



SUSTAINABILITY REPORT

Driving Change for a
Greener Future

2021-22



Bharat Heavy Electricals Limited



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**Message From
Director (Power) &
Director (Human Resource) – Addl. Charge**



Dear Stakeholders,

For BHEL, Sustainability is about achieving developmental goals with focus on social equity and maintaining ecological balance. In this context, for us Sustainability is a journey and not a destination itself. As a responsible business organization, BHEL has been treading the path of Sustainability with the broad contour of this journey nestled in our strategies, policies, procedures and governance framework.

Climate change and energy security are two intertwined issues which are going to shape the strategic landscape of the global order. BHEL's strategic plan 2022-27 lays down the framework for addressing the challenges emanating from these issues in addition to other challenges in our own perspective.

There is enhanced focus on creating awareness about climate change and need for action at all level, be it organizational or at individual level. We continue to focus on efficient use of natural

resources such as raw materials, water, oil and fuel and responsible waste management. Over a period of time, the company has created a rich verdant cover across all its establishments and there is continued effort to enrich it further with plantation of native species of plants and maintaining biodiversity. All our campuses have number of rain water harvesting systems for recharging ground water table. Towards increasing the use of Renewable Energy (RE) in our own operations we have been gradually putting up solar photo Voltaic (PV) power plants in our manufacturing units. Till now, we have installed a total capacity of 29 MW_P of Solar Power Plant for our captive use, which meets nearly 10% of our total power need. All these have resulted in a win-win situation for the organization as well as nature and helped the company in winning the trust of our various stakeholders including communities in our vicinity.

BHEL has been a pioneer in development of solar PV systems in India and continue to play



a major role in installation of solar PV power plants. With over 150 MW_p floating solar power plants commissioned by us till date, including the country's largest floating solar power plant at Ramagundam in the state of Telangana, BHEL has become the largest EPC player in floating solar segment in the country with design and engineering capabilities to address varied and complex site requirements including lakes, ponds, canals and reservoirs, amongst others. Such solutions provide the twin benefit of clean electricity generation as well as conserving water by reducing evaporation.

For developmental needs and for improving the living stand of our vast population energy is an indispensable requirement. Clearly, India with its huge coal reserves and meagre oil & gas reserves, will have no option but to continue to utilize coal to fuel its economic growth. At the same time, the country is fully conscious of its role and contribution required as a responsible citizen of planet earth and has made major commitments in this direction in COP 26. In this situation, technologies for cleaner use of coal need to take center stage.

The Advanced Ultra Supercritical (AUSC) technology successfully developed by the company in collaboration with NTPC and IGCAR provides best-in-class efficiency in coal-based power generation and has the potential to reduce CO₂ emissions by 20% as compared to subcritical technology-based power plants. This gains significance considering over 145 GW of installed capacity in the country is based on subcritical technology of which over 45 GW is more than 20 years old. Coal gasification is another technology in focus on account of the potential to convert syngas derived from coal into a variety of chemicals which are currently imported, as well as to power IGCC power plants. BHEL's most significant technology development effort in recent times resulted in the successful demonstration of indigenously

developed 0.25 TPD coal to methanol pilot plant—first of its kind using high ash Indian coal, at Hyderabad in the last year and efforts are underway to capitalize on the upcoming opportunities under the Government of India's National Coal Gasification Mission to achieve 100 MT coal gasification by 2030.

Carbon capture is another emerging area which is expected to gain traction with continued use of coal-based technologies. The company is positioning itself appropriately for the future, to address this opportunity. BHEL continues to be a leader in the emission control business, with orders booked for 66 FGDs and 11 SCRs. Concerted efforts have been made to improve the project execution timelines as well as economics. These efforts include engineering optimization, indigenisation of critical FGD equipment, and deployment of Integrated Project Management System and Site Data Digitization which has already been implemented for major power projects over the past year.

These efforts are going to help us in ensuring the sustainability of our company as well as reducing the overall carbon footprint across the value chain. The Sustainability Report 2021-22 captures the foot-print of the progress made by us while treading the path of sustainability and gives a bird's eye view about the activities undertaken under the ambit of sustainability across BHEL. I urge you to send your comment on the report so as to enable us in making improvements in our reporting.

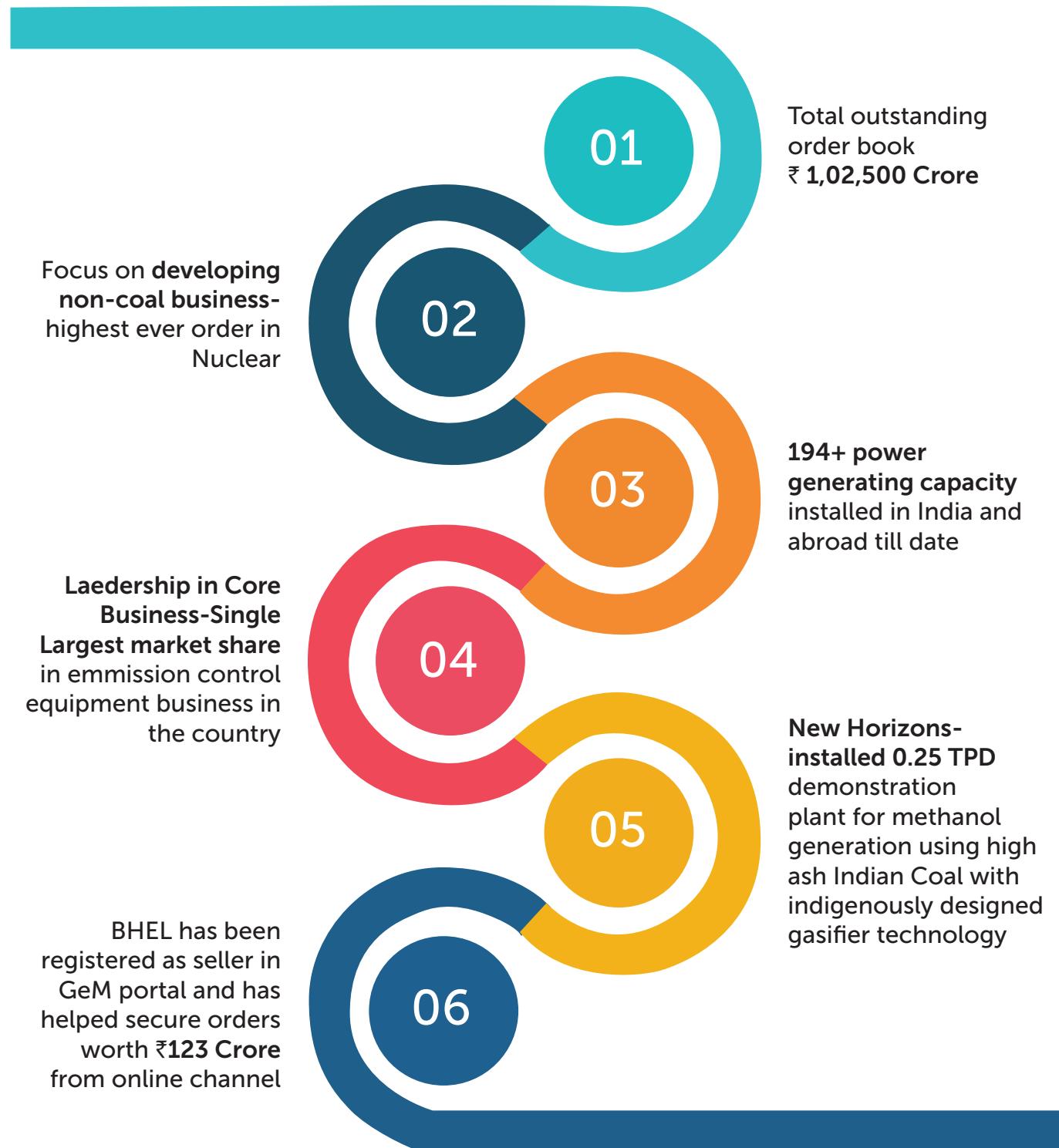
With best wishes,

Yours Sincerely,
(Upinder Singh Matharu)



YEAR AT A GLANCE

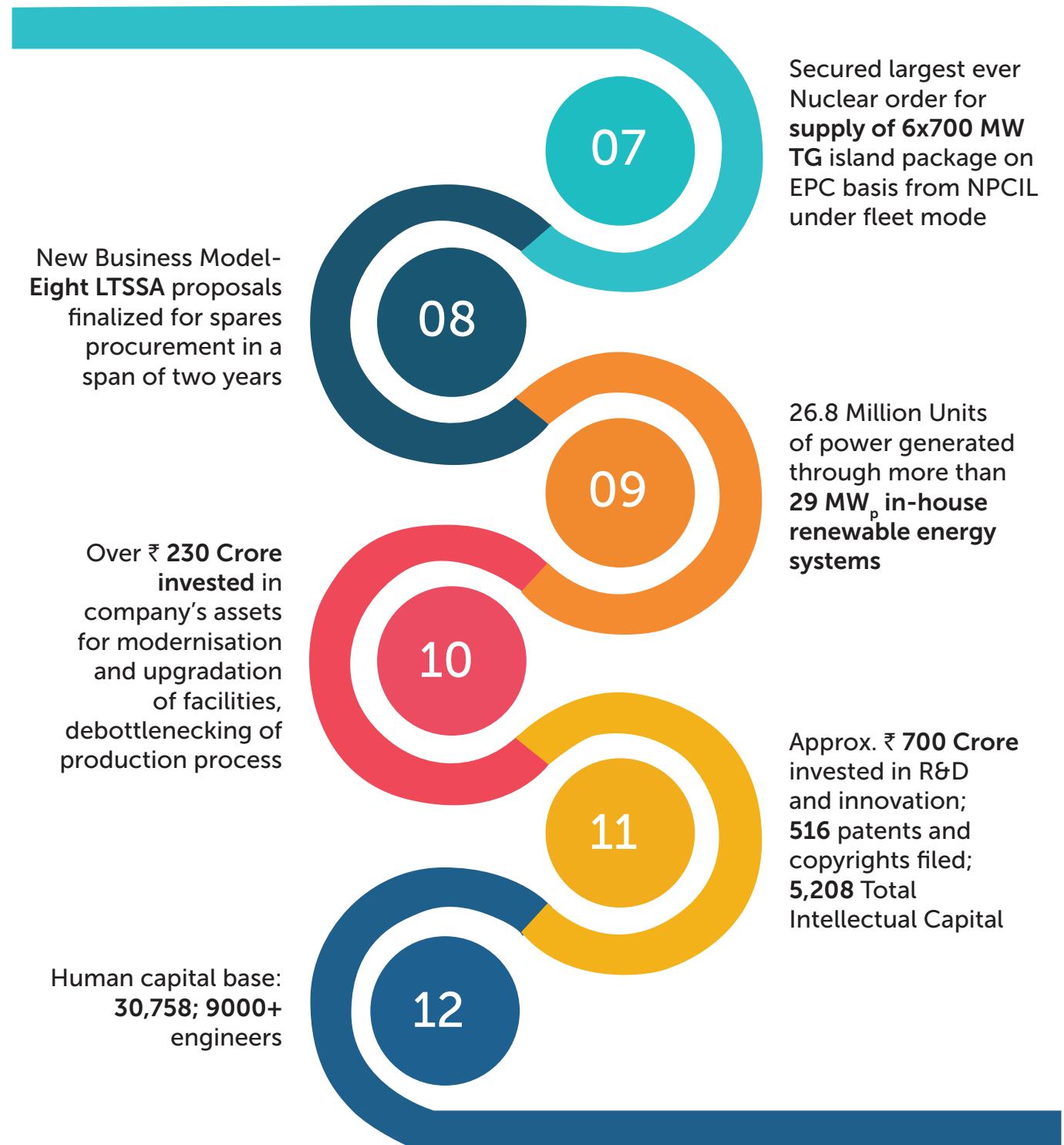
2022-2023





YEAR AT A GLANCE

2022-2023





ORGANISATIONAL PROFILE



About the organisation

Bharat Heavy Electricals Limited (BHEL) is India's largest engineering and manufacturing enterprise in the energy and infrastructure sector. Established in 1964, we are a leading power equipment manufacturer globally and one of the earliest and leading contributors towards building an Aatmanirbhar Bharat. We serve our customers with a comprehensive portfolio of products, systems and services in the areas of power-thermal, hydro, gas, nuclear &

solar PV; transmission; transportation; defence & aerospace; oil & gas and new areas like BESS and EV chargers.

Right from developing country's power generation capacity to creating multiple capabilities in country's core industrial & strategic sectors, BHEL is deeply aligned to the



vision of a self-reliant India.

Consistent expenditure of more than 2.5% of its turnover on R&D and innovation; establishment of world-class manufacturing assets, development and absorption of new technologies; and creating sustainable business solutions and initiatives in skilling youth, promoting health & hygiene, education, cleanliness and environment protection, stand as a testimony to our commitment to contribute not just to our business interests, but also to society at large. A skilful and motivated workforce, currently more than 30,000 strong, is the driving force behind our journey over the years.

Company's pan-India presence includes a network of 16 manufacturing facilities, 2 repair units, 4 regional offices, 8 service centres, 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. The worldwide installed base of power generating equipment supplied by BHEL exceeds 194 GW, making it the undisputed leader amongst Indian power plant equipment manufacturers. Having installed more than 1000 thermal, hydro, nuclear, gas and solar PV based power generating sets in the country, the company is actively engaged in building strong foundations for cleaner and greener energy generation and usage in future with critical technologies coal to methanol. BHEL is a name to reckon with in various sectors of Indian capital goods industry. This is evident from supply of traction equipment for significant number of locomotives & EMUs of Indian Railways; commissioning of 225+ electric substations and 6 major HVDC projects in the country; being the largest manufacturer and supplier of power transformers and electrical AC machines in the country, and 1.2GW+ solar portfolio spread across the country.





World of BHEL



Vision

A global engineering enterprise providing solutions for a better tomorrow

Mission

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



A National Institution

- One of the largest engineering & manufacturing companies in India serving core sectors of the economy
- Pan India presence with 16 Manufacturing Units and 150+ project sites globally



Energizing India

- 194+ GW power generating equipment installed in India and abroad
- 18,500+ MW Captive Power Plants commissioned
- 1.2+ GW total solar portfolio
- BHEL supplied 54% of the thermal power generation capacity, 47% of the nuclear power generation capacity (secondary side) and 45% of the hydro power generation capacity installed in the country as on 31.03.2022.

Unparalleled contribution in core sectors

- 7,00,000+ MVA transmission equipment supplied
- 33,000+ AC machines supplied
- 800+ Locos supplied to Indian Railways
- 410+ Compressors supplied and 90 Oil drilling Rigs-Supplied
- 13000+ Well Heads & Christmas Tree valves supplied
- 40+ Super Rapid Gun Mount supplied for Indian Navy ships



Global Footprints

- Footprints in 88 countries
- 11 GW power generation capacity built outside India; 6 GW under execution
- Entry into new markets - Brunei Darussalam and Mexico



Did you know?

- BHEL is the only company associated with all three stages of national Nuclear plan
- BHEL dispatched its 42nd Nuclear Steam Generator for Rawatbhata Nuclear Power Plant from its Trichy manufacturing unit
- BHEL has been a pioneer in the coal gasification technology in the country since the 1990s
- BHEL has developed and supplied Air to Air Heat Exchanger (AAHE) for Su-30 MKI aircraft
- BHEL has indigenously designed and developed a prototype Air Pollution Control Tower (APCT) and the same has been installed in Noida city on pilot basis



Valuing people

- Committed workforce, more than 30,000 + strong
- 1800 + Female employees
- 9000+ Engineers
- Participative management culture since 1973



Technology for a sustainable future

- Demonstrated 0.25 TPD coal to methanol plant using indigenous coal gasification technology
- Spearheading the development, installation and indigenisation of emission control equipment for coal based power plants in India
- Carbon footprint avoidance of nearly 25,235 MT of CO₂ -equivalent through in-house 29 MW_p solar power installations
- Developed 122 kW DC fast charger for Electric Vehicles
- 10 manufacturing units are now 'Zero Liquid Discharge' entities

Growing with society

- Committed to Principles of UN Global Compact
- Signatory to Integrity Pact of Transparency International
- 68,000 saplings planted across BHEL during 2021-22 to enhance green cover



Innovation

- R&D Expenditure consistently more than 2.5% of Turnover, 5200+ IP equity
- Collaborative R&D with leading academic institutions & research organizations
- Five research institutes; 14 Centres of Excellence
- In-house R&D Centres of 12 Manufacturing units & Divisions recognized by DSIR



Manufacturing Units

16

08

Service Centres

Regional Marketing Centres

15

150+

Project Sites in India & abroad

Regional Offices

04

02

Repair Units

Manufacturing Plants/ Unit Locations

BHEL Manufacturing Units

| | |
|-----------------|--|
| Bengaluru | 1. Electronics Division (EDN) |
| Bhopal | 2. Electronics Systems Division (ESD) |
| Goindwal | 3. Solar Business Division (SBD) |
| Haridwar | 4. Heavy Electrical Plant (HEP) |
| | 5. Industrial Valves Plant (IVP) |
| | 6. Heavy Electrical Equipment Plant (HEEP) |
| | 7. Central Foundry Forge Plant (CFFP) |
| Hyderabad | 8. Heavy Power Equipment Plant (HPEP) |
| Jagdishpur | 9. Fabrication Stamping & Insulator Plant (FSIP) |
| Jhansi | 10. Transformer Plant (TP) |
| Rudrapur | 11. Component Fabrication Plant (CFP) |
| Ranipet | 12. Boiler Auxiliaries Plant (BAP) |
| Tiruchirappalli | 13. High Pressure Boiler Plant (HPBP) |
| | 14. Seamless Steel Tube Plant (SSTP) |
| Thirumayam | 15. Power Plant Piping Unit (PPPU) |
| Visakhapatnam | 16. Heavy Plates & Vessels Plant (HPVP) |

BHEL Repair Units

| | |
|----------|---|
| Mumbai | 1. Electrical Machine Repair Plant (EMRP) |
| Varanasi | 2. Heavy Equipment Repair Plant (HERP) |

BHEL has a widespread footprint in all the inhabited continents of the world with references in 88 countries including the neighbouring countries of Bangladesh, Afghanistan, Bhutan, Nepal, Indonesia, Oman, Iraq, Sudan, Afghanistan, United States and New Zealand. Till date, around 11 GW power generating capacity has been installed in overseas markets. An additional 6 GW is under execution, including the 2x660 MW Maitree Super thermal power project in Bangladesh and 4x225 MW Arun-3 Hydroelectric project in Nepal.

BHEL plays a crucial role in the strategic sectors of the nation, being the sole Indian supplier for many technology intensive products and systems. BHEL is the only supplier of nuclear steam turbines in the country; the only company associated with all three stages of India's Nuclear Power programme; a major supplier of critical equipment and services in defence & aerospace sector for over three decades; and a trusted supplier of naval guns to Indian navy for their warships.

For BHEL's product profile, readers may refer to BHEL's Annual Report 2021-22 (AR 21-22) page 338-346 which can be accessed through the web link <https://bhel.com/58AGM>

For the details of profile and performance of different business segments of BHEL, the readers may please refer to BHEL's AR 21-22 page 43-64.



BHEL GLOBAL FOOTPRINTS



with presence in

88 countries

in all six inhabited continents

This graphical representation does not purport to be the physical map of the world



Human Resource

People are the greatest asset for an engineering organization and BHEL takes pride in its motivated and competent workforce. Towards continuous development of its people, initiatives like training/retraining of the workforce, use of e-Modules for ensuring continual training, leadership development programs, strengthening of internal communication, simplifying policies for making them employee centric, etc. were taken during the year.

During the COVID-19 pandemic, multiple initiatives were undertaken to tackle the dynamic situation as enumerated earlier. COVID Assistance Scheme was also launched in July 2021 for providing succour to dependents of employees who succumbed to COVID-19.

Recognizing the efforts of the company, BHEL was conferred with 'Global HR Excellence Award' for the categories of 'Best Workplace practices' and 'Excellence in Learning and Development', and 'Business Innovation Awards 2021' for the categories 'Organization With Innovative Practices in HR & Best Digital PSU' during FY 21-22.

Distribution of different categories of employees in the organization is shown in the figure below.

Supply Chain of BHEL

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. There have not been any significant changes in supply chain of BHEL during the reporting period.

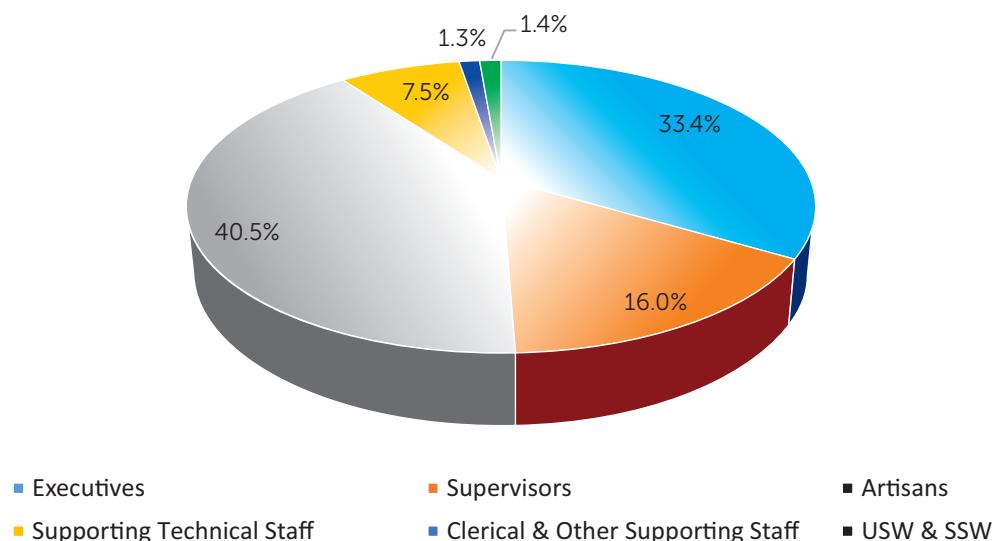
Policy advocacy

BHEL is a member of many industry bodies/ chambers. BHEL uses various mechanisms of interaction with such bodies (e.g. participation in seminars & meetings, participation in working groups 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.

The company's views are also presented in various intergovernmental forums such as Joint Ministerial Commission (JMC), Joint Steering Committee (JSC), Joint Working Group (JWG), Joint Trade Committee (JTC), Joint

Distribution of different categories of employees





Economic and Trade Committee (JETCO), Joint Commission Economic Corporation (JCEC), Working Group on Trade (WGT), etc to facilitate international trade and collaboration. Company also interacts with government bodies like MHI, DPE, DIPP, NITI Aayog and participates in policy formulation.

Precautionary approach

We have established our systems and processes in such a way that any activity which interacts or has a potential to interact with ecosystem in terms of its ecological footprint, associated environmental aspect and impacts are identified, risk analysed and mitigation measures are put in place. It is being done as a part of our systemic approach towards environment in which the precautionary approach has been imbued.

We at BHEL tirelessly endeavour to achieve the apex levels of sustainability within our business processes & activities around the globe. Our mission statement – 'Providing sustainable business solutions in the fields of Energy, Industry & Infrastructure' evinces the organizational commitment towards sustainability. Sustainable development at BHEL addresses the three pillars of sustainability, namely, Environmental, Economic and Social. With a vision to create a responsible and sustainable organization, BHEL strives towards the integration of environmental, health, social equity and economic vitality within the organization and beyond. Manifestation of this vision is evident in our inventiveness apropos greener product development, increased renewable energy generation and usage, efficient water management, enhanced green cover, emission reduction, optimization of natural resource usage and improved energy efficiency and conservation.

We have a mature Environment Management System at our manufacturing units and Power Sector regions which has been certified to ISO 14001: 2015. Our Health Safety & Environment (HSE) policy is reviewed from time to time to address the requirement of different stakeholders and can be accessed through the link <https://www.bhel.com/sites/default/files/HSEPOLICY.pdf>. The HSE policy and Management system are the bulwark on which our environmental performance is hinged. Our efforts towards environmental conservation are manifested in our activities such as generation of renewable energy, reduction of resource

consumption like water, material & energy, recycling of reusable waste generated inside our premises including treated wastewater and raw material etc.

Augmenting the global efforts towards reduction of GHG emission and mitigate Climate Change, we are not only trying to reduce the carbon footprint of our operations but also conducting our R&D activities and developing products for our industrial customers which are having larger lifespan and lesser ecological footprint through their life cycle.

Ethics, Transparency & Accountability

The company has a Board approved 'Code of Business Conduct & Ethics' for all Board Members and Senior Management personnel in compliance with the requirements of DPE Guidelines on Corporate Governance for CPSEs and SEBI's Listing Regulations. <https://www.bhel.com/code-business-conduct-ethicsboard-members-senior-management-personnel>

The Board has laid down a Charter of the Board of Directors which clearly defines the roles and responsibilities of the Board and individual Directors. Further, the company endeavours to preserve the confidentiality of unpublished price sensitive information and prevent abuse of such information.

Towards this a Board approved policy 'BHEL Code of Conduct for Regulating & Reporting Trading by Designated Persons & their Immediate Relatives and for Fair Disclosure' in line with SEBI (Prohibition of Insider Trading) Regulations – 2015 and Listing Regulations directs that Board members and other Designated Employees of the company have a duty to safeguard the confidentiality of all such information obtained in the course of their work at the company. The Code also provides for practices and procedures for fair disclosure of unpublished price sensitive information (UPSI) <https://www.bhel.com/code-conduct-prevention-insidertrading>.

For effective implementation of the Insider Trading Code, an internal Operating Guidelines is in place. A structured digital database containing names of all 'Designated Persons' along with details of additional persons with whom UPSI was shared is in place. Details



of initial and continual disclosures are being submitted by these Designated Persons within prescribed timelines. In addition, emails notifying the 'Designated Persons' that they are in possession of UPSI and that they must ensure its confidentiality, is sent simultaneously along with the emails intimating Closure of Trading Window. A separate email is also sent to those persons with whom UPSI is shared by the 'Designated Persons'.

In line with the requirements of DPE Guidelines on Corporate Governance and the Listing Regulations, BHEL provides progress reports on quarterly basis to MHI and stock exchanges. The audit of the Company's compliance with corporate governance requirements as well as secretarial audit of BHEL's compliance with statutory laws is conducted each year and the said reports form part of the Annual Report of the Company. In compliance with the Listing Regulations, all Board members and Senior Management personnel affirm annually that they have fully complied with the provisions of the Code of Business Conduct and Ethics during the relevant financial year and an affirmation to this effect is given by the Chairman & Managing Director in the Annual Report of the Company. For the purpose of the 'Code of Conduct for Regulating & Reporting Trading by Insiders and for Fair Disclosure, Director (Finance) is the compliance officer of the Company. In addition, the Chief Investor Relations Officer of the Company ensures compliance of 'Code of Practice and Procedure for Fair Disclosure'.

In addition, as a part of BHEL's persisting endeavour to set a high standard of conduct for its employees (other than those governed by standing orders), 'BHEL Conduct, Discipline and Appeal Rules, 1975' is in place. This is augmented by Fraud Prevention Policy and Whistle Blower Policy which not only arm the company against unacceptable practices but also act as a deterrent. The Company is subject to RTI Act 2005, audit by Statutory Auditors and CAG audit under section 139 of the Companies Act, 2013.

<https://www.bhel.com/bhel-fraud-prevention-policy-0>

<https://www.bhel.com/whistle-blower-policy-0>

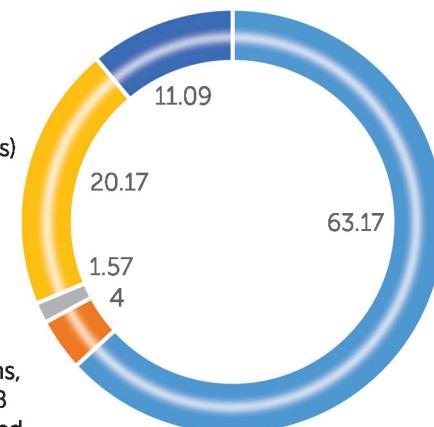
In the area of business dealings with vendors and customers, BHEL has signed MoU with Transparency International India (TII) to adopt 'Integrity Pact' to make procurement and contracting more transparent by binding both the parties to ethical conduct. A panel of two Independent External Monitors (IEMs) has been appointed to oversee implementation of Integrity Pact in BHEL, with due approval of Central Vigilance Commission. Within BHEL, accountability is well defined for various functionaries through 'Delegation of Power'. Works Policy, Purchase Policy and other policy documents facilitate transparency in BHEL's working and commitment of highest order of integrity. In addition, Internal Audit carries out independent audit of purchase/ works contracts.

The Company has a Stakeholders Relationship Committee specifically to look into matters related to redressal of shareholders and investors complaints. As reported by Alankit Assignments Limited (RTA), 37 complaints were received from the shareholders during the year under review and all complaints were redressed up to March 31, 2022. No complaint was pending at the end of the period under report.

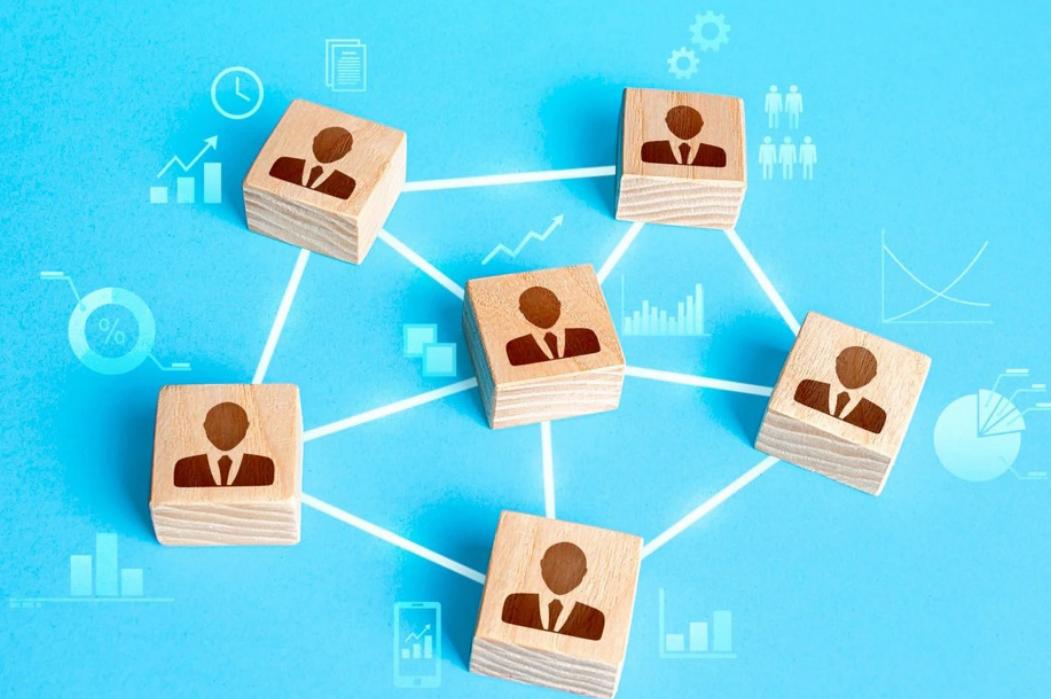
In addition, a total of 253 public grievance complaints were received from the general public under the Centralized Public Grievance Redressal and Monitoring Scheme during the year 2021-22. All the grievances were satisfactorily resolved.

% Shareholding Pattern as on 31.03.2022

- President of India
- Foreign Institutional Investors (Including Qualified Foreign Investors)
- Mutual Fund and UTI
- Others
- Banks, Financial Institutions, Insurance Companies, QIB Alternative Investment Fund



CORPORATE GOVERNANCE



Our Philosophy on Corporate Governance

BHEL functions within a sound Corporate Governance framework, which underlines its commitment to quality of governance, transparency in disclosures, consistent enhancement of stakeholders' value and corporate social responsibility. BHEL endeavours to transcend beyond the basic and regulatory requirements of corporate governance,

focusing consistently on 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 factors strengthen Corporate Governance in BHEL are shown in the diagram below:





The Company believes in conducting its business complying with Corporate Governance procedures and Code of Conduct, exemplifying each of the core values, positioning BHEL to deliver long-term returns to the shareholders, favourable outcomes to the customers, attractive opportunities to the employees, opportunity to the suppliers to partner the Company in progress, and enrichment of society.

Governance Structure at BHEL

Pursuant to Section 2(45) of the Companies Act, 2013, BHEL is a 'Government Company' as

63.17% of the total paid-up share capital of the Company is held by the Central Government through the President of India.

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 independence of the Board and to separate the Board functions of management and control.

The composition of the Board of Directors as on March 31, 2022 is given in the table.

| Category of Directors | Board Structure | Actual Strength as on 31.03.2022 |
|--|-----------------|----------------------------------|
| Chairman & Managing Director | 1 | 1 |
| Whole-time Executive (Functional) Directors | 5 | 3 |
| 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 |
| TOTAL | 16 | 12 |

As on March 31, 2022, there exists two vacancies of Part-time Non-official (Independent) Directors and two vacancies of Whole-time Executive (Functional) Directors i.e. Director (E, R&D) and Director (HR), on the Board of BHEL. The matter of filling up of these vacancies is under consideration of Government of India.

As BHEL is a Government Company, all Directors on its Board viz., Functional Directors, Government Nominee Directors and Independent Directors are selected and appointed by the Government as per a well laid down process for each category of directors. The requirements of core skills, expertise and competence for the Board to function effectively, in context of business segment BHEL operates in, forms an integral part of the government's process of selection of these directors. Therefore, the Board of BHEL by itself does not identify any such core skills or competence required for the job as well as

identification of directors for particular skill/expertise/ competence.

No Director of the Company holds office at the same time as Director in more than twenty (20) companies. No Director of the Company is a member in more than ten (10) Committees or acts as Chairperson of more than five (5) Committees across all listed companies in which he/she is a Director.

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.



Further, in line with DPE OM dated December 28, 2012 on Model Role & Responsibilities of Non-Official Directors for CPSEs, the Board had constituted a Committee of Independent Directors. The said Committee is following the requirements of Listing Regulations and the Code of Independent Directors under Companies Act, 2013. Details regarding familiarization programme of Independent Directors are available on the website of the Company www.bhel.com at web link <https://www.bhel.com/familiarization-programme-directors> under the heading 'Familiarization Programme for Directors'.

In the opinion of the Board, the Independent Directors fulfil the conditions specified in the Listing Regulations and are independent of the Management.

Board's Responsibilities

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 stakeholders. For the agenda placed before the Board, the readers may please refer to page 86 of AR 21-22.

The Board has constituted various Committees to facilitate the smooth and efficient flow of decision-making process. The minutes of all Board level committees are circulated and discussed in the Board meetings. There was no instance where the Board had not accepted any recommendation of any Committee of the Board which is mandatorily required, during the year under review.

Charter of the Board of Directors

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 BHEL corporate governance objectives and approach. In line with the DPE guidelines, listing agreement and with the objective of providing the Directors:

- insight into guidelines and procedures for successful discharge of their statutory duties,
- better understanding of the business environment to envision the future and develop strategies and
- 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.

BHEL has in place a Board approved 'Code of Business Conduct and Ethics for Board Members and Senior Management Personnel' in line with Clause 49 of the erstwhile Listing Agreement since 2005. The Code is revised from time to time in line with changes in the regulatory framework including changes in the Listing Agreement & business dynamics and to incorporate other relevant provisions to strengthen the Code. The extant Code is also in compliance with the Listing Regulations, as amended. A copy of the Code has been placed on the Company's website www.bhel.com. The Code encompasses:

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

BHEL endeavours to preserve the confidentiality of unpublished price sensitive information and to prevent misuse of such information. For this purpose and in line with the SEBI (Prohibition of Insider Trading) Regulations, 1992, the Company had adopted "Code of Conduct for Prevention of

Insider Trading" on 26th August, 2002 which was subsequently revised w.e.f. 29th January, 2009.

The Board, in its 469th meeting held on 6th April, 2015, approved the 'Code of Conduct for Regulating & Reporting Trading by Insiders and for Fair Disclosure, 2015' in line with SEBI



(Prohibition of Insider Trading) Regulations, 2015. In pursuance to SEBI (Prohibition of Insider Trading) (Amendment) Regulations, 2018, the Board had also approved the revised BHEL Code of Conduct for Regulating & Reporting Trading by Designated Persons & their Immediate Relatives and for Fair Disclosure effective from 01.04.2019. The objective of the Code is to regulate, monitor and report trading by Designated Persons and Immediate Relatives of Designated Persons towards achieving compliance with SEBI (Prohibition of Insider Trading) Regulations, 2015, as amended. The Code also provides for practices and procedures for fair disclosure of Unpublished Price Sensitive Information. Head-Corporate Strategic Management Department is the Chief Investor Relations Officer of the company under this code.

Delegating Authority

BHEL Board has constituted 10 Board Level Committees to ensure in-depth analysis & review as well as to provide requisite guidance, advice and recommendations on important matters. The list of BLCs is given below:

- 1 Board Level Audit Committee,
- 2 Nomination & Remuneration Committee,
- 3 Stakeholders Relationship Committee,
- 4 Share Transfer Committee,
- 5 HR Committee,
- 6 Board Level Committee for Corporate Social Responsibility,
- 7 Committee of Independent Directors,
- 8 Board Level Risk Management Committee,
- 9 Board Level Project review Committee,
- 10 Committee on Arbitration & Major Legal Disputes and Alternative Dispute Resolution.

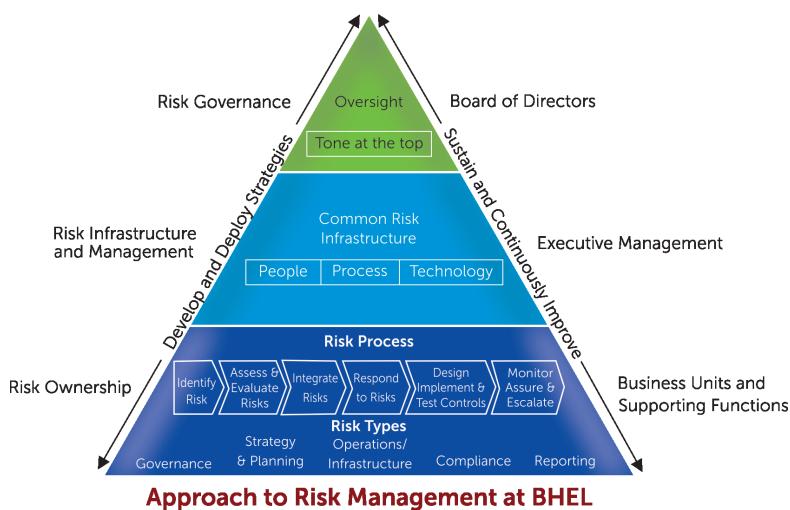
In pursuance of the DPE Guidelines on Corporate Governance for Central Public Sector Enterprises and Clause 49 of the Listing Agreement between listed Companies & the Stock Exchanges and Section 177 of the Companies Act, 2013, a detailed Whistle Blower Policy was drafted by the Company and it was duly approved by the Board of Directors in its 464th meeting held on August 12, 2014. The policy is also in line with Listing Regulations. Subsequent to this, a Circular notifying the Whistle Blower Policy and informing the contact details of the Competent Authority and of Chairman, Audit Committee was issued for the notice of all employees. A copy of the Whistle Blower Policy has also been placed on the website of the Company www.bhel.com for wide publicity. Changes in address, contact number(s) and email address of the Competent Authority and Chairman, Audit Committee are being notified from time to time.

The complaints received under the Policy are being processed as per the guidelines in this regard. For other details related to Corporate Governance, the readers may please refer to pages 83-98 of BHEL's AR 21-22.

Diversity and Inclusivity

BHEL is a pan India Organization and recruitment is open to all eligible candidates irrespective of States and communities. Nearly 6% employees of BHEL are female employees. The overall representation of SC/ST/OBC employees in total manpower as on 31st December, 2021 was 20.81%, 7.48%, and 36.03% for SCs, STs and OBCs respectively. During the year 2021, 30 candidates were directly recruited and 4 Chief Security Officers were taken on deputation basis.

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 company takes affirmative action in recruitment and promotion for representation of employees from socio-economically backward sections of society, minorities, disabled personnel 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.

All the employees of BHEL, who took parental leave, joined back the company keeping the retention rate of such category of employees as 100%.

Feedback mechanism

Shareholders can raise queries, interact with Board Members and provide suggestions at the General Meeting(s) of the Company. The shareholders can provide recommendations and suggestions to any Director on the Board of BHEL. Contact details are available on the website of the Company. Further, shareholders have a dedicated email-id viz. shareholderquery@bhel.in to communicate with the Company.

Risk Management

BHEL has in place a Board approved Risk Management Charter & Policy to implement a structured and comprehensive enterprise risk management system. The charter is intended to establish a common understanding, language and methodology for identifying, assessing, responding, monitoring and reporting risks

and to provide assurance to the management that key risks are being properly identified and effectively managed in the company.

The Risk Management framework of BHEL has three tier Structure, with the Board of Directors (BoD), represented by Board Level Risk Management Committee (BLRMC) at the Apex Level, the Risk Management Steering Committee (RMSC) at Corporate Level and Unit Risk Management Committees (URMCs) at the Regions/ Units/ Business Sectors. The 'Board Level Risk Management Committee' (BLRMC) is assigned the responsibility of reviewing the company's Risk Governance structure, Risk Assessment & Risk Management framework, Guidelines, Policies and Processes.

The Board / BLRMC regularly reviews top risk areas. Chief Risk Officer (CRO), the convener of BLRMC & RMSC is responsible for periodic reporting on risk management to Board/ BLRMC. Key risks faced by the company are analysed in detail by the Risk Management Steering Committee, which is responsible for adopting & implementing the risk management framework and leading the risk management initiative across the company. RMSC revisits risk parameters & their measuring parameters to ensure their relevance and accordingly recommends amendment/ deletion/ addition to the same. In this year, RMSC recommended changes in the methodology of risk measurement for the risk statement of 'Technology Readiness' so as to closely evaluate and quantify the Company's readiness in meeting current/future market requirements enabling it to formulate strategies to effectively address the associated risk. The RMSC also reviewed and recommended the adoption of revised 'Risk Management Charter and Policy' incorporating changes in line with the SEBI LODR amendments dtd. 5 May 2021. The same has been finally adopted and is in-force.

Risk management committees at unit level analyse the risks concerned to their respective areas, prepare mitigation plans, ensure their implementation and also inform the top management, if required.



Top six key risks which the company faces and corresponding strategies for mitigation are mentioned in the table below:

| Risk Statement | Mitigation Strategies |
|--|---|
| Excess domestic manufacturing capacities, Changes in business mix due to policy changes and Increasing Competition leading to lower Order Book | <ul style="list-style-type: none">• Thrust on Strategic tie ups for venturing into new areas• Exploration of business opportunities in Emerging technologies viz. coal to chemical and hydrogen economy.• Cater to opportunities arising out of 'AatmaNirbhar Bharat', 'Make in India' missions and 'PLI Scheme'• Increasing non-coal based and spares business |
| Delayed delivery of projects leading to LDs, penalties, customer dissatisfaction and impacting company image | <ul style="list-style-type: none">• Focus on Project centric operations reviews by Senior Management.• Activities like engineering etc., to commence at pre-award stage for faster execution of projects.• Implementation of 'Integrated Project Management Software (IPMS)' in projects for faster execution.• Implementing concept of 'Project Director' for faster decision making to ensure timely execution of Projects.• Inclusion of 'Bonus clause' to encourage and incentivize contractor's performance. |
| Rising Debtors | <ul style="list-style-type: none">• Constitution of Cross Functional Teams for improved efficacy of Cash realization from every• Element of debtors against Ongoing as well as Commissioned projects.• Vigorous monitoring of billing / cash collection process through separate focus on liquidation of old bills and current year bills.• Action against defaulting customers in line with the Trade Receivables policy of the company including Arbitration/ NCLT / AMRCD proceedings. |



| | |
|--|--|
| Rising direct material cost affecting profitability | <ul style="list-style-type: none">• Focused approach for cost reduction in the direction of design optimization, engineering excellence and judicious procurement right from customer ordering till execution stage.• Products of same generic type made in more than one-unit design /manufacturing practices are being unified & optimized.• Surplus material identification and its utilization at sites/units is being done through in-house developed online portal. |
| Non- availability of technology in core products to meet current/future market requirements may lead to loss of business | <ul style="list-style-type: none">• Development and upgradation of technologies through in-house efforts.• Technology collaboration agreement with suitable partners• Pursuing for entering into MoUs for commercializing Coal to Chemical |
| Online data & information security breach leading to loss and critical information infrastructure breakdown | <ul style="list-style-type: none">• All Internet traffic is monitored 24x7 through the Cyber SOC (Security Operations Center) integrated with the Global Threat Intelligence (GTI) database.• Integration of all the internet routers of BHEL with "Cyber Swachhta Kendra" (Botnet Cleaning and Malware Analysis Centre of CERT-In, MeitY)• Integration of Information Security Management System (ISMS) across all the ISO 27001 certified BHEL units.• Creating awareness among employees to sensitize them about phishing mail risks, Phishing simulation exercise is conducted at periodic intervals. |

Stakeholder Identification & Engagement

Stakeholders which directly or indirectly impacts BHEL's revenue earning capability, its ability to share benefits are identified as key stakeholders.

BHEL has identified 'Customers', 'Employees', 'Shareholders', 'Vendors' and 'Society' as its stakeholders. Processes are in place to ensure inclusion of stakeholder expectations and concerns. Key issues are identified through stakeholder engagement and addressed by

programmes or action plans with clear and measurable targets. BHEL units regularly organize vendor meets specifically for MSEs (including local suppliers) towards capacity and capability building, which also provides opportunities for open communication, mutual benefit and support. Customers are engaged through several modes like customers meets, surveys. Investor community is engaged through meetings, conferences, publications etc. and is provided with relevant information pertaining to their investment decisions.



BHEL has clearly identified the disadvantaged, vulnerable, poor, needy & marginalized stakeholders in the vicinity of the BHEL manufacturing units / regions / divisions / sites / offices and their concerns are addressed as per BHEL's CSR Policy which is in compliance with section 135 & Schedule VII of the Companies Act 2013 and rules made thereunder as well as DPE Guidelines on CSR & Sustainability for CPSEs.

https://www.bhel.com/sites/default/files/BHEL_CSR_Policy_July2017.pdf

Not all stakeholder groups are 'Vulnerable & Marginalized', but there is section of people in stakeholder groups who are considered as Vulnerable & Marginalized like SC/ ST and women owned MSMEs.

Stakeholder Engagement modes is given in the table below.



| Stakeholder Group | Whether identified as Vulnerable & Marginalized Group (Yes/ No) | Channels of communication (Email, SMS, Newspaper, Pamphlets, Advertisement, Community, Meetings, Notice Board, Website), Others | Frequency of engagement (Annually/ Half yearly/ Quarterly / others—please specify) engagement | Purpose and scope of engagement including key topics and concerns raised during such |
|-------------------|---|---|--|---|
| Shareholders | No | Email, Newspaper Advertisement, Disclosure available on Stock Exchanges & BHEL Website | Engagement is done on Quarterly, Half yearly & Annual basis as well as whenever the event occurs | All material events affecting the Company as well as disclosures required under SEBI (Listing Obligations & Disclosure Requirements Regulations, 2015) |
| Suppliers | No | Email, Advertisement, Vendor meets, website etc. | Regular | To make suppliers aware of: <ul style="list-style-type: none"> • Public Procurement Policy (Preference to Make in India) • Import substitution • Participating in tenders issued on GeM portal • Lodging and tracking grievances on BHEL's grievance redressal portal, SUVIDHA • BHEL's quality objectives |
| Employees | No | Email, Monthly Newsletter, Notice Boards, Intranet Websites, Shop Floor, Shop Council, Plant Council and Joint Council Meetings | Monthly | Sharing monthly progress of the company and the business verticals, targets, achievements and department/ section level concerns etc |
| Customers | No | Email, Advertisement, telephone calls, meetings, website etc | Regular | Assessment of customer needs, their requirement vis-à-vis existing capital good assets, complaints resolution, business enquiries etc |
| Communities | Yes | Meetings, local NGOs | Case-to-case basis | Assessing their problems that lead to their vulnerability and which holds back in attaining better standard of living |



There has been no change in our stakeholder identification and engagement, process for defining report content and aspect boundary w.r.t. previous report(s). For details of the same, readers may please refer to page 12-14 of BHEL's Sustainability Report 2018-19 which is available on <https://www.bhel.com/sustainability-reports>.

The most important forum for the shareholders of BHEL to have access to the Board of Directors is at the Annual General Meeting of the Company. During these meetings, shareholders raise various queries regarding the performance, strategies and outlook of the Company, share their grievances as well provide valuable feedback regarding improvements in the Company performance, not only from a business perspective but also on critical economic, environmental and social topics/ areas.

Stakeholders have provided their support to various environmental & social endeavors of BHEL like, indigenization under Aatmanirbhar Bharat, efforts in manufacturing medical oxygen plants to mitigate the emergent need for supply of medical oxygen during the COVID waves, utilization of solar energy & water harvesting capacity in BHEL's factories & project sites, empowerment of woman employees, vaccination drive of BHEL employees & contract workers etc.

For underprivileged section of the community, BHEL spend on CSR projects after baseline survey is conducted by local NGOs. These local

NGOs during their baseline surveys engage with communities and understand their needs and problems.

Reporting Practice

BHEL follows the practice of publication of its annual Sustainability report. BHEL's sustainability report for 2021-22 is available on www.bhel.com.

The present sustainability report captures the footprint of the organization while traversing on the path of Sustainable Development during the reporting period 2021-22. 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 2021-22.

For any clarification / suggestion on the report the reader may please write to corphse@bhel.in

OUR ECONOMIC PERFORMANCE





Management Approach – Economic

The past year has been challenging, with the first quarter severely impacted by the devastating second wave of COVID-19 affecting operations of manufacturing / EPC industry across the country. Despite these challenging circumstances, sustained efforts made by the company over the past two years towards reorientation of the company's operational ideology, from 'Revenue Centric' to 'Project Centric', business diversification, and prudent financial management, have started bearing fruit, resulting in the highest erection tonnage at project sites in the past five years, highest ever project closures, lowest number of outstanding punch points, highest ever order booking in nuclear power and defence businesses, signing of highest ever number of long term spares supply and service agreements, as well as reduction in other expenses to decadal lows.

Key Performance Highlights

- The trade receivables are at their lowest in the last 10 years, at Rs. 6,229 Crore against Rs. 7,213 Crore, in the previous year. The cash & bank balance (net of short-term borrowings) has also improved to Rs. 2,409 Crore from Rs. 1,868 Crore in the previous year
- company secured orders worth Rs. 23,693 Crore amidst intense competition and subdued market conditions
- The company continues to retain its leadership position in nuclear power segment and emission control business. BHEL received the largest ever orders in nuclear segment under fleet mode, valued at over Rs. 12,000 Crore.
- The company received the first order for two upgraded SRGMs (main gun on Indian warships) for which BHEL is the sole supplier in the country

- Company has booked the maiden order for flexible operation of thermal power plant, a requirement in future years for grid stabilization considering the increasing share of renewables in the energy mix. This order is under advanced stage of execution. The company also received the maiden order for propulsion electrics of 'Vande Bharat Express' (Trainsets), marking BHEL's entry into semi-high-speed rail segment.
- With over 150 MW floating solar power plants commissioned till date including the country's largest floating solar power plant at Ramagundam, BHEL has become the largest EPC player in floating solar segment in the country with design and engineering capabilities to address a range of complex site requirements including lakes, ponds, canals and reservoirs, amongst others. Such solutions provide the twin benefit of clean electricity generation as well as conserving water by reducing evaporation.
- During the year, your company achieved a capacity addition/ synchronization of 3,305 MW in utility power projects segment.

As a responsible corporate citizen, BHEL extended vital support to not just its employees and their families but also to various stakeholders and society at large during the devastating second wave of COVID-19 pandemic. The company supplied over 80,000 cylinders of medical grade oxygen supporting almost entire Uttarakhand, western UP, parts of NCR and the city of Bhopal, which helped in saving many lives. Vaccination drives were carried out across manufacturing units/ divisions/ project sites and oxygen generating plants based on CSIR-IIP technology were developed and supplied to hospitals, amongst many other initiatives. Your company also launched a 'COVID Assistance Scheme' for providing aid & support to the dependents of employees who unfortunately succumbed to COVID-19.

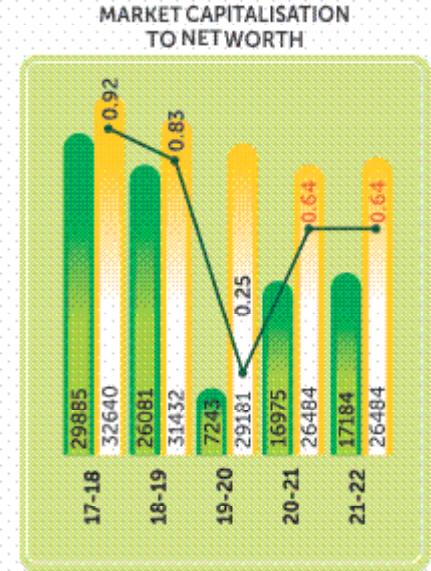
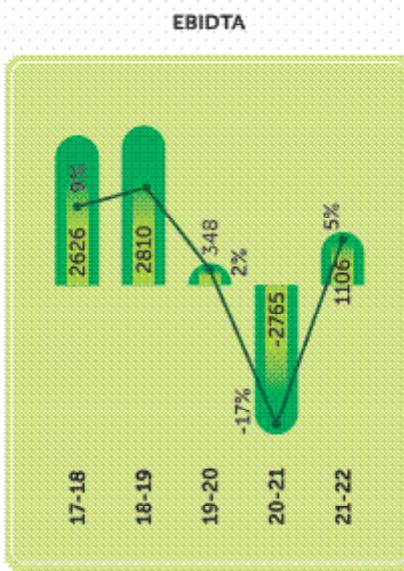
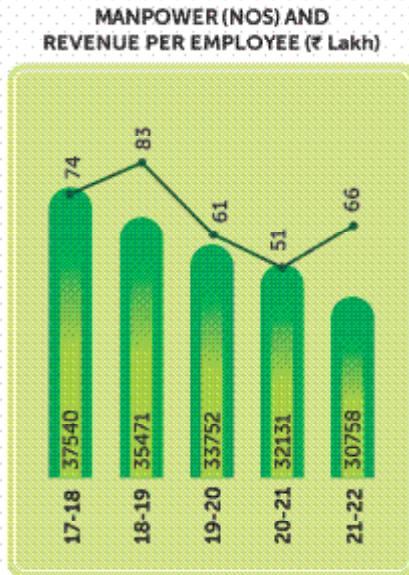
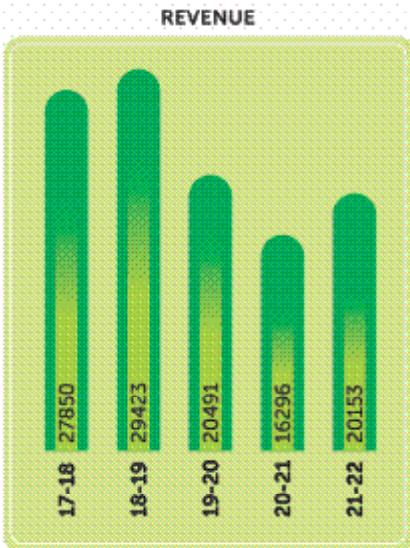


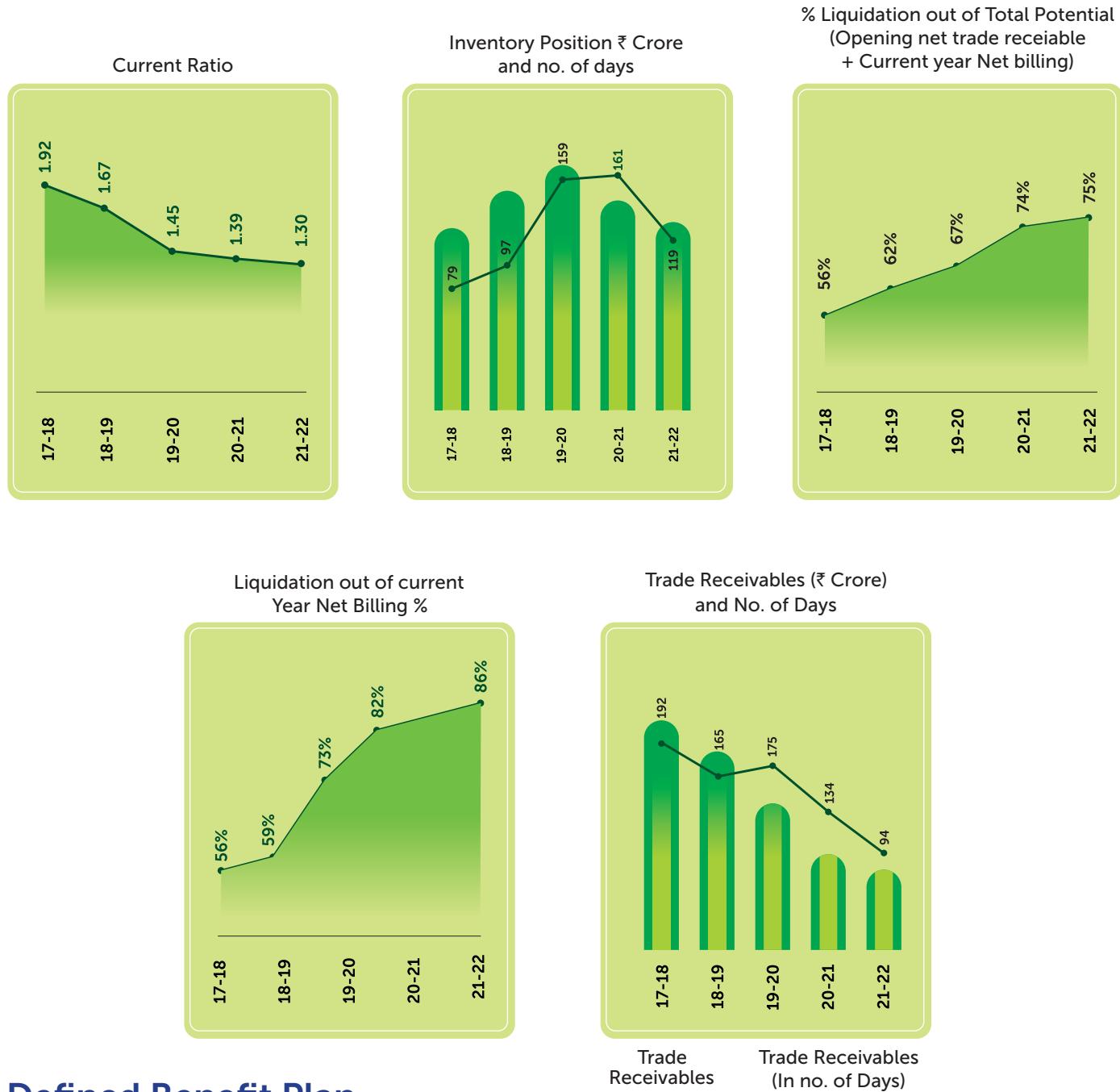
Economic Value Created

BHEL achieved revenue from operations of Rs. 21,211 Crore in FY 2021-22, an increase of 23% as against Rs. 17,308 Crore in the previous year.

The company made a profit after tax (PAT) of Rs. 410 Crore in FY 2021-22 against a loss of Rs. 2,717 Crore in the previous year.

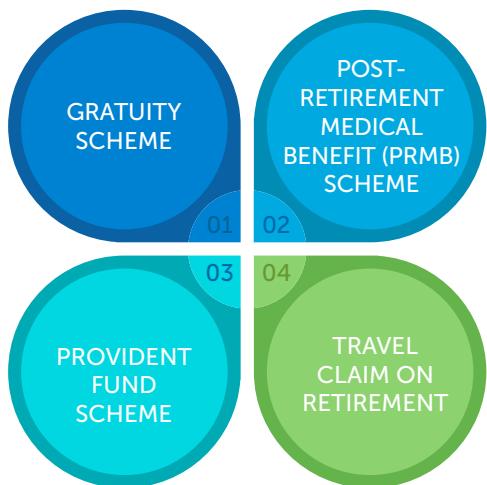
(Figures are in ₹ Crore otherwise stated)





Defined Benefit Plan

The Company has following Schemes in the nature of Defined Benefits Plans:



For details about the same, reader may refer to page 224-233 of BHEL's Annual Report 2021-22.

Government grant was received for setting up of solar PV plant and manufacturing of modules which as on 31st March, 2022 stood as Rs. 6.2 Crore.

OUR ENVIRONMENTAL PERFORMANCE





Management Approach – Sustainability

We at BHEL tirelessly endeavour to achieve the apex levels of sustainability within our business processes & activities around the globe. Our mission statement – 'Providing sustainable business solutions in the fields of Energy, Industry & Infrastructure' evinces the organisational commitment towards sustainability. The tenets of Sustainable Development have taken deep roots in our business processes and is embedded in our systems. It addresses the three pillars of sustainability, namely, Environmental, Economic and Social. With a vision to create a responsible and sustainable organisation, BHEL strives towards the integration of environmental, health, social equity and economic vitality within the organisation and beyond.

Right from its inception BHEL has been an Environmentally Responsible Organization and has been taking numerous initiatives for reducing its environmental impact. To address the Environmental Aspect of Sustainability, activities which impact the environment are carried out with utmost regard to the environment and its carrying capacity in terms of - responsible consumption of natural resources for production of goods & services including imbibing the concept of 3-R (Reduce-Recycle-Reuse), moving towards more sustainable energy mix, demand side management through energy efficiency/conservation measures, Water and biodiversity conservation, managing air emission within the limits, managing carbon emission to mitigate climate change within our premises etc. Further within our value chain, using state of the art facilities created over the years, we are providing our customers the products which are greener by virtue of - having long life cycle, using lesser quantum of natural resources during their operation phase, emitting fewer gases in their running, capturing emissions in the existing plants through retrofitting using our systems etc. resulting in better environmental performance and reduction in environmental footprint leading to environmental sustainability.

BHEL is contributing to a greener environment through development of environment friendly technologies and improvement in efficiency of equipment. Continuous improvement in power cycle efficiency and reduced emissions from coal-based power plants have been achieved over the time by evolution of technology from sub-critical to supercritical. Attributes of BHEL supplied power plant equipment such as lower auxiliary power consumption, higher plant efficiency, lower design heat rate and higher operating availability help in attaining lower life cycle cost. BHEL provides comprehensive solutions for reducing emissions through supply and commissioning of Flue-gas Desulphurization (FGD) systems, Selective Catalytic Reduction (SCR) systems, Solar Photovoltaic plants, Electrostatic Precipitators (ESP). BHEL also offers zero liquid discharge solutions through supply of Effluent Treatment Plants and Sewage Treatment Plants (STP). There is also conscious effort towards reduction of embodied carbon in products. Company has opted to replace polluting fuels with cleaner ones, e.g., gas is now used as a source of heat energy (instead of coal earlier) during production of products like ceralin, and has also converted furnaces to RLNG from LPG at its manufacturing plants.

With environmental concerns leading to rapid establishment of renewable energy capacity, coal gasification is being looked upon as a cleaner option compared to combustion of coal. Syngas produced from coal gasification is usable in producing various chemicals/ fuels (e.g. methanol, ammonia, ammonium nitrate, hydrogen, etc.). BHEL has established a 0.25 TPD Coal to Methanol Pilot plant for high ash Indian Coal. Work on various Chemicals/ fuels such as ammonium Nitrate, Methanol, Hydrogen, etc. has been initiated. BHEL has indigenously developed Passivated Emitter Rear Contact (PERC) technology for high efficiency c-Si solar cells. With this development, BHEL has the know-how and dedicated cell level R&D facility to support upgradation to PERC technology. In parallel, BHEL is also working on development of Heterojunction solar cell technology with 24% efficiency. In urban mobility sector, there is favourable movement towards Electric mobility



as the future mode of transportation. BHEL has developed Permanent magnet motors, Induction motors & IGBT controller for E-Buses, Electric Charging Stations for E-mobility infrastructure.

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

Material and natural resource management

Our firm belief in sustainable production and consumption inspires us to consistently endeavour towards improving our product performance through Renovation & Modernization (R&M) as well as life extension services, providing futuristic technologies such as AUSC, retrofitting coal-based power plant with FGD and SCR to reduce emissions of existing power plants are steps to ensure efficient and sustainable use of natural resources in the value chain.

We are one of the major manufacturing company in India and extensively use raw material such as different grades of steel, copper etc., for making the products for large infrastructure projects and power plants through series of operations including machining, fabrication, casting, forging

Exhibit 1: Sustainable use of metal scrap

In our BAP Ranipet unit about one lakh tonnes of steel is utilized annually and generation of off-cuts / wastages at every stage is inevitable. This varies from 5% to 30% of the material consumed depending upon the profile of the product. To address this issue, a project of effective utilisation of cut-bit was taken up at unit. Under this project, elaborate arrangement was made for sorting, identification, retrieval and utilisation of cut-bit which was earlier sent to recyclers as scrap. Implementation of the project resulted in Cut-bit utilisation to the tune of 3000 MT resulting in saving of Rs. 15 Core. This enables BHEL in achieving recurring saving in the consumption of virgin material and associated cost.



etc. Being a material intensive company, plethora of opportunities for improving our performance through sustainable consumption of resource exists which not only helps us in reducing our environmental footprint but adding to bottom-line of the company as well. In our own operations, efforts like reduction in use of input material, optimization of nesting plan for sheet cutting to reduce the wastage, 3R (reduce-recycle-reuse) approach, rainwater harvesting etc. are being taken up on regular basis which helps us in doing more using lesser resources.

We have a Central Foundry and Forge Plant (CFFP) at Haridwar which caters to the need of steel casting and forgings for power plant equipment, defence, steel plants, ship building, cement mills, mining industries etc. It has a capacity to manufacture single piece castings weighing up-to 60 MT (integral), 120 MT (cast weld) and forgings up-to 34 MT in different material grade.

These huge castings and forgings are made from scrap material which is received from sister units or generated inhouse, enabling us to recycle the scrap generated and consequently reducing the requirement of virgin material for the same. Furthermore, we have material recycling facility at our units as well which helps us in recycling of scrap generated locally. Wooden scrap generated at units are reused to make wooden packing boxes for despatching products.

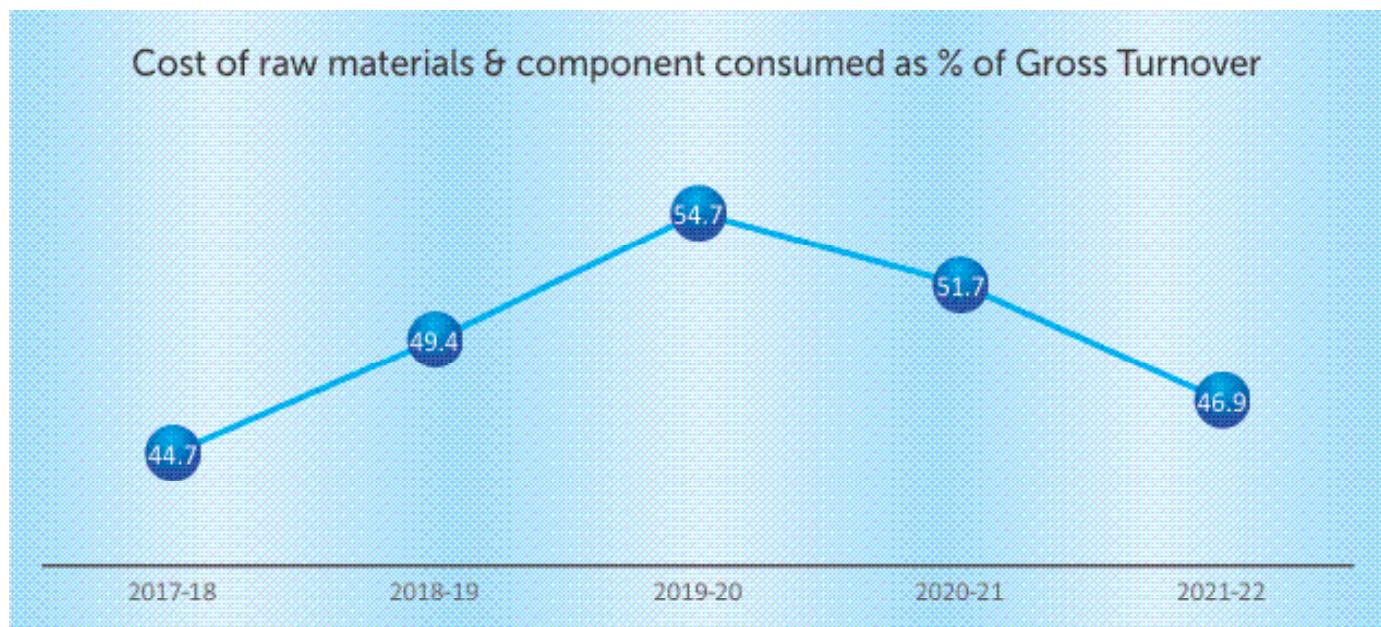


The materials mainly used in our operations have been grouped together and reported in the table.

| Statement for raw materials and components consumed (Rs. Crore) | | | | | |
|---|----------|----------|----------|---------|---------|
| | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 |
| Group of materials: | | | | | |
| Ferrous materials | 2431.11 | 3461.21 | 3054.31 | 1721.12 | 1868.83 |
| Non-ferrous materials | 333.09 | 313.91 | 217.01 | 137.96 | 260.5 |
| Insulating materials | 168.29 | 168.39 | 177.14 | 155.68 | 106.15 |
| Insulated cables and Magnet wires | 26.76 | 20.46 | 29.67 | 10.89 | 4.46 |
| Components | 4944.14 | 6774.46 | 6122.30 | 4702.87 | 4141.75 |
| Others | 4193.06 | 4618.65 | 2179.68 | 1430.04 | 2815.69 |
| Total cost of materials consumed | 12118.35 | 15030.08 | 11780.11 | 8158.56 | 9197.38 |
| Turnover | 27850 | 29423 | 20495 | 16296 | 20153 |
| Accretion/Decretion in inventories | -736 | 991 | 1042 | -511 | -532 |
| Gross Turnover | 27114 | 30414 | 21537 | 15785 | 19621 |

Direct material cost as % to turnover has improved in FY 2021-22 as compared to FY 2020-21. It may be noted that due to varied nature of products and associated input materials across the organization, measurement of material consumption in terms of weight or volume of raw materials consumed in physical terms as per Global Reporting Initiative (GRI)

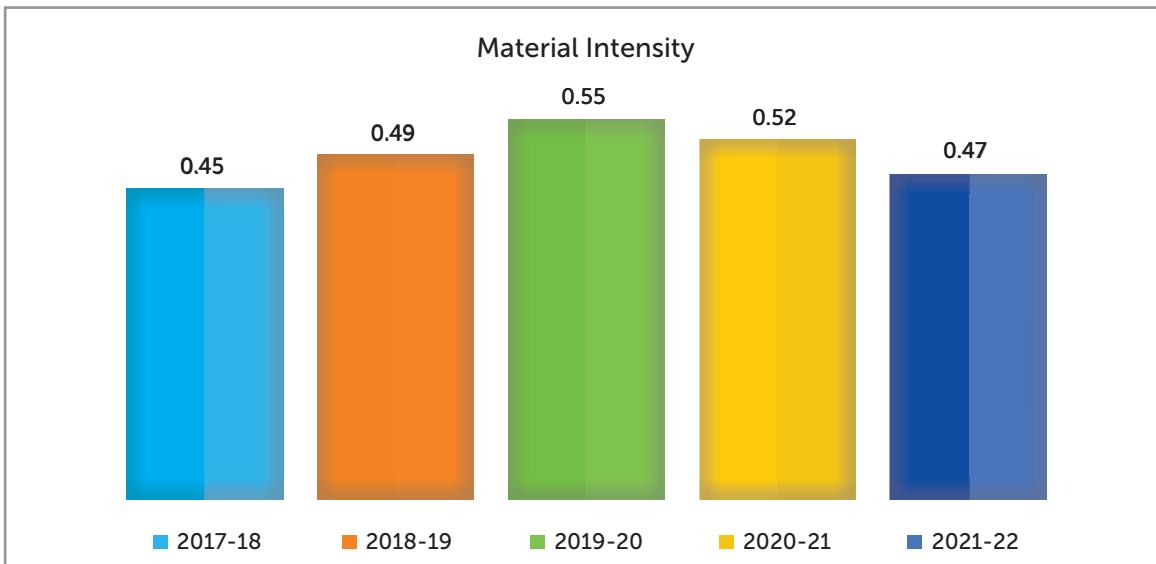
standards requirement could not be established and consequently the actual trend of material consumption could not be established at present in absolute physical terms. However, the data is reported using the metric-Cost of raw materials & components consumed as % of Turnover for last 5 years and the graph is shown here.





The material intensity (cost of direct material consumed in Crore of Rs per Crore of Gross turnover realised) varied from 0.45 to 0.55 during

the last 5 year and the same is on a declining trend, during the recent past ,indicating better performance in terms of material intensity.



In the recent past, many steps have been taken to reduce the consumption of virgin materials like steel, copper, sand, wood, oil, LPG etc.

Specific activities carried out for sustainable use of resource in the recent times include:

- Recovery of used/waste oil using oil skimmer to the tune of 758 MT across BHEL
- Sand reclamation in foundries at HEP Bhopal and CFFP Haridwar to the tune of 4194 MT
- Recycling of Ferrous scrap/offcuts/cut-bits to the tune of 8880 MT in HPEP Hyderabad, CFFP Haridwar, HEP Bhopal etc.
- Recycling of 2000 MT of Copper scrap recycled
- Recycling of wooden packaging to the tune of 20.2 MT at units
- At BAP Ranipet, 792 MT of Steel boxes were made out of steel scraps, off cuts and portion of prime material
- At TP Jhansi 250 MT of packaging material were recycled
- 3760 MT Rejected insulator and other sellable scrap which was sold to secondary users like refractory product producers for recycle/reuse at FSIP Jagdishpur and SBD Bangalore

- Fabrication of a 20 MT Gantry Crain using scrap material at HPEP Hyderabad
- 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
- 14 MT of steel scrap was used to fabricate new storage racks at component stores at EDN Bengaluru
- 2000 MT of Steel Scrap was used for fabrication of fabricating shipping box and in-house facilities at PPPU Thirumayam

Exhibit 2: Resource conservation through sand reclamation

Our CFFP Haridwar unit uses around 90000 MT Silica sand costing more than Rs. 300 Million annually. Further, the waste sand lumps are hazardous and needs proper disposal. The installation of sand reclamation plant at the unit has enabled the unit in recycling 40% of the sand required annually through reclamation, thereby enabling the judicious use of natural resources as well as reducing the quantum of hazardous waste generation, creating a win-win situation for company as well as environment.



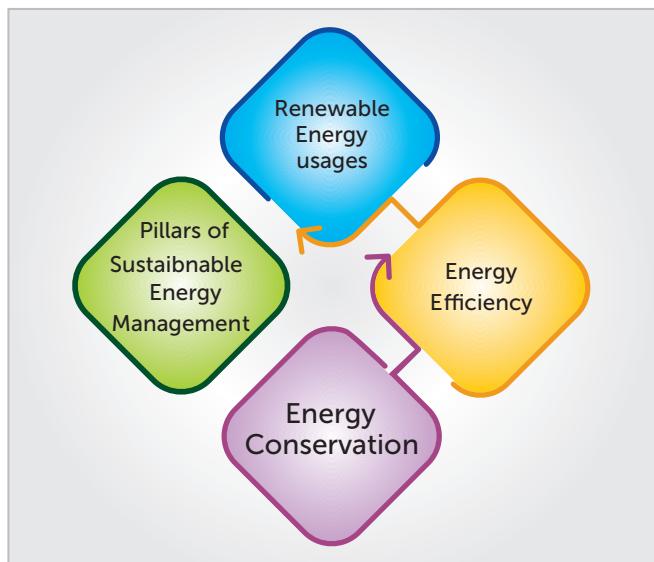
Sustainable Energy Management

Being a large manufacturing Industry, the company requires large amount of energy for carrying out different processes. This has cost implication as well as other associated environmental impact. To minimise this environmental footprint and use renewable energy sources to the extent feasible, concerted efforts have been made by the company to optimise the energy usages through energy efficiency/conservation and renewable energy usages. This has been duly supported by establishment of 29 MW_p capacity of different types of Solar power Plants in our premises.

As an energy management initiative, we have identified energy intensive manufacturing units and got them certified to ISO 50001. During this process, gaps in our existing energy management practices were identified and subsequently the same were plugged through installation of energy efficient systems and arresting the wastage of energy.

The major projects related to energy management during the recent past included:

- installation of 5 Star Rated Air-Conditioners/ Fans
- installation of Energy Efficient Compressors and arresting Leakages in compressed air systems
- installation of Energy Efficiency Lighting (LED/ CFL)
- installation of VFD (Variable Frequency Drives)
- installation of APFC (Automatic Power Factor Control)



- installation of Turbo Ventilators
- installation of Occupancy & Photo Sensors (to turn ON/OFF lights/ AC)
- installation of ground based and rooftop based Solar Power Plants for renewable energy generation
- Reconditioning of furnaces for improving their efficiency
- Laying of gas pipe line for PNG and modification of burners for switching over to PNG gas
- Optimizing compressed air supply to production shops

The 5-year data for energy consumption (direct & indirect) is shown in the table below. A variety of fuels such as 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.

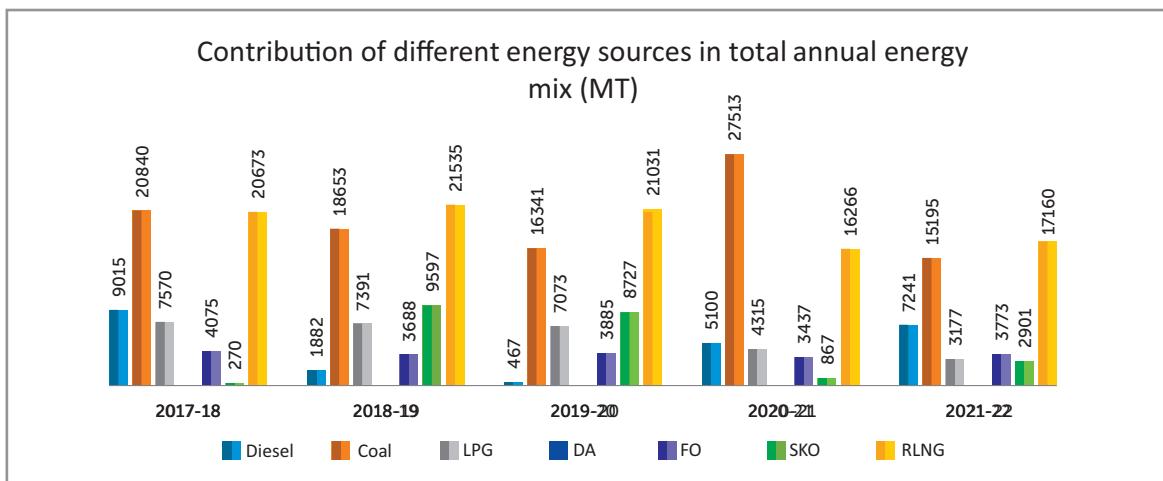


Total Direct & Indirect energy consumption in BHEL units in TJ

| Description | Energy Consumed in TJ (2017-18) | Energy Consumed in TJ (2018-19) | Energy Consumed in TJ (2019-20) | Energy Consumed in TJ (2020-21) | Energy Consumed in TJ (2021-22) |
|---|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Direct Energy | | | | | |
| Primary Energy (Fuels Consumed like Diesel, Coal, LPG, Kerosene etc.) | 2398.60 | 2472.06 | 2287.28 | 1989.75 | 1929.5 |
| Primary Energy Produced (Through Solar Energy generation) | 56.20 | 99.37 | 116.75 | 97.94 | 97.81 |
| Indirect Energy | | | | | |
| Electricity Consumed | 1170.78 | 1128.38 | 1063.28 | 723.12 | 759.59 |
| Total Energy consumed (TJ) | 3625.58 | 3699.81 | 3467.31 | 2810.81 | 2786.9 |
| Gross Turnover | 27114 | 30414 | 21537 | 16296 | 20115 |
| Energy Intensity (GJ /Lakh of GTO) | 1.34 | 1.22 | 1.61 | 1.72 | 1.38 |
| Energy Productivity (Lakh Rs. GTO achieved / GJ) | 0.75 | 0.82 | 0.62 | 0.58 | 0.72 |

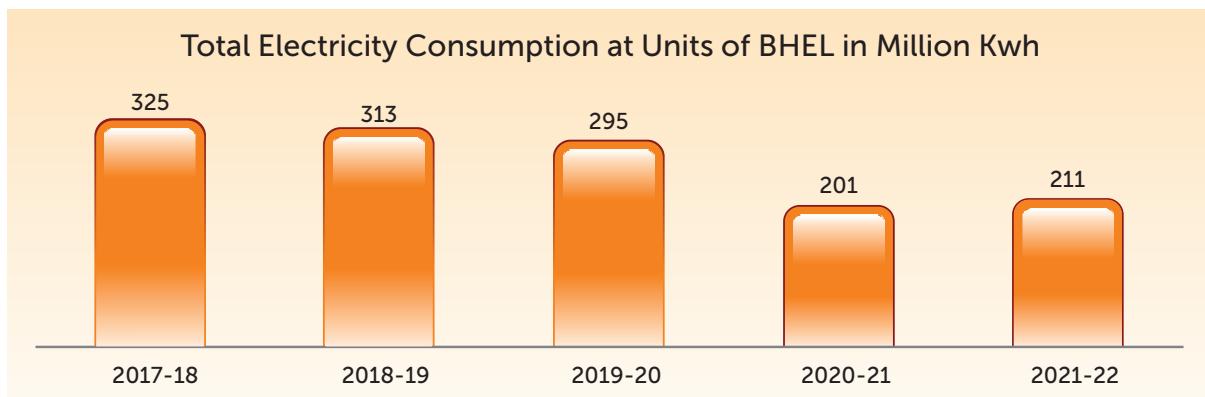
1 Tera Joules (TJ) = 1000 Giga Joules (GJ) = 10^6 Mega Joules = 10^9 Kilo Joules (KJ) = 10^{12} joules

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



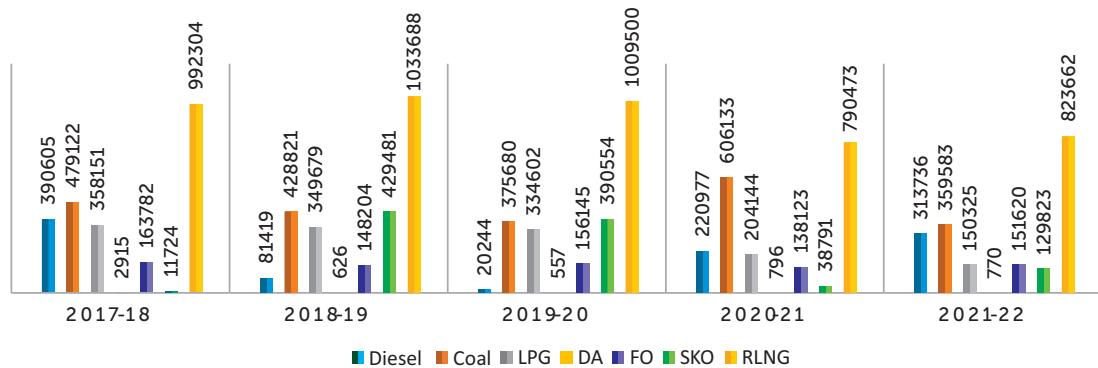
As can be seen from the figure, contribution of coal in terms of weight is on the downward trend on year on year basis in our energy mix.

Overall, the fuel consumption has decreased for the current year as compared to previous year.





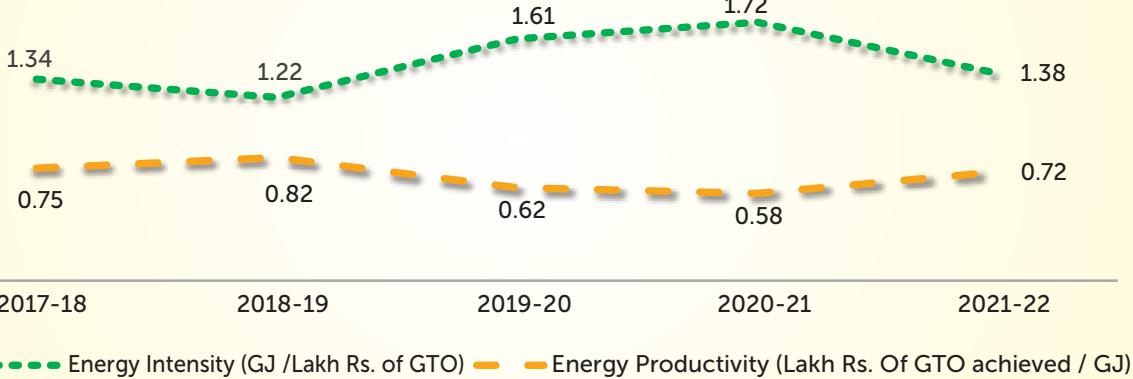
TYPES OF FUELS USED AND THEIR CONTRIBUTION IN OVERALL DIRECT ENERGY MIX (GJ)



As can be seen from the above table, the Energy Intensity (EI) figure defined as Giga Joules of Energy consumed per lakh Rs. of Gross Turn Over achieved, varied from 1.22 to 1.72 and the average EI stood at 1.45. Similarly, the figure

for Energy Productivity (EP) defined as Gross Turn Over in Rs. Lakhs per Giga joules of Energy consumed for the last 5 years varied from 0.58 to 0.82 and the average figure stood at 0.70.

Energy Intensity/productivity data



Energy conservation/ efficiency

Our approach towards energy conservation / efficiency is rooted in the belief that "Energy Saved is Energy Produced".

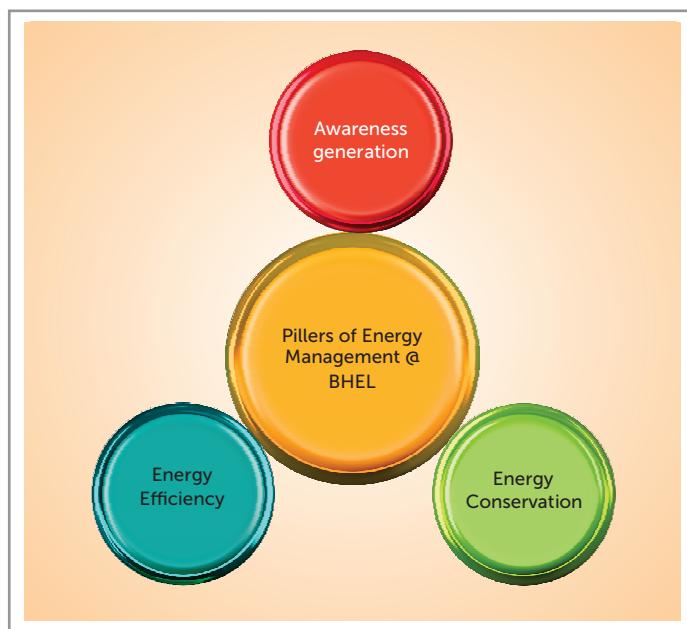
Energy conservation/ efficiency projects undertaken have resulted into significant saving

in energy consumption. Detailed energy audit process has been undertaken and subsequently ISO 50001 certification has been obtained which will harness energy saving opportunities to the extent feasible.



List of various projects related to energy conservation / efficiency / renewable energy

generation completed during 2021-22 at our units is given in the table below.



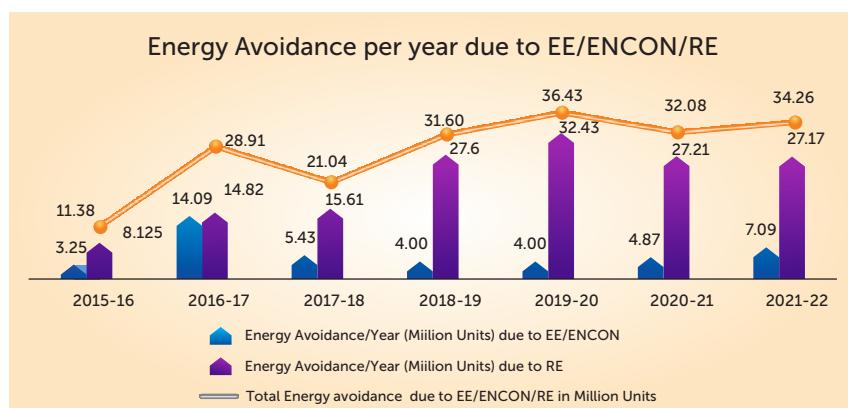
| Sr. No. | Unit | Project Title | Energy Saving (kWh)/Yr |
|---------|------|---|------------------------|
| 1 | EDN | 140 KW RTPV PLANT | 1,68,000 |
| 2 | | Replacement of conventional lamps with LED Lamps | 24,000 |
| 3 | | Upgradation of East First Floor AC plant | 77,880 |
| 4 | | Replacement of 35 nos. split AC with Eco friendly, Inverter based, 5 star Split AC. | 36,792 |
| 5 | BAP | Energy Conservation due to readjusting timers for Roof lights based on Shift alterations | 336000 |
| 6 | | Machine Light Changed to LED | 6912 |
| 7 | | Machine Lights Changed for HE Press | 3312 |
| 8 | | Erection & Commissioning of 300kVAR AFPC | 4723 |
| 9 | ESD | Installation of 100 KW Roof Top Solar Power Plant | 1,05,000 |
| 10 | | Replacement of conventional lamps with LED Lamps | 24,000 |
| 11 | IVP | Replacement of 02 nos. of Non-rated Air conditioners in IVP Goindwal Offices with 5 Star Inverter Split AC's. | 2700 |
| 12 | | Replacement of CFL 32 watt with 15-watt LED Bulbs in Admin & Annexe Building | 2040 |
| 13 | | Replacement of 02 nos. of Non-rated Air conditioners in IVP Goindwal Offices with 5 Star Inverter Split AC's. | 2700 |
| 14 | PPPU | Replacement of 28W T-5 Tube lights with 20W LED Tube Light. (Qty. 500) | 12,000 |
| 15 | | Replacement of 400MH Roof light with 200W LED Luminaire. (Qty.: 200) | 1,32,000 |



| | | | |
|--|------|--|----------|
| 16 | HERP | Installation of pump for fountain to save water and electricity consumption in Main Submersible Pump | 7,400 |
| 17 | | Replacement of Hydrostatic return oil pump of Mario Canaghi CNC machine with direct return pipe | 6750 |
| 18 | | PLC modification for intermittent operation of pump of HMC | 9950 |
| 19 | CFFP | Structural revamping with improved insulation and better damper operation of SC-01 | 1200000 |
| 20 | | Upgradation from conventional to regenerative burners-based combustion system of 6m reheating | 2500000 |
| 21 | CFFP | Structural revamping with improved insulation and better damper operation of LF-01 furnace. | 650000 |
| 22 | | Structural revamping with improved insulation and better damper operation of 13005 furnace. | 1300000 |
| 23 | | Replacement of 50 High mast tower lights of 400/250 Watt by 100/120 W LED Lights | 18980 |
| 24 | HPEP | Erection and Commissioning of Automatic Power Factor Correction Panels in 2 nos. substations | 1,00,000 |
| 25 | SSTP | Installation of VFD in Return Water Pump House - 2no.s | 48000 |
| 26 | HEP | Installation of BHEL make 450 KW energy efficient motor in centrifugal air compressor (C-3) | 20000 |
| 27 | | Installation of remote operated ball valves in compressed air pipeline to save power | 45000 |
| 28 | SBD | SUN-SIMULATOR AC exhaust piping system in SPV shop floor | 73117 |
| Total expected energy saving per annum | | | 7086471 |

As can be seen from the table, due to various energy efficiency / conservation projects during the reporting period, an estimated energy avoidance of nearly 7.09 Million units of annual electricity usages is envisaged.

Further, due to renewable energy generation across our premises, 27.17 Million unit of electricity usages from the grid was avoided during the year 2021-22.



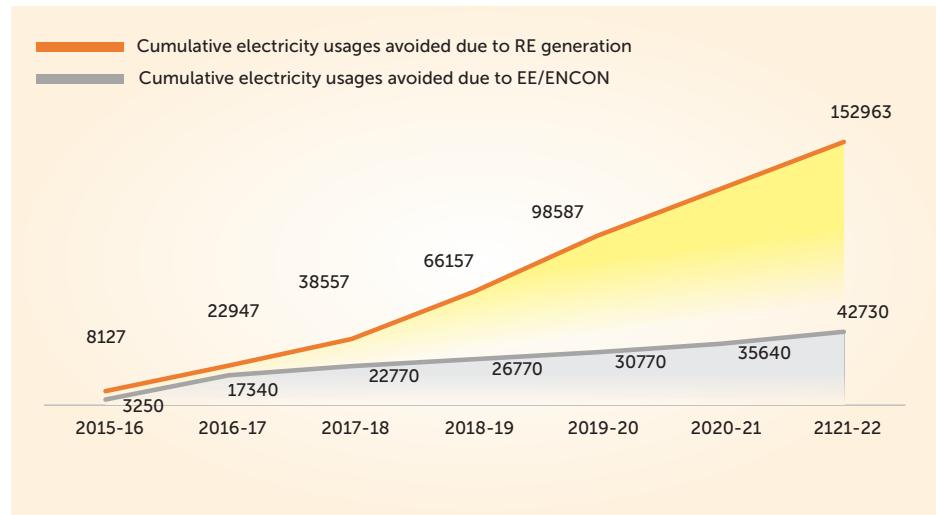


Most of the EE/ENCON opportunities identified through Energy Audits conducted during ISO 50001 Certification process has been already executed. However, they are still giving us the recurring benefit of energy consumption reduction. If we account for the annual saving thus accrued, it turns out to be 179.27 Million Units under the total period of consideration as shown in the figure above. Similarly, due to RE, we have achieved 152.96 Million Units of electricity avoidance during the last 7 years.

To reduce energy consumption, we have been replacing our conventional lighting systems and

fixtures with energy efficient lighting systems. Replacement of old ACs with more efficient 4/5 star rated systems and installation of Automatic Power Controller (APFC) system are also regular features in BHEL. New initiatives taken during 2021-22 includes, installation of APFC panels in select substations and operation of HT capacitor banks to keep the factory power factor close to unity at HPEP Hyderabad, installation of eco-friendly refrigerant air-cooled system at EDN Bengaluru, upgradation from conventional to regenerative burners-based combustion system for reheating furnaces at CFFP Hardiwar, amongst others.

Cumulative electricity avoidance data due to EE/ENCON/RE in our premises (MW-Hr)



Green Energy Generation

The effects of Global warming are now clearly visible to all of us in form of increase in temperature in different parts of the world, melting of glaciers, increase in desertification of land and frequent extreme weather events such as excessive rains, long dry spells, floods, droughts, hurricanes/Cyclones etc. Thus, the concern for global warming and climate change is becoming more and more louder by each passing day and we now realise that there is an urgent need to reduce emission of Greenhouse Gases (GHGs) due to our operations, products and services. Carbon dioxide is the major Green House gas and thus, world over there is a call to reduce CO₂ emission.

The mitigation and adaption of climate change is going to be a major challenge which will test

the sustainability of organizations in the future. To check the rise in global temperature, energy generation through renewable energy sources which obviates the emission of carbon, has gained prominence and conventional energy sources are being relegated while considering the future energy mix across the globe.

In line with the efforts of our government and organizations across the world, BHEL has installed many Solar Power Plants across the premises for internal consumption thereby making our energy mix more sustainable. At present total installed capacity of Solar Power Plants at across BHEL is nearly 29 MW_p. Further, a 5 MW_p capacity plant is under installation at HEP Bhopal unit.

Total electricity generated through these solar PV systems during 2021-22 stood at



27.17 Million Units. Overall during the last 7 years, we have generated 152.96 Million Units of green electricity at our premises and avoided consumption of equivalent amount of electricity which would have been generated by conventional energy sources. As can be seen

from the figure below, the share of renewable energy consumption as a percentage of total electricity consumption has risen to 3.51% and the share of RE in total energy consumption has gone up to 11.41%.

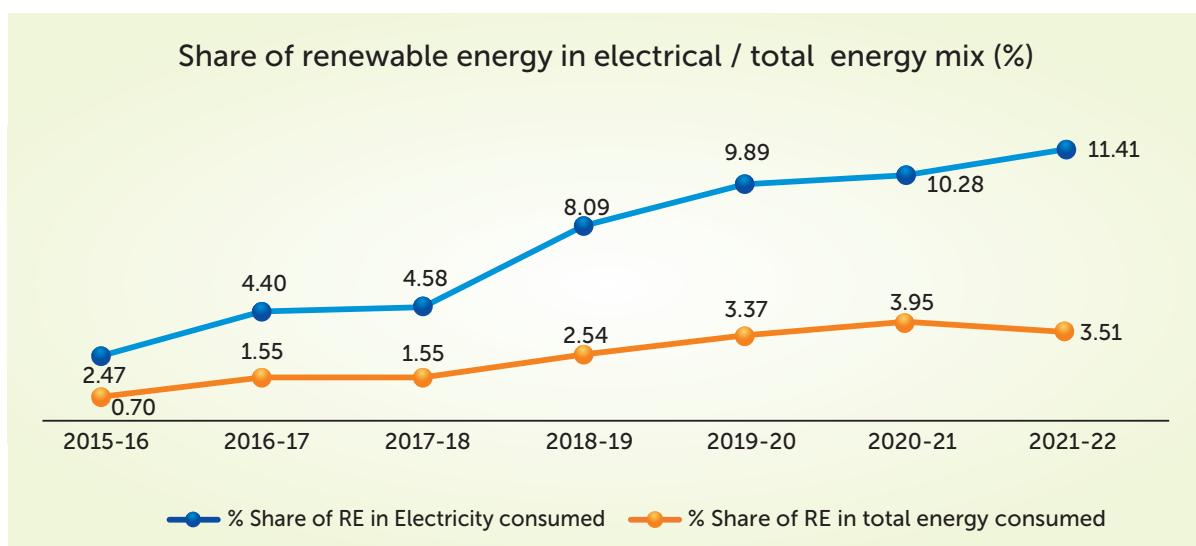
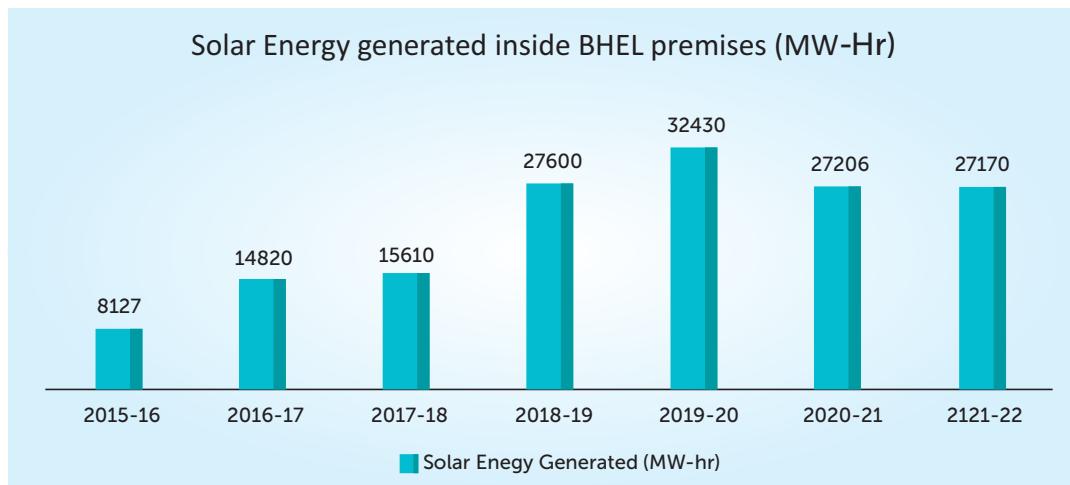


Exhibit 3: Effective utilisation of rooftop for green energy generation

A novel initiative of installation of 1 MW_P capacity Grid connected Roof Top Solar PV System under MNRE Scheme for Government Buildings (RESCO Model) in BHEL Haridwar has been taken at a fixed tariff for 25 Years without any capital investment of BHEL. It is likely to generate approx. 1.2 Million Units/annum thereby achieving substantial savings in energy bill as well as carbon- footprint of the unit.



Managing water sustainably

Access to water and sanitation for all is Goal 6 of the Sustainable Development Goal (SDG-6). Yet nearly 785 million people worldwide still lack safe water. In view of this, it is imperative that the organizations use water very judiciously and should not impact the already constrained resource quantitatively and qualitatively.

In this context, BHEL has always considered water management in a sustainable manner is one of the key focus areas for ensuring environmental sustainability across our premises. The principle of 3-R (Reduce-Recycle-Reuse)

is scrupulously observed in our operation for water usages. Most of our units have become zero liquid discharge (ZLD) entities thereby reducing the quantum of discharge of treated trade effluent outside our premises. A wide array of ETPS (22 nos) and STPs (16 nos), Oxidation ponds, water harvesting ponds, rainwater collection structures, Water re-circulation system, Piping and associated infrastructure for reuse of treated water etc. have been established to meet this objective. The water treated through these systems are used in various applications like horticulture, industrial cooling, toilet flushing, floor washing etc.

| S. No. | RWH's Locations | No. | Dimension (in meter) | | | Suitable Catchment Area in sqm |
|----------------------|---------------------------------|-----|----------------------|----------|-------|--------------------------------|
| | | | Length | Breadth' | Depth | |
| 1 | WESTERN GATE | 1 | 10.50 | 5.50 | 2.40 | 11,989.62 |
| 2 | N. B. S. | 1 | 25.50 | 2.50 | 2.35 | 12,959.56 |
| 3 | DEFENCE BLK | 1 | 10.00 | 6.00 | 2.45 | 12,716.26 |
| 4 | DEFENCE BLK | 1 | Dia 8.00 | Dia 8.00 | 2.45 | 10,647.75 |
| 5 | NTS Near NTS Gt - 2 | 1 | 12.30 | 5.40 | 2.35 | 13,502.34 |
| 6 | NTS Near NTS Gt - 3 | 1 | 10.00 | 5.00 | 2.30 | 9,948.10 |
| 7 | NTS Near Watch Tower | 1 | 4.50 | 2.60 | 2.25 | 2,277.25 |
| 8 | NTS Near Eastern Gt | 1 | 11.70 | 3.70 | 2.35 | 8,800.30 |
| 9 | NTS Near Wooden scrap area | 1 | 15.00 | 5.00 | 2.45 | 15,895.33 |
| 10 | Fire Gate (O/S) | 1 | 16.00 | 4.00 | 2.40 | 13,287.21 |
| 11 | New Engg Bld Back side | 1 | 9.43 | 3.85 | 1.70 | 5,339.04 |
| 12 | MAB back side near pass section | 1 | 13.95 | 3.90 | 1.50 | 7,059.47 |
| 13 | Convention centre | 1 | 7.10 | 6.70 | 1.80 | 7,407.09 |
| 14 | Near block 6 & D2 drain | 1 | 9.00 | 3.00 | 2.80 | 6,539.79 |
| Total Catchment Area | | | | | | 1,38,369.10 |

At HEEP Hardwar unit, we have 14 rain water harvesting structures (RWH) out of which 1 RWH system has been created during the FY 2021-22 which will cater to a catchment area of 6500 Sq. M. The catchment area and details of RWH in HEEP Hardwar is shown in the table below. During the year 2021-22, an estimated quantum of 1.62 Million Litres of rainwater has been harvested by these RWH structures created at HEEP Hardwar.

At HEP Bhopal unit 2 nos. masonry dams were constructed during FY 2020-21. The first dam can store the water quantity of 20,000 M₃ and it held the rain water from July 2020 to November 2020 in year 2020-21. The second dam can store water to the tune of 10,000 M₃ and started holding water which lasted till November. The total investment for construction of these two dams was around Rs. 7.5 Lakh.

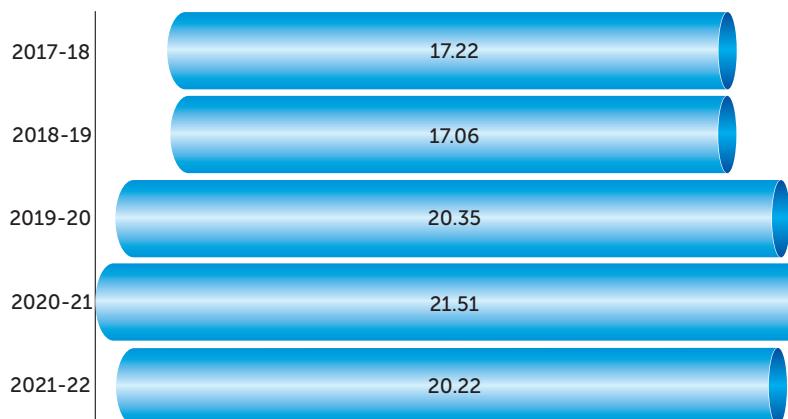


All the parameters of effluents are being checked periodically and found to be within the prescribed limit as specified by respective State Pollution Control Boards.

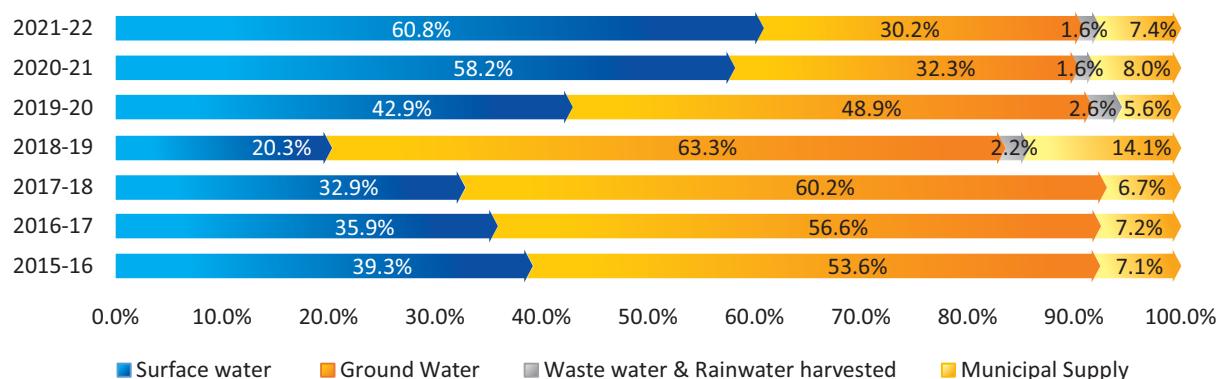
The data for water consumption is shown in the figure below. As can be seen from the figure,

the average water consumption during the last 5 years was 19.9 Million Cubic Metre. The data for 2020-21 also includes water used in the domestic use in townships. The contribution of different sources of water is also shown in the diagram.

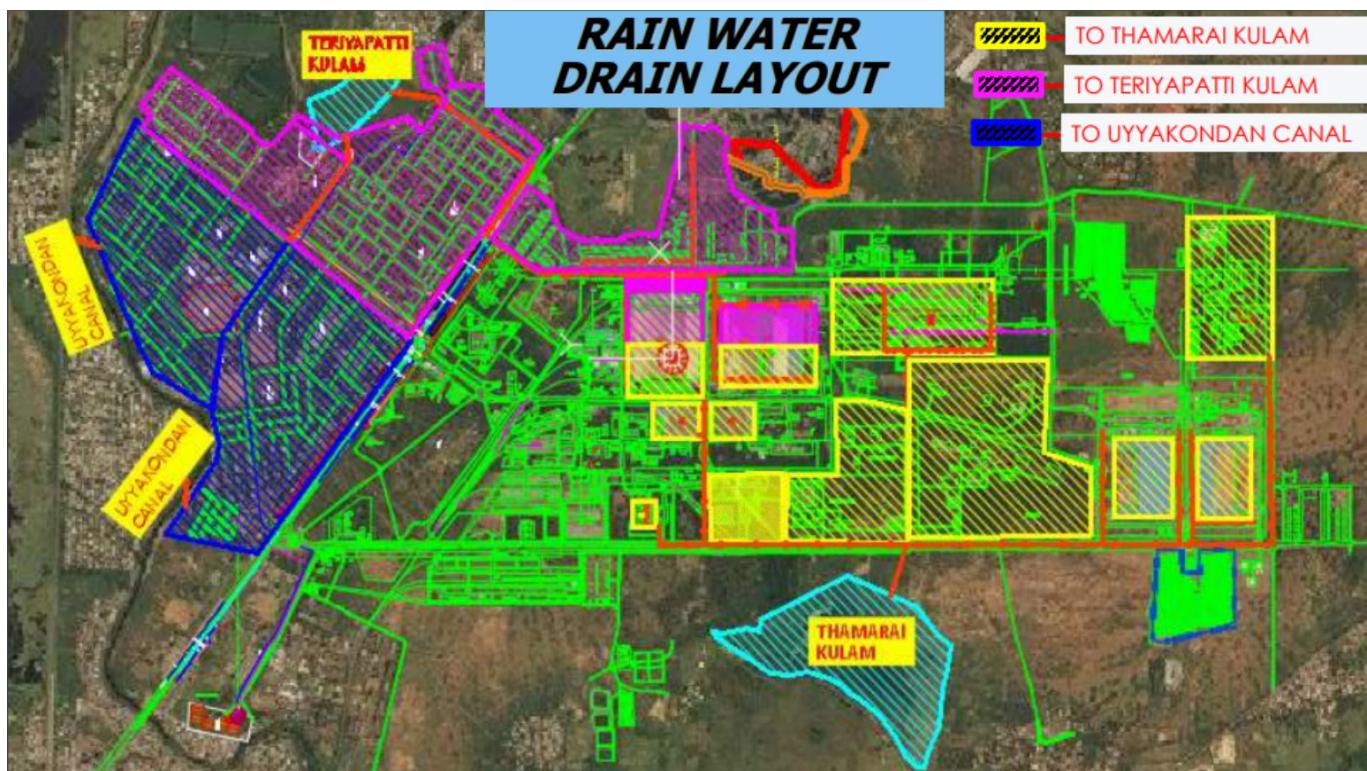
Water intake during the last 5 years



Contribution of different sources of water



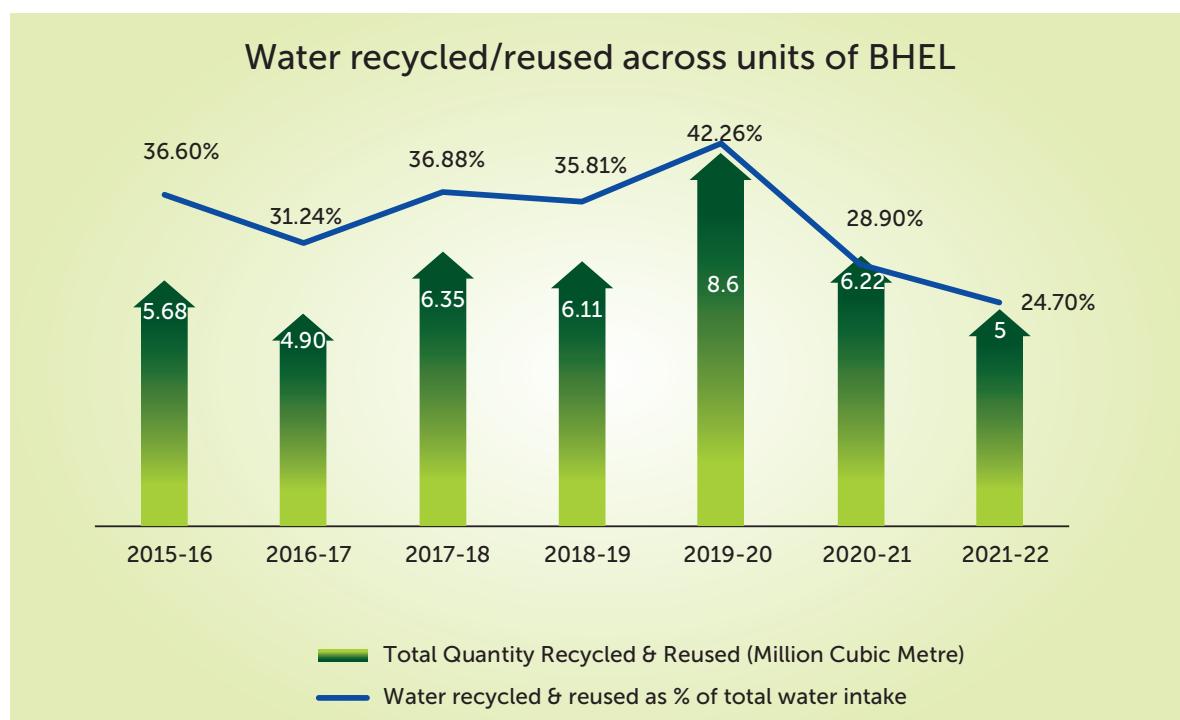
New 70x70x5 m size Recharge Pond for Rainwater Harvesting under construction at Barkheda Township in HEP Bhopal Unit



Rain Water Drain Layout at Trichy Unit

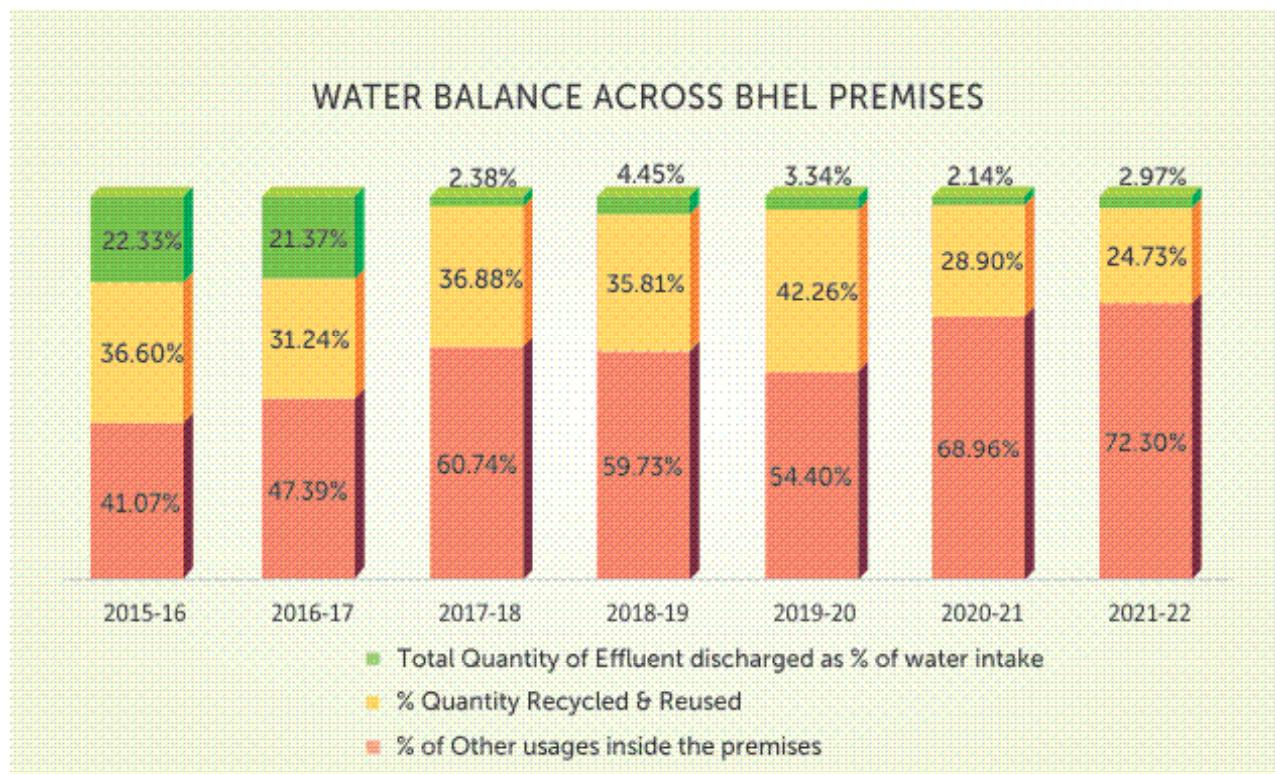
Some of the specific activities carried out during 2021-22 include construction of rain water recharging pond of 7000 cubic meter capacity in Berkheda at HEP Bhopal, capturing storm water from catchment area of approx. 17 acres through

percolation pits at EDN Bengaluru, installation of a 7 MLD STP and use of recycled industrial water for cleaning of roof top solar panels at HEEP Haridwar, etc.





STP Treated Water Pond for Ground Water Recharge at Trichy Unit





Due to installation of STPs and ETPs at our premises and ultimate use of the treated water in the horticulture at most of our premises, our effluent discharge quantity has come down substantially and is now below 3% of our annual water intake and in this way, we are trying to ensure through our processes that we contribute towards SDG-6 positively.

Biodiversity in our premises

BHEL is fully aware of significant role of trees and other vegetation in maintaining the ecosystems on our planet. The forests are cradles of biodiversity and support different species in meeting their needs for surviving & thriving. In addition, without doubt, trees provide us the best carbon capture mechanism as of now. Thus, one of the best ways to reduce net emission of CO₂ is to create more and more carbon sink by planting more and more trees and forests.

Every year, our organization is taking up plantation drives to increase the verdant cover in our premises. Furthermore, plantation of saplings by superannuating employees to commemorate their contribution towards development of



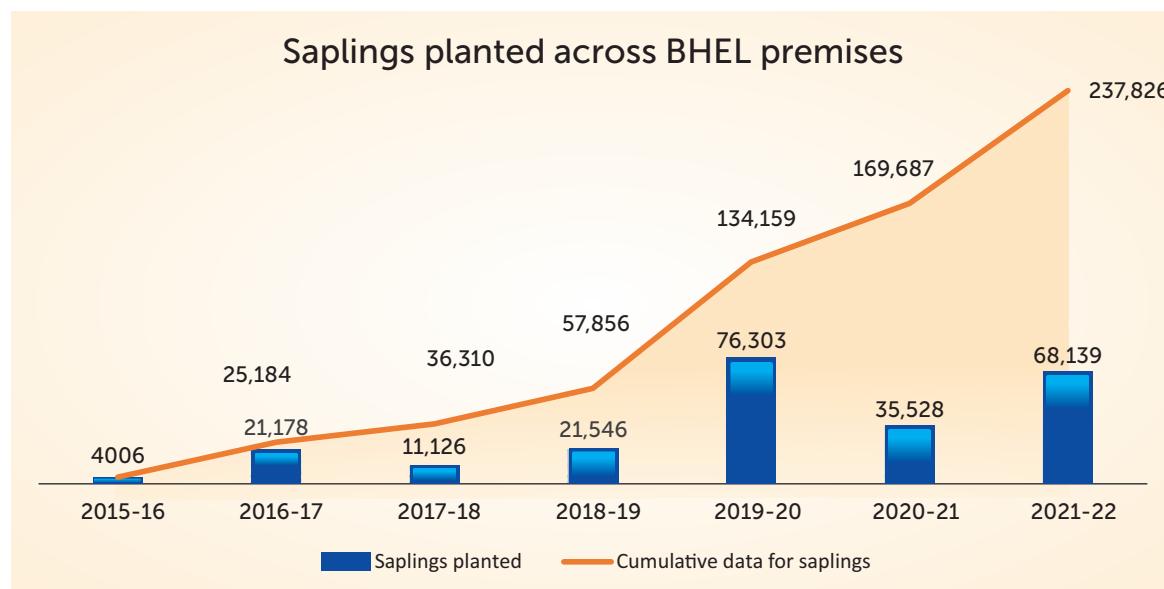
Sapling plantation by Hon'ble Union Minister (H) at BHEL Noida Township



7 MLD Sewage Treatment Plant at BHEL Haridwar

the organization on last day of work in the organization has also become a standard practice. We are planting saplings in parks, gardens, central verges of roads, roadside areas and in open land. The purpose of plantation is to augment greenery and enhance beatification in BHEL Township apart from reduction in environment temperature during Summer, reduction in air pollution, increase in oxygen level in the atmosphere, reduction in soil erosion and increase in soil fertility rate through dry / fallen leaves. Verdant cover inside our premises have become shelter for multitude of flora and fauna.

During the period shown in the figure below, we have planted nearly 2.38 Lakh saplings. During the reporting period itself, 68139 saplings were planted in our premises. As per our estimation, we have total 2.9 Million trees/saplings across our premises and nearly 4.7 Million M₂ area is under green cover contributing towards the twin objective of carbon capture and storage and enhancing biodiversity.



Managing emissions and Carbon Footprint

In view of the concern for climate change, it is imperative that businesses should track their emissions and have a plan in place to reduce the same. Keeping this in view, BHEL has started tracking its Scope-1 and Scope-2 emissions and trying to reduce the same. However, Scope-3 emissions are yet to be captured in our organization. The emission data is being captured using appropriate methodology as stipulated by United Nations Framework

Convention on Climate Change (UNFCCC) protocols and using India Specific Emission Factor.

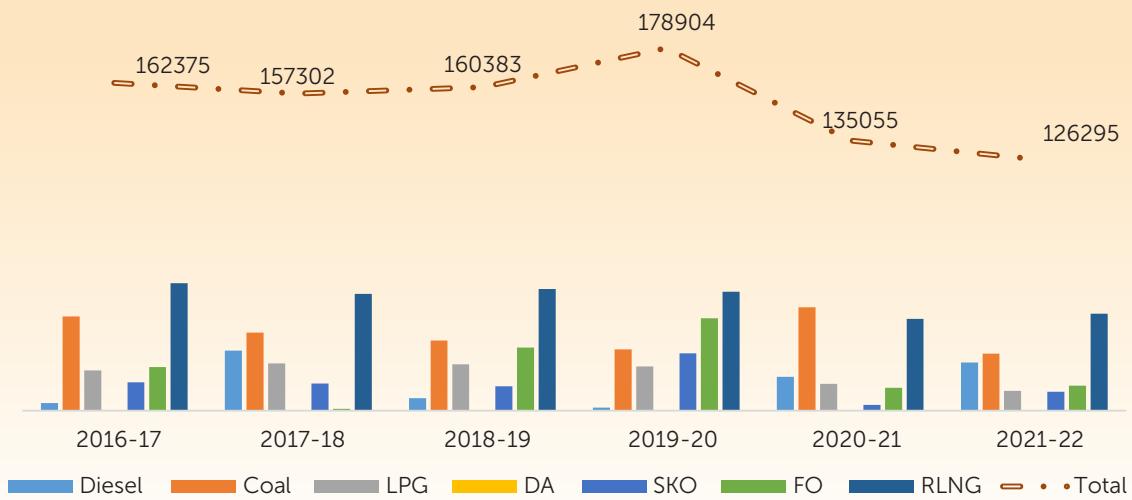
Now, RLNG has become the major source of fuel at our premises. This fuel is relatively cleaner and the emissions associated with carriage of fuel through road/rail is obviated as it is supplied through pipelines consequently reducing the Scope-3 emissions. The Scope-1 and Scope-2 emissions are shown in the figures below. Further, the break-up of contribution of fuel in our annual inventory of scope-1 emissions is also shown here.



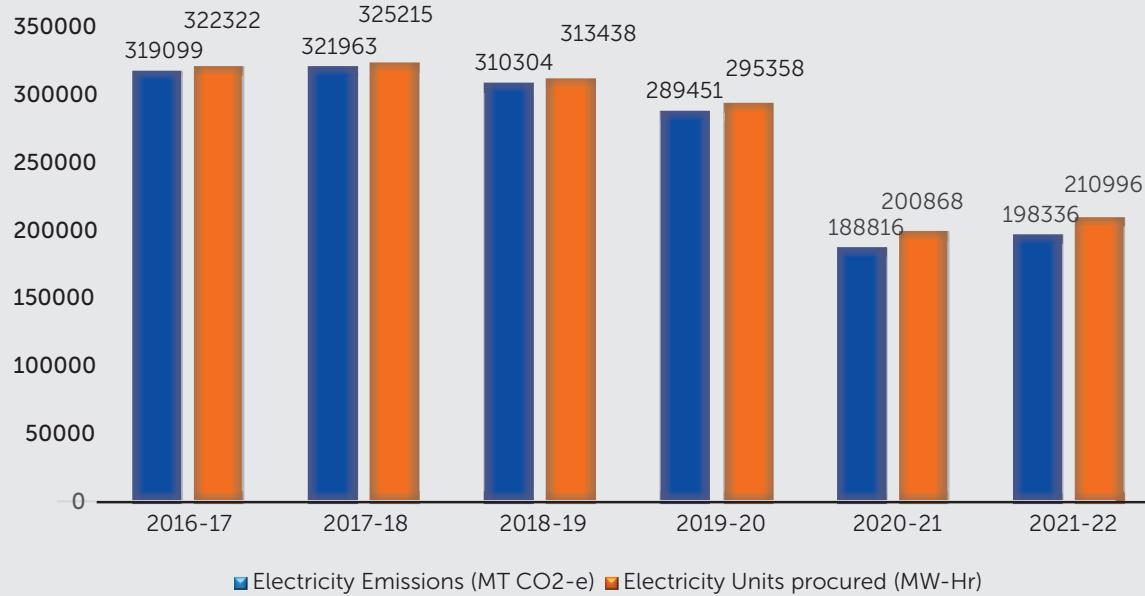
5 MW in-house Solar PV installation at BHEL Haridwar for captive power generation



Contribution of major fuels used in Scope-1 emission (MT CO2-e)

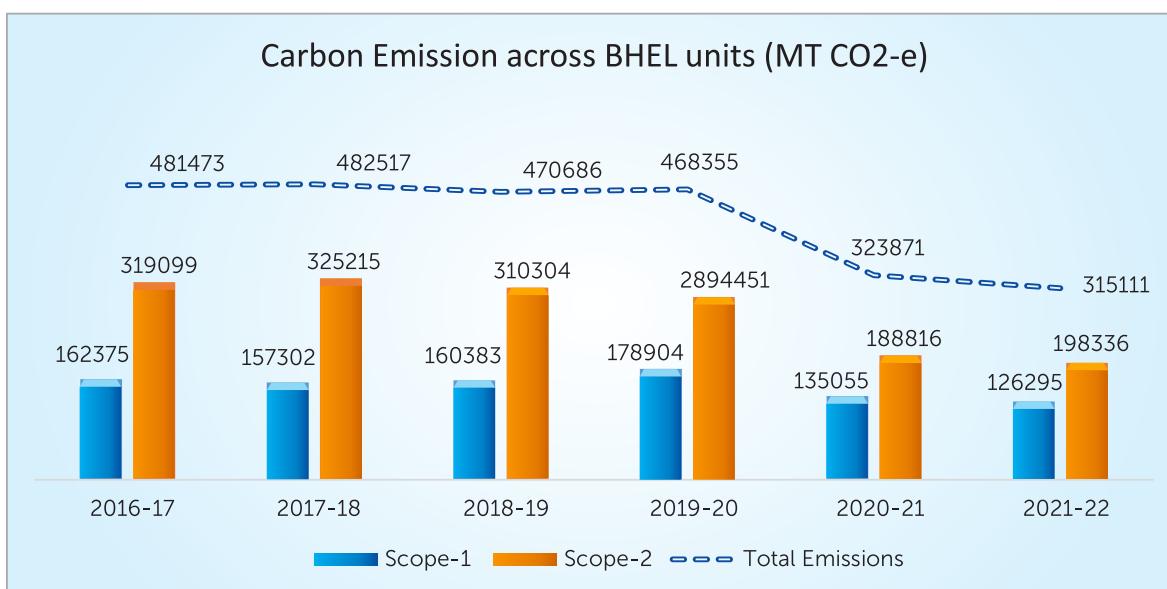
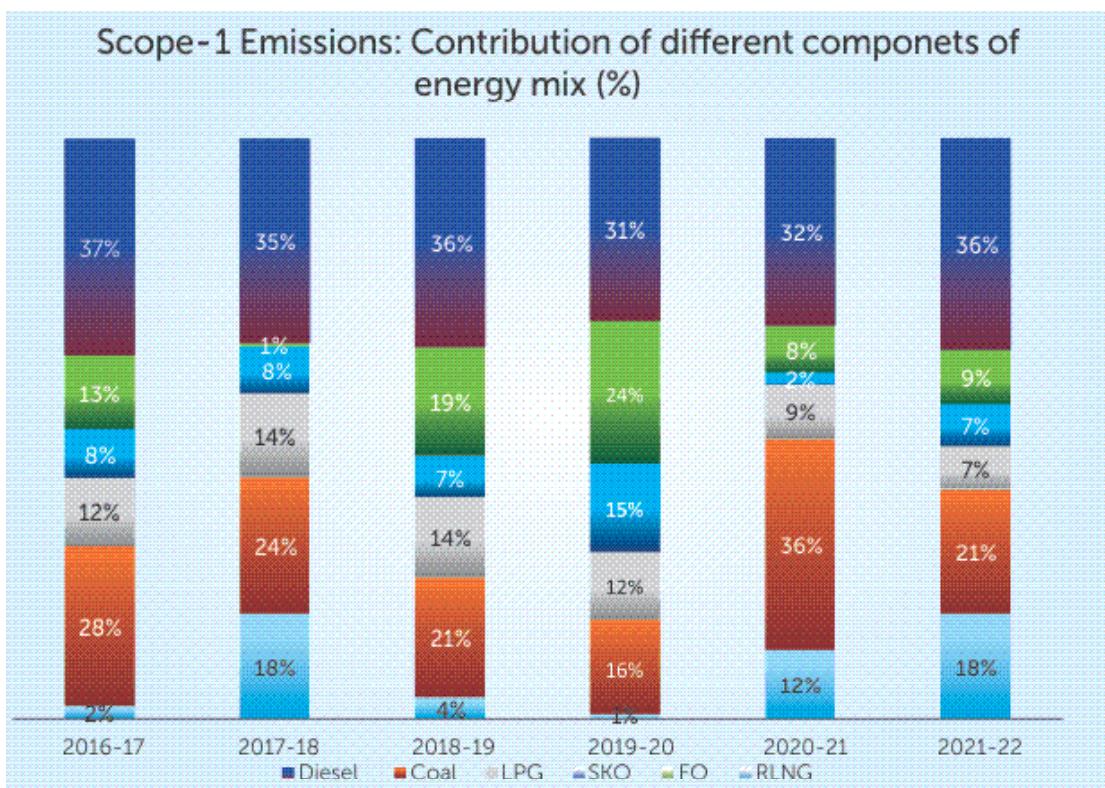


Scope-2 emissions against electricity procured data



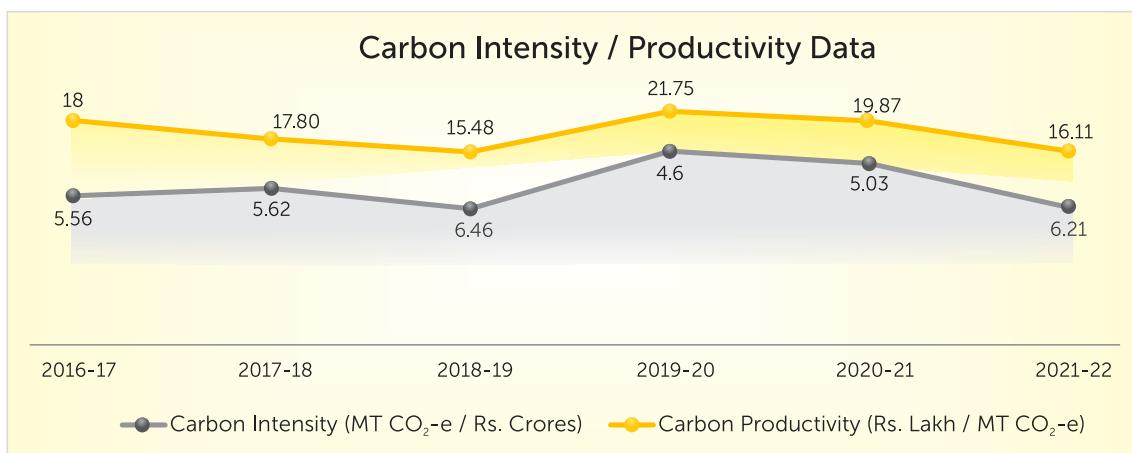
Some of our units have established online stack monitoring system which enables them to monitor their emissions in real time. BHEL has started estimation of air emissions in terms of weight from the last year. The estimated weight of NO_x emitted stood at 144.50 MT, SO_x emitted was 160.84 MT, Particulate Matters was 338.91 MT, volatile organic compounds was 5.6 MT and hazardous air pollutants was 8.54 MT for the year 2021-22.

At most of our units we are using refrigerants like R-134A, R-404A, R-407 etc. having no Ozone depletion potential (ODP). However, at some of the units R-22 is still being used as refrigerant and total Ozone Depleting Substance (ODS) used for the year 2021-22 stood at 18.3 kg of CFC-11 equivalent across BHEL.

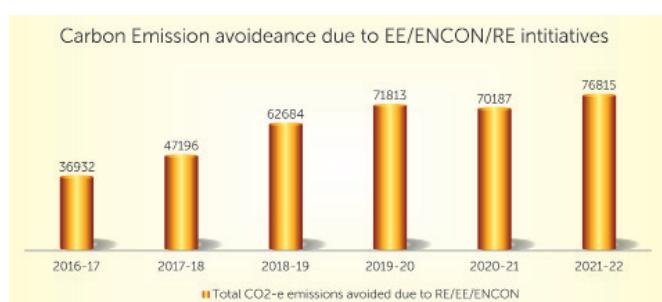


The data for Carbon Intensity (CI) [defined as Carbon Footprint expressed in MT CO₂-e emitted per Crores Rs. of Gross Turn over achieved] is shown in the figure below. The average CI figure stood at 18.17 and average Carbon Productivity (CP) figure stood at 5.58 meaning for every Crore Rs. of Gross Turnover achieved, 18.17 MT CO₂-e has been emitted in the atmosphere whereas for every 1 MT CO₂-e

emitted, BHEL has achieved a Gross turnover of Rs. 5.58 Lakh. However, it may be noted that the Turnover figure includes the data for the entire company, whereas the carbon footprint data comprises of only the emissions from the units as defined in the boundary of the report.



Due to various Energy Efficiency / Energy conservation / generation and use of renewable energy (EE/ENCON/RE) inside our premises, considerable amount of carbon footprint avoidance has been achieved. These activities have been listed in the section – Energy. During the year due to various energy efficiency, energy conservation, renewable energy generation & utilisation (EE/ENCON/RE) measures, a carbon footprint avoidance of around 32204 MT of CO₂-e. The annual carbon footprint avoidance due to EE/ENCON/RE measures has been shown in figure below. During the period shown in this figure, a carbon footprint avoidance of 0.366 Million Metric Tonnes of carbon footprint avoidance has been achieved across BHEL. This graph has been drawn considering the accumulated energy avoidance achieved on account of EE/ENCON projects starting the period under consideration and EE/ENCON project undertaken during a particular year as well.



Responsible waste management

As sustainable waste management help reduce pollution and conserve natural resources, it is

necessary that organizations must take initiatives to avoid the waste generation in its processes and if at all any waste is generated then manage it suitably. This In the trigger which helps our organization in managing our wastes sustainably. In our company, waste reduction is taken as a very important activity and our nesting plan for cutting of metal sheet is designed in such a way to take care of this aspect. Company's manufacturing processes generate fair amount of metal scrap; however, engineering measures are taken to minimize waste generation. The scrap subsequently undergoes recycling within the company and is reused. For example, Central Foundry Forge Plant (CFFP) in Haridwar manufactures Steel Forgings and Castings for which steel scrap is a major raw material. Reusable wood and ferrous scrap are also used in packaging manufactured goods.

Across BHEL, solid wastes/ scrap having resale value were collected, segregated, stored and sold to authorized recyclers. Some of it which are not hazardous & inert and not having any resale value is used for filling up low lying areas. Hazardous wastes/ e-waste are disposed of as per the stipulations in the relevant statutes. The hazardous waste generated at units are disposed as per the regulatory requirement and necessary records for scrutiny by the regulatory authority is duly maintained. Hazardous waste which can be used outside is sent to authorized recyclers. Rest of the hazardous waste which is to be incinerated or buried in secured landfill is sent to Treatment Storage and Disposal Facility (TSDF) of their respective states for ultimate disposal of such hazardous wastes.



BHEL's business is B2B in nature and products/systems we supply falls under capital goods category with long lifecycle (25 years and beyond). All the associated packaging material in which we supply our products become the property of our customer spread across the country and abroad. In this given situation, it is not feasible to reclaim the product (end of life) or packaging material from the customer.

The data for waste generation is shown in the table below.

| Parameter | FY 2021-22 | FY 2020-21 |
|--|------------|------------|
| Total waste generated in Metric Tonnes | | |
| Plastic Waste | 24.46 | 22.84 |
| E-Waste | 74.47 | 49.26 |
| Bio-medical Waste | 6.45 | 6.33 |
| Construction & Demolition waste | 403 | 250 |
| Battery waste | 65.87 | 51.23 |
| Other Hazardous Waste | 805.02 | 930.16 |
| Other non-hazardous waste | 24342.29 | 20407.86 |
| Total | 25721.56 | 21717.68 |

The data for each category of waste generated, total waste recovered through recycling, re-using or other recovery operations (in metric tonnes) is shown in the table below.

| Category of Waste | FY 2021-22 | FY 2020-21 |
|------------------------|------------|------------|
| Waste used through: | | |
| Recycled | 1825.03 | 1257.76 |
| Re-used | 4594.18 | 2474.37 |
| Other recovery options | 143.77 | 91.8 |
| Total | 6562.98 | 3823.93 |

For each category of waste generated, total waste disposal by nature of disposal method is shown in the table below.

| Category of Waste | FY 2021-22 | FY 2020-21 |
|---------------------------|------------|------------|
| Waste disposed through: | | |
| Incineration | 29.384 | 186.24 |
| Landfilling | 2995.99 | 2422.81 |
| Other disposal operations | 16877.92 | 15226.71 |
| Total | 19903.29 | 17835.76 |

In this table, other disposal methods include the data for sale of the scrap through e-auction/ other means to external agencies for its recycle/ reuse/recovery as well. After considerable amount of scrap is accumulated, it is sold to the agency for final disposal. The data for incineration also includes the hazardous waste sent to Treatment, Storage & Disposal Facilities (TSDF) for final disposal. No assessment/ evaluation/ assurance has been carried out by any external agency.

During 2021-22, almost 583 Metric Tonnes of scrap generated at EDN Bengaluru and 6650 MT at HPEP Hyderabad was recycled through authorised recyclers, MS scrap of 275 MT was used in Foundry shop in manufacturing of various castings at HPEP Hyderabad unit, waste sand reclamation by 20% (approx.) for reuse at CFFP Haridwar, erection of containerized Bio gas plant of 500 kg per day for canteen waste at Bhopal etc., were some of activities in this area. All the waste management rules are scrupulously followed in the organization and returns for the same as per the formats are filed as per stipulations.

Further, to fight the menace of plastic pollution, all our 14 townships have received third party certification as being "Single Use Plastic Free" and the same have been recertified during the year.



Initiatives taken to reduce environmental footprint of our products and services

BHEL manages its environmental impact across the entire manufacturing value chain in a responsible manner. Internally, various initiatives are in place to optimally manage key aspects of materials, water, energy, emissions and biodiversity in the larger interest of society. All our activities are carried out with utmost regard to the environment and it's carrying capacity in terms of responsible consumption of natural resources for production of goods & services including imbibing the concept of 3-R (Reduce-Recycle-Reuse), moving towards more sustainable energy mix, demand side management through energy efficiency/ conservation measures, water and biodiversity conservation, managing emissions within the prescribed limits, etc. Further within our value chain, using state-of-the-art facilities created over the years, we are providing our customers products which are environmental friendly by virtue of – being long lasting, being efficient and using lesser quantum of natural resources as well as reducing emissions during their operation phase, capturing emissions in the existing power plants, which result in reduced environmental footprint. Our constant endeavour to improve product performance through R&M as well as life extension services, providing futuristic technologies such as AUSC and coal gasification for reducing emissions, offering state-of-the-art solutions for hydro and nuclear sector as well as retrofitting of existing power plants with FGD and SCR to reduce emissions are steps to ensure efficient and sustainable use of natural resources.

BHEL is contributing to a greener environment through development of environment friendly technologies and improvement in efficiency of equipment. Continuous improvement in power cycle efficiency and reduced emissions from coal based power plants have been achieved over the time by evolution of technology from sub-critical to supercritical. Attributes of BHEL supplied power plant equipment such as lower

auxiliary power consumption, higher plant efficiency, lower design heat rate and higher operating availability help in attaining lower life cycle cost. BHEL provides comprehensive solutions for reducing emissions through supply and commissioning of Flue-gas Desulphurization (FGD) systems, Selective Catalytic Reduction (SCR) systems, Solar Photovoltaic plants, Electrostatic Precipitators (ESP). BHEL also offers zero liquid discharge solutions through supply of Effluent Treatment Plants and Sewage Treatment Plants (STP). BHEL has developed fully indigenous Pressurized Fluidized Bed Gasification (PFBG) technology for generating syngas from high ash Indian Coal. The syngas further acts as a feed for production of industrial chemicals. There is also conscious effort towards reduction of embodied carbon in products. Company has opted to replace polluting fuels with cleaner ones, e.g., gas is now used as a source of heat energy (instead of coal earlier) during production of products like ceralin, and has also converted furnaces to RLNG from LPG at its manufacturing plants.

- BHEL in association with IGCAR and NTPC has developed 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 CO₂ emission by about 11% as compared to Super Critical power plants and by about 20% as compared to Subcritical power plants for single unit of power generation. The R&D phase of the project has been completed successfully.
- With environmental concerns leading to rapid establishment of renewable energy capacity, coal gasification is being looked upon as a cleaner option compared to combustion. Syngas produced from coal gasification is usable in producing various chemicals/ fuels (e.g. methanol, ammonia, ammonium nitrate, hydrogen, etc.). BHEL has established a 0.25 TPD Coal to Methanol Pilot plant from high ash Indian



- Coal. Work on various Chemicals/ fuels such as ammonium Nitrate, Methanol, Hydrogen, etc. has been initiated.
- BHEL has indigenously developed Passivated Emitter Rear Contact (PERC) technology for high efficiency c-Si solar cells. With this development, BHEL has the know-how and dedicated cell level R&D facility to support upgradation to PERC technology. In parallel, BHEL is also working on development of Heterojunction solar cell technology with 24% efficiency.
- In urban mobility sector, there is favourable movement towards Electric mobility as the future mode of transportation. BHEL has developed Permanent magnet motors, Induction motors & IGBT controller for E-Buses, Electric Charging Stations for E-mobility infrastructure.

Management of Significant Spills

Our units are certified to ISO 14001:2015 which is a hallmark of our well-established Environmental Management System (EMS). This management system provides us the framework to take control measure related to environmental risks including any spill. However, during the reporting period, no significant spill has occurred. Furthermore, there are no water body and related habitats which are significantly affected by our discharge of water and runoff.

Compliance

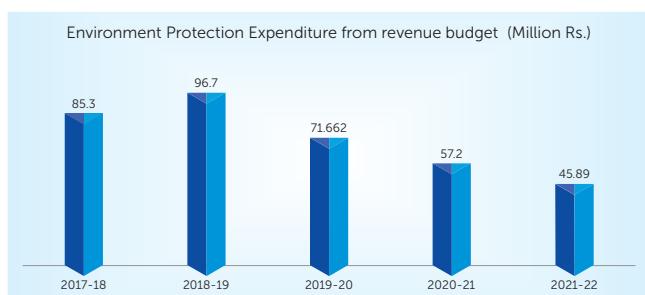
BHEL has a well-established Environmental Management System (EMS) accredited to ISO 14001:2015. Based on its HSE policy, all manufacturing units and regions have derived their HSE systems in line with the requirement of ISO 14001:2015 'Environmental Management System' standard. The EMS provides an excellent framework to proactively identify and manage the risks related to environment in a systematic manner. HSE cells at all BHEL

units as well as Power Sector regions oversee the implementation of HSE policy supported by Corporate HSE department at apex level to provide strategic guidance. Periodic audits are carried out by the certifying body to ensure the compliance to the EMS and requirements of ISO 14001:2015 are met. The company's HSE policy is available on the internet and can be accessed through the web link:

<https://www.bhel.com/sites/default/files/HSEPOLICY.pdf>

Environmental Protection Expenditure

The activities related to Sustainable Development and Environmental Protection like - monitoring of stack emissions & ambient air quality, obtaining required licenses/ authorisations/consents under extant HSE legislations, getting certification / recertification / periodic external audit done for ISO 14001:2015 & ISO 45001:2018 management system certification, installation & maintenance of new environment friendly technologies, insurance for environmental liability, tree plantation etc., requires financing under capital and revenue budget. During the reporting period 2021-22, an expenditure of Rs. 458.9 Lakh was incurred from revenue budget on such activities.



This does not include manpower cost of BHEL which is engaged in environment related activities in full time. Further, expenditure of capital nature (e.g. establishment of ETP/STP etc.) are not included in this expenditure.

OUR 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, and applicable laws. BHEL has special provisions for ensuring safeguard of women employees at the workplace. In context of human rights abuse, no such instance has been reported in the Company. BHEL is one of the founding members

of Global Compact Network, India (GCNI) and is a part of initiatives in India. 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 can be accessed through the webpage: <https://www.bhel.com/commitment-ungc-programme>

Following table provides the details about employees and workers who have been provided training on human rights issues and policies of the company:

| Category | FY 2021-22 | | | FY 2020-21 | | |
|----------------------|------------|---------------------------------------|---------|------------|--------------------------------------|---------|
| | Total (A) | No. of employees/ workers covered (B) | % (B/A) | Total (C) | No. of employees workers covered (D) | % (D/C) |
| Employees | | | | | | |
| Permanent | 15038 | 686 | 4.6% | 15717 | 895 | 5.7% |
| Other than permanent | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Employees | 15038 | 686 | 4.6% | 15717 | 895 | 5.7% |
| Workers | | | | | | |
| Permanent | 15720 | 205 | 1.3% | 16414 | 109 | 0.7% |
| Other than permanent | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 15720 | 205 | 1.3% | 16414 | 109 | 0.7% |

Note: For company policy related program, only HR policy related are considered here

There is formal well laid out grievance redressal mechanism related to human rights issues. The mechanism provides for three-tier resolution. First stage with Controlling Officer, second stage with Head of the Department, third stage with Grievance Redressal Committee.

The human rights requirement forms part of business agreement or contract. The service contracts between BHEL and service provider contains clause meeting human rights requirement like child labour, minimum wages etc.

The provisions of the "The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Rules, 2013" thereon are being strictly complied with. In accordance with the Act, Internal Complaints Committee exists in all units of BHEL and their constitution and contact details are hosted on the unit's website. Posters

highlighting the key provisions of the Act, Duties of the Employer, Complaints Redressal Mechanism, Action for Malicious Complaints & various misconceptions about Sexual Harassment have been displayed at conspicuous places in all units in Hindi, English and Regional languages. At unit level, ten Workshops / awareness programmes were conducted on Sexual Harassment of Women at Workplace Act and Gender Sensitization.

During 2021-22, two cases of sexual harassment were filed and two were pending for resolution. No complaint of child labour/ forced labour/ involuntary labour/ wages/ discriminatory employment has been received. BHEL didn't assess its value chain partners on Human Rights criteria as these entities comes under labour related laws/ acts/ statutes and are assessed or inspected by relevant Govt department/ institution.



All BHEL premises are periodically inspected by central and state labour departments, PF and ESI departments and other government institutions or department for the compliance related to relevant law/ act/ statute and identifying gaps.

Within BHEL, accountability is well defined for various functionaries through 'Delegation of Power'. Works Policy, Purchase Policy and other policy documents facilitate transparency in BHEL's working and commitment of highest order of integrity.

The company takes affirmative action in recruitment and promotion for representation of employees from socio-economically backward sections of society, minorities, disabled personnel 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. In case of an employee made to retire on medical grounds prematurely, provisions of The Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, are kept in consideration. Additionally, Transfer and Job Rotation policy mandated for applicability of Government guidelines for the transfers of PwD employees.

Anti Corruption

Transparency, fairness and objectivity form the basis for all decision-making processes for the company. The Company has in place a full-fledged Vigil Mechanism consisting of Vigilance Department, Internal Audit, Whistle-blower Policy mechanism, Independent External Monitor(s), as well as Board Level Audit Committee. The Vigilance function of BHEL is headed by Chief Vigilance Officer (CVO) who acts as an extended arm of Central Vigilance Commission (CVC) in the Company. All units & divisions of BHEL have a Vigilance set-up headed by a Senior Officer reporting to the CVO. Preventive Vigilance has been the focus area of BHEL as proactive vigilance is better to reduce the chances of corruption. The main objective is to progressively reduce ambiguity and discretion in the process by plugging the loopholes in the

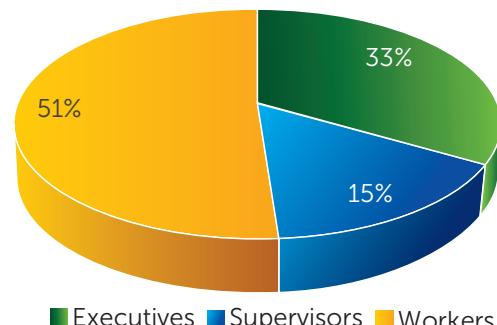
system, thereby making decision making process more and more objective & transparent and also reducing the scope for engaging in malpractices. The audit reports (internal, statutory and CAG reports) relating to BHEL are regularly scrutinized so as to determine whether there is any vigilance angle involved in respect of the irregularities brought out in such reports. A panel of two Independent External Monitors (IEMs) is in place to oversee implementation of Integrity Pact and address any concerns related to the same. The company encourages reporting of unfair and unethical practices and has a Whistle-blower Policy mechanism which provides adequate safeguard against victimization to the complainant. The Board Level Audit Committee reviews the functioning of the Whistle Blower/Vigil mechanism and annual review of the Vigilance function is also done by the Board of Directors. Further details have been provided in BHEL's Annual report 2021-22, page 160-163.

Profile of the employee base

The Manpower Strength of BHEL as on 31st March 2022 is 30,758. Number of permanent employees with disabilities as on 31-12-2022 stood at 843. The organization has more than 1800 female employees.

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. Further details about human resources is already provided in the section Human Resource in this report.

Distribution of different categories of employees





Performance and career development

Succession planning and revamp of Performance Management System have been focus areas for your company. Special programs in collaboration with leading management institutes are being implemented for developing leadership at all levels. Focused training programs to develop technical and behavioral skills in sync with the organization needs/ ethos have been designed and implemented. These interventions in Performance and Career Development have helped in improved Employee Engagement.

PCMM Level 3

Concerted efforts in the past year resulted in certification of BHEL operations at Maturity Level 3 in the People Capability Maturity Model

(PCMM) from Maturity level 2 earlier.

Employee Satisfaction and Engagement Survey 2021-22

An Employee Satisfaction and Engagement Survey at an organization level is conducted every alternate year. The drivers of Engagement and Satisfaction are dependent on parameters like Learning & Development, Communication, Career & Performance Management, Rewards & Recognition and Health, Safety, Environment, Compensation and Physical Work Environment. The Employee Satisfaction & Engagement index ESEI for 2021-22 stands at 7.88 (on a scale of ten).

The details of performance and career development reviews of employees and worker is given in the table below.

| Category | FY 2021-22 | | | FY 2020-21 | | |
|------------------|--------------|--------------|------------|--------------|--------------|------------|
| | Total (A) | No. (B) | % (B/A) | Total (C) | No. (D) | % (D/C) |
| Employees | | | | | | |
| Male | 28925 | 28925 | 100 | 30238 | 30238 | 100 |
| Female | 1833 | 1833 | 100 | 1893 | 1893 | 100 |
| Total | 30758 | 30758 | 100 | 32131 | 32131 | 100 |
| Workers | | | | | | |
| Male | 15305 | 15305 | 100 | 15969 | 15969 | 100 |
| Female | 415 | 415 | 100 | 445 | 445 | 100 |
| Total | 15720 | 15720 | 100 | 16414 | 16414 | 100 |

Labour / Management relations

'All round Development through Participation of All', ensured by way of BHEL's policy of open and continuous communication with all sections of employees, has been the driving mantra of our Industrial Relations journey. The impetus given to participatory culture by the Management in close collaboration with various employee groups has been instrumental in maintaining and building up a congenial harmonious Industrial Relations climate in the organization. Industrial Relations in various manufacturing units, divisions and offices of the Company remained harmonious and peaceful during FY 2021-22. 'NIL' man

days were lost during the year on account of strike against Company policies, which bears testimony to the concerted efforts undertaken by the Management as well as the employee groups to work jointly towards the organisation's goals. One meeting of the apex level bipartite forum, was held during the year. 37 meetings of Plant Councils and 220 meetings of Shop Councils were held at various manufacturing units. In addition, meetings were also held with the representatives of executives and supervisors on business prospects & challenges, company level issues, etc. The focus of discussions in the various bipartite forums centred on improvement in the overall performance of the Company by way of increase in productivity,



improvement in quality, safety and delivery in order to meet customer commitments and adopting various cost reduction measures for betterment of the financial health of the Company, eventually benefitting different

stakeholders including employees.

Details about membership of employees and worker in association(s) or Unions recognised by the company is given in the table below.

| Category | FY 2021-22 | | | FY 2020-21 | | |
|----------------------------------|--|--|---------|---|--|---------|
| | Total employees / workers in respective category (A) | No. of employees / workers in respective category, who are part of association(s) Or Union (B) | % (B/A) | Total employees/ workers in respective category (C) | No. of employees / workers in respective category, who are part of association(s) or Union (D) | % (D/C) |
| Total Permanent Employees | 30758 | 30758 | 100 | 32131 | 32131 | 100 |
| - Male | 28925 | 28925 | 100 | 30238 | 30238 | 100 |
| - Female | 1833 | 1833 | 100 | 1893 | 1893 | 100 |
| Total Permanent Workers | 15720 | 15720 | 100 | 16414 | 16414 | 100 |
| - Male | 15305 | 15305 | 100 | 15969 | 15969 | 100 |
| - Female | 415 | 415 | 100 | 445 | 445 | 100 |

Occupational Health & Safety

BHEL focusses on developing sustainable practices for ensuring the safety & health of its workforce as well as protecting the planet from various environmental impacts of its operations. We believe that good health, safety and environmental performance will result in long-term benefits, in terms of enhanced customer loyalty, valuable partnerships & collaborations and sustainable development. BHEL, in its pursuit of achieving the highest levels of Occupational Health & Safety and has its manufacturing units and Power Sector regions certified under Occupational Health and Safety Certification (ISO 45001:2018). To enhance regular compliance, internal audits of manufacturing units and project sites are also carried out by a team of HSE experts within the organisation.

BHEL conducted HSE Trainings / Expert Talks / Webinars on regular basis for their employees and sub-contractors' employees. In addition to the structured trainings, BHEL spread awareness among their employees and society on large scale during HSE campaigns i.e. Environment

Awareness Month (5th June – 30th June, 2021), Swachhta Pakhwada (16th – 31st August 2021), National Safety Fortnight (4th – 18th March 2022) etc.

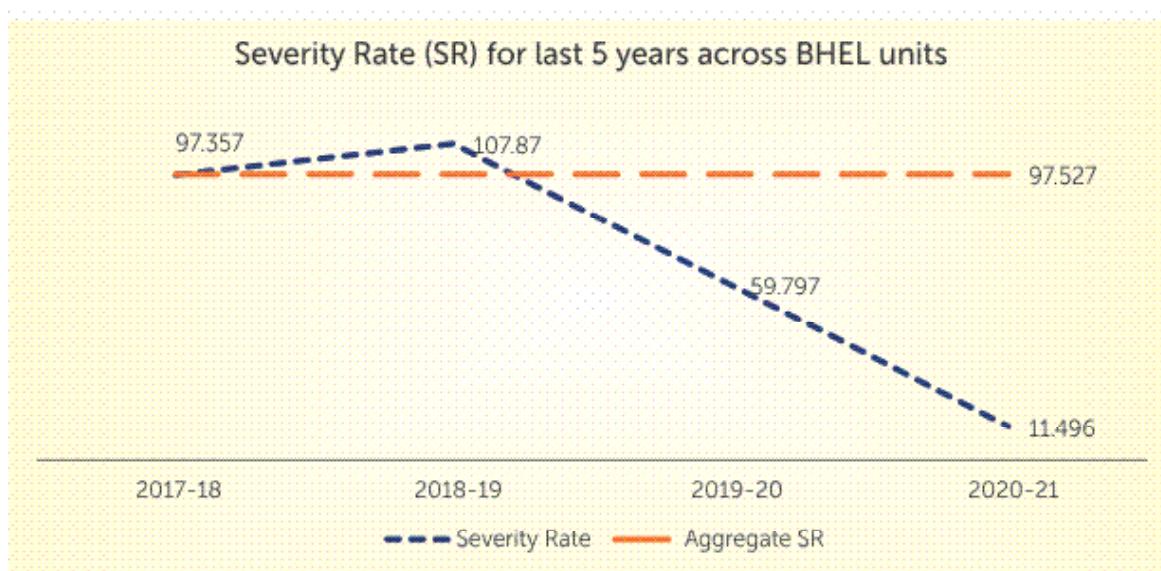
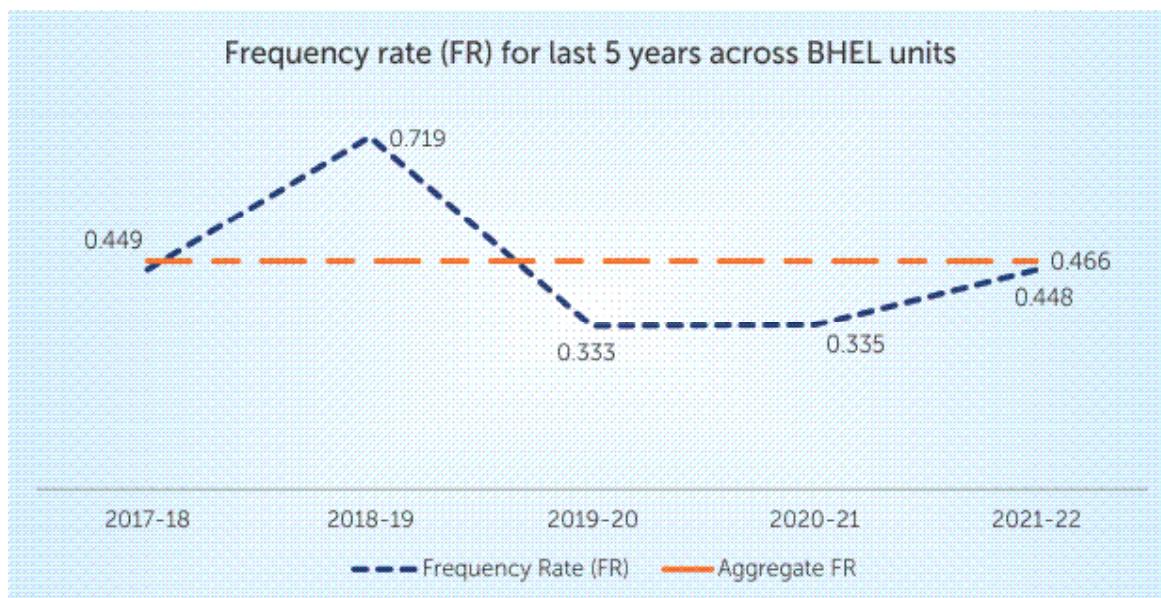
BHEL's effort in increasing its safety performance and environmental enrichment has been well appreciated and BHEL has received many awards as a recognition of these efforts. The awards received during the year include:

- Golden Peacock Environment Management Award (GPEMA) - 2021 in Power Equipment Sector for exemplary contribution to environment management by Institution of Directors.
- Apex India "Gold Award" 2021 under Occupational Health & Safety in Engineering Sector for exemplary contribution in OHS at BHEL.
- BHEL's 3 Manufacturing Units won 8 National Safety Awards announced by DGFASLI (Ministry of Labour & Employment, GOI) for Performance year 2018



Safety statistics for the last 5 years for our units is shown in the table below.

| Safety Statistics for BHEL Units | | | | | |
|----------------------------------|----------------------------|---------------------|--------------------------------|----------------|---------------|
| Year | Total Reportable accidents | Total Man-days Lost | Man Hours worked (in Millions) | Frequency Rate | Severity Rate |
| 2017-18 | 61 | 13238 | 135973531 | 0.449 | 97.357 |
| 2018-19 | 96 | 14394 | 133438268 | 0.719 | 107.87 |
| 2019-20 | 41 | 7360 | 123083912 | 0.333 | 59.797 |
| 2020-21 | 34 | 1166 | 101428533 | 0.335 | 11.496 |
| 2021-22 | 46 | 22028 | 102690618 | 0.448 | 214.508 |



The value of Frequency Rate consolidated over the last 5 financial years stood at 0.466 and the severity rate for the corresponding period stood

at 97.527. This value is arrived at by aggregating the statistics for last 5 years.



Learning and Development

Learning & Development is extremely important to prepare a future ready workforce, especially considering company's focus on diversified businesses. Towards this endeavour, Corporate Learning and Development (CLD) division worked on three focus areas: a) Technical and Functional Training b) e-Learning through UNNAYAN portal c) Managerial and Behavioural Training. On the one hand, programmes for specialized and high-end technical inputs on emerging technologies in New Growth Areas were developed, and on the other hand, training programmes to enhance skilling of artisans were introduced. 76 e-learning modules have been developed, which are widely used by all employees. Focused efforts are being made towards knowledge sharing sessions and sharing of best practices across units. In order to capture the tacit knowledge of superannuating employees, there is concerted effort to organize and facilitate sessions in their respective areas as well.

Various programs on internal capability development for technical/functional trainings have also been designed and conducted,

including a 3-month long engagement named "Faculty Development Program". A program titled "The Art & Science of Coaching" was completed, aimed at developing the Coaching acumen of employees in middle as well as senior management grades.

BHEL's 6th Learning Week was celebrated across units and regions from 5th to 11th September 2021, with theme, 'Creating a Future Ready Workforce to Achieve BHEL Vision'.

To improve communication across the company, 3C (Connect-Collaborate-Create) initiative, launched in January 2021, has continued to gain impetus. As part of the initiative, a large section of employees across BHEL shared organizational issues, concerns as well as ideas and suggestions for improvement of the company. Around 10,000 views were gathered of which 1,174 ideas have been taken up as projects for implementation. The success stories emerging out of this initiative are regularly being published in company's monthly online magazine EKAM.

Details of training given to employees and workers is given in the table below.

| Category | FY 2021-22 | | | | | FY 2020-21 | | | | |
|------------------|--------------|----------------------------------|--------------|-------------------------|--------------|--------------|----------------------------------|--------------|-------------------------|--------------|
| | Total (A) | On Health and safety measures | | On Skill upgradation | | Total (D) | On Health and safety measures | | On Skill upgradation | |
| | | Number (B) | % (B/A) | Number (C) | % (C/A) | | Number (E) | % (E/D) | Number (F) | % (F/D) |
| Employees | | | | | | | | | | |
| Male | 13620 | 2060 | 15.1% | 6884 | 50.5% | 14269 | 1517 | 10.6% | 7174 | 50.3% |
| Female | 1418 | 289 | 20.4% | 851 | 60.0% | 1448 | 237 | 16.4% | 817 | 56.4% |
| Total | 15038 | 2349 | 15.6% | 7735 | 51.4% | 15717 | 1754 | 11.2% | 7991 | 50.8% |
| Workers | | | | | | | | | | |
| Male | 15305 | 1461 | 9.5% | 3192 | 20.9% | 15969 | 602 | 3.8% | 1374 | 8.6% |
| Female | 415 | 40 | 9.6% | 133 | 32.0% | 445 | 22 | 4.9% | 86 | 19.3% |
| Total | 15720 | 1501 | 9.5% | 3325 | 21.2% | 16414 | 624 | 3.8% | 1460 | 8.9% |

Supplier assessment

BHEL has signed MoU with Transparency International India (TII) to adopt 'Integrity Pact' to make procurement and contracting more transparent by binding both the parties to ethical conduct. A panel of two Independent External Monitors (IEMs) has been appointed to oversee implementation of Integrity Pact in BHEL, with

due approval of Central Vigilance Commission. Within BHEL, accountability is well defined for various functionaries through 'Delegation of Power'. Works Policy, Purchase Policy and other policy documents facilitate transparency in BHEL's working and

commitment of highest order of integrity. In addition, Internal Audit carries out independent audit of purchase/ works contracts. Four



representations received from suppliers during 2021-22 under Integrity Pact have been resolved by the IEMs.

BHEL didn't assess its value chain partners on Human Rights criteria as these entities comes under labor related laws/ acts/ statutes and are assessed or inspected by relevant Govt department/ institution.

Protecting human rights

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 Committee (IC) has also been formed to look into cases of Sexual Harassment of female employees at workplace. 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 has been supporting Micro and Small Enterprises (MSEs) and local suppliers in and around manufacturing units on various fronts. Also, as mandated in Public Procurement Policy for Micro and Small Enterprises (MSEs) Amendment Order, 2018 for MSEs (issued by Ministry of MSME-GoI), the Percentage of input material (inputs to total inputs by value) Directly sourced from MSEs/ small producers for the year 2021-22 stood at 29%. Regular vendor meets and supplier development programs are 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.

The human rights requirement forms part of business agreement or contract. The service contracts between BHEL and service provider contains clause meeting human rights requirement like child labour, minimum wages etc.

BHEL is one of the founding members of Global Compact Network, India (GCNI) and is a part of its initiatives in India. 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 can be accessed through the

webpage:

https://www.unglobalcompact.org/admin/organizations/1300/communication_on_progresses/475985

| Total number of awareness programmes held | Topics / principles covered under the training | %age of value chain partners covered (by value of business done with such partners) under the awareness programmes |
|---|--|--|
| 22 | <ol style="list-style-type: none">1. Awareness on Public Procurement Policy for Micro & Small Enterprises (MSEs) - Order for MSEs (issued by Ministry of MSME - GoI)2. Online supplier registration portal3. Government-e-Marketplace (GeM)4. BHEL General Conditions of Contract | 40% |

No instance of Human Rights abuse was reported in the company during the reporting period.

Details of awareness programmes conducted for value chain partners during the financial year is given in the table.

Grievance Mechanism

The Company has a Stakeholder Relationship Committee (SRC) specifically to look into matters related to redressal of shareholders and investors complaints. To address the grievances of vendors a centralized Vendor Grievance Redressal System (SUVIDHA), where vendors can lodge as well as view and track the status of grievance(s) lodged, was developed and launched during Vigilance Awareness Week - 2020 (VAW). As a part of awareness series, 09 nos. animated clips (VAW Theme, policy matters,



lodging of complaints, CDA Rules, password protection, Whistle Blower Policy, Medical Dependency etc.) were developed in-house and released during the VAW. These clips were shared with employees and were also uploaded on the BHEL's website / social media platforms.

There is well laid out grievance redressal mechanism through two schemes – one for workers and other for staff & officers. A grievance for the purpose of the scheme means a grievance relating to any individual employee arising out of the implementation of Company policies/rules or Management Decisions. Both these schemes provide for three-tier resolution. Defined timelines are laid down for resolution of grievance at each stage. Besides, an appellate

mechanism is also provided under the scheme, in the case of grievance redressal scheme for staff & officers, which an aggrieved employee can approach in case he/she is not satisfied with the resolution of the grievance. For 'other than permanent employees/ worker' the grievances are settled on case to case basis or through the contractors as the case may be.

Community raises their grievances through Centralised Public Grievance Redress and Monitoring System (CPGRAMS)/ Public Grievance Portal which are then assigned to Public Grievance Officer in BHEL. The details of the Complaints/Grievances under the National Guidelines on Responsible Business Conduct is given in the table below.

| Stakeholder group from whom complaint is received | Grievance Redressal Mechanism in Place (Yes/ No) (If Yes, then provide web-link for grievance redress policy) | FY 2021-22 | | | FY 2020-21 | | |
|---|---|--|--|---------|--|------------------------------|---------|
| | | Number of complaints filed during the year | Number of complaints pending resolution at close of the year | Remarks | Number of complaints filed during the year | Number of complaints pending | Remarks |
| Communities | Yes https://pgportal.gov.in | 253 | 0 | - | 225 | 0 | - |
| Investors (other than shareholders) | No | 0 | 0 | - | 0 | 0 | - |
| Shareholders | Yes The contact details provided at www.bhel.com | 37 | 0 | - | 265 | 0 | - |
| Employees and workers | Yes, (Internal system) | 53 | 32 | - | 57 | 42 | - |
| Customers* | Yes, (Internal system) | 509 | 173 | - | 361 | 19 | - |
| Value Chain Partners | Yes https://suvidha.bhel.in/ | 68 | 11 | - | 63 | 11 | - |
| Other (please specify) | - | - | - | - | - | - | - |

PERFORMANCE ON SOCIETAL IMPACT





Management Approach – Contribution towards overall wellbeing of the society

BHEL has identified seven thrust areas for carrying out its CSR initiatives. These seven thrust areas are elaborated in BHEL's CSR policy. All the activities in these thrust areas are in line with activities and areas mentioned in Schedule VII of the Companies Act, 2013. Brief description of some key interventions during the year, in these thrust areas, are given below:

Clean India (स्वच्छ भारत)

- BHEL continued with its CSR program for constructing bio-digester toilets in Haridwar & Rishikesh. Twenty-three clusters of these Bio-digester toilets have been completed.
- Financial support to Sulabh International Social Service Organisation for construction, operation and maintenance of sulabh toilet complex at 12 Places in Varanasi and Chandauli, Uttar Pradesh.



Financial support for construction, operation and maintenance of sulabh toilet complex at 12 Places in Varanasi and Chandauli, Uttar Pradesh

Educated India (शिक्षित भारत)

- Financial support for distribution of "You can be Happy" series books followed by health & career counselling for KVS students in Delhi NCR through ISKCON.
- Construction of boys & girls hostel buildings at Govt. Polytechnic, Nizamabad, Telangana.



Distribution of Anti Haemophilic Factors (AHF) to poor haemophilic patients under CSR program "Heal-A-Soul-IV"- 4th program in a series after Heal -A- Soul-I, II & III.



Healthy India (स्वस्थ भारत)

- BHEL continued with its program "Heal-A-Soul" and providing Anti Haemophilic Factors (AHF) to patients with Haemophilia in various aspirational districts across India.
- Financial support to Sulabh International Social Service Organisation for construction, operation and maintenance of sulabh toilet complex at 12 Places in Varanasi and Chandauli, Uttar Pradesh.
- Financial support for procurement of medical equipment for the health clinic in village Sangail, Nuh Block, district Nuh (Aspirational District), Haryana.
- BHEL continued its Financial support to HelpAge India for providing service of 03 (three) Mobile Healthcare Units, one each at Satpura (MP), Bikaner (Rajasthan) & Noida (UP).
- Financial support to "Nav Bharat Jagriti Kendra (NBJK), Hazaribag (Jharkhand)" for free cataract surgery in Bihar and Jharkhand. A total of 89 eye screening



Free Health Camps under BHEL supported Jan Arogyam Community Healthcare program at village Sangail, District Nuh, Haryana

camps were organised covering 8230 individuals. A total of 1996 free cataract surgeries were conducted.

- Financial assistance to Impact India Foundation for providing healthcare service through "Lifeline Express – Hospital on Train" stationed at Panki Railway Station, Kanpur (UP) for treatment of major ailments such as eye care, ear care, plastic surgery, orthopedic and dental. It also covered awareness and education programme for the rural population and local medical staff. The project was extended from 5th July, 2021 till 24th July 2021 covering total of 7029 individuals from 3852 households.
- BHEL continued its financial support to NGO - "CanKids KidsCan" for providing medical assistance to 200 children aged between 0-19 and medical equipments for hospitals & palliative care centre for the children suffering from cancer across India (covering Aspirational Districts).
- Financial support for providing rainwater drainage system in Village Adsar, Tehsil Sridungargarh, Bikaner.

Inclusive India (समावेशी भारत)

- Financial support to Municipal Commissioner, Varanasi for installation of heritage street lighting system in Varanasi.



Providing Hand Sanitizers, thermal scanners & masks to Dept. of Women & Child Development of Bangalore Urban, Bangalore Rural, Chikkaballapur & Kolar Districts of Karnataka State to fight against Coronavirus (COVID -19)



- BHEL continued its financial support to the "Professional Assistance for Development Action (PRADAN)" for the project: Motivating AgRarian communities of Kandhamal for Economic Transformation (MARKET) in Aspirational district Kandhamal of Odisha .
- Financial support for procurement of medical equipment for the health clinic in village Sangail, Nuh Block, district Nuh (Aspirational District), Haryana.

Compliance

Customer value is an integral part of BHEL's culture which is also reflected in our Vision, Mission and Values statement. Company is constantly working towards creating value for customer through products and services. Every product offering of BHEL is labelled with detailed product labels/ name plates/ test certificates as per the requirement and terms of contracts with customers besides the mandatory statutory requirements. Complaints of customers are received through various channels like letters, emails, phone calls, during meetings. The complaints are subsequently escalated for resolution. All major quality issues reported are being taken up for Root Cause Analysis (RCA) and are being resolved through RCA committees. Apart from complaints, customer feedback is taken through customer satisfaction surveys, customers' meets, face-to-face interactions, video-conferencing and appreciation letters.

BHEL products are capital goods and hence have long operating life of 25 years. The products/ systems are offered to customers with manuals covering safety, operating in environmentally friendly manner etc. The same aspects are covered in training of customer personnel by BHEL. There is no case filed by any stakeholder against the company regarding unfair trade practices, irresponsible advertising and/or anti-competitive behaviour during the last five years and pending as on end of financial year i.e., 31st March, 2022. Further, there is no instance reported regarding data breach of customer

Research & Development and Technological Achievements

BHEL has been a leader in the area of R&D and innovation in the country and over 21% of the company's revenues have been achieved from in-house developed products, systems and services in FY 21-22 and 5,208 IPR's have been filed till date. The company has one of the highest R&D spends in the engineering industry with consistent expenditure of over 2.5% of its revenue over past many years. Major themes taken up under BHEL's R&D program are in sync with the national priorities and company's long term vision. With the ongoing energy transition and focus on clean energy and the country's imperative to utilize its vast reserves of coal for energy security, BHEL has taken-up clean coal technologies as a major focus area. To provide cost effective and efficient solutions for reducing emissions from thermal power plants, your company has been focusing on indigenization of various products and systems for emission control equipment. Concerted efforts in the past year resulted in-house development of cost-effective corrosion resistant polymer coating to replace imported and expensive C276, slurry recirculation pump, oxidation blower, etc., for FGD systems. The company has also completed the design of Advanced Ultra Super Critical (AUSC) technology jointly with NTPC and IGCAR having best-in-class efficiency and lowest emissions. BHEL has also indigenously developed gasification technology for high ash Indian coal and commissioned a 0.25TPD coal to methanol demonstration plant at Hyderabad. Focused efforts are now being made for indigenization of syngas to chemicals technology which will help reduce the country's import bill. Usage of coal will necessitate requirement of technologies for Carbon Capture and its utilisation as well as sequestration wherein BHEL aspires to be a leading player. In the transportation sector, BHEL is developing technology self-sufficiency and strengthening its in-house capabilities for design & manufacturing of advanced electric systems for all types of rolling stock. The company is also working with a leading



Control System Manufacturing at Switchgear Division (SCR), BHEL Bhopal for DETC (Diesel Electric Tower Car)

OEM for indigenization of Train Control & Management System (TCMS) which will enable BHEL to provide TCMS solutions including train system integration for trainsets for EMU/ MEMU & Metros, etc. In the past, your company has worked in close coordination with Indian Railways to provide customized solutions such as regenerative braking system for conventional WAG-7 locos, IGBT based propulsion system for India's first Air-conditioned local train, composite convertors, solar PV plant alongside the tracks for direct feeding to 25 KV Traction System, etc. In the defence & aerospace sector, your company is working in close coordination for a diverse range of equipment and services, which are strategic in nature, with customers such as DARE, HAL, ISRO, ADA, etc. Appreciating the change in the technological space and to address various new business areas/ opportunities, BHEL is focusing on R&D through in-house development, collaborating with academia as well as with technology support from established players through Technology Collaboration Agreements (TCA). BHEL has 13 ongoing TCAs with Indian entities and global engineering & manufacturing leaders. There is a continuous push towards fast absorption and indigenization of such technologies to meet

Indian market requirements as well as for export avenues. Further details about R&D efforts in the company, the reader may please refer to Page 154-158 of BHEL's Annual report 2021-22.

Marketing Communication

BHEL being a multi-national organisation has its office and operations spread across the globe. Any marketing communication is thoroughly reviewed for adherence to 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.



GRI CONTENT INDEX FOR 'IN ACCORDANCE' – COMPREHENSIVE

| GENERAL STANDARD DISCLOSURES | | | | |
|------------------------------|---|---|-----------|-----------------------------|
| Indicator | Description | Page No. / explanation | Omissions | External Assurance |
| STRATEGY AND ANALYSIS | | | | |
| 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 | 4-5 | | No External Assurance taken |
| G4-2 | Description of key impacts, risks, and opportunities | BHEL's Annual Report (AR) 2021-22 Page 39 | | |
| ORGANISATIONAL PROFILE | | | | |
| G4-3 | Name of the organisation | 9 | | No External Assurance taken |
| G4-4 | Primary brands, products, and services | 9 | | |
| G4-5 | Location of organisation's Headquarters | 9 | | |
| G4-6 | Number of countries where the organisation operates | 11 | | |
| G4-7 | Nature of ownership and legal form | 15 | | |
| G4-8 | Markets served | 9-10 | | |
| G4-9 | Scale of the organisation | 10 | | |
| G4-10 | Details of workforce broken down by gender, employment contract, employment type etc. | 15 & 58 | | |
| G4-11 | Percentage of total employees covered by collective bargaining agreements | 56 | | |
| G4-12 | Description of the organisation's supply chain | 15 | | |
| G4-13 | Significant changes during the reporting period regarding the organisation's size, structure, ownership, or its supply chain | None | | |



| GENERAL STANDARD DISCLOSURES | | | | |
|--|---|---|----------------|-----------------------------|
| Indicator | Description | Page No. / explanation | Omissions | External Assurance |
| G4-14 | How the precautionary approach or principle is addressed by the organisation | 16 | | |
| G4-15 | Externally developed economic, environmental and social charters, principles, or other initiatives to which the organisation subscribe or which it endorses | | | |
| 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 AR 2021-22 Page 149 | | |
| IDENTIFIED MATERIAL ASPECTS AND BOUNDARIES | | | | |
| G4-17 | Entities included in the organisation's consolidated financial statements with indication of coverage in the report | Only BHEL | | No External Assurance taken |
| G4-18 | Process for defining the report content and the Aspect Boundaries | BHEL's Sustainability Report 2018-19 Page 14 | | |
| 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 | | Not reported | |
| G4-22 | Explanation of the effect of any re-statement of information provided in the earlier Report. | | Not applicable | |
| G4-23 | Significant changes from previous reporting periods in the Scope and Aspect Boundaries | | | |



| GENERAL STANDARD DISCLOSURES | | | | |
|-------------------------------|---|--|-----------|-----------------------------|
| Indicator | Description | Page No. / explanation | Omissions | External Assurance |
| STAKEHOLDER ENGAGEMENT | | | | |
| G4-24 | List of stakeholder groups engaged by the organisation | BHEL's Sustainability Report 2018-19 Page 12-14 | | No External Assurance taken |
| 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 | 2021-22 | | |
| G4-29 | Date of most recent previous Report | 2020-21 | | |
| G4-30 | Reporting cycle | Annual | | |
| G4-31 | Contact point for questions regarding the report or its contents | ajitshar@bhel.in | | |
| G4-32 | GRI Content Index | 69-80 | | |
| 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 |
| GOVERNANCE | | | | |
| G4-34 | Governance structure of the organisation; committees responsible for decision-making on economic, environmental and social impacts | | | No External Assurance taken |
| G4-35 | Process for delegating authority for economic, environmental and social topics from the highest governance body to senior executives and other employees | | | |
| G4-36 | Executive - level positions with responsibility for economic, environmental and social topics | | | |
| G4-37 | Processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics | | | |
| G4-38 | Composition of the highest governance body and its committees | BHEL's AR 2021-22 Page 83-97 | | |
| 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 | | | |
| 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 | | | |
| G4-41 | Processes for the highest governance body to ensure conflicts of interest are avoided and managed; disclosure of conflicts of interest to stakeholders | | | |



GENERAL STANDARD DISCLOSURES

| Indicator | Description | Page No. / explanation | Omissions | External Assurance |
|-----------|--|---------------------------------|-----------|-----------------------------|
| 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 | BHEL's AR 2021-22 Page 83-97 | | No External Assurance taken |
| G4-43 | Measures taken to develop and enhance the highest governance body's collective knowledge of economic, environmental and social topics | | | |
| 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 | | | |
| 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 | | | |
| G4-46 | Highest governance body's role in reviewing the effectiveness of the organisation's risk management processes for economic, environmental and social topics | | | |
| G4-47 | Frequency of the highest governance body's review of economic, environmental and social impacts, risks, and opportunities | | | |
| G4-48 | Highest committee or position that formally reviews and approves the organisation's sustainability report and ensures that all material Aspects are covered | | | |
| G4-49 | Process for communicating critical concerns to the highest governance body | | | |
| 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 | | | |



| GENERAL STANDARD DISCLOSURES | | | | |
|------------------------------|---|---------------------------------|-----------|-----------------------------|
| Indicator | Description | Page No. / explanation | Omissions | External Assurance |
| 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 AR 2021-22 Page 83-97 | | No External Assurance taken |
| 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) | | | |
| 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) | | | |
| ETHICS AND INTEGRITY | | | | |
| G4-56 | Organisation's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics | 16-17 | | No External Assurance taken |
| G4-57 | Internal and external mechanisms for seeking advice on ethical and lawful behavior, and matters related to organisational integrity | 16-17 | | |
| G4-58 | Internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organisational integrity | | | |



| 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 | 29 | | No External Assurance taken |
| G4-EC2 | Financial implications and other risks and opportunities for the organisation's activities due to climate change | BHEL's AR 2021-22 Page 39 | | No External Assurance taken |
| G4-EC3 | Coverage of the organisation's defined benefit plan obligations | BHEL's AR 2021-22 Page 207-217 | | |
| G4-EC4 | Financial assistance received from government | 30 | | |
| MARKET PRESENCE | | | | |
| G4-EC5 | Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation | | Not applicable | No External Assurance taken |
| 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 | 65-67 | | No External Assurance taken |
| 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 | BHEL's AR 2021-22 Page 151 | | No External Assurance taken |
| CATEGORY: ENVIRONMENTAL | | | | |
| MATERIALS | | | | |
| G4-EN1 | Materials used by weight or volume | 33-35 | | No External Assurance taken |
| G4-EN2 | Percentage of materials used that are recycled input materials | | | |



| SPECIFIC STANDARD DISCLOSURES - Material Aspects | | | | |
|--|--|------------------------|---|-----------------------------|
| Indicator | Description | Page No. / explanation | Omissions | External Assurance |
| ENERGY | | | | |
| G4-EN3 | Energy consumption within the organisation | 36-38 | | No External Assurance taken |
| G4-EN4 | Energy consumption outside of the organisation | | Not reported | |
| G4-EN5 | Energy intensity | 38 | | |
| G4-EN6 | Reduction of energy consumption | | | |
| G4-EN7 | Reductions in energy requirements of products and services | 38-42 | | |
| WATER | | | | |
| G4-EN8 | Total water withdrawal by source | 43-44 | | No External Assurance taken |
| G4-EN9 | Water sources significantly affected by withdrawal of water | None | | |
| G4-EN10 | Percentage and total volume of water recycled and reused | 45-46 | | |
| BIODIVERSITY | | | | |
| G4 – DMA | Aspect specific DMA | 47 | | No External Assurance taken |
| 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 | | | |



SPECIFIC STANDARD DISCLOSURES - Material Aspects

| Indicator | Description | Page No. / explanation | Omissions | External Assurance |
|------------------|--|------------------------|-----------|-----------------------------|
| EMISSIONS | | | | |
| G4-EN15 | Direct greenhouse gas (GHG) emissions (scope 1) | 48-49 | | No External Assurance taken |
| G4-EN16 | Energy indirect greenhouse gas (GHG) emissions (scope 2) | | | |
| G4-EN17 | Other indirect greenhouse gas (GHG) emissions (scope 3) | | | |
| G4-EN18 | Greenhouse gas (GHG) emissions intensity | 50-51 | | |
| G4-EN19 | Reduction of greenhouse gas (GHG) emissions | | | |
| G4-EN20 | Emissions of ozone-depleting substances (ODS) | 50-51 | | |
| G4-EN21 | NOx, SOx, and other significant air emissions | | | |



| 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 | 46 | | No External Assurance taken |
| G4-EN23 | Total weight of waste by type and disposal method | 51-52 | | |
| G4-EN24 | Total number and volume of significant spills | None | | |
| 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 & SERVICES | | | | |
| G4-EN27 | Extent of impact mitigation of environmental impacts of products and services | 53-54 | | No External Assurance taken |
| G4-EN28 | Percentage of products sold and their packaging materials that are reclaimed by category | None | | |
| COMPLIANCE | | | | |
| G4-EN29 | Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations. | 54 | | No External Assurance taken |



| 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 | No External Assurance taken |
| OVERALL | | | | |
| G4-EN31 | Total environmental protection expenditures and investments by type | 54 | | |
| SUPPLIER ENVIRONMENTAL ASSESSMENT | | | | |
| G4-EN32 | Percentage of new suppliers that were screened using environmental criteria | | Not reported | No External Assurance taken |
| 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 | 54 | | No External Assurance taken |
| 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 | BHEL's AR 2021-22 Page 130 | Not applicable | No External Assurance taken |
| G4-LA2 | Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation | BHEL's AR 2020-21 Page 190 | | |
| G4-LA3 | Return to work and retention rates after parental leave, by gender | | | |
| LABOR/MANAGEMENT RELATIONS | | | | |
| G4-LA4 | Minimum notice periods regarding operational changes, including whether these are specified in collective agreements | | Not applicable | |



| SPECIFIC STANDARD DISCLOSURES - Material Aspects | | | | |
|---|--|------------------------|-----------|-----------------------------|
| Indicator | Description | Page No. / explanation | Omissions | External Assurance |
| OCCUPATIONAL HEALTH AND SAFETY | | | | |
| 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 | 58 | | No External Assurance taken |
| 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 | 59-60 | | |
| 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 | | | |
| TRAINING AND EDUCATION | | | | |
| G4-LA9 | Average hours of training per year per employee by gender, and by employee category | 61 | | No External Assurance taken |
| G4-LA10 | Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings | 61 | | |
| G4-LA11 | Percentage of employees receiving regular performance and career development reviews, by gender and by employee category | 58 | | |
| DIVERSITY AND EQUAL OPPORTUNITY | | | | |
| 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 | 15 | | No External Assurance taken |
| EQUAL REMUNERATION FOR WOMEN AND MEN | | | | |
| G4-LA13 | Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation | Not applicable | | No External Assurance taken |



| SPECIFIC STANDARD DISCLOSURES - Material Aspects | | | | |
|---|--|------------------------|--------------|-----------------------------|
| Indicator | Description | Page No. / explanation | Omissions | External Assurance |
| SUPPLIER ASSESSMENT FOR LABOR PRACTICES | | | | |
| G4-LA14 | Percentage of new suppliers that were screened using labor practices criteria | 61-62 | | No External Assurance taken |
| G4-LA15 | Significant actual and potential negative impacts for labor practices in the supply chain and actions taken | | Not reported | |
| LABOR PRACTICES GRIEVANCE MECHANISMS | | | | |
| G4-LA16 | Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms | 62-63 | | No External Assurance taken |
| HUMAN RIGHTS | | | | |
| LABOR PRACTICES GRIEVANCE MECHANISMS | | | | |
| G4-HR1 | Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening | 62-63 | | No External Assurance taken |
| 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 | | | |
| G4-HR3 | Total number of incidents of discrimination and corrective actions taken | | | |
| FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING | | | | |
| 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 | None | | No External Assurance taken |
| CHILD LABOUR | | | | |
| 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 | None | | No External Assurance taken |



| SPECIFIC STANDARD DISCLOSURES - Material Aspects | | | | |
|--|--|------------------------|----------------|-----------------------------|
| Indicator | Description | Page No. / explanation | Omissions | External Assurance |
| FORCED OR COMPULSORY LABOUR | | | | |
| 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 | None | | No External Assurance taken |
| SECURITY | | | | |
| G4-HR7 | Percentage of security personnel trained in the organisation's human rights policies or procedures that are relevant to operations | 56 | | No External Assurance taken |
| INDIGINEOUS RIGHTS | | | | |
| G4-HR8 | Total number of incidents of violations involving rights of indigenous peoples and actions taken | | Not applicable | No External Assurance taken |
| ASSESSMENT | | | | |
| G4-HR9 | Total number and percentage of operations that have been subject to human rights reviews or impact assessments | 56-57 | | No External Assurance taken |
| SUPPLIER HUMAN RIGHTS ASSESSMENT | | | | |
| G4-HR10 | Percentage of new suppliers that were screened using human rights criteria | | Not reported | No External Assurance taken |
| 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 | 62 | | No External Assurance taken |
| SOCIETY | | | | |
| LOCAL COMMUNITIES | | | | |
| G4-SO1 | Percentage of operations with implemented local community engagement, impact assessments, and development programs | 56-57 | | No External Assurance taken |
| G4-SO2 | Operations with significant actual and potential negative impacts on local communities | | | |



| SPECIFIC STANDARD DISCLOSURES - Material Aspects | | | | |
|--|---|-----------------------------------|----------------|-----------------------------|
| Indicator | Description | Page No. / explanation | Omissions | External Assurance |
| ANTI CORRUPTION | | | | |
| G4-SO3 | Total number and percentage of operations assessed for risks related to corruption and the significant risks identified | BHEL's AR 2021-22 Page 160-163 | | No External Assurance taken |
| G4-SO4 | Communication and training on anti-corruption policies and procedures | | | |
| G4-SO5 | Confirmed incidents of corruption and actions taken | | | |
| PUBLIC POLICY | | | | |
| G4-SO6 | Total value of political contributions by country and recipient/beneficiary | | Not applicable | |
| ANTI COMPETITIVE BEHAVIOUR | | | | |
| G4-SO7 | Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes | None | | No External Assurance taken |
| COMPLIANCE | | | | |
| G4-SO8 | Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations | None | | No External Assurance taken |
| SUPPLIER ASSESSMENT FOR IMPACTS ON SOCIETY | | | | |
| G4-SO9 | Percentage of new suppliers that were screened using criteria for impacts on society | | Not reported | No External Assurance taken |
| G4-SO10 | Significant actual and potential negative impacts on society in the supply chain and actions taken | | Not reported | |
| GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY | | | | |
| G4-SO11 | Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms | None | | No External Assurance taken |
| PRODUCT RESPONSIBILITY | | | | |
| CUSTOMER HEALTH & SAFETY | | | | |
| G4-PR1 | Percentage of significant product and service categories for which health and safety impacts are assessed for improvement | Not applicable | | No External Assurance taken |
| 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 | None | | |



| SPECIFIC STANDARD DISCLOSURES - Material Aspects | | | | |
|--|---|------------------------|----------------|-----------------------------|
| Indicator | Description | Page No. / explanation | Omissions | External Assurance |
| PRODUCT & SERVICE LABELING | | | | |
| 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 | 67 | | No External Assurance taken |
| 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 | | | |
| MARKETING COMMUNICATIONS | | | | |
| G4-PR6 | Sale of banned or disputed products | | Not applicable | No External Assurance taken |
| 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 | 68 | | |
| CUSTOMER PRIVACY | | | | |
| G4-PR8 | Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data | 68 | | No External Assurance taken |
| COMPLIANCE | | | | |
| G4-PR9 | Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services | 68 | | No External Assurance taken |



Bharat Heavy Electricals Limited

Registered Office : BHEL House, Siri Fort, New Delhi 110049, India
Corporate Identity Number : L74899DL1964GOI004281

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