

## SUSTAINABILITY REPORT 2017-18

# HEALTH SAFETY ENVIRONMENT POLICY



In BHEL, Health, Safety and Environment (HSE) responsibilities are driven by our commitment to protect our employees and people we work with, community and environment. BHEL believes in zero tolerance for unsafe work/non-conformance to safety and in minimizing environmental footprint associated with all its business activities. We commit to continually improve our HSE performance by:

- Developing safety and sustainability culture through active leadership and by ensuring availability of required resources.
- Ensuring compliance with applicable legislation, regulations and BHEL systems.
- Taking up activities for conservation of resources and adopting sound waste management by following Reduce/Recycle/Reuse approach.
- Continually identifying, assessing and managing environmental impacts and Occupational Health & Safety risks of all activities, products and services adopting approach based on elimination/substitution/reduction/control.
- Incorporating appropriate Occupational Health, Safety and Environment criteria into business decisions, design of products & systems and for selection of plants, technologies and services.
- Imparting appropriate structured training to all persons at workplace and promoting awareness amongst customers, contractors and suppliers on HSE issues.
- Reviewing periodically this policy and HSE Management Systems to ensure its relevance, appropriateness and effectiveness.
- Communicating this policy within BHEL and making it available to interested parties.

Atul Sobti  
Chairman & Managing Director

June 5, 2018

Creating  of tomorrow

**BHARAT HEAVY ELECTRICALS LIMITED**

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A large industrial facility, likely a power plant, featuring a prominent tall red and white striped chimney and extensive blue and white structural frameworks under construction or operation. The image shows a complex of buildings and scaffolding, with a tall chimney rising from the center. The foreground has some greenery and a fence.



## Message from Director (HR) & CMD (Additional Charge)



### *Dear Stakeholders,*

Sustainability, amply reflected in our mission statement “Providing Sustainable Business Solutions in the fields of Energy, Industry & Infrastructure”, is ingrained in our business processes. It is our constant endeavor to minimise our environmental footprint across our value chain.

BHEL conducts business with the highest ethical standards for the growth and prosperity of all stakeholders based on the tenets of Sustainable development. The company strives to achieve all its goals through sound business decisions, prudent financial management, high standards of ethics throughout the organization in letter and spirit, and embedding environmental concern in all its business processes.

We continue to serve the community through various socio-economic and community development programmes to promote skill

development, education, improvement of living conditions and hygiene in villages and communities located in the vicinity of our manufacturing plants and project sites spread across the country. In line with the Hon'ble Prime Minister's vision for skill development, BHEL provided skill development opportunities to 24046 individuals under various schemes like Graduate apprenticeship, Diploma apprenticeship, Vocational apprenticeship, Trade apprenticeship, etc. during 2017-18. BHEL was recognized as Champion of Change under the category of 'Best Central Public Sector Enterprises' by the Ministry of Skill development & Entrepreneurship for engaging maximum number of apprentices under the Apprentices Act, 1961.

BHEL achieved carbon footprint avoidance of 15454 MT CO2 equivalent during 2017-18 by generating 15.61 Million units of energy through in-house solar power installations.



Further, BHEL is active contributor to Healthy India, Educated India, Green India and Clean India initiatives.

Optimizing product designs to minimise cost as well as environmental footprint, reducing material consumption in products, continuously reducing/controlling use of natural resources in all operations, sound waste management based on the concept of reduce/recycle/reuse, energy conservation activities, moving towards greater use of greener fuels and increasing use of solar energy in our operations, protecting/preserving existing plantations and carrying out new plantations every year are the corner stones of our environmental sustainability strategy.

BHEL has invested more than 50 years in nation building endeavours and contributing in the efforts of the government towards equitable development. The current movement towards

building a 'New India' also offers us encouraging prospects. Team BHEL believes that we have the technology strength, manufacturing prowess, committed manpower, and innovation ecosystem to contribute in this movement. With renewed vigour, great confidence and relentless determination, we look forward to an exciting future ahead and contribute towards achievement of Sustainable Development Goals (SDG) in line with the commitment of Government of India.

I take great pride in presenting before you our Annual Sustainability Report 2018 and look forward to your comments on improving our future reports.



(D. Bandyopadhyay)





## Report Profile

As we believe, Sustainable development is a journey and not a destination in itself and it is the progress made during traversing the path of Sustainability which matters the most. In this context, the present report covers the progress made by BHEL in this journey during the year 2017-18. This report shows how during the reporting period we as an organization have contributed towards nation building through supply of greener technology and promoted inclusive growth through CSR. This is our 7th Annual Sustainability Report and has been prepared as per the framework of GRI- G4 for Sustainability Reporting. The data has been given for multiple year wherever available for showing our performance over a period of time. The data has been given by all our entities as reported in reporting boundary and compiled centrally at Corporate office.

All calculations have been done as per the standard calculation methodology followed in United Nations Framework Convention for Climate Change (UNFCCC) protocol, calculation tool for direct emissions from stationary combustion – World Resource Institute (WRI) / World Business Council on Sustainable Development (WBCSD), Green House Gas (GHG) protocol, Central Electricity Authority (CEA), India data for grid emission factor etc. The content of the report has been prepared on the principles of Sustainability Reporting which includes materiality, stakeholder inclusivity and responsiveness as applicable to BHEL's present Sustainability context and stipulated in GRI framework.



Aerial View of 4x125 MW Kosti Sudan Plant





## Opportunities, Threats and Way Forward

We firmly believe that your feedback on this report will provide us stimulus and valuable insight for making our future reports better. We shall be grateful to you for providing your valuable feedback on the report through e-mail to [baskar@bhel.in](mailto:baskar@bhel.in).

### Economic & Business Overview

World economic growth, which started gaining strength since mid-2016, stood at 3.8% in 2017 as per International Monetary Fund (IMF). The upswing is attributable to a rebound in investment, manufacturing activity and trade. In the near future, rising commodity prices, particularly crude, poses a threat to the growth momentum in emerging economies, though helping commodity exporter countries. Increased protectionist tendencies and trade retaliation moves also pose serious challenges for global economic integration and a cooperative global economic order.

In FY 2017-18, India's GDP, which grew at 6.7%, showed continuous increase every quarter. However, GDP and Index of Industrial production (IIP) showed a minor dip vis-à-vis 2016-17. The dip in IIP is attributed to deceleration in mining and electricity sectors whereas manufacturing sector recorded growth over the previous year. In addition, there was acceleration in construction sector, which significantly contributed in maintaining country's economic growth momentum.

Along with structural changes in the economy, Government of India continued with its investment impetus directed towards infrastructure like roads, railways, ports etc. Complementing the above, Union Budget 2018-19 emphasized driving growth through infrastructure development. An all-time high

allocation has been made for Indian Railways with expenditure pegged at Rs. 1.48 lakh crore towards capacity expansion and modernization. Under the Smart Cities Mission, a total of 99 cities have been selected with an outlay of Rs. 2.04 lakh crore. However, in some of the major sectors of economy like steel and power, industry is still grappling with overcapacity and stressed assets.

In respect of electric power generation business, policy directions, such as National Electricity Plan, CERC/SERC decisions etc. indicate that besides higher focus on generation from renewable energy sources such as solar, wind etc. business is emerging in the areas of replacement of old thermal power plants and installation of emission control equipment. Demand for power is expected to improve with favourable socio-economic developments such as 100% village electrification and 100% household electrification.

As the indicators of industrial production, investment demand and exports are showing recovery, India's growth outlook remains promising. Accelerating consumer demand and revival of private investment are likely to remain important contributors in maintaining India's growth momentum in short to medium term.

### Opportunities and Threats

Domestic economy is experiencing a recovery. GDP growth improved continuously every quarter during 2017-18, though annual growth was at 6.7% compared to 7.1% in 2016-17 (as per CMIE). For the year 2018-19, RBI has projected GDP growth of 7.4%. Reaching and sustaining a growth rate of 8% or higher will require contribution from all domestic sectors,



supplemented by growth and positive environment in the global economy. Macroeconomic stability, solution to banking sector issues, realizing the expected growth from implementation of GST, and regaining the momentum on the structural reform agenda will be the key drivers for attaining a higher growth rate trajectory.

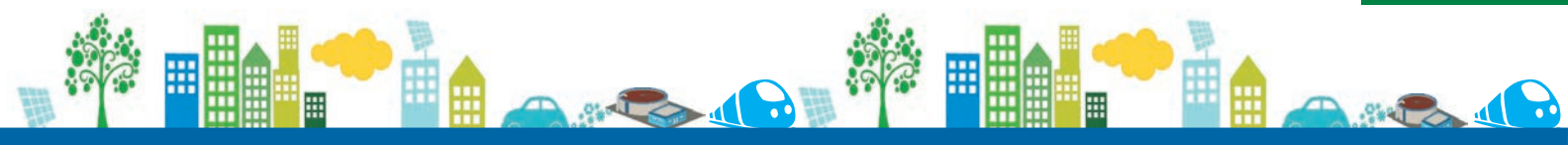
World Economic Outlook predicts global growth to be on track to reach 3.9% in 2018-19. The emerging and developing economies will speed up while advanced economies will continue to grow faster during 2018 and 2019 before slowing down in later years. However, threat from volatility in oil prices may affect the growth momentum in emerging economies. Increasing trade protectionist tendencies and retaliations are a potential risk. Inward-looking policies threaten global economic integration, which has served the world economy, especially emerging market and developing economies. Appropriate policy mix must be complemented by recovery in global economy for trade growth.

Changing energy mix presents both challenges as well as opportunities. Government is making efforts to meet the country's energy needs through a balanced fuel mix consisting of clean coal, hydro, nuclear, solar and wind energy. The National Electricity Plan released by CEA and the draft National Energy Policy of NITI Aayog foresee an increased share of renewable energy sources in the nation's installed capacity, but also expects coal to continue playing a key role in the coming years. Business opportunities are emerging in the areas of replacement of old sub-critical plants with supercritical plants and installation of emission control equipment in the near term and development of clean coal technologies in the medium to long term. BHEL is already capitalizing on the business opportunity provided by emission control norms and is

supplying emission control equipment for coal based plants and is also working in the direction of clean coal technology development with the indigenous development of AUSC technology. Certain expected developments such as higher economic growth, 24x7 Power for All, anticipated industrial growth through 'Make in India' and other initiatives are expected to considerably increase the electricity demand in the near term. For enhancing the country's power generation to cater to increased base load as well as replacement of old plants, requirement of new coal based power plants will continue to be an opportunity for future business.

Internet of Things (IoT) presents an opportunity to move beyond equipment monitoring for power plants, and use data for lowering the cost of generation by enabling operational optimization, asset performance management and downtime reduction.

'Make in India' is one of the most important initiatives for the growth of Indian industry and provides many opportunities with major Government initiatives taken in sectors such as defence, transportation, transmission, renewables etc. Infrastructure development in India is getting a boost with projects like Sagarmala, Bharatmala, Dedicated Freight Corridor, Urban Transportation Development, Smart Cities and e-mobility, which will open new avenues for long term sustainable growth. Positive steps taken by the Government are expected to translate into several new business opportunities in the near and medium term. Further, the revival of private investment in domestic industry is likely to happen in the medium to long term. The opportunities in the respective sections on Business Sectors have been discussed in detail in page 39 – 61 of BHEL's Annual Report 2017-18.



## Preparing for Growth

As part of one of the fastest growing major economies of the world, the future presents many opportunities as well as disruptive forces, which are transforming the way business is done presently. With this in mind, the Company embarked on the journey of “Creating BHEL of tomorrow” with the objective of enhancing responsiveness to emerging opportunities and building new levels of robustness, thereby laying the foundation for a sustainably rising BHEL. To achieve this goal, the Company is focusing its efforts through specific strategies and their respective enablers.

The Company has already taken many steps towards the goal and is preparing itself for many more initiatives, with focus on maintaining the current momentum of profitable growth, protecting the core business while building new capabilities, and diversification through harnessing emerging opportunities.

## Near Term Growth

The immediate and utmost priority is maintaining profitable growth through expeditious **execution** of orders, efficient resource utilisation through **consolidation** and enhancing speed of response through **simplification** of systems and processes. As a result of concerted efforts, after a gap of one year, BHEL resumed earning profits from 2016-17 onwards and has shown marked improvement in profitability parameters in 2017-18.

Continuing further, the Company is steadfastly focusing on various aspects of execution. Sustained efforts led to revival of stranded projects orders worth more than Rs. 30,000 crore in the last two years, resulting in the highest order book during the last five years. Timely execution of orders is now the key objective to enhance the growth of both the top-

line as well as the bottom-line. The Company has created enabling structures to enhance business in the recent past which includes formation of new business groups and restructuring of corporate functions for better alignment with business requirements. Some of the immediate results of such initiatives include strong order booking in transportation, defence and water segments. Further initiatives towards consolidation of the Company’s assets are in the pipeline. For successful execution of initiatives, the Company continues to simplify its systems, processes and structures. Various policies have been revised with an aim to reduce low value added activities and process time.

## Medium Term Growth

The Company is building new sources of strength for sustained growth by strengthening its leadership in core business and developing people and digital capabilities.

While concentrating efforts on enhancing business from other areas, the Company is equally determined to protect its leadership by being **assertive** in the existing businesses. The Company is enhancing value propositions in the existing portfolio and building capabilities for emerging opportunities. Securing all thermal power project orders during FY 2017-18 is a testament to the success of these efforts. Emission control equipment are now a part of the Company’s portfolio. Company is further focusing on developing capabilities and enhancing business from new areas such as lift irrigation system, primary side capabilities for nuclear cycle, advanced ultra-supercritical technology, expanding spares & services business, etc.

Success of any initiative is determined by the employees of the organisation. BHEL is focusing on **development** of competencies of all





employees in line with Company's business strategies. 'People Strategy Group' has been created in 2017 as the next step towards bolstering people development initiatives after formation of 'Corporate Learning & Development' in 2016. Technology interface in developmental initiatives is being enhanced. Several progressive initiatives including manpower audit, sabbatical leave, project leave for site employees, etc. have already been implemented and similar efforts will be continued further.

Being a critical driver of growth in the medium as well as long term, Company's focus on **digitalisation** aims at creating new business opportunities, enhancing operational excellence and improving employee engagement. BHEL has already developed a Remote Monitoring and Diagnostic System capable of analysis and diagnosis of power plant performance, which would be a value-added service for its power plant customers. Digitalisation of employee centric services and roll-out of Enterprise Social Network ICON (I Connect, I Converse, I Collaborate) are some important steps towards increasing employee engagement.

## Long Term Growth

Achieving growth aspirations in the future depends on strengthening capabilities to develop technologies, bringing more diversity in business mix and increasing geographical depth.

To consolidate its position further, the Company's business beyond the national borders need to be further enlarged and strengthened, both in geographical terms as well as in terms of market offerings. The Company continues to focus on **globalisation** and is targeting large projects in the overseas market. Execution of BHEL's largest ever export

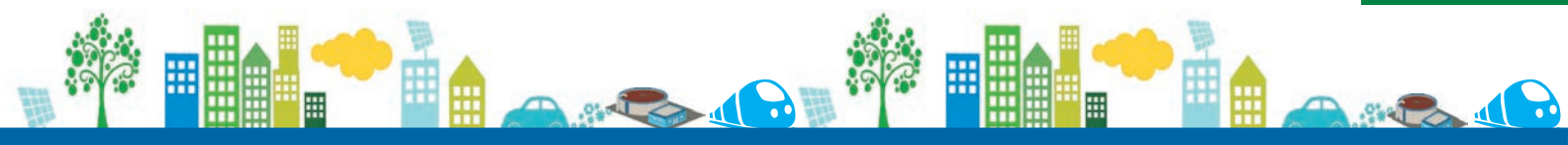
order of 2x660 MW Maitree STPP in Bangladesh is currently in progress. Further efforts are being made to deepen global presence through market expansion and market penetration.

Achievement of Company's long term goals and targets will have to be strongly supported by diversification efforts. Thrust on **diversification** resulted in an upsurge of order inflows, with the industry sector recording the highest level of order booking in the last six years. Efforts are on to accelerate this momentum to reach the goal of increasing the share of business from 'Non-Coal' areas to 50% from the current level of 30%.

In solar business, the Company is venturing into new areas such as floating solar PV plants, solar based water pumping systems and electric vehicle charging systems. BHEL received the highest rating SPV order for 75 MW SPV power project in FY 2017-18.

The successful running of the first Mumbai sub-urban air-conditioned EMU train since December 2017 is expected to bring in new opportunities in transportation business. Company is building strengths to leverage emerging opportunities in urban transportation including metros and high speed trains. Efforts are on for expansion of defence & aerospace portfolio to address new opportunities provided by this business segment. To harness growth opportunities in water business, the Company is strengthening existing business models and adopting new ones. Entry in the municipal segment in sewage treatment plants is the first step in this direction. For growth in transmission products and systems business, improvement in EPC execution and enhancement of technology capabilities is being focussed.

Development of new growth areas will complement Company's efforts towards



diversification. 'Energy Storage Solutions Group' has been created to leverage business related to grid level energy storage as well as solutions for electric vehicles. Some of the other potential areas being explored include aerospace, e-mobility, renewable energy, railways etc.

Initiatives in the new business areas will require technology development as the most critical input. Focus on innovation is a key driver of the Company's growth strategy. BHEL has taken up

in-house development of important technologies in mission mode including Advanced Ultra Supercritical Technology (AUSC), Coal to Methanol, etc. The real strength of an organization lies in discovering opportunities in challenges. While the potential of the opportunities and their conversion to actual business is still evolving, the Company is embracing the changes and adapting to the market realities. The journey ahead is challenging, yet exciting with new beginnings, new opportunities and new horizons.



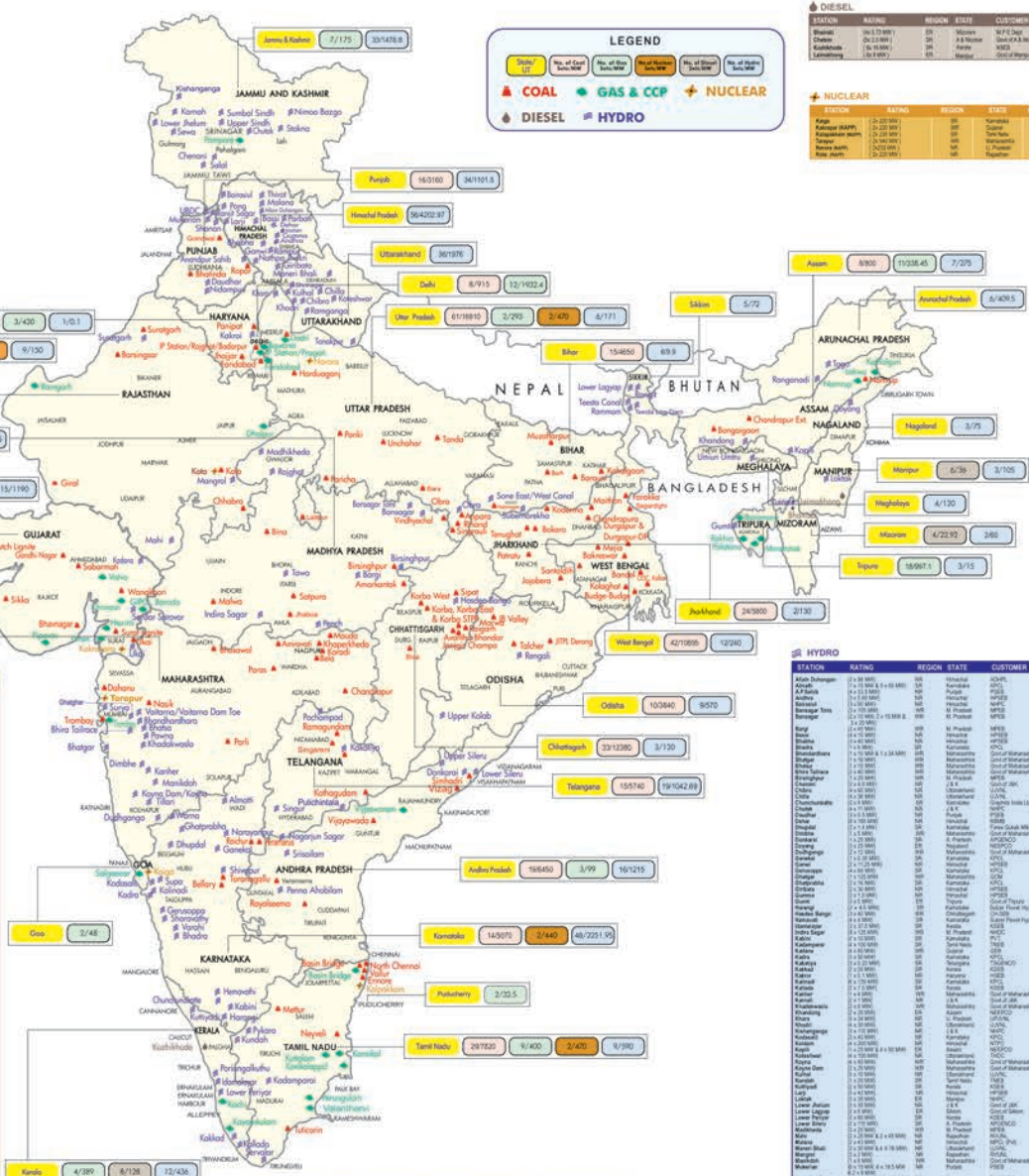


# SUSTAINABILITY REPORT 2017-18

## BHEL MAKE ELECTRIC UTILITY INSTALLATIONS COAL, GAS, NUCLEAR, DIESEL AND HYDRO PROJECTS COMMISSIONED AS ON 31.03.2018 (GEOGRAPHICAL LOCATION-WISE)

**GAS & CCF**

STATION	RATING	REGION	STATE	CUSTOMER
Adani	14/3040	3/420	1/0/1	
Adani	14/3040	3/420	1/0/1	
Adani	14/3040	3/420	1/0/1	
Adani	14/3040	3/420	1/0/1	
Adani	14/3040	3/420	1/0/1	
Adani	14/3040	3/420	1/0/1	
Adani	14/3040	3/420	1/0/1	
Adani	14/3040	3/420	1/0/1	
Adani	14/3040	3/420	1/0/1	
Adani	14/3040	3/420	1/0/1	



**COAL**

STATION	RATING	REGION	STATE	CUSTOMER
Adani	14/3040	3/420	1/0/1	
Adani	14/3040	3/420	1/0/1	
Adani	14/3040	3/420	1/0/1	
Adani	14/3040	3/420	1/0/1	
Adani	14/3040	3/420	1/0/1	
Adani	14/3040	3/420	1/0/1	
Adani	14/3040	3/420	1/0/1	
Adani	14/3040	3/420	1/0/1	
Adani	14/3040	3/420	1/0/1	
Adani	14/3040	3/420	1/0/1	

**REGION-WISE DISTRIBUTION OF BHEL MAKE UTILITY SETS**

REGION	COAL	GAS & CCF	HYDRO	NUCLEAR	DIESEL	TOTAL
NORTHERN	120	20205	32	175	8078.37	4
EASTERN	99	21685	29	1305.55	62	2081.4
WESTERN	147	4205	23	1805.13	76	3492.4
SOUTHERN	77	25000	16	800.3	104	5535.64
TOTAL	443	122935	102	7622.38	417	20697.41

**CUSTOMER-WISE DISTRIBUTION OF BHEL MAKE (COAL) UTILITY SETS**

Customer	COAL	GAS & CCF	HYDRO	NUCLEAR	DIESEL	TOTAL
Adani	120	20205	32	175	8078.37	4
Adani	120	20205	32	175	8078.37	4
Adani	120	20205	32	175	8078.37	4
Adani	120	20205	32	175	8078.37	4
Adani	120	20205	32	175	8078.37	4
Adani	120	20205	32	175	8078.37	4
Adani	120	20205	32	175	8078.37	4
Adani	120	20205	32	175	8078.37	4
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**BHARAT HEAVY ELECTRICALS LIMITED**  
POWER SECTOR MANAGEMENT SERVICES  
BHEL HOUSE, SIRI FORT, NEW DELHI

For details visit : <http://10.23.1.23>



## Organisational Profile

### About the Organisation

Bharat Heavy Electrical limited (BHEL) having its headquarters at Delhi, India is a celebration of India's industrial achievements. In its journey of over 55 years, it has gained the status of being one of the strongest pillars of Indian industry. BHEL serves the core sectors of the economy and provides a wide range of solutions to customers in power, transmission, transportation, renewables, water, defence & aerospace, oil & gas, and industry.

One of the largest engineering and manufacturing companies in India, BHEL has created value for all its stakeholders due to the scale and depth of its operations, rich experience, competent manpower, innovative ecosystem, diverse product mix and focus on sustainable business solutions. BHEL's greatest asset- its highly skilled and committed workforce of more than 37,000 employees is the cornerstone of its success.

BHEL's commitment to nation building reflects in many ways – in its contribution to more than half of the country's total installed power generation capacity; bringing the latest state-of-the-art technology to the country; highest spend on R&D and innovation; pan-India presence; establishment of world class assets and

investment in social programmes such as skilling youth, health & hygiene, education, cleanliness and environment protection, to name a few.

With 17 manufacturing plants, 2 repair units, 4 regional offices, 8 service centres, 1 subsidiary, 3 active joint ventures, 15 regional marketing centres, 3 overseas offices and current project execution at more than 150 project sites across India and abroad, BHEL manufactures a wide range of high quality & reliable products adhering to national and international standards for various industries.

Having a widespread overseas footprint with references in 83 countries, in all the six inhabited continents. Till date, BHEL has installed around 11 GW power generating capacity in overseas markets, and an additional 6 GW is under execution.

For BHEL's product profile, readers may refer to BHEL's Annual Report 2017-18 (AR 17-18) page 298-306 which can be accessed through the web link: [http://www.bhel.com/financial\\_information/pdf/17-18/BHEL\\_AR\\_2017-18.pdf](http://www.bhel.com/financial_information/pdf/17-18/BHEL_AR_2017-18.pdf)

For the details of performance of business segments, the reader may please refer to BHEL's AR 17-18 page 39-61.



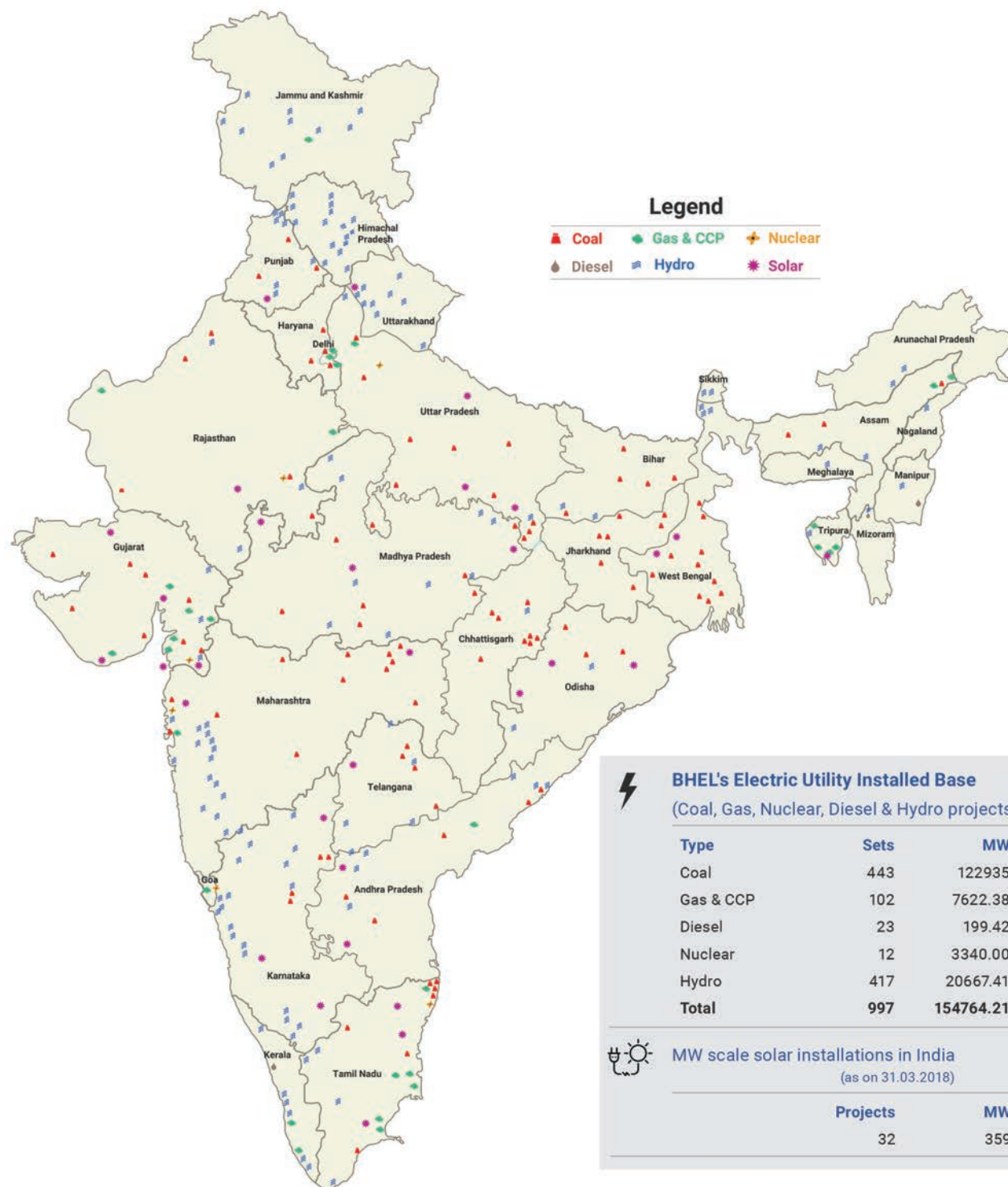
## PAN-India Presence

Formidable manufacturing strength & dedicated customer support - A widespread network of 17 manufacturing units, 2 repair units, 4 regional offices, 8 service centres, 1 subsidiary, 3 overseas offices, 3 active joint ventures, 15 regional marketing centres and current project execution at more than 150 project sites across India & abroad.



## BHEL Make Electric Utility Installations

Commissioned as on 31.03.2018





## SUSTAINABILITY REPORT 2017-18



**Dedicated R&D Facility for Solar Cells at BHEL ASSCP, Gurugram**



**Aerial View of Three Units of 3x18 MW PT CKP Project at Indonesia Commissioned by BHEL**



### Human Resource

BHEL's greatest strength is its highly skilled and committed human capital base of 37,540

employees (as on 31.03.2018) and it is second largest employer amongst Indian Capital Goods Industry. In this workforce we have 2148 female



**Director (HR) Administering the Pledge to Employees during the  
Vigilance Awareness Week (VAW) Observed in BHEL**





Manufacturing Plants / Unit Locations		
BHEL Manufacturing Units	Bengaluru	1. Electronics Division (EDN)
		2. Electronics Systems Division (ESD)
		3. Electro Porcelain Division (EPD)
	Bhopal	4. Heavy Electrical Plant (HEP)
	Goindwal	5. Industrial Valves Plant (IVP)
	Haridwar	6. Heavy Electrical Equipment Plant (HEEP)
		7. Central Foundry Forge Plant (CFFP)
	Hyderabad	8. Heavy Power Equipment Plant (HPEP)
	Jagdishpur	9. Insulator Plant (IP)
		10. Centralised Stamping and Fabrication Plant (CS&FP)
	Jhansi	11. Transformer Plant (TP)
	Rudrapur	12. Component Fabrication Plant (CFP)
	Ranipet	13. Boiler Auxiliaries Plant (BAP)
	Triuchirappalli	14. High Pressure Boiler Plant (HPBP)
		15. Seamless Steel Tube Plant (SSTP)
	Thirumayam	16. Power Plant Piping Unit (PPPU)
	Visakhapatan	17. Heavy Plates & Vessels Plant (HPVP)
BHEL Repair Units	Mumbai	1. Electrical Machine Repair Plant (EMRP)
	Varanasi	2. Heavy Equipment Repair Plant (HERP)
BHEL Subsidiary	Kasaragod	1. BHEL Electrical Machines Ltd. (BHEL-EML)

employee (nearly 5.6%) as on 31<sup>st</sup> March 2018. During this period number of employee with permanent disability was 913. BHEL has more than 8000 engineers in the workforce which is almost 90% of the executive cadre strength. BHEL has participative management culture since 1973 and having less than 1% attrition rate.

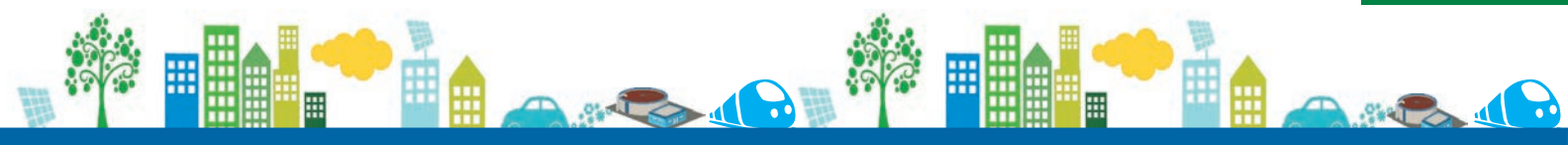
## Supply Chain of BHEL

BHEL has been supporting Micro, Small & Medium Enterprises (MSMEs) and local suppliers in and around manufacturing units from various fronts. They are part of BHEL's supply chain. Also, as mandated in Public Procurement Policy-2012 for MSEs (issued by Ministry of MSME-Gol), BHEL has achieved the

target of 20% of its total procurement from MSEs during 2017-18. Regular vendor meets and supplier development programs are being organized by BHEL units, specifically for MSEs (including local suppliers), which serves as a platform for identification of needs and formulation of action plan for mutual benefits. There has not been any significant changes in supply chain of BHEL during the reporting period.

## Policy Advocacy

BHEL is a member of many industry and trade bodies such as Confederation of Indian Industry (CII), Federation of Indian Chambers of Commerce and Industry (FICCI), Associated Chambers of Commerce and Industry of India





(ASSOCHAM), International Chamber of Commerce (ICC), PHD Chamber of Commerce and Industry (PHD), Standing Conference of Public Enterprises (SCOPE), National Safety Council (NSC), and Global Compact Network, India (GCNI). Company is also member of World Energy Council (WEC) which enables promoting policies that balance Energy Security, Energy Equity and Environmental Sustainability aspects of India. BHEL uses various mechanisms of interaction with such bodies (e.g. participation in seminars & meetings, participation in working group etc.) for putting forth its views and opinions in matter related to policy.

Company's interests are represented via inputs to government queries, knowledge sharing, response to surveys, feedback on industry needs, formation of government policies like GST, Fiscal Budget, Foreign Trade, Company Law, Industrial Policy, Capital Goods Policy, Export Promotion, etc. Company participates in multilateral bodies for trade promotion and collaboration with countries like the US, France, Sweden, UK, Russia, Japan, Brunei etc. Company also interacts with government bodies like DHI, DPE, DIPP, NITI Aayog and participates in policy formulations like National Electricity Policy, Challenges of Employment Generation, Growth and Skill Development, Make in India, promotion of in-house R & D, Human Resource Management, roadmap for development of CPSEs, etc.

Company has actively contributed in responsible manner towards development of policies meant for strengthening of technology base in country, skill development, development of Indian power sector, development of capital goods sector and Indian manufacturing industry, exports, growth of Public Sector Enterprises through better governance, etc.

## Precautionary Approach

BHEL is quite mindful of its responsibility towards reducing the environmental footprint of its products and services. Our commitment to environment especially with regards to precautionary approach is manifested in our efforts towards reducing - material, water & energy consumption, emission and waste generation and simultaneously recycling of reusable waste generated in our premise including effluent and raw materials.

## Ethics & Integrity

BHEL advocates the principles of Good Governance, Transparency, Probity and Ethics so as to ensure maintenance of highest level of integrity in its functioning. As part of BHEL's persisting endeavour to set a high standard of conduct for its employees, a 'Code of Business Conduct and Ethics' was laid down for all Board Members and Senior Management personnel and the same was revised in line with changes in the regulatory framework & changing business dynamics and to incorporate other relevant provisions to strengthen the Code. Pursuant to erstwhile Listing Agreement with the Stock Exchanges, the Board of Directors of BHEL in its 465<sup>th</sup> meeting held on November 14, 2014 revised and approved the "Code of Business Conduct & Ethics for Board Members and Senior Management Personnel" of the Company. The Code is also in compliance with the current Listing Regulations. The Code encompasses:

- General Moral Imperatives;
- Specific Professional Responsibilities; and
- Specific Additional Provisions for Board Members and Senior Management Personnel.

A copy of the revised Code has been placed on the Company's website [www.bhel.com](http://www.bhel.com).

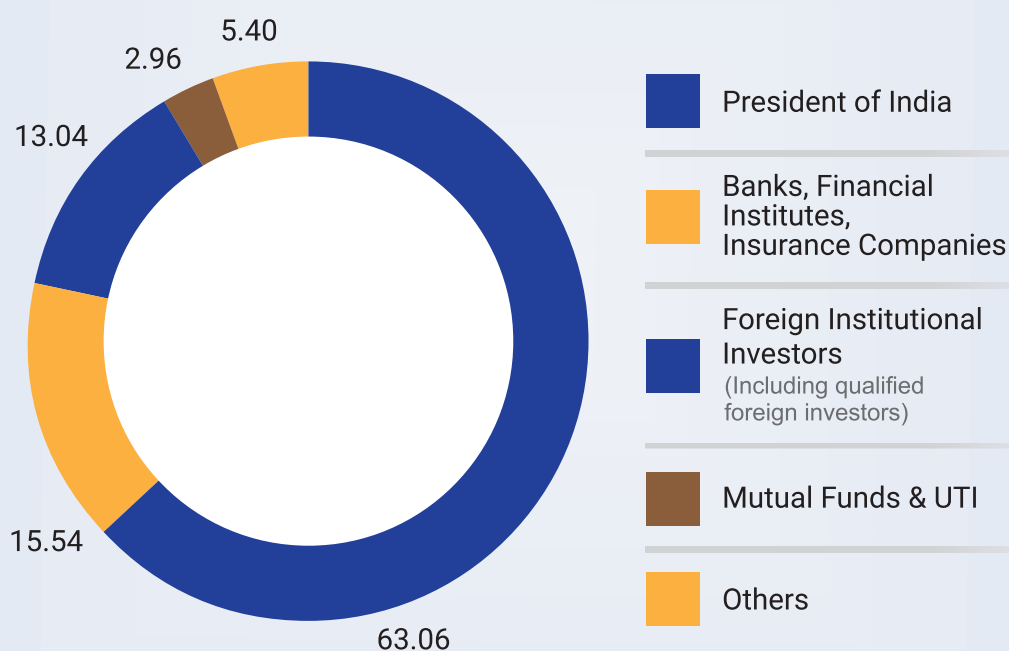


BHEL signed the Integrity Pact with Transparency International on 16.12.2008 and the same was adopted in Feb. 2009. Structured meetings are held with the Independent External Monitors (IEMs) every quarter wherein the procurement related issues and complaints thereupon are discussed. The threshold value for tenders has been further brought down from Rs.10 crores to Rs.5 crores to increase the coverage of Integrity Pact.

## Nature of Ownership and Legal Form

The Government of India is the majority shareholder of BHEL. The shareholding pattern as on 31.03.2018 is given in the diagram. For the details about shareholding pattern and changes in the shareholding pattern during 2017-18, reader may please refer to BHEL's Annual Report 2017-18 (AR 17-18) page 101-106.

### Shareholding Pattern as on March 31, 2018



## A large circular structure, likely a particle accelerator, with a person standing in the center for scale. The structure is composed of many radial segments, each with a red outer ring and a white inner section. The person is standing in the center, looking down at a small object in their hands. The background is a solid blue color.

A global engineering enterprise providing  
solutions for a better tomorrow

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

- One of the largest engineering & manufacturing companies in India serving core sectors of the economy

- India's industrial ambassador to the world
- Made the country self-reliant in power sector-concept to commissioning
- Pan-India presence with 17 manufacturing units and 150+ project sites globally





## SUSTAINABILITY REPORT 2017-18

**Did You Know**

- BHEL is the first manufacturer of solar photovoltaic cells and modules in the country
- Solar on ground, solar on rooftop, solar on water, solar in satellites – BHEL does it all!
- BHEL is one of the select few firms worldwide with capability to design and manufacture heat exchangers for fighter aircraft
- Amongst domestic manufacturers, BHEL has commissioned the highest number of eco-friendly supercritical sets in the country
- BHEL is the single largest contributor to the country's total installed electric capacity
- All Indian satellites launched by ISRO are equipped with BHEL supplied solar panels & batteries
- One of the world's largest  $\pm 800$  kV, 6000 MW multi-terminal HVDC NE-Agra transmission project has been executed by BHEL (along with ABB)

**Global Footprints**

- References in 83 countries in all inhabited continents
- 11,000 MW+ power generation capacity added in overseas markets
- 6,000 MW+ projects under execution
- Executing the largest ever export order- 2x660 MW Maitree thermal power project in Bangladesh

**Energizing India**

- 1,000+ utility sets installed in the country
- 183+ GW power generating equipment installed in India and abroad
- 450+ MW – cumulative supply of PV cells, modules, and systems
- BHEL manufactured equipment constitutes 47% of nuclear power generation capacity (secondary side) and 45% of hydro power generation capacity in the country

**Going Digital**

- Harnessing Internet of Things (IoT) for value-added services for power plants
- Enterprise Social Network ICON launched for employees
- Improving performance through remote monitoring and diagnostics system introduced in power plants

**Unparalleled Contribution in Core Sectors**

- 600,000+ MVA transmission equipment supplied
- 31,000+ AC machines supplied; largest Indian manufacturer
- 360 electric locos supplied to Indian Railways & industry
- 390+ compressors & 90 oil drilling rigs supplied
- 38+ Super Rapid Gun Mount supplied for Indian Navy ships

**Technology for a Sustainable Future**

- Developing critical technologies in-house including Advanced Ultra Supercritical (AUSC) and Coal to Methanol
- Spearheading the development and installation of emission control equipment for coal based power plants
- Developed more efficient EHV Transmission systems and products (including  $\pm 800$  kV HVDC)

**Innovation**

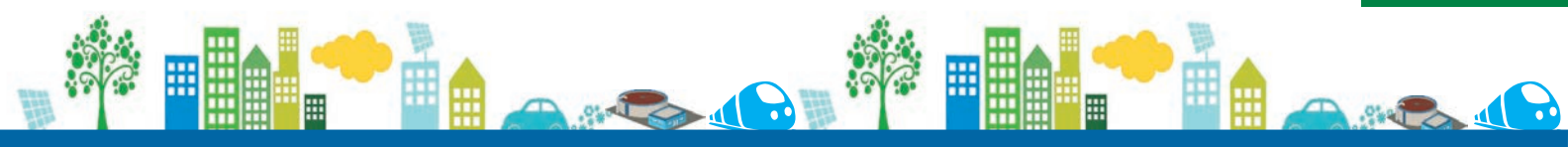
- R&D expenditure consistently >2.5% of turnover - highest in Indian engineering field
- Five Research Institutes
- 14 Centres of Excellence (CoE)
- In-house R&D centres of 12 manufacturing units & divisions recognized by DSIR

**Valuing People**

- Second largest employer amongst Indian Capital Goods industry
- More than 8,000 engineers in the workforce – ~90% of executives
- 2,100+ female employees
- Participative management culture since 1973 – less than 1% attrition rate

**Social Onus**

- Committed to Principles of UN Global Compact
- Signatory to Integrity Pact of Transparency International
- Awarded 'Champion of Change' for skilling Gen-Y
- Active contributor to Healthy India, Educated India, Green India and Clean India initiatives
- In-house green coverage of 4.7 million square metres



## Corporate Governance

### Our Philosophy on Corporate Governance

BHEL functions within 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 beyond the regulatory structure and basic requirements of corporate governance, focusing consistently towards building confidence of its shareholders, customers, employees, suppliers and the society at large. BHEL's corporate governance framework rests upon the cornerstones of transparency, full disclosure, independent monitoring and fairness to all, especially minority shareholders.

The following principles strengthen Corporate Governance in BHEL:

- (i) Independence and versatility of the Board
- (ii) Integrity and ethical behaviour of all personnel
- (iii) Recognition of obligations towards all stakeholders – shareholders, customers, employees, suppliers and the society
- (iv) High degree of disclosure and transparency levels

(v) Total compliance with laws in all areas in which the Company operates

(vi) Achievement of above goals with compassion for people and environment

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

### Governance Structure at BHEL

The composition of 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 50% of the composition of the Board. The composition of the Board of Directors as on 31.03.2018 is as under:

Particulars	Board Structure	Actual Strength as on 31.03.2018
Chairman & Managing Director	1	1
Whole-time Executive (Functional) Directors	5	4
Part-time Official Directors (Government Nominees) representing the Ministry of Heavy Industries & Public Enterprises, Government of India	2	2
Part-time Non-official (Independent) Directors	8	6
<b>TOTAL</b>	<b>16</b>	<b>13</b>



As on 31<sup>st</sup> March, 2018, besides vacancy of Director (Finance), there exist two vacancies of Part-time Non-official (Independent) Directors on the Board of BHEL. Director (E, R&D) is holding additional charge of Director (Finance). The matter of filling up of these vacancies was under consideration of Department of Heavy Industry, Ministry of Heavy Industries & Public Enterprises, Govt. of India. For details about leadership in BHEL, the reader may please refer to page 8-13 of BHEL's AR 17-18.

BHEL has a Unitary Board Structure. As regards non-executive members of the Board, there are 2 Part-time Official Directors/ Government Nominees and 8 Part-time Non-official (Independent) Directors. As on 31.03.2018, there exist two vacancies of Part-time Non-official (Independent) Directors on the Board of BHEL. Further, as on 31.03.2018, there was 1 woman independent (non-executive) Director on the Board of BHEL.

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 and Functional Directors on the Board of BHEL and also appoints Part-time Non-official (Independent) Directors on the Board of BHEL. Two Part-time Official Directors viz. Additional Secretary/Joint Secretary, Department of Heavy Industry, Ministry of Heavy Industries & Public Enterprises and Special Secretary/ Additional Secretary & Financial Adviser, Ministry of Commerce and Industry are nominated by the Government of India on the Board of BHEL. Further, in compliance of Companies Act, 2013 and SEBI Listing Regulations, 2015, the Board comprises of one (01) woman director.

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.

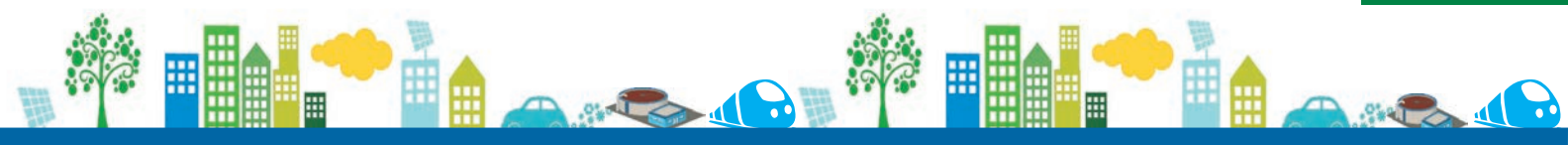
The Independent Directors play an important role in deliberations at the Board and Committee meetings and bring to the Company their expertise in the fields of engineering, finance, management, law and public policy.

The Independent Directors are part of important Committees constituted by the Board such as the Audit Committee, Nomination & Remuneration Committee, Stakeholders Relationship Committee and CSR Committee. In terms of Companies Act, 2013 and Listing Regulations, the Audit Committee and the Nomination & Remuneration Committee are chaired by an Independent Director and function within their respective defined terms of references.

## Working of the Board

The Board's mandate is to oversee the Company's strategic direction, review and monitor corporate performance, ensure regulatory compliance and safeguard the interests of the shareholders. Such overview and monitoring is ensured through regular meetings of the Board of Directors which are scheduled well in advance. This also ensures that important decisions are taken and implemented in time. In Financial year 2017-18, Board met 9 times.

The Company Secretary, in consultation with the Chairman & Managing Director, sends a written notice of each Board meeting to each Director. The members of the Board have access to all information of the Company and are free to recommend inclusion of any matter for discussion in agenda which is usually sent in advance. In case of need, the senior management is invited to attend the Board



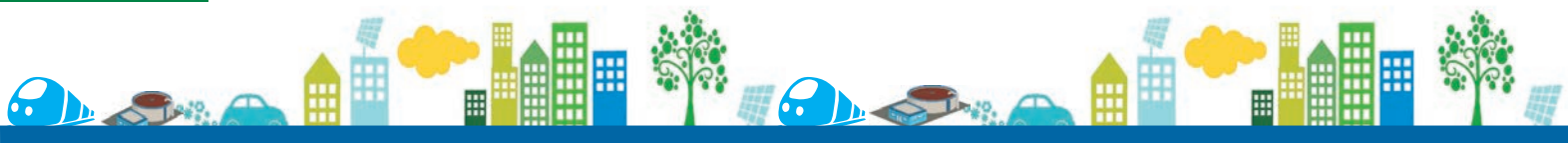


Meetings to provide additional inputs relating to the items being discussed and/ or to give presentation to the Board. The Board meets at least once in a quarter to review the quarterly results and other items on the agenda. Additional meetings are held, when necessary.

The information under the following heads are usually presented to the Board of Directors of BHEL either as part of the agenda papers or are tabled/ presented during the course of Board meeting:

- Annual operating plans and budgets and any updates.
- Capital budgets and any updates.
- Quarterly results for the company and its operating divisions or business segments.
- Minutes of meetings of Audit Committee and other Committees of the Board.
- Minutes of Board Meetings of unlisted subsidiary companies.
- Statement of all significant transactions and arrangements entered into by unlisted subsidiary companies.
- The information on recruitment of senior officers just below the Board level.
- Details of any Joint Venture or R&D project or technical collaboration agreement requiring approval of Board of Directors.
- Significant labour problems and their proposed solutions. Any significant development in Human Resources/ Industrial Relations front like signing of wage agreement, implementation of Voluntary Retirement Scheme etc.
- Sale of subsidiaries.
- Purchase and Sale of material tangible/ intangible assets not in the ordinary course of business.
- Quarterly details of foreign exchange exposures and the steps taken by management to limit the issues of adverse exchange rate movement, if material.
- Action Taken Report on matters desired by the Board.
- Disclosure of Interest by Directors about directorships and Committee positions occupied by them in other companies.
- Quarterly report on compliance of various laws.
- Information relating to major legal disputes.
- Status of Arbitration cases.
- Short term investment of surplus funds.
- Any contract(s) in which Director(s) are deemed to be interested.
- Status of shareholders' grievances on quarterly basis.
- Significant Capital Investment proposals.
- Changes in significant accounting policies & practices and reasons for the same.
- Performance of various units/functions.
- Any other information as required under Listing Regulations, DPE guidelines and SS-1 etc., to be presented to the Board either for information or approval.

In addition to the above, the Board of Directors has also constituted various statutory and technical committees such as the Board Level Audit Committee, Stakeholders Relationship Committee, Share Transfer Committee, HR Committee, Board Level Committee for CSR, Committee of Independent Directors, Nomination & Remuneration Committee, Board Level Risk Management Committee, Committee on Arbitration & Major Legal Disputes and Board Level Committee on Mergers &

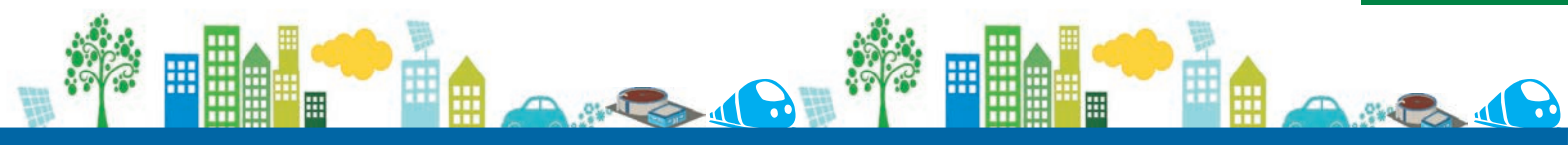


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Board Level Committee on Mergers & Acquisitions to ensure in-depth analysis & review as well as provide requisite guidance, advice and recommendations on important matters. The procedures for conducting meetings of these Committees are also similar to that followed for the Board of Directors.

## Roles and Responsibilities of the Board

For the purpose of clearly defining the roles and responsibilities of the Board and individual Directors, the Board has laid down a Charter of the Board of Directors. The Charter also articulates our corporate governance objectives and approach.

In line with the DPE guidelines, listing agreement and with the objective of providing the Directors: a) insight into guidelines and procedures for successful discharge of their statutory duties, b) better understanding of the business environment to envision the future and develop strategies and c) need based training to meet the specific requirements of the board members, BHEL Board has approved a policy for training of Directors. It covers both general and specific trainings more tuned towards Company specific areas.

## Delegating Authority

BHEL Board has constituted 9 Board Level Committees. For details about these board level committees, their Terms of Reference, Composition of Committee, Name of Members & Chairperson, Meetings and Attendance, reader may please refer to page 81-88 of BHEL's AR 17-18.

## Addressing Conflict of Interest (Col)

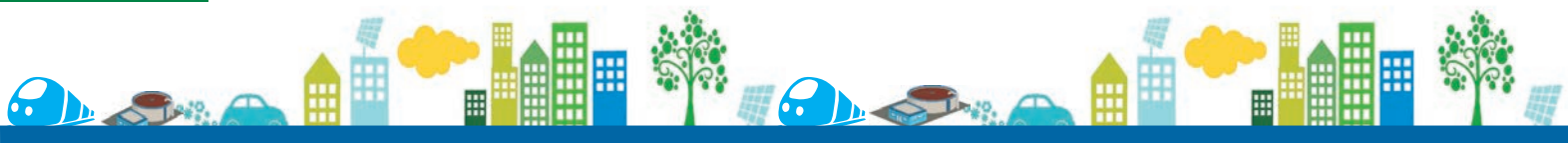
All directors at the time of joining the Board give a certificate stating that neither they nor their relatives have any conflict of interest with the company's business. Directors also disclose their interest in other companies, body corporates and other entities to the Board and also whenever there is any change in the interest. Directors abstain from any discussions in/ approval of the Board pertaining to contracts or transactions with such interested parties. Further, all Directors and Senior Management Personnel sign an affirmation to abide by the Code of Business Conduct and Ethics of BHEL and ensure high standard of conduct.

Further, Senior Management personnel of the company make disclosure to the Board relating to all material, financial and commercial transactions where they have personal interest that may have potential conflict with the interest of the company (e.g. dealing in company's shares, commercial dealings with bodies, which have shareholding of management and their relatives, etc.)

## Performance Evaluation of the Highest Governance Body

The MoU signed between the company and the Govt. of India details out the parameters and initiatives that the company is required to undertake during that financial year. This MoU is evaluated at the end of the year by the Govt. and a performance rating is assigned to BHEL based on its performance on the spelt out parameters. The terms of reference of Board

Level	Women Employees (Nos.)	Percentage w.r.t total employees	Percentage w.r.t to Women employees
Lower	1900	4.8	84.81
Middle	344	0.9	15.28
Top	7	0.02	0.31





Level Committees are approved by the Board. The minutes of Board Level Committees are placed before the Board for its perusal. Further, there is a well laid down procedure for performance evaluation of CMD and Functional Directors. Department of Public Enterprises (DPE) has designed a format and laid down a procedure for filling up and evaluation of the Director's performance. Once the concerned Director does self-assessment, his evaluation is done by CMD, then by Secretary, Heavy Industries and closed by the Minister-in-Charge. The tenure of Functional Directors as spelt out in their Terms and Conditions of Appointment is five years or the date of their superannuation, whichever is earlier.

As per Schedule IV of the Companies Act, 2013, on the basis of performance evaluation of Independent Directors, it shall be determined whether to extend or continue their term of appointment. Since the appointment of the Independent Directors is decided by the Govt. of India and as the tenure of Independent Directors is normally for a period of three years, also as decided by the Govt. of India, the Board is not in a position to decide their continuance or otherwise on the basis of performance evaluation.

Ministry of Corporate Affairs has vide its notification dated 5<sup>th</sup> June, 2015 notified the exemptions to Government Companies from the provisions of the Companies Act, 2013 which inter-alia provides that Section 134(3)(p) regarding statement on formal annual

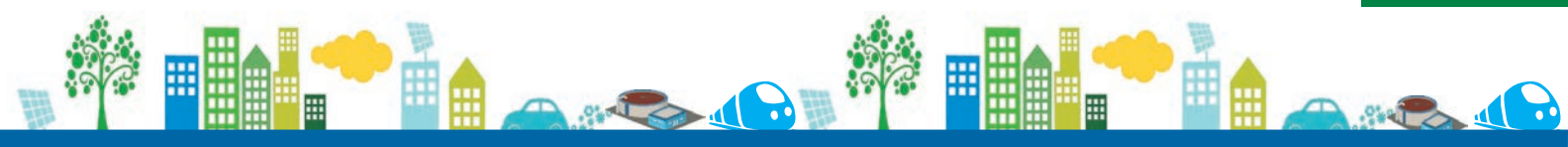
evaluation shall not apply to Government Companies in case the directors are evaluated by the Ministry which is administratively in-charge of the company as per its own evaluation methodology. Further, in line with above exemptions, sub-sections (2), (3) & (4) of Section 178 regarding appointment, performance evaluation and remuneration shall not apply to Directors of Government Companies.

## Remuneration Policy

BHEL being a Public Sector Undertaking, the appointment and remuneration of Chairman & Managing Director/ Functional Directors are decided by the Government of India. The terms of appointment of Chairman & Managing Director / 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. The part-time nonexecutive directors are not paid any remuneration except sitting fees to Independent Directors for attending meetings of the Board or Committee thereof.

## Diversity and Equal opportunity

BHEL is a pan India Organization and recruitment is open to all eligible candidates irrespective of States and communities. Despite being in a core Manufacturing Setup, BHEL has 5.6% of its workforce as Women Employees. BHEL has workforce comprising all minority communities representing more than 8% of the workforce.



Risk Statement	Mitigation Strategy
Online data & information security breach leading to loss and critical information infrastructure breakdown	<ul style="list-style-type: none"> <li>Implementation of Cyber security incident capturing system across the Company</li> <li>Third party audit as per ISO27001 ISMS Standards</li> <li>Business Continuity Plan (BCP) &amp; Disaster Recovery (DR) strategy in place</li> <li>Crisis Management Group in place</li> <li>Security operation center for protection against cyber threats and early detection of targeted attacks and data breaches</li> </ul>
Impact of External Factors Viz. Govt. Policy, infrastructure inadequacy, which may adversely impact the business	<ul style="list-style-type: none"> <li>Policy advocacy and initiatives through Administrative Ministry and reaching out to Industry bodies/associations</li> <li>Liaison with key business partners</li> </ul>
Technology readiness to meet current/future market requirements	<ul style="list-style-type: none"> <li>In house development of new Products/Technologies</li> <li>Technical collaborations with suitable partners</li> </ul>
Rising debtors	<ul style="list-style-type: none"> <li>Formation of special groups to accelerate cash collections</li> <li>Swift closure of punch points with customers</li> <li>Better scheduling of supplies</li> <li>Flagging the issues with Government in case of state utilities</li> </ul>

The cohesion in workforce and strong compatibility amongst employees can be seen from the fact that BHEL has one of the lowest attrition rate in Manufacturing Sector.

Although the candidates who join BHEL belong to different demographics in terms of qualifications, culture, location, religion etc. BHEL ensures technical and cultural fitment of these candidates as per our Vision Mission Value statement. The following table shows the

strong presence of women employees in our organization and consequent measure of gender diversity.

BHEL's Recruitment Policy is completely in line with various govt. directives issued from time to time on the matters of recruitment and non-discriminating recruitment practices in terms of caste/gender/handicap or religion. Over 5.6% of its workforce is of women employees and



## Employees:

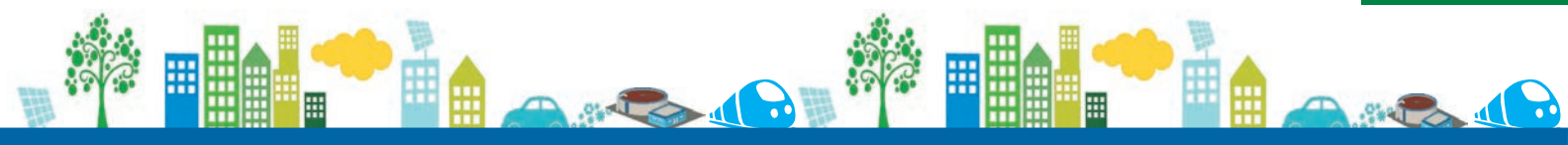
- Employees Satisfaction Surveys
- Top down communication through Management Committee meetings, Monthly Communication meetings, Project Review Meeting
- IT enabled communication e.g. Internet and e-mails, Intranet, e-Map etc.
- Display Boards, Plasma TV displays etc.
- Bottom up communication through Joint Committee, Plant Council, Shop Council, General communication meeting etc.
- Horizontal communication through daily communication meeting at sites/shop floor, Video Conferencing, Audio Conferencing, IP phone etc.
- The Idea Portal facilitates free flow of ideas. Customized services to employees in which the HR Query on line system with access to all employees is a platform wherein an employee can raise any query regarding policy / rules / issues pertaining to HR which are replied within 48 hours.

## Customers:

- Customer Satisfaction Surveys
- Continuous interaction and feedback by CMD, Functional Directors and Marketing Groups at Corporate level
- Assessment of present and future needs by Unit/Regional Heads and concerned General Manager once in 3 months for every customer and also need based
- Assessment of short/midterm needs once in two months for every customer by Head of Functions in manufacturing units
- Plant execution schedule by Site-in-charge everyday
- Annual customer meet by Top & senior officials

## Shareholders/Investors:

- Annual General Body Meeting
- In order to ensure transparency, a separate section on Corporate Governance is annexed every year with the Annual Report of the Company, wherein all disclosures are made as per the listing requirements
- Conference calls/ One to one meeting with Investors and participating in various investor conference in India and abroad by CMD/Functional Directors/Executive Director (CSM) and other senior officers.





- Disclosure of information on the internet
- Filing of information with Stock exchanges
- News Releases and Press conferences

## Government Authorities:

- BHEL has Government of India as a majority shareholder. Thus, apart from the above, BHEL has several established mechanisms in place to communicate with Government authorities
- Interaction with Ministry of Heavy Industry & Public Enterprises at senior most level, from day to day performance issues to Government Policy related issues
- Adherence to values/ processes in line with guidelines given by Parliamentary Committees, Chief Vigilance Commissioner, Government Auditors, Ministry of Heavy Industry etc.

## Vendors/Partners:

- Vendor Satisfaction Surveys by units
- Daily Milestone review by Project Site In-charge
- Short & midterm need assessment by senior leaders daily
- Contract execution by head of functions as and when needed.
- Vendor meets at unit level
- Forge Partnership through MoUs / Rate Contracts by senior leaders

## Society:

- Society Satisfaction Surveys by units
- Continuous interaction with Local administration/District authorities by senior leaders at units /project sites
- Medical camps/ Blood donation camps at units/Sites/adopted villages etc.
- Creation of educational infrastructure for local people at manufacturing units
- Other social welfare initiatives

Key topics and concerns that have been raised through stakeholder engagement, and the manner in which BHEL has responded to those key topics and concerns is listed in the table below:



Identified Material Issues	Strategies to Resolve These Issues
Rising debtors	<ul style="list-style-type: none"> <li>• Formation of special groups to accelerate cash collections</li> <li>• Swift closure of punch points with customers</li> <li>• Better scheduling of supplies</li> <li>• Flagging the issues with respective State/ Central Government authorities in case of state utilities</li> </ul>
Online data & information security breach leading to loss and critical information infrastructure breakdown	<ul style="list-style-type: none"> <li>• Implementation of cyber security incident capturing system across the company</li> <li>• Third party audit as per ISO27001 ISMS Standards</li> <li>• Business Continuity Plan (BCP) &amp; Disaster Recovery (DR) strategy in place</li> <li>• Crisis Management Group in place</li> <li>• Security Operation Center for protection against cyber threats and early detection of targeted attacks and data breaches</li> </ul>
Impact of external factors viz. Govt. policy, infrastructure inadequacy, which may adversely impact the business	<ul style="list-style-type: none"> <li>• Policy advocacy and initiatives through Administrative Ministry and reaching out to Industry bodies/ associations</li> <li>• Liaison with key business partners</li> </ul>
Climate change and Technology readiness to meet current/future market requirements	<ul style="list-style-type: none"> <li>• In house development of new products/ technologies</li> <li>• Technical collaborations with suitable partners</li> </ul>

There has not been any change in the stakeholder engagement framework and approach to stakeholder engagement.

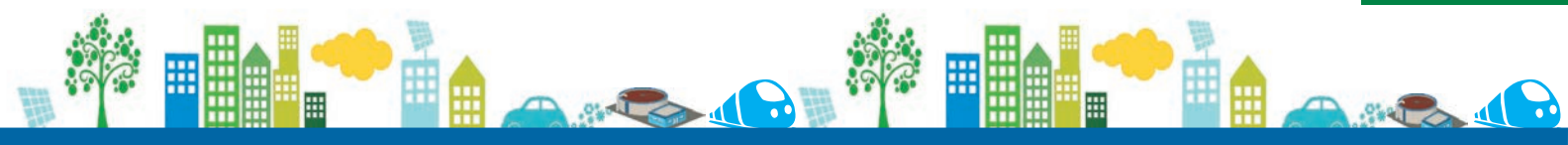
## Reporting Practice

BHEL publishes its Sustainability Report Annually. BHEL's sustainability report for 2016-17 is available on [www.bhel.com](http://www.bhel.com). The following entities are included in the consolidated financial statement of BHEL:

1. BHEL-GE Gas Turbine Services Pvt. Ltd.
2. Raichur Power Corporation Limited

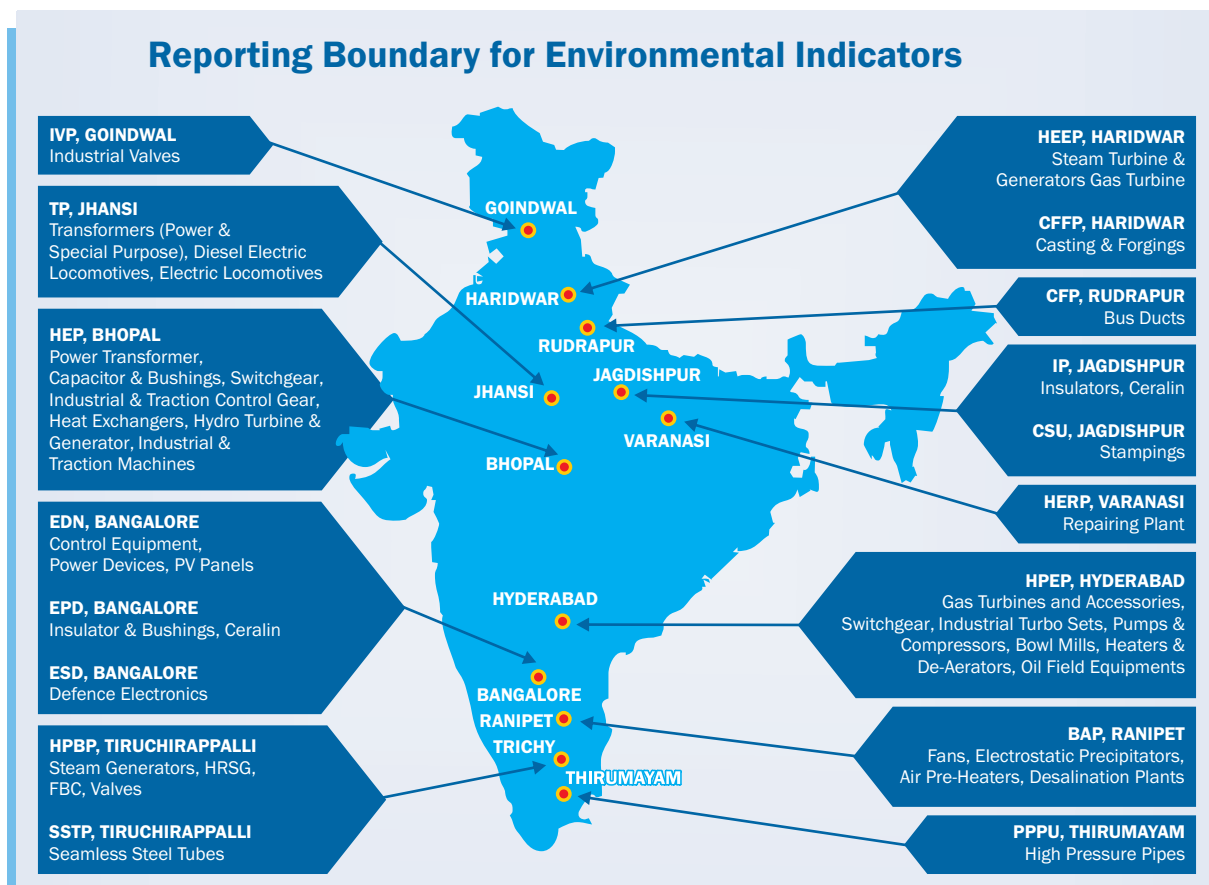
## 3. NTPC-BHEL Power Projects Pvt. Ltd.

For details about the same, the reader may kindly refer to BHEL's Annual Report 2017-18. The present sustainability report contains the snapshots of our journey on the path of Sustainability for the Financial Year 2017-18. The data on environmental standard GRI 301: **Materials** includes material use at the project sites also. However, for all other aspects, the



report is limited to the manufacturing units as shown in the figure captioned “Reporting Boundary for Environmental Indicators”. At project sites, our projects are under various

stages of execution and as of now except data capturing for material, other environmental aspects are not being monitored and controlled in a robust manner.



The data for the aspects other than Environment includes the data for entire BHEL setup (excluding JVs and subsidiaries). The report has been prepared in accordance with GRI Standards with comprehensive option. No external assurance has been sought from any agency for BHEL’s Sustainability Report 2017-18.



For any clarification / suggestion on the report the reader may please write to [baskar@bhel.in](mailto:baskar@bhel.in).





## Economic Performance

### Managing Approach

The Company is committed to enhance shareholder value and has a track record of paying dividend uninterruptedly since 1976-77. Driven by the vision of 'Creating BHEL of Tomorrow', the Company has embarked upon a transformational journey in order to enhance responsiveness to emerging opportunities and building new levels of robustness, thereby laying the foundation for a sustainably rising BHEL. The Company is focusing its efforts through specific strategies and their enablers to ensure sustained growth in the future.

The company is building new pathways to fuel its growth aspirations. With focus on enhancing value propositions and building new capabilities in core businesses, BHEL is expanding its business and enhancing its portfolio in the field of renewables, transportation, transmission, defence, aerospace and water businesses and other new growth areas for future business. To thrive in the future, the company is leveraging opportunities emerging from a growing economy in various areas such as urbanisation, digitalisation etc.



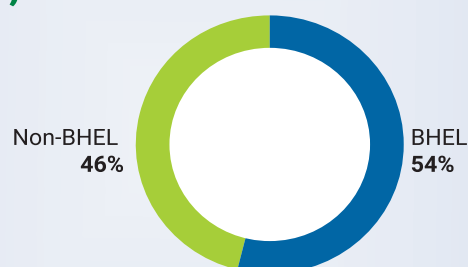
5x250 MW xxxxx Thermal Power Plant at xxxxxxxx In Assam

### Financial Performance Highlights

The Company has secured orders worth Rs. 40,932 crore during 2017-18 against Rs. 23,489 crore in preceding year representing a significant growth of 74%. BHEL demonstrated its leadership position in the thermal power segment by securing all orders for thermal power projects during the year. A significant growth in orders receipt achieved in FY 2017-18 over preceding year in industrial segment areas viz. Captive power plant at Rs. 1,591 crore (524% growth) and transportation business at Rs. 2,181 crore (96% growth). The orders in hand as on March 31, 2018 at over Rs. 1,18,000 crore, is the highest in the last 5 years. BHEL has reinforced its leadership position by securing 100% of the market share in main plant equipment for thermal utility segment during FY 2017-18.

### Installed Capacity - Utility\*

**2,88,685 MW** As on March 31, 2018

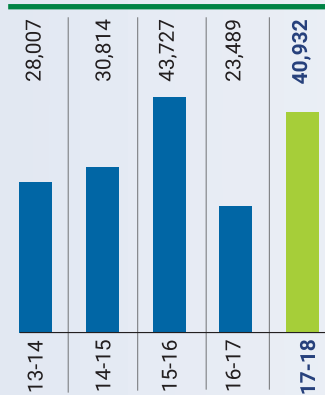


\* Includes Coal, Gas, CCP, Nuclear & Hydro;  
Excludes Renewables  
Based on rating at the time of installation

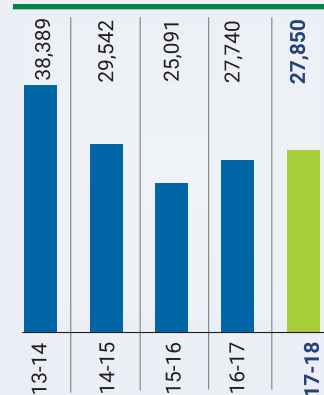
## 2017-18 Year at a Glance

(Figures are in ₹ crore unless otherwise stated)

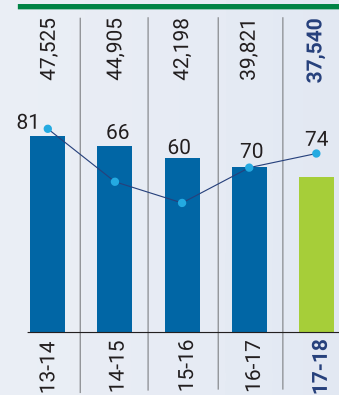
### Orders Received



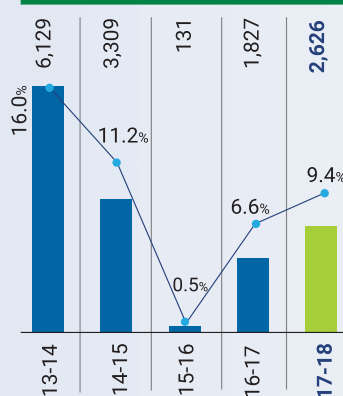
### Turnover



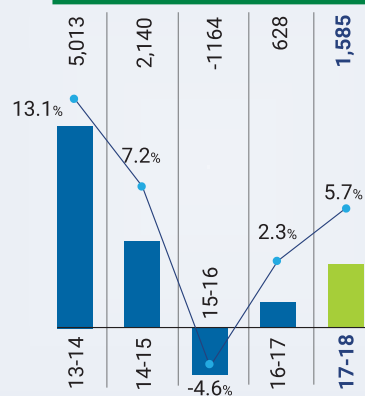
### Manpower (in numbers) (Turnover per employee) ₹ Lakhs



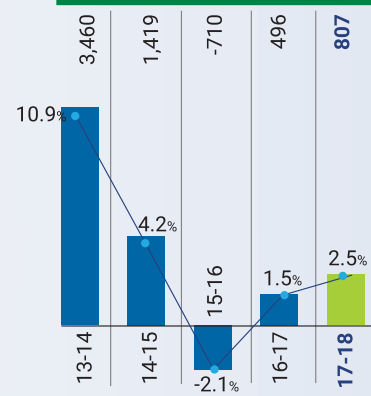
### EBIDTA (% to turnover)



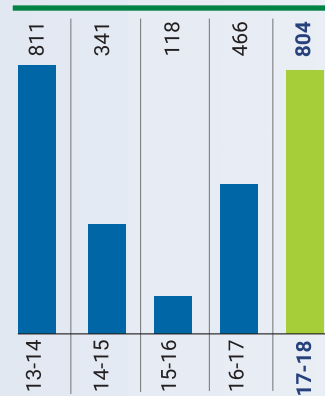
### Profit before Tax (PBT) (% to turnover)



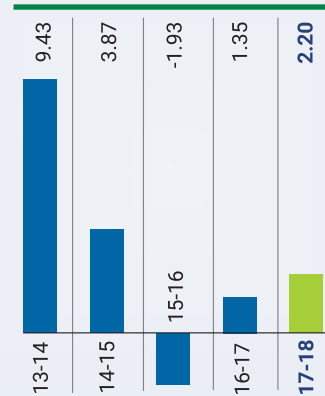
### Profit after Tax (PAT) (% to avg. net worth)



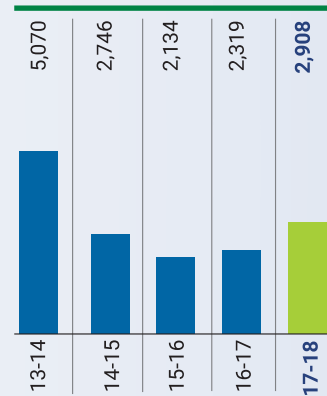
### Dividend Payout (incl. dividend tax)



### Earning per Share (EPS) (in ₹)



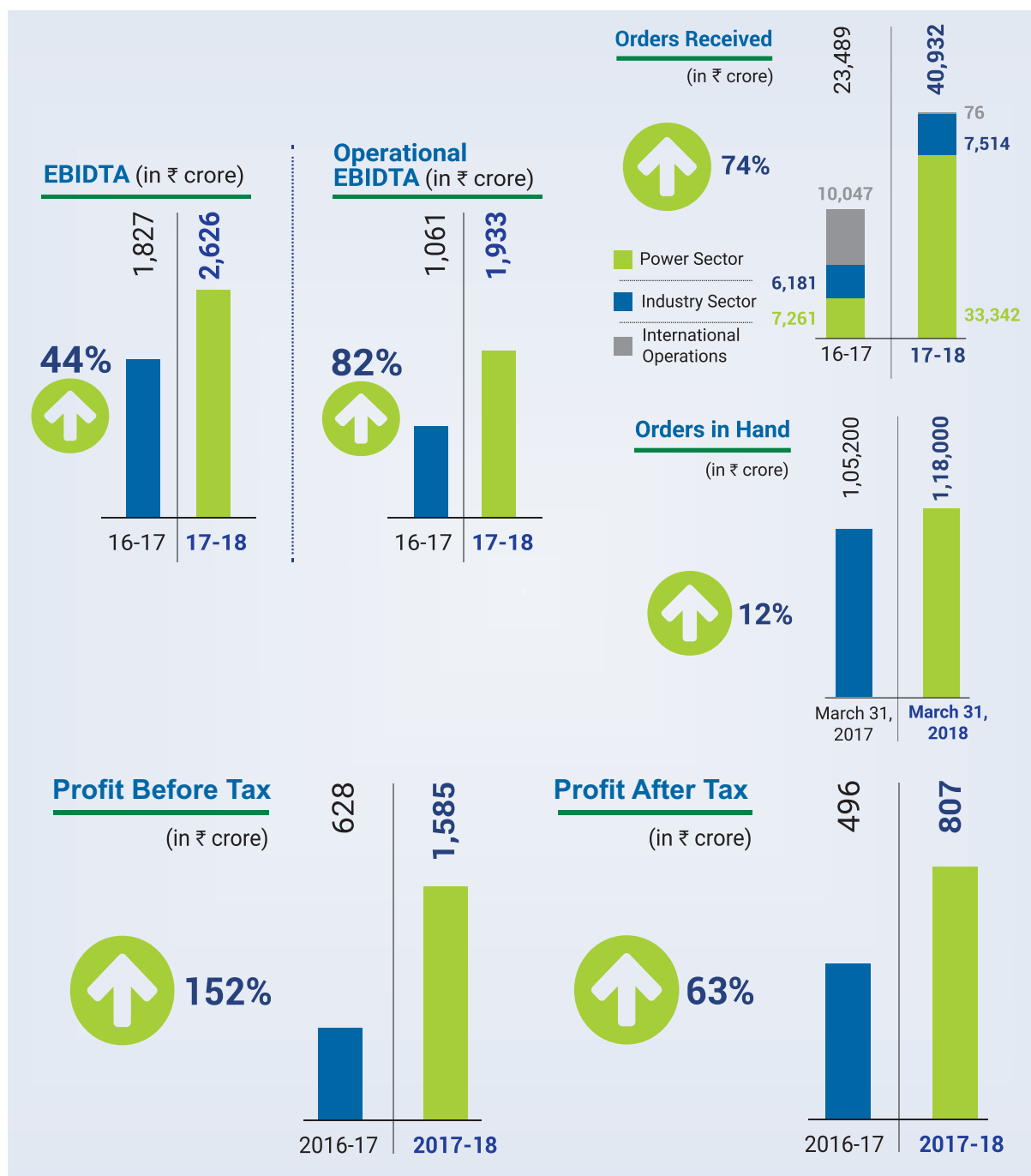
### Contribution to Exchequer



Figures for FY 2013-14 and 2014-15 as per IGAAP and for FY 2015-16 onwards as per Ind AS



## SUSTAINABILITY REPORT 2017-18



### Inclusive Sourcing

BHEL has been supporting Micro and Small Enterprises (MSEs) and local suppliers in and around manufacturing units from various fronts. They are part of BHEL's supply chain. Also, as mandated in Public Procurement Policy-2012 for MSEs (issued by Ministry of MSME-Gol), BHEL has achieved the target of 20% of its

total procurement from MSEs during 2017-18. Vendor meets and supplier development programs are being organized regularly by BHEL units, specifically for MSEs (including local suppliers) as well as specific to SC/STs, which serves as a platform for identification of needs and formulation of action plan for mutual benefit.



## BHEL's Strategies and Unwavering Commitment to the Highest Standards of Integrity Underpin Everything We Do. Here are Some Highlights of the Company's Performance in 2017-18

Total Order Book  
**₹1,18,000 Crore**



Highest during  
the last five years

100% market share

in thermal utility segment



Highest ever orders  
booked in **transportation,**  
**defence & water** segments

**183 GW+**

power generating  
equipment



installed  
till date

**1,000+** utility sets  
commissioned in the country



including coal, hydro, nuclear, solar & gas

**530 MW+**

Solar PV portfolio



Highest ever order of **75 MW**

SPV plant

**15.61 Million Units**

of power generated through  
in-house  
solar power installations



Over

**₹750 Crore** invested in  
R&D and innovation



**530** patents/  
copyrights filed

**4,357** Total  
Intellectual Capital

Over

**₹240 Crore**

invested in  
company's assets  
for capability building/  
productivity enhancement/indigenization



Human capital base  
**37,540**

**2100+** female employees



**27** Shram awards

**15** Vishwakarma awards



**24,046** trainees  
including

6,088 Act-apprentices trained  
as a part of Skill India



Strategic Diversification  
**Technology Agreement**

with **ISRO** for Li-ion cells  
& **KHI** for stainless steel metro coaches



## Indirect Economic Impact on Society

BHEL is a large public sector organization employing ~ 37000 persons and has presence across the country. Due to the establishment of our units and associated townships, large scale business activities have been developed in terms of ancillaries and other associated works. This has spurred the economic activities at places which were considered to be remote before our units came into being. In this way BHEL has contributed to a large extent in exerting indirect economic impact on society.

Further, the organization strives for improving the quality of life of society at large dwelling in the vicinity of our physical presence and helping in spreading the fruits of development to larger society, especially through our CSR activities for inclusive development. It has led to creation of

public infrastructure which has contributed in improving the quality of life for our neighbourhood. Towards various CSR initiatives an amount of Rs. 10.35 crore was spent during the year 2017-18. The details of these CSR activities have been given in the chapter “Our Societal Performance” in this report.

Apart from inclusive growth through CSR, the company takes affirmative action in recruitment and promotion for representation of employees from socio-economically backward sections of society as well representation of minorities and women, as mandated by the Govt. of India. The company is an equal opportunity employer and does not discriminate on the basis of gender, race, caste, religion, linguistic, region etc. in recruitment and employment relationship.



Bio-digaster Toilets on the Banks of River Ganga Near Haridwar & Rishikesh, Installed by BHEL

## Our Environmental Performance

### Management Approach – Sustainability

Tenets of Sustainability is ingrained in our business processes which is amply reflected from our mission statement “Providing Sustainable Business Solutions in the fields of Energy, Industry & Infrastructure”. The idea of Sustainability has become an essential part of our management processes. The triple bottom line approach guides us to ensure that any decision we take related to our business transactions leads to furtherance of our business in an ethical manner, with minimal environmental footprint and help in spreading the fruits of development to larger populace through our CSR activities. It has always been our endeavour to minimise our environmental footprint across our value chain and 27 MW<sub>p</sub> installed capacity of Solar Power Plants across BHEL units till 31.03.2018 is a step in the direction of achieving sustainability across our operations.

Our concern for environment is reflected in our concerted efforts towards development of products having lesser environmental footprint, enhanced use of renewable energy inside our premises for captive use, use of cleaner fuels, encouraging usages of energy efficient lighting fixtures and equipment, tree plantation, responsible consumption of natural resources and sound waste management practices. These are the major thrust areas for achieving sustainability in our business.

As a responsible corporate citizen, the organization endeavours to create awareness amongst the families of our employees, students, people residing in the vicinity and other stakeholders as to how they can contribute towards protection of environment as an individual, by celebrating World Environment Day (WED) with wider participation. Various competitions organised during WED – 2017 included mass tree plantation, competitions for students like - poster making, quiz, slogan writing, elocution, environmental march for creating awareness about environment etc.

The initiatives taken under environmental sustainability during the reporting period has been enumerated in the following sections.

### A. Material and Natural Resource Management

Responsible use of material and natural resources is a thrust area in our organization. Optimizing product designs to minimise cost as well as environmental footprint, reducing material consumption in products, continuously reducing/controlling use of natural resources in all operations, sound waste management system based on the concept of reduce/ recycle/ reuse are the thrust area for material and natural resource management.



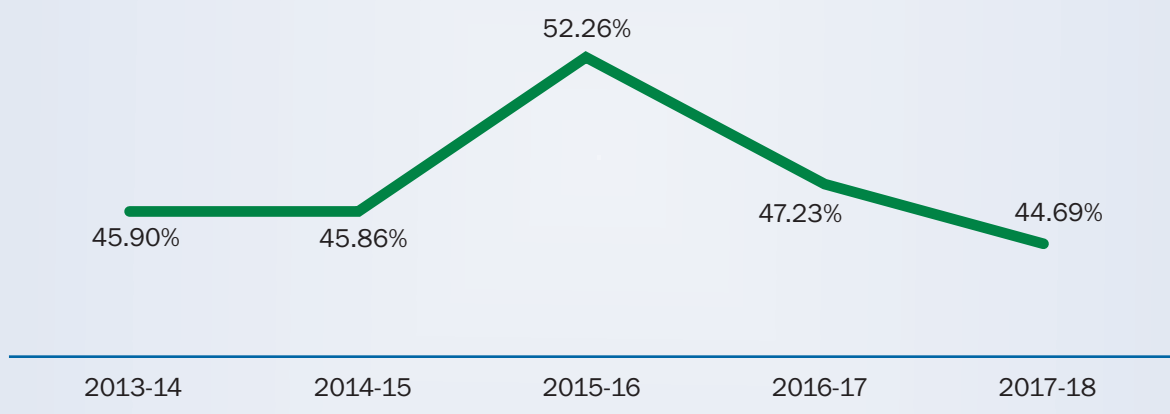


# SUSTAINABILITY REPORT 2017-18

## Statement for Raw Materials and Components Consumed

(Rs. in Crore)					
	2017-18	2016-17	2015-16	2014-15	2013-14
<b>Group of materials:</b>					
Ferrous materials	2431.11	2021.85	2311.13	2415.50	2522.14
Non-ferrous materials	333.09	277.64	296.60	381.37	425.72
Insulating materials	168.29	142.81	159.08	219.83	277.08
Insulated cables and Magnet wires	26.76	57.33	33.14	78.97	87.27
Components	4944.14	5955.69	5547.26	6040.61	8967.26
Others	4214.96	4647.49	4654.65	4567.71	4859.04
<b>Total</b>	<b>12118.35</b>	<b>13102.81</b>	<b>13001.86</b>	<b>13703.99</b>	<b>17137.51</b>
<b>Turnover</b>	<b>27850</b>	<b>27740</b>	<b>25091</b>	<b>29542</b>	<b>38389</b>
Accretion/Decretion in inventories	-736	-994	-210	338	-1054
<b>Gross Turnover</b>	<b>27114</b>	<b>26746</b>	<b>24881</b>	<b>29880</b>	<b>37335</b>

## Cost of Components and Materials Consumed as % of Gross Turn Over



As can be seen from the diagram above, the cost of component consumed as a % of turnover has peaked during 2015-16 and then is now on declining trend. The reduction in material cost is mainly due to change in product/project mix and other cost initiative drives undertaken in the company.

Due to large variation in our products and services and consequently varied input

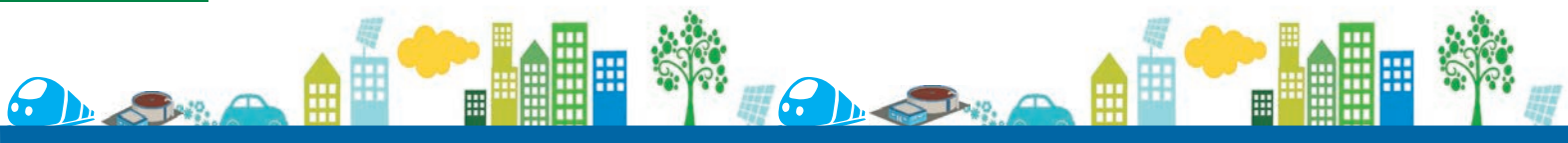
materials across the organisation, measurement of material consumption in terms of weight or volume of raw materials consumed in physical terms as per GRI standards could not be established and consequently the actual trend of material consumption could not be established at present in absolute physical terms. Further, our project sites have a cycle time of 3-5 years and the relationship between

turnover and material consumption may not be correlated in a simple way. This present a limitation to our data reporting as per the GRI - G4 Guideline.

Due to nature of its products, BHEL is a material intensive industry which consequently present multitude of opportunities for reduction of our material consumption and use the virgin natural

resources judiciously. Some of the activities carried out towards management of natural resources included recycling of ferrous and non-ferrous scrap generated at units locally, as well as sending it to CFFP Haridwar for recycling, recycling of packing wood, recovery and reused of waste oil etc. as per the details given in the following table:

Unit	Initiative(s)
<b>HEP Bhopal</b>	<ul style="list-style-type: none"> <li>Recycling of packing wood for making wooden packing boxes and thereby avoiding use of virgin wood</li> <li>Recovery of steam return condensate and optimization of use of steam by reducing the fuel consumption for steam generation (TRM) at HEP Bhopal unit with an estimated annual saving of 520 MT of furnace oil</li> <li>A new Sand Reclamation Plant with dust removal system is in operation to increase the recycling of sand up-to 80 % in Foundry block. This plant having capacity to convert 6 Tones per hour of sand lumps (used sand) into usable sand which is then allowed to mix with 20% of fresh sand in an automatic mixer to produce up to 10 Ton/Hr. of prepared sand for molding.</li> </ul>
<b>CFFP Haridwar</b>	Recycled 14,377 MT of ferrous scrap for making casting and forgings
<b>IP Jagdishpur</b>	<ul style="list-style-type: none"> <li>installed Electrostatic Oil Filtration Machine for Hydraulic Power Packs to save Hydraulic Oil.</li> <li>Created shed to store raw material (Stone and Clay Items) to prevent loss during rain.</li> <li>A machine has been procured for dismantling the rejected insulators which has resulted in better realisation of scrap value from the same by separation of metal part from ceramic.</li> <li>356 MT of sludge from ETP has been used for filling low lying area inside the factory premise</li> </ul>
<b>IVP Goindwal</b>	82 MT of Ferrous scrap sent to CFFP Haridwar for recycling
<b>EDN Bengaluru</b>	STP sludge (good manure) distributed free to farmers
<b>HERP Varanasi</b>	350 MT of Mild Steel Offcuts sent to CFFP Haridwar for recycling
<b>PPPU Thirumayam</b>	Reclaimed 1.89 KL of used oil



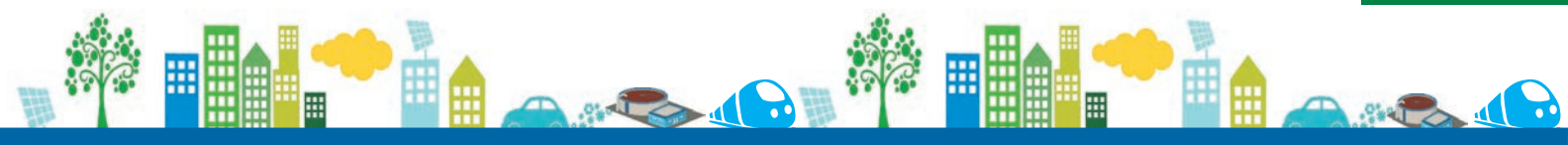
## B. Energy Management

Energy management has always been an important element of BHEL's Management process. Being a major player in power sector, BHEL understands the criticality of Power for the economy as well as environment and hence lays emphasis on judicious use of energy in its operations as well as providing more efficient systems to the customer for energy generation. To demonstrate our commitment towards energy management, many of our units have implemented Energy Management System (EnMS) certified for ISO 50001: 2017. As on 31st March, 2018 many of our units such as HEEP Haridwar, HEP Bhopal, HPEP Hyderabad,

Trichy, PPPU Thirumayam and EPD Bengaluru have already been certified to ISO 50001: 2017 and more units will be covered subsequently. The implementation of EnMS has resulted in improved energy performance. We at BHEL believe that optimal utilisation of energy in our operations and services is not only a value proposition but also a responsibility for the organisation.

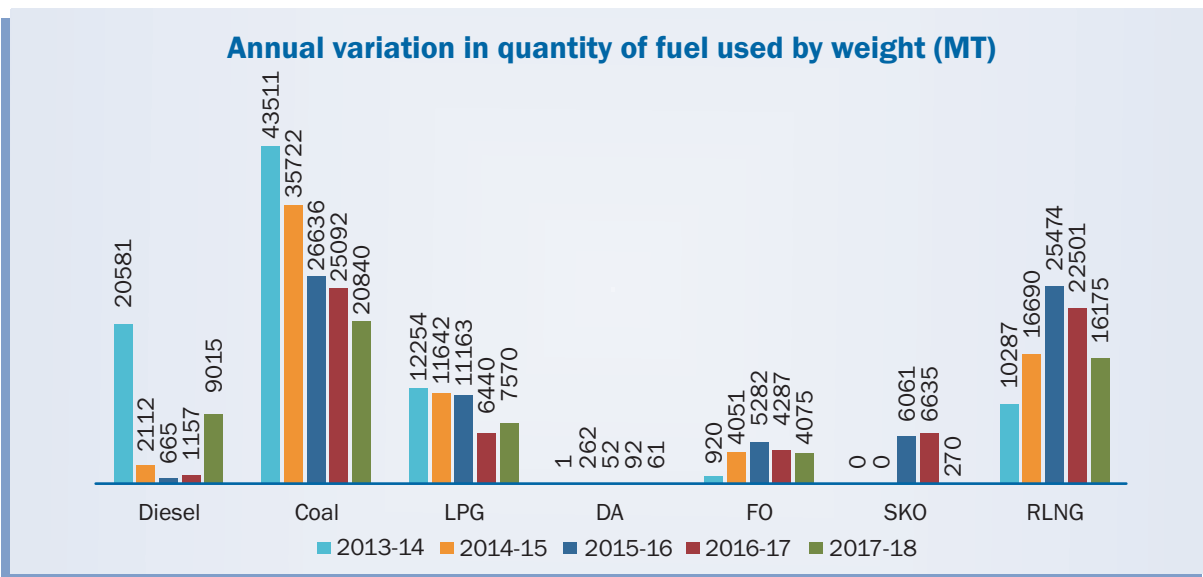
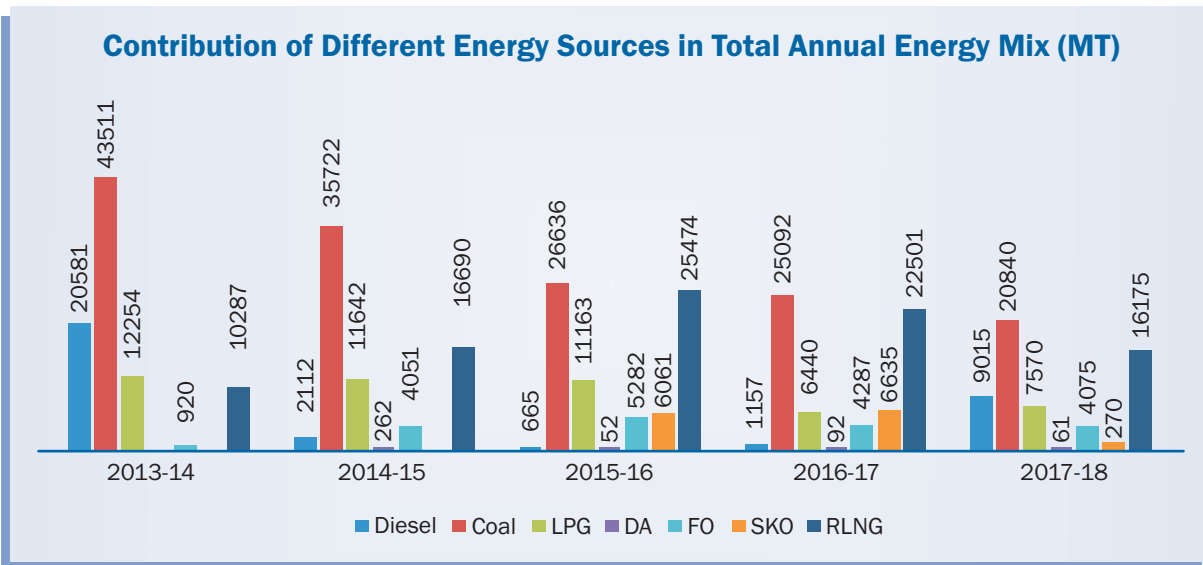
The data for energy consumption (direct & indirect) is shown in the table below for 5 years. Variety of fuels like Coal, LPG, Diesel, Super Kerosene Oil (SKO), Furnace Oil (FO), Regasified Liquefied Natural Gas (RLNG), High Speed Diesel Oil (HSDO) etc. are being used in BHEL.

Total Direct & Indirect Energy Consumption in BHEL Units in TJ					
Description	Energy Consumed in TJ (2013-14)	Energy Consumed in TJ (2014-15)	Energy Consumed in TJ (2015-16)	Energy Consumed in TJ (2016-17)	Energy Consumed in TJ (2017-18)
<b>Direct Energy</b>					
Primary Energy (Fuels Consumed like Diesel, Coal, LPG, Kerosene etc.)	2839.92	2845.89	2993.3	2222.27	2182.69
Primary Energy Produced (Through Solar Energy generation)	3.9	25.34	29.26	53.35	56.20
<b>Indirect Energy</b>					
Electricity Consumed	1116.76	1093	1154.34	1160.36	1170.78
<b>Total Energy consumed (TJ)</b>	<b>3961</b>	<b>3964</b>	<b>4177</b>	<b>3436</b>	<b>3410</b>
<b>Turnover (Rs. Crore)</b>	<b>38389</b>	<b>29542</b>	<b>25091</b>	<b>27740</b>	<b>27850</b>
<b>Accretion/Decretion in inventories (Rs. Crore)</b>	<b>-1054</b>	<b>338</b>	<b>-210</b>	<b>-994</b>	<b>-736</b>
<b>Gross Turn Over (Rs. Crore)</b>	<b>37335</b>	<b>29880</b>	<b>24881</b>	<b>26746</b>	<b>27114</b>
<b>Energy Intensity (GJ /Lakh Rs. of GTO)</b>	<b>1.06</b>	<b>1.33</b>	<b>1.68</b>	<b>1.28</b>	<b>1.26</b>
<b>Energy Productivity (Lakh Rs. GTO achieved/GJ)</b>	<b>0.94</b>	<b>0.75</b>	<b>0.60</b>	<b>0.78</b>	<b>0.80</b>
1 Tera Joules (TJ) = 1000 Giga Joules (GJ) = 106 Mega Joules = 10 9 Kilo Joules (KJ) = 10 12 joules					

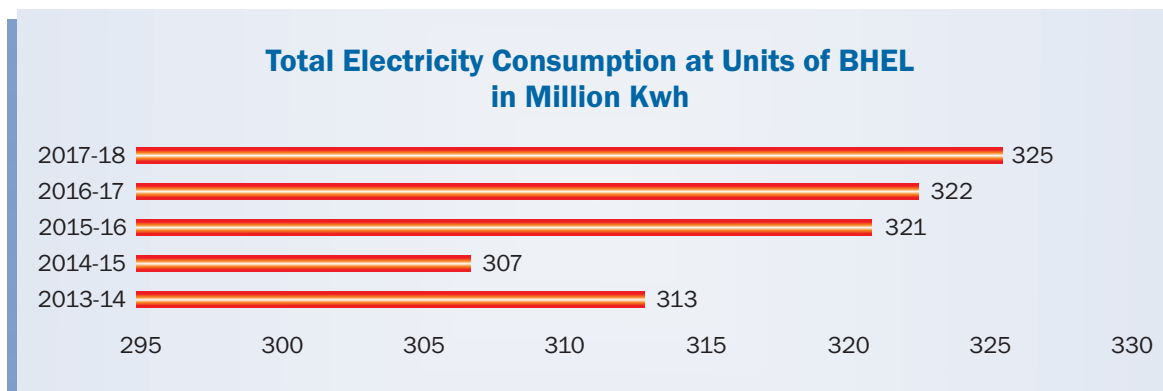




The following figures shows our energy consumption data in different ways.

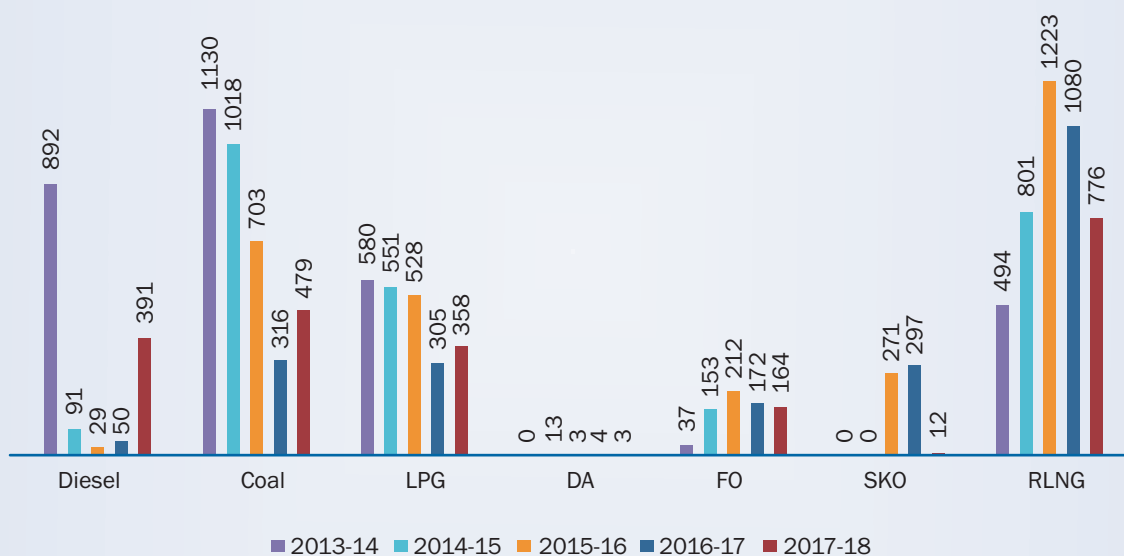


As can be seen from the figure, contribution of coal in terms of weight is coming down on year on year basis in our energy mix.

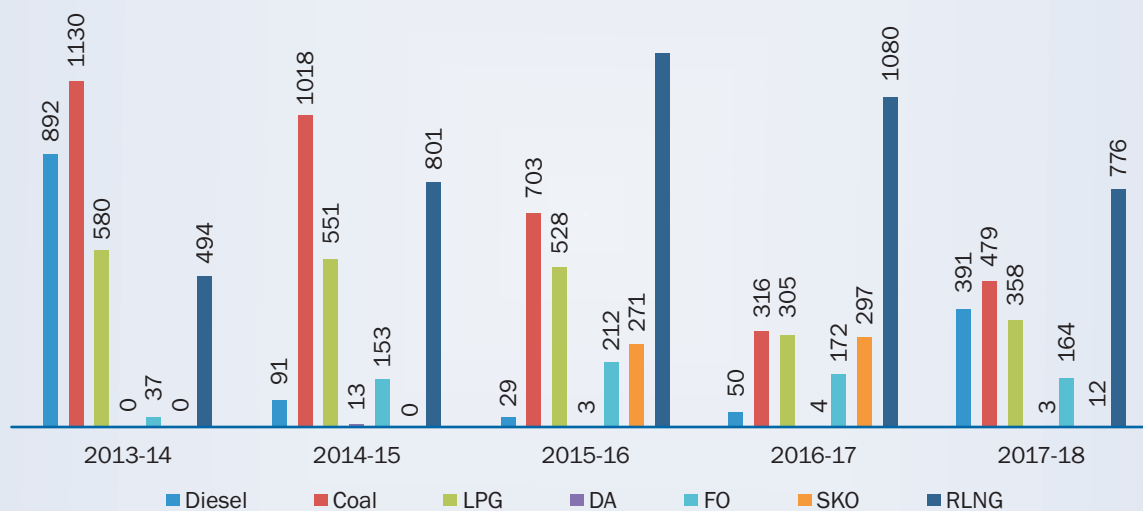


## SUSTAINABILITY REPORT 2017-18

**Annual Variation in Energy Derived by Different Fuels (TJ)**



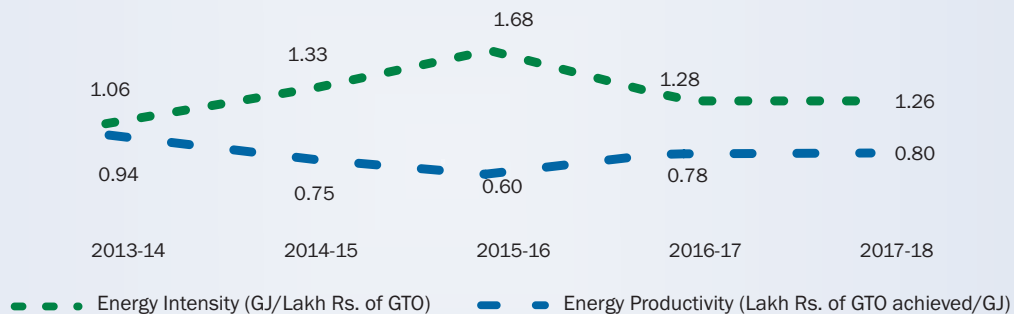
**Types of Fuels used and their Contribution in Overall Direct Energy Mix (TJ)**



As can be seen from the table, the Energy Intensity (EI) figure defined as Giga Joules of Energy consumed per lakh Rs. of Gross Turn Over (GTO) achieved, varied from 1.06 to 1.68 and the average EI stood at 1.32. Similarly, the

figure for Energy Productivity (EP) defined as Gross Turn Over achieved in Rs. Lakhs per Giga joules of Energy consumed for the last 5 years varied from 0.6 to 0.94 and the average figure stood at 0.77.

## Energy Intensity/ Productivity Data



Our thrust on energy conservation and efficient utilisation of energy in our manufacturing units and project sites continued during the reporting period through specific activities like installation of energy efficient lighting fixtures, installation of transparent sheet of rooftop of manufacturing blocks for day light requirement, Installation of Heat recovery system in Boiler, improvement in energy performance of various furnaces/ ovens/ burners, replacement of old equipment with more energy efficient equipment, Use of Renewable/alternate energy resources through Solar Street Lights; Solar Water Heating System; Natural Turbo Ventilators; Day Light Pipe; FRP/ Polycarbonate sheets on rooftop to harness natural light etc.

### Energy Conservation/Efficiency

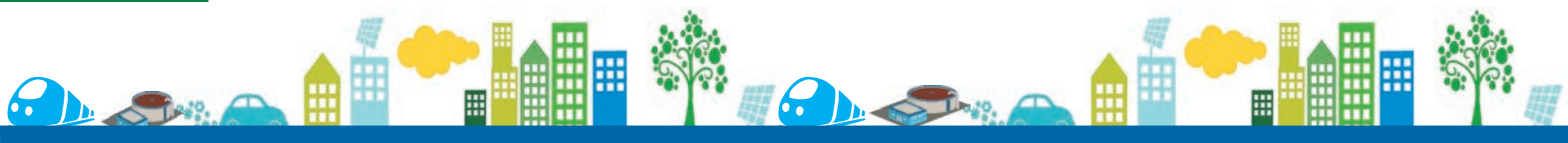
At BHEL optimal utilisation of energy in our operations and services is not only a value proposition but also a responsibility for the organisation. With this view, the Company has been promoting many activities related to Energy Conservation (ENCON) and Energy Efficiency (EE). It helps us in reducing our conventional energy usages in our energy mix and drives us towards the path of sustainable energy usage.

In this regard, various activities were undertaken including process redesign, conversion and retrofitting of equipment, educational programmes to bring changes in employees behaviour etc. So far, 8

manufacturing Units of BHEL have been certified with ISO 50001:2011 (Energy Management System) for establishing the systems & processes necessary to improve energy performance, including energy efficiency, use and consumption.

Various activities pertaining to Energy Conservation (ENCON) regularly carried out in BHEL include:

- **Awareness programmes** - Conducting awareness programmes at offices, factories, project sites and in townships
- **Energy Conservation** - Identification of potential areas to reduce use of energy, arresting leakages, use of alternate sources of energy, identifying wasteful use of energy and plugging them, use of energy measurement system for buildings etc. During the year 58 ENCON projects were implemented across the Company towards replacement of conventional lights with energy efficient LED lights; replacement of old inefficient air conditioners with energy-efficient star rated ACs; Automatic Power Factor Correction to improve Power Factor; Variable Frequency Drives; Motion sensors in offices etc.
- **Energy Efficiency** through improved insulation in furnaces, plugging heat loss from heating systems, optimization of loading of furnaces, heat recovery systems, adopting high efficiency lighting systems,





## SUSTAINABILITY REPORT 2017-18

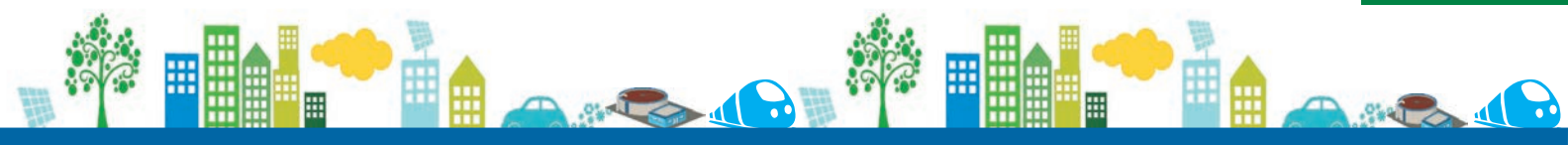
high efficiency pumps, motors & compressors, use of variable frequency drive (VFD) etc.

Trichy, BAP-Ranipet, EDN-Bangalore, IP-Jagdishpur, CS&FP-Jagdishpur, HERP-Varanasi and TP-Jhansi Units.

- **Periodic energy audits** to identify Opportunities for Improvements (OFIs). Energy Audit was conducted by specialised agencies (like PCRA/TERI etc.) at HPBP

List of various projects related to energy conservation / efficiency / renewable energy generation completed during 2017-18 at our units is given in the table below:

SI No.	Unit	Energy Conservation Projects implemented in 2017-18	Energy Saving (kWh)/Yr
1	<b>CFFP Haridwar</b>	Structural revamping of two reheating furnaces to ensure proper sealing and minimal heat loss	1020830
2		Revamping of one heat treatment furnace in steel foundry to ensure proper sealing and minimal heat loss	102083
3		Replacement of old burners in 10 M reheating furnace of Heavy Forge Shop	309343
4		Replacement of part of compressed air supply pipelines (old MS) by new aluminium pipelines.	268800
5		Replacement of old HPSV/ HPMV light with energy efficient LED lights	156150
6		Installation of Turbo-ventilators in various shops	600000
7		Installation of Float/ solenoid valve in both Medium Forge Shop and Heavy Forge Shop	180000
8	<b>CFP Rudrapur</b>	Replacement of Conventional Lights with LED based Lights	11826
13	<b>HEP Bhopal</b>	Replacement of existing 96 watt street light fitting with 60 watt LED street light fitting (250 Nos.)	39420
14		Installation of Thyristor Control panel in 120 KW electric oven of EM deptt. (4/B/2077) for saving energy consumption.	36864
15		Thyristorised controller for New 120 KW Electrical Oven bay-9 LEM Wing at Block-2	36864
16		Installation of Thyristor Control panel in electric oven of TXM (5/B/2148 no. 5, Heating Load 180 KW ) for saving 8% energy consumption.	55296
17		Installation of Thyristor Control panel in electric oven of TXM (5/B/2151 no.6; Heating Load 180 KW) for saving 8 % energy consumption.	55296
18		Installation of Thyristor Control panel in electric oven of TXM (5/B/57 no. 1 to 7, Heating Load 60 KW ) for saving 8 % energy consumption.	18432



19	<b>HEP Bhopal</b>	Installation of Thyristor Control panel in electric oven of TXM (5/B/2061 no. 8, Heating Load 60 KW) for saving 8 % energy consumption.	18432
20		Installation of Thyristor Control panel in electric oven of TAM deptt. (26/B/2062 no. 15, Heating Load 180 KW) for saving 8 % energy consumption.	55296
21		Installation of Thyristor Control panel in electric oven of TXM deptt. (5/B/2168 no.15; Heating Load 180 KW) for saving 8 % energy consumption.	55296
22		Installation of Thyristor Control panel in electric oven of TAM deptt. (26/B/2014, Heating Load 160 KW) for saving 8 % energy consumption.	49152
23		Installation of Thyristor Control panel in electric oven of TAM (26/B/2041, Heating Load 180 KW) for saving 8 % energy consumption	55296
24		Installation of VFD in screw compressor no. 1 & 2 of Swarna Jayanti block for energy saving.	90000
25		Converting 09 overhead light to 03 overhead light per MCB in block 1B.	13635
26		Installation of timer for selective switching of 50 nos. of man-coolers of 04 bays of WTM division	8100
27		Remote operation of cooling water pumps of compressors.	8200
28	<b>HERP Varanasi</b>	Replacement of old rewound Ceiling Fans (70 W) with new energy efficient Ceiling Fans (47 W) : 25 Nos.	1656
29		Replacement of 150 Watt Sodium Lamp of Tarna Township with 85 Watt CFL/ 40 Watt LED Light-10 Nos.	2372
30		Replacement of 40 Watt Tube light Fitting with 18 Watt LED Light Fitting-25 no.	1650
32	<b>HPVP Vizag</b>	Replacement of 100 no. conventional Old ceiling fans with new high speed low wattage fans	14040
33	<b>IP Jagdishpur</b>	Replacement of 40 watt FLT with 20 watt LED Tube Light (200 no.)	35040
34		Replacement of 70 watt SON Lamp street light with 45 watt LED lamp (50 no.)	11497
35		Replacement of 500 watt Flood Light with 90 watt LED Flood Light (12 no.) and 250 watt with 30 watt at shop floor (30 Nos) area/Plant	504
36	<b>SSTP Trichy</b>	Replacement of 70W MH lamp by 36W LED Lamps near SSTP Gate area	2980
37		Installation & commissioning of VFD Drive for 75KW main motor of Push point m/c in Cold Mill	62030



# SUSTAINABILITY REPORT 2017-18

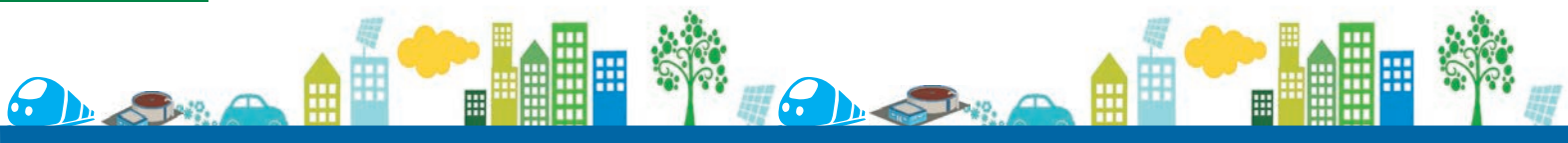
38		Installation of VFDs for Cold saw 2 roller conveyors-4 nos.	162000
39	<b>BAP Ranipet</b>	Installation of VFD ( Variable frequency drive) for one EOT Crane	42240
40		Installation of Regenerative power system for an EOT Crane	14400
41		250 KW Screw Compressor soft start through Star-Delta Contactor arrangement for AIR Compressor	39600
42		Installation of 5 Star 2 TR Split AC Units In place of 15 years OLD high power Consuming window AC units 09 no.	23760
44		Installation of 18 watt LED tube light in place of 36-watt conventional fluorescent tube fittings 500 no.	23760
45		Arresting of leakages & wastage in compressed air line at various locations inside the shop floor and optimum utilization of Main Air compressors by utilizing small compressors depending upon requirements	90000
46	<b>EDN Bengaluru</b>	Replacement of 35 nos. of Street Lights (250 W Sodium Vapour) with 120 W Induction Lamps.	16608
47		Replacement of 50 nos. of Conventional Ceiling Fans with Energy Efficient fans.	3750
49	<b>ESD Bengaluru</b>	Installation of Grid Interactive PV Plant - 200kW by use of in-house minor defect PV modules.	300000
50	<b>IVP Goindwal</b>	Installation of 10 nos. of LED High Bay 150 watt Energy Efficient Lights to replace the existing 10 nos. of 250 watt MH & SV Lamps.	5400
51		Replacement of 20 nos. of 150 Watt Sodium Vapor Street Light with 65 Watt LED Street Light.	9720
52		Replacement of 4 nos. of Window Air Conditioner (2-Ton) of Non-Star Rating with Five Star Rated Split AC (2-Ton).	2960
53		Replacement of 100 no. of 23 Watt CFL Lighting with 12 Watt LED Bulbs.	4680
54		Replacement of 50 no. of 28 Watt T5 Tube Lighting with 18 Watt LED Batten Lights.	1800
55		Installation of VFD Panel on Air Compressor Induction motor 150 kW.	84000
57	<b>HPEP Hyderabad</b>	Replacement of Metal halide light fittings with LED lights in 02 & 06 Blocks - 500 Nos	456250
58		Replacement of Sodium Vapour light fittings with LED lights for Factory Road lighting - 50 no.	31025
59		Installation of Day Light pipes	4320
60	<b>HEEP Haridwar</b>	Installation of 25KWp Roof Top Solar PV Plant in ADM-4	42500





61	<b>HEEP Haridwar</b>	Installation of 25KWp Roof Top Solar PV Plant in Main ADM Building	42500
62		Installation of 58 no. 36W LED Panels in place of 2 X 36 Watt CFL False Ceiling Panels in ED Board Room, Video Conferencing Room, GM HR Conference Room etc.	13040
63		Installation of energy efficient LED Flood Light 120 W (50 Nos) in place of 400 W Metal Halide (MH) Flood Light in Street Lighting System	69350
64		Installation of energy efficient LED Tube Light 22 W (1000 Nos) in place of 36 W CFL Tube Light Fitting in Offices & Corridors	96360
65		Installation of energy efficient LED High Bay Light 80 W (100 Nos) in place of 275 W Metal Halide (MH) High Bay Light in NBS Phase-1 & Phase-3	170820
66		Installation of 5 MW <sub>p</sub> Solar PV Plant	9000000
67	<b>PPPU</b>	Replacement of 60 nos. of 400W MH Luminaire with 200W LED Luminaire.	39600
68	<b>Thirumayam</b>	Installation of grid integrated solar power system of 70 kW at roof top of administrative building	102200
69	<b>TP Jhansi</b>	Use of FRP Blades in cooling tower fans in place of metal blades	
70		Replacement of 20 nos. 500 W halogen Flood Light with 50 W LED Flood Light Fitting.	
71		Replacement of 25 nos. 1000 W halogen Flood Light with 100 W LED Flood Light Fitting.	
72		Installation of bio mass gasifier in canteen	
73		Installation of LED street light in place of conventional street light (20 no.)	
74		Automation of 2113 vacuum drying plant of bay-8	
75		Installation of translucent sheet in shop floors to improve day light	
76		Use of automatic timer for switch ON and OFF of street light	
77		Modification of stem solvent (condensed steam) line of 6 & 9 Ton boilers	
78		Cleaning of all lines and ducts of 6 & 9 tons of boiler to improve energy efficiency	
79		Replacement of 70 W HSPV Street Light Fitting with 35 W LED Street Light Fitting (30 no.) in factory.	
80		Replacement of 150 W HSPV Street Light Fitting with 70 W LED Street Light Fitting (30 no.) in factory.	

Due to various energy efficiency / conservation / renewable energy projects during the reporting period, an estimated energy avoidance of more than 14.58 Million units of annual electricity usages is likely to be achieved.



## Green Energy Generation

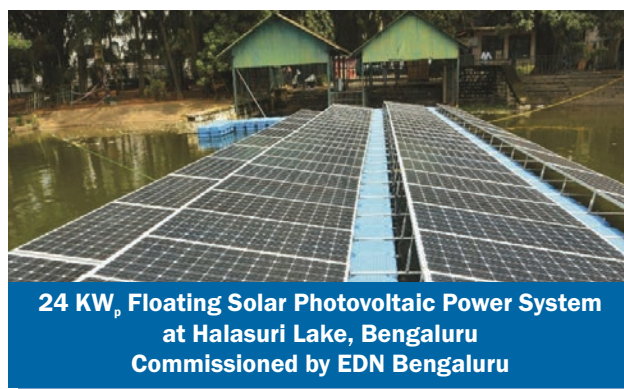
BHEL is enhancing the use of clean energy at its units /project sites through usage of solar PV based street lights & solar water heating systems, installation of roof-top and grid interactive solar power plants making conscious efforts towards the use of sustainable energy mix in its own operations.

Existing inventory of Mega Watt scale solar power plant of 17 MW<sub>p</sub> got a shot in the arm as during this reporting period and an additional 10 MW<sub>p</sub> [7.5 MW<sub>p</sub> at Trichy Unit + 2.5 MW<sub>p</sub> at TP Jhansi unit] capacity addition has been achieved taking the total capacity of installed SPV plant to 27 MW<sub>p</sub>. In addition to this, we have various land based sub-megawatt solar plants as well as rooftop based solar plants. A unique initiative was taken by one of our units EDN Bengaluru by commissioning a 24 KW<sub>p</sub> Floating Solar Photovoltaic Power System at Halasuru Lake, Bengaluru as a pilot project.

Total electricity generated through various renewable energy systems stood at 15.61 Million Units during 2017-18 as compared to 14.82 Million units during 2016-17. Further, the % share of energy consumed across the total electrical units consumed as well as total energy consumed in BHEL's energy mix is provided in the figure below. It shows that the share of RE in the total energy mix is increasing every year and is now almost 1.65% as compared to just 0.9% during 2013-14.

### Installed Capacity of Ground based Solar Systems:

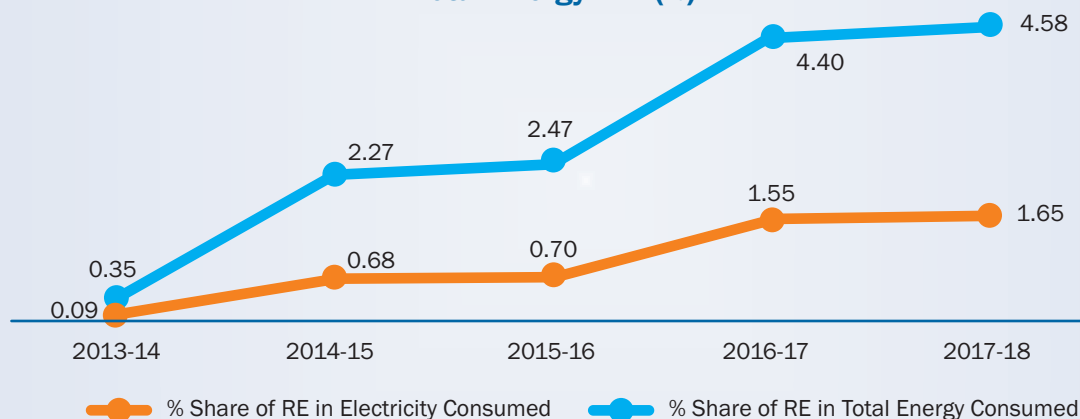
- 12.5 MW at Trichy
- 5 MW at BAP Ranipet
- 1.5 MW at HPEP Hyderabad
- 250 kW at R&D Hyderabad
- 250 kW at HEP Bhopal
- 5 MW at HEEP Haridwar
- 2.5 MW at TP Jhansi



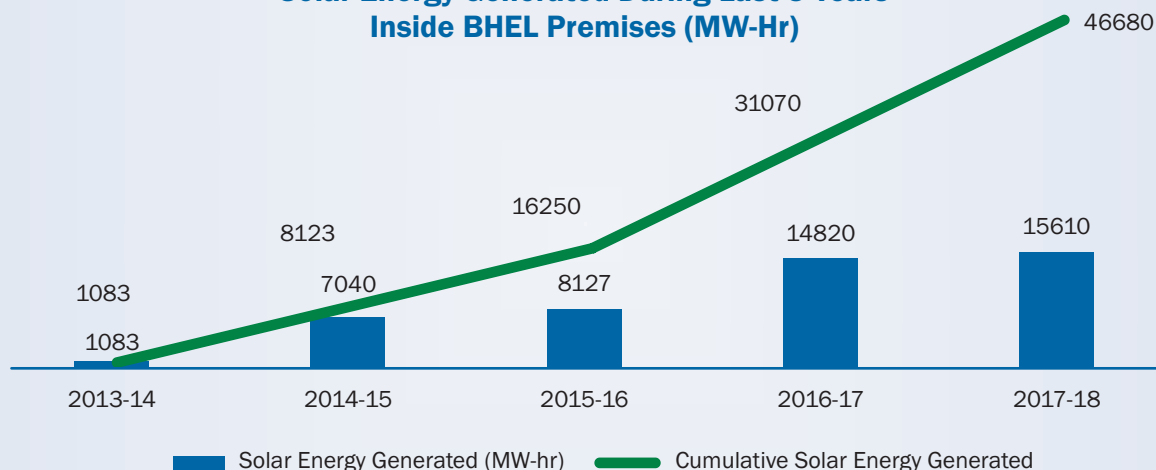
**Total – 27 MW as on 31.03.2018**



## Share of Renewable Energy in Electrical/ Total Energy Mix (%)



## Solar Energy Generated During Last 5 Years Inside BHEL Premises (MW-Hr)



**In-House Developed Solar Passive Tracker Installed at BHEL Haridwar for Enhanced Energy Generation**



**A View of The In-House Solar PV Plant at BHEL Trichy for Captive Power Generation**



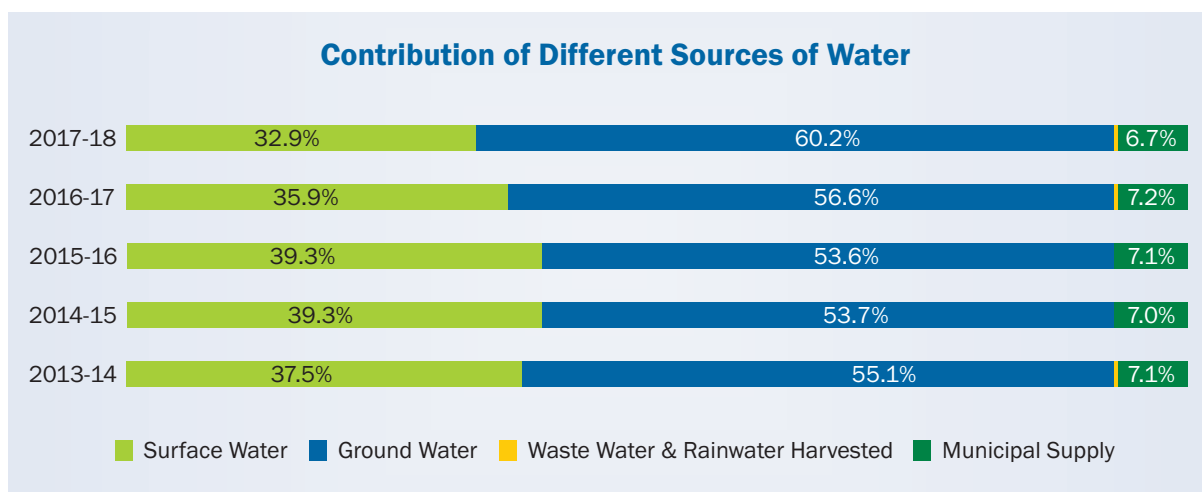
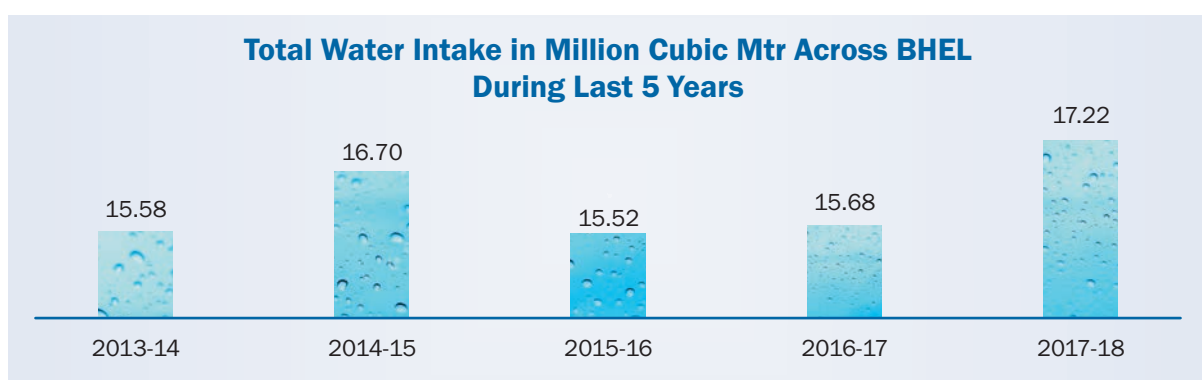


## C. Managing Water & Biodiversity in Our Premises

Sustainable management of water & wastewater is a key area of strength for our organization. Many of our plants like HPEP Hyderabad, EPD Bengaluru, HPBP Trichy use treated wastewater for horticulture process and hence save on water consumption. As on date, 9 of our units – HEEP Haridwar, CFFP Haridwar, Trichy, HEP Bhopal, HPEP Hyderabad, BAP Ranipet, CFP Rudrapur, IP Jagdishpur, and

PPPU Thirumayam have attained the status of Zero Liquid Discharge (ZLD) unit and have helped in reducing fresh water usages, recycling water in the process and reusing the treated wastewater for gardening purpose following the principle of 3R (Reduce-Recycle-Reuse).

The data for water consumption is shown in the figure below. As can be seen from the figure, the average water consumption during the last 5 years has been 16.14 Million Cubic M<sup>3</sup>.



Also contribution of different sources of water has been shown in the figure. Groundwater followed by surface water is the major source of water supply. Rainwater is being harvested and used for process in EPD Bengaluru unit. At EPD Bengaluru unit, the water is being recycled/reused for gardening, water closet &

urinal flushing, Filter Press clothes washing, Pugmill cake loading patts washing, Ball Mill River Pebble Washing and Ball mill area floor washing etc. At other units, water is being mostly reused for gardening purpose.

During 2017-18, a 2 Million Litre Per Day (MLD) capacity of Sewage Treatment Plant (STP)

based on Sequential Batch Reactor (SBR) technology and a 2 MLD STP based on Membrane Bioreactor (MBR) technology have been commissioned at HEP Bhopal and HPBP Trichy unit respectively. Further 16 Kilo Litre Per Day (KLD) capacity STP and 5 KLD capacity Effluent Treatment Plant (ETP) has been installed at CFP Rudrapur. Also Water recirculation system was installed in Nutec Bickley Kiln to conserve water at IP Jagdishpur unit.

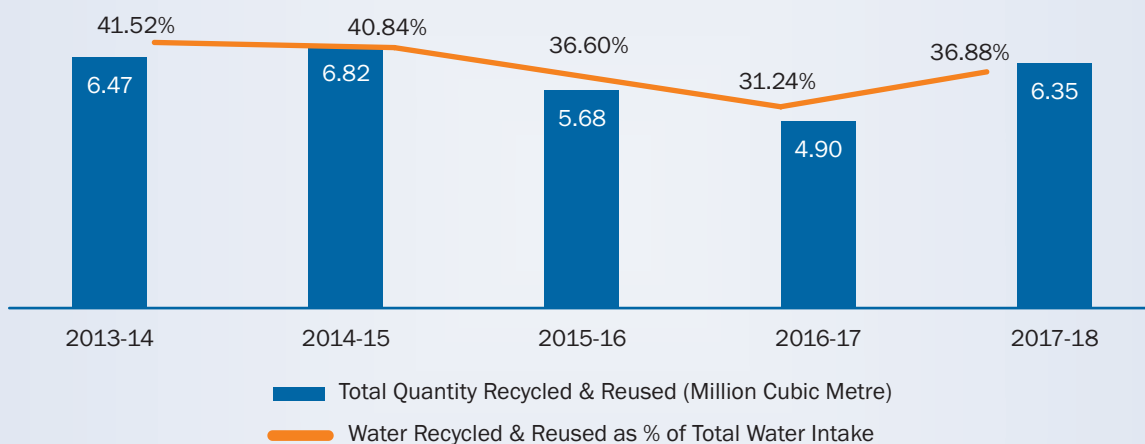


**2 MLD Capacity STP Based on MBR Technology Installed in HPBP Trichy**

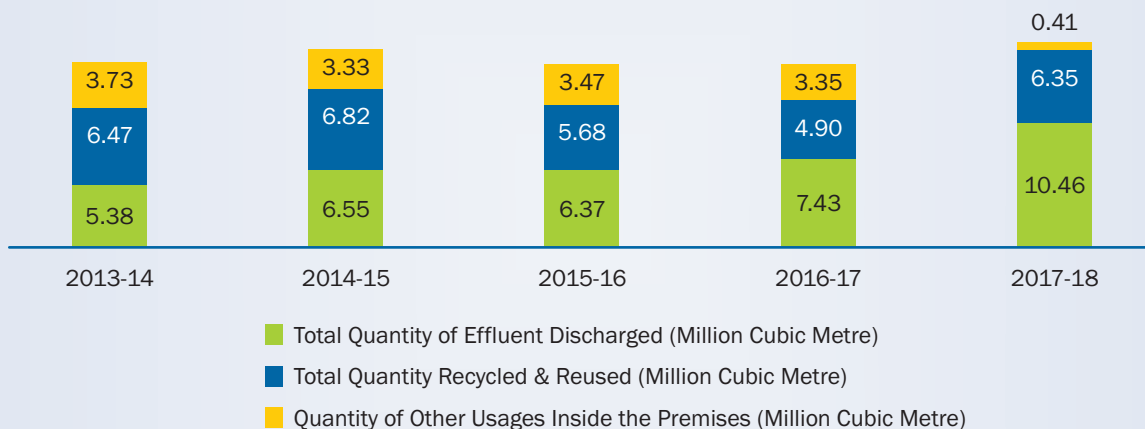
During the reporting period, only 0.41 Million Cubic M<sup>3</sup> of water was discharged outside our premises which is just 2.38% of water drawl. The water balance diagram for BHEL units is

also shown in the figure. It shows that there has been a drastic decrease in effluent discharge outside the premises.

## Water Recycled/Reused Across Units of BHEL



## Water Balance Across BHEL Premises



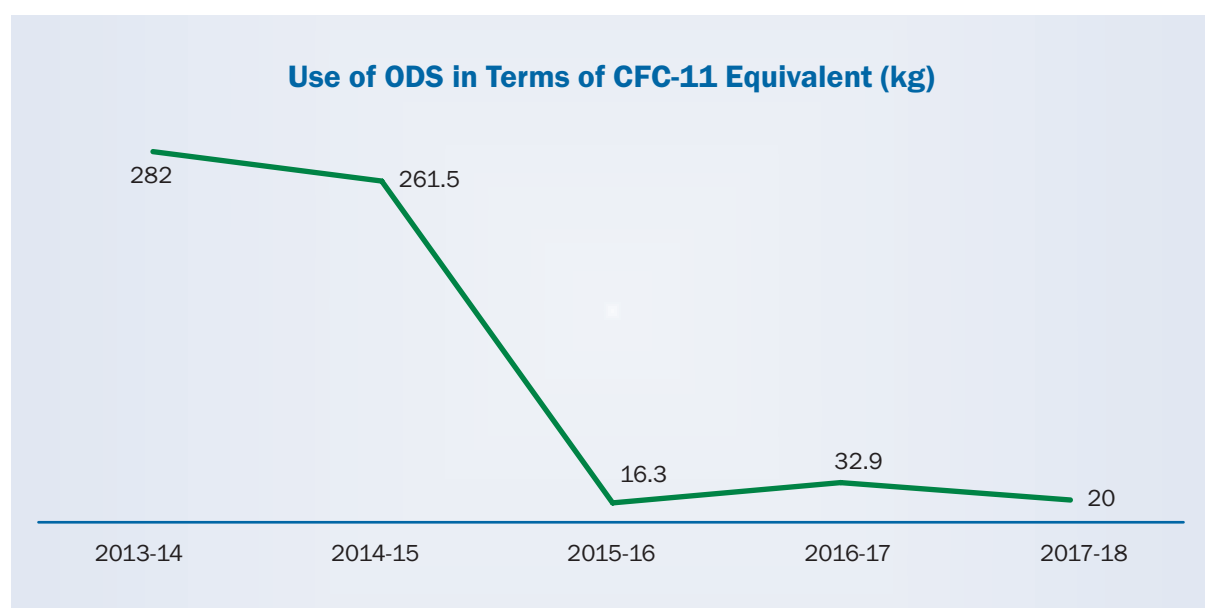
At most of our units, mass tree plantation has been carried out on the occasion of World Environment Day 2017. Further it has become a part of our organizational culture to plant a sapling by the employees on the day of their superannuation to commemorate the contribution made by them in shaping up the organization.

## D. Managing Emissions and Carbon Footprint

Across our manufacturing units, the emissions are being monitored by respective units, records are maintained and report is sent to

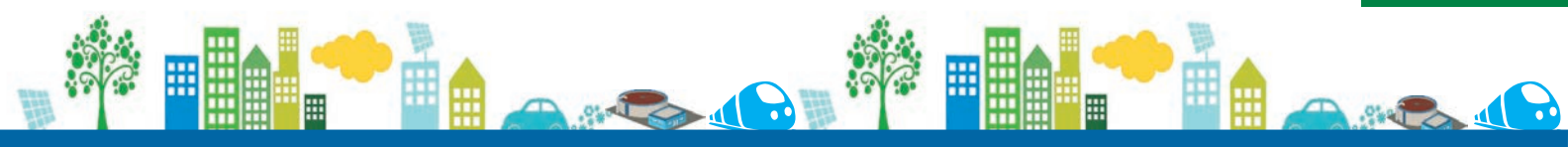
statutory authorities as per the requirement. Monitoring of emission from stacks & ambient air quality is done on continual basis and it is ensured that the emissions are well within the prescribed limit as set by the respective SPCB.

Use of Ozone Depleting substances (ODS) in refrigerants have been discontinued at most of the units. The data of ODS used in last 5 years is shown in the figure below. HPEP Hyderabad and EDN Bengaluru have stopped usages of ODS resulting in lesser usages of ODS across BHEL. The new machines procured at various units are using refrigerant gas like R-134a, R-410a etc.



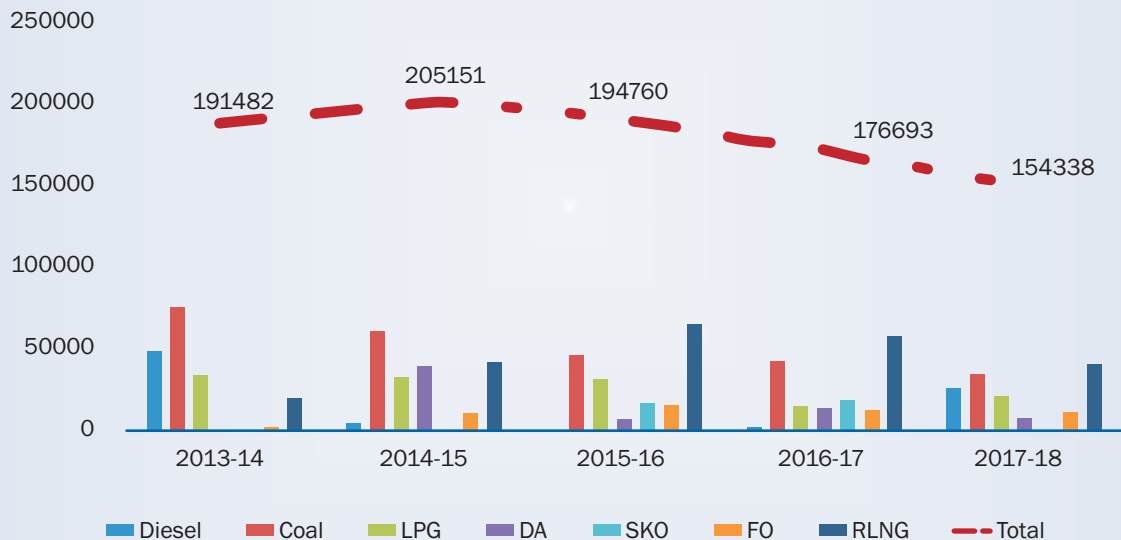
Carbon emissions on account of direct and indirect energy consumption (Scope-1 & 2) is being captured by all the units regularly. However, scope-3 emissions are still to be captured by the system. The emission is being captured using appropriate methodology as stipulated by UNFCCC protocols and using India specific emission factor.

The average value of carbon footprint for the last five year stood at 184485 MT CO<sub>2</sub>-equivalent and it is gradually declining due to usages of cleaner fuels having lesser carbon emission factor. Further, it can be seen from the figure below that contribution of emission from coal burning is reducing on annual basis. Further overall scope-1 emission peaked during 2014-15 and is now on a declining trend.





## Contribution of Major Fuels Used in Scope-1 Emission (MT CO<sub>2</sub>-e)



## Scope-1 Emissions: Contribution of Different Components of Energy Mix (%)

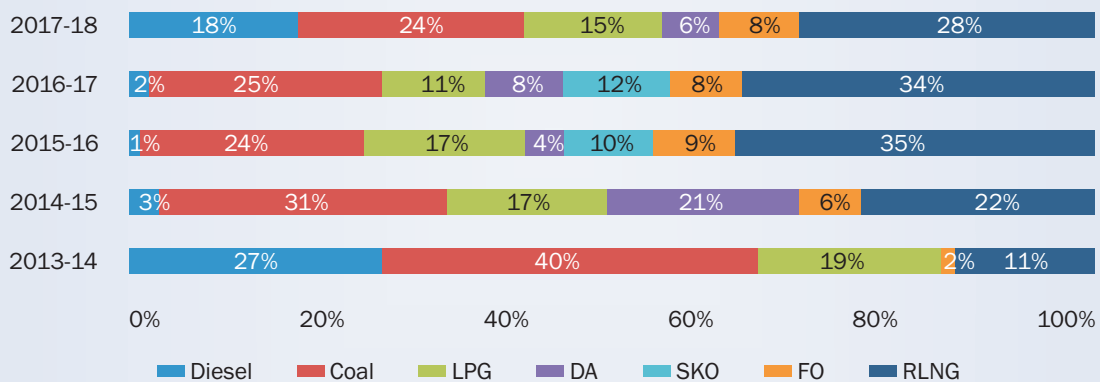


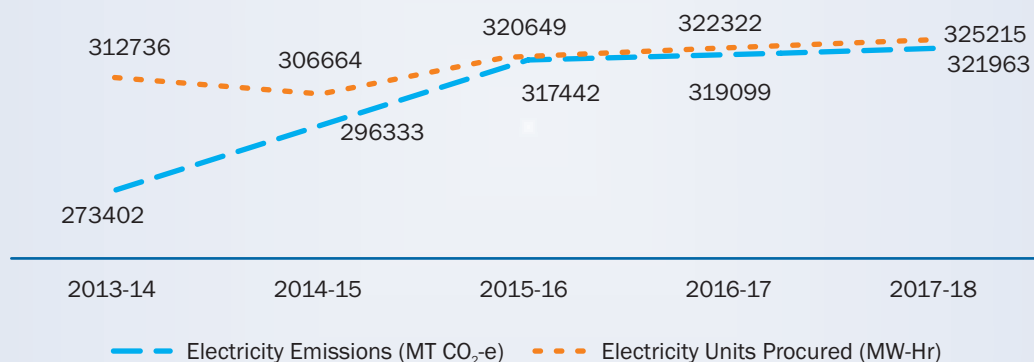
Figure shown below depicts the indirect emissions (scope-2) due to energy consumption through purchase of electricity. Due to better availability of electricity, electricity consumption has increased in our units and correspondingly use of fuel such as diesel for electricity

generation has reduced. Further, the combined data for Scope-1 and Scope-2 emission has been shown in figure. During the last 5 years, a total Carbon Emission of 2.45 Million Metric Tonnes of Carbon equivalent has happened across the units of BHEL.

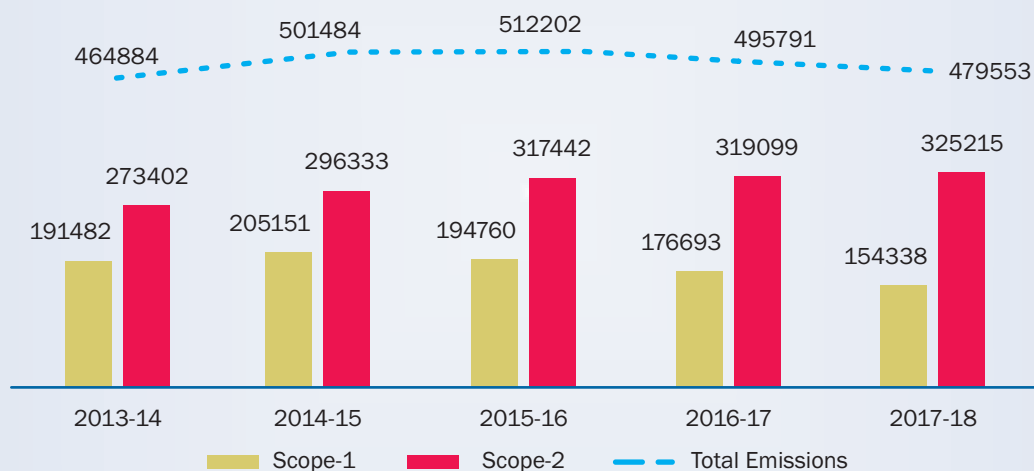


## SUSTAINABILITY REPORT 2017-18

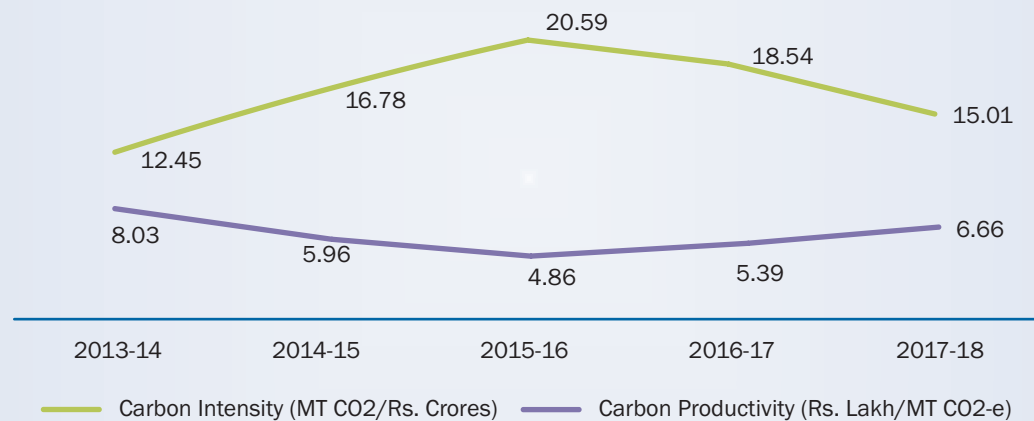
### Scope-2 Emissions Against Electricity Procured Data



### Carbon Emission Across BHEL Units (MT CO<sub>2</sub>-e)



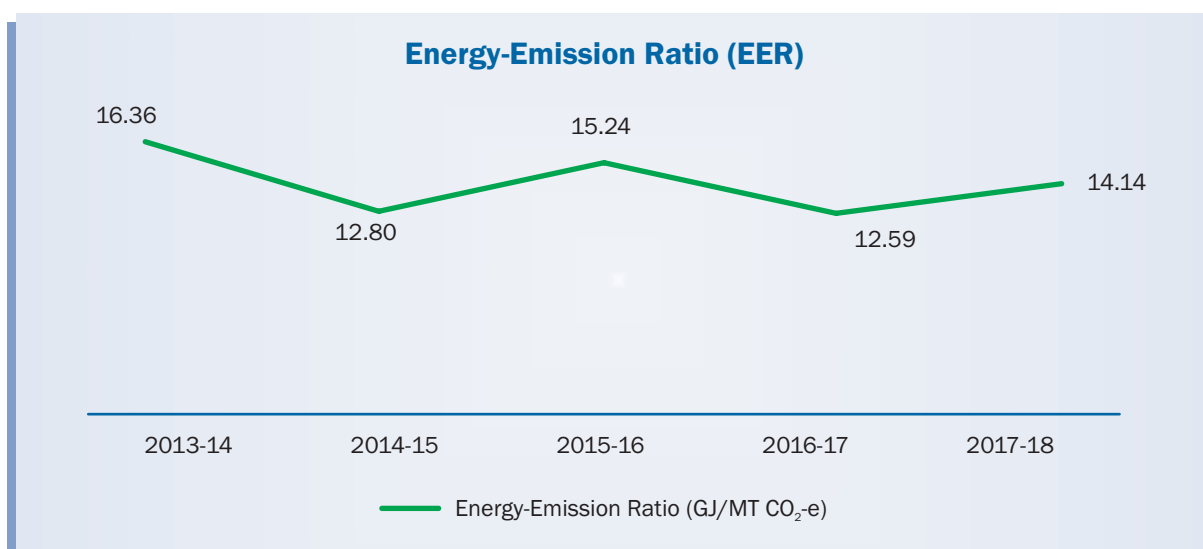
### Carbon Intensity/Productivity Data



The data for Carbon Productivity (CP) [defined as gross turnover in Lakh of Rs. achieved per unit of carbon footprint expressed in MT CO<sub>2</sub>-e] and Carbon Intensity (CI) [defined as Carbon Footprint expressed in MT CO<sub>2</sub>-e emitted per crores Rs. of GTO achieved] are shown in the figure. The average CI figure stood at 16.67 and average CP figure stood at 6.18 meaning for every crore Rs of GTO-ED, 16.67 MT CO<sub>2</sub>-e has been emitted in the atmosphere whereas for every 1 MT CO<sub>2</sub>-e emitted, BHEL has achieved a gross turnover of Rs. 6.18 Lakh. However, it may

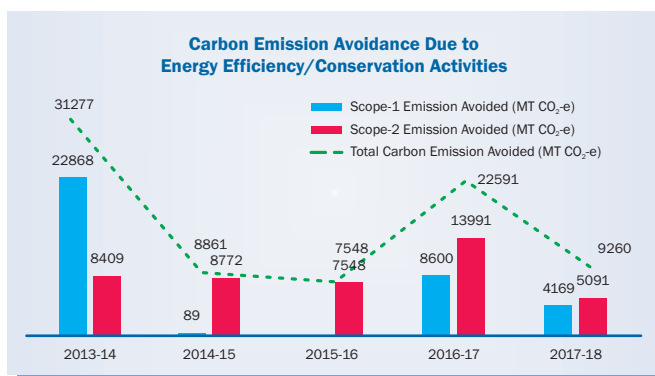
be noted that the GTO figure includes the data for entire BHEL, whereas the carbon footprint data comprises only of the emissions from the units as defined in the boundary of the report.

The data for Energy Emission Ratio (EER) defined as the quantity of primary energy derived in GJ per unit of carbon emission expressed in MT CO<sub>2</sub>-e is shown in the figure below. More the value of EER means the fuel is cleaner and more efficient with regards to emissions.



Due to enhanced use of RLNG, the scope-3 emission associated with transportation of the fuel through trucks has reduced considerably. However, the same has not been quantified yet.

Due to various energy conservation / efficiency measures and generation and use of renewable energy inside our premises, considerable amount of carbon footprint avoidance has been achieved. These activities have been listed in the section – Energy. The average figure for carbon emission avoidance stood at 15907 MT CO<sub>2</sub>-e / annum for the last five years. A total of approx. 79537 MT of CO<sub>2</sub>-e avoidance was achieved across our unit in the last five years. The carbon emission avoidance has been shown in the figure. There has been a decrease in carbon emission avoidance Data year on year basis as lot of opportunities for EE has already been utilised in the past and the data included in this graph is only for activities carried out in that particular year for carbon footprint avoidance.



## E. Responsible Waste Management

Responsible waste management practices are manifested in BHEL through the efforts made by the organization in reduction of waste generation at our locations, recycling and reuse of waste generated to the extent feasible and

disposal of waste generated following procedure/methodology prescribed in the relevant statutes.

Some examples of specific activities carried out at units related to waste management during the reporting period included the following:

Waste Management Initiatives:	
Composting of organic waste at - HEEP Haridwar, IP Jagdishpur, HERP Varanasi, HPBP Trichy	
Providing different types of bins for storage of different types of scraps like iron, plastic, used oil, chemicals etc. at many units.	
Reusing 1296 M <sup>3</sup> of wood for manufacturing wooden boxes used for packaging at HEP Bhopal	
Using 14377 MT of ferrous scrap for making casting and forgings at CFFP Haridwar	
Using waste from slip house process for making bricks at a very low cost and being used for making floorings in the stores and pavements at IP Jagdishpur	
In-house reuse of 48.2 MT of Turning Boring scrap & Plate off Cuts at IVP Goindwal	

Across BHEL, solid wastes/scrap having resale value were collected, segregated, stored and sold to authorised recyclers. Hazardous wastes/ E-waste were disposed off as per the

stipulations in the relevant statutes. The data for waste generated during last 5 years is shown in the table below.

Hazardous and Non-Hazardous Wastes Generated at Units							
Type of wastes	Unit	Quantity (2017-18)	Quantity (2016-17)	Quantity (2015-16)	Quantity (2014-15)	Quantity (2013-14)	Disposal Method
Non-Hazardous	MT	36261	36945	33933	57385.1	100902.7	Disposed to authorised
Hazardous	MT	3312	4724	5309.8	6185.0	6877.1	agencies/ users/ reused

The waste generated at our premises are either recycled/reused in-house or given to authorised recycler for recycling/reuse outside BHEL. The following table shows the details of waste recycled/reused data for the last 5 years. It may

be noted that all the quantity of non-hazardous waste generated during the year was sold to authorised recyclers / sent to CFFP Haridwar / reused in-house.





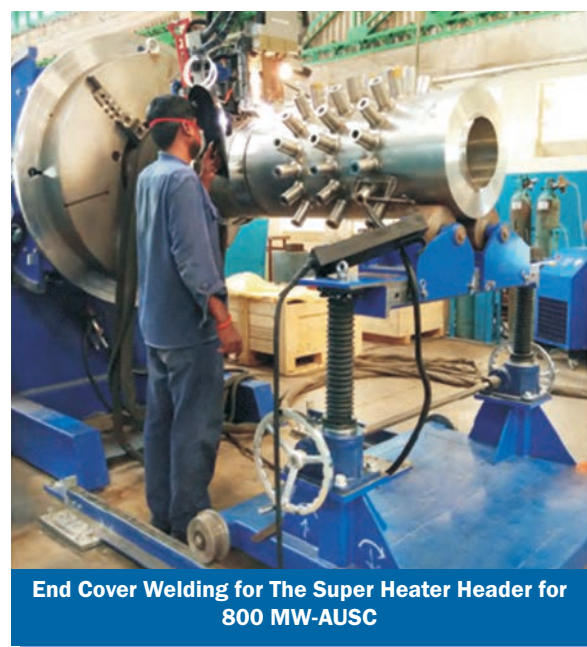
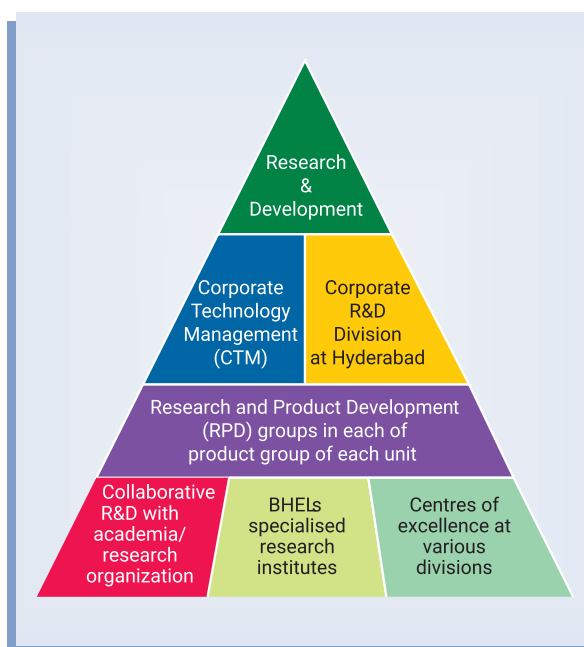
Waste Reused / Recycled at Units							
Type of wastes	Unit	Quantity (2017-18)	Quantity (2016-17)	Quantity (2015-16)	Quantity (2014-15)	Quantity (2013-14)	Remarks
Non-Hazardous	MT	36261	36028	33591	9708	6415.28	Includes ferrous as well as non-ferrous materials
Hazardous	MT	1194	2601	1059	92	3.62	Used oil and other materials reused inside or sold to authorised recyclers

## F. Initiatives Taken to Reduce Environmental Footprint of our Products and Services

As the impact of equipment manufactured by BHEL is most at the use phase by its customers, it is our responsibility to develop and provide greener technologies to our value chain partners. BHEL is contributing to a greener environment through development of environment friendly technologies, reduced emissions and improvement in efficiency of its equipment.

Some of the steps taken in this direction are detailed below:

- Development of **Advanced Ultra Supercritical Technology (AUSC) Technology** - In parallel to the improvements made in carbon footprint of BHEL's operation, company is also working towards reducing the carbon footprint of BHEL made products during its running lifecycle. BHEL in association with IGCAR, NTPC, is developing Advanced Ultra



Supercritical Technology under the aegis of the National Mission on Clean Coal Technology. The technology will yield targeted efficiency of 45-46% against efficiency of ~38% of subcritical and ~41-42% of supercritical sets. In result, this will further reduce coal consumption and CO<sub>2</sub> emission by about 11% as compared to Super Critical plants and by about 20% as compared to Subcritical power plants for single unit of power generation. Company has already introduced Super Critical Technology in India which has lower carbon footprint in comparison to previous generation of subcritical technology.



**HP Bypass Valve with Nickel-based Alloy for Advanced Ultra Supercritical (AUSC) Power Plant Application Developed at BHEL Tiruchirappalli**

- **Emission Control Equipments** - Further, new emission norms which have come into force for generation utilities, BHEL is ready with the solutions required to meet the stipulated norms. The company has initiated several measures like modification in boiler design, modifications in the wind box firing system of Boilers and

development of SCR catalyst for NO<sub>x</sub> reduction, installation of FGD systems for SO<sub>x</sub> capture and improvement in particulate collection efficiency of ESPs. BHEL has developed SCR technology exclusively for high ash coal fired Indian thermal power plants through its dedicated R&D efforts and the same is under demonstration at NTPC Simhadri Super Thermal Power Station. The pilot plant at NTPC Simhadri is operating with average De-NO<sub>x</sub> efficiency 84-85% and less than 2 ppm ammonia slip.

- **Coal to Methanol conversion** - BHEL is working indigenously on development of technology for the conversion of high Ash Indian coal to methanol. The technology will be demonstrated initially at pilot scale with the production of 5 kg/hr of methanol. The development work will involve modelling, simulation, optimization of process scheme and prototype manufacture to convert coal to Methanol. Successful implementation of this technology will help in utilizing the vast coal reserve available and significantly curb the rising imports bill of the country due to crude oil and improve upon the energy security of India.
- **Solar Cell** - BHEL has also undertaken development of high efficiency solar cells using Passivated Emitter Rear Contact (PERC) technology at pilot scale. The project includes development of mono and multi-Si Solar cells with efficiencies of 21% and 19% respectively and shall be commercially deployed for production of higher efficiency Solar cells/ modules.
- **E-Mobility** - As a part of reducing emissions in transportation sector, there is favorable movement towards Electric Vehicle mobility as the future mode of transportation. BHEL is already developing Motors/ Alternators,

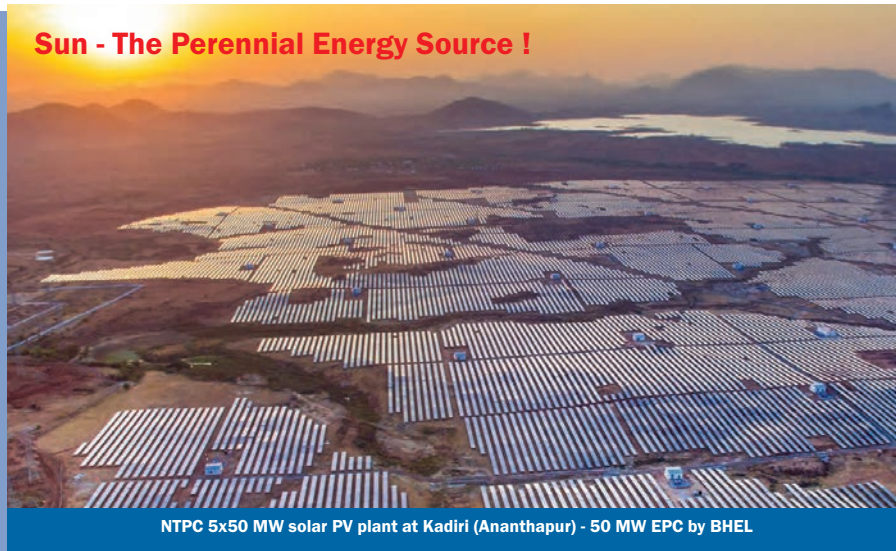




IGBT controllers and VCU (Vehicle Control Unit) hardware for e-vehicles.

- **Fuel Cell** - BHEL has developed 2.5 kW PEM (Proton Exchange Membrane) fuel cell stack for strategic applications.

## Sun - The Perennial Energy Source !



NTPC 5x50 MW solar PV plant at Kadiri (Ananthapur) - 50 MW EPC by BHEL



Light Combat Aircraft 'Tejas', Designed Indigenously for The Indian Airforce, Uses BHEL Make Heat Exchangers



Solar Cell and Module Manufacturing Facilities at BHEL, Bengaluru

## G. Management of Significant Spills

Our units are certified to Environmental Management System accredited to ISO 14001:2015. This management stipulates the control measure to be taken for any spill. However, during the reporting period, no significant spill has occurred. Further, there are no water body and related habitats which are significantly affected by our discharge of water and runoff.

## H. Compliance

There are well established systems, procedures and practices related to Health, Safety and Environment (HSE). Efforts for strengthening the HSE Management Systems & Procedures are made continuously in the organization. All manufacturing units and project sites have HSE departments and required resources, including qualified safety officers. Safety inspections, HSE audits, work place environment monitoring, health monitoring etc. are carried out as per laid down systems and procedures. All units and regional offices, having certification for ISO 14001 & OHSAS 18001, have undergone periodic audits by the certifying agency to ensure effectiveness of systems.

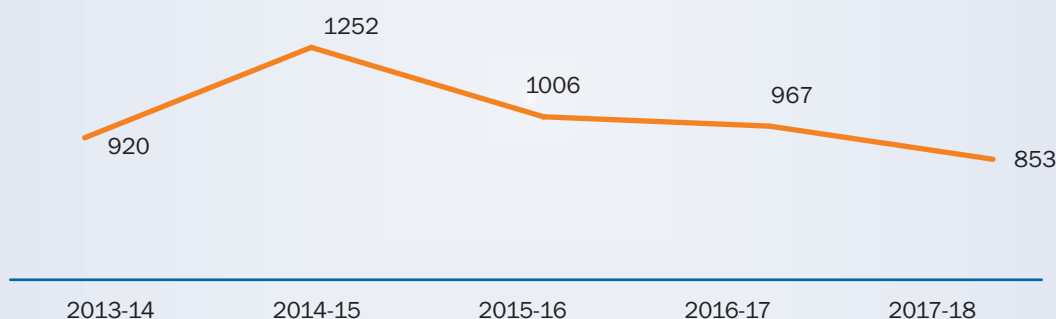
The applicable consents, authorisation and

licenses as stipulated in the extant HSE legislations have been obtained by the units and adherence to the laid down condition in such rules are strictly ensured. None of the units has been imposed with any monetary fines and non-monetary sanctions for non-compliance with environmental laws and regulations during the reporting period.

## I. Environmental Protection Expenditure

It is the constant endeavour of the organization to enrich the environment through environmental sustainability initiatives taken each year by the units. The pertinent activity taken under revenue expenditure related to HSE includes expenses on - monitoring of stack emissions & ambient air quality monitoring, obtaining required licenses/ authorisations/ consents under extant HSE legislations, certification / recertification / periodic external audit for ISO 14001 & OHSAS 18001 management system certification, installation & maintenance of new environment friendly technologies, insurance for environmental liability, tree plantation etc. Kindly note that this expenditure has been incurred from revenue budget only and does not include the salary of BHEL personnel involved in environmental management activities.

**Expenditure on Environmental Protection (Rs. Lakh)**





## Social Performance

### Management Approach – Human Rights, Anti-corruption, Labour Practices & Decent Work

BHEL policies are in line with the principles of Human Rights, The Constitution of India, various Labour Laws, etc. Special provisions have been made in BHEL to safeguard women employees at the workplace. Internal Complaints Committee (ICC) has also been formed to look into cases of Sexual Harassment at workplace of female employees. The Principles of Natural Justice are scrupulously followed in “The BHEL Conduct, Discipline and Appeal Rules” applicable to all its employees except workers who are governed by the Standing Orders.

BHEL advocates the principles of Good Governance, Transparency, Probity and Ethics so as to ensure maintenance of highest level of integrity in its functioning. Within BHEL, through ‘Delegation of Power’ accountability is well defined for various functionaries. Works Policy, Purchase Policy and other policy documents facilitate transparency in BHEL’s working and commitment of highest order of integrity.

The Company neither subscribes to nor indulges in coercive practices of forced / compulsory labour. Towards this, it never asks its employees to deposit their original documents pertaining to their education qualifications or Date of Birth. As a policy matter no person below 18 years can be employed in BHEL.

BHEL has been a frontrunner in the area of human resource management. The guiding

principle for company’s HRM policy is to ensure availability of competent, motivated and effectively contributing human resources and to facilitate achievement of their full potential at all times to realize organizational mission. Company has documented the HRM policies and rules in the form of a ‘Personnel Manual’ to ensure transparency and uniformity of implementation for regulating employment relationship, career growth/ development and employees’ emoluments/ benefits, healthcare and well-being.

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, thereby, giving equal opportunity to all eligible candidates, without any discrimination whatsoever.

### Profile of the Employee Base

The manpower strength as on 31<sup>st</sup> March 2018 stood at 37540. The number of permanent employee with disabilities was 913 as on 31.03.2018. The overall representation of SC/ST/OBC employees in total manpower as on December 31, 2017 was 20.25%, 6.83% and 31.94% respectively. The percentages in direct recruitment during the year 2017 were 16.66%, 16.66% and 5.55% for SCs, STs and OBCs respectively.

BHEL does not hire employees on temporary/ casual basis. However, BHEL awards job/works contracts to contractors at its various Units/ Divisions/ Departments as per organizational



needs. The number of workers with contractors varies from time to time.

BHEL is a pan India Organization and recruitment is open to all eligible candidates irrespective of States and communities. Despite being in a core Manufacturing Setup, BHEL has 5.6 % of its workforce as Women Employees. BHEL has workforce comprising all minority communities representing more than 8% of the workforce.

The cohesion in workforce and strong compatibility amongst employees can be seen from the fact that BHEL has one of the lowest attrition ratio in Manufacturing Sector. Although the candidates who join BHEL belong to different demographics in terms of qualifications, culture, location, religion etc., BHEL ensures technical and cultural fitment of these candidates as per our Vision Mission Value (VMV) statement.

BHEL conducts Employee Satisfaction & Engagement Survey wherein, the satisfaction level of all the employees are measured on various parameters. For the year 2017-18, the overall satisfaction score was 7.14. The satisfaction score of women employees was 7.37 compared to a satisfaction score of 7.13 for male employees which shows that women employees are more satisfied working in BHEL.

Recently, a new type of leave called sabbatical leave is introduced in the organization which provides the facility to employees to pursue their hobbies, studies without any impact on the continuity of service at BHEL.

## Performance and Career Development

To ensure leadership continuity, filling up senior and critical leadership positions falling vacant

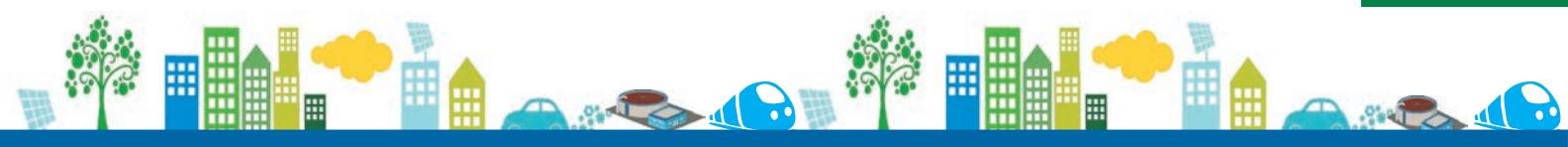
due to exits and also to encourage individual advancement through development of intellectual capital, a formal Succession Plan was approved by the Board during the year.

For meeting the career development aspirations of our young executives and to build a systematic pipeline of high potential executives to feed into the Succession Planning Scheme for key positions, a scheme for identifying and grooming employees with high potential, is in place.

Various behavioural competency assessment tools are being used to finalise development plans, and also to identify high potential employees and potential successors. As part of talent management initiatives, BHEL executives have gone through the technical and behavioral competency assessments.

## Labour / Management relations

In BHEL there are three distinct cadres of employees – workmen, supervisor and executives. Out of these, only the workmen cadre, which constitutes approx. 51% of the total manpower strength, is covered by agreements on issues like wages, perks & allowances, incentives etc. arrived at through the process of collective bargaining in the Joint Committee of BHEL which is an Apex Level Bipartite forum not constituted under any statute for discussing worker and Company interest related issues with the worker representatives, based on the principle of participative Management. This committee has been in existence since 1973. BHEL has twenty-nine participative trade unions represented in the Joint Committee for BHEL.



The Joint Committee at the Apex Level and Plant & Shop Councils at the unit level have a very important role to play in maintaining the growth of the company and also to make all employees aware of the overall business environment in which the company is operating. Issues like productivity, safety, quality, production, timely delivery, cost reduction, soliciting suggestions 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 as to enable the organization to meet such challenges and emerge out stronger.

As far as executives and supervisors are concerned, the Government of India issues instructions for their pay scale, perks & allowances and other related benefits. However, the executives and supervisors have formed their associations and regular meetings are held with them wherein their views and suggestions are duly considered. The industrial Relations (IR) in various manufacturing units, divisions and offices of the Company remained harmonious and peaceful during FY 2017-18. No man-days were lost during the year on this account. For details about IR in BHEL, the reader may please refer page 72 of BHEL's Annual Report 2017-18.

## Occupational Health & Safety

The responsibilities of Occupational Health and Safety (OHS) are driven by our commitment to

protect our employees, people we work with, and the community at large. BHEL believes in zero tolerance for unsafe work and non-conformance to safety in all its business activities.

There are well established systems, procedures and practices related to Health, Safety and Environment (HSE). Efforts for strengthening the HSE Management Systems & Procedures are made continuously in the organization. All manufacturing units and project sites have HSE departments and required resources, including qualified safety officers. Safety inspections, HSE audits, work place environment monitoring, health monitoring etc. are carried out as per laid down systems and procedures. All units and regional offices, having certification for ISO 14001 & OHSAS 18001, have undergone periodic audits by the certifying agency to ensure effectiveness of systems.

During the year, various training programs were organised for all cadre of employees, as well as contract workers on HSE related issues. Efforts towards enhancing awareness on HSE issues continued through celebrating Industrial Safety awareness Week, Road Safety awareness Week, National Safety awareness Week, World Environment Day etc. During these events, various competitions like slogan writing, poster making, essay writing, quiz, etc. were organized for employees, contract workers and school children.



## SUSTAINABILITY REPORT 2017-18



Some of the initiatives taken in our units/divisions towards building and maintaining our safety and health culture at workplace during 2017-18 included:

- Conducted HSE heads meet 2017-18 to share the HSE best practices and HSE concerns of all the units/regions together at a single platform at HPEP, Hyderabad from 7<sup>th</sup> to 8<sup>th</sup> Nov, 2017.
- Safety inspection by area safety officers on daily basis to ensure strong HSE systems at work place.
- Training Programs for Executives, Supervisors, Artisans, Crane Operators and Slings on OHSAS – Aspect of Safety, Factories Act, Accident Prevention, Safe use of lifting tackles, Slings (design and Safe use), Work Place Safety, Safe Crane Operation, Material Handling, etc.
- Mock drill for checking emergency preparedness.
- Regular pep talks to make the workers aware of safety requirements for daily jobs at workplace.
- Demonstration of various types of Safety Items/ PPEs by vendors.
- Creating awareness for HSE related issues through celebrating awareness week / month like Industrial Safety Week, Road Safety Week, National Safety Week, and World Environment Day. During these celebrations, various competitions like Slogan, Poster, Essay, Quiz, etc. were organized for employees, contract workers and school children. Mime (act without dialogue) on importance of safety at shop floors was also organized at HPEP Hyderabad and HEP Bhopal.



- Motivating employees in the field of safety through awarding top three Safety Projects (registered under impress) on National Safety Day (4<sup>th</sup> March, 2018) at HEEP Haridwar.
- Participation in various safety awards to showcase our good practices related to safety. As a result of these efforts, BHEL EDN has won second prize in the State Level Safety competition under Mega Industry category for adopting best Safe practices in the year 2017. BHEL EDN Artisan team has won Third prize in the State Level Safety Quiz competition. BHEL Trichy unit won 6 National Safety Awards for CCDP, WRI, HRDC Workshop & SSTP. BHEL Trichy won 1 international Awards in Heavy Industry 7 public Enterprise category and AGM (HSE), Trichy was conferred with Individual Excellence Award for Best Safety Professional of the year during the 27<sup>th</sup> Annual Global Conclave of International Institute of Security & Safety Management (IISSM)-2017.
- Conducting external audits for OHSAS 18001:2007 (Occupational Health and Safety Assessment Series) & EMS 14001:2004 (Environmental Management Systems) at various units.
- Conducting 3<sup>rd</sup> party safety audits by external agency at various units.
- Empowering larger section of employees and making them responsible for ensuring observance of safety practices at workplace for which BHEL Trichy has installed 97 Safety Stewards and they were handed over the Safety Steward Badges and Study Material.
- Enhancing firefighting capabilities at various units to ensure safety against fire.
- Awarding best safety stewards and safety coordinators

The safety statistics of our manufacturing units for the last four financial years is given in the table captioned Safety Statistics for BHEL units. In the last report this data was given calendar year wise.

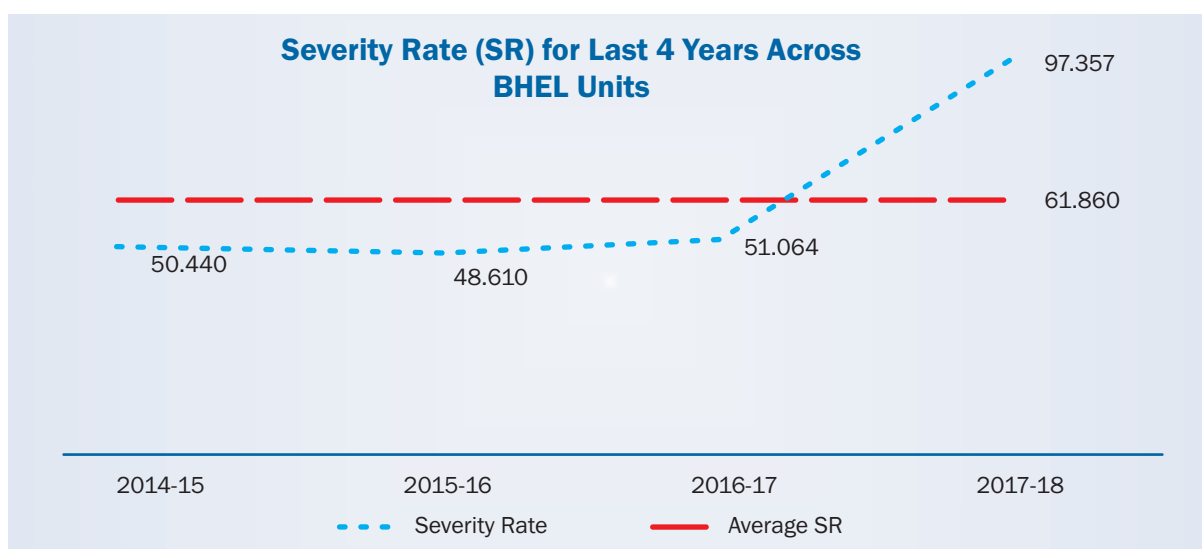
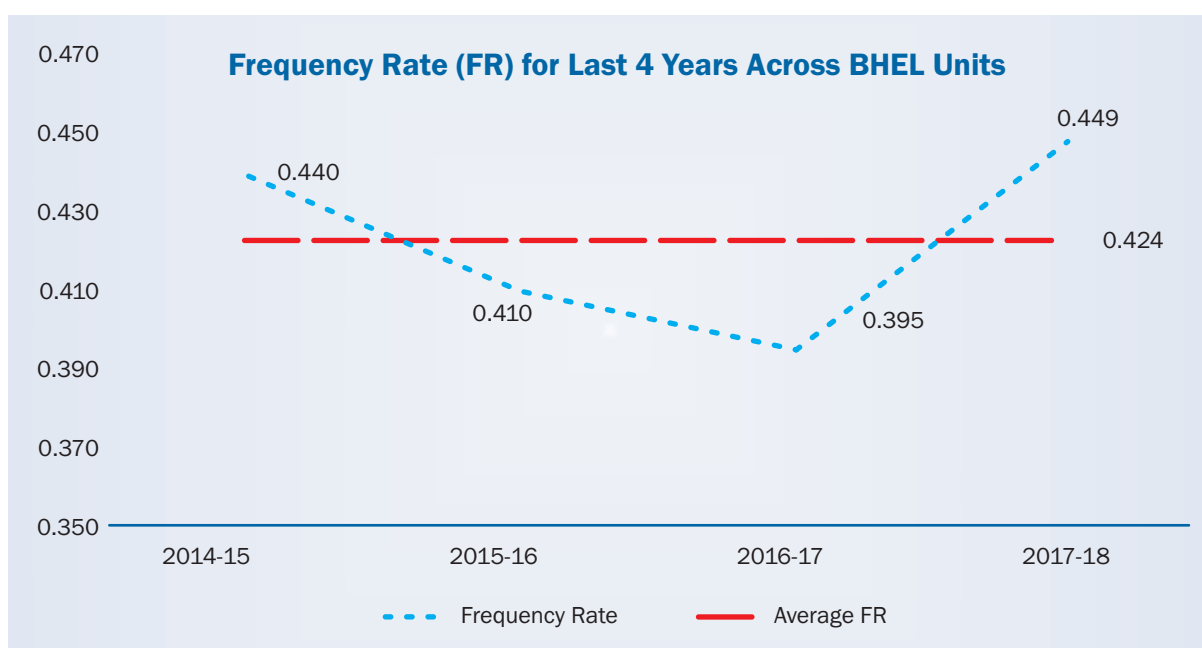
Safety Statistics for BHEL Units					
Year	Total Reportable accidents	Total Man days lost	Man Hours worked (in Million Hours)	Frequency Rate	Severity Rate
2014-15	68	7738	15.3423765	0.44	50.44
2015-16	61	7255	14.9249324	0.41	48.61
2016-17	56	7232	14.1624962	0.395	51.064
2017-18	61	13238	13.5973531	0.449	97.357



# SUSTAINABILITY REPORT 2017-18

The same data is further shown in different forms in the figures labelled as Frequency Rate and Severity Rate. Frequency rate is the number of reportable accidents which happened during this period per million man hours worked. The man-hours worked include the man-hours contributed by all regular as well as contractual

employees and considers the overtime as well. Similarly, severity rate is defined as number of man-days lost due to these reportable accidents per million man-hours worked. Frequency rate is indicative of number of accidents whereas the severity rate is indicative of effect of such incidents/accidents at workplace.



## Learning & Development

Aligned to the changing needs of the organization, BHEL has facilitated knowledge transfer, skill development and behavioral interventions to build a winning attitude in its employees. Through numerous initiatives, employees are enabled to be in a state of “Readiness” to face the business challenges.

Five Advanced Management Programs (AMPs) in collaboration with IIM-Kolkata were conducted for 153 executives at senior management levels to develop high

performance cross functional team in the increasingly volatile global network. Long duration General Technical program introduced to promote Core Engineering Skills. A new program series on Achievement Orientation & Performance Counselling was conducted in various units.

Developing “Leader as Coach” initiative was introduced by developing in- house internationally certified faculties who conducted workshops in the organization with an objective to make managers aware about their role as coach.



**Focus on People Development-Competency Building of All Employees in line with Company's Business Strategies**



A series of workshops on work related topics such as quality, sourcing policies etc. were organized for more than 180 young executives to facilitate functional excellence. To initiate creative thinking and collaborative approach, workshops such as PRISM (Project Improvement & Site Management), LEAD (Learning through Exchange & Development), Design Thinking by Stanford certified faculty etc. were conducted.

BHEL was actively involved in skill development initiative of the Government of India. During FY 2017-18, BHEL provided skill development opportunities to 24,046 individuals under various schemes like Graduate apprenticeship, Diploma apprenticeship, Vocational apprenticeship, Trade apprenticeship, etc. BHEL was recognized as Champion of Change under the category of 'Best Central Public Sector Enterprises' by the Ministry of Skill development & Entrepreneurship for engaging maximum number of apprentices under the Apprentices Act, 1961.

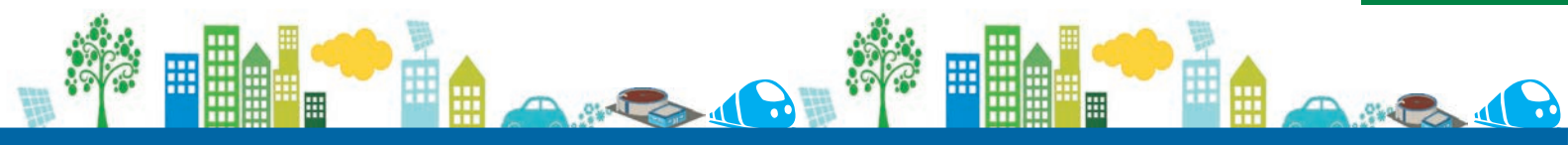
Programmes on technical and managerial skills are being held in BHEL. Technical skill upgradation in Supercritical technology, MS office, GST, Emotional intelligence, Achievement motivation certification, Leader as coach as trainers, Resilient leadership, General Management Programme (GMP), Senior Management Programme (SMP), Young Manager Programme (YMP), Advance

Management Programme (AMP) were held during 2017-18. Further, programme for skill upgradation on solar technology, ISO trainings, Knowledge Transfer Workshop on Super-Critical Boilers, Improvement in Specific Energy Consumption, Understanding Power Stations (Thermal, Nuclear, Hydro, Gas and CCPP), GTP, Water Treatment Business, Wind and Biomass - Renewable Power Business, Workshop for Turbine Service Engineers, workshop on Solar Energy Technology were also conducted during the reporting period. Programmes like INSPIRE and HORIZON are held for change of cadre of employees. Programmes on counselling skills, communication, presentation skill, assertiveness and negotiation skills are organised at units.

During the year 2017-18, the total number of training man-days per employee is 3.4. Company provides training in technical as well as behavioral skills to its employees. Training on Health Safety & Environment (HSE) aspect is one of the essential element of our induction training programme.

In addition, separate programmes are also regularly conducted at all BHEL's manufacturing units and project sites to train employees on HSE by both internal and external faculty members. Below is the list of no. of employees (in percentage) who were given safety and skill (both technical and behavioural) upgradation training during 2017-18.

a.	Permanent Employee	30.48%
b.	Permanent Woman Employee	28.00%
c.	Casual/ Temporary/ Contractual workers	26.72%
d.	Employees with disabilities	34.20%





Training on safety is also provided to casual/temporary/contractual workers coming through job/work contracts with contractors.

## Supplier Assessment

BHEL had signed Integrity Pact with Transparency International on December 16, 2008 and the same was adopted in February 2009. Structured meetings are held with the Independent External Monitors (IEMs) every quarter wherein procurement related issues and complaints thereupon are taken up. The threshold value for tenders has been brought down from Rs. 10 crore to Rs. 5 crore (w.e.f. February, 2016) so as to increase the coverage under Integrity Pact. Presently, about 56% of the total procurement is covered under Integrity pact. Majority of our procurement is done on tender basis wherein any supplier irrespective of its geographical location can participate in tender for fair and transparent procurement process.

Six representations from suppliers have been received during the year under Integrity Pact and all have been resolved by the IEMs.

## Protection of Human Rights

BHEL policies are in line with the principles of Human Rights, The Constitution of India, and various applicable laws. BHEL has special provisions for ensuring safeguard of women employees at the workplace. No instance of human rights abuse has been reported in the Company. BHEL is a life time member of Global Compact Network, India (GCNI). The company reports its performance on ten principles of UNGC on annual basis since 2001 through Communication on Progress (CoP) which includes BHEL's commitment towards upholding the principles of UNGC. This CoP is web-hosted on UNGC website and can be accessed through the webpage: [www.unglobalcompact.org/participation/report/cop/createand-submit/active/352981](http://www.unglobalcompact.org/participation/report/cop/createand-submit/active/352981)

BHEL has been supporting Micro, Small and Medium Enterprises (MSMEs) and local suppliers in and around manufacturing units from various fronts. They are part of BHEL's supply chain. Also, as mandated in Public Procurement Policy-2012 for MSMEs (issued by Ministry of MSME-Gol), BHEL has achieved the target of 20% of its total procurement from MSEs during 2017-18. Regular vendor meets and supplier development programs are being organized by BHEL units, specifically for MSEs (including local suppliers) as well as specific to SC/STs, which serves as a platform for identification of needs and formulation of action plan for mutual benefits.

## Grievance Mechanism

BHEL has established a Public Grievance Redressal System which is a formal complaint/grievance handling procedure for all individuals except for (i) Employee, (ii) Shareholders, (iii) Vendors, (iv) Customers, for whom a formal grievance redressal system already exists in which any grievance can be registered online through our portal <http://www.bhel.com/grievance/grievance.php>.

The Company has a Stakeholders Relationship Committee specifically to look into matters related to redressal of shareholders and investors complaints. As reported by M/s Karvy Computershare Private Limited (Registrar & Share Transfer Agent of the company), 916 complaints were received from the shareholders during the year under review and all complaints were redressed up to March 31, 2018.

In addition, a total of 322 public grievance complaints were received from the general public under the Centralized Public Grievance Redressal and Monitoring Scheme (CPGRAMS) during the year 2017-18. All the grievances were disposed of within the prescribed period of 60 days.



## Our Societal Performance

### Management Approach

BHEL is continuing its social responsibility through various CSR initiatives fall under its seven thrust areas which are in line with the Schedule-VII of The Companies Act-2013.

During the year 2017-18, BHEL has continued its efforts in the direction of fulfilling its moral duties towards the society and has done number of CSR projects fall under its seven thrust areas namely: Clean India, Green India, Educated India, Healthy India, Inclusive India, Heritage India and Responsible India.

The work done by BHEL for the welfare of poor and needy people in the society has been recognised by various agencies and honoured

by them during the year:

- BT CSR Excellence Awards- 2017 by “Bureaucracy Today Magazine” on 22nd August, 2017 under following categories.
  - BT CSR Excellence Award for “Promotion of Healthcare.”
  - BT CSR Excellence Award for “Best CSR Company in Public Sector”.
- BHEL was awarded “SKOCH order of Merit Award” for Blue Economy during the 50th SKOCH Summit on 20th – 21st November, 2017 for BHEL’s CSR Project “Empowering marginalized community through education and vocational training”.



**BHEL "SKOCH Order-of-Merit Award" for Blue Economy - for Empowering Marginal Community Through Education and Vocational Training Nomination**

- BHEL’s Power Sector Southern Region was conferred with “Humanitarian Award” by Thakkar Bapa Vidyalaya Samithi, Chennai on 17<sup>th</sup> Oct, 2017 for renovating the flood ravaged buildings of the Institution under CSR during the year 2015.
- BHEL has been felicitated by Haemophilia Federation (India) thrice during the year, once in April, 2017, one on the occasion of its Founder’s day on 24.11.2017, and once in Feb, 2018 for its contribution for welfare of haemophilic in the country.





- BHEL participated in First 3-day CSR Fair (4<sup>th</sup> – 6<sup>th</sup> May, 2017) at Pragati Maidan, organized by DPE in association with India

Trade Promotion Organization (ITPO) at Pragati Maidan, New Delhi.



3 Day (4<sup>th</sup> - 6<sup>th</sup> May, 2017) CSR Fair at Pragati Maidan, New Delhi



The major CSR activities (focus area-wise) undertaken by BHEL during the year are as follows:

## Clean India

- BHEL has undertaken a CSR Project to provide 9 drinking water (RO + water ATMs with ultra-filtration) in villages near Chandrapur TPS, Maharashtra in partnership with MAHAGENCO.

- As a CSR initiative aimed towards “Swachh Bharat” and “Clean Ganga” initiatives of Govt. of India, BHEL is providing financial support for installation of 25 Clusters of Bio-digester toilets near the banks of river Ganges in Haridwar & Rishikesh. Out of these 14 clusters, at 7 locations have been made operational till date and rest of the clusters are in various stage of completion.





## SUSTAINABILITY REPORT 2017-18

- BHEL provided financial support for construction of an overhead service reservoir (5 lakh Litres Capacity) at Dr. Nakadar Institute Technology, Mehsana, Gujarat for improving water supply system in the Institute.
- BHEL has taken up CSR Project for construction of toilets in schools considering the need specially for girl students and in other areas.
- BHEL-EPD, Bengaluru constructed a Toilet Building at Govt. Lower Primary School, Bhuvaneshvarinagar, Ullal ward, Bengaluru under CSR Scheme.



**Construction of Toilet in Adarsh Inter College  
Kheladi, Haridwar**



**Handing Over of Toilet Blocks at Village  
Barkheda Bondar, Bhopal**



**Bio Digester Toilet Cluster at Char Dham Bus Stand, Rishikesh**

### Educated India

- To make quality education accessible to students belonging to weaker sections of the society, BHEL continued its financial support to schools located in BHEL Townships at Haridwar, Ranipet, Trichy, Bhopal, Hyderabad, Jagdishpur, Jhansi, Vizag and Noida. Majority of the children studying in these schools are other than BHEL employee's wards.





**Desks & Benches Provided to A Govt. School in Lucknow, U.P.**



**Quarterly Workshop of Udaya Shalini Fellowship Programme at BHEL, Haridwar**

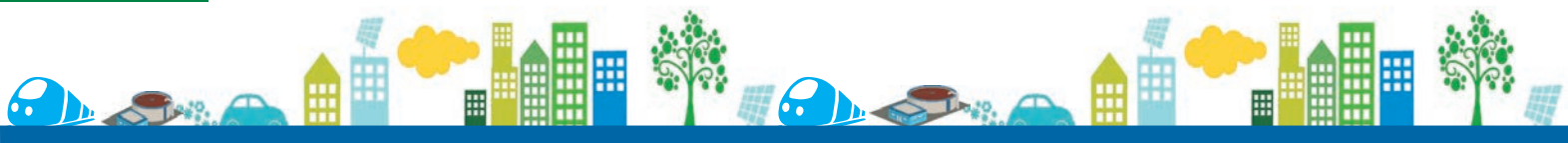
- BHEL has extended financial support to A.N. College, Patna for its project “Carrying out estimation of environmental toxicants in soil and water in Patna”. The objective of the project includes development of a novel fluoride-binding polymer into a format that can be deployed in the field to remove contaminating fluoride from groundwater sources.
- As a unique CSR initiative, wherein the students of government schools are being demonstrated science experiments along with their active involvement in the experiments, BHEL is providing financial support to Agastya International Foundation for running of three Mobile Science Labs, each in the vicinity of BHEL Unit at Haridwar, Jhansi and Trichy. Each mobile lab is likely to cover about 22,000 students every year. The project is for three years ending in August, 2018.
- BHEL is providing financial support to the project “Udayan Shalini” fellowships programme supporting higher education of girl students coming from below poverty line (BPL) families. For this BHEL has joined hands with NGO named ‘Udayan Care’. Under the ‘Udayan Shalini’ programme, 100 brilliant girl children, who have passed class Xth, are being financially supported to



**Inauguration of Renovated Electrical Laboratory at Govt. ITI, Peenya on 10th Jan, 2018 EPD Bengaluru**

pursue their education up to Graduation level besides developing / enhancing their personality and employability.

- BHEL has provided financial support for distribution of 5000 educational tablets to students of Govt. Schools in Maharashtra. The tablets were provided through a NGO called “Akanksha”. These tablets contain study materials for class VIII to X in Marathi language. The content includes standard textbooks in digital form, questions and answers bank, student’s evaluation module, Marathi to English & English to Marathi dictionary, a lecture on Vande Mataram and speech by Shri Shivajirao Bhosle on History of Independent India (Swatantra Bharatacha Itihas).



## SUSTAINABILITY REPORT 2017-18

- Electrical Laboratory at Govt. ITI, Peenya was inaugurated. The renovation work has been done by BHEL-EDN. The renovation work includes procurement and installation of 28 Electrical Panel Boards, reconditioning of Electrical motors and a face-lift to the Electrical Laboratory was done. About 100 Electricians of the current batch and future batches will be benefited by the said renovation.



**Mobile Science Lab - Running in The Vicinity of BHEL Jhansi, Haridwar & Trichy Unit**

- Distributed scholarship to 55 widow ward / orphan / PH school students at Kshitij Bhawan, Piplani, Bhopal Scholarship amount was transferred directly to the beneficiary's bank account.
- Provided support to school by providing Solar Water Heating System in Telangana Social Welfare Residential School / JC (G), Vikarabad, Telangana.



**Certificate Distribution Ceremony at Kshitij Bhawan, Piplani, Bhopal**



**Solar Water Heating System in Social Welfare Residential School, Telangana**



- Provided support to an NGO AIM for Seva to cover food expenses, educational expenses, student welfare expenses, staff honorarium, hostel maintenance for 50 students for 1 years in their free student home at Jaipur.
- Provided weathering course by replacing ACC sheets on the top of the Nursery School Class room at Sri Ramakrishna BHEL Higher Secondary School.
- Continued the financial support, through Foundation for Academic Excellence and Access (FAEA), for providing educational scholarship for mentoring students belonging to BPL category.
- M/s Guru Granth Sahib Vidya Kendra (GGSVK) is a Delhi based NGO providing absolutely free religious, academic and professional education to the boys from needy families since 1980. The boys are retained in the NGO till they get employment. BHEL funded them to distribute summer dress and turbans to students. As part of social responsibility, BHEL intends to make more boys self-dependent and help them in earning a decent salary and respect in their family/community.



**Free Tuition Classes Provided to Poor School Students by BHEL Ladies Club, Bhopal**



**Items Handing Over to NGO - M/s GGSVK**



## SUSTAINABILITY REPORT 2017-18



Scholarships Distribution at BHEL, Bhopal to Students of Underprivileged Section of Society

## Healthy India

- Continued financial support for carrier detection and prenatal diagnosis of 120 patients under CSR Project CD/PND:

Prevention is Better Than Cure”, extended project of “Heal-a-Soul: A Project of haemophilic. During the year 180 women and their family benefited by this project.



Medical Camp at Village Sewaniya Onkara, Bhopal



Eye Check-up Camps in Poor Colonies of Indiranagar, Sri Ram Nagar, RR Nagar, Apurupa Colony, Chnadragiri Colony Chenna Reddy Nagar, Hyderabad





**Medical Camp for Poor People through Rotary Club at "Mela Hospital Haridwar" in Haridwar**

- Medical Camps were conducted for various ailments for the needy and poor people through Rotary Club/Other agencies in various BHEL Units at Haridwar, Bhopal, Bangluru etc. In these camps, patients were treated for Diarrhoea, Dental Carries,

Common Cold, Cataract, CSOM, Dermatitis, Respiratory Tract Infection, Leucorrhoea, Toothache, Weakness, Pyuria, etc. and based on prescription by doctors, free medicines were also distributed.



**Financial Support for the Medical Treatment of Thalassemia Patients of Rashotthana Parishat Thalassemia Day Care Centre, Bengaluru**

- Financial support to an NGO- Rastotthana Parishat was given for providing free medical treatment of 90 Thalassemia patients.
- Under the CSR programme, BHEL provided a medical Van service to Raigad district. The project was inaugurated by Hon'ble Minister of Heavy Industries and Public Sector Enterprises Shri Anant Geete.







**Inauguration of Mobile Medical Van to Raigarh District**



**Handing Over of One Mortuary Van to Nagar Nigam, Jabalpur**

- One no. Mortuary Van was handed over to Nagar Nigam Jabalpur on 23/11/2017 by

Hon'ble Minister (HI & PE) under CSR scheme by BHEL.



## Green India

- Installed solar street lights and domestic lights in two villages in Medak district, Telangana.



**Inauguration of Solar Street Lights in Two Villages in Medak District, Telangana**

- Installed Solar Water Heater facility at Govt. Leprosy Hospital, Magadi Road, Bengaluru.

## Responsible & Inclusive India

- In order to promote / encourage Sports/ Sportsperson in India, BHEL has contributed Rs. 10 Lakh to the National Sports Development Fund (NSDF).



**Provision of The Concrete Benches at Gandhi Park, Haridwar**



## SUSTAINABILITY REPORT 2017-18

- Provision of facility of sitting inside the Gandhi park for elderly people at Haridwar. This facility was developed with reference to the request of Senior Citizen Forum Haridwar.
- Skill Development in Various Traits namely: Tailoring, Purse Making, Flower Bouquet Making, Beautician, Music, Dance etc. through Ladies Club. The aim is to develop skills among economically weaker women which empower them and make them self-dependent and employable. This project imparts vocational training/courses to almost 75 women of weaker section of society in every six months.
- Continued financial support for the project “Technology-based advanced agricultural interventions”, in tribal dominated Khargone district of Madhya Pradesh, for upliftment and economic empowerment of

marginalized farmers through “Manthan Gramin Vikas Seva Samiti”. Under the project, support was provided to 500 BPL Tribal farmers from 40 identified villages of Bhagwanpura Block of Khargone District for Agriculture Technology Interventions for farming of vegetables. According to the farmers, their yearly income has almost doubled after the implementation of the project. Some of the farmers can grow upto 03 crops on same field at a time using Mandap technique. Farmers have become empowered as they can sell their vegetables directly to the customers in the nearby village haat bazaars which was earlier not possible with their traditional crops of Soybean & cotton. Now farmers are able to make seed on their own without Manthan’s support and can grow vegetables on their own.



One of the Farmer Beneficiary during Site Visit at Khargone District, Bhopal





- BHEL partly funded to Viklang Kalyan Samiti for meeting operational expenses of Vikas Middle School and Rehabilitation centre run by the Samiti. Total number of beneficiary students is 70
- Provided financial support for setting up of Bakery Unit at Central Women Prison, Tumkur District, Karnataka for preparation of Bakery items viz. Bread, Cake and Biscuit by the women inmates. Nearly 85 inmates have been benefitted by this initiative.



**Inauguration of Bakery Unit at Central Women Prison, Tumkur, Bengaluru**



- Provided financial support for Distribution of Helping Aids for Differently Abled People with the help of BHEL Differently Abled Employees Welfare Association. Helping aids includes Supply of Tricycle, Wheel Chair Adult, Elbow Crutches Size-II, Axillary Crutches large, Walking Stick, Braille Cane, MSIED Kit, BTE Digital Hearing Aid, 6 pack of 13 Zinc air battery etc.
- BHEL has supported yet another noble endeavour, in association with “Artificial Limb Manufacturing Corporation of India (ALIMCO), a Miniratna PSU, for CSR Project “Financial support for distribution of aids & appliances to Persons with disabilities (PwDs)” in Kolkata. Total 42 persons with disabilities were benefitted with the project.



**Distribution of Helping Aids for Differently Abled People at RC Puram, Hyderabad**



## SUSTAINABILITY REPORT 2017-18

### Disaster & Calamity

In partnership with Govt. of Andhra Pradesh, BHEL has constructed 96 Model Houses (Flats)

in Vizag, Andhra Pradesh for Hud-Hud affected people. These flats were handed over to district administration in a ceremony on 12<sup>th</sup> April, 2017.



Flat Construction by BHEL at Vizag for Hud-Hud Affected People

### Compliance

No complaint regarding breach of customer privacy and loss of customer data has been reported against BHEL for its products/ services. No fine/penalty for non-compliance with laws and regulations concerning the use of products & services have been levied. There is no case filed by any stakeholder against the company regarding unfair trade practices, irresponsible advertisement and / or anti-competitive behaviour during the year and also no such case is pending as on end of FY 2017-18. Further there are no significant fines and non-monetary sanctions for non-compliance with laws and regulations levied on the company during 2017-18.

### Product Responsibility

Innovation and creative development forms an

integral part of BHEL's business strategy. Realizing that in-house Research and Development is an important ingredient in self-sustenance of a Company, the Company has focused on establishing a strong engineering and R&D base for in-house development of indigenous technologies.

The R&D expenditure of the Company for FY 2017-18 is Rs. 753 crore which is 2.7% of the turnover. This includes the expenditure incurred on R&D efforts made at manufacturing units for major modifications/ improvements in products/ designs/ against customer requirements apart from R&D projects. The Company has filed 530 patent and copyright applications during the year, enhancing the Company's intellectual capital to 4,357. Approximately 19% of the company's turnover, amounting to Rs. 5,247 crore has been

achieved from its in-house developed products.

Company provides detailed Product Labels / Name Plates / Test Certificates to customers as per their requirement and terms of contract with them, besides the mandatory requirement of the applicable law. There has not been any incident of non-compliance with regulations and voluntary codes concerning product and service information and health & Safety impacts of products and services.

## Marketing Communication & Customer Value

BHEL has its offices and operations spread across the globe. Any marketing communication is thoroughly reviewed for adherence to the applicable laws and statutes before publication. While the company has a centralised 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 consulted before issuance of communication for overseas market. Power Sector Marketing department deals with sponsorship of events for sales promotion. It follows company's set practice in this regard. No incidence of non-compliance with regulations and voluntary codes concerning marketing communications has taken place pertaining to Power Sector Marketing.

BHEL is constantly working towards creating value for customer through products and services. Customer value is an integral part of BHEL's culture which is also been reflected in our Vision, Mission and Values statement.

Given the diverse and large scale operations of BHEL, customer complaints get registered through multiple modes. Two dedicated centralized online complaint system, i.e.,

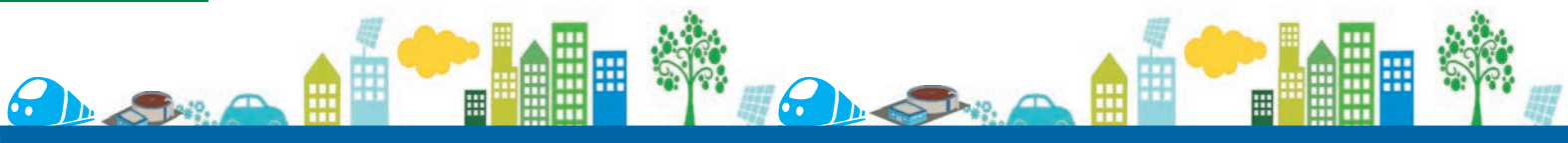
Customer Care Management System (CCMS) and Site Action Request (SAR)/ Commissioning Action Request (CAR) resolution system are in operation. In 2017-18 major quality issues reported by customers were taken up for Root Cause Analysis (RCA) and in twenty cases, corrective actions were instituted.

Apart from complaints, customer feedback is taken regularly through customer satisfaction surveys, customers' meets and face-to-face interactions. There is no case filed by any stakeholder against the Company regarding unfair trade practices, irresponsible advertising and/or anti-competitive behavior during the last five years and pending as on end of financial year 2017-18.

## Moving Ahead

BHEL has embarked on a transformational journey of 'Creating BHEL of Tomorrow', with the objective of enhancing responsiveness to emerging opportunities, building new levers of robustness and laying foundation for a sustainably rising BHEL. Our seminal strategy framework, which is the pillar of transformational journey, consists of three strategy themes spread over concurrent time horizons: Survive, Revive, and Thrive (SRT)- a concept envisioned by your company. The three themes are targeted simultaneously and the strategies under these will address the immediate and future challenges of the company.

**Survive:** After witnessing a declining performance trend up to 2015-16, the first goal of your company during last two years was to regain profitability and growth. We gave utmost priority to expeditious Execution of orders coupled with strict cost control, efficient utilisation of resources through Consolidation, and enhancing speed of response through Simplification. Strong focus on conversion of non-executable orders into executable ones;





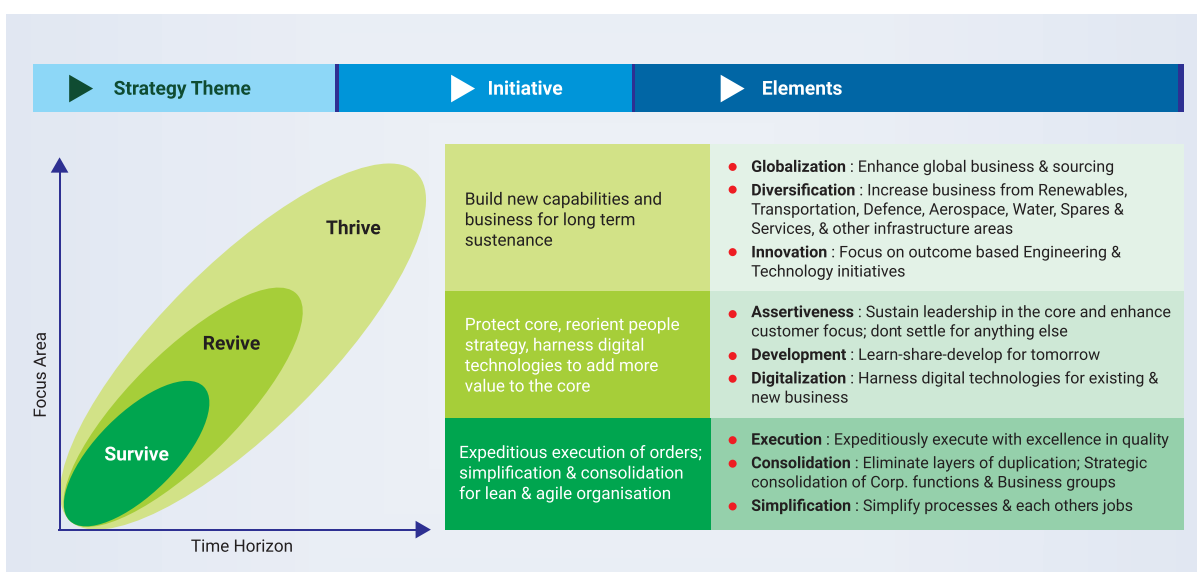
consolidation and restructuring of corporate functions and business groups; manpower audit; simplification of policies and procedures, and greater application of IT in business processes were some of the initiatives BHEL successfully executed. This was our 'Survival' strategy, which enabled us to not only reverse the declining performance trends, but also pursue the momentum of improved performance.

**Revive:** While it has been satisfying to see the company back on growth path, our strategies to build new sources of strength are imperative for sustained 'Revival' of the company. This includes building Assertiveness to protect leadership in our core business and the grit of never settling for anything less, holistic Development of our most important asset – our people, in alignment with future business requirements, and maximum harnessing of Digitalization to create new growth opportunities and improve operational excellence. Portfolio expansion in core business; policy and structural changes for giving impetus to employee development and motivation; development of IoT based solutions for utilities; and digitalization of all employee-

utility services are being executed. This is the key to growth in medium term and to surpass our own benchmarks.

**Thrive:** To take the company to the next level, where your company aspires to 'Thrive' and move towards the vision of becoming a global engineering enterprise, we continue to focus on Globalization, and Diversification to increase business from non-coal areas, and further strengthen our Innovation capabilities. Accordingly, we have created and restructured business verticals for emerging opportunities. Development of technologies such as advanced ultra-supercritical technology for power generation, propulsion system for electric vehicles and coal to methanol have been taken up in mission mode.

The nine elements – ECS, ADD, GDI, together named as Nine Elements for Executing Vision (NEEV), are integral part of strategic plan 'The Road to 2022' of the company and are the foundation of our transformation journey 'Creating BHEL of Tomorrow'. As demonstrated during the last two years, BHEL will continue to work diligently on each of these elements with similar zeal and zest in future.



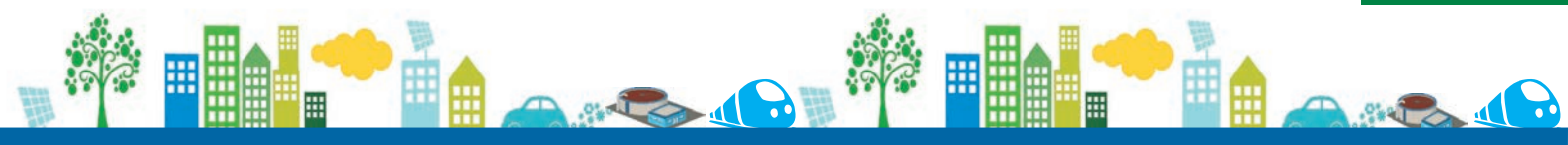
## GRI Content Index for 'In accordance' – Comprehensive

General Standard Disclosures				
Indicator	Description	Page No. / Explanation	Omissions	External Assurance
<b>Strategy and Analysis</b>				
G4-1	Statement from the most senior decision - maker of the organisation about the relevance of sustainability to the organisation and the organisation's strategy for addressing sustainability	3-4		
G4-2	Description of key impacts, risks, and opportunities	6-11		
<b>Organisational Profile</b>				
G4-3	Name of the organisation	12		
G4-4	Primary brands, products, and services	BHEL's Annual Report 17-18 Pg. 298-306		
G4-5	Location of organisation's Headquarters	12		
G4-6	Number of countries where the organisation operates	21		
G4-7	Nature of ownership and legal form	19		
G4-8	Markets served	11-12		
G4-9	Scale of the organisation			
G4-10	Details of workforce broken down by gender, employment contract, employment type etc.	63		
G4-11	Percentage of total employees covered by collective bargaining agreements	64		
G4-12	Description of the organisation's supply chain	17		



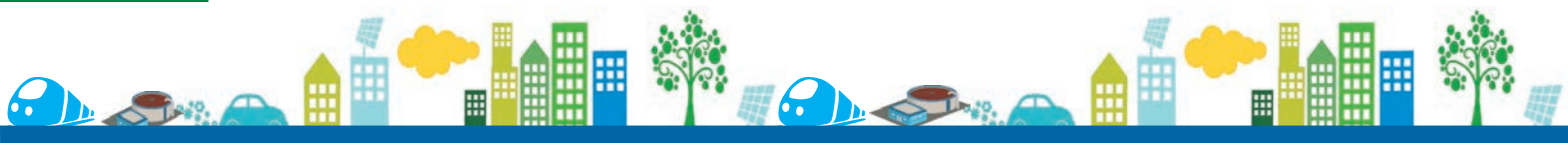
# SUSTAINABILITY REPORT 2017-18

General Standard Disclosures				
Indicator	Description	Page No. / Explanation	Omissions	External Assurance
<b>Organisational Profile</b>				
G4-13	Significant changes during the reporting period regarding the organisation's size, structure, ownership, or its supply chain		None	
G4-14	How the precautionary approach or principle is addressed by the organisation	18		
G4-15	Externally developed economic, environmental and social charters, principles, or other initiatives to which the organisation subscribe or which it endorses	BHEL's Annual Report 17-18 Pg. 124-125		
G4-16	Memberships of associations and national/ international advocacy organisations in which the organisation holds a position on the governance body and participates in projects or committees	BHEL's Annual Report 17-18 Pg. 125-126		
<b>Identified Material Aspects and Boundaries</b>				
G4-17	Entities included in the organisation's consolidated financial statements with indication of coverage in the report	33-35		
G4-18	Process for defining the report content and the Aspect Boundaries	BHEL's Sustainability Report 16-17 Pg. 33-39		
G4-19	Material Aspects identified in the process for defining report content			
G4-20	Description of Aspect Boundary within the organisation for each material aspect			
G4-21	Description of Aspect Boundary outside the organisation for each material aspect			
G4-22	Explanation of the effect of any re-statement of information provided in the earlier Report.		Not Applicable	





General Standard Disclosures				
Indicator	Description	Page No. / Explanation	Omissions	External Assurance
Identified Material Aspects and Boundaries				
G4-23	Significant changes from previous reporting periods in the Scope and Aspect Boundaries		Not Applicable	
Stakeholder Engagement				
G4-24	List of stakeholder groups engaged by the organisation	28-31		
G4-25	Basis for identification and selection of stakeholders with whom to engage			
G4-26	Organisation’s approach to stakeholder engagement			
G4-27	Key topics and concerns that have been raised through stakeholder engagement, and how the organisation has responded to those key topics and concerns			
Report Profile				
G4-28	Reporting Period	31		
G4-29	Date of most recent previous Report	31		
G4-30	Reporting cycle	31		
G4-31	Contact point for questions regarding the report or its contents	32		
G4-32	GRI Content Index	86-104		
G4-33	Organisation’s policy and current practice with regard to seeking external assurance for the report; relationship with the assurance providers; the highest governance body’s involvement in seeking assurance for the organisation’s Sustainability Report			No External Assurance Taken



General Standard Disclosures				
Indicator	Description	Page No. / Explanation	Omissions	External Assurance
<b>Governance</b>				
G4-34	Governance structure of the organisation; committees responsible for decision-making on economic, environmental and social impacts	22		
G4-35	Process for delegating authority for economic, environmental and social topics from the highest governance body to senior executives and other employees	22-23		
G4-36	Executive - level positions with responsibility for economic, environmental and social topics	23		
G4-37	Processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics	23-24		
G4-38	Composition of the highest governance body and its committees	BHEL's Annual Report 17-18 Pg. 81-88		
G4-39	Function of the Chair of the highest governance body within the organisation's management and the reasons for his arrangement as an executive officer	22-23		
G4-40	Nomination and selection processes for the highest governance body and its committees; the criteria used for nominating and selecting highest governance body members	BHEL's Annual Report 17-18 Pg. 81-88		
G4-41	Processes for the highest governance body to ensure conflicts of interest are avoided and managed; disclosure of conflicts of interest to stakeholders	22-23		

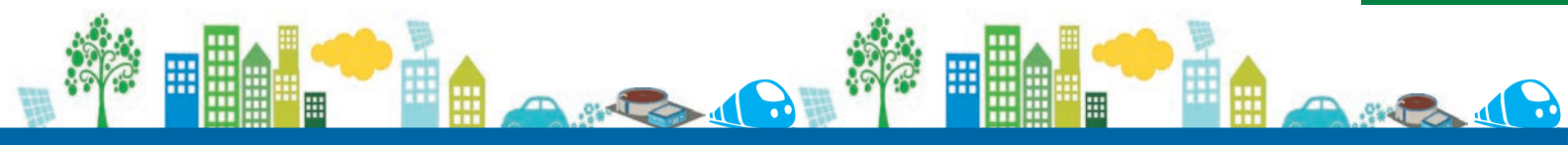


General Standard Disclosures				
Indicator	Description	Page No. / Explanation	Omissions	External Assurance
<b>Governance</b>				
G4-42	Highest governance body's and senior executives roles in development, approval, and updating of the organisation's purpose, value or mission statements, strategies, policies, and goals related to economic, environmental and social impacts	23-25		
G4-43	Measures taken to develop and enhance the highest governance body's collective knowledge of economic, environmental and social topics	24-25		
G4-44	Processes for evaluation of the highest governance body's performance with respect to governance of economic environmental and social topics; actions taken in response to evaluation results	25-26		
G4-45	Highest governance body's role in the identification and management of economic, environmental and social impacts, risks, and opportunities; use of stakeholder consultation for supporting the process	25		
G4-46	Highest governance body's role in reviewing the effectiveness of the organisation's risk management processes for economic, environmental and social topics	BHEL's Annual Report 17-18 Pg. 81-88		
G4-47	Frequency of the highest governance body's review of economic, environmental and social impacts, risks, and opportunities	BHEL's Annual Report 17-18 Pg. 77		





General Standard Disclosures				
Indicator	Description	Page No. / Explanation	Omissions	External Assurance
<b>Governance</b>				
G4-48	Highest committee or position that formally reviews and approves the organisation's sustainability report and ensures that all material Aspects are covered	3		
G4-49	Process for communicating critical concerns to the highest governance body	BHEL's Annual Report 17-18 Pg. 89		
G4-50	Nature and total number of critical concerns that were communicated to the highest governance body and the mechanism(s) used to address and resolve them	BHEL's Annual Report 17-18 Pg. 77		
G4-51	Remuneration policies for the highest governance body and senior executives; how performance criteria in the remuneration policy relate to the highest governance body's and senior executives' economic, environmental and social objectives	BHEL's Annual Report 17-18 Pg. 33		
G4-52	Process for determining remuneration			
G4-53	How stakeholders' views are sought and taken into account regarding remuneration			
G4-54	Ratio of the annual total compensation for the organisation's highest- paid individual to the median annual total compensation for all employees (excluding the highest – paid individual)			

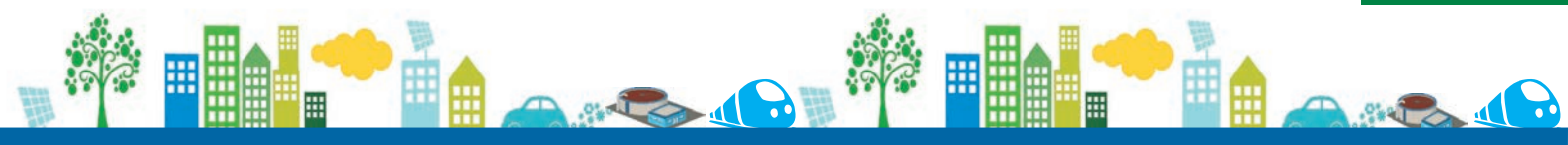


General Standard Disclosures				
Indicator	Description	Page No. / Explanation	Omissions	External Assurance
<b>Governance</b>				
G4-55	Ratio of percentage increase in annual total compensation for the organisation's highest - paid individual to the median percentage increase in annual total compensation for all employees (excluding the highest - paid individual)	BHEL's Annual Report 17-18 Pg. 33		
<b>Ethics and Integrity</b>				
G4-56	Organisation's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics	18, 27		
G4-57	Internal and external mechanisms for seeking advice on ethical and lawful behavior, and matters related to organisational integrity			
G4-58	Internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organisational integrity			



# SUSTAINABILITY REPORT 2017-18

Specific Standard Disclosures - Material Aspects				
Indicator	Description	Page No. / Explanation	Omissions	External Assurance
Category: Economic				
Economic Performance				
G4-EC1	Direct economic value generated and distributed	33-35		
G4-EC2	Financial implications and other risks and opportunities for the organisation's activities due to climate change	33-35		
G4-EC3	Coverage of the organisation's defined benefit plan obligations	BHEL's Annual Report 17-18 Pg. 195-202		
G4-EC4	Financial assistance received from government	BHEL's Annual Report 17-18 Pg. 254		
Market Presence				
G4-EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation		Not Applicable	
G4-EC6	Proportion of senior management hired from the local community at significant locations of operation			
Indirect Economic Impacts				
G4-EC7	Development and impact of infrastructure investments and services supported	BHEL's Annual Report 17-18 Pg. 127		
G4-EC8	Significant indirect economic impacts, including the extent of impacts			
Procurement Practices				
G4-EC9	Proportion of spending on local suppliers at significant locations of operation	35		





Specific Standard Disclosures - Material Aspects				
Indicator	Description	Page No. / Explanation	Omissions	External Assurance
Category: Environmental				
Materials				
G4-EN1	Materials used by weight or volume	38-40		
G4-EN2	Percentage of materials used that are recycled input materials			
Energy				
G4-EN3	Energy consumption within the organisation	41-43		
G4-EN4	Energy consumption outside of the organisation		Not Reported	
G4-EN5	Energy intensity	44		
G4-EN6	Reduction of energy consumption	45-48		
G4-EN7	Reductions in energy requirements of products and services	49-50		
Water				
G4-EN8	Total water withdrawal by source	51		
G4-EN9	Water sources significantly affected by withdrawal of water	52		
G4-EN10	Percentage and total volume of water recycled and reused	52-53		



Specific Standard Disclosures - Material Aspects				
Indicator	Description	Page No. / Explanation	Omissions	External Assurance
Biodiversity				
G4-DMA	Aspect specific DMA	51		
G4-EN11	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas		None of BHEL's operational sites are owned, leased, managed in, or are adjacent to, protected areas and areas of high biodiversity value, therefore, these standard disclosures are not applicable.	
G4-EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas			
G4-EN13	Habitats Protected or Restored			
G4-EN14	Total number of IUCN red list species and national conservation list species with habitats in areas affected by operations, by level of extinction risk			
Emissions				
G4-EN15	Direct greenhouse gas (GHG) emissions (scope 1)	53-54		
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (scope 2)	54-55		
G4-EN17	Other indirect greenhouse gas (GHG) emissions (scope 3)	56		
G4-EN18	Greenhouse gas (GHG) emissions intensity	55		
G4-EN19	Reduction of greenhouse gas (GHG) emissions	56		
G4-EN20	Emissions of ozone-depleting substances (ODS)	53		
G4-EN21	NOx, SOx, and other significant air emissions	53		



Specific Standard Disclosures - Material Aspects				
Indicator	Description	Page No. / Explanation	Omissions	External Assurance
Effluents and Waste				
G4-EN22	Total water discharge by quality and destination	52		
G4-EN23	Total weight of waste by type and disposal method	57-58		
G4-EN24	Total number and volume of significant spills	61		
G4-EN25	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel convention, annex i, ii, iii, and viii, and percentage of transported waste shipped internationally		This standard disclosure is not applicable as there was no transport, import, export or treatment of waste deemed hazardous under the terms of Basel Convention Annex I, II, III & IV	
G4-EN26	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organisation's discharges of water and runoff		Not Applicable	
Products and Services				
G4-EN27	Extent of impact mitigation of environmental impacts of products and services	58-60		
G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category			
Compliance				
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.	61		



# SUSTAINABILITY REPORT 2017-18

Specific Standard Disclosures - Material Aspects				
Indicator	Description	Page No. / Explanation	Omissions	External Assurance
Transport				
G4-EN30	Significant environmental impacts of transporting products and other goods and materials for the organisation's operations, and transporting members of the workforce		Not Reported	
Overall				
G4-EN31	Total environmental protection expenditures and investments by type	61		
Supplier Environmental Assessment				
G4-EN32	Percentage of new suppliers that were screened using environmental criteria		Not Reported	
G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken			
Environmental Grievance Mechanism				
G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	61		
CATEGORY: SOCIAL				
Labor Practices and Decent Work				
Employment				
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	21		
G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	62		
G4-LA3	Return to work and retention rates after parental leave, by gender	63		

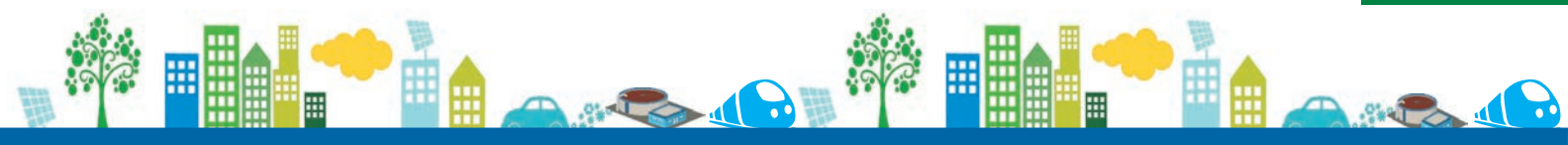




Specific Standard Disclosures - Material Aspects				
Indicator	Description	Page No. / Explanation	Omissions	External Assurance
<b>Labor/Management Relations</b>				
G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements		Not Applicable	
<b>Occupational Health and Safety</b>				
G4-LA5	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs	63-64		
G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	66-67		
G4-LA7	Workers with high incidence or high risk of diseases related to their occupation			
G4-LA8	Health and safety topics covered in formal agreements with trade unions	63-67		
<b>Training and Education</b>				
G4-LA9	Average hours of training per year per employee by gender, and by employee category	68-69		
G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	69-70		
G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	63		



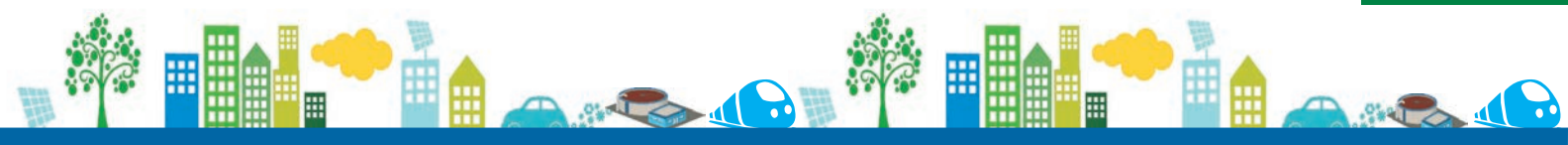
Specific Standard Disclosures - Material Aspects				
Indicator	Description	Page No. / Explanation	Omissions	External Assurance
<b>Diversity and Equal Opportunity</b>				
G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	62-63		
<b>Equal Remuneration for Women and Men</b>				
G4-LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation		Not Applicable	
<b>Supplier Assessment for Labor Practices</b>				
G4-LA14	Percentage of new suppliers that were screened using labor practices criteria	70		
G4-LA15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken		Not Reported	
<b>Labor Practices Grievance Mechanisms</b>				
G4-LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms	70		



Specific Standard Disclosures - Material Aspects				
Indicator	Description	Page No. / Explanation	Omissions	External Assurance
<b>Human Rights</b>				
<b>Labor Practices Grievance Mechanisms</b>				
G4-HR1	Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	70		
G4-HR2	Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	69		
G4-HR3	Total number of incidents of discrimination and corrective actions taken	70		
<b>Freedom of Association and Collective Bargaining</b>				
G4-HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights	70		
<b>Child Labour</b>				
G4-HR5	Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	70		
<b>Forced or Compulsory Labour</b>				
G4-HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor	70		



Specific Standard Disclosures - Material Aspects				
Indicator	Description	Page No. / Explanation	Omissions	External Assurance
Security				
G4-HR7	Percentage of security personnel trained in the organisation’s human rights policies or procedures that are relevant to operations	62		
Indigineous Rights				
G4-HR8	Total number of incidents of violations involving rights of indigenous peoples and actions taken		Not Applicable	
Assessment				
G4-HR9	Total number and percentage of operations that have been subject to human rights reviews or impact assessments	70		
Supplier Human Rights Assessment				
G4-HR10	Percentage of new suppliers that were screened using human rights criteria		Not Reported	
G4-HR11	Significant actual and potential negative human rights impacts in the supply chain and actions taken			
Human Rights Grievance Mechanisms				
G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	70		
Society				
Local Communities				
G4-S01	Percentage of operations with implemented local community engagement, impact assessments, and development programs	71		
G4-S02	Operations with significant actual and potential negative impacts on local communities	71		

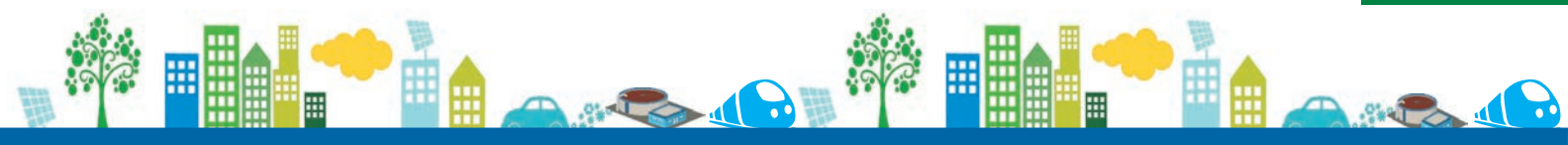




Specific Standard Disclosures - Material Aspects				
Indicator	Description	Page No. / Explanation	Omissions	External Assurance
Anti Corruption				
G4-S03	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified	BHEL's Annual Report 17-18 Pg. 31-32		
G4-S04	Communication and training on anti-corruption policies and procedures			
G4-S05	Confirmed incidents of corruption and actions taken			
Public Policy				
G4-S06	Total value of political contributions by country and recipient/beneficiary		Not Applicable	
Anti Competitive Behaviour				
G4-S07	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	83		
Compliance				
G4-S08	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	83		
Supplier Assessment for Impacts on Society				
G4-S09	Percentage of new suppliers that were screened using criteria for impacts on society		Not Reported	
G4-S010	Significant actual and potential negative impacts on society in the supply chain and actions taken			
Grievance Mechanisms for Impacts on Society				
G4-S011	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms	83		



Specific Standard Disclosures - Material Aspects				
Indicator	Description	Page No. / Explanation	Omissions	External Assurance
<b>Product Responsibility</b>				
<b>Customer Health &amp; Safety</b>				
G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement		Not Applicable	
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	84		
<b>Product and Service Labeling</b>				
G4-PR3	Type of product and service information required by the organisation's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements	83-84		
G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes			
G4-PR5	Results of surveys measuring customer satisfaction	84-85		
<b>Marketing Communications</b>				
G4-PR6	Sale of banned or disputed products		Not Applicable	
G4-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	84		



Specific Standard Disclosures - Material Aspects				
Indicator	Description	Page No. / Explanation	Omissions	External Assurance
<b>Customer Privacy</b>				
G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	83		
<b>Compliance</b>				
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	83		



Hot Metal Pouring in Progress at Foundry Shop, BHEL Haridwar







**High Voltage Testing Lab**





## *STRIVING TOWARDS SUSTAINABILITY*



### **BHARAT HEAVY ELECTRICALS LIMITED**

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