बीएचईएल
BHEL
Maharatna Company

SUSTAINABILITY REPORT 2012-13

बी एच ई एल

BHEL

VISION

A global engineering enterprise providing solutions for a better tomorrow

MISSION

Providing sustainable business solutions in the fields of Energy, Industry & Infrastructure

VALUES

GOVERNANCE	:	We are stewards of our shareholders' investments and we take that responsibility very seriously. We are accountable and responsible for delivering superior results that make a difference in the lives of the people we touch.
RESPECT	:	We value the unique contribution of each individual. We believe in respect for human dignity and we respect the need to preserve the environment around us.
EXCELLENCE	:	We are committed to deliver and demonstrate excellence in whatever we do.
LOYALTY	:	We are loyal to our customers, to our company and to each other.
INTEGRITY	:	We work with highest ethical standards and demonstrate a behaviour that is honest, decent and fair. We are dedicated to the highest levels of personal and institutional integrity.
COMMITMENT	:	We set high performance standards for ourselves as individuals and our teams. We honour our commitments in a timely manner.
INNOVATION	:	We constantly support development of newer technologies, products, improved processes, better services and management practices.
TEAM WORK	:	We work together as a team to provide best solutions & services to our customers. Through quality relationships with all stakeholders we deliver value to our customers.

GR-ELICIT

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Message from Chairman & Managing Director

Dear Stakeholders,

Energy security and climate change are two major issues world over leading to mounting worries regarding environmental sustainability. India, a major emerging world economy, has an overall imperative to balance its developmental goals with environmentally sustainable use of energy and other non - renewable resources. With assimilation of eco-friendly technologies and building of capabilities to harness alternative sources of energy, the Indian economy is gradually moving towards achieving the aim of energy security.

A broad strategic management framework has been developed for ensuring sustainable development in BHEL through its products & services as well as in-house activities. Energy efficiency, taken as a drive, has led to successful transition from sub-critical thermal cycles to supercritical thermal cycles resulting in significant reduction in coal consumption besides reduction in carbon emission, thus adding to the sustainable development of the country at large. BHEL is jointly working towards Development of Advanced Ultra Supercritical (AUSC) technology to improve the efficiency of power generation by about 12% compared to current supercritical power plants. The coal burnt and the carbon dioxide and pollutants emitted to the atmosphere for every unit of power generated would also be reduced by a similar amount. This would also improve the country's energy security by enhancing the longevity of its coal reserves.

BHEL is committed and has a higher responsibility in making its customers achieve sustainability. This is being done by facilitating its customers manage their environmental and social impacts throughout the entire operational lifecycle of the power plants by offering them state-of-the-art engineering and technology inputs for reducing greenhouse gas emissions, water consumption, auxiliary power consumption and providing better heat rates and higher boiler efficiencies.

The organization is also committed in its efforts to minimize the carbon footprint by energy conservation efforts and generation of energy through renewable sources. A 250 kW_p Solar power Plant has been set up at our Bhopal Unit in the year 2012-13. Scaling up the efforts towards generation of renewable energy, the organization is setting up a 5 MW_p Grid Interactive Solar Power Plant at our BAP Ranipet Unit. Conversion of oil fired burners to natural gas fired, rain water harvesting and recycling & reusing of water are some of the other initiatives undertaken.

BHEL has earned the goodwill of all its stakeholders and especially from the community in the vicinity of its operations, by bringing prosperity to the neighbourhood. To further strengthen its community relationship and promoting equitable development, the company has in place a structured Corporate Social Responsibility (CSR) programme.

The key risks and challenges posed by the environment also provide us good opportunity to scale up our capacity for renewable business and cleaner technologies. With the support of key stakeholders and dedicated manpower, BHEL is confident of sailing through the tough business scenario and live up-to the mission statement of the organization ***'Providing Sustainable business solutions in the field of Energy, Industry & Infrastructure.'***

(B. Prasada Rao)

Message from Director (HR)

Dear Stakeholders,

For BHEL, Sustainability is about achieving prosperity with balancing social equity and staying within the carrying capacity of the environment. In this regard, Sustainability is a journey and not a destination itself.

As a responsible organization, BHEL is treading the path of Sustainability and the broad contour of this journey is set out by the Governance Structure of the organization. Our CSR activities are focused to contribute towards the broader objective of achievement of social equity and our environmental sustainability initiative are aimed towards environmental preservation and its enrichment so that our future generation can get the environment which is better than what we have inherited.

The Board Level Committee (BLC) for CSR & Sustainability mentors the journey in terms of transforming and translating vision of the organization in line with the mission and policy whereas Nodal Officers at each Manufacturing Unit's level conforms to the vision in shaping the Manufacturing Unit towards a common future. The BLC is supported by Corporate HSE & CSR group which acts as an enabler to provide unwavering support to the units for meeting the objective set out by the BLC in measurable terms.

The efforts made by the organization are finally captured in the form of Sustainability Report and it gives me immense pleasure to place before you the Sustainability Report of BHEL for the year 2012-13. This is the second Sustainability Report which is being put into the public domain. The report is a result of dedicated efforts of Corporate HSE & CSR group and our Nodal Officers for Sustainability at Units.

To address the issue of Environment Sustainability, and in conformity with its commitment towards environment conservation, the company has been taking up a number of Environment Improvement Projects (EIPs) / Sustainable Development Project (SDPs). These projects helped in enriching the environment, conservation of precious resources like energy, water, fuel, oil, coolant, lubricant, mitigating environmental pollution. As a part of major EIPs / SDPs during 2012-13, the company has planted more than 20,000 trees and successfully completed the Water harvesting projects in several Units. Further, in keeping with the commitment to use renewable power in Units, the company has installed 250 kW_p Solar power plant at Bhopal Unit and Roof Top Solar power plant of 20 kW_p at Trichy Unit in 2012-13. The company also installed more than 1000 Turbo ventilators across its Units to encourage energy conservation and as a part of Energy Efficiency more than 20 energy efficiency projects were completed at the Units under Sustainable Development Projects.

Going forward, our journey has just begun and your organization is going to scale up its efforts towards execution of projects related to Sustainability. I am sure that with the support of our stakeholders, we shall strive to pursue our journey towards Sustainability with more vigour and contribute significantly towards the concerted efforts being made in this direction by other organizations in the country.

(R. Krishnan)

About the Report

This report is the 2nd Annual Sustainability report of Bharat Heavy Electricals Limited (BHEL) and has been prepared in line with the GRI G3.1 guidelines. The first Sustainability Report was published for the year 2011-12. Current report is an attempt to give the reader a holistic view of our Sustainability Performance for 2012-13 and the areas in which further improvement is desired. Data has been provided for multiple years wherever available, for comparison purpose.

The data presented against the environmental indicators in this report is restricted to the following Units of BHEL:

1. Heavy Electrical Plant, Bhopal
2. High Pressure Boiler Plant, Tiruchirapalli
3. Seamless Steel Tube Plant, Tiruchirapalli
4. Heavy Electrical Equipment Plant, Haridwar
5. Central Foundry Forge Plant, Haridwar
6. Heavy Power Equipment Plant, Hyderabad
7. Electronics Division, Bangalore
8. Electro-porcelain Division, Bangalore
9. Industrial Valves Plant, Goindwal
10. Insulator Plant, Jagdishpur
11. Transformer Plant, Jhansi
12. Boiler Auxiliaries Plant, Ranipet
13. Component Fabrication Plant, Rudrapur
14. Centralized Stamping Unit, and Fabrication Plant Jagdishpur
15. Heavy Equipment Repair Plant, Varanasi

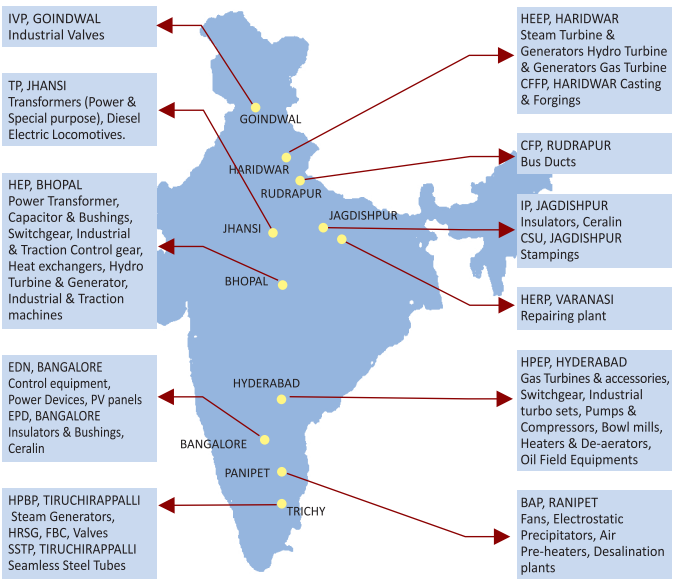
For other indicators, the data is presented for entire BHEL, which are included in the annual report. The data has been captured through SAP wherever applicable. Otherwise the data have been taken from reliable source, compiled at unit level and sent to corporate office for preparation of report. Wherever the data is not based on measurement the same has been found using appropriate estimation methodology.

All the calculations are done as per the standard calculation methodology followed in UNFCCC protocol, Calculation tool for Direct emissions from Stationary Combustion - WRI / WBCSD GHG Protocol, CEA data for grid emission factor etc.

The content of the report has been developed on the principles of materiality, stakeholder inclusivity and responsiveness as applicable to BHEL's present sustainability context.

The report has a limited scope wherein the data presented pertains to only the 15 manufacturing units of BHEL as shown in figure 1 and not the other entities which are also a part of BHEL. Also there has been no significant change from the previous reporting period.

Figure 1: Reporting Boundary for Environmental Indicators



We strongly believe that your feedback on our report will prove to be invaluable in improving the quality of our future reports. We shall be highly thankful if you provide your valuable feedback on this report. Feedbacks may be e-mailed at ajitshar@bhel.in

Company Profile

About the organization

Established in 1964, Bharat Heavy Electricals Limited (BHEL) is India's largest engineering and manufacturing company of its kind engaged in the design, engineering, manufacture, construction, testing, commissioning and servicing of a wide range of products and services for the core sectors of the economy, viz. Power, Transmission, Industry, Transportation, Renewable Energy, Oil & Gas and Defence. The company has been earning profits uninterrupted since 1971-72 and paying dividends since 1976-77. In recognition of its consistent high performance, BHEL has been conferred with 'Maharatna' status by Government of India on 1st February, 2013. It is now one among the seven Maharatna CPSEs. The company headquarters (corporate office) is situated at New Delhi, India. With a widespread network of 15 manufacturing units, two repair units, four regional offices, eight service centres, eight overseas offices, 15 regional centres, seven joint ventures and more than 150 project sites across India & abroad BHEL provides products, systems and services to customers efficiently and at competitive prices. To address the growing demand for power generation equipment in the country, the company has enhanced its manufacturing capacity for power generation equipment to 20,000 MW per annum. The company places strong emphasis on innovation and development of new technologies. Our research and development (R&D) efforts enable us to have a strong customer orientation and enable us to respond to the dynamic market environment.

The high level of quality & reliability of our products is due to adherence to international standards by acquiring and adapting some of the best technologies from leading companies in the world including General Electric Company, Alstom SA, Siemens AG and Mitsubishi Heavy Industries Ltd., together with technologies developed in our own R&D centres & manufacturing units.

Most of our Manufacturing Units and other entities have been accredited to Quality Management Systems (ISO 9001:2008), Environmental Management Systems (ISO 14001:2004) and Occupational Health & Safety Management Systems (OHSAS 18001:2007), and have strong customer orientation responding to the changing market requirements. BHEL, where Quality has taken deep roots as per internationally recognized quality systems, has once again made significant achievements by securing (a) Two 'CII-ITC Sustainability Awards 2012' for strong commitment towards sustainability and (b) 'Commendation for Significant Achievements in TQM by two Units of BHEL.

Continuing its tradition of winning prestigious national / international awards, the organization and its employees won several awards during the year which included 'SCOPE Meritorious Award for Human Resource Management'; Indian Chamber of Commerce 'PSE Excellence Award' in the R&D, Technology & Innovation category; '3-Star Gold Awards' for Quality Circles by 3 BHEL Units. The significant awards conferred in the Individual category to the CMD include 'NITIE' Distinguished Alumnus Award 2012'; 'BT-STAR Best PSU Man of the Year Award 2012'; Enertia 'Power Man of the Year Award', to name a few. BHEL was declared the Best PSU in the Electrical & Electronics category by Dun & Bradstreet. Customer satisfaction survey has also been conducted for Power Sector for the first time, in the month of January 2013.

The company headquarters is situated at New Delhi, India. For description of key risks, opportunities and threats, the reader may please refer to page no. 55 - 59 of BHEL's Annual Report 2012-13.

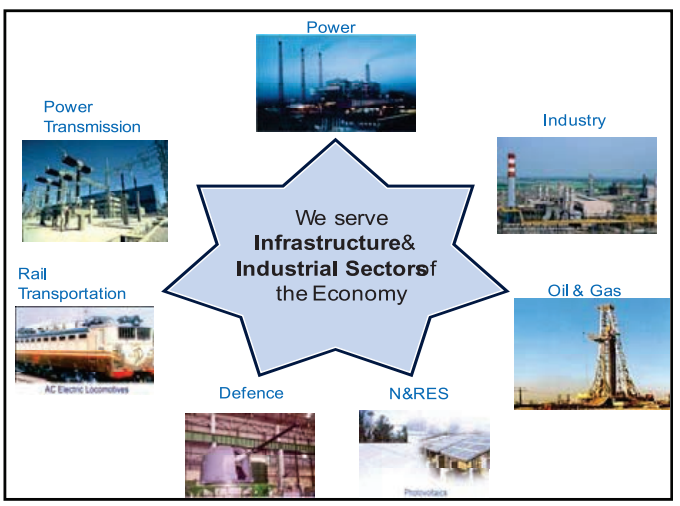
BHEL ...

- a Schedule "A" CPSU and the only "Maharatna" PSU under the Ministry of Heavy Industries and Public Enterprises,
- is the largest engineering and manufacturing enterprise in India in the energy related / infrastructure sector today.
- recorded turnover of ₹ 50156 Crore and profit after tax of ₹ 6615 Crore during 2012-13.
- has been at the helm of indigenous Heavy Electrical Equipment industry in India with a sustained track record of earning profit since 1971-72.
- manufactures around 180 products in 30 major product groups.
- is amongst world's few who have capability to manufacture entire range of power plant equipment.
- has a strong presence in domestic and international markets as a major supplier of power plant equipment besides establishing substantial inroads in select segment of products in Industrial sector and transportation sector.
- has consistent track record of growth, performance and profitability.
- has installed equipment of over 115,000 MW for Utilities sets.
- is a 20,000 MW per year Power Plant Equipment manufacturing company.
- has proven turnkey capabilities for executing power projects from concept-to-commissioning for a wide range of unit sizes up to 1000 MW and for wide variety of fuels.
- supplied equipments contributed 57% of the country's total installed capacity.

Primary Products and Services

Some of the major products of BHEL are Thermal, Nuclear, Gas-based, Hydro & DG Power plants, Industrial Sets, Castings and Forgings, Boilers, Boiler Auxiliaries, Soot Blowers, Valves, Piping Systems, Seamless Steel Tubes, Condensers and heat exchangers, Pumps, Desalination and Water treatment Plants, Automation and Control Systems, Power Electronics, Transmission System Control, Power Semiconductor Devices, Solar Photovoltaic, Defence Electronics, Software System Solutions, Switchgears, Bus Ducts, Transformers, Insulators, Industrial and Special Ceramics, Control Panel, Capacitors, Bushings, On Load Tap Changers (OLTC), Electrical Machines, Compressors, Control Gear, Transportation Equipment, Traction Drive Systems, oil Field Equipment, Distributed power Generation and Small Hydro Plants, Systems and Devices, Industrial Systems etc. For details, please refer to page 268-276 of BHEL's Annual Report 2012-13 (www.bhel.com)

Figure 2: The Sectors BHEL serves



Location of Organization

The wide network of BHEL's 16 Manufacturing Units, 4 power sector regions, 8 service centres, 2 repair

units, 15 regional offices, 2 subsidiaries and a large number of Project Sites spread all over India and abroad enables the Company to promptly serve its customers and provide them with suitable products, systems and services - efficiently and at competitive prices.

Figure 3: The Organizational Footprint

Business Sectors

1. Power Sector, New Delhi
2. Industrial Sector, New Delhi
3. International Operations, New Delhi

Manufacturing Units

1. Heavy Electrical Plant, Bhopal
2. High Pressure Boiler Plant, Tiruchirapalli
3. Seamless Steel Tube Plant, Tiruchirapalli
4. Heavy Electrical Equipment Plant, Haridwar
5. Central Foundry Forge Plant, Haridwar
6. Heavy Power Equipment Plant, Hyderabad
7. Electronics Division, Bangalore
8. Electro-porcelain Division, Bangalore
9. Electronics Systems Division, Bangalore
10. Industrial Valves Plant, Goindwal
11. Insulator Plant, Jagdishpur
12. Transformer Plant, Jhansi
13. Boiler Auxiliaries Plant, Ranipet
14. Component Fabrication Plant, Rudrapur
15. Centralized Stamping Unit, and Fabrication Plant, Jagdishpur

Power Sector Regional Head Quarter

1. Noida
2. Kolkata
3. Nagpur
4. Chennai

Regional Service Centres

1. Chandigarh
2. Patna
3. Secunderabad
4. Kolkata
5. Nagpur
6. Vadodara
7. Noida
8. Varanasi

Other

1. ASSCP, Gurgaon
2. Project Engineering Group, Noida
3. Project Engineering & Systems Division, Hyderabad
4. Transmission Business Group, New Delhi
5. Industrial Systems Group, Bangalore
6. Electrical Machines Repair Plant, Mumbai
7. Heavy Equipment Repair Plant, Varanasi
8. Piping Centre, Chennai

R&D Divisions

1. Corporate R&D, Hyderabad
2. Ceramic Technological Institute, Bangalore
3. Welding Research Institute, Tiruchirapalli
4. Pollution Control Research Institute, Haridwar
5. Centre for Electric Traction & Hydro Lab, Bhopal

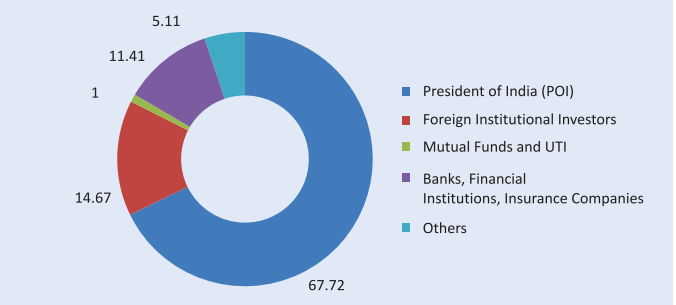
Offices Abroad

1. Dubai, UAE
2. Muscat, Oman
3. Jakarta, Indonesia
4. Khartoum, Sudan
5. Tripoli, Libya
6. Shanghai, China

Nature of ownership and legal form

BHEL is a public sector undertaking with 67.72% stake held by Government of India. It was established in 1964 under The Companies Act, 1956. The shareholding pattern of the company as on 31st March 2013 is shown in the Figure 4.

Figure 4: % Shareholding Pattern as on 31st March, 2013



Markets Served

BHEL is a largest manufacturer in India supplying wide range of products & systems for thermal, nuclear, gas, hydro-based utility and captive power plants. BHEL Supplies Steam turbines, generators, boilers and matching auxiliaries up to 800 MW ratings including supercritical sets of 660 / 700 / 800 MW. BHEL has facilities to go up to 1000 MW unit size. The installed capacity of BHEL supplied utility sets went past One Lakh MW mark totalling to 1,15,500 MW and BHEL maintained its lion's share of 57% in the country's total installed capacity comprising Thermal, Hydro and Nuclear sets. Nearly 70% of the country's total generation of 691 billion units from Thermal Utility Sets was contributed by BHEL supplied sets.

BHEL is engaged in the design, engineering, manufacture, construction, testing, commissioning and servicing of a wide range of products and services for the core sector of economy, viz. Power, Transmission, Industry, transportation, Renewable Energy, Oil & Gas and Defence.

BHEL is a major player in various industry verticals like – Captive Power, Power Transmission, Rail transportation, Oil & Gas, Defence and New & renewable energy. Major customers falling under these business verticals are power generators, industries like metals, oil etc.

BHEL has, over the years, established its references in 75 countries across the world. Some of the major successes achieved by BHEL have been in Gas-based power projects in Oman, Libya, Malaysia, UAE, Saudi Arabia, Iraq, Bangladesh, Sri Lanka, China, Kazakhstan; Thermal power projects in Cyprus, Malta, Libya, Egypt, Indonesia, Thailand, Malaysia, Sudan, Syria, Ethiopia, Senegal, New Caledonia; Hydro power plants in New Zealand, Malaysia, Azerbaijan, Bhutan, Nepal, Taiwan, Tajikistan, Thailand, Afghanistan, Vietnam, Rwanda; Compressors in Oman, Iraq, France and Substation projects & equipment in Philippines, Ghana, Tanzania, Laos, Malaysia, Libya, Zambia, Saudi Arabia, Iraq, Ethiopia, Nepal, Bangladesh, and Afghanistan. Execution of these overseas projects has also provided BHEL the experience of working with world renowned consulting organizations and inspection agencies. For further details, please refer to page 8-12 of BHEL's Annual Report 2012-13 (www.bhel.com).

Scale of organization

The organization was having 48399 permanent employees as on 31st March 2013. BHEL clocked a record turnover of ₹ 50156 Crore. BHEL's product profile broadly consists of 180 products with spare & after-sales services.

There have not been any significant changes to operations as compared to previous year.

Policy advocacy

BHEL is a member of many trade and chamber associations. Some of them are CII, SCOPE, FICCI, IEEMA, WEC and ASSOCHAM. BHEL participates in policy advocacy through these bodies for promoting company's interest through knowledge sharing. Some of the recent examples of its public advocacy activities are focused towards development of Indian Power Sector and Indian Manufacturing Industry, strengthening of technology base in country and growth of Public Sector Enterprises through better governance.

Ethics, Transparency and Accountability at BHEL

The company has a Board Approved code for business Conduct & Ethics for all Board Members and Senior Management personnel which can be viewed through the following link:

http://www.bhel.com/investor_relations/pdf/Code%20of%20Business%20Conduct%20and%20Ethics.pdf

The Company's Board has approved a 'Code of Business Conduct and Ethics' for all Board Members and Senior Management personnel. The said Code is revised periodically in line with changes in the regulatory framework & changing business dynamics and to incorporate other relevant provisions to strengthen the Code. The Code encompasses (i) General Moral Imperatives (ii) Specific Professional Responsibilities as well as (iii) Additional Duties / Imperatives for Board Members and Senior Management Personnel. A copy of the said revised Code has been posted on the Company's website and has been circulated to all Directors and Sr. Management personnel who have affirmed compliance with the revised code.

In addition, for the purpose of clearly defining the roles and responsibilities of the Board and individual Directors and to enable the Board to effectively perform its role, the Board has laid down a Charter of the Board of Directors. The Charter also articulates our corporate governance objectives and approach.

Moreover, BHEL has already established a sound framework of Corporate Governance which underlines commitment to quality of governance, transparency disclosures, consistent stakeholders' value enhancement and corporate social responsibility. BHEL endeavours to transcend much beyond the regulatory framework and basic requirements of Corporate Governance focusing consistently towards building confidence of its various stakeholders including shareholders, customers, employees, suppliers and the society at large. The Company has developed a framework for ensuring transparency, disclosure and fairness to all, especially minority shareholders.

Our corporate structure, business procedures and disclosure practices have attained a sound equilibrium with our Corporate Governance Policy resulting in achievement of goals as well as high level of business ethics.

In line with the requirements of DPE Guidelines on Corporate Governance and Clause 49 of the Listing Agreement, BHEL submits quarterly progress reports to DHI and to the stock exchanges respectively with regard to the status of compliance of Corporate Governance Guidelines during previous quarter.

Further, in order to preserve the confidentiality of un-published price sensitive information and to prevent misuse of such information, enable transparency and fairness in dealing with all stakeholders and pursuant to SEBI (Insider Trading) Regulations, 2002, the Board of Directors of the Company approved the "Code of Conduct for Prevention of Insider Trading" wherein every Director and designated employee (including Senior Management) of the Company is entrusted with the duty to safeguard the confidentiality of all such information obtained in the course of his or her work at the company. No Director / Sr. Executive or other designated employee may use his or her position or knowledge of the Company to gain personal benefit or to provide benefit to any third party.

In addition, as part of BHEL's persisting endeavour to set a high standard of conduct for its employees, the Board of Directors approved the 'BHEL Conduct, Discipline and Appeal Rules, 1975', with the intention of ensuring that employee of the Company (other than those governed by standing orders), at all times, maintain absolute integrity and devotion to duty both in his / her work as well those under his / her control and authority. Any violation of these rules entails penalties.

The Company is subject to extensive audit both by Statutory Auditors (under section 224 of the Companies Act, 1956) as well as CAG audit under section 619 of the Companies Act, 1956. Such audit is not only restricted to financial aspects but also includes proprietary audit. Audit paras raised, if any, are monitored and resolved and steps are undertaken to prevent their reoccurrence.

In this way BHEL has in place a comprehensive mechanism to ensure highest standards of conduct and best corporate governance practices. All mandatory financial disclosures are disclosed in the quarterly and annual financial results of the company. Timely communication of requisite information to stock exchanges is ensured.

The Company has constituted a Shareholders'/ Investors' Grievance Committee (SIGC) specifically to look into matters related to redressal of shareholders and investors complaints like transfer of shares, non-receipt of Balance Sheet, dividend and any other relevant grievance that the shareholder may have. As reported by Karvy Computershare Private Limited (RTA), 1048 complaints were received from the shareholders during the year under review and all complaints were redressed up to 31st March, 2013. No complaint was pending at the end of the period under report.

BHEL has also signed a MoU with Transparency International to adopt 'Integrity Pact'. The intention is to make public procurement and contracting more transparent by binding both the parties to ethical conduct. This would enable a monitoring role for civil society - the ultimate beneficiary.

Under delegation of power of various functionaries, accountability is fixed for the officials. Our Works policy, Purchase policy etc. facilitates transparency in our working and commitment of highest order of integrity in our decisions.

We have a well-structured RTI cell which proactively caters to all information requests of the citizens of India under RTI Act 2005, thereby making the organization more transparent, accountable and responsive to the informational needs of the citizens.

Governance structure at BHEL

The Board of Directors is the apex body of decision making in the organization. The mandate of BHEL's Board of Directors is to oversee the Company's strategic direction, review and monitor corporate performance, ensure regulatory compliance and safeguard the interests of shareholders. It also ensures adherence to the highest ethical and moral standards.

The Board of Directors of BHEL has an appropriate mix of Executive Directors represented by Functional Directors including CMD and Non-Executive Directors represented by Government Nominees & Independent Directors, to maintain the independence of the Board and to separate the Board functions of management and control. As the Chairman is an Executive Director, Independent Directors comprise half of the strength of the Board.

The composition of the Board of Directors is indicated in figure 5.

Figure 5: Composition of Board as on 31.03.2013

Particulars	Board Structure	Actual Strength as on 31.3.2013
Chairman & Managing Director	1	1
Whole-time Executive (Functional) Directors	5	5
Part-time Official Directors (Government Nominees) representing the Ministry of Heavy Industries & Public Enterprises, Government of India	2	1
Part-time Non-official (Independent) Directors	8	2
TOTAL	16	9

The management is responsible for presenting to the Board information for their review with regard to performance & progress of the company. Management is also responsible for compliance with regard to various laws, procedures, accounting standards & related disclosures, changes in significant accounting policies and practices and also important information about other stakeholders; to enable the Board to effectively perform its role of compliance.

Further the Board has constituted the following Board-level Committees:

1) Board Level Audit Committee
2) Shareholders' / Investors' Grievance Committee

3) Share Transfer Committee
4) Remuneration Committee
5) Remuneration Committee on Performance Related Pay
6) Project Review Committee
7) Committee on Mergers and Acquisitions
8) Board level Committee on Corporate Social Responsibility & Sustainable Development
9) HR Committee

The specific Terms of Reference for these committees are given in the BHEL's annual report 2012-13.

For operational structure of the organization, the reader may please refer to page 6 - 7 of BHEL's annual report.

In accordance with the procedure laid down in the Companies Act, the Directors of BHEL are required to disclose any conflict of interest to our Board, following which they are allowed to participate in any discussions concerning the matters tabled before the Board.

Selection of New Director

As per Articles of Association of BHEL, the President of India through Department of Heavy Industry, Ministry of Heavy Industries & Public Enterprises, appoints the Chairman & Managing Director, Functional Directors and Part-time Official Directors on the Board of BHEL and also nominates Part-time Non-official Directors (Independent Directors) on the Board of BHEL.

The Independent Directors are selected by the Department of Heavy Industry in consultation with the Search Committee of the Department of Public Enterprises which maintains a panel of eminent personalities having wide experience in the field of Management, Finance, Engineering, Administration and Industry.

Remuneration policy

BHEL being a Public Sector Undertaking, the appointment and remuneration of CMD / Functional Directors are decided by the Govt. of India. The part-time non-executive directors are not paid any remuneration except sitting fees for attending meetings of the Board or Committee thereof. Moreover, the terms of appointment of CMD / Directors, as approved by the President of India, provide for fixation of certain perks and benefits like leased accommodation, payment of HRA, furnished accommodation, productivity linked incentive etc., as per rules of BHEL. As such, the Board had constituted a Remuneration Committee in its meeting held on 7th December, 2005. For the term of reference and other related details, page 71 & 72 of BHEL's Annual report 2012-13 may please be referred.

Compliance

Board of Directors of BHEL is the apex body which ensures regulatory compliance. Quarterly report is put up to the Board on Compliance of various laws. There is a single case wherein ESI liability of ₹ 10,79,51,497 was assessed. The appeal has been filed which is admitted and is pending.

No other such non–compliance has occurred nor has any penalty or stricture been imposed on the company during the reporting period by any statutory authority. The company has set the highest standards with respect to observance and conformity with laws and all compliances are made before the deadlines stipulated by statute.

Awards & Accolades

Continuing its tradition of winning prestigious National / international awards, the organization and its employees won several awards during the year 2012-13. Some of these awards conferred to BHEL in 2012-13 are listed below:

- "Golden Peacock Award for Sustainability" 2012
- 'Golden Peacock National Training Award 2012'.
- BHEL EPD Bangalore was honoured with the "Gold Award" during 2012 for its outstanding achievement in the Safety Management by M/s Greentech Foundation.
- BHEL, EPD-Bangalore & BHEL, Trichy units

received "CII–ITC Sustainability Award 2012" for being India's, 'one of the most Sustainable organization'.

- Two Units of BHEL (Hyderabad & EDN) have been awarded Commendation for Significant Achievement" in 2012-13 under CII EXIM Bank Award Scheme for Business Excellence as per the globally recognized model of European Foundation for Quality Management (EFQM).
- International Convention on Quality Control Circles (ICQCC- 2012) was held at Kuala Lumpur, Malaysia during 14th - 17th Oct'12. In this BHEL Trichy, EDN & EPD bagged "3 STAR Gold" award whereas HEEP Haridwar bagged "2 STAR Silver" award.
- The 'India Pride Award for Excellence in Heavy Industries 2012-13'
- The Indian Chamber of Commerce 'PSE Excellence Award' in the R&D, Technology & Innovation category
- 'National Energy Conservation Award 2012' was won by BHEL Central Foundry Forge Plant (CFFP), Haridwar for excellence in energy conservation and management in 'Foundries' sub-sector in 'Industries' sector.
- 'AIMA Managing India Award' for being the Outstanding PSU of the Year by the All India Management Association (AIMA).
- The 'NDTV Profit Business Leadership Award 2012' in the Engineering category for the third year in succession.
- 'DSIJ Award for the Fastest Growing Maharatna PSU'.
- Declared the Best PSU in the Electrical & Electronics category by Dun & Bradstreet.
- The 37th ELCINA-EFY Award, Instituted by the Electronic Industries Association of India (ELCINA) and Electric for You (EFY) in recognition of the 'Spirit of Excellence' in the electronics industry.
- 'Enertia Award 2011' under the category Technology & Innovation for Conventional Energy (Thermal, Nuclear, etc.).
- Engineering Export Promotion Council (EEPC)'s Top Export Award-recognition for twenty third successive years
- SKOCH Digital Inclusion 2012' Gold award Trophy in the PSU category for developing and implementing 'Drawing and Document Management System'.
- 'BT-Star Award 2013 for Excellence in Innovation (Tech/R&D)' in the Maharatna / Navratna category.
- The 'Gold Award under the National Awards for e-Governance 2012-13' for Innovative use of ICT by PSUs for Customer's Benefits.
- 7 employees won 'Prime Minister's Shram Awards' including 1 Shram Bhushan; 5 Shram Devi; and 1 Shram Shree and 3 Vishwakarma Rashtriya Puraskars have been shared by 13 employees from BHEL's Trichy unit, for innovative suggestions leading to cost reduction, higher productivity, safety and quality of products.
- 'Dainik Bhaskar India Pride Gold Award 2012' for excellence in Central and State Public Sector Enterprises in the category of Heavy Industries.

The following awards were conferred in individual category:

- Shri B.P. Rao, CMD, BHEL, received the 'BTStar Best PSU Man of the Year 2012' Award
- Enertia 'Power Man of the Year Award' for individual contribution to the power sector to Mr. B.P. Rao, CMD, BHEL.
- 'NITIE Distinguished Alumnus Award 2012' to CMD, BHEL.
- Top Rankers 'Entrepreneurial Path Breaker Award 2013' from Member Secretary, National Manufacturing Competitiveness Council to CMD, BHEL.

Figure 6: CMD BHEL "CII–ITC Sustainability Award 2012" on behalf of EPD Bangalore Unit from the President of India

- 'CFO 100 Roll of Honour 2013 in Corporate Governance/Financial Control' to Director (Finance), BHEL.
- HR Leadership Award to Director (HR), BHEL.
- Director (Power), BHEL, received the BTStar Award 2013 for Excellence as Director (Projects) in the Maharatna/Navratna category.
- 'Bureaucracy Today PSU Director of the Year Award' to Director (Power), BHEL.

- 'CNBC TV18 Best CFO Award 2013' was received by Director (Finance).
- 'BT Yes Bank CFO of PSU (Large) award' was received by Director (Finance).
- Director (Finance), BHEL, was conferred the IPE 'Finance Leadership Award' for valuable contribution made by his practices towards corporate governance. The awards are presented by Institute of Public Enterprise (IPE) & endorsed by World CSR Congress, World CSR Day, CMO Asia & Asian Confederation of Business.

Figure 7: CMD BHEL "CII–ITC Sustainability Award 2012" on behalf of BHEL Trichy Unit from the President of India

BHEL FROM INTERNAL STAKEHOLDERS' PERSPECTIVE

Management Approach - Labour Practices

BHEL has been a frontrunner in the area of human resource management (HRM) and among the pioneers to have documented the HRM policies and rules in the form of a Codified Personnel Manual. The purpose of this document is not just to give information on the benefits and entitlements but also to ensure transparency and uniformity of implementation which is the cornerstone of corporate governance. BHEL has formed HR Committee and Remuneration Committee on Performance related pay to take care of interest of the employees.

The Company strongly advocates elimination of all forms of forced and compulsory labour. It neither subscribes to nor indulges in such coercive practices. Towards this, it never asks its employees to deposit their original documents pertaining to their education qualifications or Date of Birth. Uniform set of rules are mentioned in "The Personnel Policy" of BHEL, which apply equally to all employees, irrespective of factors such as sex, caste, religion, race etc. All recruitments are conducted in a transparent and impartial manner, giving equal opportunity to all eligible candidates, without any discrimination whatsoever.

Profile of the employee base

The greatest strength of BHEL is its highly skilled and committed workforce of 48,399 employees. Every employee is given an equal opportunity to develop himself / herself and grow in his / her career. Continuous training and retraining, career planning, a positive work culture and participative style of management. All these have engendered development of a committed and motivated workforce setting new benchmarks in terms of productivity, quality and responsiveness. The talent hub of 13564 executives of BHEL consists of 9737 qualified engineers, 707 qualified finance executives (CAs and ICWAs) and 205 qualified HR executives. The break-up of manpower by age, type etc. are shown in the figures 8 to 10.

Figure 8: Qualified Engineers-Executives (as on 31-03-2013)

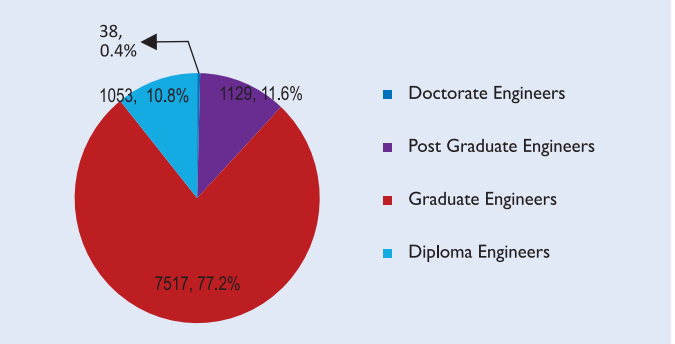


Figure 9: Average age of the employees (as on 31-03-2013)

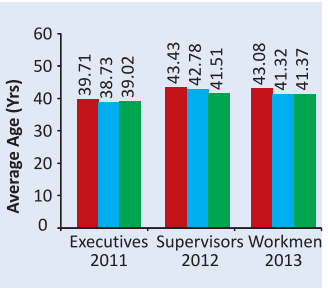
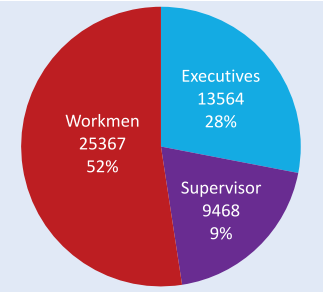


Figure 10: Qualified Engineers-Executives (as on 31-03-2013)



The total workforce, as on 31.03.2013, in BHEL by employment type, Employment contract and region is given as follows:

Figure 11: Work force by employment type, Employment contract and region

Region/ Employment type	Executive	Supervisors	Others	Total
Total Workforce	13564	9468	25367	48399
Region Wise Manpower Strength				
North	6001	3920	11192	21113
South	6573	4768	14041	25382
East	518	388	51	957
West	472	392	83	947

Some more salient points about the employee base

as on 31.03.2013 are as follows:

- The total number of employees on contractual basis - 14003
- Number of casual /temporary worker - Nil
- Number of permanent women employees - 2674.
- Number of permanent employees with disabilities - 928

Recruitment of 20514 young employees has been made during 2007-12. Further, about 11000 employees planned to be recruited during 2012-17. These employees will form the backbone of the company's workforce in the years to come.

Upholding the rights of workers

In BHEL, there are three distinct cadres of employees namely workmen, supervisors and executives. Out of these, only the workmen cadre, which constitutes approximately 53% of the total manpower strength, is covered by agreements on issues like wages, incentives etc. arrived at through the process of collective bargaining in the Joint Committee for BHEL, which is the apex level bi-partite forum constituted for discussing worker and Company's interest related issues with the worker representatives, based on the principle of participative Management. This committee has been in existence since 1973. The Joint Committee at the Apex level and Plant and Shop Councils at the Unit level have a very important role to pay in the maintaining the growth of the Company and also to make all employees aware of the business environment in which we are working. Issues like production, productivity, quality, on time delivery, cost reduction, encouraging suggestion and such other work related issues are discussed and information is disseminated to the lowest level in order to familiarize the employees to the challenges ahead and the need for putting in their best so that we are not only able to meet such challenges but emerge out stronger.

In respect of executives and supervisors the Government issues instructions for their wages and other related benefits. However, the executives and supervisors have formed their own associations and regular meetings are held with them wherein their views and suggestions are duly considered.

A culture of participative management

BHEL has various bi-partite fora for workers, where the issues / problems pertaining to the workers are discussed and settled. BHEL also has an apex level bi-partite forum namely "The Joint Committee" wherein the elected representatives of all units of BHEL, along with the Central Trade Union Organizations, to which the Unions are affiliated, are represented from the workers' side whereas the Management is represented by Chairman & Managing Director and Functional Directors along with the Heads of Units.

As part of our efforts to take the participative culture to a higher pedestal, BHEL has been organizing "Workshops" related to various themes namely Productivity, Organizational Excellence etc. During these workshops employees are sensitized about the challenges being faced by the Company and on evolving strategies to meet the challenges and customer commitment. BHEL has organized four special sessions of Joint Committee in Workshop format during the years 2004, 2006, 2008 & 2011. Syndicate Groups were formed on various subjects which were of interest to both workers as well as the Company like Strengthening of Participative Fora, percolation of discussions in the Joint Committee to Plant level, Multi-skilling, Redeployment, Effective Utilization of Critical Machines, Enhancing the Productive Time of Man and Machine, Reduction in Rejection and Rework, Maintenance and Upkeep of Machines, Three Shift Working, Enhancing Productivity of Employees, Dissemination of Company Information, Cost Cutting Measures at Workplace and Wastage Control, Improving Quality and bringing Quality Consciousness among employees, Reduction in Cycle Time, and Sequential Supplies of equipment from the Units to sites.

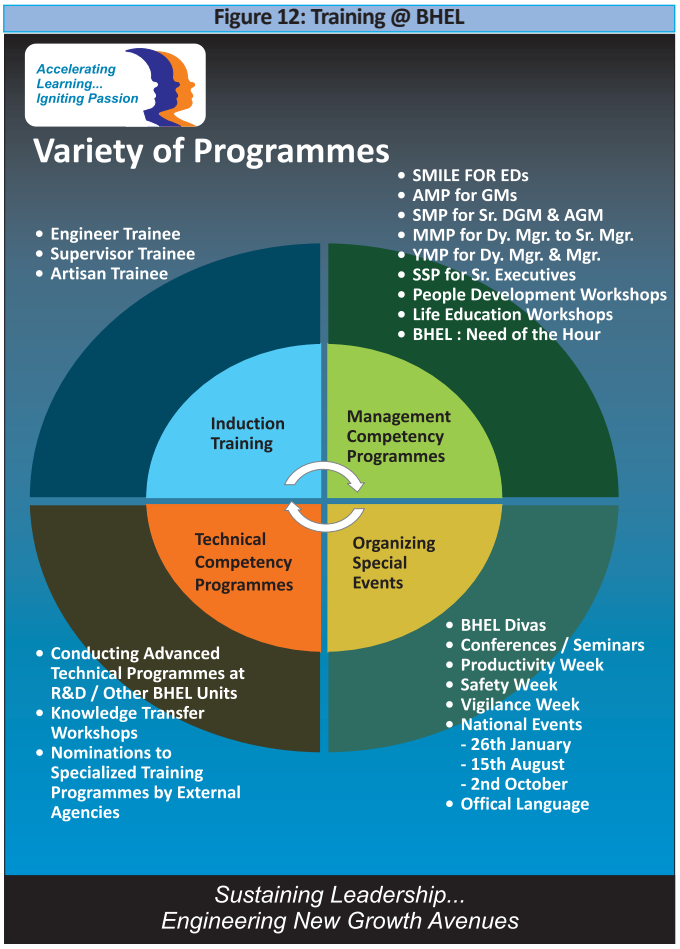
At the unit level, open forums and meetings of Plant Council & Shop council are held wherein issues related to Production in financial and physical

terms, Productivity, Order Book, Cash Collection, Despatch, General Administration and Discipline etc. are discussed amongst the participants from all categories of employees. Suggestions on cost reduction, meeting the production targets, sequential deliveries and improving quality of productsare accepted and then evaluated for implementation. The involvement of all the cadres in the workshop has had a positive impact on the working environment in units.

Training

Right from the inception, knowledge enhancement has been a primary focus of training in BHEL. Human Resource Development Centres (HRDCs) at Units viz. Bhopal, Hardwar, Hyderabad, Trichy, Ranipet, Bangalore, Jhansi etc. and Human Resource Development Institute (HRDI) at Noida, cater to the training and development needs of employees across the company.

Figure 12: Training @ BHEL



Besides, Corporate R&D has its own Human Resource Development (HRD) and Advanced Technical Education (ATE) Centre. Annual Training Calendars are made. BHEL conducts structured training programmes on various technical, behavioural sciences and personality development and Quality aspects at Corporate as well as at unit level.

Guided by the HRD Mission statement "To promote and inculcate a value-based culture utilizing the fullest potential of Human Resources for achieving the BHEL Mission", BHEL through a step by step strategic long term training process and several short term need based programmes is enabling the human resources to unearth and hone their potential.

Some of the Core programmes include Strategic need based programmes; Competency based programmes and Functional Programmes like Strategic Management Initiative for Leadership Effectiveness (SMILE) for Senior Management, Advanced Management Programmes (AMP), General Management Programmes (GMP), Strategic Management Programmes (SMP), Middle Management Programmes (MMP), Young Managers Programmes (YMP) and Self- Starter's programmes (SSP) for budding managers Moreover units conduct technical &behavioural programmes for the Artisans and Supervisors.

These training and development activities for employees are carried out in the following four heads:

1. Behavioural and Personality Development programme
2. Technical Development programme
3. External Programmes
4. National Seminars and Conferences

During the year 2012-13 training days per employee was 4.95.

In addition to employees 6139 people were trained under apprenticeship Act, amounting to a total of 1103205 training man-days. Customer training has been a regular activity at BHEL and during the

year, 2202 customers were trained involving 9921 training man-days. Rising to the social commitment, 8390 vocational trainees from different professional institutions were also imparted training. Also 152 Multi-skilling / Skill up gradation Programmes have been conducted during 2012-13 covering approximately 3000 artisans.

Details of training days per employee during the period 1st April 2012 to 31st March 2013 is given in the figure 13.

Figure 13: Data for Training Days per employees

Particulars	Total no. of training days	Training Man-days (A)	No. of employ-ees (B)	Training days per employ-ee (A/B)
Workmen Training (including other Non-executives also)	11712	194396	34835	5.58
Technical training / Executive Develop-ment /Soft Skill training for manage-rial staff	8409	54867	13564	4.04

BHEL emphasizes on in-house training provided by line managers. The training expenditure data is captured only for the expenses incurred on training fee paid to external agencies for training purpose. The training expenditure during 01.04.2012 to 31.03.2013 was ₹ 8.32 Crore. It doesn't include expenditure made on Infrastructure and fixed overheads of training establishments at Bhopal, Haridwar, Hyderabad, Trichy, Ranipet, Bangalore, Jhansi and HRDI Noida, Salaries of HRD employees and expenses incurred by in-house faculties on TA /DA etc.

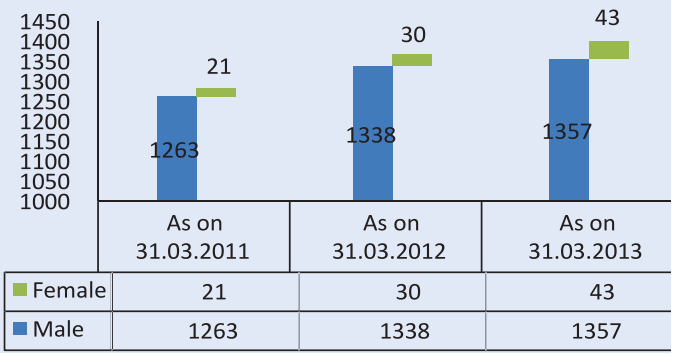
HRDI conducts programme titled "Planning for retirement" for the employees for assisting them in managing career endings.

Equal opportunity provider

BHEL is an equal opportunity employer and follows all rules & regulations issued by Govt. of India from time to time. Women are given equal opportunity in the company in terms of employment and career growth. Women are often made members of various committees formed to oversee/ recommend employee related matters and policies e.g.:

- BHEL is an active member of the networking platform of Forum of Women in Public Sector which conducts programmes in collaboration with SCOPE for which company nominates women employees.
- Wherever woman employee of the required level / grade is available in the Company, they are made as members of the various promotion panels. Senior women professionals (DGM & above level) are integral part of the recruitment panels - both Open and Campus Selections. Women professionals are also involved in various capacities in recruitment like Corporate Observers, Centre Directors etc.
- On prevention of sexual harassment of women at work place, amendment to CDA rules have been affected. Complaints Committee has been constituted in various locations where BHEL has a Unit. Awareness programmes are conducted for both men and women in this regard. It helps in generating healthy work environment.
- During the year 2012-13, more than 10000 training man-days were achieved for training

Figure 14: Female Representation in Top Management (E7 - E9)



of women employees in HRDI at Corporate level and HRD in units.

- More than 100 women executives have attended Management Development programmes at HRDI during 2012-13.
- Special programmes are organized exclusively for women employees in various units of BHEL, essentially in the areas of Health Management, Financial Management and Empowerment.

Excellent crèches facilities are made available in all Manufacturing Units of BHEL where there are more than 20 women employees.

As per the HR Policy of BHEL, All female employees, excluding Apprentices under the Apprentices Act 1961, are entitled to the grant of maternity leave as per the Maternity Benefit Act as under:

- On full pay for a period of 180 days from the date of its commencement in case of female employees with less than two surviving children,
- Maternity leave to female employees with more than two surviving children will be restricted to 12 weeks (84 days).

Also Female employees are entitled for grant of Child Care Leave by the concerned Head of Department for a maximum period of two years (i.e. 730 days) during their entire service period.

All male employees with less than two surviving children are entitled to paternity leave for a period of 15 days in one spell.

Senior Management Level of BHEL

BHEL, being an enterprise focused on Heavy Electrical Equipment manufacturing and large Project execution, needs more male employees for various jobs requiring physical strength and adaptability to tough working conditions. However, wherever possible women employees have been assigned to suitable jobs. Recruitment of present senior / top management employees happened 25-35 years back when female participation in economy was quite less in comparison to what it is now. Coupled with this and BHEL's policy of recruiting employees at induction level and almost Nil hiring in lateral positions the female representation at E7-E9 level is low.

However in last few years more women employees have been inducted in BHEL. As they move to higher levels their representation in the top management will increase.

Performance and career development review

For executives, there is a centralized e-enabled Performance Management System administered at the Corporate level. Performance in this system is defined in terms of Key Result Areas (KRAs). The PMS is administered in three phases: **Performance Planning, Mid-year Review and Final Review.** Every executive prepares his performance Plan at the beginning of the year in terms of KRAs and measurable targets. These are mainly derived from the Balanced Scorecard of the unit through a process of cascading, which ensures alignment of individual targets with the Unit targets. This performance plan is reviewed and approved by the appraisee's boss (appraiser) and then by the next level (reviewer). Progress of the performance is reviewed during mid-year review when feedback is given and mid-course corrections made, if required. At year-end, the performance is measured in terms of targets achieved against each KRA. This forms the KRA Score.

The softer aspects of performance like Quality of Work, Cost Consciousness, Contribution to Group Objectives and Process Orientation are also measured which get factored into the KRA score to give the final Performance score of the individual. KRAs are pre-defined for each Function, which ensures a high degree of consistency as far as the performance deliverables of various functions is concerned. The system is totally transparent to the executive at each phase and the final scores are also shared with the concerned executive. The entire system being e-enabled and centrally monitored, timely completion of each phase is ensured. Based on guidelines from the Supreme Court, a provision for appeals has also been created.

Executives who are Heads of Unit / Product / Functions are evaluated on the basis of the performance achieved for their respective Balanced Score Cards. This ensures full commitment of the concerned executives to the achievement of the targets assigned to the respective Units / Product / Function in the organization.

On similar lines, the Performance appraisal for the unionized category of Workers and equivalent grades of Supervisors is being done through an on-line system run centrally at the Corporate level. With the various checks and balances in the system, it is ensured that all the year end appraisals are completed in a uniform and timely manner.

The company has a performance Related Pay (PRP) for all executives and supervisors, as applicable in line with the DPE guidelines. Aggregate payout of PRP was ₹ 321.59 Crore for FY 13. The percentage of PRP is around 15% of the total compensation depending upon various parameters such as Grade, Performance rating etc.

Occupational Health & Safety

Workers participation has been the hallmark of BHEL's Industrial Relations policy. In BHEL the workers participation scheme is at 3 levels viz. at shop floor level, plant level and at the Apex level. The Apex level bipartite forum named "The Joint Committee for BHEL", which has been functioning since 1973 has been the main stay of smooth and cordial industrial relations in the Company. In this forum issues of mutual concern be it interest related issues or work related issues are discussed.

In this competitive environment the interest shown by the workers side regarding the health of the company and their concern for improving production and productivity has made the Joint Committee a truly participative body. To further foster this interest, a unique practice has been adopted in BHEL by way of organizing special workshops of the Joint committee. The intent of these workshops is primarily to make the Joint Committee members aware of the prevailing economic and business environment in which the company is functioning and the steps required to face these challenges. Details about the Company operations and the problems being faced by the Company are shared with the members. These workshops envisage a syndicate working on specific issues related to production, productivity, quality, timely deliveries etc. The suggestions given by the members of the Syndicate have proved to be very beneficial in dealing with these issues.

The outcome of the workshops is then percolated to the units where it is shared withbroad cross section of the employees in a bidto explore the feasibility of their implementation.

BHEL gives utmost importance to health and safety of its employees by going beyond the statutory provisions. BHEL ensures free medical services for the employees and their families through effective use of BHEL Hospitals/Dispensaries and other world class infrastructure available in the country. Retired employees are also covered in the BHEL health scheme.

As per Factories Act 1948, Plant Safety Committees consisting of equal number of union representatives of workers and management have been constituted to promote co-operation between the workers and the management in maintaining proper safety and health at work and to review periodically the measures taken. In addition, there are Departmental Safety committees in each department represented by workers.

Thrust on participative culture continued during the year and the Industrial Relations in the various Manufacturing Units and the Business Sector / Offices of the Company remained harmonious and peaceful during the year 2012-13.

Two meetings of the apex level bipartite forum, namely "The Joint Committee for BHEL" were held during 2012-13. Meetings were also held with the representatives of Executives and Supervisors wherein both Company and employee interest related issues were discussed.

64 meetings of the Plant Councils and 365 meetings of the Shop councils were held during the year in various Units of the Company wherein issues like cost reduction, meeting the production targets and customer commitments, sequential delivery, product quality, etc. were deliberated at length to improve the over all performance.

The accident related data for the last 4 years is shown in the figure below.

Figure 15: Safety Statistics for BHEL Units

Year	Total Report-able accidents	Total Man days lost	Man Hours worked (in Million Hours)	Frequ-ency Rate	Severity Rate
2009	80	32655	138.883	0.576	235.13
2010	82	8433	146.338	0.560	57.627
2011	97	33711	145.961	0.665	230.959
2012	77	50582	148.42	0.519	340.803

Full-fledged HSE department/ Safety and Occupational Health centers are being run inside the Factory premises taking care of Safety & health issues at work place. Some of the initiatives taken by HSE Department at our factories to build and maintain safety and health culture at work place are:

- Periodic Health and Safety awareness campaigns
- Organizing regular health and safety related training programmes at HRD Centre
- Display of the posters and safety instructions
- Safety pledge taking & Tool box meetings.
- Regular Plant Safety Inspections by Safety Officers / Supervisors and by a team of Shop executives & Safety Stewards
- Personal Protective Equipment – (User friendly without comprising the Safety standards)
- Safety Education, Pep talks as per the Training schedule
- Counseling session for Accidentees as per defined frequencies
- Mock Drills in identified hazardous areas once in 6 months.
- Publications of in-house magazines and hand books on various safety topics
- Work Permit system for carrying out critical activities
- Liaison with statutory authorities
- Internal audits & 3rd party audits
- Job Safety Analysis for identified activities.
- Monthly departmental Safety Committee meetings and plant safety committee meeting
- The Fire Service Department carries out periodic check of the fire-fighting equipment.
- Periodic safety drills
- Maintaining register of employees
- Scheduling preventive maintenance of machine / equipment
- Safe work permit system is in force for working at height, fragile roof, and hot work near inflammables.
- All the material handling equipment (including cranes, hoists, lifting tackles, forklifts, pallets) are maintained and tested periodically by the competent persons.
- All pressure vessels / air receivers are inspected and tested by competent persons.
- All the power presses are inspected and tested by competent persons.
- Material Safety Data Sheet (MSDS) is available for all the hazardous chemicals and safe work procedures are followed. Operation control procedures are developed and issued to the concerned for implementation.
- Monitoring of the quality of food and water
- Well Person Screening scheme is initiated for the health screening of all employees over 40 years age. Each person is issued with a book which contains the medical history of the person which comes out during the medical examination.
- Regular awareness programs on general safety & road safety for school children.

Excerpts of medical rules formalized in agreement with trade union are provided as under:

- BHEL Medical Attendance Rules apply to all regular employees, Company Trainees including Departmental Trainees, Trainee Officers and their families, deputationists and temporary employees selected through recruitment process against sanctioned vacancies in line with Corporate circular NO. 018/PPX/2006 dated 18/03/2006.
- Temporary/casual employees with one or over one year of service are entitled to free indoor and outdoor treatment in the Company's dispensaries/hospitals for themselves and their families. The Act Apprentices, temporary/casual employees with less than one-year service are entitled (only for self and not their families) to emergency treatment for injuries sustained during and in the course of their duty or training, as the case may be.
- In the case of widows and wards of the deceased employees who are given employment in the Company on compassionate grounds on temporary/ casual basis will be entitled to the medical facilities as mentioned above for themselves and dependent members of their families for the first year of their employment also.
- Medical attendance and treatment at the Company's dispensaries and hospitals may be given to the extent specifically provided under the rules to the Non- Entitled (N.E.) and Employee Relations Non-Entitled (E.R.N.E.) categories subject to the conditions governing their medical attendance and treatment. The charges to be levied are subject to change and will be notified from time to time.
- Out-patient treatment at places where BHEL does not have its own hospitals is reimbursed as per actual expenditure limited to ceilings specified in Schedule 'E' of the medical rules.

In-Patient Treatment:

- All employees and their families are entitled to free medical attendance and treatment in BHEL Hospitals. The employees and their families living in the Townships, as also those living within 5 km from the Company's Hospital are required to undergo hospitalization treatment at the Company's hospital only. Patients requiring hospitalization will be admitted to the Company's hospital and will be entitled to the following facilities at Company's expenses.
- Use of medical and surgical facilities available at these hospitals.
- In addition, BHEL has made arrangements for hospitalization treatment at many locations across the country. In all cases of hospitalization at the approved hospitals, the referral by the Company is essential. In cases where it is not possible to obtain prior referral in the event of exigencies, the permission is obtained immediately after hospitalization.

Hospitalization Treatment of Retired Employees:

- The entitlements for hospital accommodation of those covered under the BHEL Retired Employees' Contributory Health Scheme are as per their defined entitlements.

Medical treatment to temporary / casual employees and contractors' workmen:

- According to the Workmen's Compensation Act, in the case of a workman who sustains personal injury by accident arising out of and in the course of employment whilst engaged by contractors for the purposes of carrying out trade or business of the Company, the liability of the Company to compensate the workman or his dependents, where such liability exists, is the same as in the case of the Company's servants except that the compensation so paid may be recovered by the Company from the contractor by whom the workman was directly engaged.

Addressing Human Rights and Transparency in BHEL

Management approach - Human rights & Anti-corruption

BHEL policies are in line with the principles of Human Rights, The Constitution of India, and applicable statutes. BHEL has special provisions for ensuring safeguard of women employee at the workplace. Principles of Natural Justice are enshrined in "The BHEL Conduct, Discipline and Appeal Rules" applicable to all its employees except workers who are governed by the Standing Orders.

BHEL believes in the highest levels of personal and institutional integrity. The Value Statement of the Company calls for the highest ethical standards to be observed in decision making and demonstration of the same in honest, decent and fair manner. The Company has zero tolerance approach towards all forms of corruption. BHEL is committed to enhancing transparency in all its business dealings for which it has a Vigilance set-up in place to prevent irregularities. Main objective of the Company is to curb corruption by focusing more on the preventive and educative aspects, rather than investigative /punitive. Training programmes, seminars/conferences and interaction of Chief Vigilance Officer with the employees is a regular feature in the Company.

United Nation's Global Compact (UNGC)

BHEL has continued to play a prominent role in the United Nation's Global Compact (UNGC) Programme by promoting the core values on human rights, labor standards, environment and anti-corruption and intends to advance these principles forming part of its strategies & culture within its sphere of influence. BHEL demonstrated its commitment through regular pooling of communication of progress (CoP) on the UNGC website as well as on BHEL's website (www.bhel.com). BHEL periodically submits annual Communication of Progress on the relevant principle of global compact in respect of Environment issues. Company publicly advocates with its employees and other stakeholders and regularly incorporates its commitments towards Global Compact Programme through its Annual Report, Press Conferences and other public documents. BHEL has now become life time member of UNGC, India.

Performance on human rights

The Company strongly advocates elimination of all forms of forced and compulsory labour. It neither subscribes to nor indulges in such coercive practices.

As per BHEL's Recruitment Policy, the minimum age for employment in the Company is 18 years. No person below this age can be employed in BHEL, thereby ensuring that child labour is not employed in BHEL. In fact, BHEL is "Zero Tolerance" company regarding employment of child labour.

The security of the most of the Plants of the Company is being managed by the CISF, in some smaller plants; the Company has its own Security. In other Plants, Corporate Office and Regional Offices, the security is being looked after by the private agencies sponsored by Directorate General Resettlement, Govt. of India or Ex-Servicemen Corporation. Adequate measures have been taken for Security of computers. Department of Electronics, Govt. of India (SRAC) has also carried out inspection of our software security mechanism and their suggestions have been implemented. The staff involved in security are trained and retrained periodically in all aspects to fulfil their duty.

No instance of Human Rights abuse has been reported in the Company during the reporting period.

Protecting human rights in Supply Chain

BHEL deals with Indigenous suppliers (including suppliers from Micro, Small & Medium Enterprises) as well as Foreign Suppliers for procurement of goods and services. Total registered supplier base as on 31.03.2013 is over 18,000 nos. Total value of purchase orders placed during 2012-13 was over ₹ 21,000 Crore. Regular supplier's meets are organized by various BHEL units showcasing items

for which additional suppliers are required. During 2012-13, 43 such meets were organized.

BHEL prefers to directly deal with Original Equipment Manufacturer (OEMs). On recommendation from OEM, agents / dealers are permitted to participate in the tenders. However, proper agency agreement between OEM and agent is ensured.

BHEL being a PSU company has statutory obligation to undergo contracts with suppliers and contractors who oblige with human rights requirement as stated in the contract agreement (Rate contract agreement, Standard Condition of Contract etc). The agreement comprehensively contains clauses related to child labor, UN convention on Human Rights, Health & Safety requirements, forced/ bonded labors, contract labors, Minimum wage payment, insurance, welfare etc.

In 2012-13, two (02) complaints of Sexual Harassment were received which have been disposed of satisfactorily. Further, no complaint of human right violation including discrimination, child labour, forced or compulsory labour, right of indigenous people etc. has brought to the notice of the organization during the reporting period 2012-13. Also there is no operation identified in which the right to exercise freedom of association and collective bargaining has been violated or at significant risk. No human right review has been done during the reporting period as there has not been any incident of human right violation which has been brought to the notice of the organization.

Performance on anti-corruption

The organization has signed 'Integrity Pact' with Transparency International. The intention is to make public procurement and contracting more transparent by binding both the parties to ethical conduct. This would enable a monitoring role for civil society - the ultimate beneficiary.

To ensure transparency and to avoid using paper documents in procurement processes, BHEL is implementing e-procurement in phased manner wherein the processes right from publishing of tender enquiry to bid submission, evaluation and Purchase Order placement is done in electronic mode. Every year Unit-wise targets are being fixed for procurement through E-Proc Portal so as to cover majority of purchases thru this process. One of our major Units (Trichy) is carrying out entire transaction (Bill of Material, fabrication drawings, inspection call generation, reports, query resolution, approvals etc.) with their fabricators (local units, ancillaries and away-centre fabricators) on B2B portal.

In order to prevent corruption, a host of 'transparency measures' have been initiated Company wide, by leveraging technology. Some of them are:

- Status of Purchase Orders, Works Contracts concluded every month, as per CVC format, is being uploaded on internet by all Units.
- Procedure and forms related to Vendor registration are hosted on the Company's website.
- Status of vendor registration applications is hosted on the web and can be viewed by vendors.
- E-payment of vendor bills is being implemented throughout the organization and principle of first in first out is being followed as a rule in payment of vendor bills.
- Status of bill payment can be viewed by the vendors on-line.
- Indents are being raised on-line in most of the Units.
- The confidential reports of all executives are handled on-line through 'e-MAP' (Moving Ahead through Performance).
- Information relating to Rules/Procedures governing the issue of license, permissions, clearances etc., is available on the BHEL/ Units websites.
- This year the Company has initiated uploading of project documentation on VIGEYE GPMS, with a view to raise alerts

on probable inconsistencies during project execution.

The organization continues to take all possible steps to build systems and procedures, which are simple, transparent and easy to comply with by every one concerned so that a transparent and corruption free environment prevails. All the directives issued by the Central Vigilance Commission from time to time have been complied with. Vigilance Awareness Week was observed from 29.10.2012 to 03.11.2012 to bring about greater awareness and accountability amongst employees. The Vigilance pledge was administered to all employees by their Departmental Heads on 29.10.2012. During the period, guest lectures and various competitions were arranged for the employees in addition to the display of banners at prime locations inside andout side the factory premises. One full day Programme on "Purchase Policy and CVC Guidelines" by GM (Vig), BHEL Trichy was organized for Senior Executives. Two (02) Training Programmes were also conducted for Executives and Supervisors in order to spread vigilance awareness and improvement in the Organizational culture. During the reporting period, 119 number of Training programmes were conducted to update employees on Company's policies, rules and procedures in various Units, Regions and offices of BHEL.

On regular basis, all Manufacturing Units are being analyzed to identify the risk prone areas with a view to check the corrupt practices, if any. All Executives & Supervisors are provided training on Company Policies & guidelines about procurement matters. Detailed investigations are conducted in every case of suspected corruption and necessary action for system improvement is taken wherever required. In addition, appropriate action is recommended against the defaulting officials keeping in view the gravity of the misconduct.

BHEL is a front-runner in implementing the Right to Information (RTI) Act, 2005 and has embraced the Act in true letter and spirit. A Central Public Information Officer (CPIO) and a Central Assistant Public Information Officer (CAPIO) aided by a Senior Executive (Law) at the company level and 15 CPIOs at each of the major administrative units are functioning as part of the Right to Information Group. To assist and facilitate the citizen in obtaining information, detailed guidelines have been placed on BHEL's website, spelling out the procedure for securing access to information and filing of first appeals under the Act. Instructions have been issued to administrative units to ensure compliance to the mandatory requirements of the Act. BHEL received 1425 RTI applications and 287 appeals during the year 2012-2013 which were dealt with as per the provisions of the Act.

Addressing Triple Bottom Line (TBL) at BHEL

Sustainable Development is about achieving economic prosperity within the carrying capacity of the ecosystem and with inclusiveness as central theme so that the benefits of such growth reach to the maximum populace which is otherwise deprived of even basic amenities in our kind of society.

In this regard BHEL believes that while Governance for sustainability, stakeholder engagement and disclosure on sustainability issues form the bedrock for embedding sustainability within the corporate DNA, the organizational performance on Environmental and Social issues linked with its business is considered as the ultimate measure for sustainability. Structured approach towards sustainability is definitely having a value proposition which add to triple bottom line. This helps us in reducing - material, water & energy consumption, emission and waste generation; providing more acceptability for our operations in the society; and making our products & services (pollution control equipment, SPV etc.) more sustainable and profitable.

Governance for Sustainability

The concept of Sustainability has been ingrained in the DNA of BHEL, which is evident from the Mission Statement – *"Providing Sustainable Business solutions in the fields of Energy, Industry & Infrastructure".* Sustainability is an integral part of the company's strategy. BHEL is committed to be an Environment friendly company in all its areas of activities, products and service, providing safe and healthy working environment.

BHEL follows the guidelines on Corporate Social Responsibility and Sustainability issued by Department of Public Enterprises for Central Public Sector Enterprises.

There is a three tier committee structure in the Company consisting of Sub-Committee, Level I Committee and Board Level Committee for Corporate Social Responsibility & Sustainable Development (BLC for CSR & SD).

I. **Board Level Committee for Corporate Social Responsibility & Sustainable Development (BLC for CSR & SD)** - In line with DPE Guidelines on Corporate Social Responsibility for CPSEs, the Board constituted the Board Level Apex Committee for CSR on 25th November, 2010 for proper & periodic monitoring of CSR activities. Further, after issuance of DPE Guidelines for SD in 2011, the Board of Directors mandated that the Committee will also oversee Sustainable development activities. Accordingly, the BLC for CSR was re-designated as "Board Level Committee for Corporate Social Responsibility & Sustainable Development (BLC for CSR & SD)" in year 2011. BLC consists of two functional Directors and at-least one Independent Director. Decision with regard to change in composition or reconstitution of the BLC including the status of the Chairperson of the Committee is decided by BHEL's Board of Directors (BOD) from time to time.

II. Level 1 Committee - The level 1 Committee has been constituted to support Board Level Committee for CSR & SD. It comprises of the following senior officials of Corporate Office:

- Head of Corporate HSE & CSR (Chairperson) (Not less than one rank below the Board Level)
- Head of Corporate Finance - Member
- In-charge of Corporate Communication - Member
- In-charge Corporate HR (GAX) - Member
- In-charge Corporate HSE & CSR - Member
- In-Charge (HSE) - Member

III. Sub- Committee for CSR & SD - Sub-committee has been constituted by Level 1 Committee to assist it in evaluation of the CSR & SD proposals as per its Term of reference. It comprises of Representatives from following functions:

- Corporate HSE & CSR
- Corporate Communication
- Corporate Finance

The above three Committees are involved in the process of undertaking, screening, review, recommendation and approval of CSR & SD projects undertaken by BHEL.

BHEL has defined its SD policy in keeping in view the scale & nature of activities, products & services. The SD Policy of BHEL is given below:

Sustainable Development Policy for BHEL

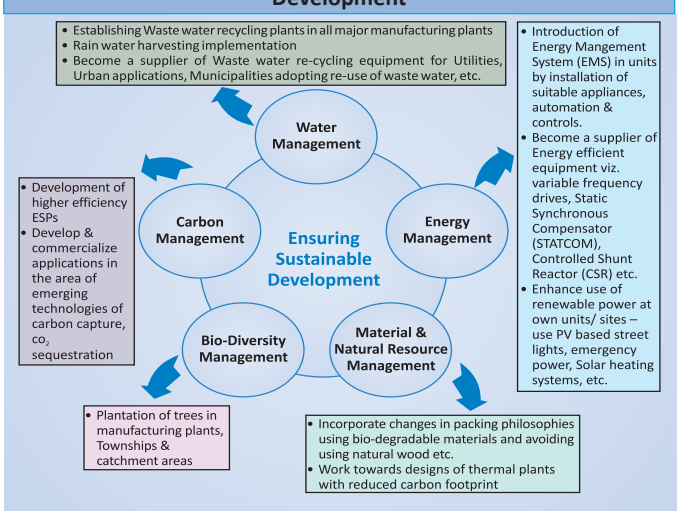
We at BHEL offer products, systems and services designed to benefit the society.

We are committed to undertaking practices that meet the economic, ecological and social responsibility tenets of Sustainable Development.

We will work with all our stakeholders to ensure continuous improvement in the Sustainable Development of our operations within the ambit of the guidelines issued by Government of India.

The broad strategic management framework for 2012-17 has also been developed for ensuring sustainable Development in BHEL through its product and services as well as in-house activities and the same is shown in figure 16.

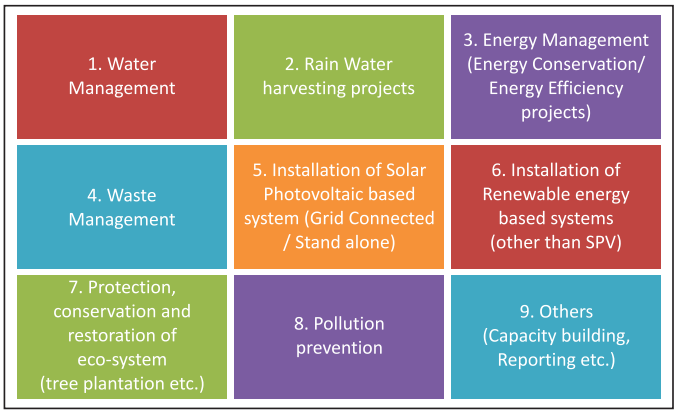
Figure 16: Strategic Management Framework for Sustainable Development



The annual budget for CSR & SD is approved by Board of Directors of BHEL. Based on the budgetary outlay, the annual plan for SD is approved by the Board Level Committee for CSR & SD.

Under Sustainable Development the project falling under the broad categories as indicated in figure 17 are taken up.

Figure 17: Broad areas of projects under environmental Sustainability at BHEL

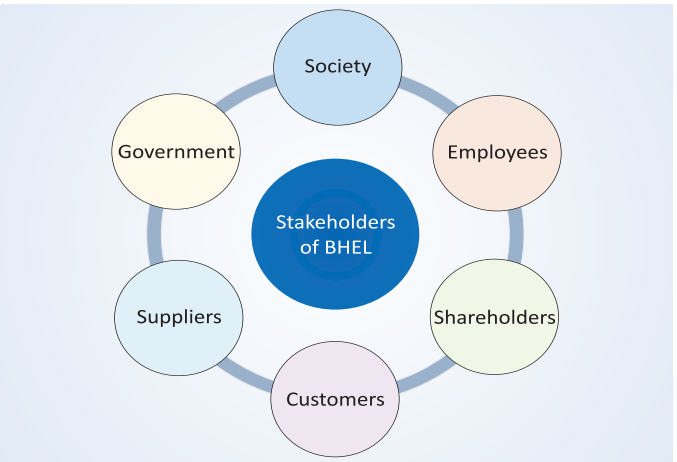


Due to budgetary constraints, not all the projects / activities related to Sustainable Development could be funded by the budget available under SD at Corporate level. For the year 2012-13, the budget for SD activities was ₹ 744 Lakh against which an expenditure of ₹ 816 Lakh was booked under SD. The activities which are taken up by units pertaining to environment improvement but not covered under SD budget are classified as environment improvement projects (EIPs). In view of the DPE Guidelines on R&D, the R&D activities are having separate budget and are accounted separately. Under CSR budget, an amount of ₹ 7127 Lakh was spent for various CSR activities undertaken by BHEL in 2012-13.

Stakeholder engagement

BHEL has clearly identified stakeholders which broadly fall into six categories as shown in figure 18.

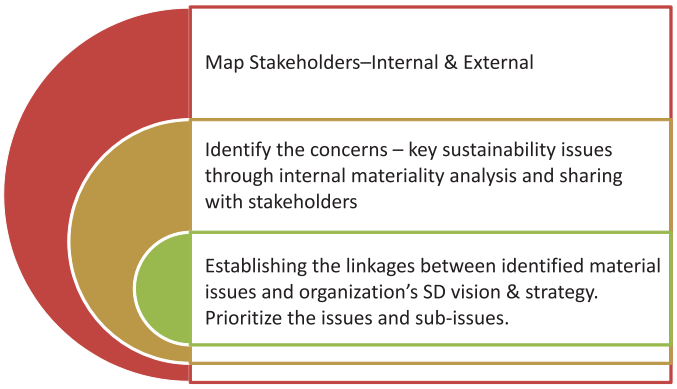
Figure 18: Identified stakeholder of BHEL



BHEL believes that conducting business in a manner that complies with the Corporate Governance procedures and Code of Conduct, exemplifies each of our core values and positions us to deliver long-term returns to our shareholders, favourable outcomes to our customers, attractive opportunities to our employees and making the suppliers our partners in progress & enriching the society.

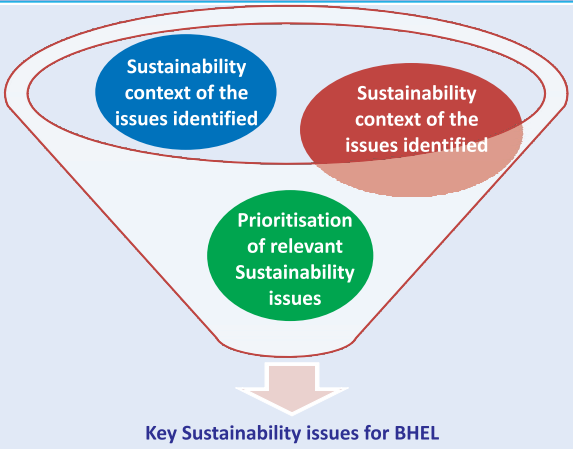
With this identified stakeholder groups, periodic meetings are conducted and expectations of the stakeholders are discussed. Broad Stakeholder engagement framework at BHEL is shown in figure 19.

Figure 19: Stakeholder Engagement framework



Based on the stakeholder expectations, material issues are identified. These issues are viewed in the Sustainability Context of the organization. Then finally the issues which are perceived as important to both the key stakeholders and to the company's success are prioritized and reported as key Sustainability issues for the organization with regards to its sustainability performance as shown in figure 20.

Figure 20: Process of Identification of Key Sustainbility Issues @ BHEL:



1. Material
2. Energy
3. Water
4. Waste
5. Employees Health & Safety
6. Managing Societal expectations

This report provides the Sustainability performance of the organization on these issues in detail for the year 2012-13 as per the reporting boundary.

Some of the stakeholder engagement activities undertaken in last year are given in the figure 21.

Figure 21: Stakeholder Engagement modes and activities

Stakeholder Group	Mode of engagement	Typical list of activities conducted
Customer	Customers' meet, surveys	Periodic meeting with customers by business sectors, manufacturing units / project sites, Customer perception Survey, Discussions on requirement of the customers during execution of projects and incorporating the same wherever feasible.
Vendor	Vendors meet	Vendors' Meet, Vendors' Survey, Continuous inputs / interactions with business associates / vendors
Government	MoU, Reports	MoU, Environmental Statement, Parliamentary Committee meetings, Requisite compliance reports
Society at large	CSR Programme, Baseline Survey / need identification	CSR Projects, Interaction with people through site visits for CSR, Meeting with NGO's representatives
Employees	In-house magazine, Message from CMD, Employee engagement survey, Joint Committee, Plant Council, Shop Council	In house magazines viz. Pratibimb, Arunima and other unit level in-house magazines, CSR meet for nodal officers, Sustainable Development Meet for Nodal officers, Employee engagement survey, Plant council & Shop Council Meetings, Training programmes

Share-holder	Annual Report, Press Releases	Annual General Meeting, Press release, Conference call with minority shareholders, timely comtmunication of requisite information to shareholders & stock exchanges

Our performance on Environment and Society is provided in the subsequent sections. For economic performance, reader may please refer to our Annual report for 2012-13 at our website www.bhel.com

Customer Value

In BHEL, customer focus is the top priority. The focus towards customer value and end user of the products is evident from the fact that the BHEL equipment are having a share of 57% in the installed capacity of electricity generation whereas the share of these equipment in electricity generated is nearly 66%. This shows the focus of BHEL towards providing quality products to its customer. The 500 MW thermal sets installed by BHEL have more than 90% availability for the last 6 years.

BHEL products & services are fuel efficient, energy efficient, environment friendly and are known for world-class performance. Performance of BHEL supplied power plant equipment is driven by lower auxiliary power consumption, higher plant efficiency, lower design heat rate & better PLF - all resulting in lower life cycle cost.

In view of staggered and large scale operations of BHEL (more than 150 project sites and around 180 different products), customer complaints are handled effectively by Business Units / Project Divisions. The feedback of customer is taken regularly and it forms the most important input for improvement in design of our product & systems and depth of services.

BHEL is trying to develop more and more environmental friendly products which enable our customers to generate energy with lesser carbon footprint. Overall, the R&D efforts being put in by the organization has resulted in filing on an average one patent per day for 2012-13.

No substantiated complaint regarding breach of customer privacy and loss of customer data has been made against BHEL for activities. No fines for non-compliance with laws and regulations concerning the provision and use of products and services have been levied.

Product Responsibility

The Product pertaining to power generations has been evolving since inception of company based on the changing needs. The efficiency of these products has improved with time in terms of heat rate. Some examples of various initiatives taken by BHEL in Power plant equipment design to reduce environmental impacts of its products and services are as follows

- **Supercritical units:** These units have a better heat rate than the conventional sub critical units and consume less coal per MW. This helps in reduction of CO_2 emission.
- **Electrostatic precipitators:** The fly ash from the flue gases are segregated & collected by the Electrostatic precipitators besides reducing Particulate matter emission.
- **Boiler Burner design for Low NO_x:** Low NO_x burners and Over fire air arrangement help to reduce Nitrogen Oxides emission.
- **Circulating Fluidised bed boilers:** It leads to higher absorption of sulphur in the combustor with lime addition and also reduces the emission of Sulphur Oxides.
- **Flue gas desulphurising systems (FGD):** It helps in removal of sulphur oxides from the Flue gas thereby reducing sulphur oxides emission.
- **Boiler chemical cleaning:** Change from HCL to EDTA (a comparatively mild acid) with a changed procedure.
- **PADO systems (Performance, Analysis, Diagnostics and Optimisation):** Improved efficiency through better operations thereby leading to reduced coal consumption and emission levels during power plant life cycle.

There has not been any incident of non-compliance with regulations and voluntary codes concerning health & safety impacts of products and services.

There is no case by any stakeholder against the company regarding unfair trade practices, irresponsible advertising and / or anti-competitive behaviour during the last five years and pending as on end of financial year.

Customer Satisfaction Survey (CSS) was conducted in 2012-13 for the Power Sector of BHEL by an external professional agency. CSS was carried out for all the four Power Sector Regions (power project implementer) and Project Engineering Management (PEM is BHEL's power plant 'System Integrator' and total engineering solution provider for power projects). The overall Customer Satisfaction Index (CSI) as per survey report is 65 out of 100.

Marketing Communication

BHEL being a multi-national organization has its office and operations spread across the globe. Any marketing communication is thoroughly reviewed for adherence to applicable laws and statues before publication. While the company has a centralized department (Corporate Communications) which is the primary agency for all advertising communication and thus responsible for compliance, advice for BHEL's overseas contacts, associates and at times, the Embassy / High Commission of India is also sought before issuance of communication for overseas market.

Power Sector Marketing is following the company's practice with regard to sponsorships of events for sales promotion. No incidence of non-compliance with regulations and voluntary codes concerning marketing communications has taken place pertaining to Power Sector Marketing.

Our Economic Performance

Management Approach

The Company believes that conducting business in a manner that complies with the Corporate Governance procedures and Code of Conduct, exemplifies each of our core values and positions us to deliver long-term returns to our shareholders, favourable outcomes to our customers, attractive opportunities to our employees and making the suppliers our partners in progress & enriching the society.

Financial Performance Highlights

- BHEL clocked turnover of ₹ 50,156 Crore, CAGR for the past five years being 18.57% despite economic slowdown.
- Profit before Tax (PBT) stands at ₹ 9432 Crore during 2012-13. CAGR for the past five years being 16.32%.
- Continuing the tradition of paying dividends, uninterruptedly since 1976-77, to esteem shareholders, BHEL paid equity dividend of ₹ 1323 Crore during 2012-13.

Figure 22: Financial Performance of the organization

Financial Parameters	2008-09	2009-10	2010-11	2011-12	2012-13
Gross Turnover					
(₹ Crore)	28033	34154	43337	49510	50156
Net Turnover					
(₹ Crore)	26212	32861	41566	47228	47618
Net Profit					
(₹ Crore)	3138	4311	6011	7040	6615
Net worth					
(₹ Crore)	12939	15917	20154	25373	30444
Earnings Per Share (₹)	12.82	17.61	24.56	28.76	27.03

Figure 23: Turnover of the organization

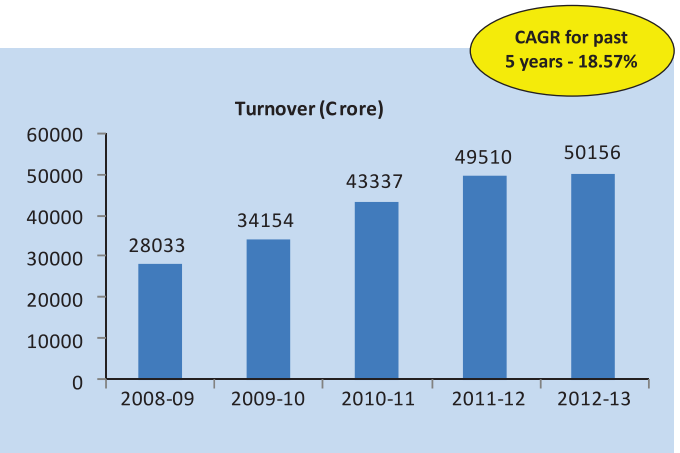
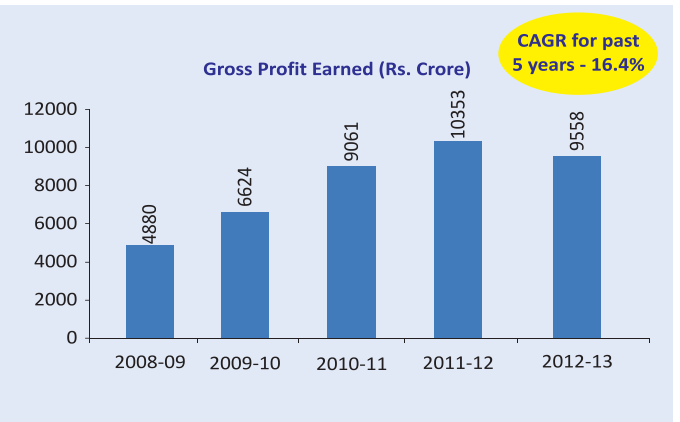


Figure 24: Gross Profit earned figures for the organization



Value addition statement

The statement for value addition is provided in the figure 24. BHEL's Profit after tax (PAT) for the year 2012-13 was ₹ 6615 Crores.

For coverage of organization's defined benefit plan obligations, reader may please refer to BHEL's annual report 2012-13, page 129-133. During the reporting period no significant financial assistance has been received from the government of India.

Climate Change - risk and opportunity

India has an overall strategic imperative to balance the goals of sustainable energy use, enhanced competitiveness and maintenance of the security of the energy supply. The Indian market is moving steadily towards adoption of new technologies, like supercritical technology and its assimilation. The enhanced efficiency of Supercritical Plants will lead to lesser consumption of Coal and reduced GHG emission per unit of electricity generated as

Figure 25: Statement for Value Addition

Description	2012-13	2011-12	2010-11	2009-10	2008-09
A. Generation of Value Addition					
Value of Production (less excise duty)	47219	47815	41527	33598	27351
Less: Direct Material, Power & Fuel and Payments to Contractors	27759	28717	23051	20427	17458
Value Added	19460	19098	18476	13171	9894
Less - Other Operation Exp (Net of income)	3196	2479	3461	845	567
Net Value Addition	16264	16619	15015	12326	9327
% to value of production	34.44%	34.44%	36.16%	36.69%	34.10%
B. Application of Value Addition					
Employees payments	5753	5466	5410	5243	4113
% to net value addition	35.37%	32.89%	36.03%	42.54%	44.10%
Financing Charges:					
- Interest on borrowings	125	51	55	34	31
% to net value addition	0.77%	0.31%	0.36%	0.27%	0.33%
Tax provision (Income Tax., Def. tax, FBT & Prior Period					
% to net value addition	17.32%	19.63%	19.94%	18.50%	18.34%
Dividend (incl. dividend tax)	1544	1821	1775	1332	974
% to net value addition	9.49%	10.95%	11.82%	10.81%	10.43%
Retained Profit	5071	5219	4237	2979	2164
% to net value addition	31.18%	31.41%	28.22%	24.17%	23.21%

compared to the present scenario. Coupled with this, there will be the renewable energy production which will lead to further reduction in GHG emission. BHEL is working in both these areas of enhanced energy efficiency and renewable energy aggressively and this dual strategy will help us, convert the risks due to climate change into opportunity for our sustained growth.

BHEL, depending on the National Mission identified by Govt. of India, has focused on certain niche areas and have taken a number of initiatives. Against the backdrop of Climate Change, there would be increased focus of BHEL on low Carbon Path Technologies such as Ultra Supercritical, Integrated Gasification Combined Cycle (IGCC), and Renewable Energy etc. BHEL has been engaged in the development of IGCC technology and signed MOU with APGENCO for a project of 182 MW based on IGCC technology. BHEL proposes to play a lead role in 'development and deployment' of advanced Ultra Supercritical technology based Power Plant under the proposed National Mission for Clean Coal (Carbon) Technologies. In order to cater to the requirements of supercritical thermal power plants that the country has chosen for introduction from 11th Five Year Plan onwards, BHEL had tied-up for technology with world's leading technology providers, viz. with Alstom, France for boilers, with Siemens AG for turbines & generators and with Mitsubishi Heavy Industries for pumps. The company has been successful in bagging several orders and their execution coupled with technology absorption is well underway.

Further BHEL has signed technology transfer agreement with Sheffield Forgemasters International Ltd., UK for manufacture of large size Forgings for Turbines and Generators up to 1000 MW rating at our CFFP plant at Haridwar.

As a part of technology up-gradation initiatives, Advanced Ultra Super Critical Technology for Thermal Power Equipment is being developed by BHEL in association with Indira Gandhi Centre for Atomic research (IGCAR) and NTPC. With this initiative India joins select band of countries working on this emerging technology area. In a bid to promote industry-academia interface, BHEL R&D gateway at IIT-Madras has been established for research in Ultra-Supercritical power cycles and high temperature materials. Reinforcing its position as a world class total solution provider, Technology for Control & Instrumentation for Power Plants has been upgraded enabling BHEL to offer state-of-the-art controls for Power Plant and related applications. With development of 80 MVAR Controlled Shunt Reactor (CSR) for improving power transfer capability of high-voltage transmission systems, BHEL has emerged as indigenous technology provider in Transmission Business arena. BHEL is establishing an Ultra high voltage Laboratory for Gas Insulated Substation Equipment. Considering need of the Country to transmit bulk power over long distance, BHEL would continue its development of 1200 kV products such as Transformer and CVT which have undergone successful field trial at 1200 kV BINA Test Station of PowerGrid.

The company is also engaged in research in futuristic areas like Solar Photovoltaic, Solar Thermal, Fuel cells for distributed environment-friendly power generation, clean coal technology applications in thermal power, development of process for addition of Nano/Micro particles for improving material characteristics, super conductivity applications in transformers, generators/ motors etc. With an array of new technologies at its command, BHEL is confident of meeting the challenges ahead and fulfilling its responsibilities as the premier engineering and manufacturing enterprise.

Considering the National Action Plan on Climate Change, targeting 15% of electricity generation from renewables by 2020, BHEL is looking towards expanding its capacity to manufacture photo voltaic modules & cells.

Indirect economic impact on society

BHEL has well-structured CSR programme aiming at inclusive growth and equitable development through infrastructure development and providing service primarily for public benefit. In BHEL, it has always been our endeavour to be a responsible corporate citizen and be committed to working for the betterment of the society and communities that exist around us. The company channelizes its energy

to support social initiatives in particular to areas of Education, Community Development, Health, Environment Enrichment, Vocational Training, Skill Development, Disaster/ Calamity Management and Infrastructure Development.

BHEL as a socially conscious organization and a responsible Corporate Citizen has been undertaking various socio-economic and community development programmes since its inception. The company endeavours to bring about change in the lives of communities existing around its establishments so that people inhabiting these communities may exercise control over the conditions that impact their lives. Towards various CSR initiatives, a total amount of ₹ 63.11 Crore has been spent in 2012-13. Details of these activities have been provided in the chapter - "Our social performance" in this report.

As per our recruitment policy, generally local hiring is not done in executive cadre. The wages of all our executives and supervisors are fixed as per our remuneration policy at all levels. The entry level wages are much higher than the minimum wages at all our locations of work and are uniform across the organization.

It is the policy of the company to help the Government in achieving its objectives in respect of the socio-economic status of those belonging to weaker sections of the society. In order that this objective is realized, the Company adheres to and follows the Presidential / Govt. Directives / Act concerning reservation of vacancies and concessions allowed to candidates belonging to Scheduled Castes, Scheduled Tribes, Ex-Serviceman, Physically Challenged, Minority Communities etc.

Supporting marginal supply chain partners

For providing encouragement to small entrepreneurs, located around major BHEL Units, BHEL supports them by giving materials (free issue), drawings & other technical inputs for manufacturing products whose Purchase Order has been placed by BHEL on them. Wherever necessary, development orders are also given and training imparted to enable them meet our requirements. Inspection support and payment priority is accorded to help them to improve their capacity and capability. Inputs on manufacturing methods are also shared periodically. Also our Policy permits the Units to procure certain select items made by BHEL aided Welfare Organisations / Societies located within BHEL campus.

Our Environmental Performance

Management Approach

BHEL places strong emphasis on innovation and creative development. BHEL products & services are customer friendly. Our equipment are known for its long life and best operational performance. BHEL designs, manufactures and supplies to customers a large number of products which bring about substantial benefit to end user by performing beneficially with respect to environmental performances.

All Manufacturing Units & Project execution divisions (called regions) of the company are accredited to international standards viz. ISO-14001 certification for environmental management and OHSAS-18001 certification for occupational health and safety management systems. In order to provide impetus towards Environment Sustainability, the Corporate HSE group is given responsibility to align the GRI-G3 Environment performance indicators with existing management system framework with compliance to principles of Inclusivity, Materiality & Responsiveness. Two Tier (Corporate & Manufacturing Units) organization structure have been developed under Corporate HSE group to establish, implement, monitor, measure & improve the Environment performance towards Sustainable Development.

Nodal officers for each of the Units have been identified in the organization who are having the responsibility of coordinating the activities on Sustainable Development being undertaken at their respective Unit with the corporate office. To sensitize the nodal officers about the tenets of Sustainability, annual workshop for their training and re-training is carried out in BHEL. In the year 2012-13, the workshop at corporate office was conducted for Nodal Officers on 8th October, 2012. Further, training sessions / workshops for educating the employees about the tenets of Sustainability were held at Units like Trichy, Hyderabad, EPD Bangalore, and Bhopal in 2012-13 in which more than 500 executives of BHEL participated.

Our performance on material issues pertaining to Environment are presented in the following sections.

Responsible material use

Sustainable sourcing of material is a focus area in BHEL. To ensure transparency and to avoid using paper documents in procurement processes, BHEL is implementing e-procurement in phased manner wherein the process right from publishing of tenderenquiry to bid submission, evaluation and Purchase Order placement is done in electronic mode. Every year, unit-wise targets are being fixed for procurement through E-Proc Portal so as to cover majority of purchases through this process. One of our major Units (Trichy) is carrying out entire transaction (Bill of Material, fabrication drawings, inspection call generation, reports, query resolution, approvals etc.) with their fabricators (local units, ancillaries and away-centre fabricators) on B2B portal.

Figure 26: Workshop on Sustainable Development at BHEL Trichy unit

The material consumption for the last 3 years is shown in the figure 27. However due to diverse nature of raw materials and different units of measurement at Units, it is not feasible to report the material consumption in terms of weight or volume alone as per the requirement of GRI-G3.1 guidelines. Further, BHEL manufactures 180 products and a suitable metric to measure our performance on material consumption vis-à-vis our output is yet to be established, undermining our capability to track our

Figure 27: Statement of Material Consumption for the year 2010-11, 2011-12 & 2012-13

(Value in Crore)

		2012-13		2011-12		2010-11	
Group of Material	Units	Quantity	Value	Quantity	Value	Quantity	Value
Ferrous	MT	359639		647585		630011	
	Meters	12455008		16084481		13749271	
	Nos	4484045		5839126		5184210	
	Sq.M	16181		50035		958	
	Kg.	65601635		64246360		67442605	
	Others	461		143		93	
			4517.67		5774.15		5017.28
Non- ferrous material	MT	10757		6101		23782	
	Meters	2628311		3050477		1757921	
	Nos	338013		211852		274269	
	Sq.M	4285		96		242	
	Kg.	7896378		6967175		8015569	
	RL	23838		26960		27781	
	Others	34565		444		688	
			597.11		554.30		497.14
Insulating Material	Meters	55491713		79130216		68635813	
	MT	23715		33058		76561	
	Nos	898553		469400		730866	
	Sq.M	2749575		2024396		1653750	
	Kg	711885		1242793		987949	
	LT	5410250		5268930		7290736	
	RL	235629		135391		216335	
	M2	190245		171330		113102	
	KL	3493		7460			
	ST	237		509		411	
	Others	112034		31596		41404	
			305.72		280.41		227.51
Insulated cables and Magnet wires	Meters	2777834		3762371		2786052	
	Nos	459681		153753		175718	
	Kg	12504		6149		9661	
			45.62		60.09		41.02
Components			12635.20		10739.08		10504.74
Others			4942.52		7141.32		3129.90
TOTAL			23043.84		24549.35		19417.59

performance with regards to material consumption for the organization as a whole.

Company has a strong institutionalised mechanism to recycle the products and wastes. One of our Units, Central Foundry Forge Plant (CFFP) manufactures Steel Forgings and Casings for which the molten steel required is produced in the Steel Melting Shop using steel scrap as a major raw material. The Steel Scrap used is either the Recycled Scrap generated in-house in CFFP like discarded material of Ingot & Casting, Machined Chip (Turning and Boring) and Steel Skull or that generated in other BHEL units in the process of fabrication of component items. The mild steel (MS) scrap received from other Units are used directly for steel melting while the recycled scrap of CFFP is processed and segregated grade wise (through an expert agency - M/s Ferro Steel Nigam Ltd.) before use. Each MT of the molten steel produced contains 54% of the recycled scrap (of CFFP) and 45% of MS Scrap (from other BHEL units), thus making it an almost a 100% recycled product. Also, in CFFP, waste silica sand generated after removal of Castings from the Sand moulds are also recycled to the extent of about 20% with the help of Sand Reclamation Plant. In 2012-13, at our CFFP Haridwar Unit, total 17252.8 MT steel scrap from internal return have been recycled for making casting and forgings (please refer to figure 59 & 60).

Further, following measures are adopted in BHEL to minimize waste (Scrap) generation at source itself:

- Cutting plan layout of plates required in a project is drawn before-hand & plates of optimum size are procured for maximum plate utilization.
- Computerised nesting plan of each plate is done to adjust maximum number of jobs in a plate.
- Items of same thickness required in different projects & products are clubbed to have maximum flexibility during plate nesting.

Off-cuts of size > 1 square metre generated after nesting & cutting are preserved and reused to cut smaller jobs, strong backs, lifting lugs & tackles etc.

Additionally some specific steps taken for recycling of material in 2012-13 are shown below:

- At BAP Ranipet, 792 MT of Steel boxes were made out of steel scraps, off cuts and portion of prime material and 5 MT wood was recycled for making packaging material
- At EPD Bangalore, rejected insulators were crushed into granules and then reused
- At HEEP, waste wood is recycled for making packaging box
- At HPEP Hyderabad, 226.75 MT of (24.40%) Ferrous castings was recycled
- At IP Jagdishpur, 15.19 M^3 packaging material was recycled
- At TP Jhansi, 250 M^3 packaging material was recycled

BHEL recycled/reused nearly 3-5% of its materials as recycled input materials, thereby reducing impact on natural resources.

Managing energy requirements of the organization

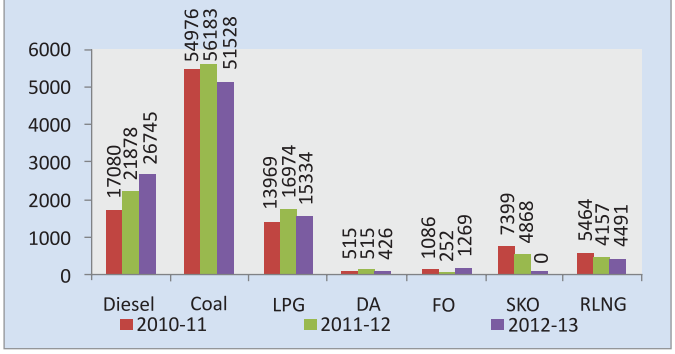
BHEL lays emphasis on judicious use of energy in all forms. In addition to primary energy sources used in processes across BHEL, secondary energy in terms of electricity is being used. The energy consumption data for last 3 years is shown in the figure 28.

Description	Energy Consumed in TJ (2012-13)	Energy Consumed in TJ (2011-12)	Energy Consumed in TJ (2010-11)
Direct Energy			
Primary Energy Fuels Consumed (Diesel, Coal, LPG, Kerosene etc.)	3183.66	3169	2986.48
Primary Energy Produced			
(Through Solar Energy generation)	0.00	0.11	0.21
Indirect Energy			
Electricity Consumed	1330.80	1372.49	1255.80
Total (TJ)	4514.46	4541.60	4242.49
Turnover			
(₹ Crore)	50156	49510	43337

The following figure shows the source of primary

energy consumed in BHEL during the last 3 years. As can be seen from the figure, overall energy consumption is on the downward trend. Further the contribution of cleaner energy source is increasing (e.g. LPG) and contribution of not so clean fuel like coal is on the downward trend in the overall energy mix. The contribution of renewable energy generation is likely to go up from the next year onwards due to establishment of new solar energy systems.

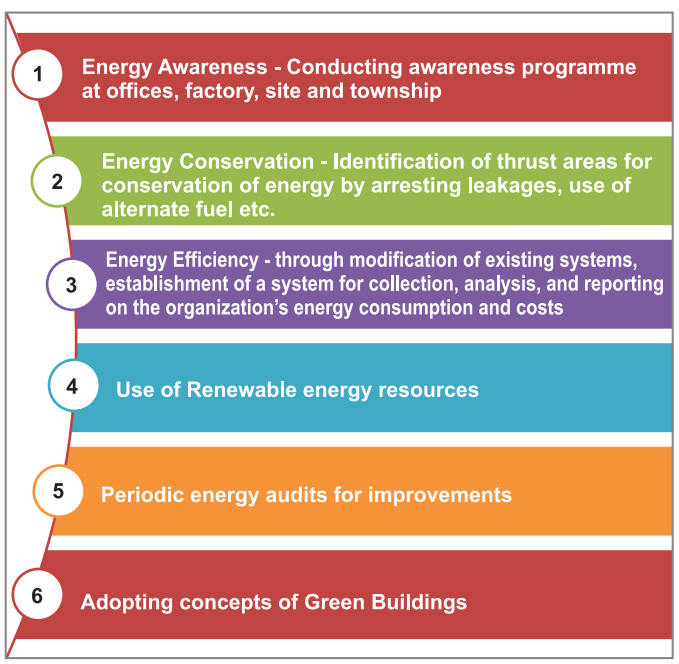
Figure 29: Contribution of various energy sources in total energy mix



Energy Conservation / Efficiency efforts in BHEL

Energy Management is an important thrust area in BHEL and the focus is maintained through following steps:

Figure 30: Focus areas for our Energy Efficiency / Energy Conservation efforts



To address the broader issue of Global Warming through mitigation of carbon footprint in in-house activity, a 250 kW Solar power Plant has been set up at our Bhopal Unit with an expenditure of ₹ 327 Lakh and 20 kW_p rooftop Solar systems with the expenditure of ₹ 24.14 Lakh in 2012-13. Previously similar solar power plants have been set up in our Units at EDN Bangalore and R&D Hyderabad as well.

Some of the activities related to energy conservation and energy efficiency taken up in 2012-13 under SD are as follows:

Figure 31: List of major energy efficiency projects taken under Sustainable Development in 2012-13

Unit	Project name
HPEP Hyderabad	Building Management System at Admin Building 3rd floor(Commercial), 4th floor(Purchase), Finance and Wages sections
	Central Gauging Centre - Replace Present Condenser Pump with energy efficient pump
	Improve AHU air delivery and replace with energy efficient system at Coil Winding section in 02 shop
	Replace Present Condenser Pump with energy efficient system at Impregnation
Trichy	Energy savings by installation of new cooling tower system
	Improving operational efficiency of Cranes by Introduction of Variable Frequency Drives in Cranes
	Revamping of Solid State Induction Heating unit in place of Conventional Motor -Generator set in Induction Pressure Welder Machine
	Energy conservation achieved in converting dc motor & dc drive to ac motor & ac drive in bode positioner
BAP Ranipet	Replacement of welding Inverters in place of welding Rectifiers
	Replacement of 200 W-Induction lamps in place of 400 W-HPMV lamps.
	Replacement of Star rated Air Conditioners in place of Package Air Conditioners (PAC) in Informatics Centre.
HEEP Haridwar	Energy saving through replacement of 55 Watt conventional fluorescent tube light fittings with Energy Efficient T-5 light fittings in ADM-1 & ADM-2.
	Modernization of Overhead lights & Associated Switchgear Accessories in Block-3, Bay-2, HEEP Haridwar
Bhopal	Recovery of steam condensate from block no.3 (TRM Block)

The list of some of the projects related to energy efficiency is given below:

- National Energy Conservation Day was elebrated across the company on 14th December. Various activities related to Energy Conservation (ENCON) were organized for awareness generation of employees.
- More than 1200 Turbo Ventilators were installed at manufacturing Units.
- Energy Audit recommendations were implemented at the Units from last Energy Audit reports.
- Energy Audit was conducted at HEP-Bhopal & CFP-Rudrapur Units.
- 24 Projects related to energy efficiency / conservation projects were completed with an expenditure of ₹285 Lakh from SD fund.

It is envisaged that these energy efficiency efforts will lead to annual electricity saving of 1.673 Million units of electricity and consequently a carbon footprint reduction of nearly 2000 MT CO_2-e from next year onwards. Overall in 2012-13, ₹ 43.65 Lakh was spent on installation of turbo ventilators at the units making overall spent on renewable energy / energy efficiency and energy conservation systems as ₹ 655.53 lakh under SD projects for 2012-13.

Further, the organization is putting concerted efforts to help the customer to reduce the carbon footprint in their operations as well through development of cleaner technologies. BHEL has been actively developing and acquiring cleaner technologies for power generation over past three decades. BHEL initiated a coal research programme in the late seventies to develop technologies to efficiently utilise Indian coal while minimising its environmental impact. These technologies enable BHEL's customers to minimise the impact of power generation on the environment.

Figure 32: Snapshot of web-based tracking through Building Management System for Admin Building 3rd floor(Commercial), 4th floor(Purchase), Finance and Wages sections at HPEP Hyderabad

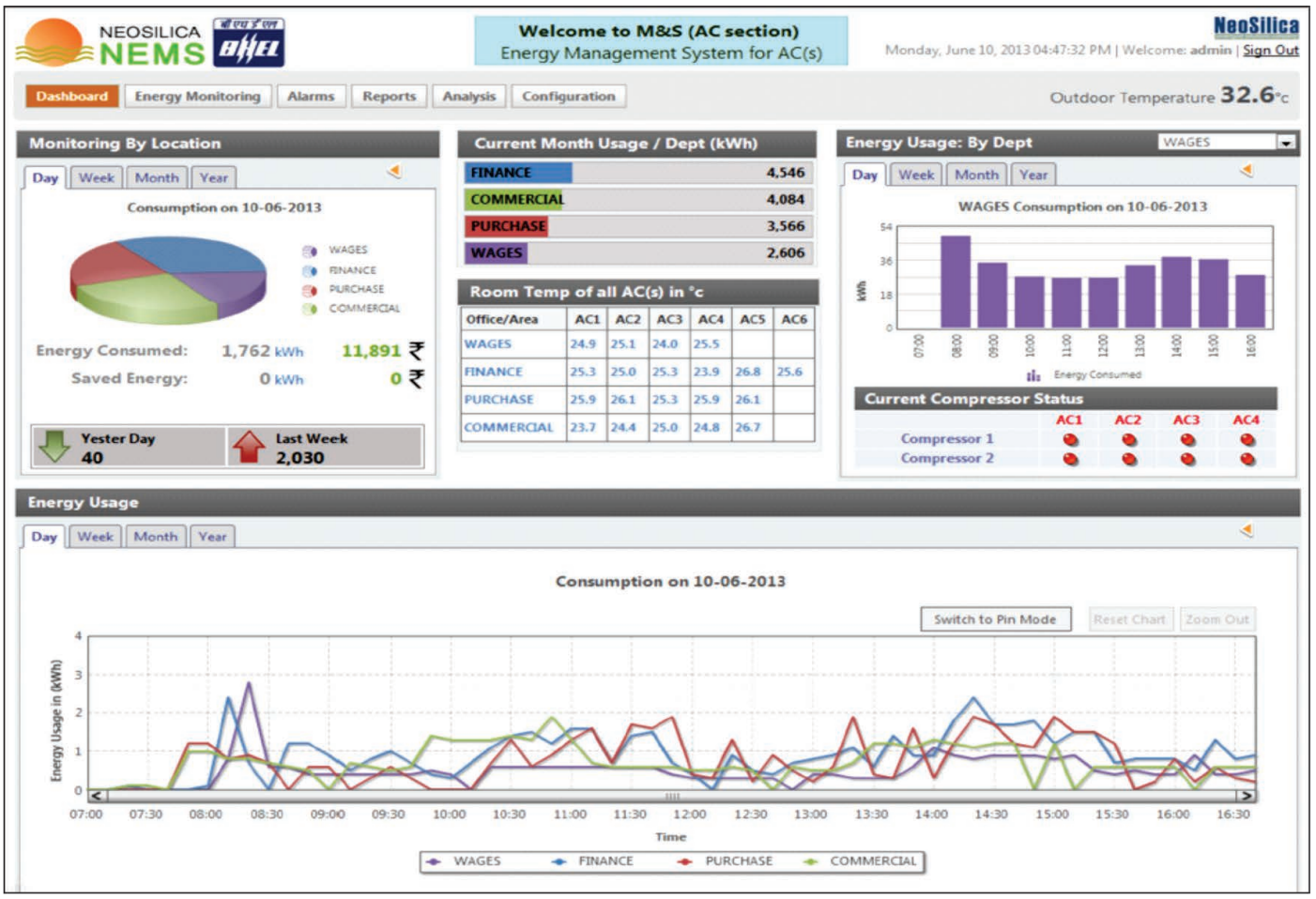


Figure 33: Replacement of welding rectifiers by welding inverters at BAP Ranipet

Figure 34: Installation of Variable frequency Drive (VFD) in screw type air compressor at HERP Varanasi

Figure 35: Installation of reactors for Capacitor Bank at CFFP Haridwar for power factor improvement

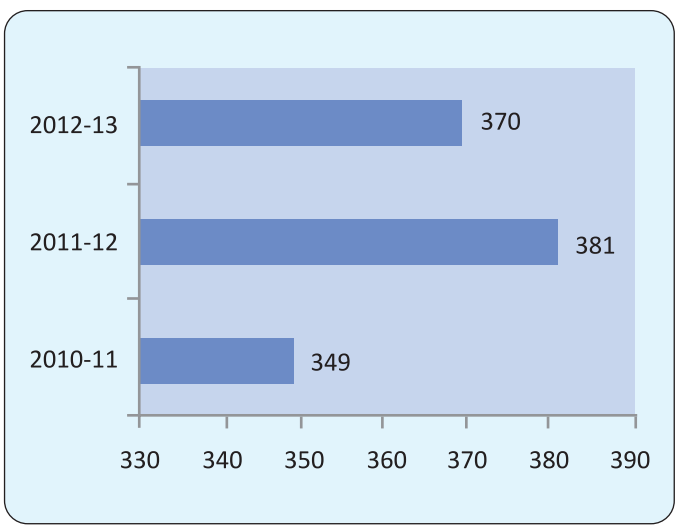
Figure 36: 20 kW_p roof top Solar PV System installed at Trichy unit

Figure 37: 250 kW_p Grid interactive Solar Power Plant installed at HEP Bhopal unit

Figure 38: Replacement of 150 W Sodium Vapour light with 60 W LED Fittings on trial basis at Trichy unit

Additionally, through various energy efficiency / energy conservation initiatives, uses of approx. 6.73 Million units were avoided in 2012-13. During the same period, usages of 21.76 TJ of primary energy and 24.22 TJ of secondary energy usage were avoided making total energy usages avoidance as 45.40 TJ as reported by Units across BHEL.

Figure 40: Total Electricity Consumption at Units of BHEL in Million Kwh



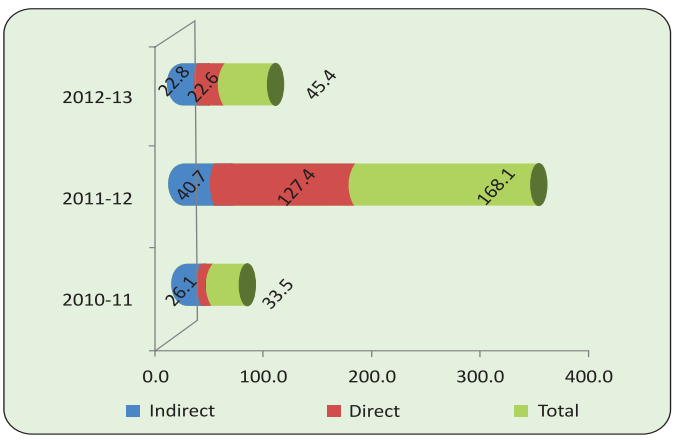
It may be noted that in 2011-12, a total of 127.4 TJ of direct energy usages was avoided. The major contribution towards this achievement has come from CFFP Haridwar (126 TJ) which may be attributed to reduction in Kcal of fuel consumption leading to 3240 KL of oil saving during 2011-12. The same has not been taken into account for 2012-13.

Overall, it may be seen from the figure that 333 TJ of energy usages was avoided in various units of BHEL during the last 4 years. Further the electricity

Figure 39: Turbo ventilators installed at EPD Bangalore

consumption at our Units in the last 3 years has been shown in the diagram below.

Figure 41: Energy usages avoided in Tera Joules due to ENCON efforts at BHEL



Managing water footprint

Water is a very critical natural resource and managing it responsibly has always been a thrust area in our Manufacturing Units. The water consumption inside our plants is shown in the diagram below.

Figure 42: Water consumption at units of BHEL in Million M^3

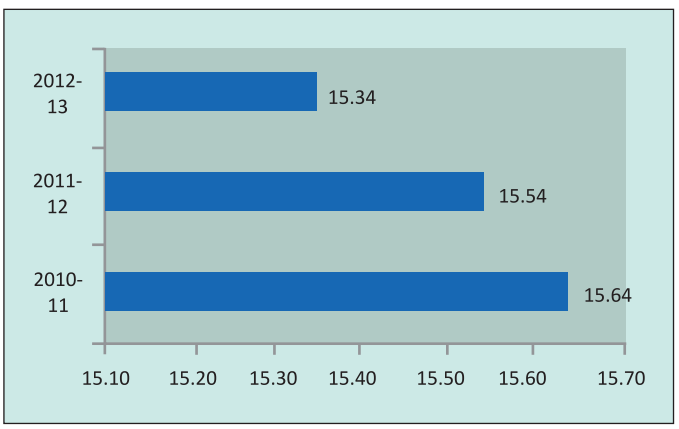


Figure 43: Contribution of Different source in total water drawl at units for 2012-13

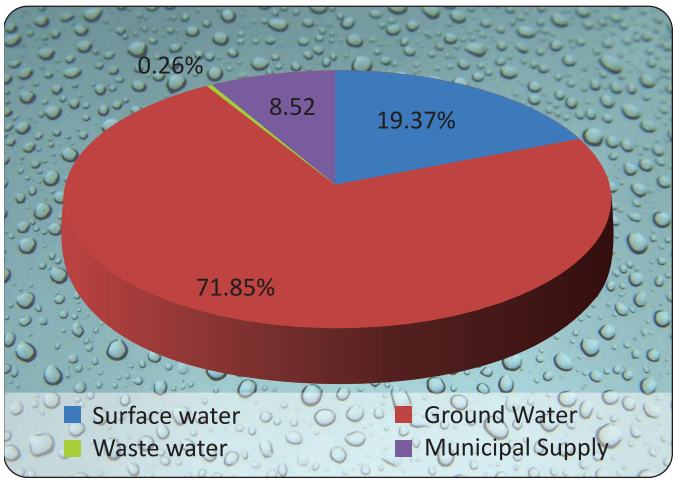
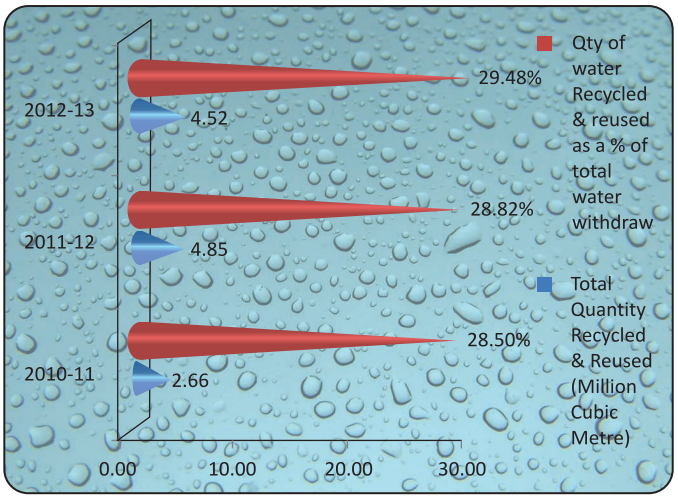


Figure 44: Quantity of Water Recycled & reused at BHEL Units in last 3 years



The data includes the water drawl for the purpose of domestic and industrial consumption including usages in BHEL townships. It may be noted that the water drawl at the units in the last 3 years has decreased marginally. Further 71.85% of total quantity of water drawl is from ground water through bore-wells and this quantity has been estimated at most of the Units.

As such, there is no water source which is significantly affected by withdrawal of water by BHEL Units.

It is further to be noted that despite the growth in our scale of activities, water consumption has not increased in last 3 years. This may be attributed to the fact that at BHEL Units believe in judicious use of water resources and there is an emphasis for recycling and reusing of water at workplace which is also reflected in the fact that in 2012-13, a total 4.52 Million M^3 of water has been recycled in industrial cooling and reused in horticulture, domestic usages etc.

It can be inferred from the picture that more than 28% of water is being recycled & reused in our Units in the last 3 years, which is a testimony of our consistent efforts for recycling / reusing the precious natural resource as far as practicable.

In addition to recycling and reusing the water in our Units, BHEL is making consistent efforts in developing the rain water harvesting potential at all our premises. Under Sustainable Development Projects in 2012-13, total 7 projects related to rain water harvesting, were taken in our different Units at Trichy, Haridwar, CFFP Haridwar, Bhopal, EPD Bangalore, HERP Varanasi, and Jhansi. Trichy Unit has constructed a sump which is connected through the drains with different parts of factory area. The rainwater, thus collected in the sump through channels, is being used for gardening purpose in the plant. At EPD Bangalore, rooftop based rainwater harvesting systems have been installed. In Haridwar, recharge pits of 6mX10m and 5mX10m have been made inside the factory premise for recharging the groundwater.

Figure 45: 6mX10m and 5mX10m Rain Water Recharging pits inside factory premise at HEEP Haridwar

Figure 46: Rain water harvesting pit inside factory premise at Jhansi

Figure 47: Earthen pond (50 m X 50 m X 3.0 m) in BHEL Haridwar Township for the Retention of storm water for recharging ground water

Figure 48: Rain water harvesting sump connected through channel with pumping arrangement for using the rainwater collected for gardening purpose inside factory premise

Figure 49: Rain water harvesting in BHEL EDN Bangalore Township

Figure 50: Rain water recharge pond inside factory premise of BHEL Bhopal Unit

Further, an earthen pond of 50m X 50m X3m has been dug inside the BHEL Township at Noida for retention of storm water for ground water recharging. Also for ground water recharging, rainwater is collected through drains and ground water is being recharged. Similarly at Bhopal Unit, a rainwater recharge pond has been created. At Jhansi Unit in the factory premise, artificial ground water recharging system has been installed for collection of storm water, passing it through filtration process and using it in activities like horticulture.

As a result of these efforts, the ground water table condition in the vicinity of our presence has generally improved. However, at present we don't have any quantification available with us to ascertain the exact impact of these efforts on ground water table.

Similarly, the discharges from the factory are treated, reused, recycled and only then drained.Facility like HERP Varanasi is a zero waste water discharge unit as the water used as coolant is recycled and finally exhausted within the process. At Trichy Unit, 100% treated trade effluent water is used for irrigation purpose within the complex to maintain Zero Discharge, hence avoiding contamination of the water body. Recycling of Hydro Test water, cooling tower from SSTP, treated sewage water from township and factory are the facilities operation in full capacities.

The quantity of waste water discharge after treatment for the year was 3.936 Million M^3 which was 25.66% of water drawl for the same period.

BHEL is not a water intensive manufacturing organization and hence there is no water source which is significantly affected by withdrawal of water for BHEL's operations.

Biodiversity conservation

Total factory area under our Manufacturing Units is 6282.285 Acres which has been procured through various modes like right-to-use basis from state government, on lease, purchase of land etc. As such none of the BHEL Units is surrounded by any biodiversity / protected area and thus there is hardly any impact on biodiversity on account of our presence.

Also BHEL premises have good greenery, and the same is maintained and enhanced every year. The Company has been taking afforestation activities such as tree plantation & development of green belt. Some of the glimpses of tree plantation done in year 2012-13 are shown in the figure below.

Figure 51: Biodiversity conservation efforts at various units of BHEL during 2012-13

In 2012-13 more than 20,000 trees have been planted across various Units of BHEL and till date, the organization has planted more than 30 Lakh trees across its premises. The plantation of trees has been done to such an extent in some of our units that we don't have the space left for further plantation.

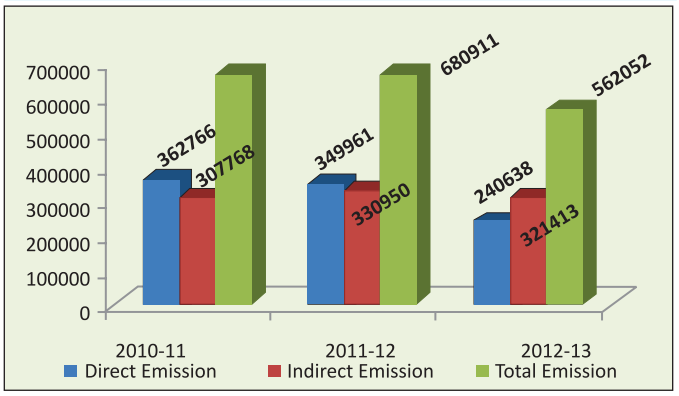
In future the opportunity for plantation outside our premises will also be explored to continue our commitment towards biodiversity conservation.

Managing Emission

As a responsible organisation, BHEL is aware of the correlation between GHG emissions & climate change issue and its moral imperative to contribute towards efforts being put in by the corporates across the globe in reducing the environmental emissions.

The organisation has started tracking its GHG emissions from its operations at all the manufacturing units. The data for the direct (due to fuel consumption) and indirect (due to electricity consumption) GHG emissions for the last 3 years is presented in the figure.

Figure 52: Total Direct & Indirect GHG Emission in MT CO_2-e



The contribution of major fuels in the overall direct emissions is shown in the figure 53. The same is also indicated in percentage terms in the figure 54.

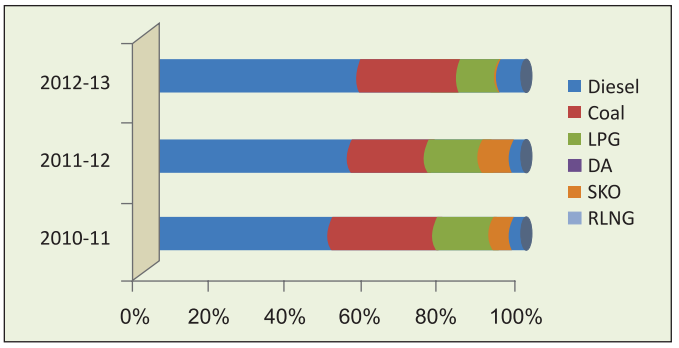
Figure 53: Contribution of major fuels used in units in overall direct emissions (MT CO_2-e)

Sl No	Fuel	2010-11	2011-12	2012-13
1	Diesel*	171814	191143	134825
2	Coal	99956	92302	69739
3	LPG	50409	41483	22664
4	DA	1468	252	1378
5	SKO	15176	23066	0
6	RLNG	11137	14566	12033
	Total	**349961**	**362813**	**240639**

* The data for diesel included LSHS, HSDO, FO and LDO also.

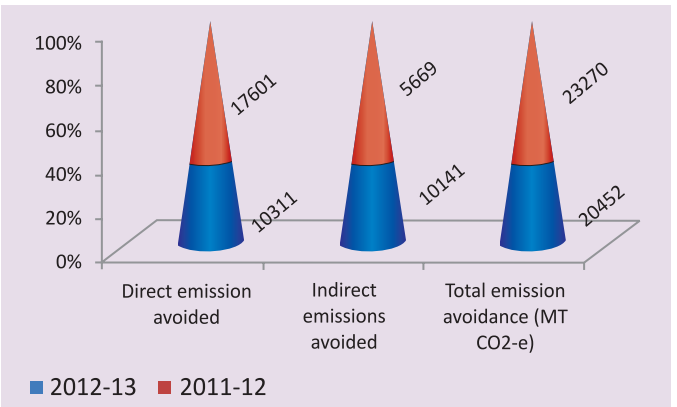
As can be seen from the figure, the contribution of direct emissions due to diesel has gone down. Contribution of Coal consumption has also come down drastically which has helped us in cutting down our direct emissions significantly. For e.g. at our Trichy unit, due to switching to cleaner fuel (LPG) from Coal, 15877 MT CO_2-e was avoided.

Figure 54: Contribution of different fuel sorces used in Direct Emissions (%)



On overall basis, use of cleaner fuels has contributed towards the efforts by our units to reduce the carbon footprint of their operations by nearly 17% in 2012-13 as compared to year 2011-12.

Figure 55: Data for emission avoidance in BHEL due to various measures taken



Further, due to various measures at units including energy conservation, energy efficiency, fuel switching etc., 43720 MT of CO_2-e emission was avoided in last 2 years.

With regards to management of air emissions, regular monitoring of the flue gases of the boilers & furnaces is carried out and pollution levels are maintained below the permissible limits. Ambient air quality at different areas in factory are monitored and measured regularly.

The emission of NO_x, SO_x, suspended particulate matter (SPM) & other significant parameters at BHEL Manufacturing Units are within the prescribed limits as defined by respective State Pollution

Control Boards. Control & monitoring of emissions is undertaken regularly. Usage of Producer Gas, Coal, Diesel etc. is being replaced with LPG/Natural Gas/ other cleaner fuels so as to reduce the emissions.

Further, use of Ozone Depleting Substances (ODS) in refrigerators and chillers has been stopped and/or is being phased out. The emission of Ozone Depleting Substance (ODS) was 307.88 kg CFC - 11 equivalents for year 2012-13 whereas it was 303.48 kg CFC-11 equivalents for 2011-12. The new machines purchased in many of the Units use environmental friendly gases such as R-134a, R- 410a etc.

As on date, we are not tracking the impact of transporting products and other goods & material used for our operations. Further no data for employee commute and business travel is being captured by the organization currently.

Managing Wastes

Different types of wastes generated in Units are segregated at sources and stored and handled in environmentally safe manner. Waste is categorized in categories like metallic (ferrous & non-ferrous wastes), non-metallic wastes, hazardous wastes, non-hazardous wastes, municipal wastes etc. All metallic & non-metallic wastes having resale value and which can be reused / recycled are solid to authorized recyclers through a Government Agency, namely MSTC. Similarly, hazardous wastes which have resale value are sold to authorized recyclers/ processers through MSTC. Other hazardous wastes are handled, stored and disposed of as per prescribed methodology for such wastes.

Figure 56: 4 MT Garbage Compactor with 80 Nos. 1100 Litre MS Compactor bins at Trichy

Under the ambit of Sustainable Development project, BHEL Trichy Unit has taken a project installation of 4 MT capacity Garbage Compactor with 80 nos. of MS bins (capacity 1100 litre each) for better handling of Municipal Solid Waste inside factory premises. The project was completed in 2012-13 with a cost of ₹ 39.92 Lakh.

Figure 57: Waste generated by type at units

Type of wastes	Unit	Quantity (2012-13)	Quantity (2011-12)	quantity (2010-11)	Disposal method
Non -Hazardous	MT	69661.71	76522.08	83727.22	Through MSTC / Other authorised agencies
	M^3	7778.00	9863.19	7710.21	
Hazardous	MT	3686.93	3426.00	2585.45	
	M^3	0.00	0.00	34.98	

The data for different types of wastes reused / recycled at the units is given in figure 58.

Figure 58: Waste Reused / recycled at units

Type of wastes	Unit	Quantity (2012-13)	Quantity (2011-12)
Non -Hazardous	MT	3761.475	2373
	M^3	1260	640
Hazardous	MT	4.11	4.0

The above data includes 1358 MT mild steel scraps / offcuts which is reused through steel melting in electric arc and induction furnace to produce steel castings and 137.2 MT copper scrap which is reused through melting in induction furnace to produce copper and copper alloy at Bhopal Unit in 2012-13. Wood waste is reused at some Units for manufacturing wooden boxes used for packaging of products. This reduces the requirement of virgin wood for packaging purposes. Also non-hazardous waste including ferrous and non-ferrous scrap are recycled and reused at some Units. The hazardous waste like e-waste is recycled through authorised recycler.

Further hazardous waste generated at our units is disposed of through authorised agencies. There has been no hazardous waste as per BASEL Convention which has been shipped internationally. Recycling of ferrous material at CFFP Haridwar is shown in the figure 59 & 60.

Scrap Melting in furnace

Before pouring of liquid metal for casting

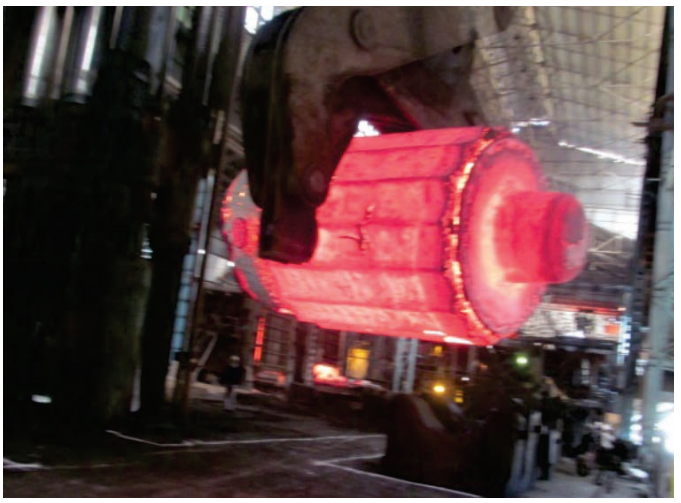
Pouring of liquid metal for casting

Pelton Runner casting

Francis Runner casting

Figure 59: Process flow through which scrap is utilised at CFFP Haridwar for making casting for Pelton / Francis Runner

Scrap Melting in furnace



Hot Ingot for forging

Teeming under vacuum for forging Ingot

Rotor forging

Shaft Forging

Figure 60: Process flow for utilisation of scrap at CFFP Haridwar for making forgings for Shaft / Rotor

Management of Significant Spills

No significant spills reported in any of the Manufacturing Units for the reporting period 2012-13. However, minor spillage particularly at the time of preventive machine maintenance is taken care of according to environment management practices (ISO 14001: 2007) adopted.

Compliance

All major Units and Divisions of BHEL have well established Environment Management Systems (EMS) certified to ISO-14001 and Occupational Health and Safety Management Systems (OHSMS) certified to OHSAS-18001. These management systems provide an excellent framework for proactively identifying and ensuring compliance of applicable environmental, occupational health and safety related rules and regulations. Periodic audits are carried out by the certifying agencies to ensure effective implementation of the established systems, including legal compliance. All applicable environmental consents & licenses are maintained and their terms & conditions are complied with. Further none of the Units has been imposed with any monetary fines and non-monetary sanctions for non-compliance with environmental laws and regulations in the reporting period.

Environmental impacts of Products & Services

BHEL places strong emphasis on innovation and creative development. The research and developmental efforts of the company are thus aimed not only at improving the performance and efficiency of the existing products, but also developing new products using state-of-art technologies and processes, relevant to the needs of the country to remain current both in terms of technology & features vis-à-vis global benchmarks. BHEL products & services are customer friendly. Our equipment has been known for its long life and best operational performance.

BHEL has been actively developing and acquiring cleaner technologies for power generation over past three decades. BHEL initiated a coal research programme in the late seventies to develop technologies to efficiently utilise Indian coal while minimising its environmental impact. These technologies enable BHEL's customers to minimise the impact of power generation on the environment.

Some of our products that BHEL designs, manufactures and supplies to customers, bringing about substantial benefit to end user by performing beneficially with respect to environment are as follows:

1. **Power Plants operating with Steam at Supercritical parameters:** BHEL has developed designs for Boilers, turbines and other steam-wetted power plant equipment that operate under Super Critical steam parameters. Compared to conventional subcritical power plant equipment, supercritical plant equipment need to handle and endure steam at a much severe pressure and temperature conditions. This in turn results in more efficient power generation leading to 2.5% to 3% increase in overall plant energy conversion efficiency levels. Supercritical plants also consume less make-up water, use lesser steel and are more compact. What this translates into can be better appreciated considering the following figures:

a. 1% increase in net plant efficiency of coal fired plants results in 2.5% reduction in overall CO_2 emission. Supercritical plants are known to improve the net efficiency by approximately 3%. Therefore, supercritical sets would result in a nominal 7.5% reduction in overall CO_2 emission. Typical coal fired plants are known to emit approx. 1 Metric Tonne (MT) of CO_2 per MWh. Thus, a 2000 MW supercritical power plant can be considered to emit 1.31 Million tons of CO_2 less than conventional subcritical plant of same size in a year.

b. Further, supercritical plants' efficient operation results in a nominal improvement of approx. 100 Kcal / kWh in the overall plant heat rate, a nominal 50% reduction of specific water consumption used for boiler steam flow make up, a direct energy savings of approx. 1% in auxiliary power consumption and an approximate savings of 8 Tons of steel per MW of plant capacity. This in other words, means a natural resource savings of

inter alia 1.5 Million tons of coal, 960,000 M^3 of water and 16000 tons of steel in a year.

2. **Circulating Fluidized Bed Combustion Boilers (CFBC):** – BHEL has been a pioneer of fluidized bed technology; BHEL has thus far supplied more than 90 fluidized bed boilers for utility power generation as well as process industry plants. Significant benefit of fluidized bed combustion boilers (FBC boilers) stem from their capability to burn a wide variety of fuels, including very low calorific value and high sulphur fuels. Low grade fuels like washery rejects, biomass as well as fuels with very high sulphur content like pet-coke, Kutch-Lignite etc. can be burnt only in FBC boilers. The principles and benefits of CFB combustion is depicted in the adjacent diagram.

   FBC boilers due to their inherent features of low temperature combustion and sorbent feeding generate very low levels of pollutants like SO_x and NO_x. Compared to a conventional pulverized coal fired boiler which generates approx. 400 ppm of NOx, FBC boilers generate only about 50 ppm, which is very environment-friendly.

   Further, employing FBC boilers totally obviates the need for having separate Flue Gas Desulfurization (FGD) systems that may be mandated by use of pulverized coal fired conventional boilers for high sulphur fuels. This results in a huge savings in capital cost, ground area foot-print, in addition to savings of direct materials, auxiliary power consumption, water consumption and labour.

3. **Reverse osmosis based water purification systems** have been designed and supplied to thermal power stations for feed water make up system as an alternative to conventional chemical ion-exchange based de-mineralization systems. Through this offering, the need for handling and consumption of large amounts of strong chemicals (acids and alkalies apart from anion / cation exchange resins) is totally obviated. While costing almost the same in terms of capital investment, RO based feed water makeup systems saves on the running cost (20%) and also saves significantly on the ground area required to install (75%). BHEL has supplied such environmental friendly systems to North Chennai TPS in Tamilnadu, Pipavav combined cycle power plant in Gujarat and Bellary TPS in Karnataka in recent times.

4. **Solar Power Plant:** BHEL has supplied more than 12 MW_p (suffix P denotes peak power) solar-PV clean energy systems to various customers in India. This includes a 5 MW_p solar farm established for Indian Oil Corporation Ltd at Rajasthan, a 3 MW_p solar farm established for Karnataka Power Corporation Ltd near Raichur, Karnataka, two sites of 2 MW_p solar farms in Maharashtra and a renovation and modernization of 1.9 MW_p Solar power sets at Lakshadweep islands. The Solar Power Plant is having the following benefits with regards to environment:

a. Solar power farms generate clean and green electric power. Since no fossil fuel is used at all there is no emission of Greenhouse Gases like CO_2, SO_x, NO_x etc. No cooling water is needed and neither are any effluents that warrant treatment. There are no process effluents at all, neither gaseous emissions nor liquid waste.

b. Based on an empirical correlation of 1kW_p Solar PV system will save about 0.4 Metric Tonnes (MT) of CO_2 per year, 12 MW_p this straightaway means a reduction in CO_2 emission by 31 Million MT / annum.

   BHEL has also undertaken R&D initiatives towards CO_2 reduction and/or CO_2 capture through Oxy-fuel combustion, Biomass combustion, Ammonia based CO_2 sequestration systems etc. Pilot scale demonstration of co-firing Indian coals with biomass like rice husk and wood pellets were carried and trials were successfully completed during 2012-13 with 20% wt. biomass and 80% wt. pulverised coal. By this technology for gainfully preventing Bio-mass from getting decayed and decomposed to evolve

Methane, a more harmful greenhouse than CO_2 could be developed. Bio-mass is a carbon neutral fuel, hence considered environment friendly. Presently, establishment of 400 kW Oxy-Fuel combustion test rig is in progress at BHEL-Trichy. The above initiatives will help to make environment cleaner with lesser emissions. Reinforcing its commitment to optimum utilization of natural resources as well as its concern for the environment, BHEL has developed dynamic classifier system to improve combustion efficiency of boiler and reduction of NO_x emission.

Further, some more examples of clean technologies which enable BHEL's customers minimise impact of power generation on the environment are as follows:

- Integrated Gasification Combined Cycle (IGCC)
- Advanced Ultra Supercritical (Adv-USC) Thermal Power Plant Technology
- Advanced Class Gas Turbines
- Sub-critical Thermal Power Plants with Enhanced Efficiency
- Nuclear Power Plants
- Hydro Power Plants
- Electrostatic Precipitators (ESPs)
- Flue Gas De-sulphurizer (FGD)
- Static Synchronous Compensator (STATCOM), Static VAR compensation, Controlled Shunt Reactor (CSR), Variable Frequency Drive (VFD)

Thus, developing technologies aiming at high efficiency and low carbon emission, is an important driver at BHEL because every 1% increase in efficiency leads to about 0.005 tons / MWhr saving in coal consumption and 0.02 tons / MWhr reduction in CO_2 emission.

The portfolio of clean technology products and our continual efforts towards developing the portfolio of such products through technological collaborations and in-house R&D efforts clearly established our concern for the environment and our contribution towards mitigating the impact of power generation on environment.

The company is engaged in research in futuristic areas like fuel cells for distributed environment-friendly power generation, clean coal technology applications, standardization of electrode making process, development of process for addition of Nano / Micro particles for improving material characteristics, super conductivity applications in transformers, generators / motors etc. The development updates are communicated through Engineering News Letter, Engineering Compendium, House Journals, Training Sessions, Product Committee and Technical Committee meetings etc.

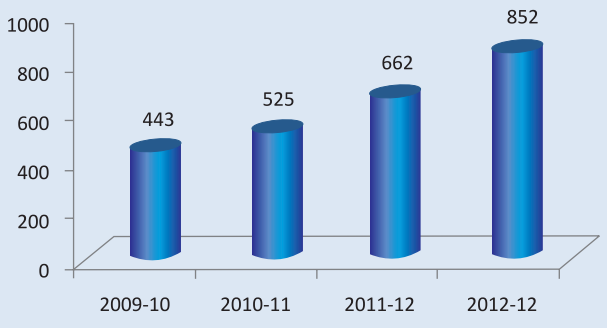
Through these efforts, the organization is striving for making considerable progress towards product development and contributing towards life cycle sustainability of our products.

Environmental Protection Expenditure

BHEL has been taking lot of projects for improvement of environment in and around its Units in addition to projects taken under Sustainable development Projects. It has been spending more than 0.1% of PAT every year for such activities. These activities include cost incurred on Stack emission and ambient air quality monitoring, obtaining consent / authorisation under environmental legislations, external certification services, installation of new environmental friendly technologies, insurance for environmental liabilities, and projects taken for environment improvement.

The expenditure incurred on such activities is shown in the figure below.

Figure 61: Total expenditure on Environment Protection (₹ Lakhs)



Our Social Performance

Management Approach

Towards addressing the second pillar of Triple Bottom Line Approach for Sustainability, BHEL has developed a CSR scheme and its Mission statement on CSR & Sustainability is "To be a committed corporate citizen, alive towards its Corporate Social Responsibility".

BHEL has a well-structured CSR programme towards inclusive growth and equitable development.

It has always been BHEL's endeavour to act as a responsible corporate citizen committed to working for welfare of the society through programs aimed at capacity building, empowerment of communities, environment protection, development of backward regions, and upliftment of the marginalized and under-privileged sections of the society. In line with this commitment, the company supports various social initiatives across the country by undertaking projects in diversified areas like Education, Community Development, Health, Environment Enrichment, Vocational Training, Skill Development, Disaster / Calamity Management and Infrastructure Development. During the year 2012-13, the Company achieved a fund flow of ₹ 63.11 Crore for its various CSR initiatives and activities.

There is a three tier committee structure in the Company consisting of Sub-Committee, Level 1 Committee and Board Level Committee (BLC) for CSR & SD. After the approval from BLC, the projects are aligned to different Units for coordination and monitoring with the project implementing agency. The implementation of these CSR projects are carried out by NGOs / specialized agencies and reports at regular intervals is submitted to aligned Units for scrutiny.

Head of the respective Units are designated as the CSR Nodal Officer for their Units. The CSR Committee at Unit level is involved in the monitoring, supervising and Coordination of CSR Projects / Initiatives. It comprises of representatives from Human Resources (HR), Finance and Other departments (Materials Management / Civil / Maintenance etc.).

Most of the projects at Units / Regions are done through specialized agency like NGO, Govt. agency etc. Smaller projects are being taken up by in-house team as per the work involved. Almost all the Units are old and do not require to address the issue of rehabilitation and resettlement.

Our CSR initiatives

The details of some of our recent CSR initiatives undertaken for holistic improvement & welfare of society are given in the following sections.

Education

BHEL is providing school education to children of the communities living in the vicinity of its units at Haridwar, Jhansi, Bhopal, Ranipet, RC Puram - Hyderabad and Trichy. At present, the company is running 23 such schools (mostly located within the premises / townships of the units). During 2012-13, the company incurred an expenditure of more than ₹ 30 Crore in providing education to more than 20,000 children from the communities (other than children of BHEL employees) living in the vicinity of the units.

The Company is promoting various Scholarship Programmes for students from below-the-poverty-line (BPL) / weaker & under-privileged sections of the society to enable them pursue higher education. Under these programmes, financial assistance is also provided to children of widows in adopted schools and villages of BHEL units. The company is supporting need-based construction of hostels, classrooms, toilets etc. in several educational institutes of the backward regions / districts of the country.

BHEL supported a project titled "Katha Reading League in 10 MCD schools" of Delhi which has been implemented by an NGO named "Katha". The project has successfully achieved the objective of rehabilitating slum children, including school drop-outs, developing in them an inclination towards reading / learning through the method of story-telling.

Figure 62: Project "Katha Reading League in 10 MCD schools" of Delhi for rehabilitating slum children, including school drop-outs

Another project titled "Lifting every voice of children" was undertaken by the company to provide quality education to children belonging to under-privileged/weaker economic sections of the society. Under this project, 300 children have been imparted quality education through 10 integrated learning centres and also provided with mid-day meals for better nutrition/health. To make the classroom environment user-friendly & supportive, learning materials like copies, pencils, slates, erasers, etc. as well as toys and other items for decoration of Balwadi were also provided to these children. The above apart, several activities like games have also been conducted for motor development of the children.

Carrying forward its endeavour for inclusive growth of the society, BHEL joined hands with an NGO named 'Udayan Care' to support higher education of girl children coming from below-the-poverty line (BPL) families. Under this programme titled 'UdayanShalini', 100 brilliant girl children, who have passed class Xth, are being financially supported to pursue their education up to Post-graduation level alongside developing/enhancing their personality and employability.

BHEL is supporting another project of the NGO named 'DISHA' to promote education and skill development of disadvantaged children and youth by imparting non-formal education to 1260 street/ slum children including skill training to 240 youth (both boys and girls) living in ten slum clusters in Inderpuri, Pandav Nagar, Nangal Raya, Kirti Nagar and Naraina areas of Delhi.

The project envisages education of street/slum children up to primary level so that so that they are able to get into mainstream of government primary schools. Appropriate teaching & learning materials, visual aids, puppets, stories, songs, educational games, etc. have been prepared for imparting joyful and child-centric learning environment for the children. Bridge courses and cooperative learning

Figure 63: Imparting non-formal education to 1260 street/slum children including skill training to 240 youth (both boys and girls) living in ten slum clusters in New Delhi

are also included in the curriculum to support quick learning and also improve their functional literacy.

BHEL is promoting various Scholarship Programs for students from below-the poverty-line (BPL)/ weaker sections of the society to enable them pursue higher education. Under this CSR project titled "Education scholarship to mentoring students belonging to BPL category" has been undertaken by BHEL in partnership with Foundation for Academic Excellence and Access (FAEA). The project envisages financial assistance/scholarships to meritorious students, belonging to BPL families, pursuing undergraduate studies in the fields of Arts, Commerce, Science, Medical, Engineering and other technical and professional disciplines from recognized universities/ institutions in the country. The project, initiated in the year 2012 is of five years duration.

Community Development:

BHEL has initiated a project called "Anhad Gram" in 25 villages of the backward district of Munger in Bihar. The project is being run through a NGO called "Community Friendly Movement" .The project has following four objectives:

(i) Dairy development,

(ii) Bio-mass fuel,

(iii) Women Health & Hygiene and

(iv) Food Processing & Preservation Unit.

These objectives will lead to holistic improvement in the living conditions of people of these villages. The four programs under the project are named as: Swadhaar(Milk chilling units), SuIndhan (Bio-mass fuel), SuKanya (Low cost sanitary napkins unit) and SuAahar(Food Processing & Preservation Unit).

1. **Swadhaar:** The project involves setting up of a milk chilling centre for profitable management of animal husbandry in the villages. Cooperatives have been formed from the rural population of the village for profitable and commercial usage of milk. Under this project, the farmers have been trained for proper management of their livestock to ensure better quality and quantity of milk.

2. **SuIndhan:** As the women of the villages have to spend a large part of the day in collection of firewood and also have to bear the drudgery and smoke while cooking by their traditional fuel and methods, this program for briquette-making from the agricultural bio-wastes has been undertaken. Under the program, briquettes have been produced with a burning efficiency of about 55 minutes, resulting in lesser pollution and better fuel efficiency while cooking. Women Self-Help-Groups (SHGs) have been formed in the villages and have been trained for briquette making.

   Production of briquettes will not only overcome acute shortage of domestic fuel in the villages and in the cities nearby but also act as a dynamic fuel for domestic consumption as well for its commercial usage, thereby enabling it to become a source of income generation for Self Help Groups involved.

Figure 64: Village women being taught briquette making- an alternative for traditional chulhas under project "Anhad Gram."

Figure 65: Village women of Munger district being taught sanitary napkin making for better health and hygiene.

3. **SuKanya:** Under this program, BHEL is setting up a production unit for low cost sanitary napkins in the villages. The unit is being run and managed by the women SHGs of the village. This program has been envisaged for the empowerment of women with a view to make them self-reliant and act as protagonists in the region for providing low cost sanitary napkins for the women/girls for their healthy & hygienic living.

4. **SuAahar:** Under the program, a centre for food processing has been set up in the villages to provide value addition to the crops grown and consequent increase in income of the farmers Promotion of Organic farming in the selected beneficiary villages has also been done so as to promote sustainable development of

agriculture in the region. It is through the practice of organic farming that input cost of agriculture are getting reduced and the farmers are gettinga good price for their produce, which includes significant variety of crops and fruits. Around 100 farmers are associated with this project. The project would also enhance the soil quality and capability with a view to increase the intensity of cropping in the region.

With a view to enhance the socio-economic condition of the farmers belonging to tribal community of Khargone district, Madhya Pradesh, BHEL has undertaken a CSR project in association with Manthan Gramin Evam Vikas Sewa Samiti, an NGO working for the upliftment of marginalized farmers Since Khargone district is dominated by tribal farmers, the knowledge of the inhabitants with regard to advanced agricultural practices is very poor in the area, thus resulting in a declining productivity of farming. Under this project, initiatives such as nursery management, crop management including quality enhancement of existing crops, training and awareness program for agriculture techniques, pest management and post-harvest efforts are being undertaken to encourage them to adopt advanced technology in carrying out their agricultural work resulting in production of high quality vegetable crops and earn a reasonable income for themselves. The project aims at empowering the tribal farmers to pursue better agricultural practices/ farming on a sustainable basis.

Health Management:

Committed to providing quality health care services for the needy & deprived people and in particular, for elderly people living in remote/backward regions, BHEL joined hands with HelpAge India, a renowned NGO, by providing them with 05 Mobile Medical Units (MMUs) for operation in the vicinity of remote project sites of its Power Sector Regions - PSNR, PSSR, PSER, PSWR and IVP Goindwal.

The MMUs are fully equipped with basic diagnostic equipments such as Stethoscope, BP Apparatus, Glucometer, for measuring blood-sugar levels, weighing machine etc. including medicines for common ailments such as Hypertension, Diabetes,

Figure 66: Director (HR) flags off Mobile Medicare Unit (MMU) at Haridwar for serving the needy people in the vicinity of Haridwar unit

Arthritis, etc. The HelpAge team consisting of Social Protection Officer, Medical Consultant, Physiotherapist, and Pharmacist along with specialist drivers are operating the MMUs at Nimoo Bazgoh in Leh, Angul (Odisha), Durgapur (West Bengal) and Nagpur (Maharashtra), to provide free medicines and health care to the poor people residing in these areas who otherwise are unable to not only afford such medical treatment but also unable to access such facilities on their own.

Aiming to provide holistic healthcare facilities and medical treatment to the rural population, BHEL engaged the services of PHDRDF for operating two (02) nos. Mobile Medicare Units (MMUs) in the vicinity of its Units at Haridwar and IVP (Goindwal).

Basic medical facilities are being provided to these people in addition to providing them with on-the-spot diagnostic facilities like blood Hemogram,

Figure 67: CMD flags off Mobile Medicare Unit (MMU) for Eastern Region from PSER, Kolkata.

estimation of blood sugar levels, measurement of blood pressure, blood grouping, pregnancy test, tests for malaria and jaundice. Under the project, free medicines are also being provided to the patients. This apart, creation of awareness and detection of STDs / HIV / Hepatitis etc. are also being undertaken for integrated health and family welfare.

Figure 68: Blood Bank and Thalassemia Day Care Centre in Thane, Maharashtra

BHEL has extended support to Triumph Foundation, a charitable trust under the Rotary Club of Thane Hills for setting up a Day Care Centre and Blood Bank for patients afflicted with Thalassemia, a disease caused by weakening and destruction of Red Blood Cells resulting in bone deformities and cardio-vascular illnesses. The Company has funded state-of-the-art equipments for this Blood Bank with modern facilities such as, provision of Nucleic Acid tested blood and blood components at a very nominal cost along with Mobile Van to facilitate voluntary blood donation camps, including facility to store 1000 units of blood, bar coding of all the samples of blood units and components to ensure donor and patient identity.

BHEL has undertaken a CSR project titled 'Heal a Soul' that involves providing medical assistance to people including children suffering from Hemophilia. Hemophilia is a blood disorder (usually hereditary). A person suffering from Hemophilia has a tendency to bleed severely, even due to slightest injury. This happens due to failure of blood to clot normally. The initiative will focus mainly on patients coming from below-the-poverty line (BPL) families located in the vicinity of projects / sites of BHEL's Transmission Business group.

BHEL has partnered with an NGO called "Global Cancer Concern India (GCCI)" for providing palliative care to terminally ill patients including cancer patients of Delhi / NCR region who come from poor background and with inadequate means of subsistence. Under the project, a number of free cancer detection camps have been conducted at different backward and remote locations / villages of Delhi/NCR region including Delhi, Gurgaon, Faridabad, Ghaziabad and Noida where people have been diagnosed / checked for various illnesses including detection of cancer and are also provided with free medicines.

The GCCI has two full-fledged medical centres at Delhi (Kishangarh) and Gurgaon. These centres are well equipped to carry out palliative care / treatment for cancer patients besides providing free OPD consultations and medicines to the poor and needy people.

Adopting a multi-disciplinary approach towards CSR in which health and medical care take the top most priority, BHEL initiated an "Orbit and ophthalmic plastics project" in association with Sankar Foundation Eye Hospital, Vishakhapatnam (AP) for carrying out 300 orbit surgeries for patients with orbital and lachrymal disorders from the states of Andhra Pradesh, Orissa and Chattisgarh. Under the project, several screening camps have been held for visual acuity and refraction followed by specialist consultation. The patients identified with orbital disorders have been brought for surgery to Sankar Foundation. So far, more than 250 surgeries have been completed under the project.

BHEL, supported by its Corporate Medical Group and in coordination with the NGO named Palampur Rotary Eye Foundation, Maranda, Distt. Kangra (Himachal Pradesh) conducted free Eye Camps including cataract surgery for the poor / under-privileged people of Maranda. These camps were conducted during November, 2012 (02 days) and in March, 2013 (03 days). A total of 745 patients were provided with free-of-cost treatment including medicines for their various ailments. Out of these 745 patients, 118 were identified and found suitable for cataract operation / surgery including a few who were afflicted with Glaucoma. The operations

for these 118 patients were successfully carried out at Rotary Eye Hospital, Maranda, Distt. Kangra (HP). Post-operation follow-up treatment was also undertaken by BHEL's medical team.

Figure 69: Free Eye camps including cataract surgery for the poor/ under-privileged people of Maranda, Distt. Kangra (Himachal Pradesh)

All expenses on transportation, boarding, lodging, food, medicines, etc. for the cataract patients including their attendants were borne by BHEL. The camps concluded on a very happy and emotional note as patients and their families felt highly obliged and grateful to BHEL and its team of medical professionals for their overwhelming support to this noble cause.

Around 2% of the total population of India suffers from major mental illnesses while another 15% are in dire need of mental health care. With a view to alleviate the suffering and pain of patients afflicted with serious mental disorders, BHEL has undertaken a noble initiative CSR by extending a financial support of ₹ 100 lakh to an NGO named "Sane and Enthusiast Volunteers Association of Calcutta" (SEVAC) for construction of a Mental Health Care facility at Thakurpukur, Kolkata. BHEL's support involved construction of: (i) a 50-bedded Mental Hospital-cum-rehabilitation centre; (ii) a Day Care Centre; and (iii) an Education Wing Hospital for at least 500 mental patients and their care givers who shall be benefitted every year.

Disaster Management

As an expression of its solidarity and support to thousands of people devastated by the recent floods in the Ganges & its tributaries in Uttarakhand region, BHEL swiftly got into the act to provide relief and succour to them by way of food, water, medicines as well as mobile Medicare services (MMU).

Reaching out to the victims of flood-ravaged Uttarakhand region, BHEL made a humble contribution of ₹ 2 Crore under the company's CSR initiatives to the Chief Minister's Relief fund of Uttarakhand to alleviate the suffering of the distraught people.

In addition to the amount given as above to CM's Relief fund, BHEL employees also came forward to express their solidarity and support for the people devastated by nature's havoc in Uttarakhand by contributing their one day's salary amounting ₹ 6.38 Crore to PM's Relief fund. This noble gesture of BHEL employees yet again symbolises the inherent strength of the Company in integrating its organisational values with the determination and passion of its employees to reach out to the most needy and downtrodden sections of the society.

BHEL also compassionately responded to the beck and call of the victims devastated by the earthquake in Sikkim by undertaking refurbishment of four government schools which were damaged by the earthquake.

Figure 70: Refurbishment of four government schools which were damaged by the earthquake in Sikkim.

Environment Protection

Emphasizing upon our commitment towards environment and sustainable use of natural resources, BHEL has undertaken a project "Adoption of 15 Villages for Sustainable use of rain water harvesting to enhance livelihood of poor small farmers" in Bijawar block of Chhatarpur district, (M.P.). The project site is one of the poorest districts in Bundelkhand region which is poverty-stricken and predominantly inhabited by tribals and OBCs.

Though 90% of the population is dependent on agriculture for its livelihood, the irrigation facilities are drastically poor in the region (<15% of the total arable land has irrigation facility in the area). Since earning from agriculture is not adequate almost all families migrate seasonally to nearby cities to supplement their earnings.

In order to address the critical income gaps from agriculture and also to address the issue of low investment on rain water harvesting, BHEL has undertaken this initiative to ensure agriculture productivity enhancement and capacity building of farmers on rain water harvesting thereby increasing the quality of crops, enhanced food security, diversifying agriculture like growing cash crops, livestock rearing etc., increased income and improvement in the livelihood of the family.

BHEL has undertaken a project that entailed afforestation of a barren land (10 acre) at Ramadurga in Koppal district of Karnataka. The project involves planting of fruit-bearing trees in a complete patch of barren land and preserving these trees for birds and animals, thereby also promoting protection of species.

Figure 71: Plantation of fruit-bearing trees in a complete patch of barren land at Koppal, Ramadurga (Karnataka)

Vocational Training

With a view to provide self-employment opportunities to around 200 girls/women and to enable them enhance their social and economic status, programmes viz. "cutting and tailoring" and "beauty culture" for women of Simrawari (Khailar) & Gopalpura villages of Jhansi were conducted.

Skill Development

In line with its brand image and world-class stature, BHEL provides state-of-the-art engineering/training for talent up gradation and training in soft skills to trade apprentices, diploma and engineering degree holders During the year 2012-13, around 8000 apprentices have been trained in various technical trades such as, Machinist, Turner, Fitter, Welder, Plumber, Blacksmith, etc.

BHEL has set up an industrial training institute at Bolpur, Santiniketan (West Bengal) by the name of Kabiguru Industrial Training Centre (KGITC). In this endeavour, BHEL, along with Coal India Ltd. (CIL) and DVC, are providing financial support to the institute on an equal sharing basis. The first session of the institute which began with Fitter trade in August, 2010 comprising 42 students (including two girls) concluded in July, 2012. The institute achieved 100% employability for this first batch of Fitter trade. The students have been campus selected by Hyderabad based companies, including Indwell Constructions, Power Mech etc. engaged in power projects construction businesses.

Figure 72: Fitter workshop in progress at Kabiguru Industrial Training Centre (KGITC), Bolpur (West Bengal)

UDAAN Project

The Govt. of India has evolved a scheme called 'Special Industry Initiative' (SII) to train the educated youth of Jammu & Kashmir (J&K), who have the potential to contribute to national growth / development, so as to enhance their employability.

The initiative titled 'Udaan' envisages training of 40,000 youths holding professional graduate / post-graduate degrees. BHEL has joined this initiative to provide training to 500 J&K youths over a period of five years.

Figure 73: Providing training to 500 youths over a period of five years under Govt. of India's 'Special Industry Initiative' (SII) to train the educated youth of Jammu & Kashmir (J&K) so as to enhance their employability.

Infrastructure Development

In line with the Company's past contributions in backward districts situated around BHEL's vicinity and with a view to improve the socio-economic conditions of the backward districts, BHEL has undertaken infrastructure development work in 9 villages of Bhandara district (Maharashtra) in the vicinity of the Company's proposed fabrication plant to be established there. DPE is facilitating this monumental task and has assigned 9 villages of Bhandara district to BHEL for conducting developmental activities. Till now, Installation of 23 nos. of Bore-wells in two villages of Sakoli and Pauni in Bhandara district has been completed. Further, projects have been undertaken involving construction of roads, boundary walls, drainage, community halls, etc.

Figure 74: Construction of Tribal Welfare School" at Bhubaneswar Nagar in Assam to educate tribal, rural and slum children

In line with the company's commitment for welfare of the society and improving the socio-economic conditions of the poor and needy, BHEL has undertaken construction of Concrete Cement Roads in the backward district of Chhindwara (M.P.) at a total project cost of ₹ 6.4 crore. Chhindwara district, situated in the state of Madhya Pradesh, is one of the poorest in India. The main objective of the project is to address the critical gaps due to lack of means of commutation in order to have better connectivity to hospitals, schools, employment, approachability of markets etc. All these put together will ensure enhanced food security, increased income and overall improvement in the livelihood of the people of the region.

BHEL has undertaken a project "Construction of Tribal Welfare School" at Bhubaneswar Nagar in Assam. The ultimate goal of this project is to educate tribal, rural and slum children so that they grow with self-esteem to take the right decisions in life. The project also aims at developing the interest of the students in studies and to augment their artistic skills. Under the project, transformation of a Kachha school into a pukka construction within a plinth area of 14700 square feet has been undertaken. The school also takes care of the clothing, food, books and transport for the children.

CSR Training & Development

Believing firmly in the need for training and sensitizing employees and staff towards CSR on a continuous

Figure 75: Director (HR) addressing the officials engaged in CSR activities in various units/regions/divisions of the Company in CSR workshop at Orchha, Jhansi

and sustained basis, BHEL had trained 45 officials engaged in CSR activities in various Units / Regions / divisions of the Company for better understanding and implementation of CSR guidelines issued by the Department of Public Enterprises (DPE).

To summarize the efforts made by BHEL has contributed towards furthering the goal of inclusive growth in its limited resources. The organization has also supported events through sponsorship but no such contribution (financial or in-kind) has been given to political parties, politicians, and related institutions.

Engaging with local community

All the units are involved in execution of local level CSR activities as well as projects aligned through corporate office. These projects have enables the organization to engage with the stakeholder in the vicinity of our operations, identify the need of the society and address them in a focused manner. A system is in place whereby a Unit level CSR committee monitors the implementation of CSR projects/ activities from the commencement of the project till its completion. Project starts with comprehensive scheduling of activities having milestones including linkages with fund disbursal and time of completion of each milestone. Periodic evaluation of progress reports including project completion reports submitted by the implementing/specialised agencies are reviewed by the CSR Committee.

None of our operations has been identified as having significant potential or actual negative impact on local communities. These units were established long time back and were set up at remote location which has grown tremendously with time bringing prosperity to local community as well in the vicinity of our operation due to indirect economic activities spurred by our presence.

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4.7	Process for determining the composition, qualifications, and expertise of the members of Board its committees, including any consideration of gender and other indicators of diversity.	Fully	Selection of New Director	11	
4.8	Internally developed statements of mission or values, codes of conduct, and principles	Fully	Ethics, Transparency and Accountability at BHEL	9	
4.9	Procedures of the highest governance body	Fully	Governance Structure at BHEL	10	
4.10	Processes for evaluating the highest governance body's own performance	Not reported			
4.11	Explanation of whether and how the precautionary approach or principle is addressed by the organization	Not reported			
4.12	Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses.	Fully	United Nations' Global Compact (UNGC)	22	
4.13	Memberships in associations	Fully	Policy advocacy	8	
4.14	List of stakeholder groups engaged	Fully	Stakeholder engagement	26	
4.15	Basis for identification and selection of stakeholders	Fully	Stakeholder engagement	26	
4.16	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group.	Fully	Stakeholder engagement	26	
4.17	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting.	Fully	Stakeholder engagement	26	
Disclosures on Management Approach - Aspects					
	Economic	Fully	Management Approach	30	
	Environment	Fully	Management Approach	34	
	Labour Practices	Fully	Management Approach - labour practices	14	
	Human Rights	Fully	Management Approach - Human Rights & Anti-Corruption	22	
	Society	Fully	Management Approach	52	
	Product Responsibility	Fully	Governance for Sustainability	25	
Economic Performance Indicator					
Economic Performance					
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.	Fully	Financial Performance highlights	30	

GRI Reference		Reported	Report Reference	Sustainability Report Page No.	Annual Report Page No.
EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change.	Fully	Climate Change - Risks and Opportunity	31	
EC3	Coverage of the organization's defined benefit plan obligations.	Fully			129-133
EC4	Significant financial assistance received from government.	Fully	Value Addition Statement	31	
Market presence					
EC5	Range of ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation.	Fully	Indirect Economic impact on Society	32	
EC6	Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation.	Fully	Supporting marginal supply chain partners	33	
EC7	Procedures for local hiring and proportion of senior management hired from the local community at significant locations of operation.	Fully	Indirect economic impact on society	32	
Indirect economic impacts					
EC8	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement.	Fully	Indirect economic impact on society	32	
EC9	Understanding and describing significant indirect economic impacts, including the extent of impacts.	Fully	Indirect economic impact on society	32	
Environmental Performance Indicator					
Environmental Performance					
Materials					
EN1	Materials used by weight or volume.	Fully	Responsible Material Use	34	
EN2	Percentage of materials used that are recycled input materials.	Fully	Responsible Material Use	34	
Energy					
EN3	Direct energy consumption by primary energy source.	Fully	Managing Energy Requirements of the Organization	36	
EN4	Indirect energy consumption by primary source.	Fully	Managing Energy Requirements of the Organization	36	
EN5	Energy saved due to conservation and efficiency improvements.	Fully	Energy Conservation / Efficiency efforts in BHEL	37	
EN6	Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives.	Fully	Energy Conservation / Efficiency efforts in BHEL	37	
EN7	Initiatives to reduce indirect energy consumption and reductions achieved.	Fully	Energy Conservation / Efficiency efforts in BHEL	37	

GRI Reference		Reported	Report Reference	Sustainability Report Page No.	Annual Report Page No.
Water					
EN8	Total water withdrawal by source.	Fully	Managing Water footprint	40	
EN9	Water sources significantly affected by withdrawal of water.	Fully	Managing Water footprint	40	
EN10	Percentage and total volume of water recycled and reused.	Fully	Managing Water footprint	40	
Biodiversity					
EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	Fully	Biodiversity Conservation	44	
EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.	Fully	Biodiversity Conservation	44	
EN13	Habitats protected or restored.	N/a			
EN14	Strategies, current actions, and future plans for managing impacts on biodiversity.	N/a			
EN15	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.	N/a			
Emissions, effluents and waste					
EN16	Total direct and indirect greenhouse gas emissions by weight.	Fully	Managing Emissions	45	
EN17	Other relevant indirect greenhouse gas emissions by weight.	Fully	Managing Emissions	45	
EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved.	Fully	Managing Emissions	45	
EN19	Emissions of ozone-depleting substances by weight.	Fully	Managing Emissions	45	
EN20	NO_x, SO_x, and other significant air emissions by type and weight.	Fully	Managing Emissions	45	
EN21	Total water discharge by quality and destination.	Fully	Managing Water footprint	40	
EN22	Total weight of waste by type and disposal method.	Fully	Managing Wastes	46	
EN23	Total number and volume of significant spills.	Fully	Management of Significant Spills	49	
EN24	Trans boundary movement of wastes	Fully	Managing Wastes	46	
EN25	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff.	N/a			
Products and services					
EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.	Fully	Environmental Impacts of Products & Services	49	

GRI Reference		Reported	Report Reference	Sustainability Report Page No.	Annual Report Page No.
EN27	Percentage of products sold and their packaging materials that are reclaimed by category.	Fully	Managing Wastes	46	
Compliance					
EN28	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.	Fully	Compliance	49	
Transport					
EN29	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.	Not Reported			
Overall					
EN30	Total environmental protection expenditures and investments by type.	Fully	Environmental Protection Expenditure	51	
Social: Labour Practices and Decent Work indicators					
Employment					
LA1	Total workforce by employment type, employment contract, and region, broken down by gender.	Fully	Profile of the Employee base	14	
LA2	Total number and rate of new employee hires and employee turnover by age group, gender, and region.	Fully	Profile of the Employee base	14	
LA15	Return to work and retention rates after parental leave, by gender.	Fully	Profile of the Employee base	14	
Labour/management relations					
LA4	Percentage of employees covered by collective bargaining agreements.	Fully	Upholding the rights of Workers	15	
LA5	Minimum notice period(s) regarding significant operational changes, including whether it is specified in collective agreements.	Not reported			
Occupational health and safety					
LA6	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advice on occupational health and safety programs.	Fully	Occupational Health and Safety	19	
LA7	Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region and by gender.	Fully	Occupational Health and Safety	19	
LA8	Education, training, counselling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases.	Fully	Occupational Health and Safety	19	
LA9	Health and safety topics covered in formal agreements with trade unions.	Fully	Occupational Health and Safety	19	

GRI Reference		Reported	Report Reference	Sustainability Report Page No.	Annual Report Page No.
Training and Education					
LA10	Average hours of training per year per employee by gender, and by employee category.	Fully	Training	16	
LA11	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.	Fully	Training	16	
LA12	Percentage of employees receiving regular performance and career development reviews, by gender.	Fully	Performance and career development review	18	
Diversity and equal opportunity					
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.	Fully	Profile of the Employee base	14	
Equal remuneration for women and men					
LA14	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation.	Fully	Equal Opportunity Provider	17	
Social: Human Rights indicators					
Investment and procurement practices					
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.	Fully	Protecting Human Rights in Supply chain	22	
HR2	Percentage of significant suppliers, contractors and other business partners that have undergone human rights screening, and actions taken.	Fully	Protecting Human Rights in Supply chain	22	
HR3	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.	Fully	Protecting Human Rights in Supply chain	22	
Non-discrimination					
HR4	Total number of incidents of discrimination and corrective actions taken.	Fully	Performance on Human Rights	22	
Freedom of association and collective bargaining					
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.	Fully	Protecting Human Rights in Supply chain	22	
Child labour					
HR6	Operations and significant suppliers identified as having significant risk for incidents of child labour, and measures taken to contribute to the effective abolition of child labour.	Fully	Protecting Human Rights in Supply chain	22	
Forced and compulsory labour					

GRI Reference		Reported	Report Reference	Sustainability Report Page No.	Annual Report Page No.
HR7	Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labour, and measures to contribute to the elimination of all forms of forced or compulsory labor.	Fully	Protecting Human Rights in Supply chain	22	
Security practices					
HR8	Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations.	Fully	Performance on Human Rights	22	
Indigenous rights					
HR9	Total number of incidents of violations involving rights of indigenous people and actions taken.	Fully	Management Approach	52	
Assessment					
HR10	Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments.	Fully	Performance on Human Rights	22	
Remediation					
HR11	Number of grievances related to human rights filed, addressed and resolved through formal grievance mechanisms.	Fully	Performance on Human Rights	22	
Social: Society performance indicators					
Local communities					
SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs.	Fully	Engaging with Local Community	60	
SO9	Operations with significant potential or actual negative impacts on local communities.	Fully	Engaging with Local Community	60	
SO10	Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities.	Fully	Engaging with Local Community	60	
Corruption					
SO2	Percentage and total number of business units analysed for risks related to corruption.	Fully	Performance on Anti - Corruption	23	
SO3	Percentage of employees trained in organization's anti-corruption policies and procedures.	Fully	Performance on Anti - Corruption	23	
SO4	Actions taken in response to incidents of corruption.	Fully	Performance on Anti - Corruption	23	
Public policy					
SO5	Public policy positions and participation in public policy development and lobbying.	Fully	Public Advocacy	8	
SO6	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.	Fully	Public Advocacy	8	
Anti-competitive behaviour					
SO7	Total number of legal actions for anti-competitive behaviour, anti-trust, and monopoly practices and their outcomes.	Fully	Compliance	11	

GRI Reference		Reported	Report Reference	Sustainability Report Page No.	Annual Report Page No.
Compliance					
SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.	Fully	Compliance	11	
Social: Product Responsibility performance indicator					
Customer health and safety					
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.	Fully	Product Responsibility	28	
PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes.	Fully	Product Responsibility	28	
Product and service labelling					
PR3	Type of product and service information required by procedures and percentage of significant products and services subject to such information requirements.	Fully	Product Responsibility	28	
PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labelling, by type of outcomes.	Fully	Product Responsibility	28	
PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.	Fully	Product Responsibility	28	
Marketing Communications					
PR6	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship.	Fully	Marketing Communication	29	
PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes.	Fully	Marketing Communication	29	
Customer privacy					
PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.	Fully	Customer Value	28	
Compliance					
PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services.	Fully	Customer Value	28	

SUSTAINABLE DEVELOPMENT POLICY

We at BHEL offer products, systems and services designed to benefit the society.

We are committed to undertaking practices that meet the economic, ecological and social responsibility tenets of Sustainable Development.

We will work with all our stakeholders to ensure continuous improvement in the Sustainable Development of our operations within the ambit of the guidelines issued by Government of India.

CORPORATE HEALTH, SAFETY & ENVIRONMENT POLICY

BHEL is committed to being an environment friendly company in all its activities, products, and services and to provide safe and healthy working environment to all employees as an integral part of business performance through:

- Compliance with applicable Legislation and Regulations
- Continual improvement in the Occupational Health, Safety and Environmental Management
- Systems Performance
- Promotion of activities for conservation of resources by Environmental Management
- Enhancement of Environmental, Safety and Occupational Health awareness amongst employees, customers and suppliers by proactive communication and training
- Periodical review of Occupational Health, Safety & Environmental Management Systems to ensure its continuing suitability, adequacy and effectiveness
- Communication of this Policy to all employees and interested parties
- Coordination with concerned Government agencies / regulatory bodies engaged in Occupational Health, Safety & Environmental activities

This policy shall be made available to all employees and interested parties.

ENERGY MANAGEMENT POLICY

BHEL is committed to continuously enhance energy efficiency in all its activities, products and services through state-of-the-art energy efficient eco - friendly technologies and leverage energy efficiency in its operations by adopting energy conservation techniques with the participation of all employees.

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