and compensation to affected people as per social entitlement framework
- ▶ Pay special attention to marginalized and vulnerable groups and secure their inclusion in overall public participation
- ▶ Maintain highest standards of health and safety to avoid accidents and eventuality

- ▶ Avoid operations in environmentally sensitive areas, eco-sensitive zones, forests, sanctuaries, national parks, tiger/biosphere reserves, and coastal areas covered under CRZ
- ▶ Consider environmental implications of location, terrain, and sensitive areas in impact identification and mitigate these with innovative/practical engineering/biological solutions
- ▶ Application of state-of-art efficient and safe technology practices
- ▶ Abate pollution in all activities and operations
- ▶ Minimize energy losses and promote energy efficiency

Social Objectives





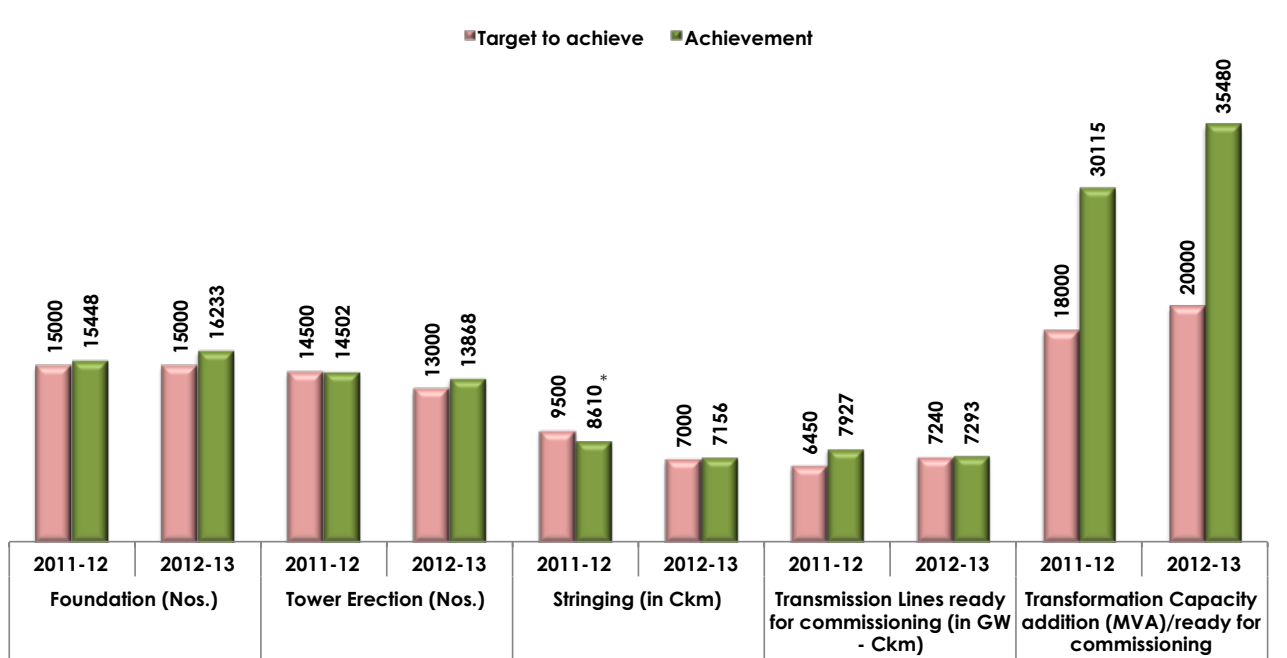
Key Risks, Challenges & Opportunities

Uninterrupted power supply is a critical input to all economic activities, be it agriculture, industry, commerce or households. Even though the power sector has grown manifold over the past few years, reliable power supply still poses challenges. In order to meet these challenges, POWERGRID constantly endeavours to integrate new technologies and find ways to improve the quality of power supply while optimizing upon the cost of delivered power.

POWERGRID has continuously been surpassing its Memorandum of Understanding (MoU) targets set by Ministry of Power and consistently achieved **“Excellent”** since the first one signed in 1993-94.

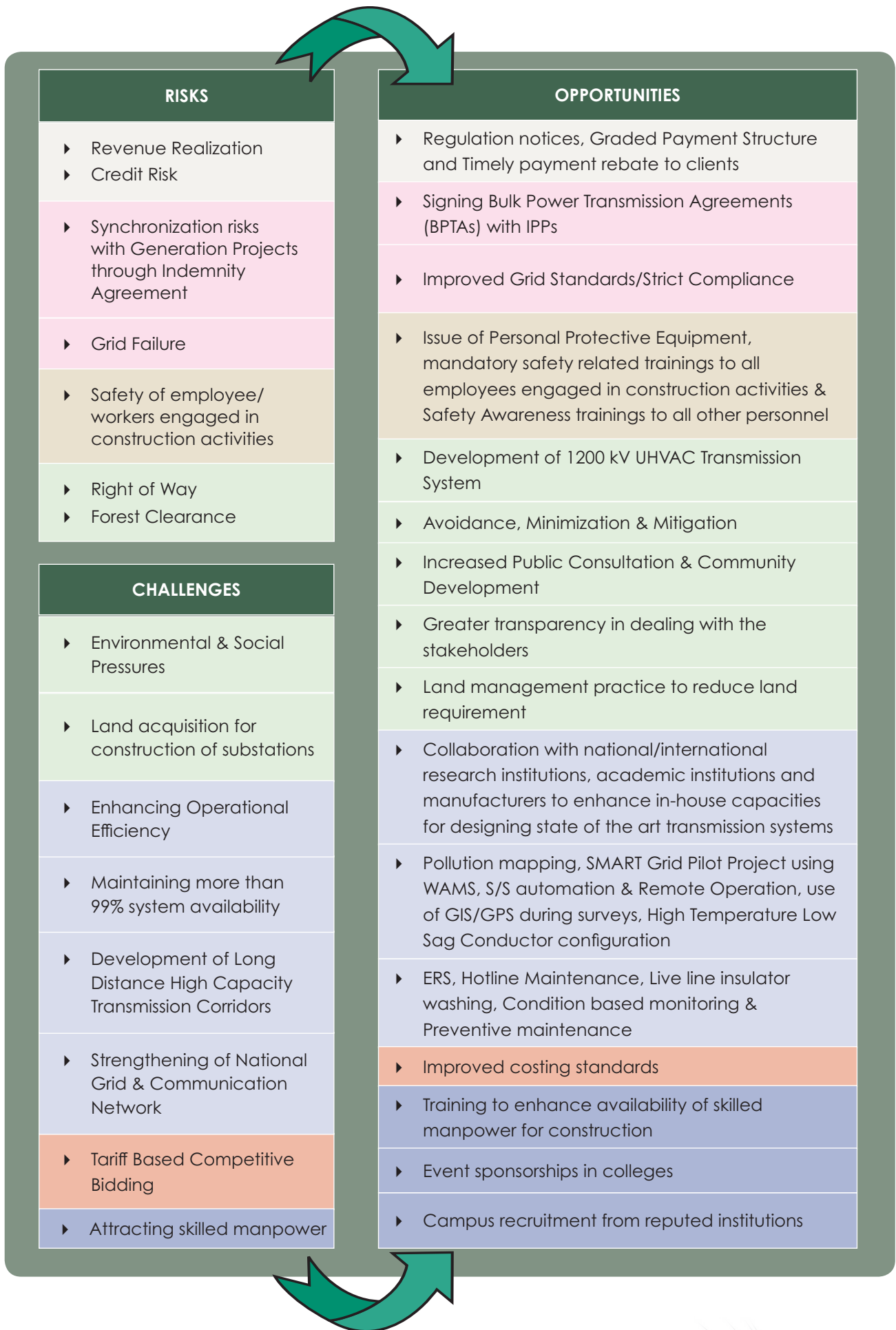
Our focus is to meet the growing power demand. The identification of key risks and challenges associated with our business activity is continuous and POWERGRID has the capabilities to convert these risks and challenges into opportunities.

MoU Targets Vs Actual Achievement



* Shortfall on account of RoW problem/delay in forest clearance during FY '12.

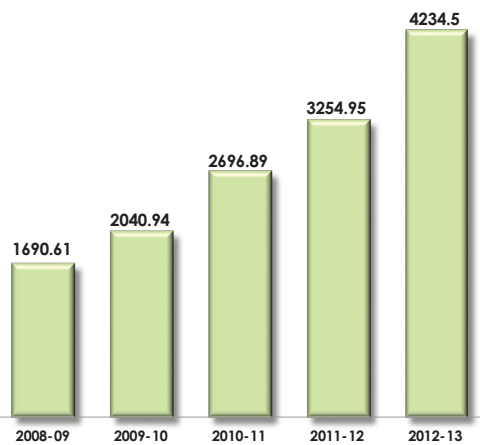




“POWERGRID achieved AAA Credit Ratings by CRISIL, CARE, ICRA in 2013”

Economic Performance

Net Profit (₹ Crore)



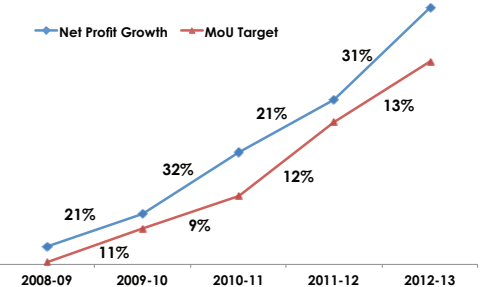
Over the reporting period, POWERGRID has grown not just operationally but also financially.

We have improved our performance in all spheres, be it in technology or environmental impact reduction, which reflects positively in our financial statement. We have recorded a net profit of ₹7489.45 Crore during the reporting period 2011-13 registering a growth of 58% in net profits over the profits recorded in 2009-11.

POWERGRID has invested ₹37,851 Crore during the reporting period along with acquiring approval for 67 transmission projects worth ₹51,804 Crore.

Earnings per Share (EPS) of POWERGRID's stock has been consistently increasing with a Compound Annual Growth Rate of 18% for the last five years. For 2012-13, the EPS stood at ₹9.15 compared to ₹7.03 for 2011-12.

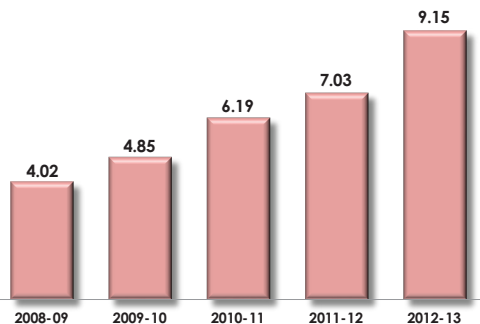
Net Profit Growth



Power transmission will always be the main focus of POWERGRID but it is making a conscious and dedicated effort to increase its business in telecom and consultancy, which has been contributing substantially to its income. Transmission charges continued to be the highest revenue generation stream for POWERGRID (contributing 90% of the total revenue) during the current reporting period. This is around 3% increase from the previous reporting period (2009-11).

During 2011-13, POWERGRID received ₹1774.03 Crore in tax relief from the Government of India (₹619.31 Crore in 2011-12 and ₹1154.72 Crore in 2012-13).

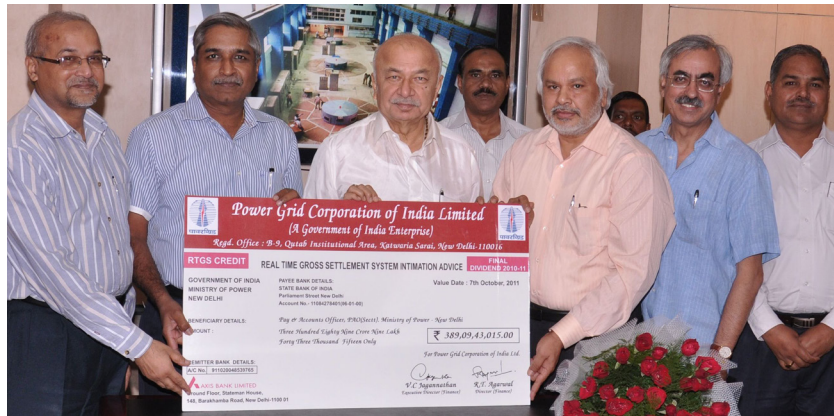
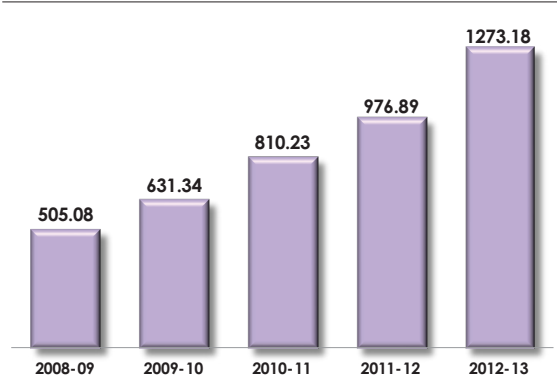
Earnings Per Share (₹)



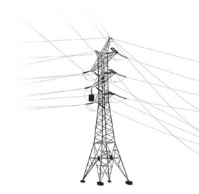
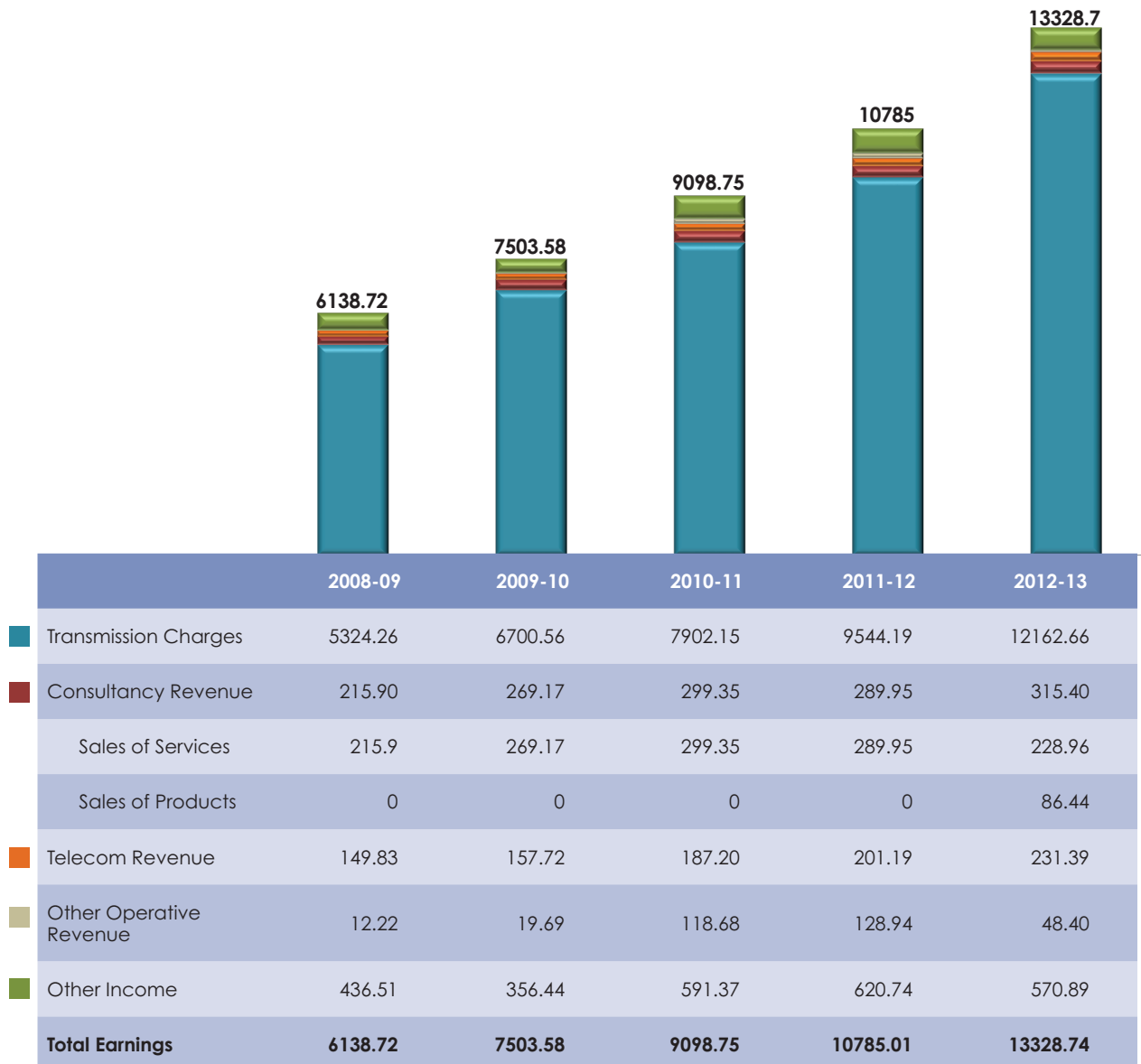
POWERGRID's stock has been consistently increasing with a Compound Annual Growth Rate of 18% for the last five years



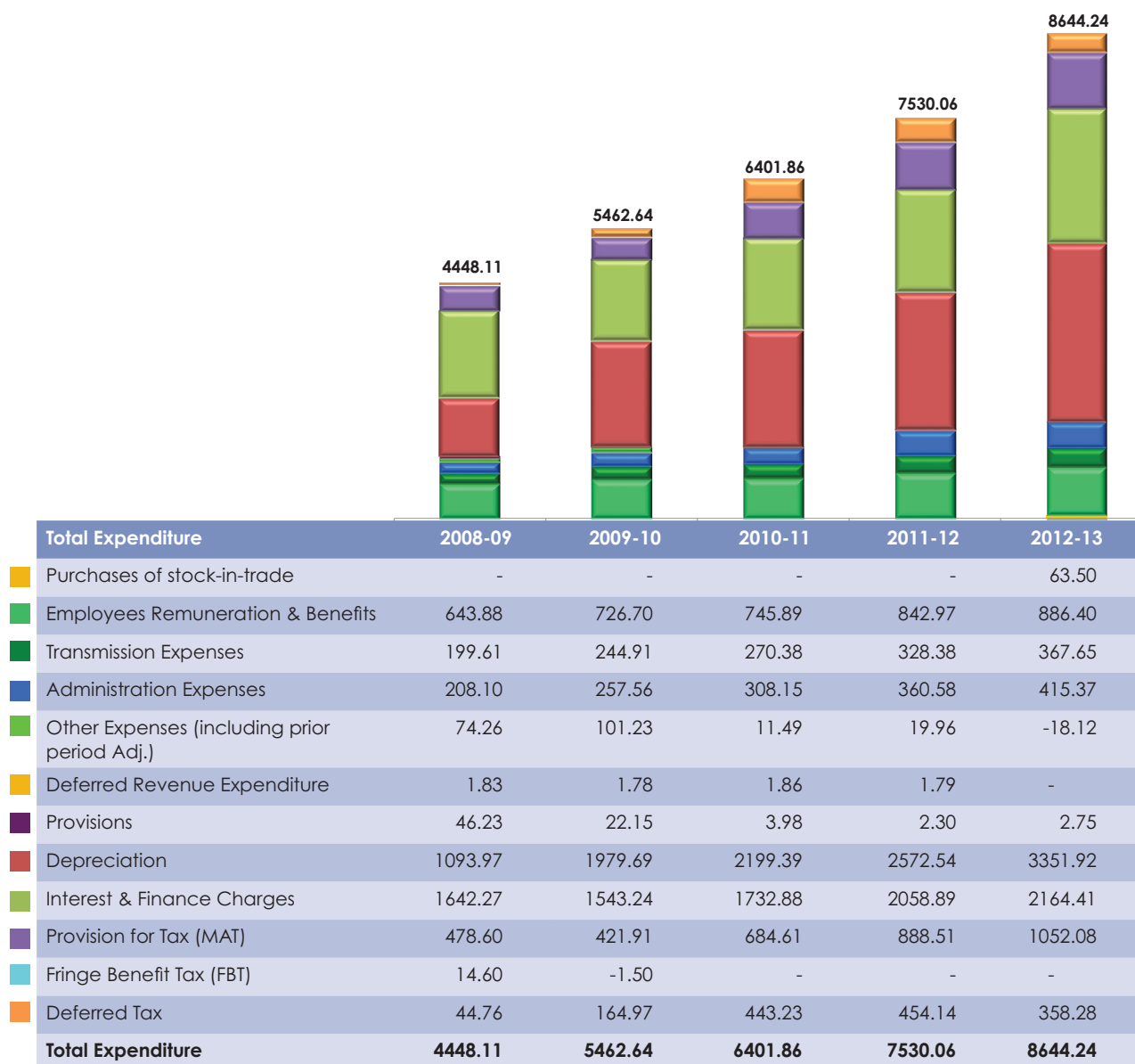
Dividend (₹ Crore)



Direct Economic Value Generated (₹ Crore)

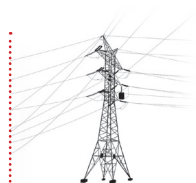
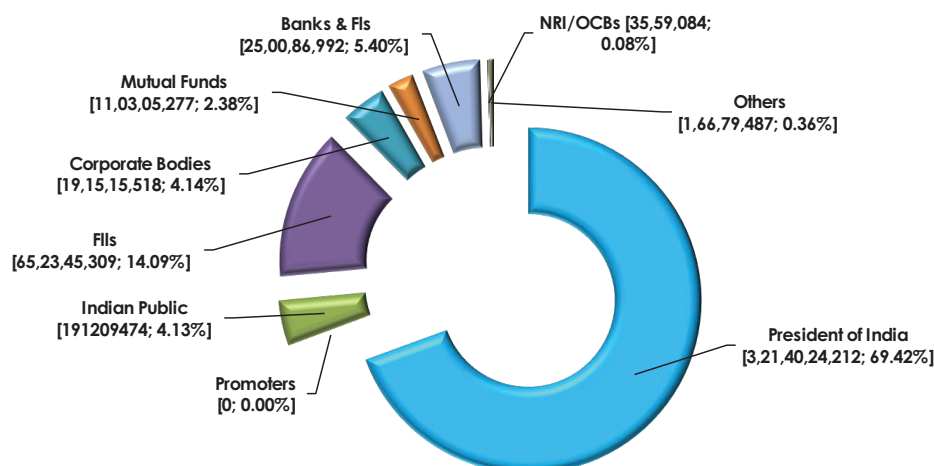


Direct Economic Value Distributed (₹ Crore)



POWERGRID has been compliant in paying dividends to its shareholders throughout the reporting period as per the profits registered. The shareholding pattern is shown below detailing out the stake of various entities in our organisation.

Shareholding Pattern

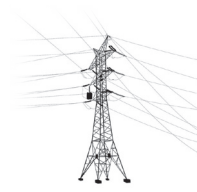


POWERGRID made its maiden foray into foreign currency markets in January 2013 and raised US\$500 million

POWERGRID made its maiden foray into foreign currency markets in January 2013 and raised US\$500 million through issuance of 10 year Foreign Currency Bonds (FCB) at a coupon rate of 3.875% p.a. This maiden issue received an overwhelming response from the investing community and was over subscribed nearly 19 times. The bonds are currently listed in Singapore stock exchange.

In tune with our sustainability initiatives and to decrease our paper consumption, thereby positively reducing our environmental impact, we have sent the Annual Report and other

communications to a large number of shareholders from Financial Year 2010-2011 onwards through e-mail. Shareholders, who were registered with NSDL/CDSL were sent the reports via email only after the seeking prior consent from them for the same. This activity was taken up as a part of 'Green Initiative in the Corporate Governance' by Ministry of Corporate Affairs, Government of India by allowing paperless communication by the companies under the provisions of the Companies Act, 1956.



“Amity Corporate Excellence Award for Dominant Leadership and Global Presence 2013”

Corporate Governance

We, at POWERGRID, always believe in transparent and effective governance. We believe that good governance should entail trusteeship, empowerment and accountability of the management while being proactive in implementation of Government policies.

Towards better Corporate Governance, our Board has been strengthened by increasing the members from eight in FY 2012 to fourteen in the FY 2013 with seven independent directors. The age profile of our directors ranges from 50 to 70 years.

Fairness and transparency are the pillars on which our philosophy rests. As a NAVRATNA public sector enterprise, we have more flexibility and autonomy for making investments and operational decisions. The Government of India is the principal shareholder of POWERGRID, holding 69.42% of the equity. They administer us through the Ministry of Power and has the authority to

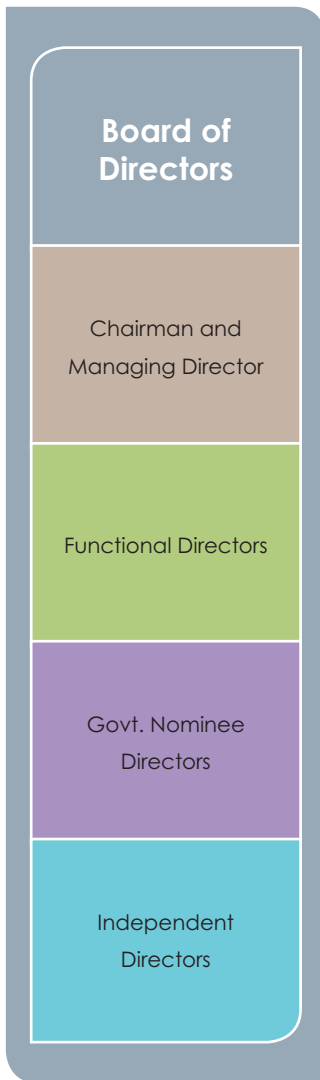
appoint Directors. The Board of Directors has the power to approve capital expenditures without any monetary ceiling. The ceiling on equity investment to establish joint ventures and wholly owned subsidiaries in India or abroad is 15% of the net worth of POWERGRID in one project limited to ₹1000 Crore. The overall ceiling on such investment in all projects put together is 30% of the net worth of POWERGRID.

POWERGRID has been conferred with ‘Certificate of Recognition for Excellence in Corporate Governance, 2012’ presented by The Institute of Companies Secretaries of India (ICSI).



Board of Directors during the Reporting Period





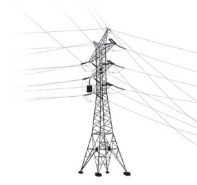
- ▶ Ratio of basic salary of the Board of Directors to the Executive Director to the Executive Trainee is 3.01:2.49:1
- ▶ The services of the directors cease on either the completion of their tenure or upon reaching the age of superannuation, whichever is earlier
- ▶ The board is responsible for the appointment and review of the following committees for more dedicated attention on certain areas of interest:
 - Audit Committee
 - Remuneration Committee
 - Committee for Award of Contracts relating to Rural Electrification, Restructured Accelerated Power Development & Reforms Programme and other Deposit Works
 - Committee on Investment on Projects
 - Committee for Bonds
 - Shareholders'/Investors' Grievance Committee
 - Committee on Award of Contracts
 - CSR and Sustainable Development Committee
 - ESPP Implementation/Review Committee
 - Committee for Transfer/Split/Re-materialisation/ Dematerialisation etc. of Shares.
 - Vigilance Disciplinary Cases Committee

POWERGRID follows the Guidelines on Corporate Governance issued by Department of Public Enterprises, Government of India. POWERGRID has been granted 'Excellent' rating from the Department of Public Enterprises on compliance of guidelines on Corporate Governance for CPSEs for the Year 2010-11. We safeguard the interests of our employees, ensuring that the rights and responsibilities of the employees are communicated through various policy manuals that are regularly updated with the advancing business culture.

POWERGRID has a long standing relationship with the Government and it occupies a key position in Government plans for the growth and development of the Indian power sector. Govt has entrusted POWERGRID with the statutory role of Central Transmission Utility (CTU) of the country for the planning and development of the country's Interstate Transmission System.

DSIJ PSU Award 2012 for Fastest Growing Navratna PSU

POWERGRID signs a Memorandum of Understanding (MoU) every year with the Government of India setting up its annual targets. With higher and more challenging targets to achieve each year, we incorporate better policies and technologies



to ensure not just the viability of the company but also, the livelihoods of the communities we impact. Achieving our targets year on year is not without the support of the Government. The Government has always supported our projects and has helped us with getting necessary approvals for the implementation of the same and has been supportive in securing the settlement of outstanding dues owed to POWERGRID by SEBs/State Discoms. The Government also provides sovereign guarantee when POWERGRID receives loans from multilateral funding agencies such as the World Bank and Asian Development Bank.

Along with our board of directors, our independent advisory committees have always presented the true needs of the hour to us. We have committees specifically appointed to review and advise us on ESPP, Research and Development and our telecom services. These committees comprise of subject matter experts and representatives from various reputed agencies/institutions.

Quarterly reports are generated and made available in public domain with updated information on the board of directors and the level of compliance with the Listing Agreement of POWERGRID as per the DPE Guidelines. The board ensures timely completion of all on-going projects. It follows a completely transparent approach to discussing all project matters right from inception to completion of projects by providing the right direction and facilitation.



Transparency in Governance

At POWERGRID we believe that good governance is reflected through transparency and accountability. We communicate with stakeholders through various forms of communication ranging from Annual reports to Sustainability reports and other stakeholder engagement processes. We ensure that our website www.powergridindia.com is updated with all disclosures and announcements. Internal communications use effective means, such as short messaging services to notify employees on code of conduct and its amendments and provisions. Chief Public Information Officers are designated to ensure delivery of information requested under the Right to Information Act, 2005.

POWERGRID follows two separate **Codes of Business Ethics & Conduct - one for Board Members and another for Senior Management** Personnel (including those deputed in Subsidiaries/Joint Ventures) in alliance with Company's Mission & objectives and aims at enhancing ethical and transparent process in managing the affairs of the Company.

A **policy/code to prevent insider trading** is in place and its implementation is regularly monitored. The company secretary is the designated compliance officer to ensure that the prescribed process is followed. The policy/code requires proper disclosure of all relevant information by all employees in a prescribed manner.

The **CDA Rules** of POWERGRID define the desirable and non-desirable conduct for the employees and extend to all employees (including those deputed in Subsidiaries/Joint Ventures). These rules cover aspects of bribery and corruption and list out the procedure for actions in case of non-compliance with the defined terms as well as for any misconduct.

The company has formulated the **Whistle Blower Policy** as per the DPE Guidelines on corporate governance in addition to the PIDPI resolution of GoI. The Policy extends not just to all our employees but also provides a platform to our vendors for reporting fraud or any other fraudulent activity without fear of retribution and helps in eliminating any kind of unethical conduct in the system. During the reporting period, an anti-fraud policy has also been developed and is under consideration.

The Integrity Pact Programme monitors all contracts above ₹1 Crore. Any contract valued over ₹100 Crore falls under the jurisdiction of the Independent External Monitor.

POWERGRID has prepared and implemented "Works and Procurement Policy and Procedure (WPPP) for Pre-award



and Post-award Stages" with a view to making the policies and procedures more systematic, transparent and easy to administer uniformly throughout its business operations with emphasis on prompt and decentralized decision making. The vigilance team frequently conducts inspections to ascertain that unjust practices be spotted and terminated. The team primarily conducts three kinds of inspections:

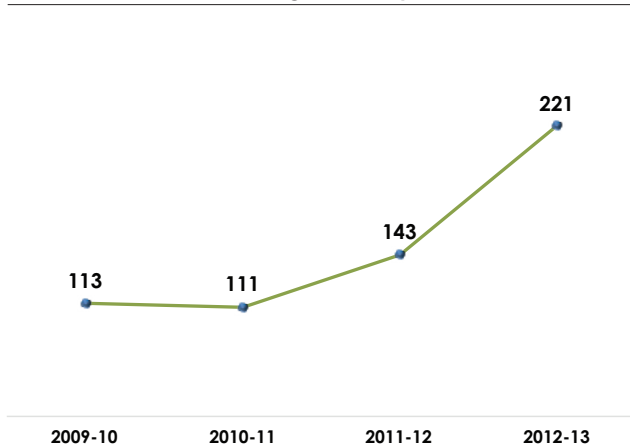
- ▶ Process online inspections that cover critical areas of projects and schemes during the startup of their activities, thereby ensuring that deficiencies are rectified to facilitate a smooth running of the task at hand;
- ▶ CTE inspections covering both pre award and post award activities of the project;
- ▶ Surprise Inspections are done more pro-actively to iron out any problems which might arise during the execution of any activity – managerial, administrative or operational.

During the reporting period, 31 departmental proceedings were initiated in 2011-12 as compared to

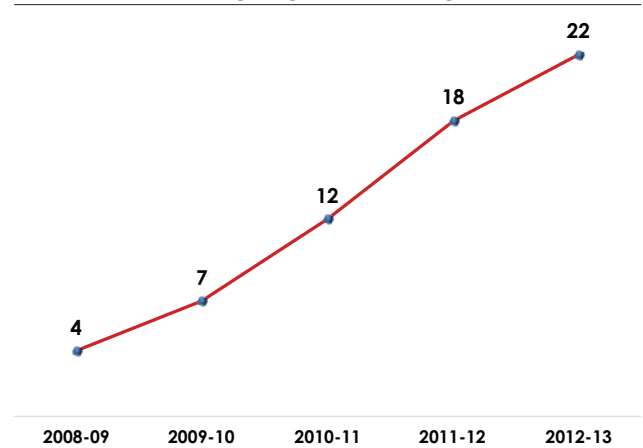
24 in 2012-13. We incorporated system improvements in various operational activities such as T/L foundation, classification and erection, adherence to specifications and field quality norms, etc., where such incidents were brought to focus. Under the guidance of the top management, corrective measures and stricter adherence to specifications and norms were implemented. This also included timely revisions of policy manuals and documents. Two agencies were black listed in 2011-12 and four in 2012-13.

POWERGRID believes in total transparency in dealing with environmental and social issues as well. It ensures that all its stakeholders from government department, communities to individual land owners and employees, are well informed, involved and fully understand its role in transmission of power across the country and its efforts towards sustainable development through a positive and open relationship. It has adopted a well defined public consultation mechanism to inform all stakeholders including the general public about the project at every stage of its implementation.

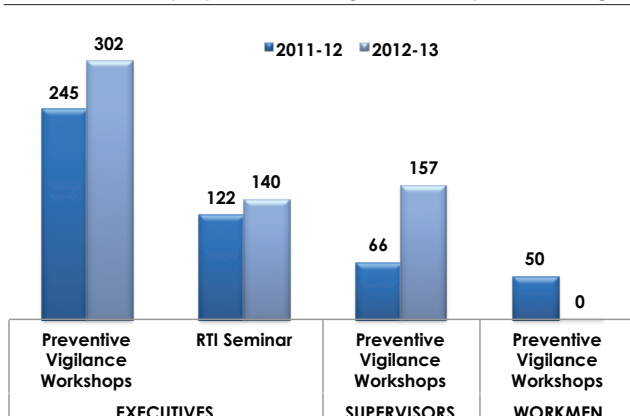
Number of Vigilance Inspections



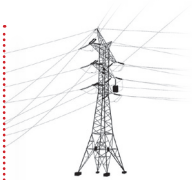
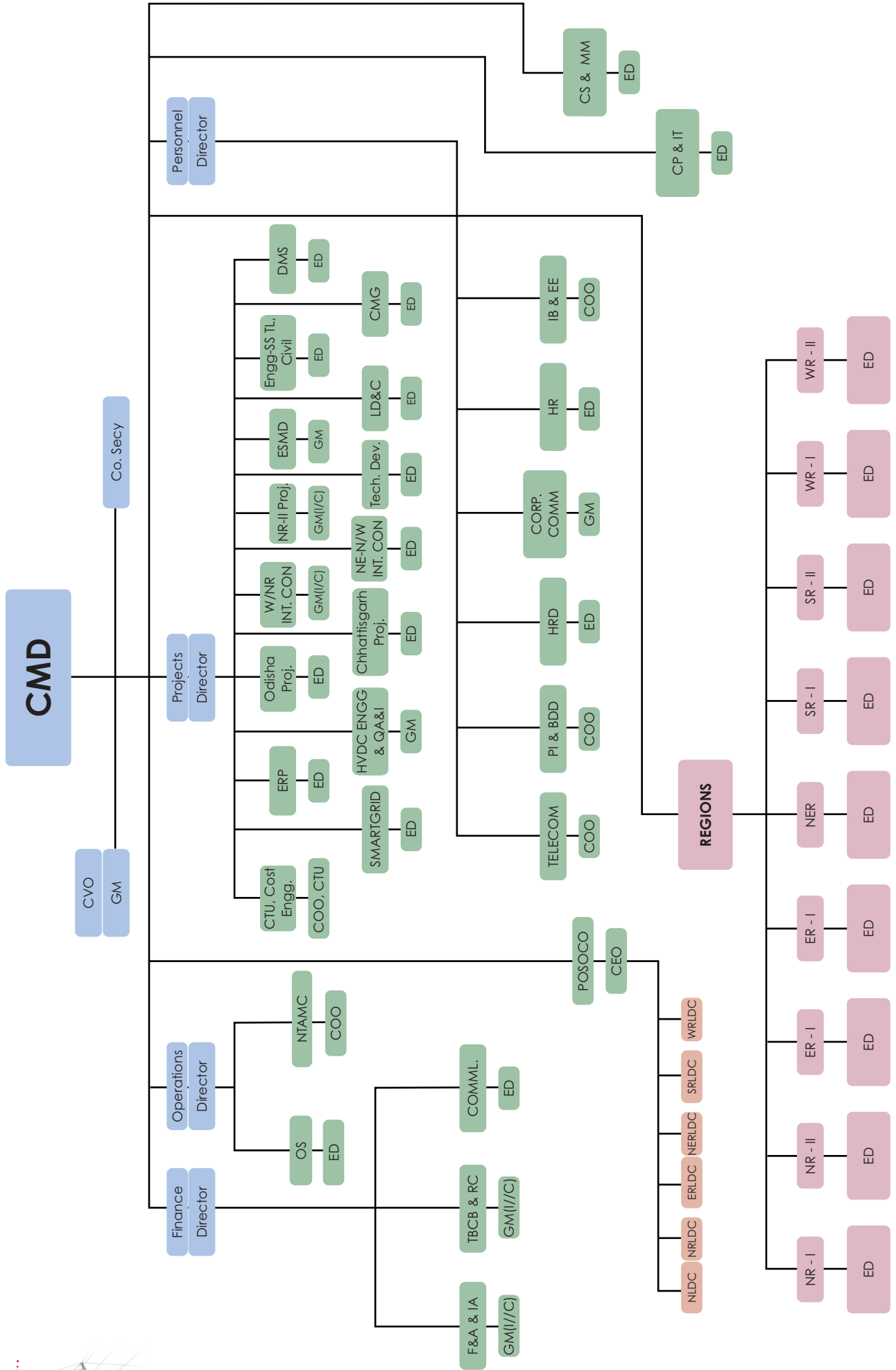
Number of Training Programmes on Vigilance and RTI



Number of Employees Receiving Anti-Corruption Training

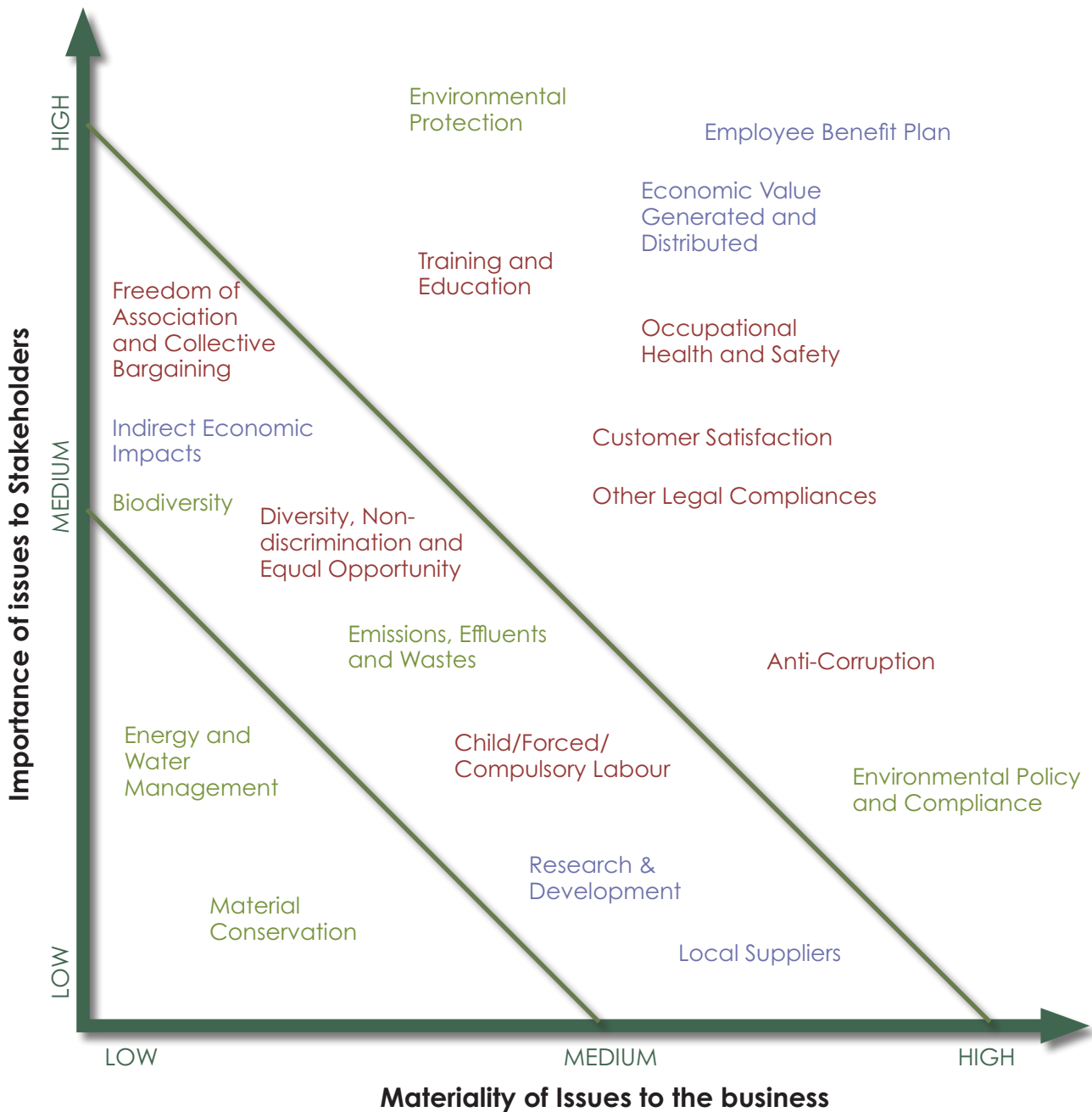


Organisation Structure (as on March 31, 2013)



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 organisation with the existing market conditions. Our sustainability prioritisation exercise helps us segregate and prioritise sustainability issues on severity of impact/importance.



“Leveraging capabilities to consistently generate maximum value for stakeholders in our company.” - Our Stakeholder Engagement motto

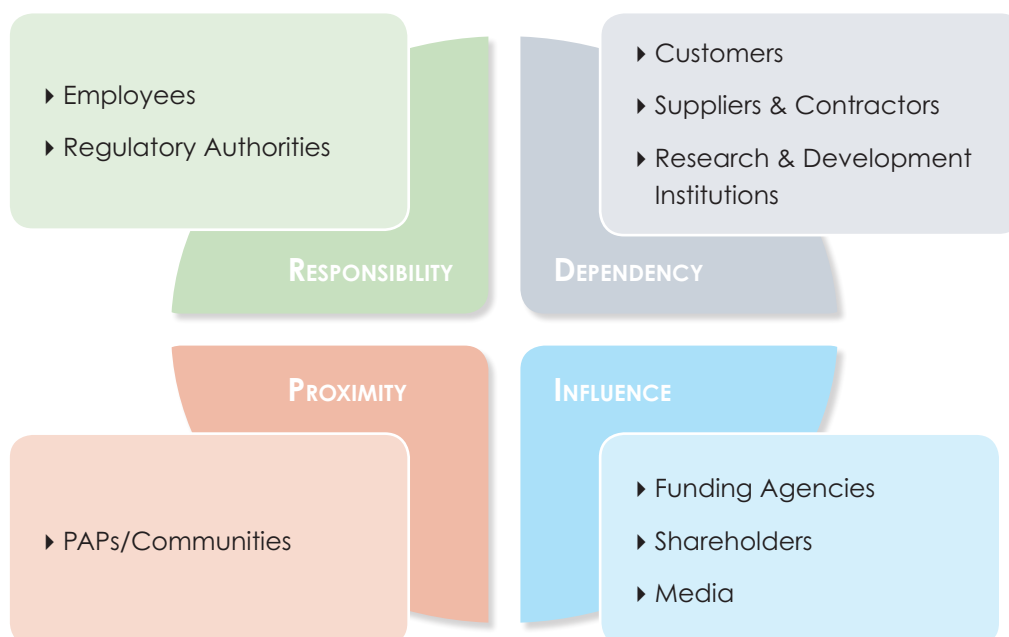
Building Trust in our Stakeholders

At POWERGRID we believe in building trust and communicating transparently with our stakeholders. Over the years, we have identified and prioritized our stakeholders and defined mechanisms for engaging with them at various stages of project development.



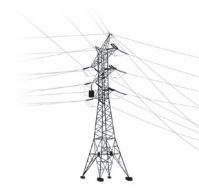
Identification & Prioritization of Stakeholders

We have identified the following as our key stakeholders in economic, environment & social dimensions. The prioritization of the stakeholders to engage with was done considering characteristics like Dependency, Influence, Responsibility and Proximity.



Stakeholder Engagement Matrix

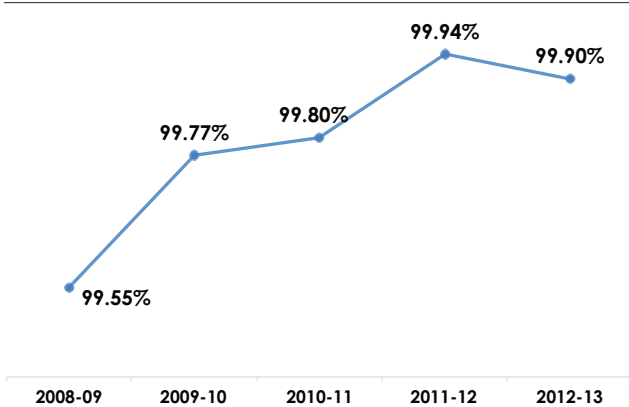
| S. No. | STAKEHOLDER CATEGORY | MODES OF ENGAGEMENT | FREQUENCY |
|-----------------|---|---|--|
| 1. | Shareholders | Annual General Meeting | Once a year |
| | | Board meetings | Minimum 4 times a year |
| | | Annual Report | Once a year |
| | | Investor meetings | Minimum 4 times a year |
| | | Analyst meetings | Minimum 4 times a year |
| 2. | Customers ▶ SEBs ▶ Telecom -Private firms (BRPL, Reliance etc.) Consultancy (National & International) | Signing of Transmission Service Agreement (TSA) | With every project |
| | | Billing Collection & Disbursement Meetings | Quarterly |
| | | Meetings with customers | Once a month |
| 3. | Funding Agencies (World Bank, ADB, IFC etc.) | Signing of Loan Agreements | With each Loan |
| | | Review Missions | Half-yearly |
| 4. | Employees | Employee Engagement Survey | As per HRD plan (Conducted 1 EES during the current the reporting period) |
| | | Open House | Quarterly |
| | | Performance Review | Once in year |
| | | Magazines | |
| | | ▶ Grid Flash | Monthly |
| | | ▶ Regional Magazines (9) | Quarterly |
| | | ▶ Grid News | Quarterly |
| | | ▶ Grid Darpan (Rajbhasha) | Quarterly |
| | | ▶ Candour (Vigilance) | Yearly |
| | | Department specific meets | |
| ▶ HRD Conclave | Twice a year. | | |
| ▶ PNBC meetings | Thrice a year. | | |
| ▶ HR meetings | As and when required | | |
| 5. | Community | Public Consultation | At every stage of the project from conceptualization to Operation & Maintenance. |
| | | Community Development | Every project Community Development works are identified and undertaken. |
| | | Corporate Social Responsibility | On a continuous basis |
| 6. | Government | Compliance to Laws | On a continuous basis |
| | | Comments/observations on proposed legislations | As & when a new enactment is proposed. |
| | | RPC (Regional Power Committee) | 07 Nos during 2011-12 & 2011-13 |
| | | CEA Standing Committee Meeting | 14 Nos during 2011-13 |
| 7. | 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 |
| 8. | Media | Press Briefing/Invitations to events | 22 Media Coverage 61 Press Releases |



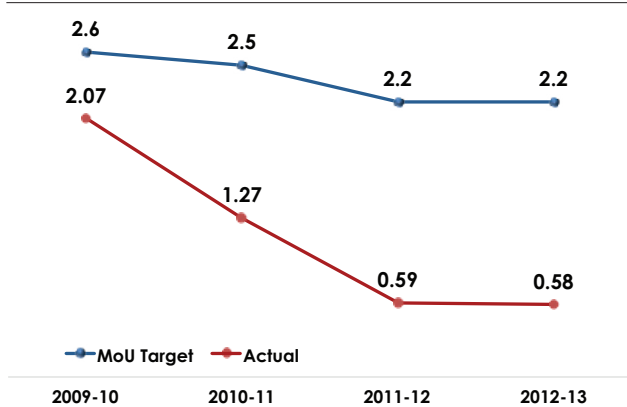
Building Trust in Customers

POWERGRID has given utmost importance to the transmission system availability and reliability across the country. We have constantly maintained transmission system availability above 99% and attained 99.94% availability during 2011-12, the highest in the company's history. We have limited the number of tripping per line to 0.58 in 2012-13, against the MoU target of 2.2. Transmission losses have been maintained at less than 4%. Unfortunately, there were two major grid disturbances which resulted in the failure of Northern

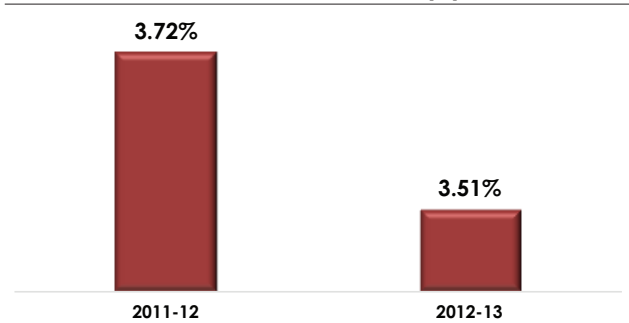
Transmission System Availability (%)



Number of Trippings Per Line



Transmission Line Losses (%)



Regional Grid on July 30, 2012 and Northern, Eastern and North-Eastern regional grids on July 31, 2012. Power supply was restored and majority of the systems were normalized within eight hours each time.

In order to prevent such failures in the future, various measures were taken – third party protection audits, advising state utilities to maintain grid discipline and draw power from grid within the schedule, formulation of islanding schemes in different states, review of unscheduled interchange (UI) mechanism, etc. POWERGRID enters into a non-disclosure agreement with its customers. No incident of customer privacy breach or loss of customer data was reported during the reporting period.

At POWERGRID, maintenance activities are planned well in advance and Annual Maintenance Plan is chalked out for every asset through live line or shutdown as per technical feasibility. Preventive maintenance is carried out based on modern diagnostic techniques such as Puncture Insulation Detection, Thermo-vision scanning, Frequency Response Analysis, Dissolved Gas Analysis, Dynamic Contact Resistance Measurement, Third Harmonic Resistive Current Measurement etc. Transmission lines with conventional insulator strings are subjected to high





level of risk of failure due to pollution and flashover during dense foggy weather. For better reliability and system security, POWERGRID has taken up counter measures such as manual/hotline cleaning of conventional insulators and replacement of porcelain insulator with polymer, which has better hydrophobic clearance. POWERGRID uses helicopters for aerial maintenance to clean polluted insulators in live line conditions.

National Transmission Asset Management Centre (NTAMC) is being set up to improve operational efficiency, centrally monitor and remotely control the POWERGRID transmission system. This is one of the internationally adopted best transmission asset management practices and it optimizes manpower at substations. This system also ensures availability of information and analysis tools/systems on real time basis at centralized location on 24 x 7 basis. The company has strengthened its technical support, deepened maintenance support system and promoted the application of equipment testing and monitoring technologies. In order to build internal capacity on maintenance, we have an exclusive training centre on maintenance in Hyderabad, Andhra Pradesh.

In the latest survey report of International Transmission Operation and Maintenance Study (ITOMS) where all the leading Transmission utilities of the world

participated, POWERGRID has shown tremendous improvement and it has now become one of the best Transmission utilities based on outages and maintenance cost.

State-of-the-art Emergency Restoration System is used for restoration of collapsed transmission lines/towers due to natural calamities, in shortest possible time. During the reporting period, ERS was used for restoration of lines such as Siliguri–Purnea I&II and Satna-Bina I&II. Based on equipment failure analysis and operational feedback, remedial measures are taken up with the respective manufacturer for improvement in design/manufacturing process for future projects.

POWERGRID has been emphasizing on development & integration of new technological products/services for enhancing performance of transmission system as well as improving the safety, security, quality and reliability of power supply infrastructure while optimizing the cost of transmission and minimizing environment impact. POWERGRID gives priority to technology development activities with potential for societal, environmental and national benefits.

Indigenous development of 1200 kV UHVAC system –

Establishment of 1200 kV National Test Station: In view of challenges like Right of Way (RoW) availability, environmental conservation & reduction of transmission losses as well as to meet the long-term power transfer requirements in the country, 1200 kV UHVAC system has been considered as the next level of transmission voltage. 1200 kV Single circuit line and

| | 400 kV D/C | 765 kV S/C | 1200 kV |
|---------------|------------|------------|-----------|
| RoW (m) | 46 | 64 | 89 |
| Capacity (MW) | 800-1000 | 2500-3000 | 6000-8000 |
| MW/m | 19 | 45 | 79 |

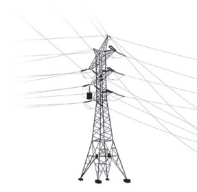
1200 kV Double circuit lines were test charged successfully. The 1200 kV equipment is under field operations and was charged progressively from 2012 onwards. The first 1200 kV line is being constructed from Wardha to Aurangabad.

400 kV Emergency Restoration Systems for Substation (Mobile Substation): POWERGRID is in the process of introducing Mobile Substation at 400 kV level for Eastern Region. In case of severe contingencies, this system can restore power supply within one to two weeks.

Process-bus architecture for Substation Automation System:

This development reduces copper wiring in substations and provides better diagnosis of the equipment – it has been conceived as pilot project at Bhiwadi substation, Rajasthan.

Transmission Line Arrestors (TLA): TLA helps reduce the risk of insulator flashover during surge events – this has been installed as a pilot project in one of the transmission line in North East Region.



Fault Current Limiter: In order to further reduce fault current levels in the network along with the traditional current limiters, POWERGRID is in the process of deploying advanced fault current limiters with superior characteristics of fault current mitigation.

Pollution Mapping: Pollution determination and mapping helps choose appropriate insulator to minimize the probability of occurrence of pollution flashover in lines passing through affected areas. POWERGRID is conducting this exercise in association with CPRI, Northern Region Power Committee (NRPC) and all the STUs of Northern Region.

POWERGRID Advanced Research and Technology Centre: POWERGRID is in the process of establishing an R&D Centre at Manesar, Gurgaon to pursue its R&D objectives. Facilities at this R&D Centre include

State-of-Art simulation and laboratory facilities for Power System Simulation, Advanced Diagnostics, Wide Area Monitoring Systems testing, Substation Automation system, Material Science Lab, Civil Engineering simulations, Transmission line and substation design, simulation and validation, Energy efficiency demonstration, Smart Grid knowledge centre etc. POWERGRID is also establishing Transmission line research lab to carry out long term field testing and optimization studies of transmission lines. This facilitates research on all transmission voltages (220 kV – 1200 kV). POWERGRID is also planning to come up with UHV test facility to support testing of equipment up to 1200 kV. This facility shall include impulse & Power frequency testing and can also be used for validation testing of equipment.

Building Trust in Community and Rural Areas



POWERGRID constructs, operates and maintains the facilities in adherence with all national and local laws. Public consultation is an integral part of the project implementation cycle. Public is kept well informed and their views are taken into account by our site officials at every stage of project execution as per ESPP guidelines.

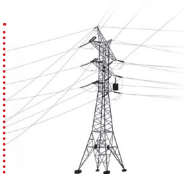
Rehabilitation & Resettlement and Community Development Works are being undertaken as per the national/state laws and provisions of ESPP. The ESPP spells out its commitment to ensure total transparency through a well-defined public consultation process as well as dissemination of relevant information about the project at every stage of its implementation. Apart from R&R and Community Development Works, POWERGRID as a responsible corporate citizen undertakes CSR activities around its areas of operation.

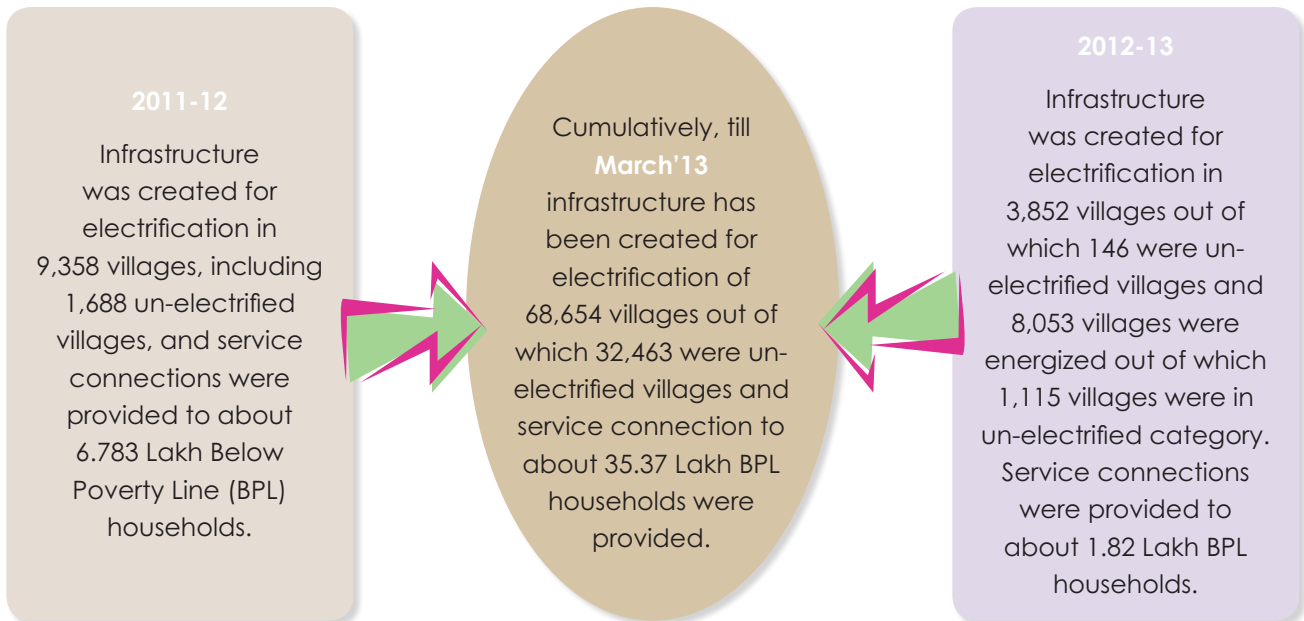
We have been making valuable contribution in Gol's Rajiv Gandhi Grameen Vidhyutikaran Yojana (RGGVY) scheme for Rural Electricity Infrastructure and Household Electrification. This was launched for the attainment of the National Common

Minimum Programme (NCMP) of providing access to electricity to all rural households. Cumulatively, till March '13 infrastructure has been created for the provision of electricity for 68,654 villages out of 32,463 and service connection to about 35.37 lakh BPL households.

We ensure safety to the community and rural areas wherever our facilities are located through compliance with the general safety provisions. Improving the mechanism of emergency rescue and service and deepen user-side safety check and supervision, has ensured that there are no major accidents during construction and maintenance. We are also part of Ministry of Power communication that educates people via advertising on TV and newspapers on electricity safety and usage. POWERGRID has well laid down structure related to marketing communications and advertising.

EMF generated due to the transmission lines is negligible and well within the norms. During the reporting period there are no injuries and fatalities to the public involving company assets.





Building Trust in Employees

At POWERGRID, we recognize that the creation of a high quality human resource team requires a work culture that provides personal development and growth through world class learning, caring and an inspiring work environment. Interests and rights of employees are ensured through the national laws and company's policy. The employee turnover[§] was about 1.54% in 2011-12 and 1.2% in 2012-13, reflecting POWERGRID as a preferred employer.

To gauge employee satisfaction and employee engagement, **Organization Climate Survey**, a third party survey was carried out in 2013 through M/s Randstad India Ltd. The survey revealed:

- ▶ Overall employee satisfaction: 80%
- ▶ Overall employee engagement: 79%
- ▶ More than 50% of the employees felt that the organization is Result and Future Oriented

We encourage employee participation at all levels and communicate our future plans through open sessions, chaired by CMD, functional directors and other top management executives, in which all regions and sites of POWERGRID are connected through video conferencing facilities.



POWERGRID has been certified by Occupational Health Safety Management System (OHSAS 18001), Environmental Management System (ISO 14001) and Social Accountability (SA 8000) Standard. Our headquarter canteen is also certified under the Food Safety Management Systems (ISO 22000). We ensure our employees' health and safety and work towards creating a safe working environment. We promote safety and health awareness among employees, popularizing knowledge on safety

[§] Resignations only

and health while building an effective mechanism on safety and health management, including regular health check covering all employees.

At POWERGRID, our Human Resource Department conducts Organization Need Assessment (ONA), capturing the organizational requirement for competency enhancement of employees and then conducts online Training Need Assessment (TNA) for individual employees. We also conduct functional and behavioral focused development training programmes at all levels in the organization.

Building Trust in Suppliers

Our supplier (both domestic and international) engagements are supported by policies, processes and best practices that ensure open, transparent and nondiscriminatory. Strong processes are in place to identify/develop and qualify vendors on the basis of supply assurance, innovation quotient, product quality and value for money considerations. In advocating integrity, all unfair competition and commercial bribery is strongly prohibited and the tendering process is completely transparent.

| Year | Total Contracts Awarded* | | Domestic Bidding | | International Bidding | |
|---------|--------------------------|------------------|------------------|------------------|-----------------------|------------------|
| | Number | Amount (₹ Crore) | No | Amount (₹ Crore) | No | Amount (₹ Crore) |
| 2011-12 | 304 | 22040 | 180 | 16111 | 124 | 5929 |
| 2012-13 | 197 | 16134 | 102 | 8357 | 95 | 7777 |

We promote local hiring and encourage technical cooperation and core technology innovation with suppliers. While we break blockades of imported technologies, we also promote localization of core equipment and technologies. Over the previous decade, we have developed an extensive & well organized supply chain and a growing vendor list. We organize vendor meetings on safety plans to ensure safe and healthy work environment. In 2012-13, we conducted 4 trainings/interactions with our vendors. The 1200kV National Test Station has been established under public private partnership model in collaboration with 35 Indian equipment manufacturers and Central Power Research Institute (CPRI). Many other R&D projects are being undertaken in collaboration with various suppliers and institutions.



Building Trust in Shareholders

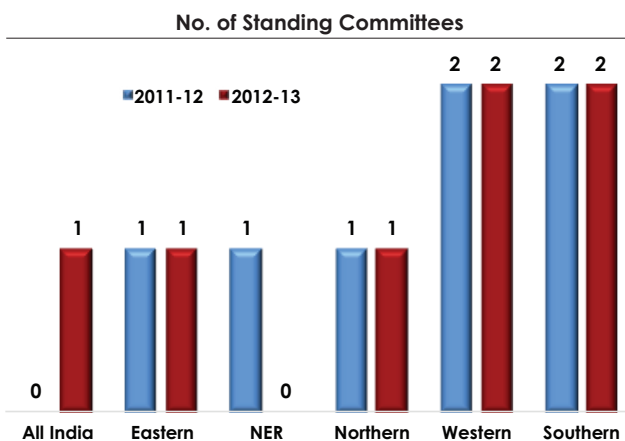
POWERGRID believes that protection and enhancement of shareholder wealth is one of Company's key responsibilities. The primary expectations of shareholders remain centered around continued profitability and growth, effective communications and investor servicing. The CMD addresses and provides clarifications to shareholders at least once a year at the Annual General Meeting and in other investment and analyst meets in the presence of the Board. The Board encourages open dialogue with all shareholders, including individuals, corporate entities and investors.

* Corporate office



Building Trust in Government

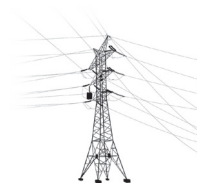
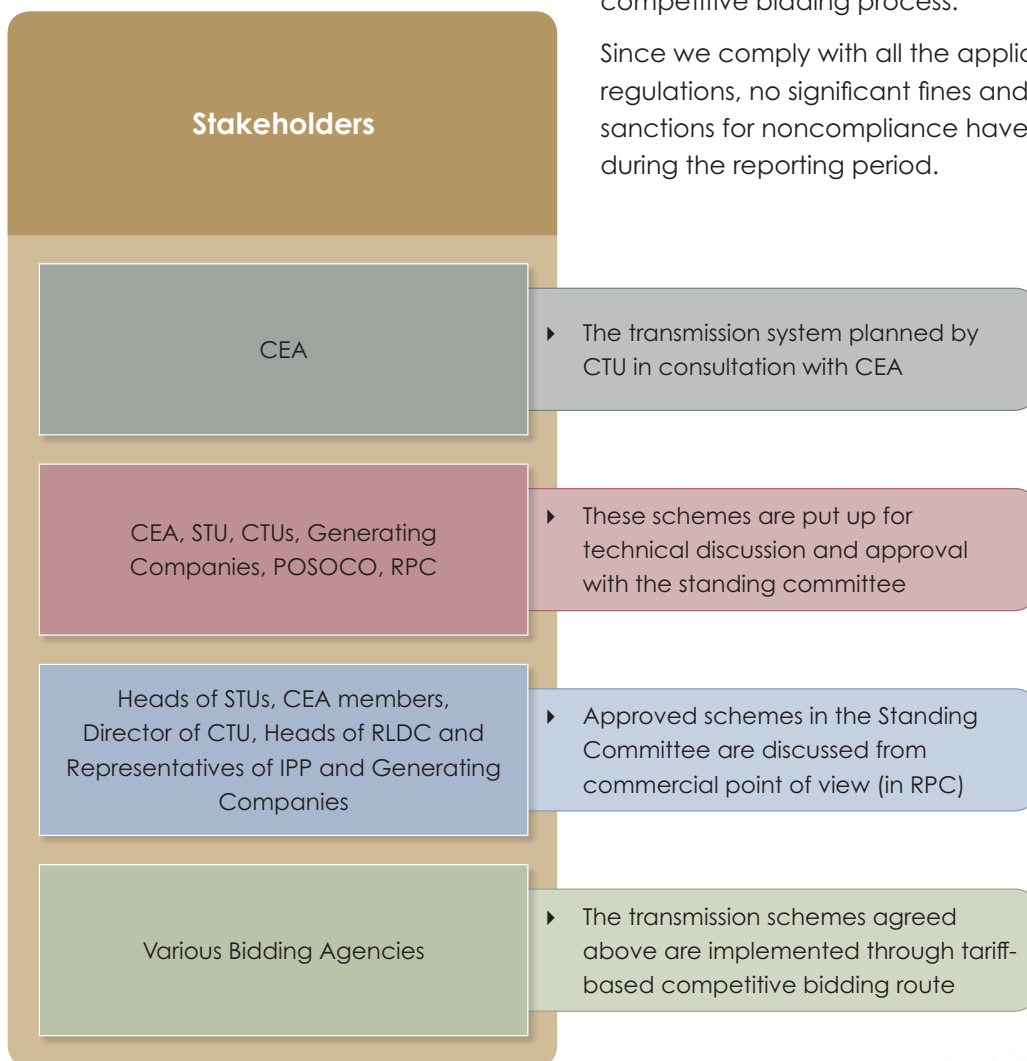
POWERGRID being the backbone of the Indian power sector interacts extensively with various state and national level government and regulatory authorities. As a public sector organization under the Ministry of Power (MoP), our company law and compliance related matters are discussed and updated with the Ministry of Corporate Affairs and SEBI. Tariff regulations and technical discussions are taken up with Central Electricity Regulatory Authority (CERC) and Central Electricity Authority (CEA) in standing committees. Regarding forest and wildlife clearances, we interact with State Governments and the Ministry of Environment and Forests.



POWERGRID as the Central Transmission Utility (CTU) carries out functions of planning interstate transmission system in coordination with all the stakeholders including Central Electricity Authority (CEA), Regional Power Committees (RPCs), State Transmission Utilities (STUs), generating companies etc.

The transmission schemes, planned in consultation with CEA, are agreed upon in the Standing Committee on power system planning and Regional Power Committee. The approved schemes are implemented through tariff-based competitive bidding process.

Since we comply with all the applicable laws and regulations, no significant fines and nonmonetary sanctions for noncompliance have been levied during the reporting period.



Ecology & Environment



Transmissions projects are environmentally clean, non-polluting in nature and do not produce any solid/ liquid wastes, thereby having minimal environmental and social implications. Transmission line projects rather help in reducing environmental impacts of power projects, especially thermal power projects. Generation Projects could be located far away from inhabited areas to have minimum transportation of coal and for bulk power transfer, high capacity transmission lines are set up to dispatch power to load centre located distance apart.

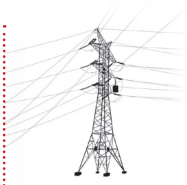
POWERGRID has developed a comprehensive Environmental and Social Policy and Procedures (ESPP) in 1998 and upgraded the same in 2005 &

2009, in line with international best practices, to preempt possible environmental and social issues. The ESPP is developed on three basic principles – Avoidance, Minimization and Mitigation, which provide us a framework for identification, assessment and management of environmental and social concerns at both organizational and project level and is applied uniformly for all the projects across the country. ESPP is consistent with The World Bank Social and Environmental Safeguard Policies and has been applauded by the multilateral funding agencies like The World Bank & ADB.

POWERGRID carries out an Environment and Social Assessment (ESA) for its projects, to gauge the associated risks and impacts. To mitigate the possible environment impact, due to our projects, our total expenditure on environmental protection during the reporting period was ₹276 Crore. The ESA process is designed to ensure compliance with applicable laws including national laws and international environmental agreements ratified by the Government of India.

During the reporting period there are no actions related to non-compliance with environmental laws and regulations of India.

To ensure proper implementation of the above, POWERGRID has put in place an Environment and Social Management Department (ESMD) at the corporate level, comprising of a team of technical, social and environment experts headed by a General Manager, who reports to Director (Projects). A separate ESM Cell has been constituted in each region for managing environment and social activities under the supervision of Corporate ESMD.



Biodiversity & Environment Conservation

We are fully aware of the need to conserve natural resources and avoid ecological sensitive area, eco sensitive zones, forests, sanctuaries, national parks, tiger/biosphere reserves and CRZ covered coastal areas as far as possible. POWERGRID endeavours to minimize adverse impacts on biodiversity and natural environment by economizing on the requirement for land for substations and reducing the width of the Right of Way for transmission lines.

Substation locations are selected in such a manner that the location is not in the proximity of eco sensitive area.

Routes of transmission lines are finalized avoiding protected areas; minimizing RoW in reserved forests and other deciduous scrub forests, gardens, nurseries and plantations; minimizing footprint in erosion prone areas, mountains and geologically sensitive areas; and, minimizing river, stream and canal crossings and footprint in wetlands.

But due to terrain constraints, it becomes very difficult to always avoid forest areas. However, care is taken so that the forest involvement is kept to a minimum and the route is finalized after analysis of alternative routes.

Only in case of most unavoidable cases, when the line is routed through the protected areas then special measures such as extension towers, multi circuit towers, etc., are undertaken to reduce the impacts.

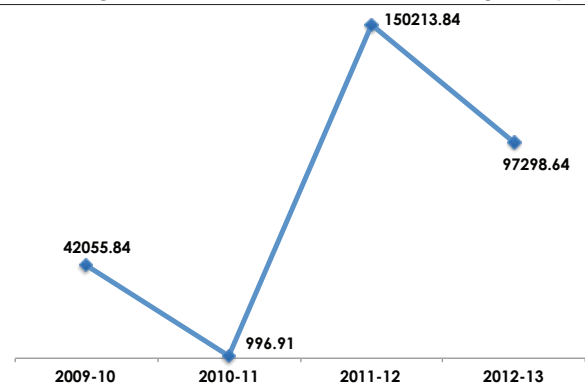
We have taken a number of initiatives to conserve natural habitats and ecologically sensitive areas by adopting advanced technological resources to

optimize route alignment with emphasis on avoidance of forests, national Parks, wildlife sanctuaries and other ecologically sensitive areas etc. POWERGRID is contributing towards alternate artificial nesting sites on account of loss of habitat for avifauna in forest areas. On such example is 765 kV Angul-Jharsuguda line for which POWERGRID paid Rs 70.64 lakhs.

Major initiatives taken for avoidance include Great Indian Bustard Sanctuary in Madhya Pradesh and Achanakmar-Amarkantak Biosphere Reserve in Chhattisgarh during construction of 765 kV Indore-Dahod and 765 kV Dharamjaygarh-Jabalpur lines, respectively.

We have undertaken innovative tower designs and reduced RoW requirement of transmission line towers. During 2011-12 and 2012-13, the saving in RoW due to construction of 765 kV lines instead of lower capacity lines was approximately 15,02,13,840 and 9,72,98,640 sq m, respectively.

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



Despite our continuous environment conservation efforts, the following transmission lines were routed through protected areas:

1. 52.521 km Mundra-Vadavi, Mundra-Jetpur and Mundra-Limbdi 400 kV D/C Transmission Line, was routed through Wild Ass Sanctuary, Gujarat, spread over 241.597 ha, of which 34.59 ha is forest land. POWERGRID ensured no tree was affected/cut in the sanctuary area.
2. 120 m Baripada-Mendhasal 400 kV D/C Transmission Line was routed through Chandaka-Churang Elephant Sanctuary, Odisha, spread over 0.552 ha. POWERGRID routed the line in such a manner that no tower was placed in the sanctuary area.



| S. No. | Name of Line | Total Length (km) | Line length through Sanctuary (km) | Crossing Range Wild Ass Sanctuary |
|--------|---------------|-------------------|------------------------------------|-----------------------------------|
| 1 | Mundra-Jetpur | 332 | 13.825 | Surajbari Creek Area |
| 2 | Mundra-Limbdi | 312 | 14.072 | Surajbari Creek Area |
| 3 | Mundra-Vadavi | 380 | 24.624 | Adesar Range |

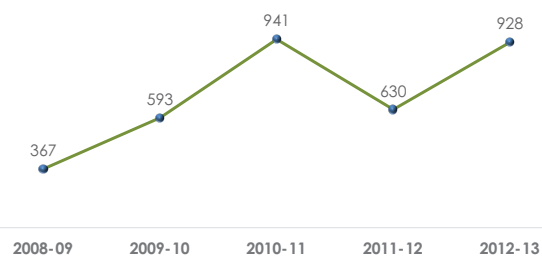
As per the Indian regulations, construction of transmission lines towers through protected areas requires deposition of cost as per the order of Hon'ble Supreme Court of India. This amount is used by authorities to improve the biodiversity and environment of the affected areas.

Energy Management

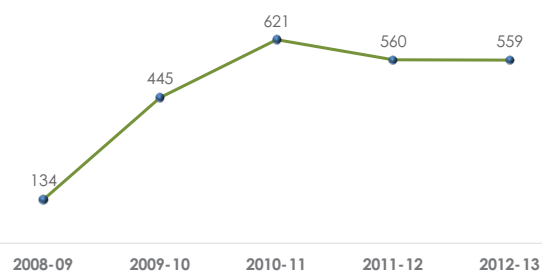
POWERGRID adopts a low carbon growth path through reduction in specific energy consumption and use of renewable energy sources. A dedicated Energy Efficiency Cell has been created with an objective to develop measures for reduction of Carbon footprint and promote Energy Efficiency. Initiatives such as installation of LED lighting in control room, switching to CFL lamps from convention lamp and optimization of air conditioning load by temperature setting have contributed in optimizing energy consumption.

Primary source of energy at POWERGRID's installations is electricity procured from State Electricity Boards. Diesel generator (DG) sets are used for backup/emergency power only.

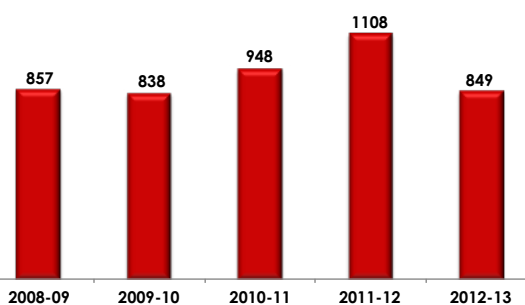
Electricity Saved due to Conservation & Efficiency Improvements (in '000 kWh)



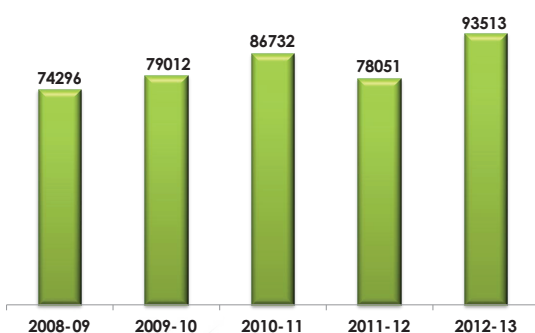
Electricity Saved due to Initiatives for Reducing Indirect Energy Consumption (in '000 kWh)



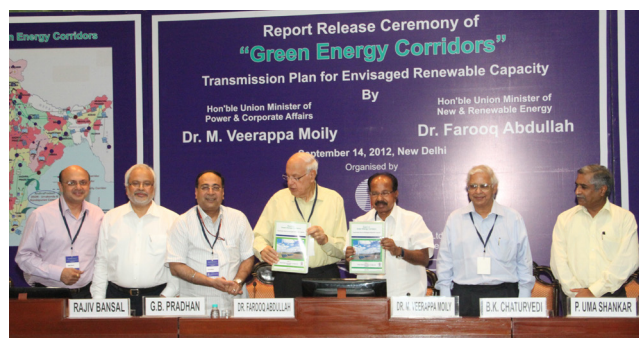
Electricity Generated by DG Sets (MWh)



Electricity Consumptions (MWh)



Installation of solar street lights at substation and solar geysers installations at substation are being taken up. With the focus on energy efficiency and renewable energy sourcing, POWERGRID is constructing the National Transmission & Asset Management Centre (NTAMC) building in Manesar, Haryana as per Green Rating for Integrated Habitat Assessment (GRIHA) norms and has



already registered with Association for Development and Research of Sustainable Habitats (ADaRSH) for Green Rating.

Green Energy Corridors

POWERGRID has taken an initiative to develop a comprehensive master plan disclosed by the Ministry of Power (MoP) and Ministry of Non-conventional & Renewable Energy (MNRE) for integration of Renewable Energy (RE), through Green Energy Corridors in September, 2012.

With this ambitious plan to integrate RE to reduce GHG emissions, KfW Germany has come forward with a soft loan of one billion euros.

Smart Grid

POWERGRID has taken pioneering steps in bringing Smart Grid technology to all facets of power supply value chain in the country. The first Smart Grid Control Center in the Country has been set up at Puducherry through open collaboration with more than 70 organizations & academic institutions. This Smart Grid pilot project will be very helpful in demonstrating technology efficacy, evolution of commercial mechanism and suitable regulation, formulation of inter-operability framework, indigenization of technology and renewable energy integration, and is scalable and replicable at other places in the Country.

Efficient street light management system implemented at Puducherry has resulted in reduction of street light energy consumption by about 15%. Smart Home Energy Management System is being carried out in association with IIT, Kharagpur to facilitate energy management process through remote operation. Towards green energy initiatives, installation of 50kWp roof-top solar PV plant at NTAMC building, Manesar is under progress.

POWERGRID has prepared a feasibility report for upcoming green field project at Dholera SIR that falls under Delhi-Mumbai Industrial Corridor (DMIC). It has executed Wide Area Measurement System (WAMS) pilot project for facilitating dynamic real time measurements and better visualization of power system.

POWERGRID has proposed "Unified Real Time Dynamic State Measurement System (URTDSM)" scheme integrating State and Central grids, i.e. PMU placement at all HVDC, 400kV and above substations/generating stations, including 220 kV level and PDC (Phasor Data Concentrator) at strategic locations. The Scheme will enhance overall grid efficiency management in electricity open market regime.

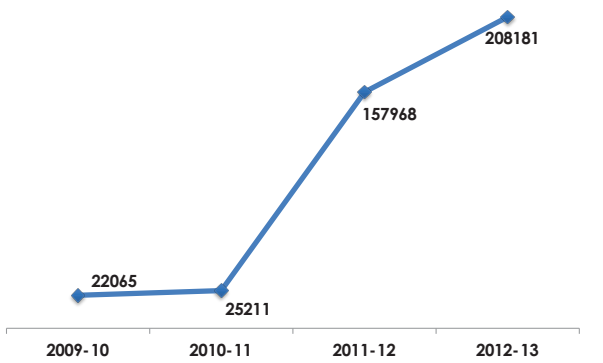


Water Management

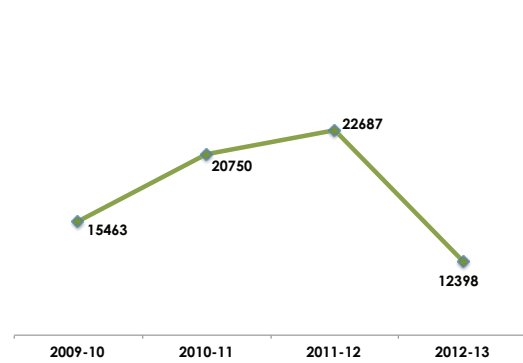
At POWERGRID, we focus on improving the water use efficiency and treatment of waste water for zero discharge. All the substations have implemented integrated water management approach focused on rain water harvesting system, which is now an integral part of every new substation design.

Though our activities do not involve large scale consumption of water, water is required for domestic consumption at substations for colonies, offices and horticulture use. Therefore, we do not envisage any significant impact on water resources since there is no water requirement for operations and processes at the substations.

Volume of Water Recharged (in m³)



Total Water Withdrawal/Used (in '000 m³)



The water requirement is met mainly from ground and municipal water. Domestic waste water is discharged through septic tank and soak pit, and wherever possible, used for horticulture. Septic tank sludge and domestic garbage from employee housing is disposed through authorized agencies at designated municipal disposal and dump sites.

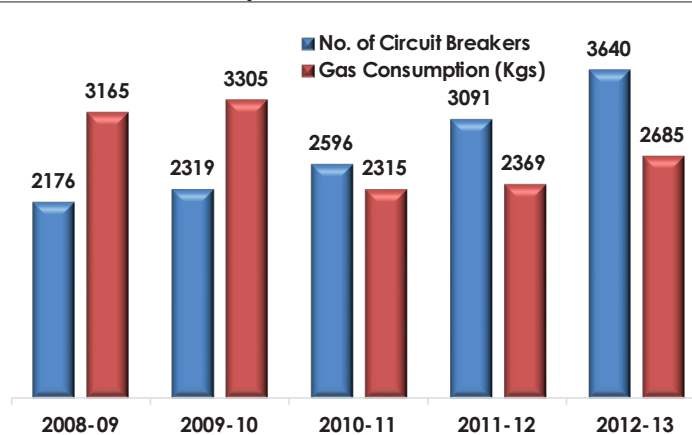
Emission Control

Power Transmission projects don't involve any activity which directly emits waste/toxic gases like SO_x, NO_x, CO₂, etc. into the atmosphere.

However, DG sets, that are a direct source of emission, are used for backup, emergency power, and construction activities at substations and in Corporate office and Regional offices. Maintenance is ensured to comply with the emission norms prescribed by Pollution Control Board. As regard GHG emission, leakage of SF₆, a potent GHG used in Circuit Breakers, is arrested through systematic and regular monitoring. Although the number of circuit breakers have increased by 67% from 2008-09 to 2012-13, we have been able to control leakage of SF₆ significantly from 3165 kgs in 2008-09 to 2685 kgs in 2012-13.

We have also gradually reduced our use of ODS equipment and all our new equipment & refrigeration is CFC-free certified.

SF₆ Consumption Pattern



Waste Management

Waste generation is not major concern at POWERGRID. In spite of this, we have put in place following systems for waste segregation and disposal:

- ▶ Metal scraps through auction
- ▶ Used batteries as per Batteries (Management and Handling) Amendment Rules, 2010
- ▶ Used transformer oil by authorized recycler/re-processor as per Hazardous Waste (Management, Handling & Transboundary movement) Rules, 2008

We have set a Waste Paper Recycling plant at Gurgaon Substation to recycle waste paper produced in the corporate office with the capacity to handle 30-40 kgs of paper daily. Recycled paper is utilized for making company's stationery. This initiative shall further reduce our carbon footprint as 1 ton of virgin printing paper requires 17 trees and 10 litres of water.

POWERGRID has also been taking several other initiatives including despatch of annual reports/postal ballot notices &



other communication to shareholders in electronic mode under the Green Initiative.

Transformer oil that has been declared as hazardous waste, is disposed off in a prescribed manner to authorized recyclers only, as per prescribed laws and regulations.

During construction, POWERGRID ensures that all contractors develop appropriate procedures and facilities for storage and handling of oils, lubricants and for management of spills including provision of temporary secondary containment facilities.

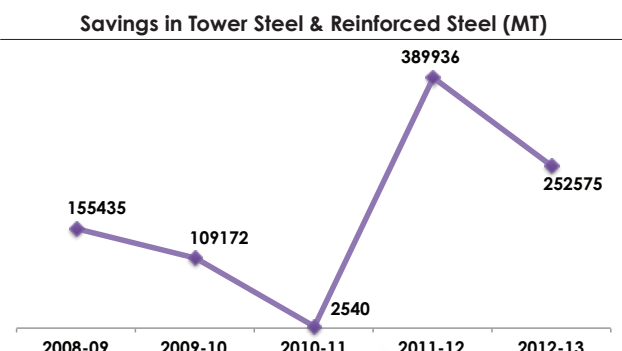
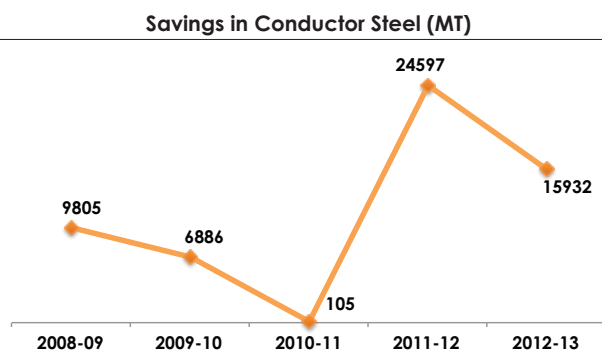
To contain spills of transformer oil in case of accidents, all transformers have oil trap (concrete) or oil sump pit. The Company segregates and stores scrap as also other waste material, in designated areas both during construction and operation. There have been no spills during the reporting period and no transportation or treatment of hazardous waste under the terms of the Basel Convention.

Material Management

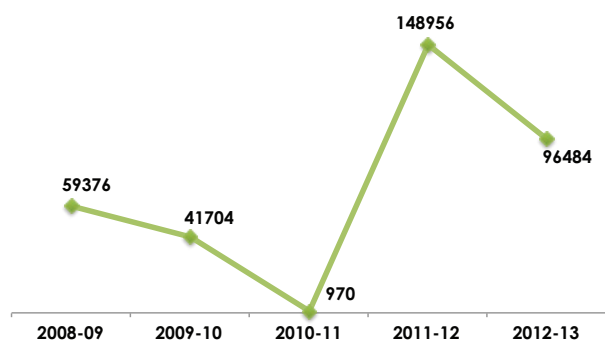
Our contribution to the conservation of the natural resource base and efforts to reduce the material intensity is an integral part of corporation's sustainability strategy. Major raw materials used in projects are Steel, Aluminium and concrete. The specific consumption of these raw materials have been reduced over the years through technological innovation using high capacity transmission lines i.e. 765 KV, ± 800 HVDC for transmitting bulk power.

Our activities do not involve recycling of waste. However, the finished products or the material we use, may be made from recycled material.

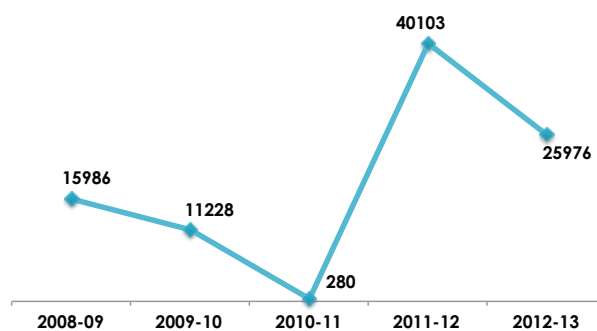
Saving in Raw material consumption due to shifting from 400kV to 765 kV (Assuming one 765 kV S/C is equivalent to two 400 kV D/C and one 400 kV S/C line)



Savings in Tower Concrete (MT)



Savings in Conductor Aluminium (MT)



Climate change vis-a-vis POWERGRID

POWERGRID's activities have negligible impact on Climate Change. Any probable impact is taken care of by ensuring preservation of natural resources as far as possible.

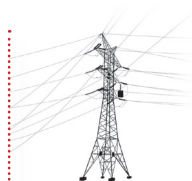
However, when designing transmission lines and towers, it takes into account conditions like wind pressures, pollution levels and ambient temperature. Flow of power through the transmission lines is impacted by its stability level and thermal rating. POWERGRID has been able to mitigate this impact through use of New Technology Conductors like HTLS (High Temperature Low sag) on case-to-case basis, whenever the thermal rating requires an increase.

POWERGRID also takes necessary steps to avoid any impact on its operations due to increasing pollution levels. Conventional porcelain/glass insulators have been replaced with silicone rubber composite insulators which are known to have better operational performance in polluted conditions. It has also completed pollution measurements for its transmission lines in North India so as to map changing pollution levels across the country on a periodic basis.

Energy Conservation Initiatives

During 2011-13, several energy-saving initiatives were carried out. Positive results from those initiatives prompted POWERGRID to expand the scope of such activities.

1. In August 2012, an exclusive Energy Efficiency Cell was created to focus on energy audit of commercial establishments and to implement energy efficiency solutions.
2. Letter of Award (LOA) was placed for the installation of fuel catalysts device for the DGs at corporate centre on March 04, 2013. The cost of fuel catalyst for 1425 kVA and 500 kVA DG sets was Rs.6.4 lakhs and Rs.3.2 lakhs respectively and estimated fuel savings is around 10-12%.
3. Three fuel catalysts were installed on DG sets (140kVA, 100kVA and 62.5kVA) in Jammu office (NR-II) at a cost of 5.23 lakhs leading to reduction in HSD consumption by 16.21%. The fuel catalysts also help in reducing the black smoke.
4. Sixteen substations were audited for energy efficiency during the reporting period. The audit recommended measures to the tune of about 31,46,901 kWh/annum. Recommendations are being implemented in a phased manner.
5. Energy Audits were carried out at our premises like Corporate Office, NLDC and NRLDC during 2012. Savings potential identified and



recommended in all the three buildings is given below:

| | Annual Energy Saving Potential (kWh) |
|--------------|--------------------------------------|
| CC Gurgaon | 4,69,000 |
| NLDC | 4,60,943 |
| NRLDC | 1,07,837 |
| Total | 10,37,780 |

The recommendations in the audit reports are being implemented in phased manner.

- As a part of the sustainability initiative, 11 State Electricity Board EHV Substations were audited by POWERGRID and comprehensive reports were submitted for energy efficiency implementations. The energy saving potential to the tune of 10,75,932 kWh has been recommended.

Improvement in operational efficiency

POWERGRID assets have grown substantially over the past 5 years and there has been a gradual migration from 400kV to 765kV level transmission system resulting in optimal utilization of RoW with enhanced power carrying capacity.

To improve planning and operations of the power system as a whole, POWERGRID is adopting new measures such as:

- Implementation of WAMS across the country with the application of state-of-the art synchrophasor technology. Over fifty PMUs have been installed, facilitating dynamic real time measurements, control of safety and security of the grid at the load dispatch centers.
- POWERGRID has undertaken a study through Real Time Digital Simulator (RTDS) to achieve real time simulation of power systems with HVDC, FACTS and protective relays, etc.
- Replacements of conventional porcelain insulators with polymer insulators in polluted stretches have significantly reduced pollution related tripping/transient fault in Northern Grid during foggy weathers. To facilitate optimum selection of insulators for new transmission lines,

pollution mapping has been carried out at more than 150 locations of POWERGRID and 108 locations of State Transmission Utilities (STUs) in Northern Region.

- Transmission line arrestors installed to minimize the tripping due to lightning especially in North Eastern Region which is highly prone to lightning activities.
- POWERGRID is implementing a Grid Security Expert System (GSES) project for secure Grid operation and management of automatic load disconnection/generation based upon real time information.
- Nationwide up-gradation and expansion of SCADA/EMS System of 5 Regional Load Despatch Centers (RLDCs) and 30 State Load Despatch Centers (SLDCs) with backup control centres is under implementation, for meeting the growth of power system.
- POWERGRID has signed an MoU with Foundation of Innovation Technology Transfer (FITT), IIT, Delhi for third party certification of operation & maintenance personnel through training & evaluation. Till now 136 personnel have been trained.



Consolidated Environment Performance Data

EN-1: Materials used by weight or volume

| Raw materials Used/Consumed | Materials Used | |
|--|----------------|-----------|
| | 2011-12 | 2012-13 |
| Steel(Tower Parts & Reinforcement)(MT) | 402108.83 | 397939.56 |
| Steel(Conductor)(MT) | 41673.95 | 31304.55 |
| Aluminium(Conductor)(MT) | 165276.99 | 112439.07 |
| Concrete(MT) | 2045802 | 2193828 |
| Transformer Oil (KL) | 10374.74 | 14855.38 |
| Insulators (120 KN & 160 KN)(Nos) | 4056881 | 3743404 |

EN-3 and EN-4: Direct & indirect energy consumption by primary energy source

| | Energy Consumed (GJ) | |
|---|----------------------|-----------|
| | 2011-12 | 2012-13 |
| Direct energy consumption by primary energy source (EN-3) | 3990.14 | 3057.57 |
| Indirect energy consumption by primary energy source (EN-4) | 280985.13 | 336647.27 |

EN-5: Energy (Electricity) saved due to conservation and efficiency improvements

| Energy saving initiatives | Energy Saved (GJ) | |
|-------------------------------|-------------------|----------------|
| | 2011-12 | 2012-13 |
| Process Redesign | 1453.87 | 1813.59 |
| Changes in Personal Behaviour | 442.07 | 562.69 |
| Retrofitting | 369.39 | 963.37 |
| TOTAL | 2265.34 | 3339.65 |

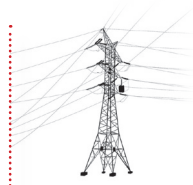
EN-16: Total direct and indirect greenhouse gas emissions by weight

| | | Emissions in tCO ₂ e* |
|----------|---------|----------------------------------|
| Indirect | 2011-12 | 61175 |
| | 2012-13 | 73166 |

EN-7: Initiatives to reduce indirect energy consumption and reductions achieved

| Energy saving initiatives | Electricity Saved (GJ) | |
|---------------------------|------------------------|----------------|
| | 2011-12 | 2012-13 |
| CFL | 1670.80 | 1647.98 |
| Solar Lights | 83.24 | 95.55 |
| Solar Gyser | 261.25 | 269.42 |
| TOTAL | 2015.29 | 2012.96 |

* Based on data provided in EN3, EN4 and EN7



EN-8: Total water withdrawal by source

| Water withdrawal (In m ³) | 2011-12 | 2012-13 |
|---------------------------------------|--------------------|--------------------|
| Surface | 23659.00 | 15059.00 |
| Ground | 1231881.87 | 1305619.28 |
| Municipal Supply | 21420287.00 | 11068250.00 |
| Rain Water | 11562.00 | 9510.00 |
| Total | 22687389.87 | 12398438.28 |

EN-18: Initiatives to reduce greenhouse gas emissions and reductions achieved

| | | Emission reductions in tCO ₂ e* |
|----------|---------|--|
| Indirect | 2011-12 | 927 |
| | 2012-13 | 1160 |
| Direct | 2011-12 | 19024 |
| | 2012-13 | 11280 |

EN-22: Total weight of waste by type & disposal method

| Type of waste | 2011-12 | 2012-13 |
|----------------------------|----------|----------|
| Non Hazardous | | |
| Steel (Scrap) - MT | 27863.61 | 3657.05 |
| Aluminium (Conductor) - MT | 287.01 | 1548.68 |
| Insulator - Nos | 30700.00 | 98120.00 |
| Hazardous | | |
| Used Batteries - Nos | 430.00 | 1045.00 |

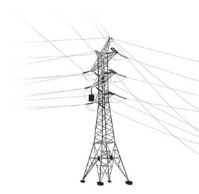
Quantity packaging material disposed

| Name of Packaging Material | Quantity Sold/Disposed off (Kg) | |
|--|---------------------------------|-----------|
| | 2011-12 | 2012-13 |
| Wood such as Wooden Boxes, Cable drums etc | 25753.75 | 390864.14 |
| Oil Drums | 10939.00 | 14982.00 |
| Steel | 17818.55 | 24257.34 |

EN-30: Total environmental protection expenditures and investments by type

| Description of Protection measures | Cost Incurred (In INR Crores) | |
|---|-------------------------------|---------------|
| | 2011-12 | 2012-13 |
| Plantation activity undertaken at Substation | 0.26 | 0.38 |
| 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 | 102.11 | 163.83 |
| Installation of Rain water harvesting system | 0.26 | 0.53 |
| Implementation of EMP/certification | 6.34 | 4.07 |
| Total | 108.98 | 168.81 |

* Based on data provided in EN3, EN4 and EN7



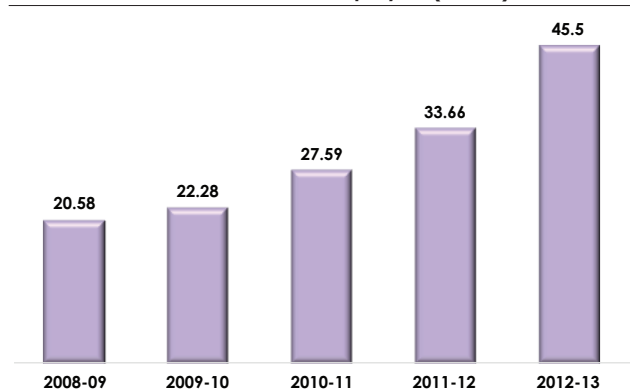
“HR Leadership Award – Asia Pacific HRM Congress Award 2011”

Harnessing Human Capital

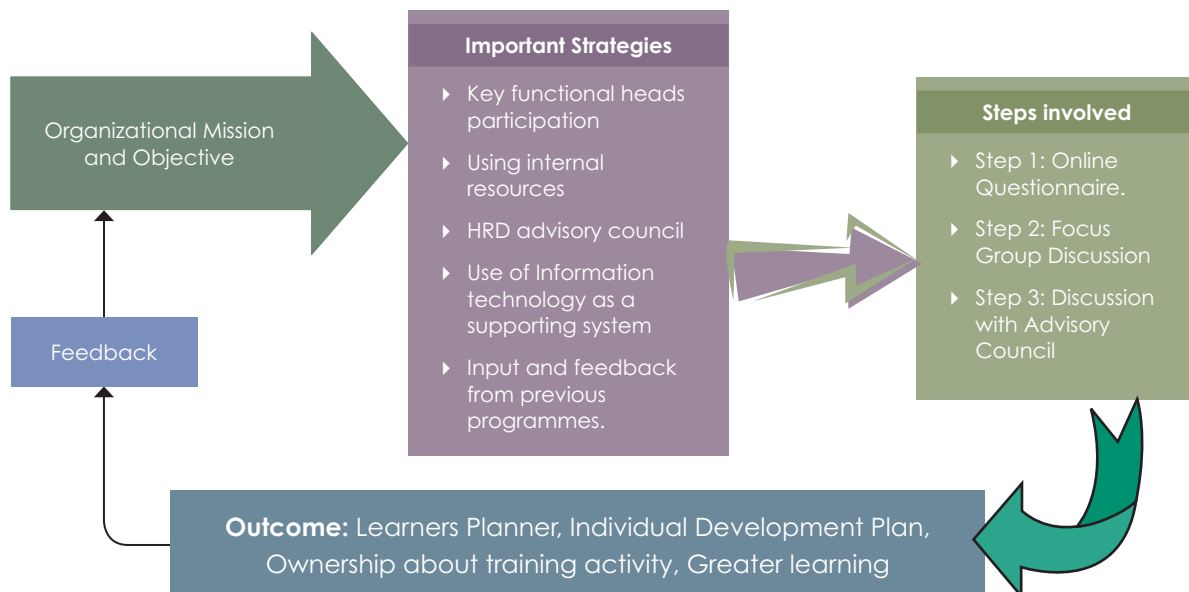
At POWERGRID, we foster a culture of personal & professional wellness. Our policies, practices and various programs are geared towards continuous development of our employees who are regularly trained on aspects such as technical & behavioural skills, leadership development, health & safety & work-life balance. POWERGRID, through a culture of continuous learning and development, has retained quality talent.

At POWERGRID, profit after tax per employee has improved continually with a Compounded Annual Growth Rate (CAGR) of 17.20%. POWERGRID has made significant investments in developing talent across all levels in the organization to enhance its capability and agility. We inspire employees by creating an environment aligned with the Company's Vision, Mission and Core Values.

Profit After Tax Per Employee (₹ lakh)



Learning and Development at POWERGRID





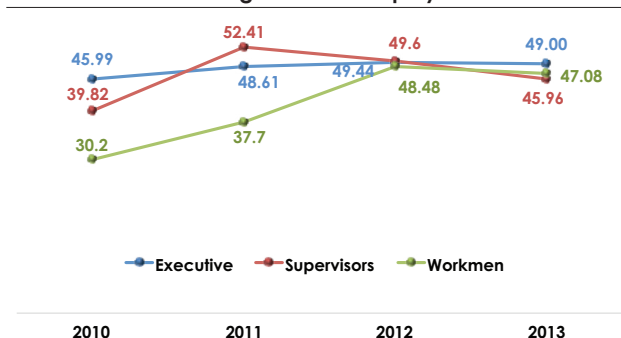
Continuous learning and development ensures enhanced capabilities and prepares the talent for taking greater responsibilities and more challenging work. Our human resource development strategy is continuously evolving to re-align with our business objectives.

Based on Organization Need Assessment (ONA) and Training Need Assessment (TNA), training needs were assessed and focused group discussions were held at all regions in which members from key functional areas participated. The results of online assessments and focused group discussions were presented to the Human Resource Department (HRD) Advisory board that suggested schemes and recommendations for implementation.

An average of 6.15 man days of training per employee was achieved in 2011-12 and 5.95 man days of training in 2012-13.

During 2011-13, POWERGRID increased the number of training hours per employee – Executives (6.5%), Supervisors (15.4%) and Workmen (55.9%) over training hours in year 2010.

Training Hours Per Employee



BML Munjal Award for Excellence in Learning and Development – 2011

Apart from focused functional and behavioural development programs for employees, our HRD conducted series of certified learning & development programs on regulatory framework in power sector. Strategic management programs were conducted for top and senior level executives on Earned Value Management.

During the reporting period, certified project management courses have been completed by 58 executives to equip them with effective project planning, execution and monitoring skills. A group of 29 executives have gone through the process of National Certification Examination for Energy Auditors and subsequent accreditation by Bureau of Energy Efficiency (BEE).

Our **Next Innings** training program on managing the career, financials and personal well-being after retirement is running successfully and as a special feature the spouses of the employees are also invited to be a part of the programme.

A Hot Line Training Centre has been established at Hyderabad in order to build maintenance capabilities. This centre, accredited by Central Electricity Authority (CEA), is the only accredited Hotline Training Centre in India and has been set up to provide in-depth approach and training for technical and practical know-how of live line maintenance.

For overall skill development in the country particularly in the area of power transmission line construction, capacity building programmes have been conducted with the help of Transmission



POWERGRID has been conferred with “HR Leadership Award” and “50 Most Talented HR Leaders in PSUs”.



Line (TL) construction contractors under Public Private Partnership (PPP) mode. During FY 2013, 258 unemployed youth have been trained through capacity building programme. The total number till March 2013 stands at 545.

During FY 2013, POWERGRID also imparted training to its foreign and domestic clients such as Bhutan Power Corporation Ltd. (four Batches) and Haryana Vidyut Prasaran Nigam Ltd (HVPNL).

During the FY 2013, POWERGRID has signed a Memorandum of Understanding (MoU) with IIM-Lucknow, IIM-Bangalore, CPRI-Bangalore, IIT-Chennai and IIFT-New Delhi, which will allow leverage of mutual capabilities and resources in areas of pedagogy, training, research and innovation in systems and processes, etc.

Career Development

POWERGRID strongly believes in career planning and development of its employees vertically or horizontally through performance management system (PMS), skill enhancement trainings, on-the-

job-assignments, job rotation and gives opportunity to its employees to choose trainings of their choice and build a career in their area of interest.

Employees are encouraged to participate in conferences, seminars, workshops to enhance their technical/managerial skills. POWERGRID Team won the National Championship of National Competition for Business Management Simulations -2012 and represented India in Asian Championship. Towards leadership development, POWERGRID Academy of Leadership (PAL) is being set up at Manesar.

We have a year-long orientation/training program for Executive Trainees (ET) comprising technical and soft-skill training to orient new comers to various aspects and policies of the company. Middle level executives are groomed and trained to assume leadership positions as heads of departments or other similar positions.

As part of career development, performance appraisals are carried out annually. The process begins with the formulation of goals and objectives by employees through setting of annual Key Results Area (KRA), reviewed every six months. In case of deviation from the targets, additional training is provided.

Our “Accelerated Career Growth Scheme” for non-executive employees, encourages employees to pursue higher studies and keep themselves abreast

“CEO with HR Orientation”
Award by Institute of
Public Enterprises - 2013

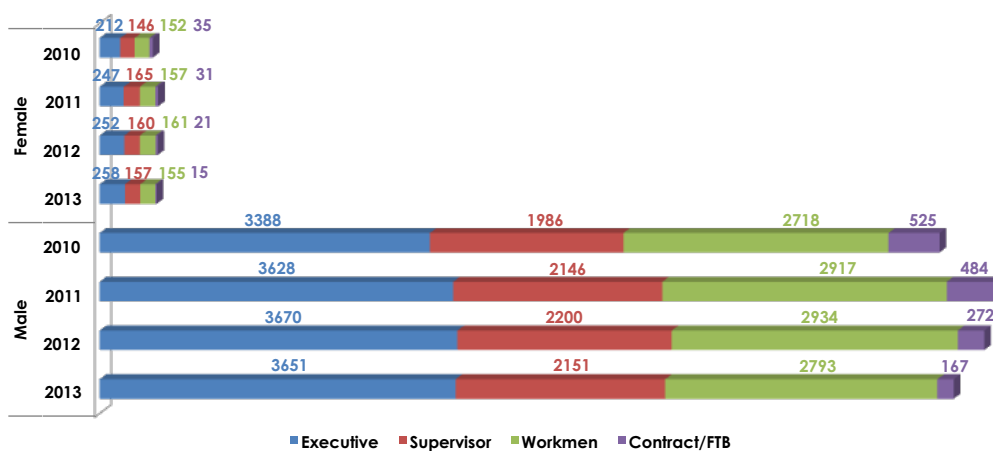


with latest techniques and technology and for faster growth in the company. Apart from above mentioned performance appraisal as a career planning tool, job rotation is undertaken to expose the employees to different experiences and wider variety of skills to enhance job satisfaction, lateral postings for cross functional experience and various mentoring and career development programmes are being used.

Human Capital

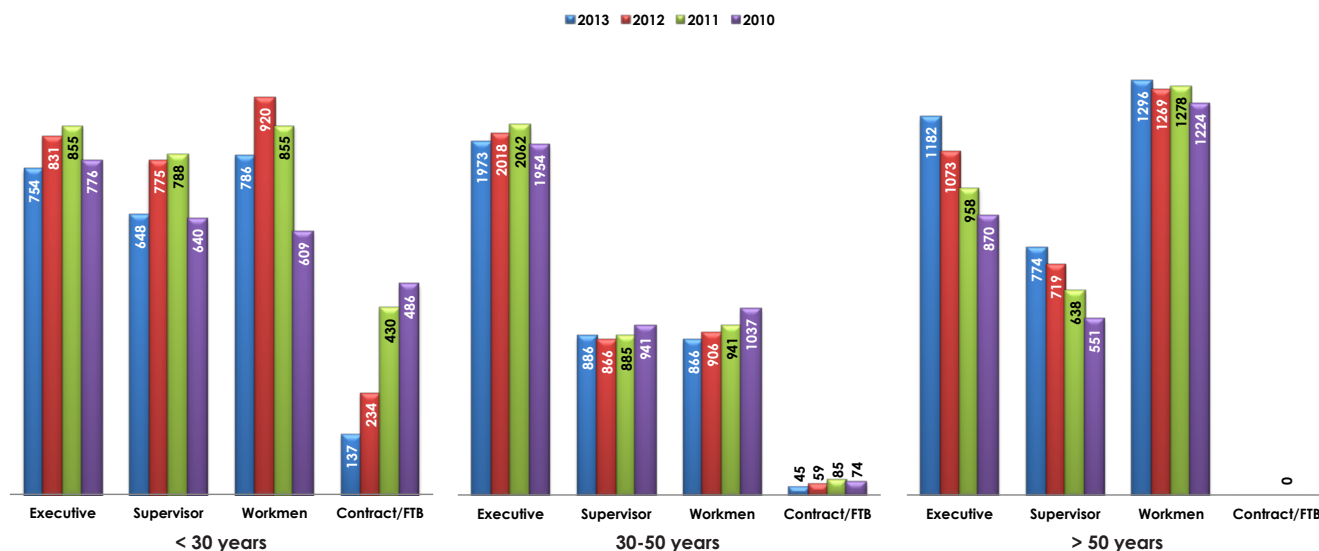
POWERGRID provides equal employment and growth opportunities to men and women. Similar wages & benefits are paid to employees at the same grade. Due to the nature of our industry and the locations of our operations, there are lesser women applicants. Therefore, the number of women employees are comparatively lower than male employees. However, we are consistently working at improving the gender ratio. The percentage of women in our company has improved from 5.95% in FY 2010 to 6.26% in FY 2013.

Employee Distribution by Gender (Nos)

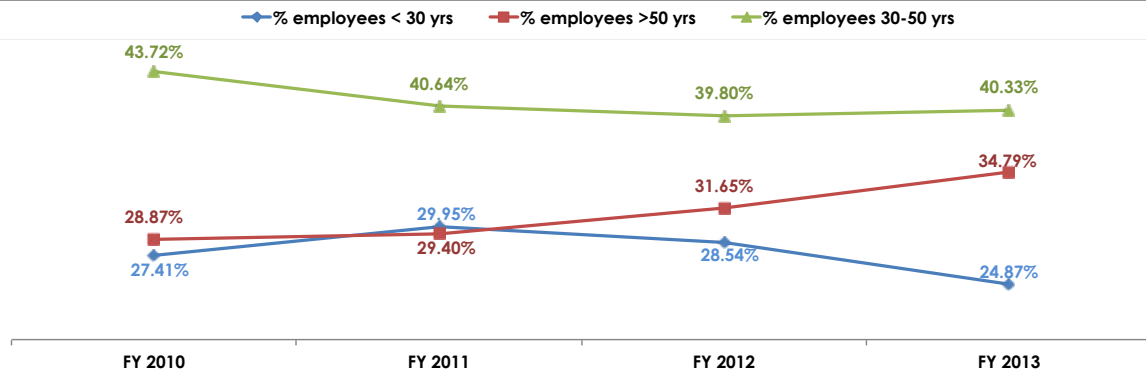


Our workforce spans a wide range of age groups. In the Executives category higher number of employees are in the age group of 30 to 50 years, whereas in the workmen category higher number of employees are more than 50 years old. The percentage of employees in the age categories <30, 30-50 & >50 years in the FY 2013 is 25%, 40 % and 35% respectively.

Employee Distribution by Age (Nos)



Employee Distribution by Age (%)

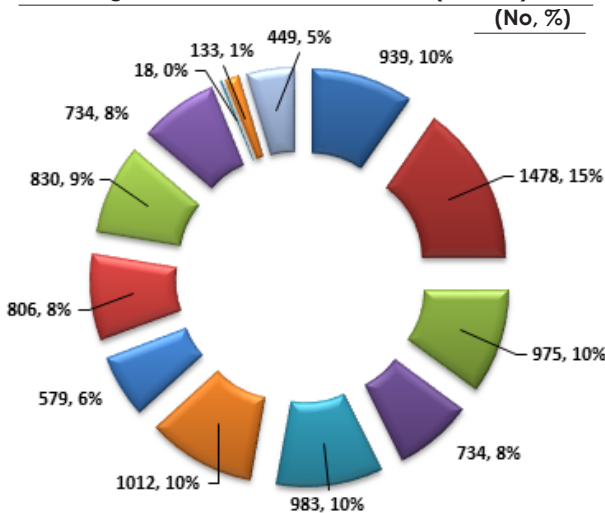


Construction of transmission lines may vary from 2 to 5 years depending upon the complexity and length of the route and involves large number of contract workers. With these intricate issues it is very difficult to maintain and manage the exact number of mandays spent during the reporting period.

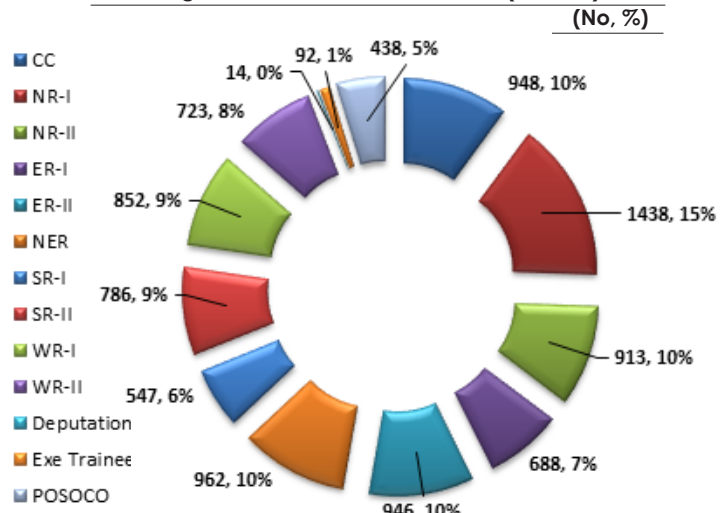
To enable faster decision-making and effective implementation of policies and practices, POWERGRID has been divided into the following regions:

- ▶ Corporate Centre: Located at Gurgaon
- ▶ Northern Region Transmission System – I: Rajasthan, U.P., Uttarakhand, Delhi & NCR (NRTS – I RHQ: New Delhi)
- ▶ Northern Region Transmission System – II: Jammu, Punjab, Himachal Pradesh, Haryana (NRTS – II RHQ: Jammu)
- ▶ Eastern Region Transmission System – I: Bihar, Jharkhand (ERTS – I RHQ: Patna)
- ▶ Eastern Region Transmission System – II/Odisha Project: West Bengal, Sikkim, Odisha (ERTS – II RHQ: Kolkata, Odisha RHQ: Bhubaneshwar)
- ▶ North Eastern Region Transmission System: Assam, Meghalaya, Mizoram, Tripura, Arunachal Pradesh, Nagaland, Manipur (NERTS RHQ: Shillong)
- ▶ Southern Region Transmission System – I: Andaman & Nicobar Islands, Andhra Pradesh, parts of Karnataka, parts of Tamil Nadu (SRTS – I RHQ: Hyderabad)
- ▶ Southern Region Transmission System – II: Tamil Nadu, Karnataka, Kerala, Puducherry (SRTS – II RHQ: Bangalore)
- ▶ Western Region Transmission System – I/ Chhattisgarh Proj. : Maharashtra, Goa, Parts of Madhya Pradesh, Chhattisgarh (WRTS – I RHQ: Nagpur; Chhattisgarh RHQ: Raipur)
- ▶ Western Region Transmission System – II: Dadar & Nagar Haveli, Gujarat, Parts of Madhya Pradesh (WRTS – II RHQ: Vadodara)
- ▶ Power System Operation Corporation: With load dispatch centres located at New Delhi, Mumbai, Shillong, Kolkata and Bangalore.

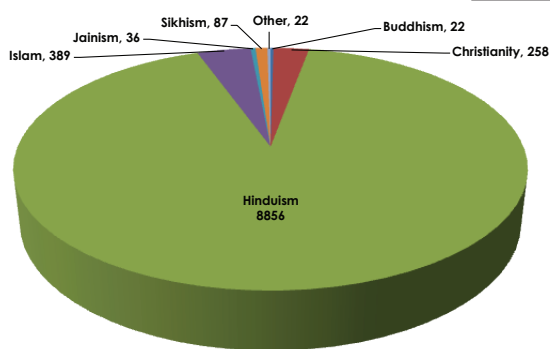
Regionwise Workforce Distribution (FY 2012)



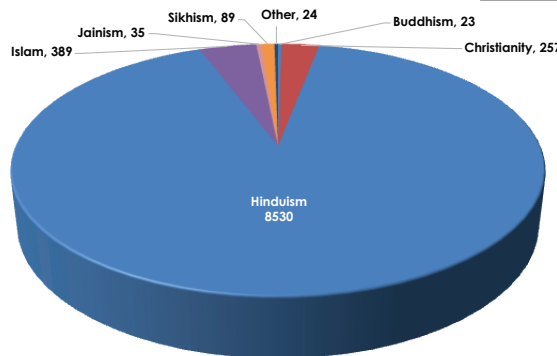
Regionwise Workforce Distribution (FY 2013)



Employee Distribution on Ethnic Background (FY 2012)



Employee Distribution on Ethnic Background (FY 2013)



Diversity in Governance Structure

POWERGRID encourages diversity at all levels in the organization – religion, age, gender.

India is a diverse country and its religious diversity is well represented in our company. The number of employees in the minority groups have increased over the reporting period.

This diversity is reflected even at the top level as two female members have been part of our company's board of directors during the reporting period.

Employee Recruitment

In order to maintain quality, efficiency and consistency in the selection process the recruitments for executive positions have been centralized. However, for specialized requirement, which necessitates engagement of local talent, selection is done through campus recruitment from educational institutes in and around our area of operation. Recruitment for supervisors and

workmen level is carried out on both central and regional basis. 511 new employees were recruited during the reporting period.

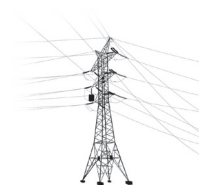
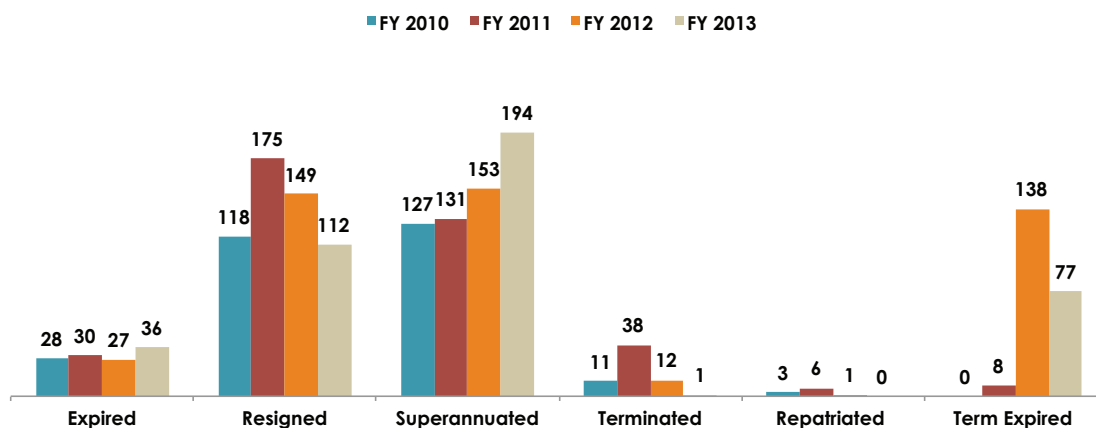
Employee Turnover

The turnover rate for financial year 2012 & 2013 was 4.96% and 4.5% respectively in POWERGRID.

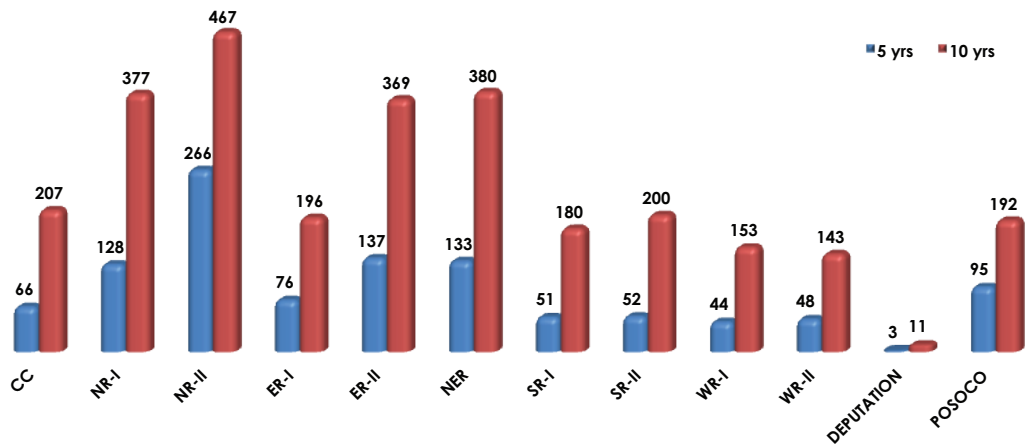
Turnover trends

- ▶ During the reporting period a lot of fixed term based contract employees finished their contract terms and left the company.
- ▶ During FY 2013, 194 employees (highest since 2010) superannuated from the company.
- ▶ Unfortunately 27 of our employees passed away in FY 2012 and 36 employees in FY 2013.
- ▶ As compared to FY 2011 the numbers of employee resignations have reduced consecutively in FY 2012 and FY 2013.

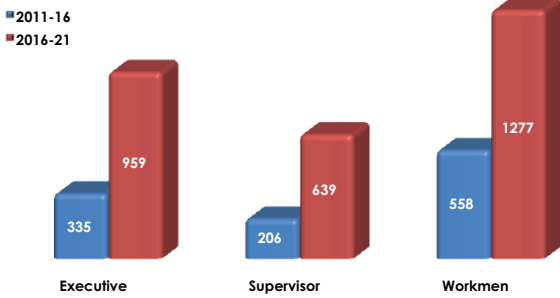
Employee Turnover Trend (Nos)



Regionwise Turnover Details (Nos)



No. of Employees Due to Retire



Wages & Benefits

POWERGRID pays salaries to its regular employees based on their grade and the corresponding pay scales. Salaries are uniform across the company for a given grade and we pay equal remuneration to men and women.

For contract workers, wages are paid as per minimum wage notification. POWERGRID through contract provisions and regular monitoring at site

level by its representatives ensures that contract workers employed by the contractor are paid wages as per local minimum wages prevalent for skill category.

POWERGRID provides superannuation benefits @ 30% of Salary (Basic + Dearness Allowance) per month, as per statutory compliances and DPE (Department of Public Enterprises) Guidelines. The benefits are as follows:

- a. **Provident Fund:** 12% of salary (Basic + Dearness Allowance) per month is contributed by both employer & employee. The provident fund is maintained by POWERGRID Employees Provident Fund Trust. The total assets of the trust were ₹1,154.3 Crore and ₹1,343.2 Crore at the end of FY 2012 and FY 2013, respectively.
- b. **Pension:** 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 31 March 2013, total assets of the trust were ₹427.68 Crore.
- c. **Gratuity** is paid upto a maximum of ₹ 10 Lakhs. Gratuity is paid only in case of completion of minimum 5 years of continuous service; however this condition does not apply in case

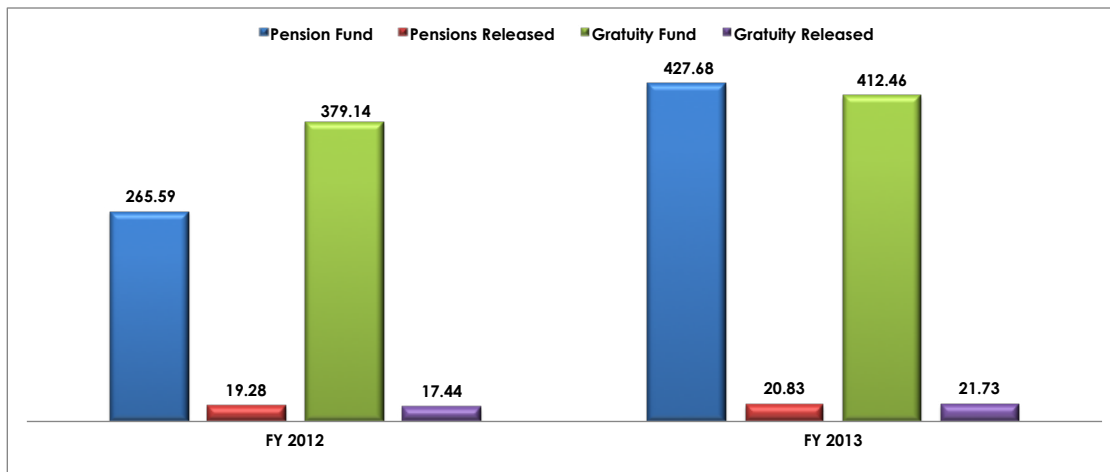
HRD Leadership Award for Director (Personnel) at 'Indian Human Capital Awards - 2012'



of death of an employee. The POWERGRID Employees Gratuity Fund Trust maintains the gratuity account. As on 31 March 2013, total assets of the trust were of ₹412.46 Crore. During the reporting period, ₹39.17 Crore was paid to employees as gratuity.

- d. **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 31 March 2013 was ₹179.27 Crore.

Breakup of Benefits (₹ Crore)



Apart from complying with the statutory requirements, POWERGRID provides Other Defined Retirement Benefits (ODRB), Medical Coverage (including spouse and minor children of deceased employees), Group Personal Accident Insurance Scheme, Death Relief Scheme, House Building Advance (HBA) & Conveyance Advance.

While full time employees are entitled for all the above mentioned benefits, contract/Fixed Tenure Basis (FTB) employees are not eligible for POWERGRID-defined contribution benefit pension scheme, PRMB, ODRB, HBA & Conveyance Advance, medical benefits for spouse and minor children in case of deceased employee.

Employees posted in hardship stations are provided with additional benefits during their tenure in such locations. Such benefits include: 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 and Uri etc. Other

monetary benefits such as North-East allowance which is 12.5% of basic pay and special allowance which is 10% of basic pay 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.

Employee Welfare

POWERGRID's welfare policies are aligned to the needs of its employees. Healthy community living is spread through periodically conducted cultural programmes for celebrating various occasions like Diwali get-together, Holi Milan, New



Year, Raising Day, etc. in all establishments of the Company. POWERGRID also conducted various sports competitions, for boosting the interest of employees in sports and games, at intra and inter regional level for Kabaddi, Cricket, Volleyball, Badminton etc. Our employees participate regularly in inter-PSU Sports meet.

The Company has empaneled various hospitals near its establishments including Corporate Centre for the healthcare of employees and their dependents. The 'Employees Medical Health Check-up Scheme' covers all employees over 30 years of age. The Company has Medical Attendance and Treatment rules wherein employees and their dependent family members can avail any medical treatment. In addition to these, regular health camps/talks are organised for the benefit of employees and their dependants.

Labour Relations

Promoting Right to Exercise Freedom of Association and Collective Bargaining

| | |
|-------------|---|
| Initiatives | ▶ Regular PNBC, PRBC & S/s Level Meetings |
| | ▶ Training of Union Leaders |
| | ▶ Behavioural/soft skills training programs for workmen |

POWERGRID's activities are classified as Public Utility Service under the Industrial Disputes Act, 1948. The management facilitates 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 the 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 Substation level Committees. Some of the landmark achievements of this forum have been the signing of three long term wage agreements. All the workmen are covered under collective bargaining agreements. The workmen represent 32% in FY 2012 & 31% in FY 2013 of the total strength in POWERGRID.

During the reporting period the Industrial Relations scenario in the corporation has been cordial and no man days have been lost due to strike.

Occupational Health & 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, which ensures a healthy work environment for employees by strict adherence to norms on Occupational health & safety at workplace. Regular monitoring and review of performance



is done by all the regions. Designated safety officers at the grass root level ensure the absolute implementation of the safety policy.

Our CMD chairs an apex level safety committee, comprising senior management officials. There were 2 Apex safety committee meetings held

in 2011-12 and 3 in 2012-13. Our Safety Cell at corporate level is focused mainly on minimizing the number of accidents and conducts yearly audits of all the regions of POWERGRID to assess the implementation of health and safety aspects and corrective and preventive actions are taken.

At the substation level the station in-charges hold monthly meetings with the worker representatives wherein the safety issues are also discussed. In addition PRBC at Regional level and PNBC at Corporate level conduct periodic meetings with the representatives of workers where safety issues, if any, are discussed.

All contractors comply and adhere to all POWERGRID Safety Rules & all 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.



| Formal Health and Safety Committees | Details and Focus Area of Health & Safety Committee | Level where Formal Health and Safety Committees Operates |
|---|--|--|
| ORM & PRM meetings/ PNBC/PRBC & meetings at Substations at regular intervals | Safety related issues during construction sites and O&M works | Regional/Heads of Departments/Engineer- In-charge of projects/ POWERGRID-in-charge/workers representatives |

Trainings are conducted on many aspects of health & safety such as safety in construction of TL & substation, safety management in transmission system, safety practices in O&M of substation, rural electrification works and safety, 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. All (100%) our employees and the contractor workers working on our site undergo job related safety training.



Despite of our continuous efforts on Occupational health and safety, due to unforeseen reasons there are 96 fatalities during the reporting period and a total of 7,305 man days lost. The fatality information is as below:

Number of fatalities

| Year | No. of fatal accidents | No. of non-fatal accidents | Total persons affected | |
|---------|------------------------|----------------------------|------------------------|-----------------|
| | | | No. of fatalities | No. of injuries |
| 2011-12 | 39 | 3 | 49 | 25 |
| 2012-13 | 37 | 7 | 47 | 22 |

Human Rights

POWERGRID respects the UN declaration of Human Rights and other relevant legislations. It also complies with Social Accountability (SA 8000: 2008) standard. We have incorporated Human Rights issues under related policies & practices which extend to all the employees & prohibits violation of human rights. 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 or any inappropriate behaviour.

The provision in the contract provides legal binding on the part of contractors and their associated sub-contractors/suppliers to meet the requirement of SA 8000. As per the contract agreement, contractors are bound to not engage any child, forced or compulsory labour. Provision of penalties for non-adherence of the same are also included in the contract conditions. To

ensure General Conditions of Contract (GCC) compliance, contractors are audited as per SA 8000 requirements by POWERGRID auditors. Training programs have also been conducted on Human Rights issues to sensitize people towards women, differently-abled and socially weaker sections of the society.

Grievance Redressal Mechanism

POWERGRID proactively follows an open-door policy for redressal of grievances in a fair, transparent and time-bound manner. An Internal Complaints Committee (ICC) under Sexual Harassment of Women in Workplace (Prevention, Prohibition, Redressal) Act, 2013 exists in the company in order to handle complaints related to the harassment of sexual nature of women. In the financial year 2012 & 2013, no cases have been brought to the ICC.

The Reservation Cell at the corporate and regional level addresses issues related to any form of discrimination faced by SC/ST/OBC/ Ex-servicemen/Persons With Disability (PWD) employees. Complaint registers are maintained and complaints are addressed in a time-bound manner. Regular meetings are held between SC/ST/OBC Employees' Association and a Liaison Officer. The liaison officer is available on a pre-fixed date and time for interaction once a week. The number of grievances related to discrimination/harassment received from SC/ST employees during 2011-12 and 2012-13 were 2 and 1 respectively.



Building Social Framework

POWERGRID, as a responsible corporate citizen, understands the social, economic and cultural cost involved with affected population due to its project activities and has incorporated mechanisms to minimize such impact, as outlined in the Environmental and Social Policy & Procedures (ESPP).

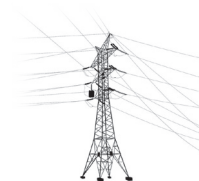
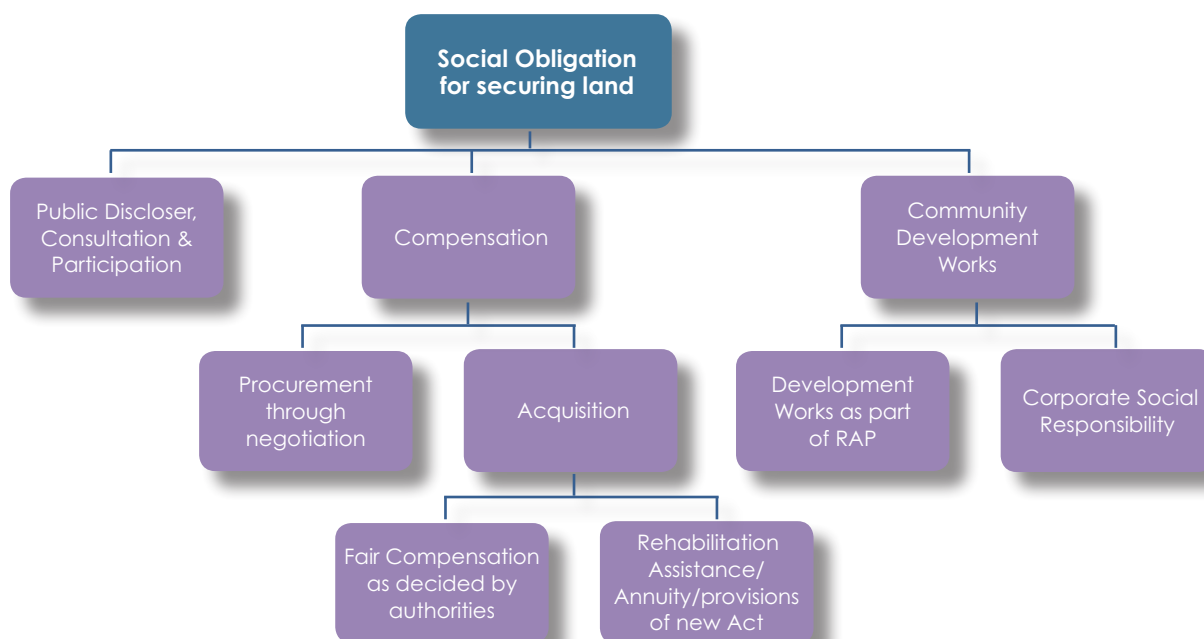
Land Acquisition

POWERGRID constructs transmission lines and substations for transmitting of power from generating stations to load centres. As per law of the land, POWERGRID is not required to acquire land for constructing transmission towers, as ownership of land remains with the owner who is allowed to continue cultivation after construction. However, construction of substations requires small piece of land and normally does not involve any physical displacement. POWERGRID minimises land

requirement to the barest minimum and is also flexible in choosing substation locations, which are mostly government/barren land. In the absence of government land, private land is acquired/procured for construction of substations.

The acquisition/procurement of land for construction of substations some times causes economic and cultural disruption to the affected people. POWERGRID provides R&R benefits, over and above compensation, as per provisions of ESPP, whenever land is acquired by invoking the Land Acquisition Act. During 2011-12 and 2012-13, ₹9.49 Crore and ₹14.63 Crore was paid as Rehabilitation Assistance (RA) to Project Affected Persons (PAPs) over and above land compensation.

Apart from this, POWERGRID also procures land through private negotiation based on willing-buyer willing-seller basis.





Public Disclosure, Consultation & Participation

POWERGRID initiates all development activity with active involvement of the stakeholders. Public consultation/information is an indispensable part of our project planning and implementation. Corporate policy of POWERGRID focuses on forging better living standards for affected population in a sustainable way and minimizing

information asymmetry between POWERGRID and affected people/community and hence ensures a long-term symbiotic relationship.

Consultation processes are carried out during:

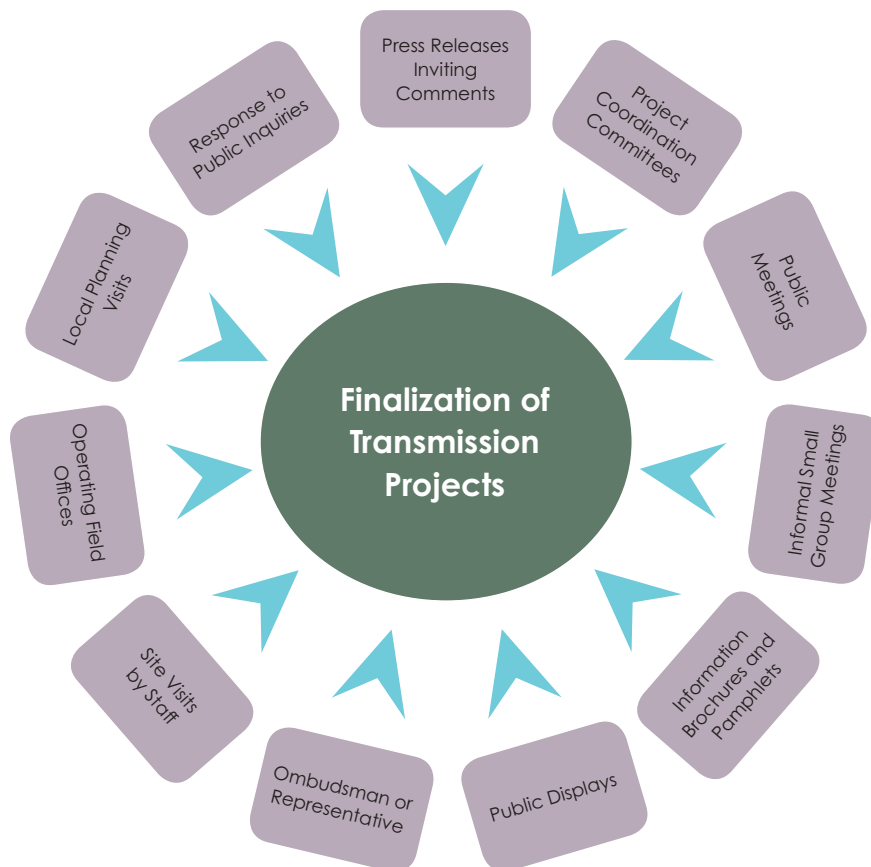
(a) Transmission Line Construction

- ▶ Public consultation is used as an integral tool for screening, assessment and finalization of route alignment while planning transmission line and tower spotting.
- ▶ Consultation is carried out both at level of affected individuals and at community as a whole. Issues raised from the discussions conducted by POWERGRID during initial screening and walkover surveys en-route transmission line are given due consideration while finalizing the route.
- ▶ Affected persons whose land comes in RoW are individually met and fairly compensated as per the provisions.

(b) Substation Construction

- ▶ Public consultation or disclosure is a part of

Modes/Techniques of Public Consultation



Land Acquisition Act. POWERGRID fulfills all the disclosures, consultations and participation requirements of the concerned legislation.

- ▶ Over and above the mandatory requirements of the law, POWERGRID assesses the social impact of its land acquisition based on the socio-economic survey and designs its compensation packages in consultation with the people. POWERGRID organizes meetings with the PAPs to develop the RAP.
- ▶ Whenever land is procured through private negotiation based on willing-buyer willing-seller basis, disclosures and consultation begin much before the negotiation meeting.

Responsible Community Development

Along with R&R activities, POWERGRID undertakes community development work like construction



of roads, drinking water facility, school buildings, community centres, etc., in and around the areas of its operation. This builds trust and leads to a sustainable relationship with civil societies and local governments.

In financial year 2011-12 and 2012-13, POWERGRID spent ₹5.78 Crore and ₹10.65 Crore, respectively towards community development works.

Investing in Society

POWERGRID has been a forerunner among the Public Service Enterprises in taking responsibility for its impact on society by articulating a social policy

in line with its corporate business policy. Corporate Social Responsibility (CSR) at POWERGRID is an abiding commitment to its stakeholders as is conducting business in an economically, socially and environmentally sustainable manner that is transparent and ethical. As part of our CSR initiative we are making key contributions to society through social investment programs to ensure socio-economic development of weaker sections of society and for overall conservation of environment, improvement of ecological balance. POWERGRID has spent Rs. 21.75 cr. in 2012-13 and Rs. 24.93 cr. in 2011-12 for CSR activity.

CSR Policy

POWERGRID came out with its policy on CSR in 2009 even before the issue of guidelines by Department of Public Enterprises (DPE) in 2010. Subsequently POWERGRID had designed its CSR policy in accordance with DPE guidelines.

CSR Governance

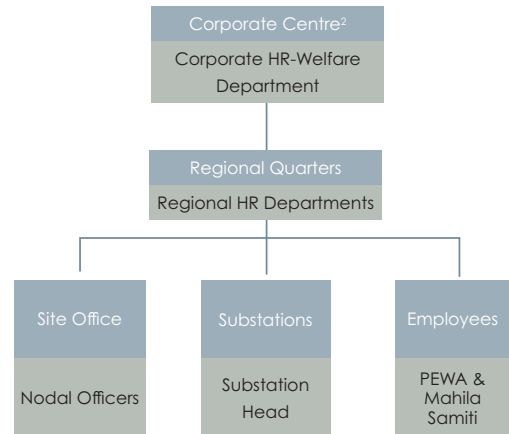
The CSR function is driven at corporate level by the Chairman/Director (Personnel), along with corporate HR-welfare department, which coordinates with overall community development

POWERGRID mission statement on Corporate Social Responsibility

“POWERGRID as a responsible corporate citizen shall promote Community Development with focus area on Education, Health-care & Infrastructure development and Support Ecology & Environment Conservation and Disaster Relief in the country”

activities in POWERGRID and communicates with regional headquarters & site offices/substations on a regular basis. Across all locations, the respective regional HR departments, substation heads and nodal officers anchor the function to achieve its objectives in alignment with the organizational strategy.

Due to the vast number of projects across the country, complexity of the societal needs and requirements to prioritize the same, POWERGRID adopts defined mechanisms to identify needs and requirements, assess, plan, implement and monitor the projects.



Understanding the Impact of Organization on the Community

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.

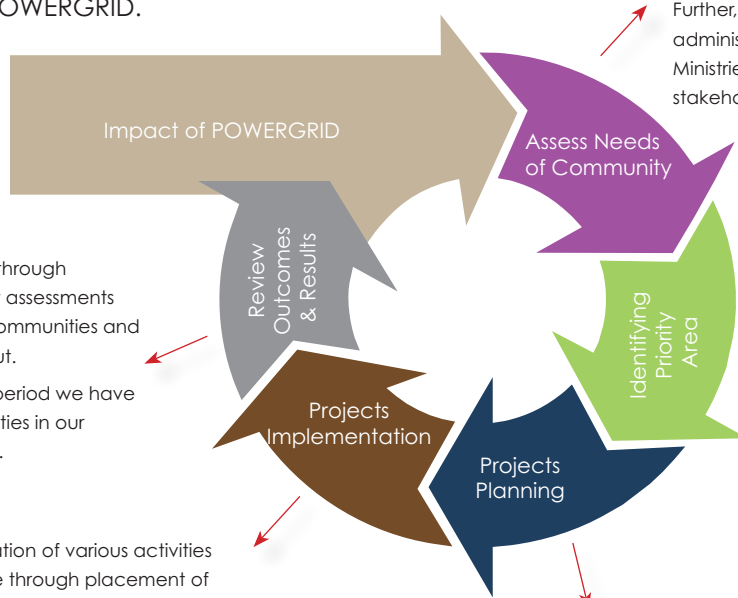
In-house experts or external agencies assess the needs through survey/study. The affected communities are consulted and closely involved in the process of identifying, planning and implementation of the CSR activities, programs or projects. Wherever possible, the local authorities and specialized agencies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

Site level assessment through meetings and impact assessments with the benefitted communities and people are carried out. During the reporting period we have carried out CSR activities in our identified thrust areas.

The implementation of various activities is normally done through placement of award. Services of various departments of Central/State Government, Panchayat Raj Institutions etc. are also availed for implementation of CSR activities as deposit works. The financial commitment is made for the entire expenditure till the completion of the project. Monitoring of the project is done by site level and regional level offices send the reports to Corporate Centre. Monitoring also includes, running account payments and other incident activities necessary for further implementation of the project.

Upon identifying the requirement of the community, a project plan is prepared indicating the need for community development activity, time-frame of implementation, action plan and budget requirement. Long-term projects are broken into short- and medium-term plans and annual plans. The communities intended to be benefitted are consulted and closely involved in the process of planning of the CSR activities. Wherever possible, the local authorities and specialized agencies are also similarly consulted and involved.

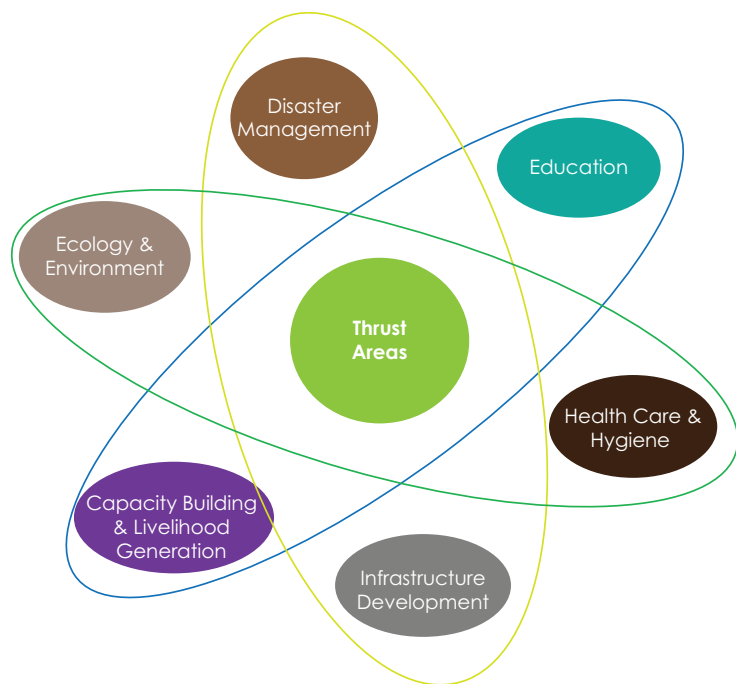
Adhering to DPE guidelines and taking clues from United Nations Global Compact and UN Millennium Development Goals following have been identified as the thrust areas of CSR & Sustainability activities of POWERGRID – Education, Health Care & Hygiene, Infrastructure Development, Capacity Building & Livelihood Generation, Ecological and Environmental Sustainability and Relief/Rehabilitation/ Restoration work at the times of National Calamities/Disasters. Priority is accorded for CSR activities in backward districts as identified by the Planning Commission.



² Since April 2013, POWERGRID created separate CSR department and its functioning under Environment & Social Management Department



Thrust Areas



Education

Considering the plethora of challenges in the way of achieving Universalization of Elementary Education (UEE), POWERGRID had aligned its CSR policy to supplement the activities of the government of India, state and local governments in the area of education. Through its educational interventions POWERGRID aims at **significantly improving the quality of education imparted and on ensuring that educational opportunities are available to all segments of the society.**

Focus has been on taking up comprehensive educational initiatives as projects rather than providing financial support. POWERGRID has been emphasizing on developing an environment for effective education particularly in remote and backward areas of the country. POWERGRID has taken up 360 degree developmental activities pertaining to schools which cater to the health, hygiene, nutrition, infrastructure, sports, culture, technology, medical, teaching equipment and providing trained personnel.

POWERGRID implements these educational initiatives in partnership with NGOs and State Governments.

Health

The aim of POWERGRID's interventions in health sector include strengthening primary health care, which includes preventive, promotion and curative services ensuring that these services are accessible, physically, financially and are culturally sensitive, as well as ensuring availability of these services to the local community.

POWERGRID undertakes medical check-up preventive initiatives by way



Partnership with Akshayapatra Foundation for feeding of children in 5 schools at Puri and 6 schools at Nayagarh for the entire school year



A pilot project for illiterate adolescent girls in backward areas to provide them vocational training and empower them through education to have greater control over their lives and rights as citizens through an NGO in association with Society for Elimination of Rural Poverty (SERP).





of organizing free medical camps where regular medicines and pathological tests are undertaken free of cost. In order to reduce the fees for diagnosis tests in diagnostic facilities, POWERGRID provides expensive medical diagnostic equipment. Specialized health clinics for providing maternal and child health care services where organized in 15 villages in backward areas of Mewat, Jhajjar and Gurgaon districts of Haryana, benefiting around 45,000 villagers, facilities including check-up gynaecologist, blood test, free medicines etc., where provided.

POWERGRID in association with Ambuja Cement Foundation is operating Mobile Medical Unit (MMU) services covering 23 villages in remote areas of Nalagarh of Himachal Pradesh for providing medical facilities at the door step of these rural

villages. These villages lack basic medical facilities and MMU operations are of utmost importance in view of the negligible health infrastructure in the area.

Infrastructure Development

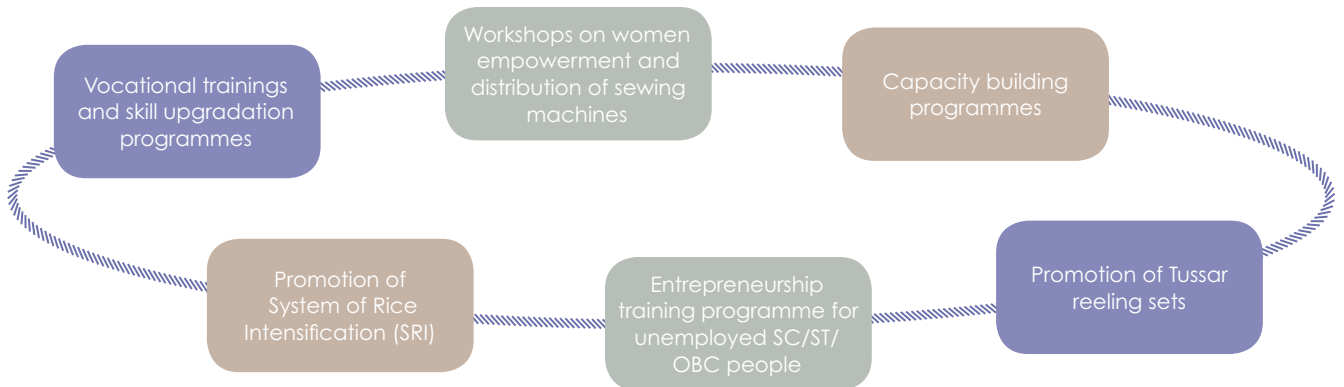
POWERGRID is supplementing the efforts of the Government for the development of villages around its area of operation and in this endeavour, roads, culverts, community centre, drainage systems, passenger shelter, etc. are constructed & renovated. To tackle the issue of drinking water, POWERGRID has undertaken boring of tube-wells, hand-pumps, digging of ring-wells and laying of water pipeline to bring water to villages across various parts of the country. To tackle the issue of sanitation, community as well as individual



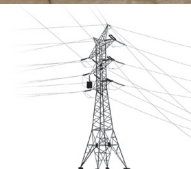
household toilets have been constructed. These facilities have changed the daily lives of lakhs of beneficiaries.

Capacity Building and Livelihood Generation

POWERGRID provides vocational trainings for women and unemployed youth in the fields of tailoring, embroidery, automobile repairing & servicing, handloom weaving, food & fruit processing & repairing of household appliances, to alleviate issues like unemployment amongst the rural youth and towards empowerment of women. These initiatives cover the cost of training, guidance and overall support for employment/self-employment, thereby facilitating the socio-economic empowerment of a large number of families. Majority of the beneficiaries belong to SC/ST/Backward and other deprived sections of the society.



POWERGRID under its CSR initiative has taken up the challenge to convert a large number of unskilled/semi-skilled manpower to skilled manpower. Under this initiative, capacity building programmes are being organized at seven places in Assam, Maharashtra & West Bengal to impart hands-on training in the field of transmission tower erection & stringing. Creation of infrastructure for imparting Capacity Building programme on "Transmission Line Tower Erection and Stringing" is capital intensive. By imparting hands-on training in the trade of tower erection & stringing, an attempt is being made to integrate the supply chain in its entirety and provide employment opportunities. The programme has been accorded accreditation by Directorate General of Employment and Training (DGET), Ministry of Labour and Employment, Gol, under Modular Employable Skills (MES) of Skill Development Initiative Scheme (SDIS) and courses have been included in the list of Modular Employable skills courses approved by NCVT (National Council for Vocational training).



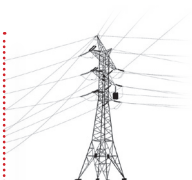


Environmental Sustainability

POWERGRID is committed to the goal of sustainable development and conservation of nature and natural resources. Key initiatives include Restoration of water bodies, Installation of solar street lights and tree plantations.

One of the mega projects is large scale plantation in the North Eastern Region through Eco-Task Force of the Indian Army, based in Kokrajhar district. Pilot project for planting 10,000 saplings towards reclamation of Chirang Reserve Forest was taken up. POWERGRID also set up a nursery, capable of generating saplings in millions, to supply sufficient saplings towards the large scale plantation.

The land was sanctioned by Bodoland Development Autonomous Development Council and under the management of Eco-Task Force, POWERGRID funded the nursery with an estimated yield of 10 lakhs saplings. With an assured supply from the nursery, the project of reclamation of Chirang Reserve Forest with plantation of more than 150,000 saplings in an area of over 100 hectares was successfully implemented by POWERGRID.



Other Initiatives

POWERGRID extends its support during natural calamities and inclement weather conditions. POWERGRID extended support to the physically challenged persons and provided them with various equipment and tools so that they can be self-reliant and live with dignity. One of the activities was distribution of tricycles to 52 physically challenged persons in various parts of the country.

POWERGRID as part of its CSR activities focused on a project to build public toilets (near Balipara substation of Sonitpur District) and toilets in individual houses. Majority of the beneficiaries had no idea about government's sanitation programme and never derived any benefits out of it, but as the result of this initiative, are now more sensitive towards cleanliness and hygiene.

POWERGRID Mahila Samiti comprising of female employees and wives of employees plays a proactive role in CSR initiatives of POWERGRID and also undertakes various philanthropic activities on their own such as distribution of toys, tricycles, stationery items and study material to school-going children besides undertaking site visits for the purpose of monitoring various CSR activities of POWERGRID. Their feedback has been very useful in making the activities more beneficial.



Summary of Projects and Expenditure on Thrust Areas under CSR

| Thrust Area | | 2011-12 | 2012-13 |
|--|-----------------------|---------|---------|
| Education | No. of Projects | 57 | 19 |
| | Expenditure (₹ Crore) | 3.37 | 1.1 |
| Health | No. of Projects | 82 | 140 |
| | Expenditure (₹ Crore) | 2.77 | 2.08 |
| Infrastructure Development | No. of Projects | 166 | 152 |
| | Expenditure (₹ Crore) | 10.78 | 10.47 |
| Capacity Building & Livelihood Generation | No. of Projects | 40 | 131 |
| | Expenditure (₹ Crore) | 2.89 | 2.76 |

CASE STUDY

400/132 KV Substation at Banka

Banka substation at a glance

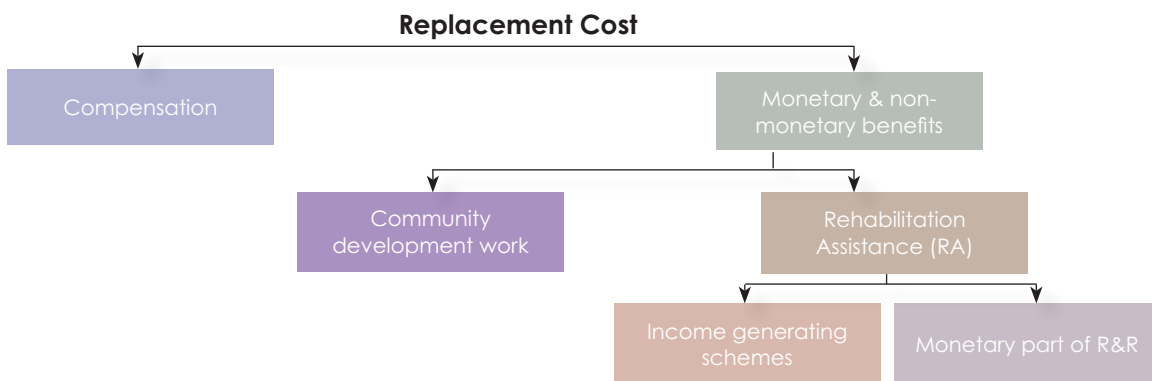
| | |
|-------------------|---|
| Location | Village – Kharahara; Block – Barahat; District – Banka; State – Bihar |
| Area | 15.52 Acre <ul style="list-style-type: none"> • Private land – 14.43 Acre • Government land – 1.09 Acre |
| Land Compensation | Rs. 5,79,90,326/- |

400 KV D/C Kahalgaon-Biharsharif Transmission Line (II) was conceived in order to facilitate transmission of power generated at National Super Power Corporation, Kahalgaon to the South Eastern region of Bihar.

Banka substation was identified in Barahat block of Banka district as the transmission hub and subsequently, land was acquired by invoking 'Land Acquisition Act, 1894' and handed over to POWERGRID on October 24, 2010. Government authorities fixed appropriate compensation for the land owners against their land loss.

Replacement Cost

POWERGRID believes that fair compensation must be close to its replacement cost. To achieve this objective, POWERGRID supplements the compensation amount with monetary and non-monetary benefits. In order to implement these benefits, POWERGRID generally employs external expertise and a Rehabilitation Action Plan (RAP) is prepared. In case the number of families impacted are few, the assessment is done in-house and a Social Impact Management Plan (SAMP) is prepared. This approach is detailed out in the chart below:



Rehabilitation Assistance (RA)

RA directly benefits the individual affected by land acquisition and tries to decrease adverse impacts of land loss through direct monetary benefits.

RA disbursed among Project Affected Persons (PAPs)/Project Affected Families (PAFs) vary from Rs. 19,045/- to Rs. 1,14,000/- per PAP/PAF depending upon the category and entitlement as per Environmental and Social Policy & Procedures (ESPP). Vulnerable groups such as widows, women headed families, SC families, physically handicapped families are paid an additional amount of Rs. 24,000/- towards vulnerability.

Income augmentation for SHGs

POWERGRID understands the importance of financial inclusion and is increasingly integrating formation of SHG groups as an important aspect of its Rehabilitation Action Plan (RAP).

RAP of Banka Substation proposed Rs. 3.5 lakhs as revolving fund for SHGs and 1.5 lakhs for NGO assistance. Eight Self Help Groups (SHGs) were formed employing 94 women from village. Each of these groups was offered an initial revolving fund of Rs. 40,000/- to initiate the selected business activity.

The initial corpus of Rs. 3.2 lakhs has swelled to Rs. 4.57 lakhs (an inflation of 10% has been adjusted). On an average, members of SHG groups have witnessed an improvement of Rs. 425/- over and above their earlier income. The enhancement in total income of SHG members comes to an impressive amount of Rs.39,950/-.

This empowerment has had a spill-over effect in making the community more sensitive and aware of issues like hygiene and proper sanitation (most of them now have toilets at home) and insurance for their families.

Investment towards community development

Any R&R solution will be incomplete without weaving in physical community assets and infrastructure such as schools, hospitals, roads, etc. POWERGRID ensures that provisions of community development be an essential part of RAP.

RAP for Banka had a provision of Rs. 56.70 Lakhs for Development work to be undertaken in the affected



Top: SHG group's investment in Goat rearing

Above: Investment in Golgappa making by SHG group

village towards roads, irrigation canal, community toilets, hand pumps and Infrastructure development at girls' schools. Development work undertaken, was an outcome of extensive public consultation.

After these interventions, the overall living standard of the project affected households have improved. It is evident that the provisions of RAP have had a positive impact on affected communities. Last but not the least, a huge investment like construction of substation creates many primary/secondary/tertiary job opportunities that immensely benefit the local community.



PWG/Aug/2015

Independent Assurance Statement

Introduction

Intertek India Private Limited ('Intertek') has carried out an independent assurance on, 3rd Sustainability Report 2011-13 ('the Report') of Power Grid Corporation of India Limited, a Government of India Enterprises (POWERGRID, "the Company"). The Report is prepared by the Company based on the principles of AccountAbility Principles Standard AA1000APS (2008), AccountAbility Stakeholder Engagement Standard AA1000SES (2011) and the Global Reporting Initiative Sustainability Reporting Guidelines Version 3 (GRI G3) including Electric Utilities Sector Supplement (EUSS).

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 July 2015 to August 2015.

Scope, Boundary and Limitations of Assurance

The scope of the assurance includes the verification of the content of the Report, prepared based on GRI G3 and EUSS for application level "A". In particular the assurance covers following:

- Verification of the application of the Report content, principles set out in GRI G3 and quality of information presented in the Report covering reporting period from 1st April, 2011 to 31st March, 2013;
- 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 G3 & EUSS performance indicators and specific information related to the requirements for application level "A".

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 and Responsiveness as per AA1000 APS (2008) as well as Reliability of specified sustainability performance information as per of GRI G3 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 Corporate Office at Gurgaon, 765 kV substation at Yelahanka, Karnataka and 400 kV substation at Panchkula, Haryana, 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.



Dr. Manish Chandekar
Lead Verifier
New Delhi, August 31, 2015



Sandeep Vig
Regional Director

PWG/Aug/2015

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 G3& EUSS application level A*.

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.

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

- Strong thrust from one and all, within the Organization, on Sustainable Development;
- Inclination towards Technological innovation for reducing Right of Way (RoW) and "Future Ready Transmission Network";
- Alignment of Enterprise Risk Management with Sustainability Context;
- Consistency in Environmental and Social performance.

Opportunities for Further Improvement

- Initiatives such as "Carbon Neutrality" and "Zero Waste philosophy" may be undertaken;
- Integrated Management System may be aligned to achieve Sustainability Goals.

Intertek's Competence and Independence

Intertek is a global provider of assurance services with a presence in more than 100 countries employing more than 38000 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,



Dr. Manish Chandekar
Lead Verifier
New Delhi, August 31, 2015



Sandeep Vig
Regional Director



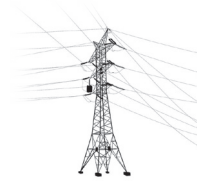
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GRI Index

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| | 1.1 | Statement from the most senior decision maker of the organization | 6,7 |
| | 1.2 | Description of key impacts, risks, and opportunities | 20, 21 |
| | 2. | Organizational Profile | |
| | 2.1 | Name of the organization | 9 |
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| | 2.3 | Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint ventures | 30 |
| | 2.4 | Location of organization's headquarters | Back cover |
| | 2.5 | Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report. | 13 |
| | 2.6 | Nature of ownership and legal form. | 9, 24 |
| | 2.7 | Markets served (including geographic breakdown, sectors served, and types of customers/beneficiaries). | 9-15 |
| | 2.8 | Scale of the reporting organization | 9-15 |
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| SS | EU1 | Installed capacity, broken down by primary energy source and by regulatory regime. | Not Applicable |
| SS | EU2 | Net energy output broken down by primary energy source and by regulatory regime. | Not Applicable |
| SS | EU3 | Number of residential, industrial, institutional and commercial customer accounts. | Not Applicable |
| SS | EU4 | Length of above and underground transmission and distribution lines by regulatory regime. | 8 |
| SS | EU5 | Allocation of CO2e emissions allowances or equivalent, broken down by carbon trading framework. | Not Applicable |
| | 3. | Report Parameters | |
| | 3.1 | Reporting period | 4 |
| | 3.2 | Date of most recent previous report (if any) | 4 |
| | 3.3 | Reporting cycle | 4 |
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| | 3.5 | Process for defining report content | 4 |
| | 3.6 | Boundary of the report | 4 |
| | 3.7 | Specific limitations on the scope or boundary of the report | 4 |
| | 3.8 | Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operation | 4 |
| | 3.9 | Data measurement techniques and the bases of calculations | 4 |
| | 3.10 | Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons for such re-statement | Not Applicable |
| | 3.11 | Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report | Not Applicable |
| | 3.12 | GRI Content Index | 74 |
| | 3.13 | Policy and current practice with regard to seeking external assurance for the report. | 72 |



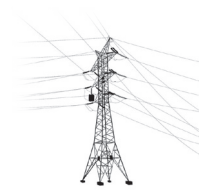
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| 4. | Governance, Commitments and Engagement | | |
| 4.1 | Governance structure of the organization | | 26-30 |
| 4.2 | Indicate whether the Chair of the highest governance body is also an executive officer. | | 26-30 |
| 4.3 | State the number of members of the highest governance body that are independent and/or non-executive members | | 26, 55 |
| 4.4 | Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body. | | 26-30 |
| 4.5 | Linkage between compensation for members of the highest governance body, senior managers, and executives | | 26-30 |
| 4.6 | Processes in place for the highest governance body to ensure conflicts of interest are avoided. | | 26-30 |
| 4.7 | Process for determining the qualifications and expertise of the members of the highest governance body | | 26-30 |
| 4.8 | Internally developed statements of mission or values, codes of conduct, and principles relevant to economic, environmental, and social performance and the status of their implementation. | | 2, 16-19, 28-29 |
| 4.9 | Procedures of the highest governance body for overseeing the organization's identification and management of economic, environmental, and social performance | | 26-30 |
| 4.10 | Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance | | 26-30 |
| 4.11 | Explanation of whether and how the precautionary approach or principle is addressed by the organization | | 26-30 |
| 4.12 | Externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or endorses. | | 26-30 |
| 4.13 | Memberships in associations | | 26-30 |
| 4.14 | List of stakeholder groups engaged by the organization. | | 33 |
| 4.15 | Basis for identification and selection of stakeholders with whom to engage. | | 32, 33 |
| 4.16 | Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group. | | 32-39 |
| 4.17 | Key topics and concerns that have been raised through stakeholder engagement | | 32-39 |
| Economic Indicators | | | |
| CORE | EC1 | Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments. | 22-25 |
| CORE | EC2 | Financial implications and other risks and opportunities for the organization's activities due to climate change. | 46 |
| CORE | EC3 | Coverage of the organization's defined benefit plan obligations. | 56-58 |
| CORE | EC4 | Significant financial assistance received from government. | 22 |
| ADD | EC5 | Range of ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation. | 56 |
| CORE | EC6 | Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation. | 38 |
| CORE | EC7 | Procedures for local hiring and proportion of senior management hired from the local community at locations of significant operation. | 38, 52, 55 |
| CORE | EC8 | Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement. | 61-71 |
| ADD | EC9 | Understanding and describing significant indirect economic impacts, including the extent of impacts. | 61-71 |
| SS | EU6 | Management approach to ensure short and long-term electricity availability and reliability. | 10-13, 34-36, 39 |



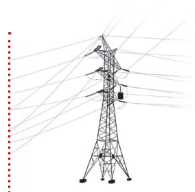
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| SS | EU10 | Planned capacity against projected electricity demand over the long term, broken down by energy source and regulatory regime. | Not Applicable |
| SS | EU7 | Demand-side management programs including residential, commercial, institutional and industrial programs. | Not Applicable |
| SS | EU8 | Research and development activity and expenditure aimed at providing reliable electricity and promoting sustainable development. | 15,34-36 |
| SS | EU9 | Provisions for decommissioning of nuclear power sites. | Not Applicable |
| SS | EU11 | Average generation efficiency of thermal plants by energy source and by regulatory regime. | Not Applicable |
| SS | EU12 | Transmission and distribution losses as a percentage of total energy. | 34 |
| Environmental Indicators | | | |
| CORE | EN1 | Materials used by weight or volume. | 48 |
| CORE | EN2 | Percentage of materials used that are recycled input materials. | 45 |
| CORE | EN3 | Direct energy consumption by primary energy source. | 48 |
| CORE | EN4 | Indirect energy consumption by primary source. | 48 |
| ADD | EN5 | Energy saved due to conservation and efficiency improvements. | 48 |
| ADD | EN7 | Initiatives to reduce indirect energy consumption and reductions achieved. | 48 |
| CORE | EN8 | Total water withdrawal by source. | 49 |
| ADD | EN9 | Water sources significantly affected by withdrawal of water. | 43, 44 |
| CORE | EN11 | Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas. | 41-42 |
| CORE | EN12 | Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas. | 40-42 |
| ADD | EN13 | Habitats protected or restored | 41 |
| SS | EU13 | Biodiversity of offset habitats compared to the biodiversity of the affected areas. | 40-42 |
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| CORE | EN16 | Total direct and indirect greenhouse gas emissions by weight. | 48 |
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| ADD | EN18 | Initiatives to reduce greenhouse gas emissions and reductions achieved. | 48 |
| CORE | EN19 | Emissions of ozone-depleting substances by weight. | 44 |
| CORE | EN20 | NO, SO, and other significant air emissions by type and weight. | 44 |
| CORE | EN21 | Total water discharge by quality and destination. | 43,44 |
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| CORE | EN26 | Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation. | 34-36, 40-42 |
| CORE | EN27 | Percentage of products sold and their packaging materials that are reclaimed by category. | 49 |
| CORE | EN28 | Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with environmental laws and regulations. | 40 |
| ADD | EN30 | Total environmental protection expenditures and investments by type. | 49 |
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| CORE | LA1 | Total workforce by employment type, employment contract, and region. | 53, 54 |
| CORE | LA2 | Total number and rate of employee turnover by age group, gender, and region. | 55-56 |
| SS | EU14 | Programs and processes to ensure the availability of a skilled workforce. | 50-55 |
| SS | EU15 | Percentage of employees eligible to retire in the next 5 and 10 years broken down by job category and by region. | 56 |
| SS | EU16 | Policies and requirements regarding health and safety of employees and employees of contractors and subcontractors. | 58-60 |



| G 3 of EUSS Performance Indicators | | | Page No. |
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| SS | EU17 | Days worked by contractor and subcontractor employees involved in construction, operation and maintenance activities. | 54 |
| SS | EU18 | Percentage of contractor and subcontractor employees that have undergone relevant health and safety training. | 59 |
| ADD | LA3 | Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation. | 56-59 |
| CORE | LA4 | Percentage of employees covered by collective bargaining agreements. | 58 |
| CORE | LA5 | Minimum notice period(s) regarding operational changes, including whether it is specified in collective agreements. | 58 |
| ADD | LA6 | Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs | 58-60 |
| CORE | LA7 | Rates of injury, occupational diseases, lost days, and absenteeism, and number of work related fatalities by region. | 58-60 |
| CORE | LA8 | Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases. | 51-52, 58-60 |
| ADD | LA9 | Health and safety topics covered in formal agreements with trade unions | 58-60 |
| CORE | LA10 | Average hours of training per year per employee by gender, and by employee category. | 51 |
| ADD | LA11 | Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings. | 50-53 |
| ADD | LA12 | Percentage of employees receiving regular performance and career development reviews, by gender. | 52 |
| CORE | LA13 | Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity. | 55 |
| CORE | LA14 | Ratio of basic salary of men to women by employee category. | 56 |
| Human Rights Indicators | | | |
| CORE | HR1 | Percentage and total number of significant investment agreements and contracts that include clauses incorporating human rights concerns, or that have undergone human rights screening. | 60 |
| CORE | HR2 | Percentage of significant suppliers, contractors, and other business partners that have undergone human rights screening, and actions taken. | 60 |
| CORE | HR4 | Total number of incidents of discrimination and corrective actions taken. | 60 |
| CORE | HR5 | Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and actions taken to support these rights. | 58-60 |
| CORE | HR6 | Operations and significant suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor. | 60 |
| CORE | HR7 | Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor. | 60 |
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| CORE | SO1 | Nature, scope, and effectiveness of any programs and practices that assess and manage the impacts of operations on communities, including entering, operating, and exiting. | 61-71 |
| SS | EU19 | Stakeholder participation in the decision making process related to energy planning and infrastructure development. | 39 |
| SS | EU20 | Approach to managing the impacts of displacement. | 61-71 |

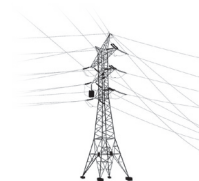


| G 3 of EUSS Performance Indicators | | | Page No. |
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| SS | EU22 | Number of people physically or economically displaced and compensation, broken down by type of project. | 61-71 |
| CORE | SO2 | Percentage and total number of business units analyzed for risks related to corruption. | 28, 29 |
| CORE | SO3 | Percentage of employees trained in organization's anti-corruption policies and procedures. | 28, 29 |
| CORE | SO4 | Actions taken in response to incidents of corruption. | 28, 29 |
| CORE | SO5 | Public policy positions and participation in public policy development and lobbying. | 39 |
| CORE | SO8 | Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with laws and regulations. | 39 |
| SS | EU21 | Contingency planning measures, disaster/emergency management plan and training programs, and recovery/restoration plans. | 11, 34-36 |
| Product Responsibility Performance Indicators | | | |
| CORE | PR1 | Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures. | 34-36 |
| SS | EU25 | Number of injuries and fatalities to the public involving company assets, including legal judgments, settlements and pending legal cases of diseases.. | 36 |
| CORE | PR3 | Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements. | Not Applicable |
| ADD | PR5 | Practices related to customer satisfaction, including results of surveys measuring customer satisfaction. | 32-39 |
| CORE | PR6 | Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship. | 36 |
| ADD | PR8 | Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data | 34 |
| CORE | PR9 | Monetary value of significant fines for noncompliance with laws and regulations concerning the provision and use of products and services. | 39 |
| SS | EU23 | Programs, including those in partnership with government, to improve or maintain access to electricity and customer support services. | 37, 43 |
| SS | EU26 | Percentage of population unserved in licensed distribution or service areas. | Not Applicable |
| SS | EU27 | Number of residential disconnections for non-payment, broken down by duration of disconnection and by regulatory regime. | Not Applicable |
| SS | EU28 | Power outage frequency. | Not Applicable |
| SS | EU29 | Average power outage duration | Not Applicable |
| SS | EU30 | Average plant availability factor by energy source and by regulatory regime. | Not Applicable |
| SS | EU24 | Practices to address language, cultural, low literacy and disability related barriers to accessing and safely using electricity and customer support services. | 36 |



List of Abbreviations

| | | | |
|-------|--|--------|---|
| ADB | Asian Development Bank | MW | Megawatt |
| APS | AccountAbility Principles Standard | NABARD | National Bank for Agriculture and Rural Development |
| BU | Billion Units | NLD | National Long Distance |
| CEA | Central Electricity Authority | NLDC | National Load Dispatch Centre |
| CFC | Chloro Flouro Carbon | NRLDC | Northern Regional Load Despatch Centre |
| Ckm | Circuit kilometre | O&M | Operation & Maintenance |
| CPRI | Central Power Research Institute | ODRB | Other Defined Retirement Benefits |
| CPSE | Central Public Sector Enterprises | OHSAS | Occupational Health and Safety Assessment Series |
| CRZ | Coastal Regulation Zone | PAP | Project Affected Persons |
| CSR | Corporate Social Responsibility | PAS | Publicly Available Specification |
| CTE | Chief Technical Examiner | PMU | Phasor Measurement Unit |
| CTU | Central Transmission Utility | PNBC | POWERGRID National Bipartite Committee |
| D/C | Double Circuit | POSOCO | Power System Operation Corporation Limited |
| DA | Dearness Allowance | PPE | Personal Protective Equipment |
| DG | Diesel Generator | PRBC | POWERGRID Regional Bipartite Committee |
| DPE | Department of Public Enterprises | PRM | Project Review Meeting |
| EAMP | Environment Assessment Management Plan | PRMB | Post-Retirement Medical Benefit |
| EHVAC | Extra High Voltage Alternating Current | PSU | Public Sector Undertaking |
| ERS | Emergency Restoration System | RA | Rehabilitation Assistance |
| FACTS | Flexible Alternating Current Transmission System | RAP | Rehabilitation Action Plan |
| GHG | Green House Gases | RGVY | Rajiv Gandhi Grameen Vidhyutikaran Yojana |
| GIS | Gas Insulated Switchyard | RoW | Right of Way |
| GJ | Giga Joule | RTI | Right to Information |
| Gol | Government of India | S/c | Single Circuit |
| GRI | Global Reporting Initiative | S/s | Substation |
| HVDC | High Voltage Direct Current | SA | Social Accountability |
| IFC | International Finance Corporation | SAMP | Social Assessment Management Plan |
| IP | Internet Protocol | SCADA | Supervisory Control & Data Acquisition |
| ISO | International Organization for Standardization | SEB | State Electricity Board |
| kV | kilo Volt | SES | Stakeholder Engagement Standard |
| kWh | kilo Watt-hour | SF6 | Sulphur Hexafluoride |
| LED | Light Emitting Diode | SHG | Self Help Group |
| MoU | Memorandum of Understanding | T/L | Transmission Line |
| MPR | Monthly Progress Report | UHVAC | Ultra High Voltage Alternating Current |
| MT | Metric Ton | WB | The World Bank |
| MVA | Mega Volt Ampere | | |





पावरग्रिड

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