



SUSTAINABILITY REPORT

2008-09

P O W E R G R I D

E M P O W E R I N G N A T I O N

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About the Report

This is the maiden sustainability report of the corporation for the financial year, April 2008 to March 2009. The corporation has initiated its sustainability reporting process for the first time to establish a procedure for information disclosure and communication to its stakeholders. Although the report follows the internationally accepted voluntary framework, Global Reporting Initiative (GRI) G3 Guidelines, it is yet to implement the process of stakeholder dialogue specifically for identifying the materiality of sustainability indicators and their relevance to various stakeholder groups. However, the content of this report has been validated by an internal committee especially constituted for this purpose and will be in public domain and a feedback mechanism will gradually be instituted.

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The first sustainability report of the company comprises of the corporate centre, nine regional head quarters and 120 sub stations including transmission lines. The report does not disclose information related to the performance of the joint ventures.

For any queries regarding the report or its contents, contact.

General Manager/Additional General Manager, Environmental and Social Management Division
Power Grid Corporation of India, "Saudamini", Plot No. 2, Sector 29,
Gurgaon - 122 001 (Haryana)



POWERGRID Mission

Establishment and Operation of National and Regional Power Grids to facilitate transfer of electric power within and across the regions with reliability, security and economy on sound commercial principles.





CHAIRMAN'S MESSAGE

I feel privileged in presenting POWERGRID's first Environmental and Social Sustainability Report for the fiscal year 2008-09. Through this report, we have tried to present our vision, policies, accomplishments, and challenges, concerning environmental and social issues faced in its corporate functioning and bring out measures that have been taken to minimize environmental footprints towards all-encompassing goal of sustainable development.

I am happy to state that the POWERGRID, while dealing with environmental and social issues in all its development activities, is irrevocably committed to follow the basic principles of avoidance, minimization and mitigation. To further the cause of sustainable development, the corporation is currently contemplating enabling protocols that would increase the ambit of its commitment to include restoration and possible enhancement in dealing with environmental and social issues of its operations.

It may be a cliché to state that stable power is a sine qua non for growth of the nation and enhancement of the quality of life of its citizens. True to this tenet, the Indian power sector has experienced quantum growth with rapid strides in technologies of generation and transmission in the past six decades since independence, but it still reels under the impact of shortfall of 11% deficit in energy and 12% in peak demand. The rate of growth in India will continue to be high for quite some time and make us aware of the untiring efforts we have to put forward to bridge these appreciable gaps in demand and supply and meet the future challenges without serious environmental and social impacts.

Continued degradation of the earth's climate and environment has been the flip side of the continuing rapid economic development and has become a major area of concern today. Recognizing the urgent need, Government of India and the global communities through United Nations is promoting the concept of sustainable development - a more environmentally sound and socially equitable development pattern that caters to the needs of present generation without jeopardizing the requirements of future generations. Therefore, more than ever before, environment management has now assumed paramount importance not only for organizations but for all the countries over the world be it a developed or developing. POWERGRID's corporate policy on environmental and social concerns has, therefore, logically evolved from the national and international rights, responsibilities and obligations, as our commitment to the process of sustainable development ; now and in future.

In this backdrop, POWERGRID, although conscious of the fact that its project are by and large environmental benign due to inherent flexibility available in routing the transmission lines as well as for setting up of sub stations, accepts that the power transmission projects may still have some unavoidable environmental and social implications. To address these issues, the POWERGRID has integrated environmental and social management procedures into its corporate operations by enunciating Environmental and Social Policy and Procedures (ESPP). It defines POWERGRID's commitment to deal with environmental and social issues relating to its projects and, lays down management procedures and protocols to address them.

POWERGRID has achieved number of milestones in pursuit of its mission and has been playing a strategic role in the Indian power sector by creating an extensive and dependable (99% reliability) transmission network interconnecting generating stations with load centers. It presently wheels about 45% of total power generated in the country.

We are humbled by being one of the largest transmission corporation and acknowledge, more than ever before, that we have to lead the way through innovation and introducing state-of-the-art technologies, whether home spun or sourced globally. To comprehend such progressive trend, the corporation emphasizes on evolving and adopting new technologies continuously to meet the challenges of power transmission in India like conservation of Right-of-Way and development of high capacity transmission. I am happy to share that POWERGRID has entered into era of 765 KV transmission lines and the designing of 1200 KV lines is in the advance stage, to meet the future challenges. We are working in collaboration with International / National research institutions, academic institutions and manufacturers, to enhance in-house capabilities for design and engineering of state-of-the-art transmission systems. I take this opportunity to assure that POWERGRID will continue to work towards finding solutions / measures that will allow us to meet our economic and social goals while protecting the natural environment.

To carry forward this legacy, we have decided to voluntarily embark on this drive of regular sustainability reporting objectively and transparently as the actual value of, and costs of depreciation to, natural resources and social capital are not captured in the conventional balance sheets and profitability. This sustainability report will create a platform for progressively disclosing our efforts and outcome in pursuing environmental and social development agenda in future reports.

POWERGRID recognizes that constant improvement is critical to business success, and is committed to work with all environmental stakeholders to achieve that. We recognize the value of your inputs / feedback and I, therefore, earnestly request you to benefit us with your valuable observations, and even criticism, regarding our efforts towards sustainability for sustained improvement.



S.K Chaturvedi
Chairman and Managing Director
POWERGRID



POWERGRID: AN OVERVIEW



Power Grid Corporation of India Limited (POWERGRID), is the Central Transmission Utility (CTU) of the country. It is one of the largest transmission utilities in the world presently wheeling about 45% of total power generated in the country on its transmission network. It has a pan-India presence with around 71,500 Circuit Kms (Ckt) of transmission network and 120 EHVAC and HVDC substations with a total transmission capacity of about 79,500 MVA. POWERGRID is contributing significantly towards the development of the Indian power sector by undertaking planning, implementation, operation and maintenance of regional and national power grids and operating all the Regional Load Dispatch Centres (RLDC). The mission and objectives of the corporation are as follows:

Mission

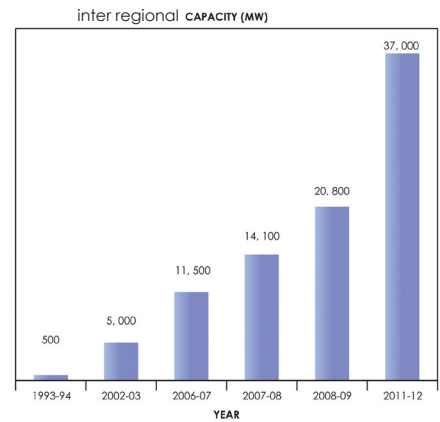
Establishment and Operation of Regional and National Power Grids to facilitate transfer of electric power within and across the regions with Reliability, Security and Economy on sound commercial principles.

Objectives

The Corporation has set following objectives in line with its Mission and its status as Central Transmission Utility to:

- Undertake transmission of electric power through inter state transmission system
- Discharge all functions of planning and coordination relating to inter state transmission system with - 1 State Transmission Utilities, 2 Central Government, 3 State Governments, 4 Generating Companies, 5 Regional Power Committees, 6 Authority, 7 Licensees, 8 Any other person notified by the Central Government in this behalf.
- Exercise supervision and control over the inter state transmission systems
- Efficient operation and maintenance of transmission systems
- Establish / augment and operate all Regional Load Dispatch Centres and Communication facilities

- Restoring power in quickest possible time in the event of any natural disasters like super cyclone, flood, etc, through deployment of emergency restoration systems
- Provide consultancy services at National and International level in transmission sector based on the in-house expertise developed by the organization
- Participate in long distance telecommunication business ventures
- Ensure principles of reliability, security, and economy, matched with the rising desirable expectations of a cleaner, safer and healthier environment for people, both affected and benefited by its activities



The GRID

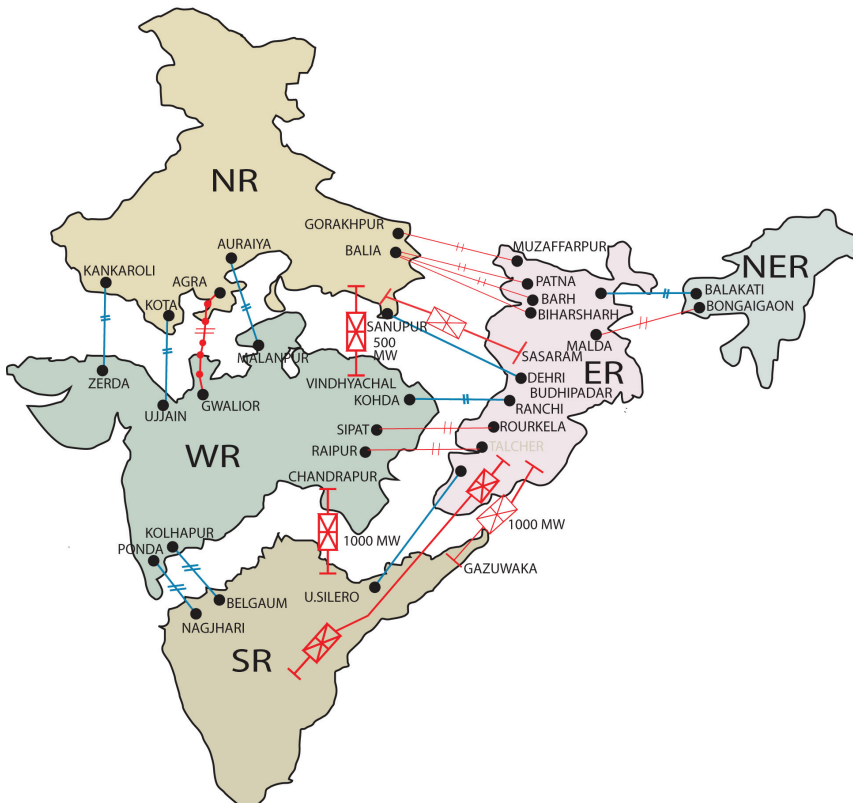
POWERGRID has connected various regions of India through inter regional links, High Voltage Direct Current (HVDC) lines and HVDC back-to-back systems. Presently, an inter-regional power transfer capacity of about 20,800 MW has been established. This will be enhanced to more than 37,000 MW by 2012. The corporation is constructing about 38,000 Ckt. Km. of transmission lines of varying voltages.

Ultra high voltage transmission lines of 1200 KV enabling transfer of 6000 – 7000 MW of power over long distance with minimal environmental impact and optimum use of Right of Way (ROW) are also planned and will be implemented in the country for the first time.

For better administrative control and effective operation and maintenance, POWERGRID has divided its operations into the following nine regions: Northern



Inter-regional capacity 20, 800 MW





Region – I and II, Eastern Region – I and II, Southern Region – I and II, Western Region-I and II and North Eastern Region.

Market served

POWERGRID with its strong in-house expertise in various facets of Transmission, Sub-transmission, and Telecom sectors, has served various National/ State Power Utilities/ Telecom Companies and international utilities in Bhutan, Nepal and Afghanistan.

Executed rural electrification works in 74,000 villages under the RGGV Yojana.

Under Accelerated Power Development and Reforms Programme (APDRP) POWERGRID is acting as Advisor-cum-Consultant (AcC) to lend its managerial and technical expertise for improvement of distribution system in 177 distribution circles/ towns/ schemes spread over 18 States of the country.

In addition, under Rajeev Gandhi Grameen Vidyutikaran Yojana (RGGVY), POWERGRID is executing rural electrification works in 68 districts of the country covering around 74,000 villages at an estimated cost of Rs. 6,400 Crore. The infrastructure required for electrification of 30,000 villages has already been established till Mar'09.

Major Achievements

Some of the achievements of the corporation primarily are as below:

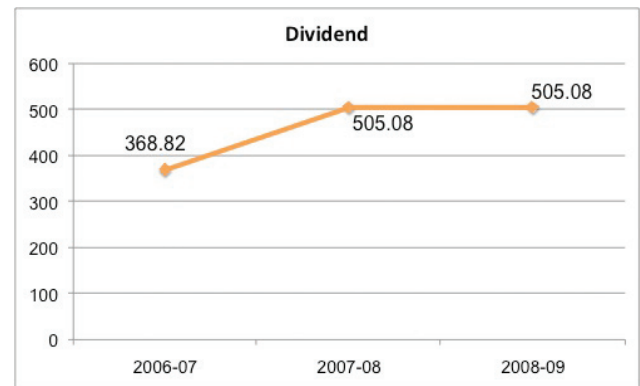
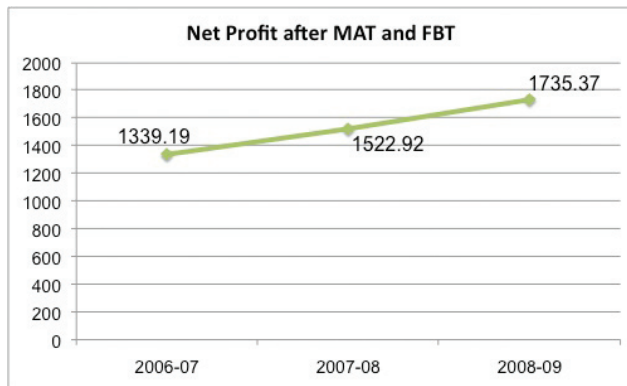
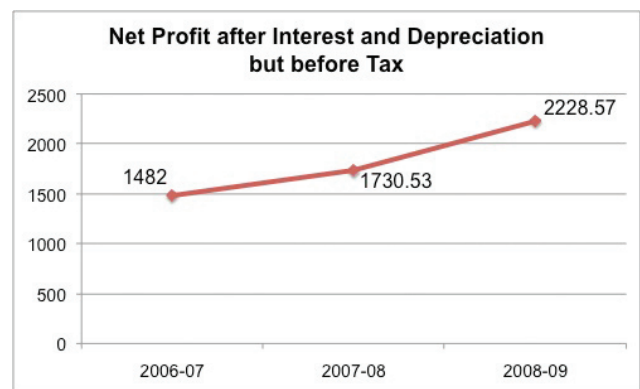
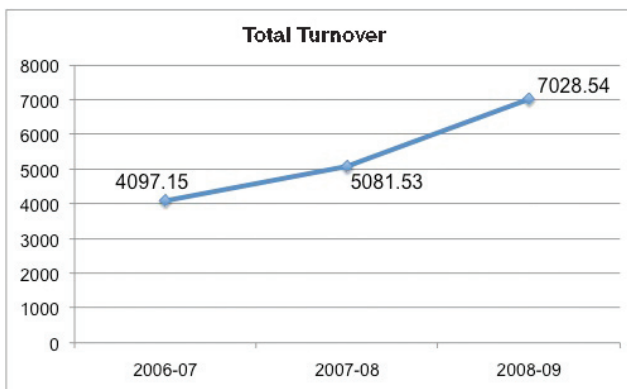
- Ensured above 99% transmission system availability, which is at par with the international standards in a consistent manner.
- Modernized all the Regional Load Despatch Centres (RLDCs), established State / Sub-state load despatch centres and dedicated communication facilities for economic despatch of power between Regions / States. Also commissioned the National Load Despatch Centre (NLDC), the apex body, to ensure integrated operation of the national power system, at Delhi with back up system in Feb'2009.
- Augmented the inter-regional power transfer capacity of National Grid to about 20,800 MW from 17,000 MW in the year 2008-09 and commissioned about 4642 Ckt km of transmission lines, 9 new sub-stations and added transformation capacity of about 6,400 MVA.
- Constructed transmission line from Kabul to Pul-e-Khumri in Afghanistan which has been completed before schedule in Jan' 09.
- Made an investment of Rs. 8,095 Crore during the year 2008-09 which is an increase of about 22% from the investments of Rs. 6,656 Crore made in the last year.

Achieved the distinction of being the first power utility and second company in the world to be certified with PAS 99:2006.

- Conferred with the *Navratna** status by Government of India in May, 2008.
- Diversified into telecom business and established a network of more than 20,000 Kms (till March 2009) across the country, providing connectivity to all metros, major cities and towns and was invited as a consortium member for implementing telecom infrastructure under National Knowledge Network (NKN).
- Participated in Accelerated Power Development and Reforms Programme (APDRP) and Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY), to bring in qualitative improvement in the Indian power distribution sector.

Financial Performance

(All figures in Rs. crore)



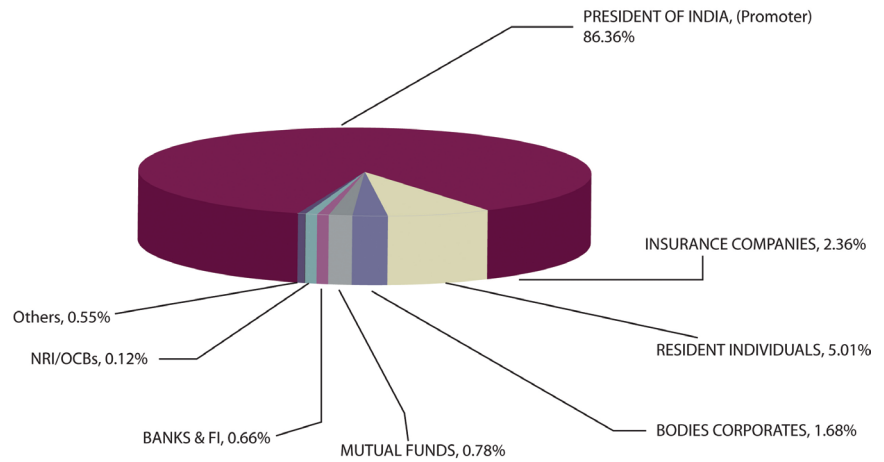
- Gross Turnover grew by about 38%.
- Fixed assets grew by 14%.
- Net profit grew by of 17%.

* Special status



Shareholding pattern

Shareholding Pattern as on 31st March, 2009



Investment Programme

POWERGRID has envisaged an investment of Rs. 55,000 crore (US\$ 11 billion) to meet the Government of India's planned generation capacity addition of 78,700 MW during the current (XI) five-year plan period (2007-12). The corporation has already initiated many proactive measures for mobilizing required resources both from domestic and multilateral sources.

During this period POWERGRID has estimated total debt requirement of Rs. 38,500 crore (US \$ 7.7 billion). Loan agreements have also been signed with the World Bank and the Asian Development Bank for US \$ 400 million and US \$ 200 million respectively, during the year 2008-09.

During the first two years of the current plan period, the corporation has undertaken capital investments of about Rs. 15,000 crore. For the year 2009-10, an outlay of about Rs. 11,500 crore has been set aside, and about Rs. 28,500 crore shall be utilized in the last 2 years of the current plan.



GOVERNANCE AND COMMITMENTS

Governance

POWERGRID's governance process is focused towards its mission of 'establishment and operation of Regional and National Grids to facilitate transfer of power within and across the regions with Reliability, Security and Economy on sound commercial principles', based on the state-of-the-art and innovative practices in engineering and design, procurement, project management, finance, environment and social management. The corporation is working under regulated regime and as part of its objectives, provided with stiff targets by its administrating agency, i.e. Ministry of Power (MoP). These targets are part of Memorandum of Understanding (MoU), and are closely monitored by the Govt of India on regular basis.

The Corporate Governance of POWERGRID ensures the following:

To meet the short, medium and long term objectives and specific targets every year set by the Government of India and the Board of Directors, by empowering people at the most appropriate levels keeping the job profile/functions in view;

To respond to the challenges and the emerging opportunities and play a pivotal role in the economic development of the country;

To remain an environmentally and socially responsible organization.

POWERGRID has a track record of consistent performance in successful implementation of its transmission projects, its governing policies including environmental and social policies in an open and transparent manner. The

'Navratna' status and its own policy and procedures provide the corporation with flexibility and autonomy in taking appropriate and timely decisions in making investments, diversification, procurement, commercial, finance, operations, etc.

The corporation works in a three-tier organizational structure with nine Regional Head Quarters (RHQ) and Five RLDCs interactively reporting to the Corporate Center. Under this framework, Corporate Center is the apex coordinating and policymaking body. The primary responsibility for construction, operation and maintenance of the transmission system rests on RHQs while the site activities are executed by the group heads. Further, group heads provide support to the RHQs for enhancing effective interface with customers and power generating entities.

“The 'Navratna' status and its proactive policy facilitates timely decisions in investments, diversification, procurement, commercial, finance, operations, etc.”



The Decision Makers – The Board

The Board of Directors is the highest decision-making forum and comprises of the Chairman and Managing Director (CMD), four functional Directors, two government nominee Directors and seven non official part time Directors. All functional Directors – Director (Projects), Director (Finance), Director (Personnel) and Director (Operations) report to the CMD. The corporation has comprehensive 'Delegation of Powers', which facilitates decentralized decision-making. Board meetings are normally held at the Registered office of the corporation. The Board is required to meet at least four times a year. In case of special requirements, the Board may meet more frequently. During the reporting year, the Board met 14 times. The appointment, tenure and remuneration of all functional Directors is decided by the President of India. Independent Directors are paid sitting fees whereas no remuneration is paid to government nominated Directors.

To facilitate well-informed and consensus-based decisions, the Board may constitute special committees to address specific issues, including matters of dispute. Following are examples of some such committees:

- Independent ESPP review committee
- Shareholders/Investors Grievance Committee
- Committee for transfer/split/re-materialization of shares
- Committee on Feasibility Reports (FR) and Revised Cost Estimates (RCE)
- Committee of Directors for financial bonds
- Audit Committee
- Committee of Award of Contracts

Code of Conduct – Imbibing a culture of Transparency

POWERGRID, being a Government of India enterprise (PSU) follows the government framework and has developed its Conduct, Discipline and Appeal Rules ('CDA Rules'), which govern the conduct of all permanent employees of the Company, including whole-time directors, and those covered under the Industrial Employment (Standing Orders) Act, 1946.

The Code of Internal Procedures and Conduct for Prevention of Insider Trading in Dealing with Securities of POWERGRID has been framed to ensure that employees and their families do not derive any benefit or assist others to derive any benefit from the access to and possession of price sensitive information about the Company which is not in the public domain and thus constitutes insider information. This code of conduct for prevention of insider trading was framed pursuant to Regulation 12(1) of the Securities and Exchange Board of India (Prohibition of Insider Trading) Regulations, 1992 for members of Board and Senior Management Personnel specifically in compliance with the provisions of Clause 49 of the Listing Agreements entered into by the Company with the stock exchanges.

To achieve transparency in its operations, POWERGRID has developed, and is implementing the following policies:

Environment and Social Safeguards: To effectively address environmental and social safeguards, POWERGRID has been following its unique Environmental and Social Policy and Procedures (ESPP) at all stages of project implementation since 1998. The corporation, as part of feasibility studies carries assessment of environmental and social issues to gauge its implications.

POWERGRID goes beyond provisions of the Land Acquisition Act and rehabilitates Project Affected Persons (PAPs) based on its progressive entitlement framework and carry out public consultation at every stage of project cycle to inform / involve general public in the decision-making process.

E-Governance: POWERGRID has developed e-governance procedures for many of its activities. The corporation received recognition for e-governance at the national level for "in-house development of web-based Inspection Call Management System" under national awards for e-governance.

Procurement and Contract Management: POWERGRID has developed a detailed 'Works and Procurement Policy and Procedure' for bringing uniformity in the process of Pre-award and Post-award Stages of a contract. Further POWERGRID has developed online facility which is a comprehensive store-house for sub-vendor information, bill tracking system, monthly contract information etc.

Fraud and Corruption: POWERGRID being a responsible organization follows various anti-corruption measures and systems laid down by the Government of India. The corporation has a separate vigilance department, which



POWERGRID present Board of Directors.



“Received national recognition for e-governance for “in-house development of web-based Inspection Call Management System”.

deals with fraud or suspected fraud involving employees of the corporation, suppliers, contractors, consultants and service providers. In addition, the corporation has an online grievance addressal mechanism to minimize such incidence.

Right to Information (RTI) Act: The Act provides for setting out a practical regime of right to information for citizens to secure access to information under the control of public authorities. POWERGRID being a designated public authority follows all the provisions of Act. Chief Public Information Officers (CPIO) at the corporate and regional level ensure smooth access to information. To facilitate speedy flow of desired information, process for obtaining information and details of designated officials are posted on the POWERGRID website.

Enterprise Risk Management (ERM): For timely identification of risk and response, POWERGRID is formulating Enterprise Risk Management system, which will be adopted in the organization from 2011-12 onwards. This will assist the corporation in basic mapping of all business processes, developing relative risk profiles for each of the mapped areas; and formulating a risk management framework for the organization.

Memberships

POWERGRID is a member of “Corporate Roundtable on Development of Strategies for the Environment and Sustainable Development” (CoRE) a network formed of many leading Corporates like ONGC, BPCL, BHEL, NTPC, POWERGRID, IFFCO etc. by “The Energy & Resources Institute” (TERI) in association with “World Business Council for Sustainable Development” (WBCSD) and is actively working for finalization of strategies to attain sustainable development in India. Apart from this, the corporation is member of various prestigious organisations such as :

1. Central Board of Irrigation and Power (CBIP)
2. Federation of Indian Chambers of Commerce and Industry (FICCI)
3. World Energy Council (WEC)
4. Confederation of Indian Industry (CII)
5. PHD Chamber of Commerce and Industry
6. Associated Chambers of Commerce and Industry of India (ASSOCHAM)
7. International Council on Large Electric Systems (CIGRE)
8. Institute of Electrical and Electronics Engineers (IEEE)
9. The Energy & Resources Institute (TERI)
10. The Global Compact Society (India)





BUILDING TRUST AND PARTNERSHIPS

It is challenging to manage the concerns of multi stakeholders and address their distinct needs and concerns. POWERGRID has always believed in building long-term relationship with its stakeholders, which it sees as an imperative need for sustained growth. To carry forward its commitment to its stakeholders the corporation has well-defined processes to bring about more transparency and efficiency in the company's decision-making process. The corporation formulated its Citizen's Charter providing a visible front of its objectives, mission, commitments and its obligations to various stakeholders. Information about its schemes, policies, project plans, issues of general interest to stakeholders are available at all offices as well as on the POWERGRID website. Some of the major stakeholders are Government of India, power and telecom utilities, communities, employees, suppliers, research institutions, shareholders and funding agencies.

Government of India

POWERGRID being the central transmission utility of the country, is accountable to the Ministry of Power (MoP), Government of India (GoI). Since its turnover and profits are governed by the transmission charges fixed by the Central Electricity Regulatory Commission, GoI, the corporation is subject to regular evaluation by its governing agencies. Comprehensive assessments have shown excellent results.

Consistently rated as 'excellent' under the MoU signed with Ministry of Power based on its all-round performance.

Customers

Since POWERGRID's operations are confined to EHV transmission, State Power Utilities (SPUs) are its primary customers and it is a constant endeavour to meet their basic needs of continuous, uninterrupted power supply with reliability. Regular interactions are held with the SPUs and other power utilities to gain an insight into their requirement. Grid strengthening schemes are implemented for strengthening of Regional Transmission Network and inter-regional schemes for transfer of surplus power to deficit regions. Efficient operational practices are adopted to maintain system availability at the highest level. POWERGRID, to accommodate the need of its customers, provides expertise to SPUs in improving their sub-transmission and rural electrification systems.

Provides expertise to State Power Utilities in improving their sub-transmission and Rural Electrification systems.

Communities

POWERGRID forges development paths that provide both, prosperity for its citizens and good stewardship of the environment. It takes measures like Public Consultation at each stage and has developed a progressive entitlement framework.

The corporation requires land for construction of substations. Acquisition of this land generally entails negotiations with 20 to 50 landowners. During construction, all individuals, whose land is aquired, are consulted and the affected persons are duly compensated within the social entitlement framework. The corporation, independently or through NGOs, undertakes various community development schemes in villages adjoining the substations. Transmission lines construction do not require acquisition of land. However, all individuals on whose land tower is erected and those affected by 'Right of Way', are consulted and compensated as per the prevailing norms. Such consultations have increased faith of public in the corporation, significantly reduced recourse to court of law and ensured smoother implementation of projects.



Employees

POWERGRID has varied channels of employee engagement for effective flow of information within the organization. Its employees have been repeatedly selected for 'Prime Minister's Shram Award', reflecting the strength and grit of its workforce.



To ensure effective communication, the corporation has established upward, downward and lateral communication channels. In addition, Open-House sessions with employees chaired by CMD and Directors, and Employee Suggestion Scheme, have been instituted for improving work environment.

POWERGRID' s model of Bipartite Forum at the national, regional and field level, has been quite successful as an employee involvement, empowerment and transformation instrument. These are not merely bargaining forums, but discuss issues of common interest relating to economic and social policy, while safeguarding interests of employees. It has evolved as a powerful communication channel, which is extensively being used to communicate and discuss company's Vision, Core Values, important business developments and operational matters.



POWERGRID Employee Welfare Associations (PEWA) has been operating at different locations, concentrating on activities related to sports, culture, participation of employees' families in township maintenance, running cooperative and thrift societies. POWERGRID contributes funds and matching grants to support the PEWA activities, that enhances goodwill, bond of trust and mutual confidence.



“ Employees selected for 'Prime Minister's Shram Award', reflecting the strength and grit of its workforce. ”

Suppliers and Contractors

Efficient and effective supply chain ensures synergic growth of POWERGRID as well as its vendors/contractors. Since procurement of equipment and services constitutes a major share of the total expenditure, the corporation has introduced specially-

From the top: Construction of concrete road in affected village (Nahalda village, near Khandwa substation); Community engagement through public consultation; Employee interaction; Vendor development conference.



designed knowledge enhancement initiatives for its contractors and suppliers.

POWERGRID's proactive measures to enhance capacity of its vendors and contractors resulted in manyfold increase in the vendor base that has eventually added to its compendium of suppliers. This increased vendor base shall help in meeting the targets of XI and XII Five Year Plans, in a time-bound and cost-effective manner. The Vendors' Development Conference organized by POWERGRID on November 5, 2008 is a testimony to the organizational commitment of building trustworthy partnerships.



Research and Development Institutions

POWERGRID accords prime importance to innovation and adoption of new technologies in its operations spanning across varied geographical areas of the country. It has developed and adopted State-of-the-art technology in transmission systems as well as for grid operation and management through both, in-house expertise, and in partnership with many research/technical institutions like Indian Institute of Technology, Delhi, Central Power Research Institute, Science and Engineering Research Council, Indian Meteorological Department etc.

POWERGRID has deployed front-end technologies and solutions to mitigate environmental and social issues in its projects like adoption of latest technologies and innovations resulting in minimizing the right of way (ROW) width, compact/GIS sub stations, land requirement to conserve the natural environment.

POWERGRID, by adopting delta configuration towers have been able to reduce ROW width requirement from 85m to 64m for their 765 KV single CKT lines

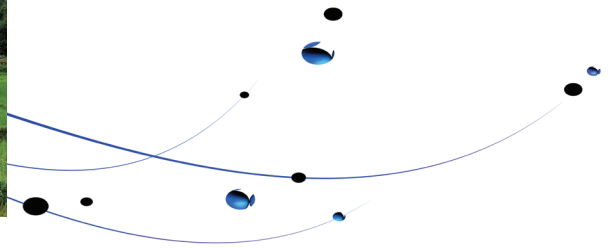
“ Designed tower to reduce ROW from 85 m to 64 m for 765 kV single CKT transmission lines. ”

Shareholders and Funding Agencies

The World Bank and ADB are the major multilateral funding agencies to POWERGRID. Till March 09, The World Bank had committed us \$2.2 billion of ADB us \$1.5 billion. As a borrower, POWERGRID is accountable to its lenders and funding agencies, who regularly review procurement policies, implementation, fund utilization, environmental and social safeguards. The World Bank, acknowledging POWERGRID's well-established Environmental and Social Policy and Procedures, (ESPP) selected POWERGRID as the first candidate for the Bank's Pilot Program for Use of Country System (UCS) in India. The World Bank has recognized ESPP-2009 as fully compliant to their policy on UCS.

Various multilateral funding agencies like The World Bank, ADB are fielding their regular missions for supervision, implementation review and appraisal of the projects funded by them. The World Bank Missions visited POWERGRID during August 5-8, 2008 and February 2-12, 2009 while the ADB Missions visited POWERGRID during May 26-30, 2008; October 20-24, 2008 and January 13-15, 2009.

“ POWERGRID selected as the first candidate for the World Bank's Pilot Program for Use of Country System (UCS) in India. ”



BUILDING SUSTAINABILITY FRAMEWORK

POWERGRID being one of the largest transmission companies in the world, contributes to a sustainable way of life to millions of people of India through a secure and reliable transmission of power. It is inevitable that it leaves some footprints on both, natural environment and communities. As the organisation strives to be a responsible corporate citizen, it tries to find a balance between the often-competing demands of the technical, economical, and environmental commitments. The corporation is committed to protecting and enhancing the natural environment in all its operations as far as possible and aim to go beyond compliance with environmental legislations.

POWERGRID endeavors to achieve sustainable development through five interlinked themes: Stakeholders, Environment, Networks, Statistics and Employees. The importance of sustainable development is understood by the corporation and embedded its imperatives in all its activities to ensure that the efforts to promote sustainable development are successful.

There are enormous responsibilities that come with a major power transmission company. One of the most important responsibility is to ensure that all the stakeholders from government departments, communities to individual landowners and employees are well informed, involved and understand the role of power transmission across the country for achieving the efforts towards sustainable development through a positive and open relationship.

To realize this objective, POWERGRID has taken a pro-active approach and developed a comprehensive "Environmental and Social Policy and Procedures" (ESPP) in April'98 for its projects after a wide consultation involving, general public, representatives from Ministry of Power, MoEF, CEA, State Electricity Boards, Allied Organizations, Academia, NGOs, Multilateral funding agencies and PAPs from our projects through a process of national consultation.

The ESPP developed by POWERGRID has been accepted by the World Bank and has been acclaimed by different multilateral agencies like, ADB, JBIC, and others. WS Atkins, London, UK, a leading environmental consulting firm, has commented:





“The ESPP is the first document of its kind for any Indian utility company and, as far as known, for any Private Sector business as well. As such, it provides an excellent model for other Govt. and Private Sector Companies to adopt for their own purposes. POWERGRID should consider marketing this newly acquired expertise on a consultancy basis.”

ESPP being a dynamic document is reviewed periodically based on feedback. POWERGRID has modified the ESPP in 2005 to amend and upgrade it keeping in view the requirements of new enactment, changed rules and guidelines including that of multilateral funding agency like the World Bank, ADB, JBIC etc. and suggestions/best practices and feedback received from different sites.



It was indeed a privilege for POWERGRID that its ESPP was selected as the first candidate for Use of Country Systems (UCS) analysis in India by the World Bank as it is quite comprehensive and meets the legal requirement of Indian laws and various requirements of other multilateral funding agencies. After detailed analysis, review and many deliberations, the World Bank came out with a Safeguard Diagnostic Review (SDR) report in Sept'08. The SDR was subjected to public consultations at Delhi on 18th Nov'08 and at Hyderabad on 21st Nov'08 to obtain broader stakeholders inputs / feedback. Based on the feedback, modifications /revisions were incorporated in the ESPP and the World Bank has accepted the revised ESPP'09 as fully equivalent to Bank's safeguard policies.

The ESPP outlines POWERGRID's approach and commitment to deal with environmental and social issues. It provides a framework for identification, assessment, and management of environmental and social concerns at both organizational and project levels (facing page) within the adopted principles of Avoidance, Minimization and Mitigation. POWERGRID is committed to the concept of eco-efficiency and adopted an analytical approach to help and direct its efforts to the most significant environmental and social issues for achieving the goal of sustainable development which is reflected in its policy statement:

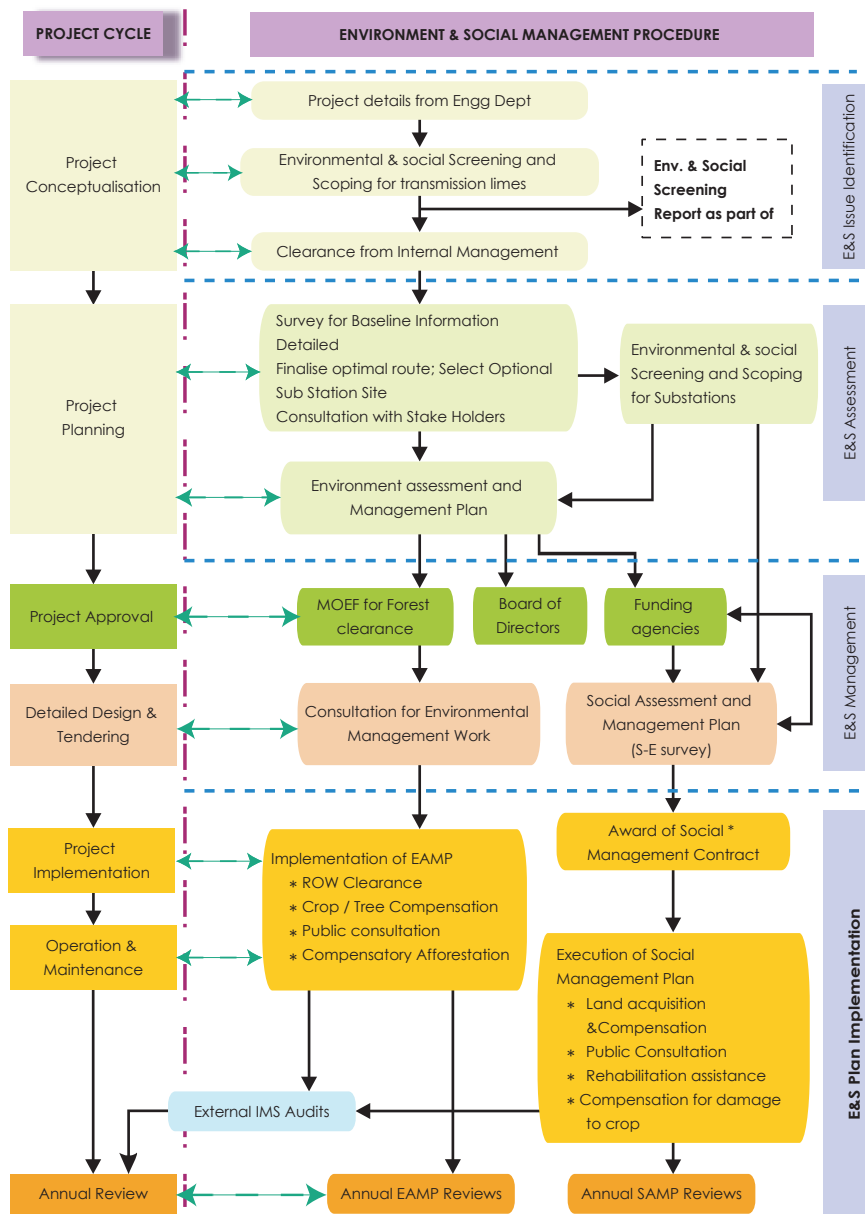
ENVIRONMENT AND SOCIAL POLICY STATEMENT

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

ESPP has also been reviewed by an independent committee constituted by POWERGRID, comprising eminent environmentalists / Social scientists of international repute, and representatives nominated by multilateral funding agencies. The committee, has completed review of updated ESPP keeping in view international best practices and shall be overseeing its compliance by POWERGRID.

The ESPP spells out POWERGRID's environment and social policy, and its commitment to:

- Ensure total transparency in dealing with all the stakeholders like the concerned government agencies, local communities, individual landowners and employees and their involvement through a well-defined public consultation process as well as
- dissemination of relevant information about the project at every stage of implementation;
- Maintain the highest standards of corporate responsibility not only towards its employees but also to the consumers and the civil society, along with social responsibility through various community development activities for promoting socio-economic development and enriching the quality of life of the community in areas around its establishments, most importantly through people's participation; and
- Minimise adverse impacts on the natural environment by consciously economising on the requirement of land for civil structures, reducing the width of the Right of Way (ROW) etc.





POWERGRID achieved the distinction of being the first power utility and second company in the world to be certified with PAS 99:2006.

This integrated the requirements of ISO 9001:2000, ISO 14001:2004 and OHSAS 18001:1999. The British Standards Institution (BSI) accredited this certification after extensive audit of POWERGRID's Integrated Management System. POWERGRID has already inducted its ESPP requirements into the integrated management system, the effectiveness of which is being audited regularly by an independent and internationally accredited third party.

INTEGRATED MANAGEMENT SYSTEM POLICY

POWERGRID is committed to:

- Establish and maintain an efficient and effective "national grid" with due regard to time, cost, technology, and value additions
- Sustainable development through conservation of natural resources and adopting environment friendly technology on principle of Avoidance, Minimization and Mitigation
- Ensure safe, occupational hazard-free and healthy work environment

to the satisfaction of stake holders in all areas of its activities and shall endeavour to continually improve its management systems and practices in conformity to legal and regulatory provisions.

POWERGRID has also been accredited with Social Accountability Standards SA 8000:2001 in 2008. As part of its social policy, POWERGRID is committed to ensuring social accountability in all areas of its activities and shall strive to continually improve its system and practices conforming to national and other applicable legal and regulatory provisions.

Apart from implementing ESPP in all its projects for proper and timely management of all possible environmental and social issues, POWERGRID has taken many initiatives towards sustainability that has not only helped in reducing pressure on precious natural resources but has resulted in timely completion of its projects.



CREATING ECO VALUE

POWERGRID, as a responsible corporate citizen is committed to minimize possible environmental impact in its operations. The corporation is making constant efforts to create new pathways to improve the eco-efficiency of its operations.

Protecting Land and Bio-Diversity

Presently, POWERGRID operates about 71,500 Ckt km transmission lines and 120 substations. POWERGRID is conscious of the need to conserve the natural resources and avoids ecologically sensitive areas like forests, sanctuaries, national parks, tiger / biosphere reserves, and coastal areas covered, under CRZ (Coastal Regulation Zone) as far as possible. In case traversing forest land is unavoidable due to terrain or technical reasons then the involvement of such areas is restricted to the barest minimum.

Similarly, for establishment of sub stations, the corporation follows the practice of land management in a manner that minimizes the land requirement. POWERGRID selects a suitable substation site after conducting comprehensive analysis of alternatives and due consideration is given to availability of infrastructure, land ownership, number of families getting affected; cost of compensation, extent of rehabilitation and location of the land. Generally 20 to 40 hectare of land is required for constructing one sub station depending upon the type and voltage level. Even for this 20 to 40 hectare land, POWERGRID endeavours to locate sub station on government land as a first option and if no such land is available, private land is acquired. In order to ensure that tribal people do not suffer adverse impacts, utmost care is taken to avoid acquisition of land belonging to tribal community. For establishing 120 sub stations (March 2009), 3388.50 hectares of land has been acquired.

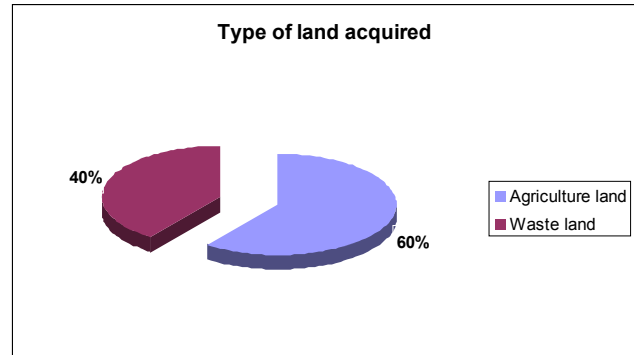
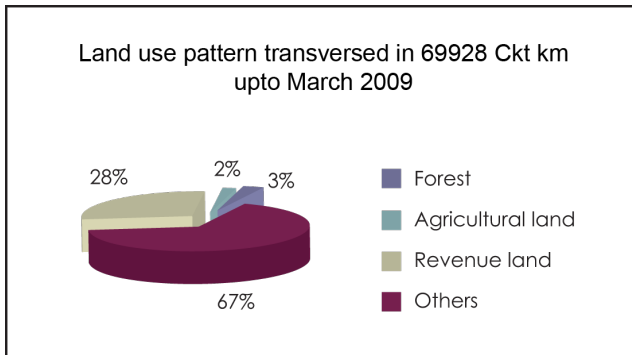
POWERGRID endeavours to avoid all ecologically sensitive areas like forest in routing its lines.

The forest land involvement which was about 6% in 27,000 Circuit Km. of lines until 1998, has come down to 2% with systematic conservative approach adopted in construction of 42,429 Circuit Km. line during April '98 to March '09.



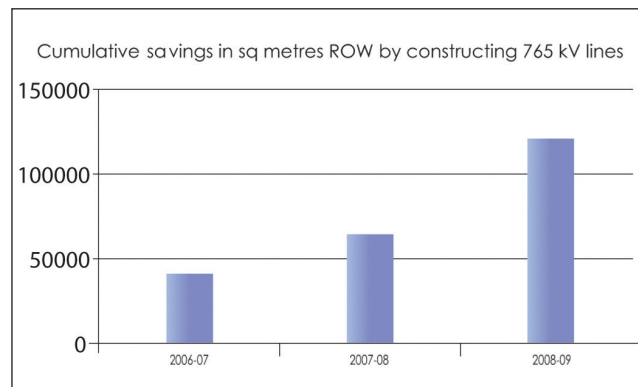
“ In Tehri transmission line tree felling was reduced by over 80% in Rajaji National Park due to installation of 85 m high towers. ”





The corporation has taken the following steps to ensure conservation of natural resources:

- Measures like Compensatory Afforestation as part of forest diversion covering twice the area of forest area diverted for the project, has not only helped in compensating loss of vegetation, but has increased forest cover as well. POWERGRID has contributed about US \$ 26 million (Rs. 110 crore) to different State forest authorities towards afforestation on more than 10,000 hectares of land during the decade.
- POWERGRID adopted innovative tower design like tall towers to protect wildlife and trees in ecologically sensitive areas (viz. in Tehri, transmission line tree felling was reduced by over 80% in Rajaji National Park due to installation of 85 m high towers. In Jaldapara Sanctuary in West Bengal and in Kottayam, Pathanamthitta, Ernakulam and Thrissur of Kerala – the existing and cleared corridor of 220 kV line is utilized by installing multi circuit towers to avoid further requirement of forest area and felling of trees. Moreover, transportation of tower material by head loads into forests, minimized damage to vegetation and habitat fragmentation. POWERGRID does not use chemicals for forest clearance/ROW maintenance.
- Though not mandatory, POWERGRID has carried out voluntary afforestation in 2 to 4 acres of land with suitable species of plants in consultation with local forest department at almost each of the 120 sub-stations. Additionally, separate fund has been earmarked for this purpose.
- The corporation also supports State Governments/ Institutions for conservation of wildlife in national parks and sanctuaries if affected by its operation.



- With the development of innovative tower design ROW requirement has been reduced from 85 m to 64 m for 765 KV and from 52 m to 46 m for 400 KV D/C line. Apart from this installation of Pole type structures for 400 KV transmission line in the urban areas near Delhi, has not only reduced the ROW and base width requirement, but are more aesthetic compared to conventional lattice type structures.
- The concern regarding exposure to electromagnetic field of transmission lines is being considered while designing the transmission lines to meet the internationally acceptable requirement/guideline. POWERGRID's design has been analysed and certified by M/s Power Technologies Inc (PTI), USA and Central Power Research Institute (CPRI India) with regard to meeting international norms for field strength limits.

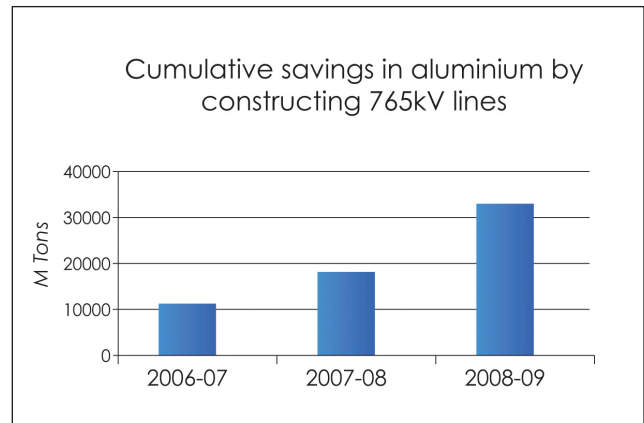
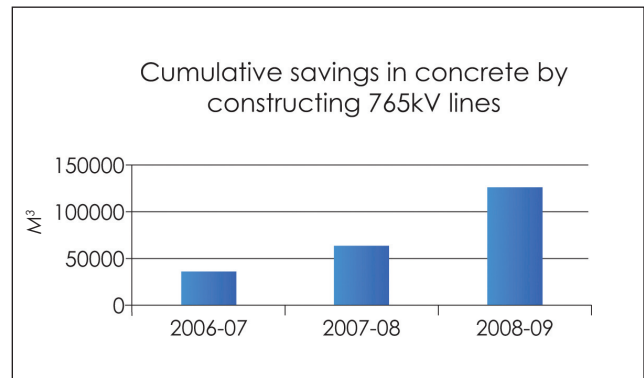
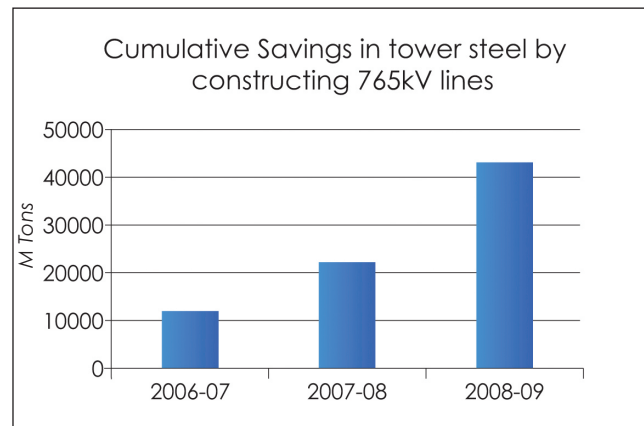
Transmission line projects are environmentally clean and do not involve any disposal of solid waste, effluents and hazardous substances in land, air and water. That is why transmission line projects were kept out of the purview of different pollution laws and Environment (Protection) Act, 1986 except in two districts viz. Alwar in Rajasthan and Gurgaon in Haryana. Transmission Projects are also kept out of the purview of Environment Impact Assessment (EIA) Notification of 1994 and 2006. However, approval under Forest (Conservation) Act, 1980, is mandatory if the line is passing through notified forest area. For that POWERGRID is following the guidelines issued by Ministry of Environment and Forests (MoEF) and various other stipulations issued time to time by MoEF on the subject.

Material Conservation

POWERGRID's contribution to the conservation of the national resource base and efforts to reduce the material intensity is an integral part of corporation's sustainability strategy. The huge quantity of raw materials such as iron, steel, aluminium have been reduced over the years. This has been achieved through technological innovation using high capacity transmission lines transmitting more power. The cumulative savings in terms of steel tower tonnage, concrete quantity, aluminium tonnage required by constructing extra high voltage 765 kV lines is indicated in the figures here.



Transportation of conductors through head loads.



Assumptions: 1) One 765kV S/C line is assumed equivalent to 2 D/C + 1 S/C 400kV lines for transferring the same power (2500MVA); 2) Quantities have been considered corresponding to Wind Zone IV.



“ Use of high-temperature low-sag conductor, enhances the power carrying capacity, thereby reducing material consumption by avoiding the need for extra transmission line. ”



Development and installation of extra high strength insulators like 320 kN AC and 420 kN AC twin strings instead of conventional quad tension strings of 160 kN and 210 kN, has reduced the requirement of insulators for quad bundle lines to half.

To enhance the carrying capacity of existing lines POWERGRID has adopted new conductor technologies like high temperature low sag “Invar” conductor instead of conventional quad conductor, which has helped in reducing material consumption by huge quantity as it has helped in avoiding the need of extra transmission line for the additional electricity load.

in the substations require continuous power supply. The backup supply of electricity is met by diesel generator (DG) sets. The corporation has been taking various energy conservation measures to reduce consumption of energy during the reporting period. Some of the examples are as listed here:

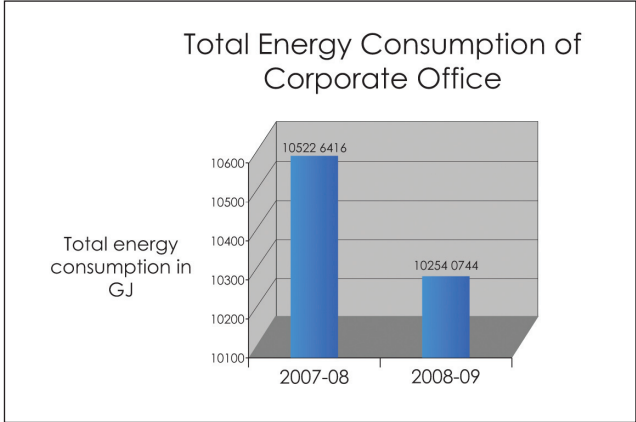
Conversion and retrofitting of office equipment:

- Operation of Computerized Integrated Building Management System.
- Scheduling of Chillers/Boilers/AHUs at corporate office.
- Provision of CFL Lamps.
- Use of Solar Power for external lighting at night at few substations and corporate office.
- Use of Solar water heating at few substations/offices.
- Scheduling of Switchyard External Lights with Timer.

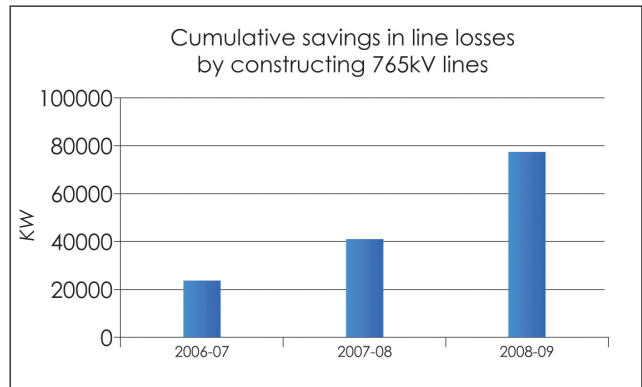
Energy Efficiency

The major energy consuming activities of POWERGRID are in the areas of substation lighting, building illuminations, street lighting, transformer cooling and domestic use of energy in colonies. Apart from these, minor energy consumption activities are from battery chargers, fire fighting, indicating lamps, space heaters and oil filtration process. Energy consumption at POWERGRID installations is met by the electricity purchased from State Power Utilities. Since most of the sensitive equipment installed

The increased awareness towards energy conservation through constant campaign resulted in behavioral changes that led to running of FDV/Exhaust/Supply Fans on requirement basis and ensuring switching off internal lights, lifts, computers, printers etc. after office hours. It is being observed that energy consumption of corporate office was reduced by around 268 GJ in 2008-09 through implementation of above initiatives.



POWERGRID has recognized that use of efficient technology in its operation is probably the most-effective contribution in meeting the increasing energy demand. POWERGRID has adopted new technologies like 765kV AC, \pm 500kV HVDC and \pm 800kV HVDC in its transmission systems which result in lower losses in the system. POWERGRID has implemented/ is implementing 765kV AC lines and \pm 500kV HVDC Bipole system for power transfer across various regions. The other technological areas of crucial importance include the unified load despatch and communication facilities, HVDC Back-To-Back system, large capacity long distance HVDC bipole, series compensation and static var.



Assumptions: 1) One 765kV S/C line is assumed equivalent to 2 D/C + 1 S/C 400kV lines for transferring the same power (2500MVA); 2) LLF of 0.4 has been assumed for calculations.

Promoting Green Energy and Reducing Climate Change

India is endowed with huge hydro potential, which is mainly concentrated in the Himalayan region of India. A major constraint in harnessing of 50,000 MW hydro energy potential in the North-eastern region, is the development of a transmission system for carrying bulk power to probable load centre over a long distance in the order of 2000-3000 kms, as well as staging of the transfer capacity improvements over time to match the additional generation.

Presently, Northern region has been facing severe power shortage. The installed generation capacity of about 69,000 MW comprises approx. 69% thermal generation. The peak load demand of these regions is expected to increase to about 97,000 by year 2011-12, an increase of 50% over current peak demand. To meet this future load growth, these regions have to either depend on the generation projects based on fossil fuels or receive power from distant hydro resources through long distance transmission links.

POWERGRID initiated a project titled "North Eastern Region (NER) – Northern Region (NR) Interconnector" which aims at abating green house gas emissions through facilitating transfer of clean/green hydro power from the hydro-dominated Northeastern region to avoid addition of fossil fuel thermal power in power deficit, thermal-dominated Northern grids of India with minimal carbon footprints.

POWERGRID is constructing \pm 800 KV HVDC high capacity transmission system for evacuation and transfer of about 3100 MW of power from hydro projects under construction - the 2000 MW Lower Subansiri hydro project, 600 MW Kameng Hydro project, and about 500 MW surplus power available in the region. The expected environmental benefits are as follows:

- The proposed project will reduce CO₂ emissions by replacing thermal generation at the demand site (Northern regions) by transmitting about 3100 MW of clean/green hydro power generated in phases in the remote and under developed North-eastern region of the country with negligible environment impact.
- Without the proposed project, the northern region of the country which is deficit in energy, generation would require the set up of coal fired thermal power plants which will produce millions of tons of CO₂ emission as well as other potential greenhouse gases to the already fragile environment.

“ About 257 million tons of CO₂ emission may be reduced during the 30 year lifecycle of the NER-NR Interconnector. ”





Water Conservation

Clean and fresh water is becoming increasingly scarce, and can impact operational processes that rely on volumes of water. POWERGRID is aware that in regions where water sources are highly restricted, water consumption patterns can influence long term relations with other stakeholders. Water consumption in POWERGRID is limited to the use of cooling for system equipment, horticulture, fire fighting storages. At the substations and colonies as well as corporate/ regional offices, the source of water is groundwater (bore wells) and local water supply. In spite of limited consumption water conservation through rainwater harvesting has become an integral part of every new substation design and its outcome is evident in following table:

Region	No. of S/s involving Rain Water Harvesting	Total Water Recharged to ground(cubic meter/year)	Total Water consumption at S/s(cubic meter/year)	Average Water Consumption : Annual Water Recharged
WR I	6	172968.06	24382	01:07.1
WR II	5	417614.35	67133.35	01:06.2
SR I	8	141,764.60	60,872.88	01:02.1
SR II	14	495401.52	744412.55	01:06.5
NR II	1	13,806.00	3,650.00	01:03.8
ER II	2	86,800.73	17,246.25	1:05

The methodology used to calculate the volume of water recharged to ground:

Water harvesting potential = Rainfall (mm) x area of catchment x runoff co-efficient

Note: Runoff co-efficient is taken as 0.3 for untreated ground catchments, assuming 50% of annual rainwater is recharged to ground.

Waste Management



Oil slumps to prevent contamination of ground water

Disposal of scrap by Corporate Center/ Regions/ Regional Load Despatch Centres and all other offices of POWERGRID are carried out through the e-auction mode by an agency appointed by Corporate Centre. POWERGRID seeks authorisation for disposal of hazardous waste (used transformer oil) from concerned State Pollution Control Boards (SPCB) as and when required under Hazardous Wastes (Management and Handling) Amendment Rules 2003. POWERGRID screens all old transformer oil for the presence of Polychlorinated Bi-phenyl (PCB) and new oils are procured without trace of PCB content. The used oil is auctioned to authorized /registered re-cyclers as per statutory requirement. The mandatory requirements of Batteries (Management and Handling) Rules 2001 are adhered to while disposing the old batteries.

Emission Control

POWERGRID's operations do not cause harmful emissions except the diesel generators at the substations/corporate/regional offices. These sets comply with environmental norms. During the pre-construction stage of a transmission project, POWERGRID implements procedures for processes to ensure that the equipments and systems used to avoid the use of CFCs, including Halon, as part of tender specifications. All new air conditioning systems are free of Ozone Depleting Substance (ODS) as a commitment to the international treaty.

Voluntary Plantation

During the reporting period, POWERGRID continued with its practice of voluntary tree plantation at various locations and more than 50,000 trees were planted, wherever land acquisition for new substations. All efforts are made to save the existing trees by even incorporating minor alterations in the layout of the substations.

Expenditure/Investment towards Environmental Conservation

As a part of its commitment towards protecting its natural environment, POWERGRID funds a Compensatory Afforestation (CA) scheme to compensate loss of vegetation and is an important part of the forest proposal seeking diversion of forest land. For CA, the forest authorities identify degraded forestland of twice the area of diverted forest land. POWERGRID meets the cost of CA and the Net Present Value (NPV) of forestland diverted. The NPV rate varies from Rs. 4.38 to Rs. 10.43 lakh per hectare depending upon the type of forest (as per Supreme Court order dt. 28.03.08 and 09.05.2008) and is payable to the "Compensatory Afforestation Fund Management and Planning Authority" (CAMPA). No monetary and non-monetary sanctions were imposed on POWERGRID on account of non-compliance during the reporting period. POWERGRID during the reporting period paid a sum of Rs. 1.08 billion (US \$ 23 million) to different forest authorities/CAMPA fund which comprises Rs. 454 million (US\$ 9.65 million) for CA, Rs. 574 million (US\$ 12.21 million) towards NPV, Rs. 40 million (US \$ 0.85 million) towards wildlife management/conservation and Rs.14 million (US\$ 0.29 million) towards plantation of dwarf and medicinal plant below the line.



Top: Voluntary afforestation at Hyderabad substation.

Above: Medicinal plantation at Trissur substation.





HARNESSING HUMAN CAPITAL

RECRUITMENT POLICY AND PROCEDURES, POWERGRID, provides a framework for recruitment and selection of staff with the necessary skills and attributes to enable POWERGRID to fulfil its aims and objectives. It also provides clear guidance for both, selection and appointment of staff.

Employment Practices

Sources and Modes of Recruitment

The corporation follows established methods of recruitment like press advertisements, employment exchange, including campus selection from reputed institutions and online recruitment system.

Towards the fulfillment of the corporation's social and national obligations, POWERGRID provides gainful employment on a preferential basis to the members of the economically backward classes, ex-servicemen and other under-privileged sections of the society. The corporation respects and abides by all the national laws with regard to contract employment

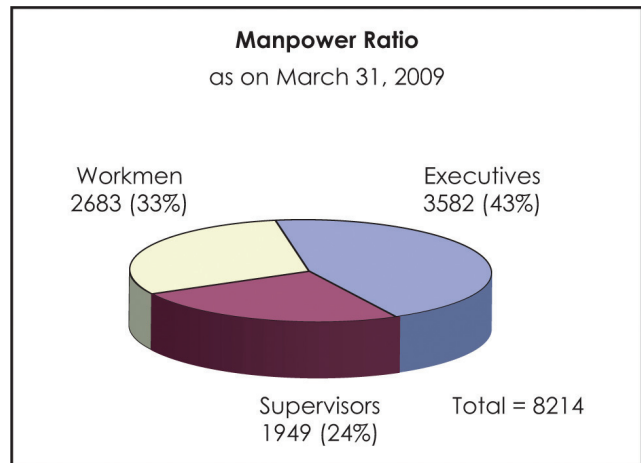
In addition, there are 401 employees on fixed tenure basis working on Accelerated Power Development Reform Program (APDRP) and Rural Electrification entrusted by the Government of India. Contractual workers are also hired for specific tasks like house keeping, horticulture, dispatch, security, civil and electrical maintenance etc.

During the reporting period 2008-09, the corporation reported a turnover of 199 employees – 111 employees resigned, 68 retired, 17 expired and 3 were terminated.

Composition of workforce

The corporation had 8,214 employees as of March 31, 2009, including both, permanent and temporary employees.

The flowing chart shows the composition of the cumulative workforce in all establishments of POWERGRID.



Year	Separation Reason	Age-Group			Gender		Category			Grand Total
		< 30	> 50	30-50	F	M	E	S	W	
2008-09	EXPIRED		10	7		17	3	2	12	17
	RESIGNED	54	10	47	1	110	101	10		111
	RETIRED		68		2	66	29	9	30	68
	TERMINATED	1	1	1		3	1	1	1	3
	TOTAL	55	89	55	3	196	134	22	43	199

Employee benefits

A number of statutory and non-statutory benefits like contributory Provident Fund, self-contributory super-annuation benefit scheme, post retirement benefits, etc., and a number of allowances, demonstrates the corporation's commitment and contributions for the overall welfare of its permanent employees. Similar benefits accrue to fixed tenure employees. Employees' remuneration and benefits represented 10.21% of the total income in fiscal 2008. This is likely to increase further due to impending wage revision. Residential, educational and recreational facilities are also provided to employees and their families.



Meeting with Union representatives.

Communication Systems

POWERGRID has established systems of formal and informal communication. Structured forums like the Bipartite Committees and open-house sessions with employees result in more harmonious employee relationships and help settle disputes and grievances.

The corporation also allows expression of concerns through organized unions. 18 unions and a unionized workforce of 2609 operate across the Corporate Centre, 9 Regions and 5 Regional Load Dispatch Centres.

Category	No. of employees in category	Collective bargaining forum	%
Executives	3582	No forum	0
Supervisors	1949	Diploma Engineer Association	100
Workmen	2683	Powergrid National Bipartite Committee(PNBC)	100
Total	8214		



Occupational Health And Safety

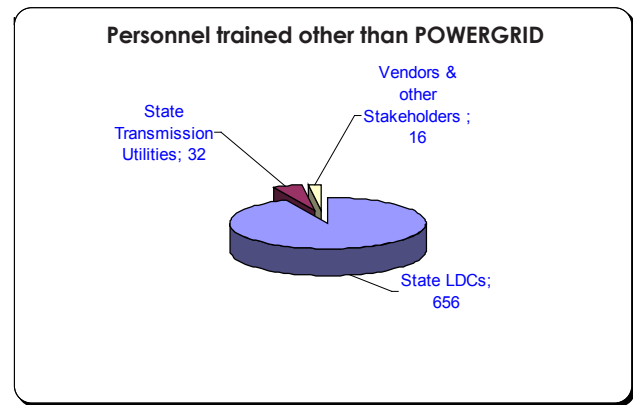
POWERGRID's Integrated Management Policy ensures safe, occupational hazard-free and healthy work environment to all stakeholders. The Corporation conducts safety training programmes and safety audits to provide a safe work place environment. Personnel other than POWERGRID's are also trained in health and safety measures. Contractors are advised to recruit qualified safety officers as per statutory requirements and are advised to procure personal protective equipment commensurate with development of manpower at site.

Safety cells at corporate, regional and Group head level monitor safety activities and prepare accident reports. Every sub station has a safety officer and a safe working environment covers employees as well as contractual workers.

POWERGRID has a well-defined norms and guidelines for issue of Personal Protective Equipment to its employees. Besides, developing a safety handbook, it has also developed a "construction manual for transmission lines and sub station" wherein safety has been given utmost importance. National Safety Day/ Safety Week / Fire Day celebrations are effective tools for awareness building. The Safety Committees at corporate and regional level meet once every quarter to review and promote the safety activities in their area and with joint representation facilitate a positive health and safety culture. Certain contract conditions like provision of hefty penalty for fatal and disabling accidents have also been included as deterrents.

As a result of such proactive procedures and policies, the number of accidents have been reducing over the years, as is evident in the table below:

Status of Accidents in POWERGRID			
	2006-07	2007-08	2008-09
Accident during Construction	22	13	7
Accident during O&M	2	5	1
	*(SS-0; TL-2)	(SS-2; TL-3)	(SS-0; TL-1)
* SS - Substations; TL - Transmission Line			



Top: Testing of fire fighting system.
Above: Undertaking the safety oath.

Enhancing Capabilities

POWERGRID focuses on development of human potential through sustained efforts in providing adequate skill upgradation, career enhancement and job rotation. The various Human Resource Development (HRD) programmes conducted at the Induction, Refresher and Advance Levels bring about a qualitative improvement in employee development and organizational learning. Based on Training Need Assessment, the corporation ensures at least one training module per year for every employee, which it strives to increase to six man-days training per employee per year.

The following tables and graphs show POWERGRID's commitment to the growth of its employees:

Number of personnel trained (2008-09):

Sl	Category	No. of personnel trained
A	POWERGRID employees	
	Executives	2757
	Supervisors	1155
	Workmen	1306
	Sub-Total	5218
B	Transmission Sector utilities/ Contractor's/ Vendor's personnel	704
	Total	5922
C	Executive Trainees	137
	Grand Total	6059



Category	No. of employees	Total hours of training	Average hours of training / emp / emp. category
Executives	3582	382720	15.0 (excl. exec. trainee)
Supervisors	1949	30240	15.5
Workmen	2683	34560	12.9
Total	8214	447520	

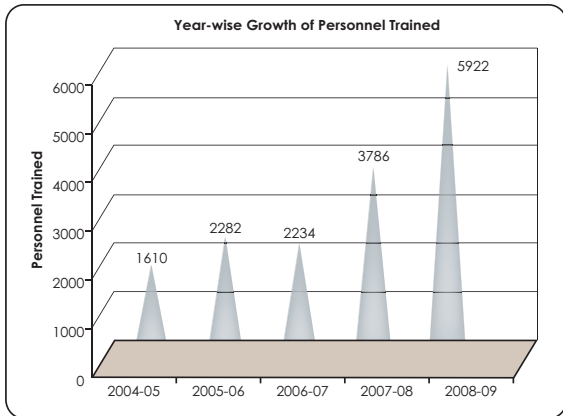


Growth of personnel trained (excluding ETs):

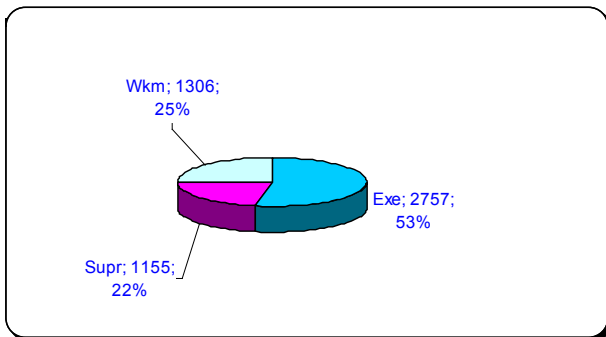
	2006-07	2007-08	2008-09	Growth from 2007-08
No. trained	2234	3786	5922	56.4 %



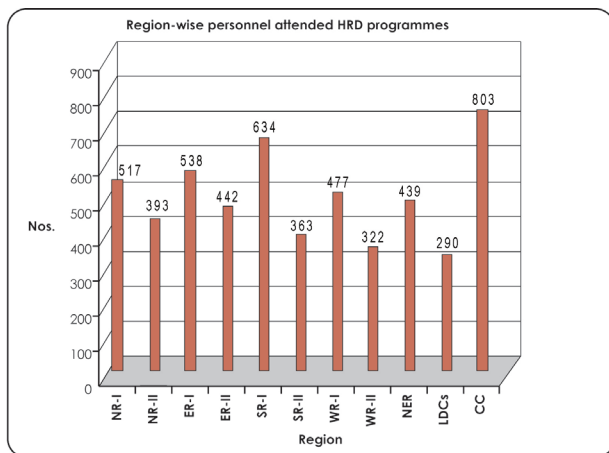
Year-wise growth of personnel trained:



Category-wise participants - % of total trained:



Region-wise personnel that attended HRD programmes:



POWERGRID also has collaborations and strategic alliances with reputed training and management institutes like Engineering Staff College of India (ESCI), Administrative Staff College of India (ASCI), National Power Training Institute (NPTI), Indian Institute of Management (IIM), Management Development Institute (MDI), etc., for achieving operational and professional excellence and nominates employees for external training programs. Hands-on training programmes conducted at manufacturer's premises such as AREVA, Asea Brown Broveri (ABB), Bharat Heavy Electricals Limited (BHEL), Crompton Greaves Limited (CGL), etc., are excellent examples of meaningful collaboration between the utility and the industry.

Performance Evaluation

POWERGRID's performance evaluation system is tailor-made for each of the categories of employees and focuses on employees overall development. It is an instrument for performance planning, analysis and review; generating a healthy problem-solving dialogue between the Reporting Officer and the Appraisee; improving communication, performance counseling, and, improving levels of motivation through goal clarity.



Towards an Egalitarian Culture

POWERGRID appreciates the diversity within the organization, and provides equal opportunity to all the employees based on its non-discriminating policy be it recruitment, appraisal promotion and remuneration. POWERGRID abides by all the statutory norms and respects the Equal Remuneration Act. The policy gives special emphasis on account of gender, age, reserved categories, minorities and the physically challenged.

Human Rights

POWERGRID in the absence of an exclusive Human Rights policy has incorporated Human Rights issues under related policies and practices. The Conduct and Discipline Appeal rules (CDA rules) define the desirable and non-desirable acts and conduct for the employees. There is a well-laid procedure for actions in case of non-compliance with the defined terms as well as any inappropriate or unwelcome sexually-determined behavior.

Abolition of child labor is a key principle and objective of major human rights declarations and legislation, and is subject to ILO Conventions 138 and 182. The presence and effective implementation of policies on child labor is reflected in the fact that there were no reported cases of child labour during the reporting period. SA 8000 policy provides regular monitoring by the engineer in-charge at the site to ensure that there is no child labor at the site employed by the contractor. As per the agreement contractors are prohibited from subjecting their workers to forced or compulsory labour. There are well-defined terms and conditions for such services as per the labour laws requirements mentioned in the HR policy all contractors are required to comply with various compensation and regulatory acts. All suppliers to POWERGRID have to confirm to GCC and SA 8000 clauses. Provision of severe penalties for non-adherence as a deterrent are also included in the contract condition.

Exposure to issues like human rights, SA 8000, CDA rules, values and ethics, RTI, labour and industrial laws, HR policy, etc. have been made an integral part of Training module. Devotion of 8280 hours on training approximately 6% of employees on human rights issues out of a total of 447,520 hours of training is a testimony of our commitment in this regard.





CONTRIBUTING TO SOCIAL EQUITY

POWERGRID recognizes its social responsibility and provides utmost importance to communities with whom it shares local resources. The corporation, independently or through not-for-profit organizations, undertakes various community development schemes in villages adjoining the substations by providing medical facilities, education, drinking water, besides other infrastructure facilities like roads, community centres, etc.

Regular health camps and blood donation camps are organized in collaboration with leading medical institutes for free medical check-up of villagers and free medicines are provided. Rs.25 lakhs has been given to Shankar Foundation for construction of an Eye Hospital at Vishakhapatnam and Rs.14 lakhs towards development work of Lok Nayak Jai Prakash Hospital at Aara, Bhojpur, Bihar.



Distribution of sewing machines to women of the neighbouring village.



Distribution of blankets to the poor of the area.



During 2008-09, four Industrial Training Institutes (ITIs) were adopted in the state of Maharashtra, Madhya Pradesh and Bihar, to upgrade infrastructure facilities, enhance employability of students and availability of skilled manpower for industry. Apart from this, special programmes for women welfare are organized, providing vocational training and distribution of articles like sewing machines, cycles etc.

The corporation has been assisting people in times of natural disasters. POWERGRID has a well-developed Disaster Management Plan for restoration of power within shortest time. The corporation has demonstrated its capabilities in restoring the transmission with the help of Emergency Restoration System (ERS) and substation of other utilities as well.

POWERGRID has also been working towards the development and well being of the socially weaker sections, people with special needs. For example, the Corporation has prepared the detailed guidelines for the development of the Tribal People Development Plan (TPDP), which has well-defined guidelines for determining the impact of project interventions on tribal (indigenous) people. Detailed social assessments based on criteria such as adverse impacts on customary rights of use and access to land and natural resources, negative impacts on the cultural identity of communities, impacts on health, education, livelihood and social security status. If impacts are identified to be insignificant, then specific actions in favour of the indigenous people are integrated into the rehabilitation action plan to ensure appropriate mitigations and benefits to the indigenous people. No incidents of violation involving rights of indigenous people were reported during the reporting period.



POWERGRID also plays proactive role for the society on a national level by promoting the Indian national language, Hindi and encouraging employees to use the national language on day-to-day official work as per the directive of Govt. of India. It motivates employees to use the national language in personal life and conducts activities like organizing debate, quiz and essay competition etc. for them and their family members. POWERGRID has also won a number of awards and also been commended by various Government and non-Government bodies involved in promotion of the national language. During the International Hindi celebration from 26th to 28th December in Delhi, held under the aegis of Bhartiya Sanskriti Samband Parishad and Sahitya Akadami, Dr Karn Singh conferred the CMD with Akshram Rajbhasha Samman in recognition of the corporation's pioneering efforts in promotion of the language.



Top: Borewell at affected village (near Hosur sub station).
Middle: Relief measures during Tsunami.
Above: Weaving unit installed under the income generation scheme at Sasaram.



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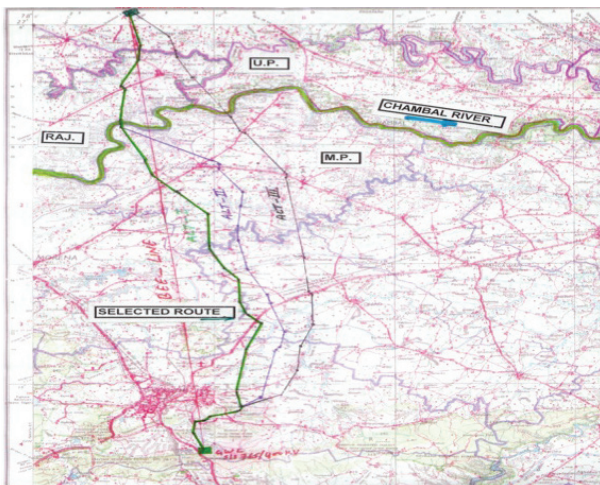
CASE STUDY

Transforming Lives

Case Study: North-West Interconnector



Agra-Gwalior transmission line



POWERGRID constructed 765 kv S/C Agra-Gwalior transmission line to export surplus power from Eastern Region to Western Region via Northern Region (NR). The transmission line created the regional interconnectivity that helped maintain system stability and security of the combined grid (comprising Eastern, North-eastern, Northern and Western Regions) under all operating conditions.

CHALLENGES

- POWERGRID took possible measures to avoid ecologically sensitive areas like forests and National Park/Sanctuaries. However routing of line without crossing Chambal River was unavoidable.
- The entire 435 km stretch of the Chambal river was a declared crocodile sanctuary, though none of the area of the sanctuary from which the transmission lines were routed was a forest land.
- Prior approval of National Board for Wild life (NBWL) and Hon'ble Supreme Court was pre requisite for taking up any activity in National Parks/Sanctuaries.





Line route through Chambal Ravines on the left and line route through agricultural fields on the right

ACTION/MEASURES ADOPTED

- Special high-rise towers were designed for Chambal river crossing
- Designed special tower with delta configuration to reduce ROW width from 85m to 64m
- Clear of the river area on both banks
 - Line route through Chambal Ravines on the left
 - Line route through agricultural fields on the right
- No encumbrances on the ground terrain
- Route alignment very close to village road, so no additional approaches required
- Shortest possible crossing length (at the possible narrowest width of the river)
- Supreme Court permission as well as permission from Wildlife Institute of India, obtained
- Contributed Rs. 47 lakh towards wildlife conservation measures

OUTCOME

- No adverse impact on aquatic wildlife, including Crocodile habitat
- No disturbance to Crocodile nesting site
- Forest area avoided completely
- Saving of ROW by 273 Ha

Gwalior Substation





Few Facts

- Land acquired: 34.827 Ha.
- Total PAPs: 50
- Compensation paid to all PAPs at market rate: Rs. 1.75 crore
- Rehabilitation Assistance of Rs. 44.62 lakh paid to all eligible PAPs
- Alternate means of livelihood in the shape of Income Generating Schemes (IGS) such as dairy, PCO booth, computer training, etc., were also provided to PAPs
- More than 15 workers from Adupura and nearby villages are engaged as contractors on POWERGRID works. During peak stage of construction the number was much higher, about 60

Community Development

- Construction of concrete road and drain in Village Adupura: Rs. 15.91 lakh
- Construction & installation of 3 hand pumps: Rs. 2.86 lakh



Environment Protection Measures

- Installation of sealed & maintenance free batteries in the Substation battery banks
- Oil sumps provided with all transformers
- Rainwater harvesting provision through two recharge wells



POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)

Registered office

B-9, Qutab Institutional Area, Katwaria Sarai,
New Delhi - 110 016

Corporate office

"Saudamini", Plot No. 2, Sector 29,
Gurgaon - 122 001 (Haryana)
Fax: (+91-124) 257 1976

E-mail: sanjeev@powergridindia.com
Web: www.powergridindia.com