CESC ESG REPORT

FY 2022-23

Striding ahead with resilience and innovation

Content

List of Tables

Overview of the Report

We at CESC Ltd. (from here on referred to as “CESC” or “we” or “us” or “our” or “The Company”), are pleased to present the third edition of our ESG report for FY 22-23. The theme of this year’s ESG report is “Striding ahead with resilience and innovation”. Our report, themed “Striding ahead with resilience and innovation” aims at communicating to all our stakeholders, the strides as a responsible corporate we have made in improving our environmental, social and governance performance against targets, the enabling strategies, and our forward-looking actions.

Reporting Criteria and Principles

Our ESG reports is prepared “in reference” with the Global Reporting Initiative (‘GRI’) Standards. We have applied the following aspects to determine relevant topics that define the report content and ensure quality of information:

a. GRI guiding principles for defining the content: Materiality, Stakeholder Engagement, Sustainability Context and Completeness

b. GRI guiding principles for defining the quality: Balance, Clarity, Accuracy, Timeliness, Comparability and Reliability.

Scope and Boundary of the Report

This report is prepared on consolidated basis including standalone entity CESC and subsidiaries including

- Malegaon Power Supply Limited (hereafter mentioned as ‘MPSL’)
- Noida Power Company Limited (hereafter mentioned as ‘NPCL’)
- CESC Rajasthan (includes Bharatpur Electricity Services Limited, Bikaner Electricity Supply Limited and Kota Electricity Distribution Limited).
- Dhariwal Infrastructure Limited (hereafter mentioned as ‘DIL’)
- Haldia Energy Limited (hereafter referred to as ‘ HEL’) and
- Crescent Power Limited (hereafter referred to as ‘CPL’)

Feedback and Suggestions

As a responsible business organization, we aim towards the disclosure of the most accurate information and data pertinent to all our stakeholder groups. We encourage you to share your feedback and insights on the report to the contact point mentioned below. This shall help us in further strengthening our reporting initiatives.

Contact Point for clarification and additional information

Mr. Jagdish Patra
Company Secretary & Compliance officer CESC Limited

Email: jagdish.patra@rpsg.in

Tel: 033-24870366

Message from the Chairman

"By prioritizing sustainable practices and community empowerment, we not only contribute to a more equitable and liveable world, but also build trust, loyalty, and goodwill among all stakeholder"

Dear Stakeholders,

I am delighted to present CESC's ESG Report for FY 22-23, as your Company continues to flourish as a leader in the Indian power sector. We continue to produce and distribute reliable and environment-friendly power in a responsible manner. This report aims to communicate our sustainability performance for the FY 2022-23 and throw light on our future action plans.

The Indian economy will be the world's fastest growing major economy in 2023, which will lead to an increase in demand for power. Owing to our strong positioning, we are well equipped to meet this rising demand. Post pandemic, our system demand grew by 8.7% during the year to 11,175 million units (MU). This meant that the electricity demand in FY 2022-23 surpassed the pre-Covid level of 11,024 MU in FY 2019-20.

Embracing sustainability is essential in our pursuit of responsible business operations, as it enables us to reduce our ecological footprint and combat climate change. We have invested in setting up battery energy storage system to meet peak load requirements and ensure our network's adaptability to renewable energy integration. Moreover, our years of commitment towards spreading our green belt area by planting over 3 lakh trees have ensured a cleaner atmosphere around us and have helped conserve habitats of various species.

A recent study in collaboration with a renowned institute has established that our plantations have resulted in successfully offsetting 1,95,638 MT of carbon dioxide since 2013.

For the fourth year in a row, we are proud to have been recognized as one of the great places to work by Great Place to Work (GPTW). Aspiring to be a equal opportunity employer, we aim to increase our female diversity to 12% in our workforce by 2030. During the reporting period, we have made progress in increasing our female diversity from 7.20% to 7.78% and remain resolved towards our commitment.

As a socially responsible corporate entity, we also acknowledge the integral role communities play in our achievements. Our projects focussed on education, environment, health, skill building and employment generation, have impacted the lives of nearly 22,000 people. I proudly share with you that during FY 22-23, in recognition for our corporate stewardship, we won the coveted Golden Peacock Award 2022 for CSR initiatives, the Apex India CSR Excellence Award in the Gold category and received special jury recognition at the ICC Social Impact Awards 2022.

We leverage technological drivers through digitalization and automation in the form of Artificial Intelligence (AI) and Internet of Things (IOT) within our operations, which aids our safety initiatives, reduces environmental impacts, and enables us to provide the best services to our customers. One such example being "Aastha", a humanoid multilingual Voicebot, which enables timely addressal of customer queries and further enhancing the quality of customer experience and service delivery.

I express my gratitude to our stakeholders for their support of our endeavour to take your Company to a sustainable future and greater financial prosperity.

-Yours sincerely,
Dr. Sanjiv Goenka
Chairman

Message from the
Managing Director (Distribution)

"Our offices, administrative buildings and substations strive to operate on green building principles to supplement the decarbonization process through energy efficiency measures. During the reporting period, we are proud to declare the addition of 4 new green buildings to our portfolio of 8 green buildings"

Dear Stakeholders,

We are excited to present our third ESG report, titled "Advancing with Resilience and Innovation". The report is a clear reflection of our journey in achieving our objectives of delivering safe, reliable, cost-effective and uninterrupted power to our Customers. Our 4-D approach of Digitalization, Decarbonization, Decentralization & Disaster Management have proved to be highly effective in enabling us to fulfil our customer requirements and achieving low carbon transformation in alignment with the nation's objective of Net Zero.

Digitalization

Through innovative digitalization efforts, we've successfully bolstered our operational efficiency while maximizing customer satisfaction.

We have developed several digital platforms to enhance the ease of access amongst Customers such as new connection, name change, bill payments, AC applications and voluntary disconnection requests. Our Artificial Intelligence (AI) powered Chatbot, Whatsapp bot and multilingual humanoid voice bot "Aastha" have been playing a pivotal role in addressing customer queries and further enhancing the quality of customer experience and service delivery.

We have developed robust AI/ML technology-based applications, which have been instrumental in predicting HT cable faults, address low voltage complaints, conduct health indexing of transformers, and perform sentiment analysis on social media platforms. and perform sentiment analysis on social media platforms. Additionally, we have leveraged Robotic Process Automation (RPA) technology to automate manual and rule-based routine tasks in New Connection application processing, thus freeing up valuable resources and enhancing Customer Experience (CX).

Our "Intelligent Outage Management System" have continued to deliver success in reducing downtime. By adopting various advanced and disruptive Industry 4.0 technologies, particularly sensor-based Internet of Things (IoT) technologies, we have transformed our operational maintenance from a preventive approach to a predictive one.. A self-healing network is in place to automatically address issues ,restore functionality and reduce downtime significantly. Moreover, we have implemented smart pillar boxes, drone-based surveillance and thermal imaging for health monitoring of our electrical infrastructure.

CESC has received the first patent in the distribution domain, for Industrial Internet of Things (IIoT) and Analytics-based transformer health monitoring platform for Predictive Maintenance, which is a transformational step towards sustainable approach for further enhancing Operational Efficiency.

Decarbonization

Through the successful adoption and implementation of the decarbonization strategy, we have made significant strides towards containing our emissions over the years. We have adopted various energy efficient technologies and upgraded the existing infrastructure during the financial year to reduce its energy intensity. Our offices, administrative buildings and substations strive to operate on green building principles to supplement the decarbonization process through energy efficiency measures. During the reporting period, we are proud to declare the addition of 4 new green buildings to our portfolio of 8 green buildings. In line with the Sustainability principles of 3R's, we have implemented various sustainable measures such as reclamation of mineral transformer oil, refurbishment of old transformers, and retrofitting of obsolete circuit breakers and are actively contributing to biodiversity conservation through plantation of medicinal plants at substations.

We are also electrifying the entire value chain to facilitate low-carbon transformation. In this endeavour, we have continued to promote adoption of environmentally friendly technologies and devices, such as electric vehicles and e-cooking, among the public, including our Customers. Additionally, to foster an Electric Vehicle (EV) ecosystem, CESC actively supports the development of EV charging stations and has partnered with various government entities to ensure development of sustainable transportation infrastructure for electric buses, metro railways etc. across the city.

Reduction of distribution losses is one of the key levers for our efforts towards climate change mitigation. CESC has achieved one of the lowest distribution losses across the country by adopting cutting-edge innovative technologies and transforming from a conventional human-intensive approach to a sustainable strategy, creating a pilfer-proof network with theft proof pillar boxes, co-axial cables and smart meter based automated remote surveillance cum theft prevention system.

Decentralization

For securing equitable energy and sustaining distribution of electricity even during possible disruptions, we have set our focus on cleaner alternative energy sources like solar to meet the demand side.

Till date, we have provided requisite electrical infrastructure for our customers to install rooftop solar with a combined capacity of 42 MW and have commissioned a portfolio of 228 KW solar rooftop installation across our power value chain.

CESC has installed a 315 kWh Battery Energy Storage System (BESS) in FY 20-21 on a pilot project basis for addressing frequency regulation, peak power shaving, supply voltage improvement and energy arbitrage that is charging during lean low-cost periods and discharging at peak high cost period. Additionally, during the reporting period, we have installed microgrid with floating solar plant of 100KW capacity with 218 kWh Battery Energy Storage System (BESS) at Chakmir substation to enable decentralized and sustainable power sourcing and help in crisis management.

Disaster Management

Our robust disaster management system has helped us to stand firmly and enabled our operations build resilience during testing times. Our disaster management plan follows an effective three tier mechanism comprising of communication and coordination, enhancing redundancy and augmenting resources to ensure adequate preparation.

Moreover, we have created a holistic and positive work environment for our employees. Alongside which, we have always prioritized on supplying quality and reliable power to all our consumers and contributing to our communities by recognizing them as an integral part of our ecosystem.

We are on the journey to effectively contribute in creating a positive societal impact by reinforcing our commitment towards realization of sustainability as one of our core values, in our service towards planet and its people.

We would like to take this opportunity to express my deepest gratitude to all our stakeholders for their continuous trust and belief in us.

Mr. Debasish Banerjee
Managing Director (Distribution)

Message from the
Managing Director (Generation)

"All our generating stations have implemented various process optimization measures, utilizing data analytics, Artificial Intelligence (AI), Machine Learning (ML), robotics, Virtual Reality (VR) and IoT-based technologies in all critical areas of our business including operations, maintenance, safety, and asset management"

Dear Stakeholders,

It gives me immense pleasure to share our annual ESG report for FY 22-23 with you, which outlines our environmental, social and governance performance during the reporting period. The report throws light into the future direction of our generation facilities.

CESC and all its subsidiaries are aligned with India's commitment to reach net zero emissions by 2070. Accordingly, we have taken big strides towards achieving a sustainable future through innovations in technology and integration of renewable energy. In the process of creating a resilient renewable energy system, we have been able to constantly upscale our energy transformations through digitalization and process optimization.

With the ongoing focus on renewables, we have also started identifying alternative energy sources. We have started exploring the possibility of use of biomass as a fuel blended with coal to reduce the dependency on fossil fuels. Along with our efforts in sourcing renewable raw materials, our plantations at BBGS and HEL plays a pivotal role in reducing amount of atmospheric carbon dioxide. As a way forward, we plant to develop urban forests ate all our power stations using Miawaki technique. In line with our last year's commitment, we are also striding ahead in greening our vehicle fleet and aligning our plant administrative structures with the guidelines laid down in the USGBC and IGBC code.

All our generating stations have implemented various process optimization measures, utilizing data analytics, Artificial Intelligence (AI), Machine Learning (ML), robotics, Virtual Reality (VR) and IoT-based technologies in all critical areas of our business including operations, maintenance, safety, and asset management. Our Asset Maintenance and Reliability Management system captures and analyzes substantial data using cloud computing and big data analytics to optimize process parameters. Our technology investments and operational far sight have enabled us to enhance operational efficiency. To take care of digital and cyber security threats, all generating stations are certified to ISO 27001 standards for Information Security Management Systems.

Going beyond statutory regulations, we had set environmental targets for 2030 in the last financial year. During the reporting period we have made considerable progress around our set targets on attaining zero liquid discharge, reducing specific water consumption, and reducing air emissions much below the permissible limits. For reduction of NO_x emission, installation of $DeNO_x$ equipment is underway at the Haldia and Dhariwal plants. We are proud to declare that again during FY 22-23, all our generating stations have successfully fulfilled the promise of 100% ash utilization. Additionally, we also continuously foster innovation and as a part of that effort, we have received a patent from Government of India, for introducing a novel technology where bottom ash from the thermal power plant has been used to partially replace river sand in concrete manufacturing. The Public Works Department of Government of Maharashtra has completed construction of 500 metres of road using bottom ash from our Dhariwal power plant.

Our commitment towards "zero incidents" at workplace is reflected in our continued efforts in improvising all our systems and processes from a safety perspective. These measures have resulted in CESC being recognized as "One of the Greatest Places to Work" yet again in FY 22-23.

I once again take this opportunity to thank all our stakeholders for their unwavering trust and support. With your cooperation and our commitments, we can certainly achieve our combined goal of making a sustainable future for the next generations.

Mr. Rabi Chowdhury
Managing Director (Generation)

Message from

Executive Director Human Resource and Admin

"CESC has been recognized as a Great Place to Work and one of India's top 100 Best Companies to Work for by the renowned Great Place to Work® Institute (GPTW) for four times in a row."

Dear Stakeholders,

'People' is not just a word for us. At CESC, we truly believe that our accomplishments have been possible owing to our people, and it is our motivated workforce that has always made the difference. It is the dedication and hard work of our employees that has been leading us in our journey towards powering a sustainable future.

CESC is committed to sustainable growth and responsible corporate practices that have a positive impact on the environment and society. CESC has been recognized as a Great Place to Work and one of India's top 100 Best Companies to Work for by the renowned Great Place to Work® Institute (GPTW) for four times in a row. This prestigious recognition is testimony to the commitment and dedication of our people towards the company. CESC has also received 'Prize for Leadership in HR Excellence' in the coveted CII National HR Excellence Awards 2022 – 23, along with 'Prize for Sustained Excellence in HR', for being awarded the Prize for Leadership in HR Excellence three times in a row.

We believe in retaining our talent by providing unique and fulfilling career opportunities. At CESC, we provide multiple avenues for growth and development of our employees to realize their potential and contribute to business continuity. People are encouraged to overcome challenges and recognized for their contributions as individuals as well as teams. There are cross-functional teams comprising young officers that promote various people-centric initiatives as well as to provide innovative solutions to business challenges. As part of our Talent Development process, we constitute Young Executive Board (YEB), drawn from a pool of high performing and high potential young officers, which gives them an opportunity to participate in strategic decision-making process through projects that have cross-functional perspectives and business impact.

'Unmesh – Catch them Young' is the flagship summer internship programme for pre-final year students of reputed engineering institutes; based on their performance during the internship, they are extended preplacement offers to join CESC on completion of their graduation. We have structured induction programmes – namely, 'Anneswan' and 'Unmilon' – in place that make the onboarding process of a new recruit smooth and memorable. The Induction Programmes provide the right platform to familiarise the new entrants with the culture and values of our organization.

CESC believes in inclusive and collaborative approach and our employee engagement practices provide opportunities for our people by creating an equitable and inclusive environment as well as encouraging a culture of mutual support, making not just our employees, but also their families, an integral part of the CESC community through initiatives like 'Ankur Samman' (felicitation programme for academically meritorious children of employees), 'Avishkar' (talent hunt competition involving employees and their family members), etc. The open-door policy followed by the leaders of the organization, regular town hall meetings, divisional and unit level communication meetings have been key enablers in making CESC an inclusive workplace where employees can freely interact with the leadership team, express their thoughts and come up with new solutions. Caring for our employees continues even after superannuation, through a special initiative named 'Care'.

CESC is committed to high ethical standards and compliance across the organization. Ensuring safety at our workplace is of utmost priority. Our Safety Vision, Safety Principle, Safety Policy, and Safety Pledge articulate our resolve in this direction. Through the implementation of safe work procedure, promotion of a robust safety culture, and monitoring and controlling unsafe work conditions, we show our commitment towards achieving zero incidents at our workplace. As part of our environment conservation practices, we have waste recycling practices, rain water harvesting facilities in various office establishments and are converting our existing buildings into energy efficient 'green buildings' accredited by leading certification bodies.

We also focus on promoting greater adoption of digitisation and technology to improve our operations and services, based on which our capability building initiatives have been designed through various workshops, seminars, e-learning and hands-on-training. Our people development initiatives focus on value-added learning for which we collaborate with leading academia, professional bodies and experts from the industry. CESC believes in maintaining industrial harmony and continuous improvement in people productivity by retraining and upskilling. We have an Apex Panel of Mentors and Innovation Council comprising of senior leaders which fosters a culture of innovation across the organization. We organize Knowledge Carnival every year which provides an ideal platform for the showcasing of innovative practices adopted in pursuit of excellence.

CESC values diversity in workforce and the employee benefits are tailored to meet the needs of a diverse workforce, which in turn, enable us to generate long-term value for our stakeholders. CESC gives emphasis on empowering women in the community by providing suitable opportunities for skill building through women-centric CSR activities. Our initiatives aim at aiding social awareness and improvement across areas like health and sanitisation, energy efficiency, education, environment and community development.

In this report, you will find details about our endeavour towards sustainable development which is a primary focus in our future journey.

Gautam Ray

Executive Director – HR & Admin

Company Overview

Company Overview

Our Vision

We will be a profitable consumer-oriented power utility consistent with global standards meeting the expectations of consumers, employees and other stake holders

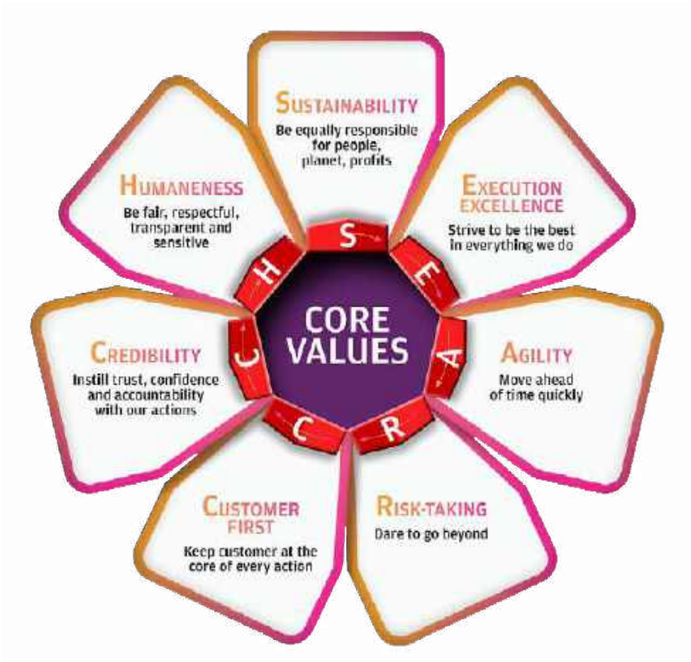
Our Mission

We will meet consumer's expectations continuously by providing safe, reliable and economic electricity through optimization of available resources.

We are India's first integrated electrical utility company, headquartered at Kolkata, West Bengal having a presence in power generation and distribution business. On the back of a legacy spanning for more than a century, we prioritize supply of safe, cost-efficient, low carbon and reliable power to residential, commercial, and industrial customers.

CESC is the sole distributor of electricity within an area of 567 sq. km. of Kolkata & Howrah and serves 3.5 million consumers which includes domestic, industrial, and commercial users. CESC's subsidiary Noida Power Company Ltd, distributes power in Greater Noida, Uttar Pradesh with a license area of 335 sq. km. CESC also operates three Distribution Franchisee (DF) in Rajasthan at Kota, Bharatpur, and Bikaner. It also won the Distribution Franchisee of Malegaon circle, close to Nashik in Maharashtra, which commenced operations in 2019-20.

Our 2,380 MW generating stations and a value chain comprising of 9,612 dedicated employees plays a pivotal role in ensuring supply of reliable power across geographies such as West Bengal, Maharashtra, Tamil Nadu, and Rajasthan.



Our Profile at a Glance on Consolidated Basis

124 Years of legacy

5 States powered

4.1 Million consumers

290 Substations

1,335 sq.km. Licensed operational area

1 Coal Mine

6 Generating Stations

2,380 MW Total Generation Capacity

9,612 Employee strength

Management Systems

Management Systems are systematic frameworks designed to manage an organization's policies, procedures and processes, while promoting continual improvement within. The list of our management systems includes ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, ISO 50001:2015 and ISO 27001:2013.

	ISO 9001:2015 (Quality Management Systems)	ISO 14001:2015 (Environment Management Systems)	ISO 45001:2018 (Occupational Health and Safety Management Systems)	ISO50001:2015 (Energy Management Systems)	ISO27001:2013 (Information Security Management Systems)
CESC	✓	✓	✓	✓	✓
NPCL	✓	in process	✓	✓	✓
CESC Rajasthan	-	-	-	-	-
CPL	✓	✓	✓	✓	-
MPSL	-	-	-	-	-
HEL	✓	✓	✓	✓	✓
DIL	✓	✓	✓	✓	✓

Memberships and Associations

As an active member of various industry associations and platforms, we engage with professional bodies and organizations to share our perspectives and keep ourselves in line with the latest industry trends. Our participation on these forums, help us implement sectoral best practices and strengthen our alignment with applicable standards. We are a part of the following industry associations.

- Confederation of Indian Industries (CII)
- The Associated Chambers of Commerce & Industry of India (ASSOCHAM)
- The Committee of International Council on Large Electric Systems India (CIGRE)
- India Smart Grid Forum (ISGF)
- National Safety Council (NSC)
- Central Board of Irigation & Power (CBIP)
- All india Management Association (AIMA)
- National HRD Network (NHRDN)
- Employers' Federation of India (EFI)
- Administrative Staff College of India (ASCI)
- Quality Circle Forum of India (QCF)
- Council of Power Utility Bureau of Indian Standards (BIS)
- Institute of Electrical and Electronics Engineers (IEEE)
- Calcutta Management Association (CMA)
- British Council Limited (BCL) State Productivity Council
- State Productivity Council

Awards and Recognitions

The success of CESC is shaped by the achievements of our employees. Rewards and recognition are an expression to honour and acknowledge our outstanding performance and commitment to excellence. The major awards and recognitions received by CESC and its subsidiaries during the reporting period are listed below:

CESC

- Won the 'Prize for Leadership in HR Excellence', for exceeding the highest band of score barrier of '600+' in the coveted 13th CII National HR Excellence Awards 2022 - 23
- Received the 'Prize for Sustained Excellence in HR', which was instituted this year by CII, for scoring in the highest bracket for consecutive HR Excellence Awards held in physical formats in 2018, 2019 and 2022

CPL

- Prestigious Indian Social Impact award 2023 for CSR activities on Women Empowerment
- Prestigious Apex India Green Leaf Award (Platinum) 2022 for Environment Excellence
- Recognized as among India's 100 Best Companies to Work For and among India's Best Workplaces in Energy, Oil & Gas
- ICC Environment Excellence Award 2022 - Special Jury Recognition Award, CII ENCON Award - prestigious 4.25 star rated certificate
- ICC National Occupational Health & Safety Awards - Gold Award Winner in the year 2022
- ISGF Innovation Awards 2023 Order of Merit for Adoption of Disruptive Technology for the Multi-Lingual Intelligent Digital Voice Assistant Enhancing Consumer Interaction and Experience in 2023

Apex India Excellence Award

HEL and DIL

- Winner of 9th Annual Greentech CSR Award 2022
- Platinum Award winner of Apex India CSR Excellence Award 2020

NPCL

Received Gold award for maintaining the networks through drone inspection from QCFI.

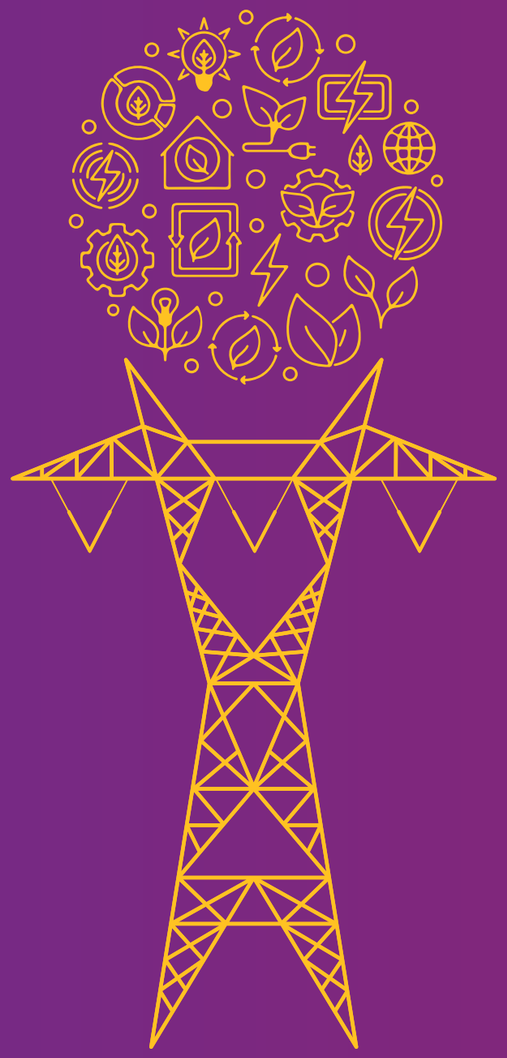
- Received award from QCFI for the following categories:
  - 3M-Lean system/Waste Reduction
  - SHE & Quality Circle Activities
  - DMAIC
- Received 2 platinum awards by ISGF for the following categories:
  - Disruptive Technology-implemented Low-cost LT Feeder Pillar Outage Monitoring System
  - Smart Technology- AI-learning based theft detection and land base digitization system using drone orthomosaic imagery
- Received 21 awards from CII for the following categories:
  - 3M-Lean system/Waste Reduction
  - Breakthrough & Renovative
  - SHE & Quality Circle Activities
  - Efficient Operations
  - NextGen Tech
  - Technology Competition
- Received award from UPNEDA for Energy Conservation & Management
- Received award from ICC for Efficient Operations
- Received award from ICT for NextGen Tech

Other awards:

- Received Efficient Operations Award by ICC at the 10th Innovation with Impact Awards for DISCOM'2022.
- NPCL ranked 1st in the U.P. New and Renewable Energy Development Agency (UPNEDA) Awards in the Energy Conservation and Management category.
- Received the NextGen Tech Award, in the Digital Warriors-Utilities by DataQuest ICT.

Our ESG Priorities

We firmly believe that our ability to stride ahead must be demonstrated through resilience in our business model and willingness to innovate and create long term sustainable value. We understand and embrace our stakeholders' interests in driving long term value creation and encourage collaborative efforts in contributing to the achievement of the United Nations Sustainable Development Goals (SDGs).



Stakeholder Engagement

We strengthen our relationships with stakeholders through transparent and open dialogues with them and consider their viewpoints while developing our policies and strategies. Listening to them provides us with an opportunity to co-create long term solutions for mitigating environmental, social and governance risks.

Our engagement approach takes into consideration the dependency, immediacy, responsibility, vulnerability, and influence while identifying our key stakeholder groups. Some of our key stakeholder groups include our investors, lenders, regulatory bodies, consumers, employees, trade unions, suppliers, local community, Non-Government Organizations (NGOs) and media.

Stakeholder Group	How We Engage	Key Expectations
Investors	• Annual general meeting • Grievances through Registrar and share transfer agent • Call for quarterly results • Regular interaction with institutional investors • Periodic press release	• Improved profitability and earnings per share • Dividend payout • Transparent disclosure • Improvements in ESG disclosure
Lenders	• Periodic meetings	• Maintaining healthy working capital • Liquid fund position
Regulatory bodies	• Periodic public advocacy • Regular liasioning	• Ensuring environmental, social, and economic compliance
Consumers	• Regular on-call surveys for distribution service • Regular online digital survey • Annual perception survey • Regular customer awareness • Ongoing complaint redressal system	• Agile fault management • Accurate and transparent billing • Affordable solutions
Employees	• Coffee with MD • Annual employee opinion surveys • Employee grievance redressal mechanism • Regular interactions for celebrating days of individual, organizational, national, and international significance • Town halls and departmental communication meetings	• Learning and development • Career growth opportunities • Rewards and recognition • Facilities and well-being • Health and safety at workplace • Respecting human rights • Post retiral wellbeing
Trade unions	• Regular departmental meeting • Apex forum for employee wellness	• Health and safety at workplace • Respecting human rights
Suppliers	• Vendors meet • Regular vendor audit • Periodic vendor interactions for sampling and grievance redressal	• Payment cycle • Business opportunities • Capacity building of suppliers on improvements in environmental and social performance
NGOs/Community	• Regular community meetings • Annual beneficiary perception survey	• Access to clean drinking water, sanitation, and hygiene • Opportunities for education • Improvement in maternal and newborn child health and nutrition • Improvement in healthcare infrastructure • Creating a clean environment
Media	• Ongoing one on one interactions • Periodic press release and press conference	• Transparent and accurate disclosure • Brand reputation

These interactions with our stakeholders lay down the foundations of our exhaustive materiality assessment and stakeholder inclusive sustainability strategy. The details of our materiality assessment exercise are provided in the next section.

Materiality Assessment

Material topics are key risks and opportunities that could have a direct or indirect impact on organization's ability to create, preserve or erode economic, environmental, and social value for itself and its stakeholders. Materiality assessment is the process of identifying, evaluating, and prioritizing the most relevant topics for defining the integrated framework of long term stakeholder capitalism. In FY 21-22, CESC had employed a three-step process for determining the topics. These are as follows:

Identification

Identification of material topics through analysis of peers, global & national standards for sector specific material topics

Stakeholder Consultations

Consultation with key internal and external stakeholders to record their response on impact and influence of each material topic.

Prioritization

Review and validation of responses with senior management and topics were prioritized considering company's business strategy and sustainability objectives.

During the reporting period, we reassessed our materiality map to reflect the emerging material topics faced by our diverse set of internal and external stakeholders. The outcome of the materiality assessment exercise is presented in the form of matrix that depicts the material topics in respect to two dimensions- significance to external stakeholders and importance to business.

Material Topics	Linkages with Capitals	UN SDG linkages
Climate Change Management MT 1 Climate Change MT 3 Environment Management		
Business Continuity MT 13 Data Privacy MT 14 Innovation Management		
Governance, Risk & Compliance MT 10 Corporate Governance MT 9 Responsible Supply Chain		
Resource Management MT 2 Water Management		
People Management MT 4 Community Develpoment MT 5 Human Rights MT 6 Workforce Welfare MT 7 Occupational Health and Safety MT 8 Public Safety		
Customer Delight MT 11 Customer Focus MT 12 Energy Access		

Financial Capital | Manufactured Capital | Intellectual Capital | Human Capital | Social & Relationship Capital | Natural Capital

IR Value Creation Model on Standalone Basis

INPUT

Financial Capital
- INR 28,260.11 crore total assets
- INR 8,153 crore total income

Manufactured Capital
- 1,125 MW generation capacity
- 567 sq. km of licensed operational distribution area
- 84.12% capital expenditure incurred

Intellectual Capital
- Robust data privacy and cybersecutrity system
- Continuous digital upgradation
- Generating stations certified with ISO 27001
- 16+ patents filed

Human Capital
- 6,469 permanent workforce
- Initiatives around promoting gender diversity
- INR 982.66 crore spent on employee benefits
- 53.30% employees received skill development trainings
- 41.44% employees received health and safety trainings

Social & Relationship Capital
- INR 19.94 crore incurred on community initiatives
- User friendly platforms for efficient resolution of consumer complaints
- 1,055 number of suppliers
- 17% Critical suppliers screened for ESG criteria
- 9 CSR programmes undertaken

Natural Capital
- ~12 million litres water used
- 218 KWh capacity Battery Energy Storage Systems (BESS)
- Rainwater harvesting systems
- Microgrid at Chakmir substations having floating solar plant of 100 kW capacity
- 228 kW solar rooftop installation at substations and generating stations

Value Creation Model

Our Vision
We will be a profitable consumer oriented power utility consistent with global standards meeting the expectations of consumers employees and other stake holders

Our Missoin
ill met consumer's expectations continuously by providing safe, reliable and economic electricity through optimization of available resources

Out Core Values
- Execution Excellence
- Agility
- Risk-Taking
- Customer First
- Credibility
- Humaneness
- Sustainability

Four Drivers of re-shaping the Energy Landscape
- Digitalization
- Disaster Management
- Decarbonization
- Decentralization

Output & Outcomes

Financial Capital
- INR 14,246 crore revenue from operations
- INR 830 crore profit after tax
- INR 6.26 earnings per share
- INR 8,834.93 crore market capitalisation

Manufactured Capital
- 10,328 MUs units of electricity distributed
- ~100% collection efficiency in distribution areas
- Plant Availability Factor (PAF) for BBGS: 93.63% and SGS: 96.63% in FY 23
- 5,966.37 MUs power generated from thermal power plants

Intellectual Capital
- Zero incidents of data losses, breaches or thefts
- 74.28% digital payments
- Multiple digital payment platforms
- 4 green building certified during report period

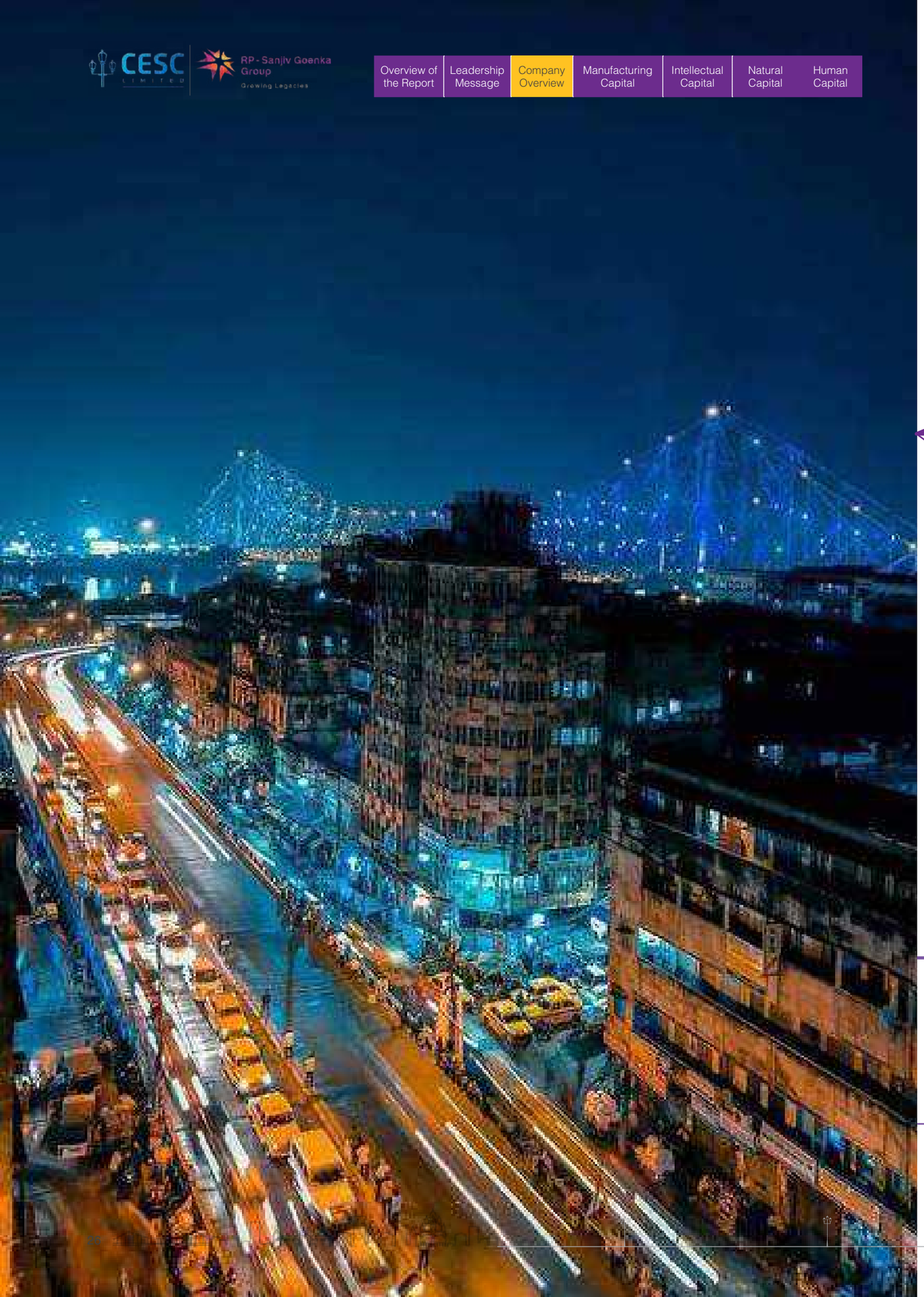
Human Capital
- 7.77% women representation in total workforce
- 4.17 % women recruited in new talent acquisition
- 5.22 hours of training per employee
- 1,622 employees trained Ranked among India's top 100 "Great Place to Work" companies

Social & Relationship Capital
- 21,926 beneficiaries positively impacted
- 93% TAT adherence to consumer complaints
- 9 suppliers achieved Gold ratings during the due diligence process

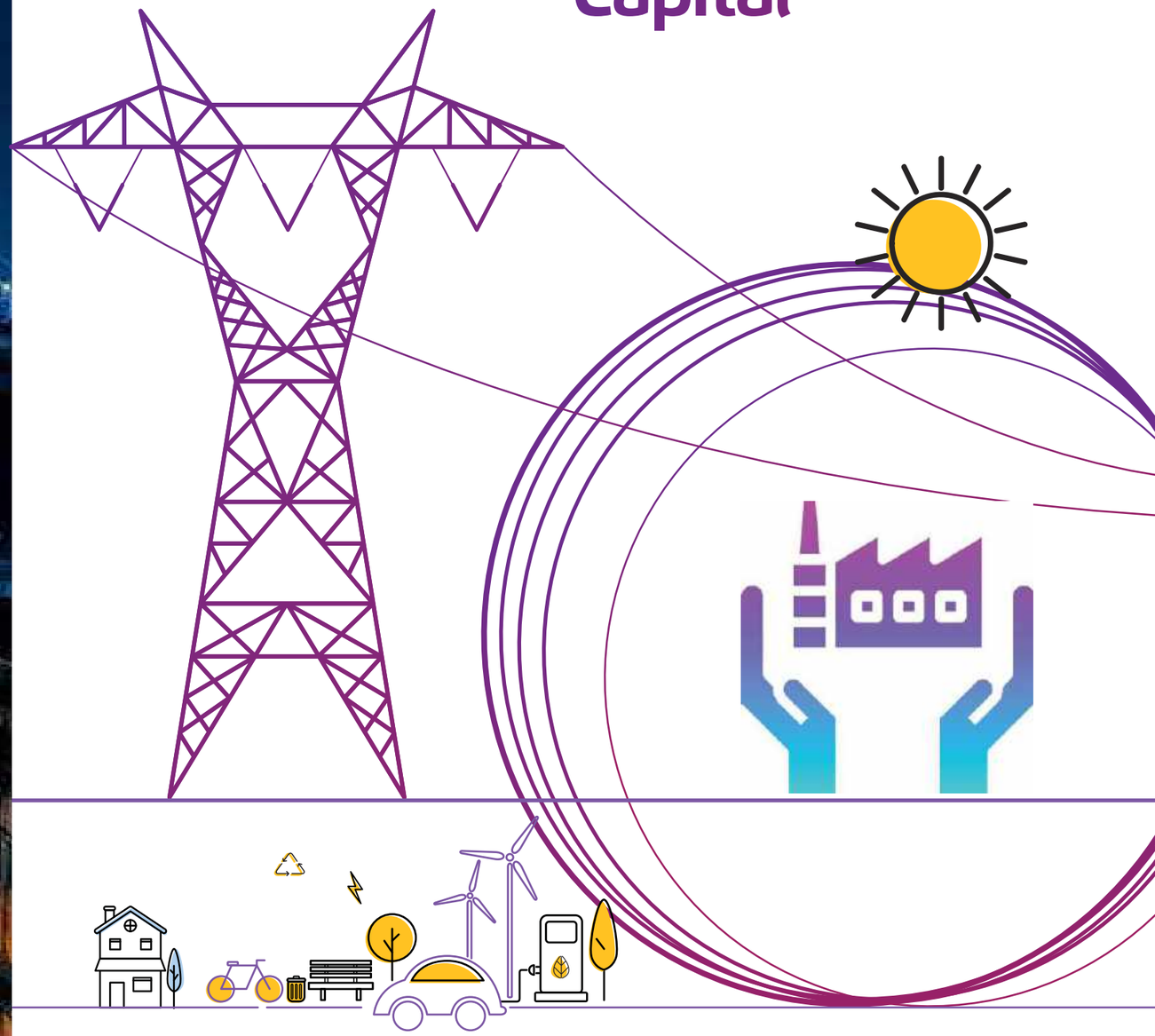
Natural Capital
- BBGS received the EEF Global Water Conservation Company of the Year Award, 2022
- 100% ash utilization
- Reduction in 6.84% tCO_2eq/MWh Emissions Intensity as compared to FY 21-22
- Reduction in 7.39% GJ/MWh Energy Intensity as compared to FY 21-22
- Zero liquid discharge at BBGS

SDG Impacted

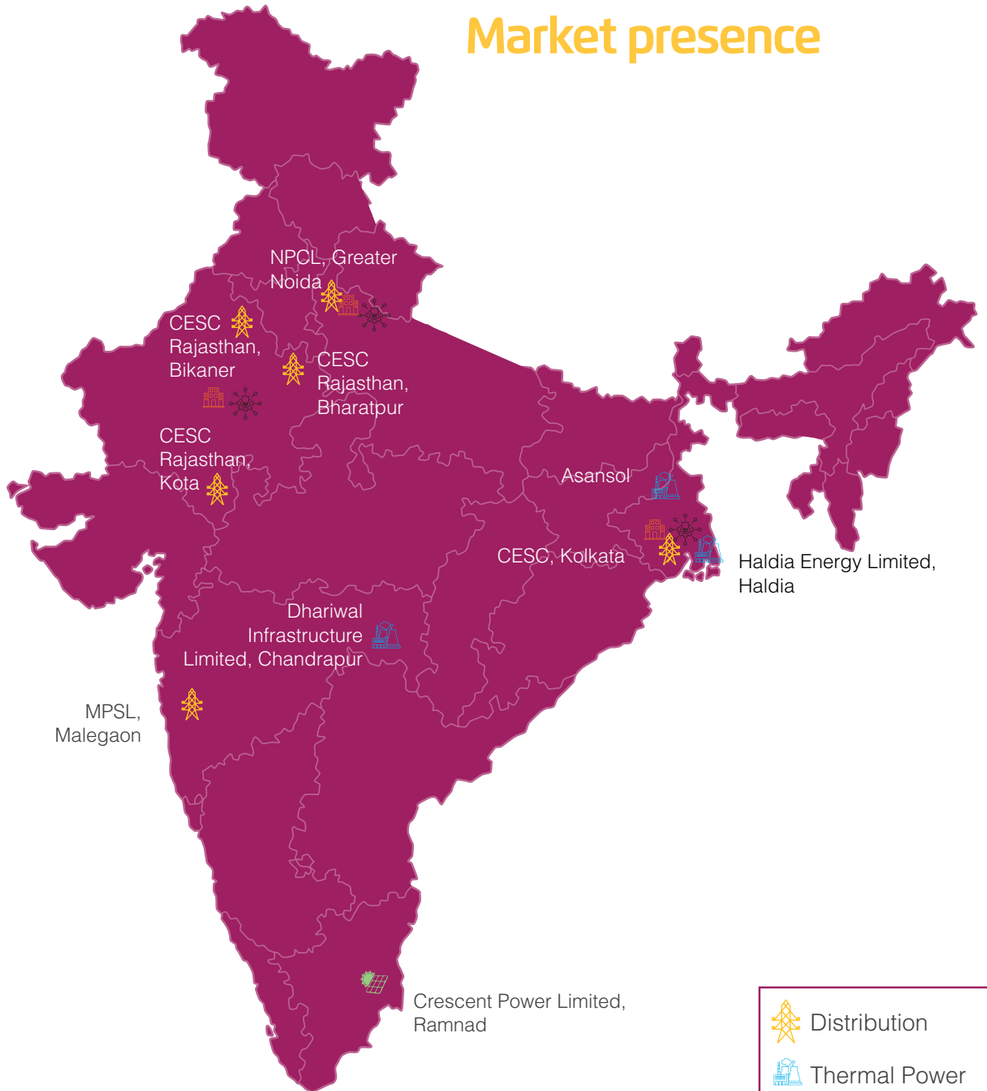
Note: All data pertains to CESC Kolkata



Manufacturing Capital



CESC's Market presence



At CESC, the ability to generate value and maintain sustainable growth is largely dependent on our reliable power generation and distribution infrastructure. To ensure that our consumers receive high-quality power, we utilize our infrastructure properly and efficiently. We monitor and enhance the effectiveness of our facilities across all our business segments, including power generation and distribution through our cutting-edge technology, solid processes and governance systems.

On Standalone Basis

2,380 MW
Operational generation capacity

~100%
Collection efficiency in distribution areas

1,335 Sq.km
Total licensed area

24*7
Power availability

4.1 Million
Total no. of consumers

88
Total no. of offices

290
Total no. of distribution stations

Linked Material topics and SDGs

Emissions Management

Energy Source Diversification

Energy Conservation

Responsible Investment

Risk Management

Employee Health and Safety

Power Generation

We have a cumulative power generation capacity of 2,380 MW, 99% of which is from coal-based power plants. Our thermal assets form a distinctive part of our energy mix in the licensed areas of Kolkata and Greater Noida. They strike balance between generation and consumption by adjusting to the variations in our renewable energy assets and the demand side fluctuations of electricity.

Table 1: Units generated by generating stations

Fuel Source	Generation Unit	State	Installed Capacity (in MW)	Units Generated (In MU)
Coal based	Budge Budge Generating Station	Pujali, West Bengal	3*250	5,331
	Southern Generating Station	Kolkata, West Bengal	2*67.5	636
	Haldia Energy Limited	Haldia, West Bengal	2*300	4,219
	Dhariwal Infrastructure Limited	Chandrapur, Maharashtra	2*300	4,229
	Crescent Power Limited	Asansol, West Bengal	40	334
	Titagarh Generating Station*	Titagarh, West Bengal	4*60	-
Solar based	Crescent Power Limited	Ramnad, Tamil Nadu	15	28
Total			**2,380**	**14,777**

*Currently CESC's thermal power asset at Titagarh is not operational and hence the reporting parameters are excluded from the coverage.

Highlights of our Power Generation Performance

At CESC, to help us meet a significant portion of power required, we focus on major parameters like Plant Availability Factor (PAF), Plant Load Factor (PLF), Auxiliary Power Consumption (APC) and operational efficiency. Continuous monitoring of all these factors aids in assessing our generation efficiency, operational reliability, and economic viability. Additionally, these parameters also enable in identifying improvement areas for better process optimization.

The most significant of these metrics is the Plant Availability Factor (PAF) which keeps us informed on various aspects of our operations which helps in our readiness to tackle any undesired challenges.

Plant Availability Factor (PAF) – PAF is used to assess the performance and reliability of power generation systems, particularly for renewable energy sources like wind and solar, as well as for conventional power plants. We, at CESC, utilize PAF to assess the following factors:

Rellability and Continuity* :

For industries, critical Infrastructure, and services that heavily rely on electricity. a high plant availbility factor is crucial to ensure uninterrupted operations and prevent disruptions that could be costly or even dangerous.

Economic Implications:

The availability of power directly impacts economic activities.

Quality of life:

Access to rellable electricity is essential for improving the quality of life for individuals and communities. It enables access to modern amenities, such as lighting, heating, cooling, and electronic devices, making daily living more comfortable and convenient.

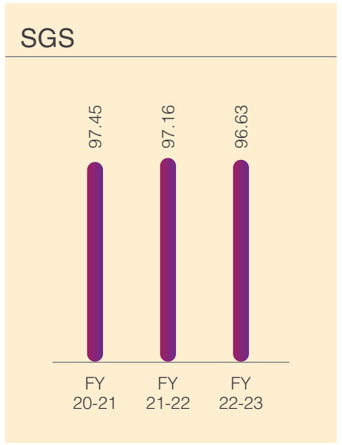
Emergency Preparedness:

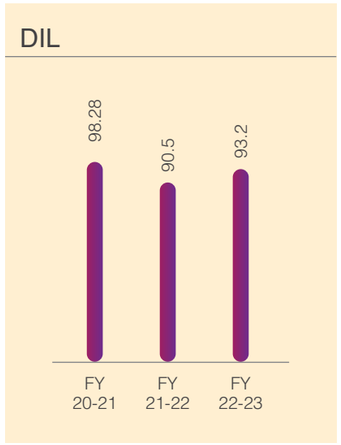
During natural disasters or emergencies, power availability becomes crucial for disaster response and recovery. Hospitals, emergency services, and communication networks all heavily rely on electricity to function effectively in such situations.

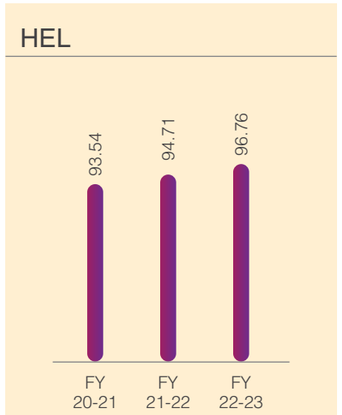
Energy Planning and Infrastructure Development:

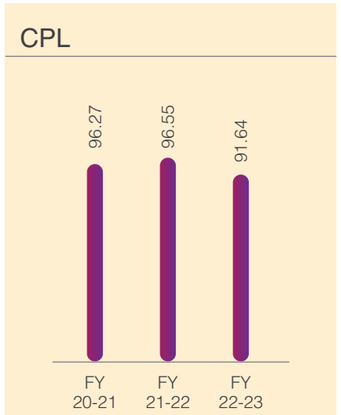
it helps identify areas with insufficient power supply and directs efforts to build or upgrade energy infrastructure accordingly

The following graphs depicted below showcase PAF of the generating stations:









Power Distribution

Our relentless focus towards service excellence and enhancing customer experience is best demonstrated by providing continuous quality power supply. We take pride in maintaining our track record of supplying continuous and reliable power with minimum distribution losses by effectively planning and allocating electricity based on the load characteristics of the locality. Today, CESC is supplying electricity to 3.5 million consumers through High Tension (HT) and Low-Tension (LT) lines that run 9,567 circuit km and 14,086 circuit km respectively.

Table 2: Units distributed by distribution licenses and franchises

Location	Units delivered (in MU)	Licensed / Franchise Area (in Sq. Km)	Underground (in CKM)		Overhead (in CKM)	
			LT	HT	LT	HT
Kolkata, West Bengal	10,328	567	8,295	9,086	5,791	481
Greater Noida, Uttar Pradesh	2,870	335	33	94	95	0
CESC, Rajasthan	2,461	376	514	1,039	6,812	2,062
Malegaon, Maharashtra	1,285	57	5	13	961	482
Total	**16,944**	**1,335**	**8,947**	**10,232**	**13,659**	**3,025**

Consumer Profile

85.14% Residential	12.14% Commercial	1.85% Industrial	0.85% Others

Table 3: Consumer profile across distribution businesses

Consumer type	CESC Kolkata	MPSL	NPCL	CESC Rajasthan
Residential	30,14,662	96,588	1,22,851	4,10,147
Commercial	4,30,020	9,238	5,026	69,200
Industrial	65,511	1,607	4,565	7,435
Others	30,387	1,352	2,778	4,803
Total	**35,40,580**	**1,08,785**	**1,35,220**	**4,91,585**

Enhancing delivery of reliable, cost effective and clean energy

CESC has adopted a four-pronged approach known as the 4-D approach: Digitalization, Decarbonization, Decentralization, and Disaster Management to address the complexities of the evolving energy landscape by leveraging digital technologies, reducing carbon emissions, promoting decentralized energy production, and effectively managing potential disasters.

Digitalization - Ensures supply of continuous and reliable power by utilizing cutting edge technology. At CESC, digitalization accelerates innovation, adds value across operational business units, and improves customer service offerings. The different form of digital services, assist us in improving the environment for customer interactions and improving consumer experiences as depicted below.

Disaster Management - Climate change-related disasters in India have become more prevalent, causing damage to life and property. We have developed standard operating procedures for pre, during, and post-disaster activities, overseen by a three-tier governance structure. This plan ensures communication, coordination, resource augmentation, and redundancy enhancement for disaster preparedness.

Decentralization- CESC aims to reduce disruptions in electricity generation by decentralizing systems, focusing on clean and green energy. Distributed solar power generation and high capital investment in utility-scale solar PV contribute to clean energy enhancement. Service-oriented microgrid technologies offer potential for future gamechangers due to their resilience and efficient service delivery.

Decarbonization- CESC prioritizes decarbonization across value chain, focusing on energy efficiency, renewable energy enhancement, demand side management, and reducing distribution losses. At CESC, we have different levers to to achieve decarbonization as depicted below.

Digitalization

Enhancing customer experience:
CESC prioritizes customer satisfaction and convenience in its services. We continuously upgrade channels of communication and implement corrective actions based on customer feedback and conduct annual perception surveys to stay aligned with market requirements and standards.

Reliable and continuous power supply:
CESC addresses unexpected power outages to avoid impact on customer satisfaction. An intelligent outage management system detects and restores power promptly to ensure quality and stability.

Multi-channel online payment:

CESC prioritizes on providing its customers with high-quality services through updating and implementing cutting-edge technical solutions and digitalizing processes Furthermore, digital payment methods areincluded in the list of available digital services.

Preventive to predictive maintenance:

CESC has adopted advanced predictive maintenance technologies for operational efficiency, focusing on zero downtime,including application of remote IoT, drone monitoring, self-healing networks, and thermal cameras.

Decarbonization

Adoption of green building

We at CESC adopt green bullding principles to optimize energy resources and utilize renewable energy. CESC has incorporated four new green buildings, enhancing resource optimization and efficiency throughout the building's life cycle.

Integration of renewable energy

We adopt renewable energy to reduce cost and carbon footprint, and for providing cleaner options to the consumers.

Low carbon transformation of value chain

CESC, aims to reduce carbon intensity in production by increasing operational efficiency, reduced Auxiliary Power Consumption (APC) and experimenting with fuel alternatives.

Demand side management

We prioritize responsible energy usage and create awareness through electricity bills, e-booklets, and digital platforms. We offer energy efficiency tips through "Be Smart Save Smart" e-booklet.

Loss control

Addressing technical and non-technical losses, that impact the health of the utility economically and operationally, as well as resuit in increase in our greenhouse gas footprint.

Pilkhana's Electrification Challenge, Loss Management, and Business Landscape

Situated within a 1 sq. km urban area, Pilkhana faced a multifaceted dilemma within its electricity distribution network. Notably, an alarming 70% average loss prevailed, underscored by unauthorized constructions and dense slum areas characterized by a high load density which was amplified by numerous small and medium-scale industries. Moreover, persistent and rampant theft of electricity through methods such as hooking, tapping, and meter tampering further intensified the difficulty. An underground market for distributing and selling pilfered electricity across a spectrum of sectors, encompassing slum establishments, commercial entities, buildings, and industries was also in fully operational.

Challenges and Problem Identification:

Safety concerns:
The first tier of challenges pertained to safety, highlighted by the grievous vulnerabilities of the low-voltage underground distribution network. Adding to this was the widespread unsafe use of electricity, often driven by ignorance and a lack of awareness, thus perpetuating hazardous practices.

Reliability struggles:
The network bore the brunt of severe overloading and unbalancing, impinging upon its ability to consistently deliver electricity, thereby hampering the stability of operations.

Loss mitigation imperiative:
The challenges were further compounded by a scarcity of authorized consumers. Rampant pilferage of electricity, orchestrated through unauthorized 'Tee' joints from underground cables, meter tampering, and direct connections from open 'Cut-Out' or 'Cable Bus Bar', further exacerbated this issue.

Adding to the dilemma was the challenge of average billing for non-access consumers.

Branding and customer engagement:
Pilkhana struggled with inadequate people connect. This deficiency was further compounded by unresolved grievances, which eroded consumer trust and marred the area's overall brand perception.

Strategic Initiatives for Business Transformation:

- Formation of Distribution Zones (DZs): To bolster the reliability of the low-voltage distribution network, Distribution Zones (DZs) were introduced. This strategic segmentation aimed to enhance the overall stability and seamless delivery of electricity.
- Introduction of DZ supervisor: The concept of a Distribution Zone (DZ) supervisor was introduced to enhance the monitoring and control of these zones. This oversight role ensured seamless operation and effective management.
- Creation of overhead co-axial cable network: In a bid to curb unauthorized 'Tee' joints and hooking, the conventional underground cable and overhead mains were replaced with advanced co-axial cables suspended overhead. This transition significantly minimized pilferage risks.

- Installation of smart meters: An extensive overhaul of the metering system involved the installation of cutting-edge 'Smart Meters', replacing outdated ones. This technological upgrade facilitated real-time monitoring and efficient energy consumption management.
- Renovation of meter boards: All meter boards underwent a comprehensive makeover, encompassing rewiring, renovation, and stringent sealing measures. This robust upgrade effectively thwarted unauthorized access, reinforcing security.
- Installation of ARSTPS (Automated Remote Surveillance cum Theft Prevention System): An innovative smart check meter was deployed at the source end of each service, enabling real-time monitoring of pilferage. This vigilant surveillance mechanism served as a powerful deterrent against theft.
- One day meter installation: A streamlined process was instituted to facilitate the swift conversion of unauthorized electricity users into authorized consumers. This initiative aimed to expedite the conversion of previously unauthorized consumers to authorized one.
- People-friendly approach: Emphasizing consumer connect, Pilkhana adopted a people-centric approach by engaging in Corporate Social Responsibility (CSR) activities. These initiatives fostered a stronger bond with the community, ultimately enhancing consumer relations and brand perception.

Outcomes: Empowering Transformation and Sustainable Progress

The expansion of authorized consumers soared impressively to 12,364. Additionally, the persistent drive to enhance efficiency yielded a commendable reduction in Distribution Loss, from 70% in FY 21-22 to a remarkable 7.27% by January 2023.

Beyond Business Gains:

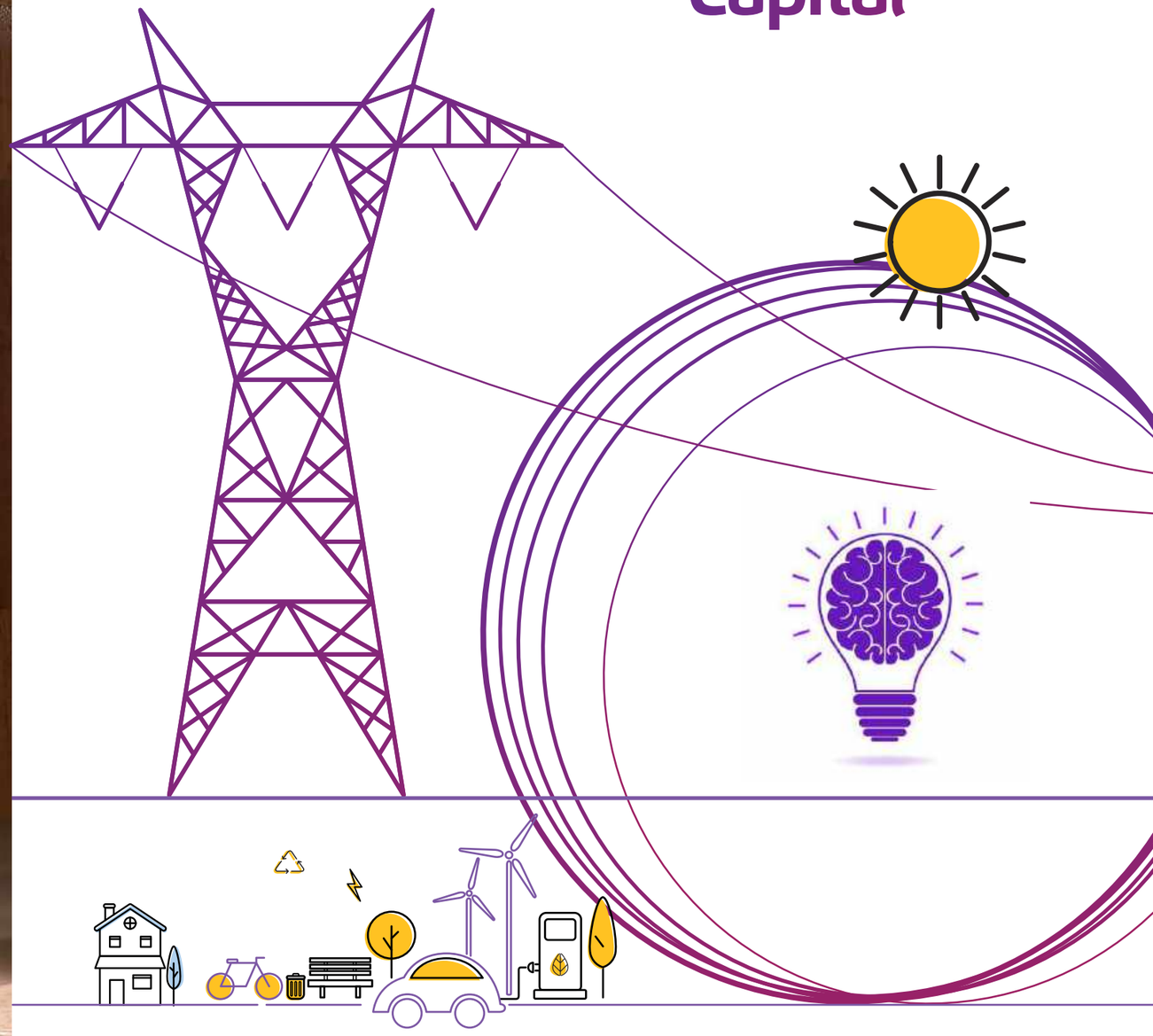
The transformation extended beyond immediate business objectives, resulting in additional advantages:

- Complete elimination of pillar box fusing incidents along with 100% reduction in fatal and non-fatal accidents, ensuring safety for both employees and the public.
- Substantial reduction in operational and maintenance costs, optimizing resource allocation.

Conclusion:

Pilkhana's journey of business transformation highlights the power of strategic intervention in navigating multifaceted challenges. By addressing safety concerns, loss mitigation, operational efficiency, and customer relations, Pilkhana's businesses achieved a profound transformation.

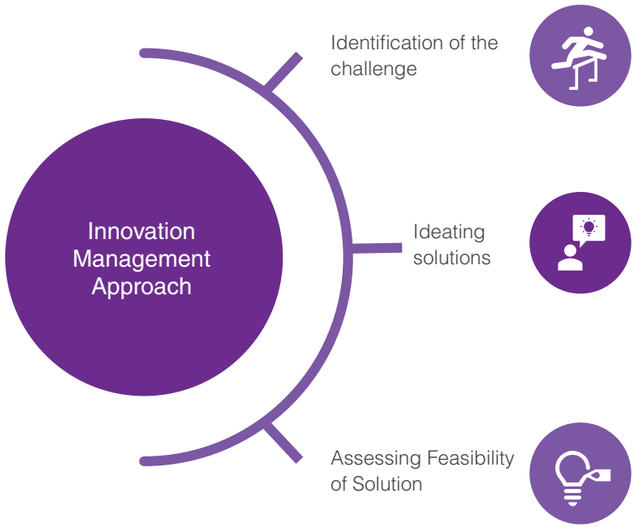
Intellectual Capital



Brief Background

Sustainability and digitalization are inseparably connected to the innovation drive. CESC has been using digital technologies across a wide swathe of operations, from improving operational efficiencies to obtaining sustainable solutions.

As a responsible business, CESC identifies that growing environmental consciousness is creating a preference for adoption of applications such as Machine Learning, Internet of Things, and Artificial Intelligence.



Innovation in CESC is fostered by the apex panel of mentors for knowledge and innovation management which is directed by the Executive Director (Distribution Technical).

To fulfil rising customer demands, organizational processes must be continuously modernized. We work to increase our knowledge base and intellectual capital to make our processes effective, efficient, and dependable.

Intellectual capital is reflected in our industry knowledge and capability, copyrights, patents, software, rights, and licenses. We aim to promote creativity throughout the organization, increase operational effectiveness, and enable resource optimization by incorporating a learning culture into our business strategy and operations as summarized in the next page.

CESC continuously works to strengthen the intellectual knowledge base through focussed learning and development activities while leveraging innovation strength to create new knowledge and formulate sustainable products that are aligned to a low carbon future. Additionally, for promoting innovations, a Knowledge Management team is appointed to conduct several knowledge management sessions.

Linked Material Topics and SDGs

- Cybersecurity
- Digitalization

Summary of key Initiatives- Digitalization and Innovation

Experience in innovative use of information technology across the value chain enables us to adapt to the technology driven disruptions in the market and analyze information in the most accurate form.Some of the innovations are:

An interface to fetch details of a consumer in an electric power supply organization	The “Metering on the Go” app enables data democratisation by making metering and consumer information available on the go
Push notification in mobile application for protection and monitoring of power system	Intelligent electronic devices provide real-time information to reduce restoration time and improve customer satisfaction
Automated remote surveillance cum-theft prevention system for low tension power distribution system	Low-cost system for real time micro-audit of consumer premise reduces pilferage attempts and enhances safety, leading to more energy efficient equipment
Protection transfer kit for feeder maintenance in a power distribution system	Protection transfer kit reduces consumer interruption time, saves revenue, and increases system reliability by carrying out preventive maintenance quickly
Smart health monitoring system for transformers for electric distribution network	Internet of Things(IoT) based devices monitor critical assets to ensure operational healthiness, prevent breakdowns and outages, and ensure safety
A system utilizing an IoT device for sensing faults and telemetering distribution automation data	IoT devices monitor fault passage indicators, relaying signal to SCADA for faster power restoration
A system for automation of meter inspection activity for complaint management	Meter inspectors use smart tablets to reduce delay, customer complaints, and paper consumption
Compact distribution transformer	Compact transformers are smaller, safer to operate, and more aesthetically pleasing than traditional distribution transformers, making them easier to use and maintain
Safe and efficient battery discharge set	New inverter-based battery discharge set sends back discharge power to grid
Substitution of natural river sand in concrete by using bottom ash of coal based thermal power plants	Bottom ash provides 70% substitution in non-structural and structural grades of concrete

Specifically, CESC has applied a total of 16 patents, which are pending approval. Among the 16 patents applied, 6 new patents have been submitted during the reporting period. This serves as a competitive edge, in the markets we serve.

NPCL and CESC Rajasthan's key focus areas for innovation during the reporting year are mentioned below.

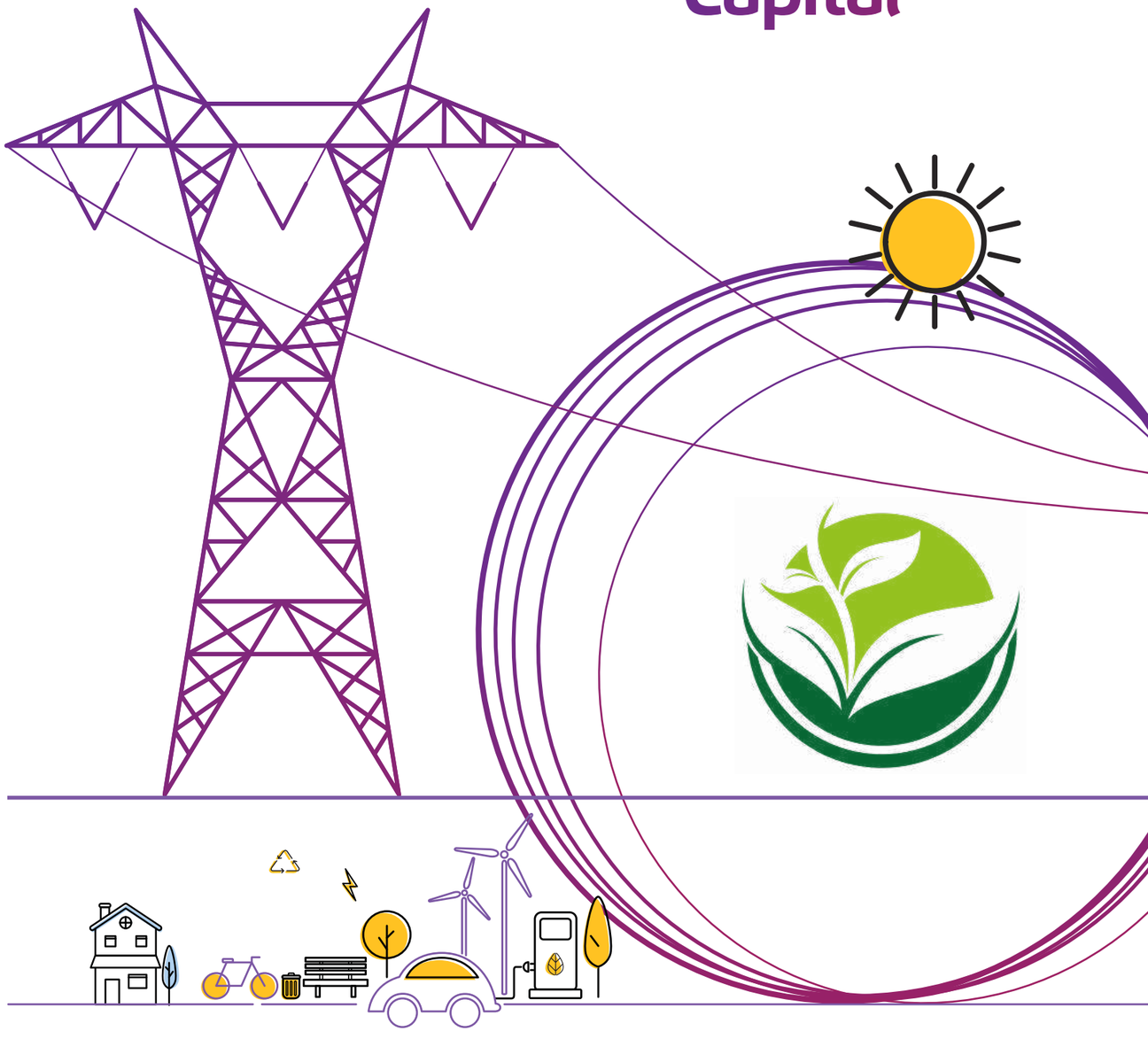
NPCL

- Developed image processing software for automated change detection between two time periods using satellite and drone orthomosaic imagery.
- Implemented theft detection software utilizing a deep learning module on drone orthomosaic imagery. This software automatically identifies potential theft cases by detecting electrical wires atop buildings.
- Created a Virtual Reality module for transformer preventive maintenance.
- Deployment of smart prepayment meters for societies.
- Deployment of Data Acquisition Software (DAS) for Narrowband-Internet of Things (NBIoT) modems.
- Introducing IoT-based sensors to enhance the efficiency of Variable Refrigerant Flow (VRF) cooling systems.
- Creating an online automation portal for streamlined cross-functional tasks including bill management, document storage, and inventory tracking.
- Developed a mobile app for on-site quality inspections and assessments.
- Implementation of revenue assurance by data analytics.
- Utilizing AI/ML for automated load reduction, PDF splitting for saving man hours. Video call support to consumers for services, enabling customer to receive assistance from home. This service is available Monday to Friday from 10:00 a.m. to 5:00 p.m.
- DT Metering & EA Project.
- Crafting an Overhead Transmission (OT) cybersecurity implementation roadmap through collaboration with the automation department and an external consultant.
- Consumer awareness through video/SMS/mails regarding preventive maintenance.

CESC Rajasthan

- Meter boxes have been re-designed with side entry grooves to eradicate the chances of power theft through unauthorized insertion of wires
- New distribution box with insulated bus bar and different locking arrangements designed
- Online app with photo-based reading and tracking of applications

Natural Capital



Brief Background

Nature provides us with abundant natural resources which we utilize to meet our needs.

CESC values the natural resource capital that is used in the production and distribution of reliable electricity, as well as the impact that we generate on the environment. Today, challenges like climate change are crucial global issues, which demand fast action. We at CESC, recognize this and are striving to minimize our footprint on the environment and utilize resources responsibly.

To provide strategic direction to improve our environmental performance, our targets are drawn from policies conforming with the ISO 14001 requirements. Our environmental stewardship journey is led by the Apex Environment, Health and Safety committee, headed by the Executive Director- Generation.

Over the years, we have focused on enhancing our ecological impact by prioritizing various initiatives. These endeavours have revolved around boosting energy efficiency, mitigating air pollution, decreasing water usage, minimizing operational waste, waste management, and incorporating innovative practices and new technologies to promote biodiversity conservation.

As we continue with our efforts in various areas of operations, we emphasize the importance of environmentally friendly practices aligned with global long-term values and the UN Sustainable Development Goals.

Linked Material topics and SDGs

Climate change

Water Management

Environment Management

Key initiatives around different environmental aspects

Using various initiatives as our decarbonization levers, we are aiming to mitigate our footprint and create a positive impact on the environment. The key initiatives implemented in different areas of environmental protection are as follows:

Decarbonization

The primary initiatives we have undertaken to help decarbonize our operations and reduce our carbon footprints are as depicted alongside.

- Fuel diversification: Co-firing of 155 MT of biomass pellets cumulatively across all coal based thermal power generation stations
- Saved 3,19,961 GJ of auxiliary power in FY 23
- Integrating renewable energy in operations: Installation of 228 kWp rooftop solar across all substations and generating stations

Air Emissions

To provide direction and streamlining to our air emissions reduction initiatives, we have set the targets for 2030 as depicted below.

2030 Targets	Progress in FY-23
Maintaining PM emissions below normative levels of 50 mg/Nm^3	BBGS: 20-30 mg/Nm^3 SGS: 30-45 mg/Nm^3 HEL: 15-25 mg/Nm^3 DIL: 25-40 mg/Nm^3
Maintaining NO_x emissions below normative levels of 600 mg/Nm^3 for all thermal plants commissioned before 2003 and 450 mg/Nm^3 for all thermal plants commissioned in 2004 onwards until 2017	BBGS: 400-550 mg/Nm^3 SGS: 350-450 mg/Nm^3 HEL: 400-460 mg/Nm^3 DIL: 500-580 mg/Nm^3
Maintaining SO_x emissions below normative levels of 600 mg/Nm^3	BBGS: 850-1,000 mg/Nm^3 SGS: 800-850 mg/Nm^3 HEL: 1,500-1,600 mg/Nm^3 DIL: 1,800-2,200 mg/Nm^3

We adopt a proactive approach to reduce the environmental impact of air pollutants emitted during power generation activities. A few of the embedded technologies and strategies we use are:

- High efficiency ESPs
- Automated ammonia-dosing system
- Installation of NO_x control technologies at all generating stations is in progress
- Dry fog dust suppression system
- Dust extraction in coal conveyors
- Rain guns and water sprinklers
- Adherence to stringent operational parameters
- Online monitoring of ambient air quality and stack emission data

Water Conservation

2030 Targets	Progress in FY-23
100% thermal power plants with freshwater source have zero liquid discharge facilities	BBGS: On track SGS: On track HEL: On track DIL: On track CPL: On track
Reduce water intensity of thermal power plants below 2.25 kL/MWh	BBGS: 2.04 kL/MWh SGS: 1.67 kL/MWh HEL: 2.18 kL/MWh DIL: 2.13 kL/MWh

Our efforts and initiatives to steward water resources include the following approaches:

- Improving water efficiency
- Identifying alternative water sources
- Implementing zero discharge for power plants having freshwater source

Circular Economy

As a part of our commitment to zero waste to landfill, generating stations use their biological wastes for making composts for gardening and agriculture. HEL has been providing support to the local communities also for producing compost and manure under project Shyamala. With an objective of safeguarding the environment and humans, the ash produced from the combustion of coal and other fuels is properly collected, transferred, and stored according to regulations, and in appropriate conditions. Detailed ash production data can be found in the later sections of the report.

Biodiversity conservation

By protecting wild habitats and the flora and fauna they support, we create a positive ecological impact. Some of our biodiversity protection initiatives are:

- Butterfly garden at HEL and BBGS as part of Titli Rani programme
- Swan and waterfowl park at DIL
- Project Rishi Krishi- Plant species protection, spice garden, medicinal herb garden for BBGS, HEL and DIL
- Offering sanctuary to plant animal species, predo-minantly mamma
- Creation of urban forests using Miyawaki technique at all the generation stations
- Floral biodiversity study at HEL

Waste Management

2030 Targets	Progress in FY-23
Achieving zero waste to landfill through value-added utilization	**CESC: On track** **HEL: On track** **DIL: On track** **CPL: On track**

Waste management initiatives

- Classifying waste into categories
- Ensuring compliance with all applicable regulations
- Reducing waste through recycling and buying-back mechanisms

Zero Liquid Discharge Strategy

After achieving Zero Liquid Discharge (ZLD) at our thermal power plants- BBGS, DIL and CPL, one of our milestones on the journey of meeting our specific water consumption target is to achieve ZLD at all our other thermal power plants.

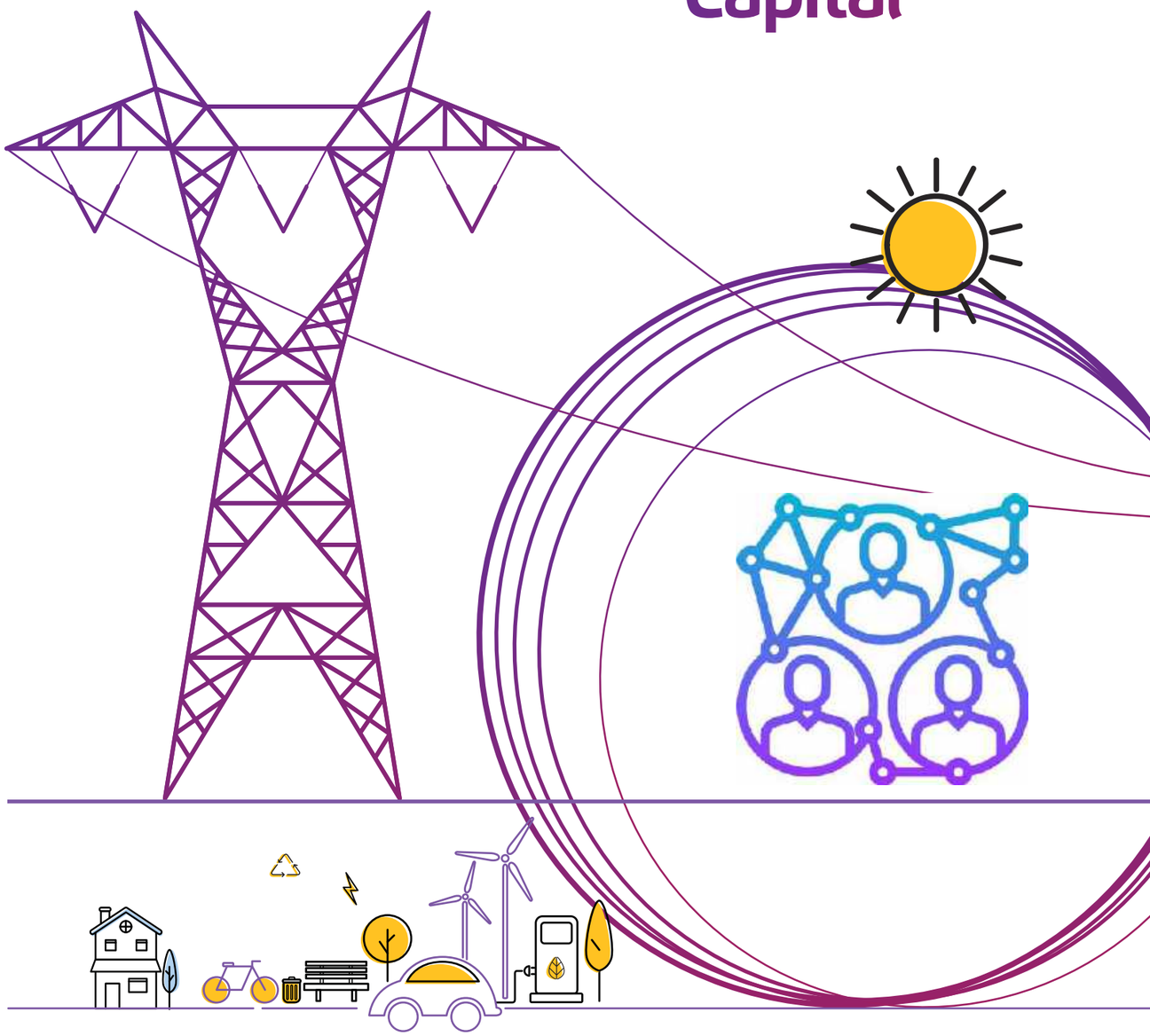
After treatment the wastewater is recycled back to the raw water treatment plant for subsequent reuse in different areas like cooling tower makeup, plant service water and fire fighting system. Further, treated water from the sewage treatment plant is reused in various applications.

Our efforts towards water stewardship over the years are illustrated by the decreasing trend in water consumption at some of our generating stations, as shown later in the report. Through the efficient reusing and recycling of 100% water in our operations, we have successfully implemented Zero Liquid Discharge.

Zero Liquid Discharge Strategies

- Ash water recirculation system for re-use of water in bottom ash removal system
- Reuse of treated water from sewage treatment plant
- Reuse of blowdown water from boiler and cooling tower for dust suppression
- Reuse of water reject from dual media filtration and ultra filtration process
- Reuse of treated effluent water in pisciculture

Human Capital



Brief Background

CESC believes that delivering high quality service to consumers can only be achieved through attracting the best talents & retaining, nurturing, and enhancing their skills and leadership capabilities.

As an employee centric organization, CESC cares for its employees and takes pride in fostering their professional growth. CESC strongly believes that the ability and commitment of its employees, is the driving element behind the ongoing success. CESC understands the significance of providing a safe and conducive environment to its the employees while providing adequate opportunities to learn and grow.

Our employee strategy closely monitors the overall business objectives and contributes significantly to its execution. As an equal opportunity employer CESC provides an enabling environment whereby everyone is treated fairly and encouraged to grow and contribute to the organization.

We acknowledge the importance of creating and maintaining a talent pool which is able to successfully steer the organization in an ever-changing business landscape.

CESC strives to provide a flexible, safe, and engaging work environment, learning and development opportunities fair compensation, long-term healthcare and access to the grievance's redressal.

CESC aspires and aims to preserve health and wellbeing of the employees and their families through various health check-up programmes

CESC strives to provide a flexible workplace, fair compensation, long-term financial and health benefits, and access to the grievance's redressal mechanism in situations of distress.

CESC continues to reinvent itself in its journey to stay ahead, and ensures to remain an attractive employer

Quality of work life has a significant impact on employee efficiency and commitment. CESC has a comprehensive governance structure along with strong management system to ensure procedures, standards, and guidelines pertaining to the health and safety of the employees. CESC thus imbibes a holistic safety culture within our employees and carry out several communication campaigns around safety topics in addition to formal training.

Linked Material topics and SDGs

Human Rights

Occupational Health and Safety

Workforce Welfare

Targets Summary

2030 Targets	Progress in FY-23	
12% Women participation in workforce	CESC: 7.76% NPCL: 7.34% HEL: 0.40% CPL: 2.77%	DIL: 0.71% MPSL: 2.90% CESC Rajasthan: 2.36%
100% Employees receiving career performance reviews and appraisal	CESC: 25.1% NPCL: 100% HEL: 96.51% CPL: 100%	DIL: 95.48% MPSL: 69.57% CESC Rajasthan: 83.17%
100% Employees training on digital skills	CESC: On track NPCL: On track HEL: On track CPL: On track	DIL: On track MPSL: On track CESC Rajasthan: On track

Summary of key Initiatives

Employee Wellbeing - The most vital resource for any organization is its workforce as it directly affects the success. CESC looks after its workforce through its various initiatives encompassing employee welfare, medical benefits, safety capability building, talent acquisition and integration, talent management and development, learning and development, knowledge and innovation management, employee communication, employee engagement, reward and recognition.

Reward & Recognition Schemes:

To foster a culture of rewarding and recognising good work delivered individually or in teams

Unmesh:

Flagship summer internship programme for pre-final year students of reputed engineering institutes

Cross Functional Teams with young talent:

To promote various people-centric initiatives and bring innovative solutions to business challenges

Annwesan:

Structured induction programme for the new recruits

Focus on Sustainability:

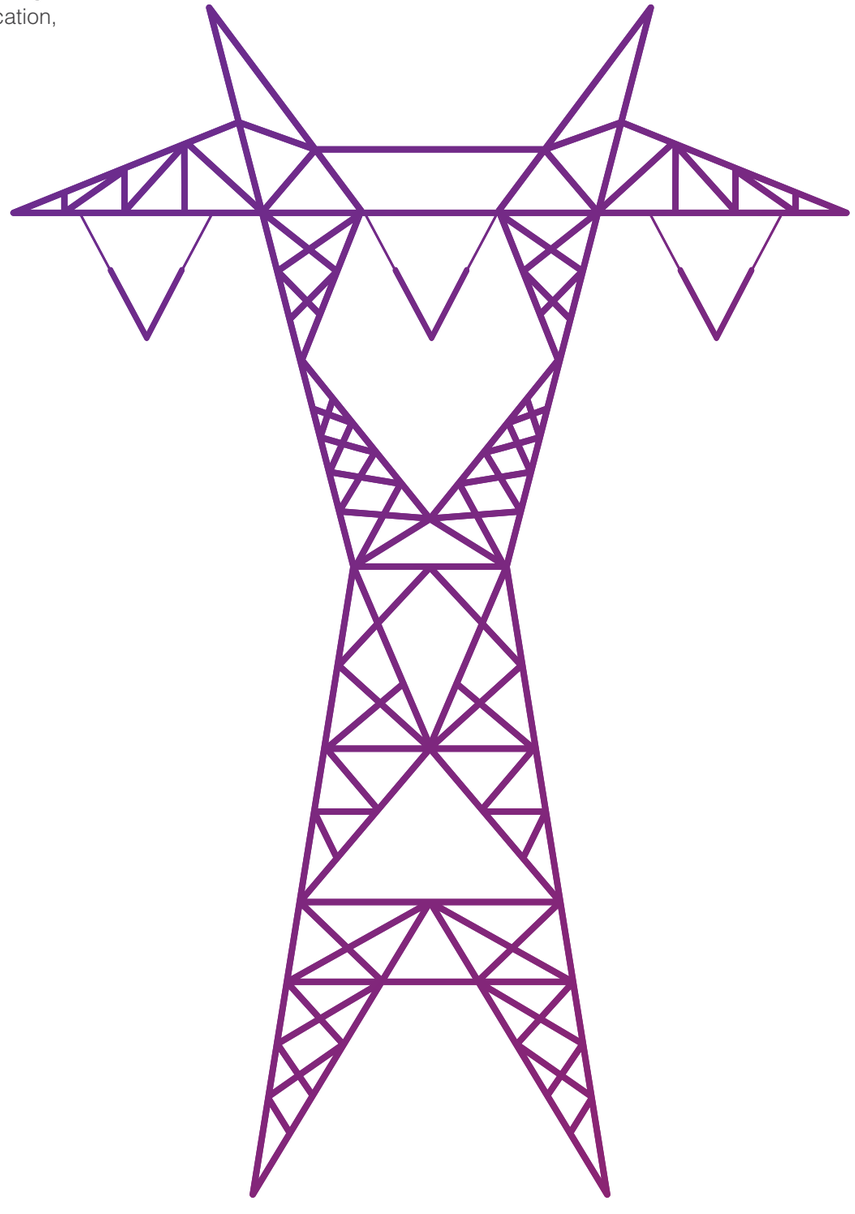
Programmes on Carbon Transition, Net Zero, etc. for senior leaders in the context of its significance for the power sector

New Technology:

Collaboration with Udemy for e-learning on new-age technologies like AI, ML, IoT, Big Data analytics

We also train our employees in programmes on emerging technology covering Big Data analytics, IoT, AI and Machine Learning (ML) applicable in Power Industry.

We at CESC, have a 'Talent Management Process' created for the Young Executive Board (YEB) with the objective of enhancing the skills and knowledge of the young officers.



Health and Safety - Prioritizing safety as a daily we are committed towards empowering the people and offer them safe and healthy workspace to work and grow. CESC through its Safety Vision, Safety Principle, Safety Policy, and Safety Pledge Statements has conveyed its inherent belief that 'Good Safety is Good Business'.

CESC is committed towards respecting human rights and has zero tolerance for abuses of any kind.

Zero Incidents

By promoting a robust safety culture, implementing safe work procedures, monitoring unsafe work conditions and controlling them.

Central Safety Day Celebration

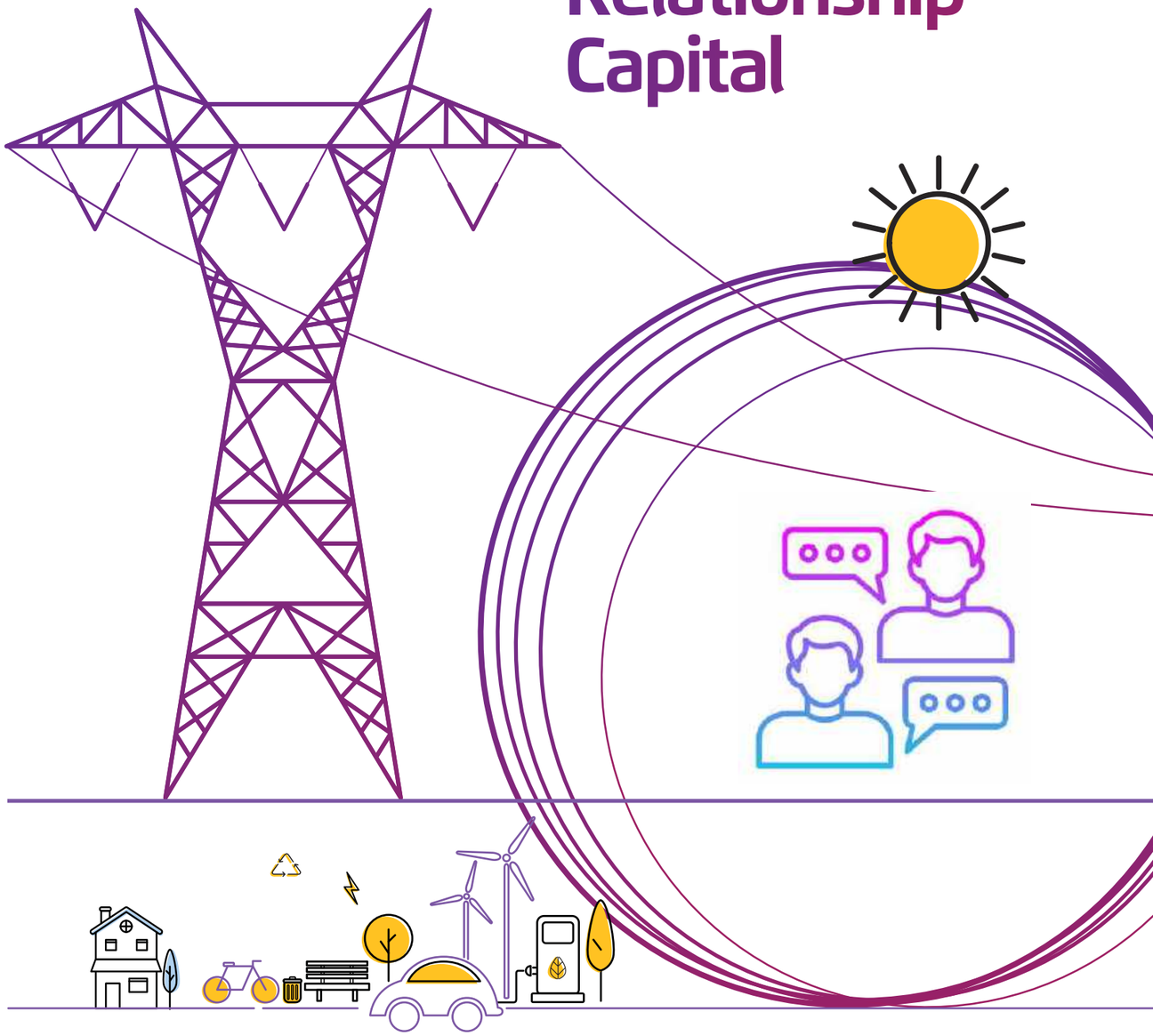
CESC's Safety Department organized Central Safety Day 2023 at Science City, Kolkata. This year's one-day occasion was held in the main auditorium of Science City and was attended by more than 1,500 of our own employees along with contractual workmen. The event was graced by Hon'ble Minister of Power, Housing, Youth Services and Sports (Government of West Bengal), Hon'ble Minister of State, Fire and Emergency Service (Government of West Bengal), the Chief Inspector of Factories (Government of West Bengal) and the Chief Electrical Inspector (Government of West Bengal). All the dignitaries were part of the lamp lighting ceremony.

As part of the main event, a documentary on the 'Journey of Safety in CESC' and a featured Bengali movie on safety named "Badoler Bodol" were screened. Additionally, a presentation on 'Learning from Past Incidents' was also demonstrated. Furthermore, awards were distributed to the teams and personnel for their meritorious performance in safety and to the winners of the safety related slogan contests held as a part of this event.

The event also had exhibition stalls set up at the Seminar Hall building of Science City by CESC's different departments/ units from Generation and Distribution wings, displaying their innovative practices in ensuring a safe workplace. The entire event received a lot of appreciation from all internal and external stakeholders

Snapshots from the Central Safety Day Celebration

Social and Relationship Capital



Brief Background

In line with our endeavour to be a 'community change maker' our Corporate Social Responsibility policy follows a systematic approach to come up with CSR programs after assessing community requirements and designing solutions accordingly. Giving back to our community forms an important component of our mission and our values, and we aim to continue creating a positive impact on society throughout efforts.

We identify vulnerable groups, assess their needs, evaluate the effectiveness of the projects, conduct a baseline survey to engage the involved stakeholders and groups, and then implement the devised project. At the end of our projects, we also implement an exit strategy which includes end-line assessments.

Identifying vulnerable groups	Assessing the needs of the groups	Evaluating the effectiveness of the intended project	Engaging stakeholders through a baseline survey	Project implementation	End-line assessment and exit strategy

We believe that the empowerment of marginalized groups will unlock the growth potential within our nation. This directed strategy for implementing CSR projects and community aid programmes helps us develop, track and monitor the projects, while ensuring that the benefits extended to vulnerable groups are delivered in the best manner possible.

Our CSR strategy focuses on five key areas, which we have identified as crucial areas where we strive to add our contributions, as we work towards individual UN Sustainable Development Goals through each focus area.

Linked Material Topics and SDGs

- Education and Child Protection
- Health
- Skill Development
- Environment and Sustainability

Targets Summary

2030 Targets	Progress in FY-23
Providing at least 15,000 children access to quality pre-primary, primary and secondary education with effective learning outcomes	7,097 students benefited
Facilitate healthcare and nutrition support to 4,000 mothers and 6,000 children	4,897 mothers along with 595 children benefited
Provide 7,500 underprivileged youth with skill development training and employment opportunities	1,622 candidates trained

Summary of key Initiatives

CSR Activities

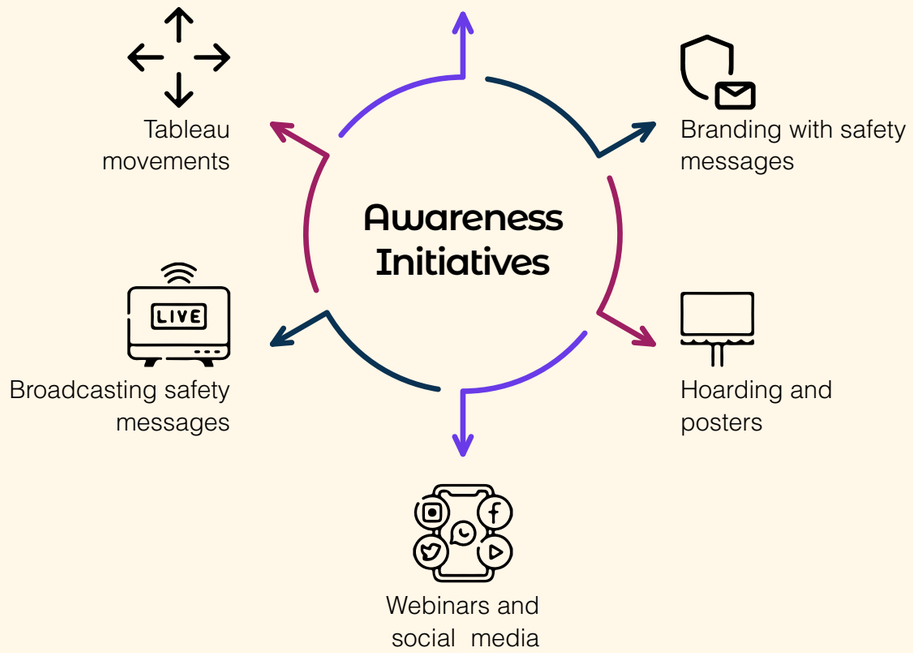
Education and Child Protection
- Akshar
- Indradhanush
- Muktangan

Health
- SNEH
- Eye Camp

Skill Development
- Eklavya-CESC Skill Academy

Environment and Sustainability
- Urja Chetana
- Kiran
- Jaldhara

Awareness Initiatives



Corporate Governance

The Company's Corporate Governance aims at transparency in its affairs and the functioning of the management and the Board of Directors for ensuring accountability towards its stakeholders. It also encompasses the oversight of business strategies and ensures fiscal accountability, ethical corporate behaviour and fairness to all stakeholders comprising regulators, employees, customers, vendors, investors and the society at large. The Company has a strong legacy of fair, transparent and ethical governance practices.

Board Oversight

The Company's Board of Directors ('the Board') has an optimum mix of Executive and Non-Executive Directors in line with the applicable provisions of the Companies Act, 2013 ("the Act") and the Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations 2015 ("Listing Regulations").

The Committees of the Board play a crucial role in the governance structure of the Company and have been constituted to deal with specific areas/activities as mandated by applicable regulations. The Board currently has five statutory committees namely:

a. Audit Committee;

b. Stakeholders' Relationship Committee;

c. Nomination & Remuneration Committee;

d. Corporate Social Responsibility Committee; and

e. Risk Management Committee.

Audit Committee

The Audit committee meets quarterly to review the financial position, discuss internal audit findings and review the adequacy of internal control mechanisms.

Nomination and Remuneration Committee

The committee meets as required and is responsible for the nomination and appointment of suitable candidates to represent the Board and recommend remuneration to the Board according to their performance.

Corporate Social Responsibility Committee

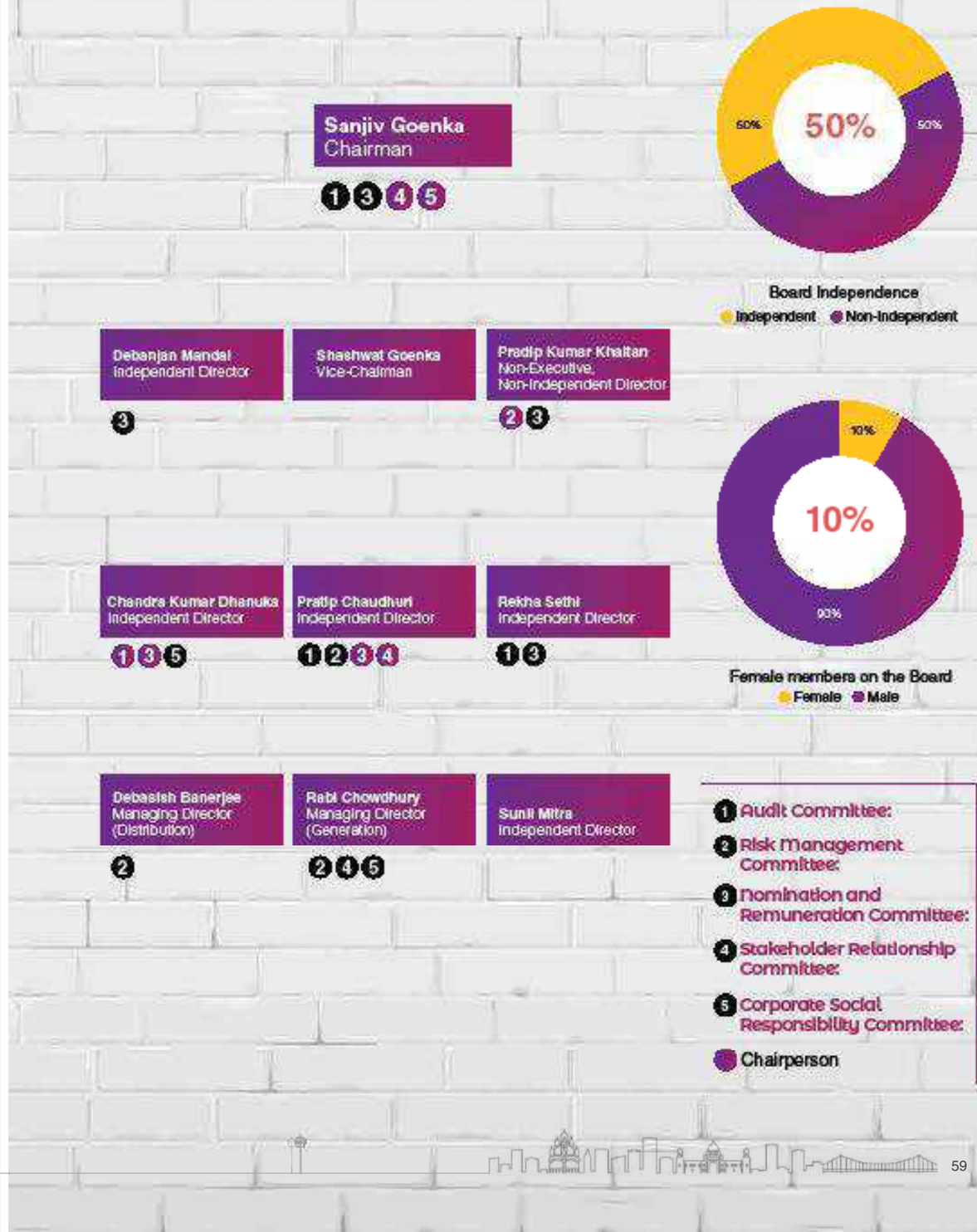
The CSR committee meets as required to monitor the ongoing CSR programs and approves the annual CSR budget to devise and implement projects.

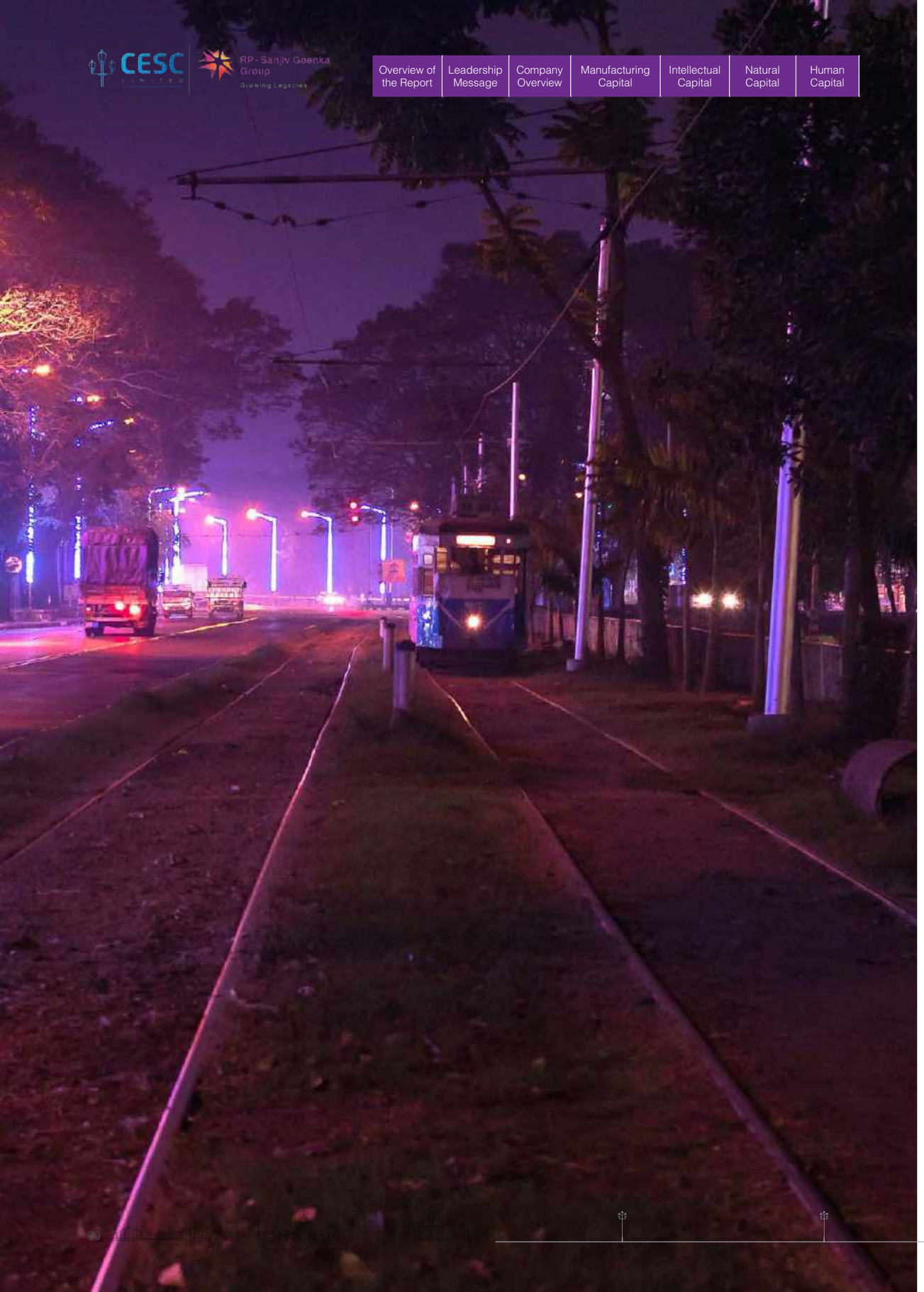
Risk Management Committee

Biannual committee meetings are conducted to monitor and review the risk management plan.

Stakeholder Relationship Committee

To review shareholder grievances and instantly resolve them, the committee meets quarterly.





ESG Governance

The Management Committee, comprising of the Managing Directors, Chief Financial Officer, Company Secretary, and all functional heads are involved in the strategization and monitoring of progress to achieve CESC's ESG vision.

The Chairman and other board members are kept abreast with the discussions held at the Management Committee by the Managing Directors who represent the Board. These discussions cover future plans, performance and targets of CESC.

Board of Director and Management Committee

- Review KPIs, challenges and learnings on quarterly basis with MD-Distribution, MD Generation and CFO
- Report performance against KPIs on annual basis to board of directors
- Takes approval from the Board on policies and procedures and strategies

Functional Teams

- Set strategies, goals, policies and monitoring procedures
- Report progress against KPIs, challenges, learnings and activities to Management Committees
- Implement vision and strategy

Cross Functional Forum

- Submits new and amended policies, processes, goals and targets for review and approval
- Takes signoff on annual report and release other investor related media communications
- Communicates quarterly and annual performance along with achievements with respect to business targets
- Presents futuristic plans and communicates roadmap for achieving it

- Assists in setting strategies and defining priorities
- Assists in compiling data and information for reporting
- Assists in timely redressal of feedback from Board of Director and Management Committee

Annual Financial/ Non-Financial Performance Reporting

Anti-Corruption & Anti-Bribery

As a responsible business organization, it is critical for us to maintain the highest standards of honesty and professionalism. Being ethically and morally driven, in line with our core values, is an important quality in our employees.

The Ethics and Code of Conduct (The Code) guides our employees' morals and prohibits acts like bribery and corruption in all forms at CESC and its subsidiaries. We have also adopted an Anti-bribery and Anti-corruption Policy (The Policy) to conduct the business in an honest and ethical fashion.

The Code and the Policy help our employees identify unethical and illegal activities like harassment, discrimination, insider trading, conflict of interest, corruption, and bribery.

To ensure the implementation of the Code and the Policy, as well as for monitoring compliances and control mechanisms, Secretary and Compliance Officer of CESC are responsible.

By organizing regular trainings for our employees, including awareness sessions and refresher courses, we ensure that full compliance to the Code and the Policy is followed. The refresher courses and awareness sessions aim to familiarize employees with possible unethical activities and ensures new joiners to be cognizant of the available resources that enable them to report malicious incidents.

Our employees are empowered to notify the management regarding fraud, corruption, bribery, and other unethical behaviour without the fear of unfair future treatment through our Whistle Blower Vigil mechanism. We confirm, as of 31st March 2023, that we have observed no instances of corruption or bribery.

2030 Targets	Progress in FY-23
We strive to improve out anti corruption and anti-bribery management through the ISO 37001 guidelines by 2030	We have made significant advancements in improving our existing management systems against anti-corruption and anti-bribery in line with the requirements of ISO 37001

Data Privacy and Cybersecurity

Digitalization, decarbonization and disaster management along with decentralization are the key drivers of the day of the modern utility. These drivers have guided IT & digital tools to be relevant to the business context. While doing so, one has to address both disaster mitigation and cybersecurity in striding ahead with resilience and innovation. Thus, we continue to adapt and adopt the best practices and through an evolving governance structure identify & detect the potentially relevant risks, monitor the information systems & security controls and be prepared to take corrective & preventive actions and recover wherever applicable.

Our cybersecurity measures help us to keep up with the current times and through our Customer Privacy Policy we build trust in our relationship with consumers. Procedures emanating out of such policies help us to be future ready for any cyber attacks.

We have made significant strides in our progress towards the targets and commitments set in the previous reporting period. These targets not only build robustness to our systems and controls, but also instils confidence amongst our stakeholders.

We have also designed a next generation Security Operation Centre (SOC) which is currently in the process of configuration and parameterisation of actionable alerts within the system.

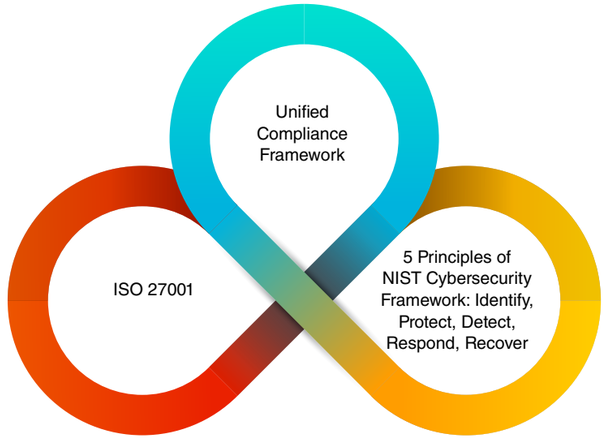
2030 Targets	Progress in FY-23
Implementation of ISO 27001 across generation and distribution utilities and leading to unified compliance management programme while complying with Ministry of Power /CERT-IN guidelines as well as the readiness to comply with the Personal Data Protection Bill whenever enacted.	Implementation of ISO 27001 in all generation facilities completed and corresponding certificate received. Distribution facilities are currently undergoing implementation of ISO 27001 and is expected to be completed by FY 24.
At least one cybersecurity assessment/ validation each year.	Cybersecurity assessment planning for FY 24 is under progress.

Cybersecurity

Aligned with the power sector guidelines to mitigate cybersecurity risks, our cybersecurity policy gets refreshed over time considering the results of vulnerability tests on cybersecurity breach. This helps in identifying the security needs specific to our business and regulatory requirements.

For ensuring the effective implementation of the cybersecurity policy, we have a designated information security team comprising head- IT Security, CISO-Distribution and CISO-Generation to manage and handle all aspects related to cyber security. Structured training programmes are designed on creating awareness about the policy for security teams as well as user departments, while incremental updates get notified from time to time either virtually or in person based on the outcomes of cybersecurity assessment programmes.

We undergo periodically a rigorous cybersecurity assessment programme through CERT-IN empanelled assessors for all our processes and frameworks. During the programme, all our security systems, policies and controls are assessed and validated against applicable regulations and cybersecurity guidelines of CEA. Every year, we proactively assess our own business environment and keep upgrading our security policies, processes, and tools both at our workstation and perimeter levels.



As part of this exercise, we have strengthened the endpoint protection of our workstations and servers through a tailored implementation of Endpoint Detection and Response (EDR)

and Managed Detection and Response (MDR). In parallel, work is in progress to provide cloud-based endpoint backup for designated workstations on a need basis. While we have been on a secure cloud-based email system, an additional layer of anti-phishing and email security is also getting provisioned in phases.

At the enterprise level Critical Information Infrastructures (CII's) for distribution business have been identified and subsequently declared by National Critical Information Infrastructure Protection Centre (NCIIPC) and designated agencies of Ministry of Power. The CIIs for generation business had also been identified and submitted to NCIIPC and is awaiting approval. Further a Cyber Crisis Management Plan has been formulated for both generation and distribution units along with Standard Operating Procedures (SOP).

The cyber security programme is done in accordance with the live functions included in the NIST (National Institute of Standards & Technology, USA) Framework as given below.

Business Continuity Plan

As already mentioned above, the infrastructure setup for a state-of-the art 24x7 Network Operation Centre (NOC) & Security Operation Centre (SOC) is adopting best practices and a sound governance structure to assess potential risks, monitor the information systems & security controls and take corrective & preventive action.

Additionally, we are in the process of upgrading our DC & DR (Data Centre & Disaster Recovery) setup to take advantage of a hyper-converged infrastructure over industry-standard databases.

We confirm that we have experienced no breaches in information security or other cybersecurity incidents over the past three years.

Customer Privacy

We respect and protect the privacy of all individuals who entrust their personal information with us. Conscious efforts are taken by the IT Security Team and the Customer Relations team to assure sound privacy management in compliance with the applicable laws and emerging regulations such as the Data Protection Bill, when enacted.

Our privacy policy provides appropriate information on data collection, storage & processing practices and security measures to protect against unauthorized access, alteration, disclosure or destruction of the user's personal information and data stored in the online platform.

As covered under the policy, we seek consent from consumers before collecting any personal identifiable information such as the name, email address, age, gender, except in cases when the consumer specifically and knowingly provides such information on http://www.cesc.co.in

Also, we condemn sharing personal information to any third party without first receiving their permission.

We disclose that there have been no incidents concerning breach of customer privacy and loss of customer data in last 3 years.

Other Relevant Policies

At CESC, good governance forms the bedrock of our business.

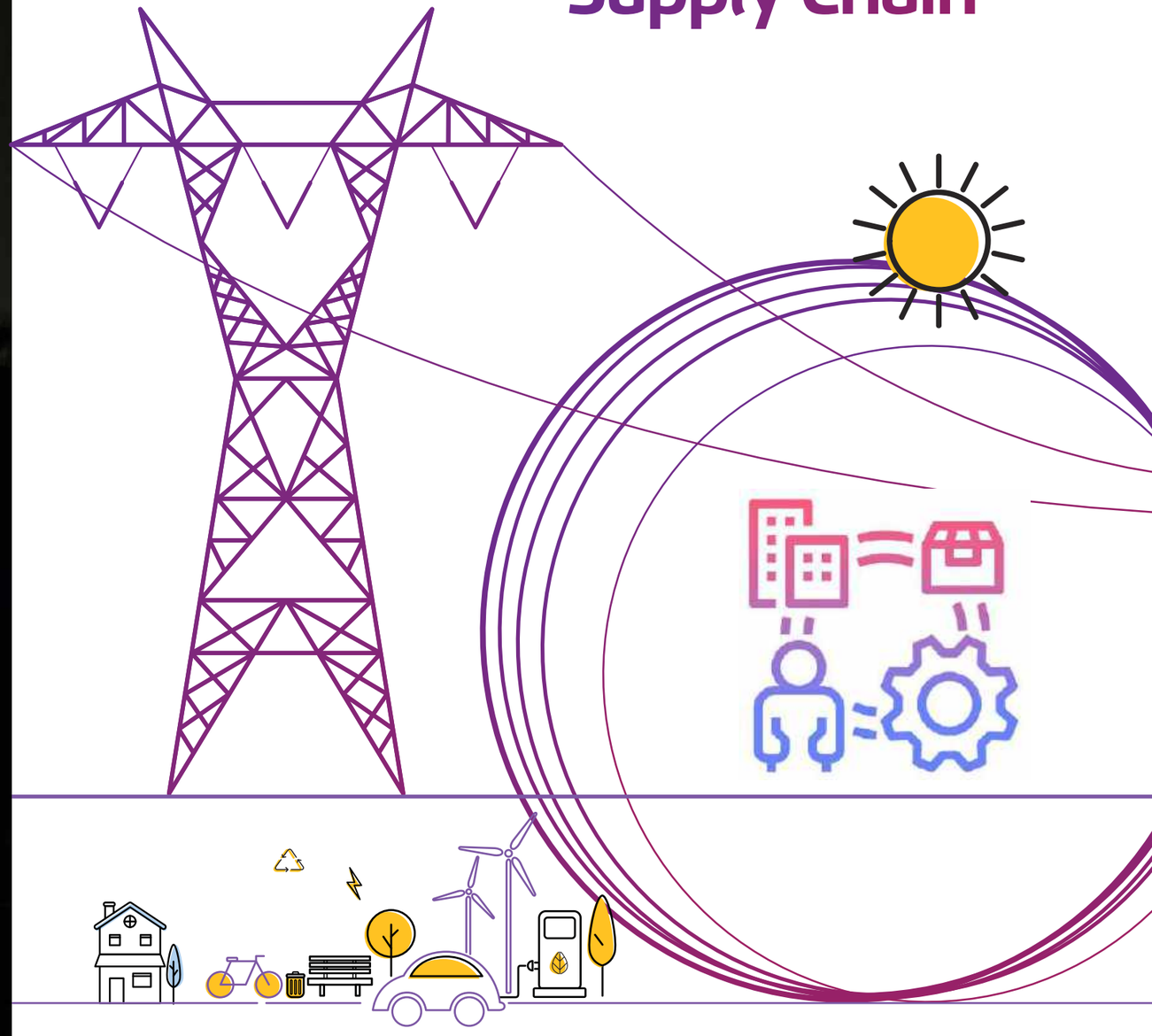
By upholding openness, accountability, and independence in our interactions with our stakeholders, responsible governance helps us to successfully manage economic, environmental, and social risks that have an influence on our business. We conduct our business in alignment with the highest standards of business ethics.

We align with global best practices relating to disclosures and subject ourselves to internal and/or external reviews and governance procedures. These are as follows.

Corporate Policies at CESC

1. Customer
2. Dividend Distribution
3. Related Parties
4. Material
5. Sustainability
6. CSR
7. Preservation of Material Documents
8. Familiarization Programme of Independent Directors
9. Material Subsidiary & Material Events
10. Waste Management
11. Energy Carbon & Environment
12. Water Stewardship
13. Anti Corruption, Anti Bribery
14. Public Advocacy
15. Code of Conduct
16. Occupational Health & Safety
17. Insider Trading Prohibition Code
18. Whistler Blower
19. Ethics, Transparency & Accountability
20. Inclusive Growth & Equitable Development
21. Remuneration
22. Human Resource
23. Stakeholder Engagement
24. Employee Welfare
25. Biodiversity

Responsible Supply Chain



CESC focuses on fostering and improving relationships with suppliers and contractors to drive sustainable growth. Our procurement practices are based on trust, transparency, and collaboration. In addition to providing the desired quality, we expect our suppliers to comply with environmental laws and labour standards.

Embracing our motto," We Source Responsibly", we have adopted the responsible sourcing guideline to ensure that our suppliers comply with applicable laws and meet desirable environmental and social standards.

The Executive Director of the Materials division is responsible for providing updates on progress against targets to the Managing Director in the Management Committee Meeting and incorporates any feedback received as part of the action plan.

We require our suppliers to adhere to the applicable laws, labour standards, and environmental and social regulations in their operations. All suppliers are expected to abide by the Supplier Policy, the Quality Policy, and the Responsible Sourcing Guidelines. We have developed a framework to monitor and evaluate suppliers on the E-procurement module, vendor engagement module, Quality Assurance portal and Supplier Performance Appraisal & Annual Rate Contract (SPAARC).

Targets Summary

2030 Targets	Progress in FY-23	
>80% Procurement spent from local suppliers	CESC: 66% NPCL: 21% HEL: 75% CPL: 100%	DIL: 61% MPSL: 45% CESC Rajasthan: 100%
100% Critical suppliers screened for ESG criteria	CESC: 17% NPCL: 4% HEL: 20.94% CPL: NIL	DIL: 19.39% MPSL: 27% CESC Rajasthan: NIL

SDGs Impacted

Sustainable Supply Chain Process

To strengthen responsible business practices across our supply chain, we ensure suppliers abide by the code and policies. We onboard suppliers on environmental, social, and governance parameters. Our supplier assessment process is given below.

By implementing the triple bottom line strategy in our supply chain, we aim to enhance the concept of supply chain sustainability and minimize the negative externalities from our operations.

Phase 1: Identification of critical suppliers

There is a mechanism in place for evaluating suppliers. We select our critical suppliers based on three parameters- volume, critical materials, and compliance.

Phase 2: Risk assessment

The key ESG risks to suppliers are identified on the basis of document review. Some of the key risks are- bribery and corruption, environmental and social compliance, labour management, climate change, energy waste management, and health and safety.

Phase 3: Developing the Supplier Assessment Questionnaire

We have developed an assessment template that helps us to rate organizations on ESG parameters and then measure the practices adopted by the industry.

Phase 4: Formulation of the Responsible Sourcing Guideline

We have developed a framework and guidelines for assessing and managing ESG supply chain risks. This guidance assists suppliers engaged in power, manufacturing, and distribution in managing their operations sustainably and avoiding potential risks.

Phase 5: Supplier training and capacity building

We organize workshops and training to educate suppliers on the value of sustainability and to identify critical ESG risks to the company. We recognize suppliers for their contributions to the ESG parameters. In addition, we provide a platform for suppliers to share their ideas, stories, and best practices.

Phase 6: On-site sustainability assessment

Our internal audit team assesses suppliers on a periodic basis. They conduct physical inspections of supplier facilities, validate documents, assess using the Supplier Assessment Questionnaire and keep track of corrective actions performed in the next audit. Through this process, we have selected and evaluated 20 such suppliers as a pilot project.

Supplier Diversity & Inclusion

We are dedicated to create a diverse and inclusive supply chain. A diverse and inclusive supply chain fosters innovation in product development, promotes new ideas, and creates economic opportunity for the vulnerable community.

The importance of our suppliers to our company is expressed by the proportion of MSME (Micro, Small, and Medium Size Enterprises) suppliers in our supply chain.

Table 4: Proportion of procurement from MSME suppliers

Company Name	Total Suppliers	% Procurement MSME Suppliers
CESC	1,055	3
NPCL	590	0
CESC Rajasthan	171	93
MPSL	152	28
HEL	547	18
DIL	562	7
CPL	315	27
Consolidated	**3,392**	**14**

Enhancing Local Procurement

We work with local suppliers to increase the agility of our supply chain to react immediately to disasters. For us at CESC, we define local procurement as the purchase of any material or equipment made in India, as well as any service delivered in India. CESC and its subsidiaries' share of local procurement by spending is shown below.

Table 5: Proportion of procurement from local suppliers

Company Name	% Local procurement
CESC	66
NPCL	21
CESC Rajasthan	100
MPSL	45
HEL	75
DIL	61
CPL	100

As CESC strives to attain more than 80% of its procurement expenditure from local vendors and service providers, several initiatives have been taken to assist diverse and local suppliers to expand and sustain their businesses. This includes undertaking joint product development, organizing capacity-building programmes and creating financially supportive models.

CESC has embarked on the process of strengthening and organization of its vendors engaged in tail end procurement of materials. This will help CESC in sourcing better quality products, lean procurement process, better statutory and ESG compliance, which will make supply chain sustainable.

Material Efficiency

To ensure a dependable and uninterrupted power supply, the use of good quality and safe materials is as crucial as maintaining a reliable, resilient, and ethical supply chain. Below are the key products or materials obtained through our distribution operations, emphasizing the significance of materials efficiency.

Table 6: Material consumption in distribution businesses

Types of Materials	Unit of Measurement	CESC Kolkata	NPCL	CESC Rajasthan	MPSL
Transformer oil	Lt.	1,93,850	37,927	10,000	29,549
LT Power cables	Metre	4,47,544	1,35,844	1,23,000	1,544
LT Control cables	Metre	13,000	10,035	12,000	1,84,836
Service cable	Metre	3,41,880	5,25,783	8,75,500	1,69,494
LT AB cable	Metre	38,272	8,322	11,000	807
Optical fibre cable	Metre	13,000	30,906	0	0
EHV cable	Metre	0	42,951	0	94
HT cable	Metre	1,44,891	97,934	13,500	1,028
Pole	Nos.	2,332	2,770	7,650	1,430
Power transformer	Nos.	0	2	6	2
Distribution transformer	Nos.	40	179	355	503
Energy metre	Nos.	1,41,500	40,660	78,250	15,864
Pillar box	Nos.	600	283	250	142

We acknowledge the constraints imposed by existing environmental regulations on their availability for competitive uses and users of ecological systems. To overcome these challenges, we focus on preserving and nurturing the ecology while enhancing operational efficiency.

Material efficiency is paramount at CESC, as we integrate the 3R's approach – Reduce, Reuse, and Recycle. Through collaboration with partners, we identify eco-friendly materials and build resilience against climate change impacts.

Reduce

In addition to digitalizing our documentation and inspection process. We have implemented various initiatives for transition our operations into a digital workspace, leading to a substantial reduction in paper consumption.

A few of these measures include:

- Web-based job allocation portal: The portal assigns tasks to relevant sections, records personnel responsibilities for each job, and facilitates sectional heads' feedback on completed tasks.
- Web-based GPS tracking: This application offers transport insights, allocates fleet resources, and monitors logistics fleet movement.
- Distribution Related Engineering Asset Management System (DREAMS) dashboard: Utilizing this dashboard instead of the conventional platform allows for tracking Scheduled Maintenance/Corrective Maintenance/ Preventive Maintenance jobs and their attended status through a simpler, comprehensive, and graphical presentation.
- Facilitating online quotation for distribution transformer refurbishment.
- Mobile-based applications for reporting of Technical Inspection findings carried out for new application Processing.
- Mobile application for on-the-go reporting of safety observations at job sites.

Subsidiaries like HEL and DIL have adopted paperless operations, incorporating online NFA (Note for Approval) systems to keep track of quotations, vendor correspondences, and comparative sheets. Additionally, they have implemented thermal slip printers for receipts, resulting in reduced paper consumption.

Reuse

We continuously monitor the condition of our assets. Any deviations detected in the operational efficiency of any equipment, we prioritize repair or refurbishment options over immediate replacement. Here are some of the actions we take in this regard:

- Scrap cables are reused according to operational cable length needs.
- Distribution transformers undergo refurbishment internally and through transformer repairers.
- Retrofitted circuit breakers are employed to extend service life when feasible.
- Off-circuit meters are segregated into three categories: healthy, repair, and replacement & scrap-non usable.

Recycle

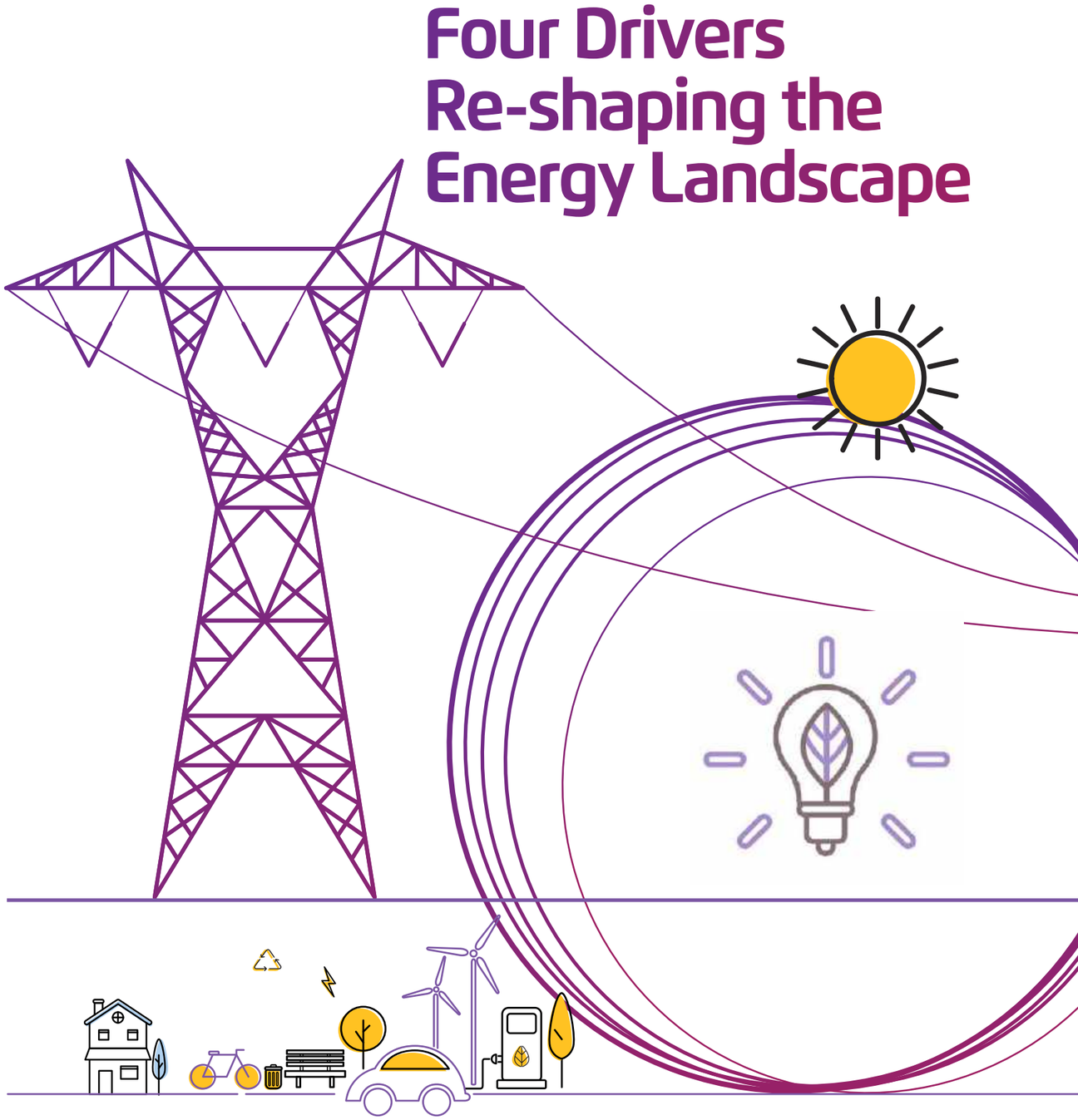
Transformer oil serves as both an insulating and cooling agent in transformers, switchgears, and reactors. Whenever, non-recycled used oil is involved, it can have severe negative effects on the environment. This kind of used oil can contaminate water bodies, and if ignited, it may release various life-threatening substances into the atmosphere.

Used mineral oil is recycled for re-use of the same in On Load Tap Changing (OLTC), distribution transformers etc. thereby minimising waste generation and requirement of additional oil. Transformer oil reclamation is employed to restore the oil's properties. By combining this reclamation process with inhibitor injection, the oxidation stability of the reclaimed oil is significantly enhanced. As a result, the environment is safeguarded by reducing the risk of oil spills and eliminating the generation of waste oil that requires disposal.

CESC and its subsidiaries recycle transformer oil in accordance with the above principles.

Transformer Oil Recycled (%)	CESC Kolkata : 34.75	NPCL : 100

Four Drivers Re-shaping the Energy Landscape



The demand for electricity has been increasing rapidly due to economic growth, development projects and even change in human lifestyle. This increase in demand is also driven by the efforts to replace fossil fuels with electricity in cars and household appliances. Various industries and commercial sectors have been striving to meet their net zero commitments and reduction of greenhouse gas emissions by increasing their reliance on electricity.

As time progresses, operating a utility company's network is becoming more complex and challenging. The power grid is shifting away from relying on large power plants, centralized operations, and one-way power flow to embracing smaller power producers, decentralized operations, bidirectional power flow, and proactive consumers (prosumers). Additionally, the aging infrastructure and continuous growth in demand present additional obstacles.

Recognizing these challenges, we have adopted a four-pronged approach known as the 4-D approach: Digitalization, Decarbonization, Decentralization, and Disaster Management. This approach aims to address the complexities of the evolving energy landscape by leveraging digital technologies, reducing carbon emissions, promoting decentralized energy production, and effectively managing potential disasters.

Digitalization

Digitalization is a crucial lever in driving our performance towards providing reliable and continuous power through the adoption of advanced technology. Digitalization creates greater value across operational business units and accelerates innovation at CESC along with enhancing the customer service offerings.

These technological innovations, in the form of digital services, help us to create better customer experiences and enhance the environment of customer interactions.

Enhancing Customer Experience

At CESC, the central focus of our services is our customers and their satisfaction. Customer interactions with CESC and their convenience holds paramount importance to us. We continuously aim to upgrade the channels to enable customers connectivity.

Based on continuous consumer suggestions and feedback, appropriate corrective actions are implemented with dedicated attention to customer satisfaction. We conduct two levels of perception surveys each year to stay aligned with the market requirements and standards as depicted alongside.

On-call survey

- Daily third-party surveys by third-party agents
- Information is gathered on performance parameters of grievance redressals and new applications

Online digital survey

- Feedback on digital services availed from the CESC website
- Based on the customers' overall experience, service requirement, and ease of transaction

After engaging with the relevant stakeholders through dialogue and collaboration, we foresee industry requirements to design and develop digital services and technologies. These technological innovations, in the form of digital services, help us to create better customer experiences and enhance the environment of customer interactions. The various modes of communication cover the following as depicted alongside.

We continuously aim to upgrade the channels through which our customers can connect with us. Additionally, we constantly monitor response times for complaint resolution and query handling, which is supplemented by our new VoiceBot, Aastha, embedded with AI/ML & Natural Language Learning (NLL)/Natural Language Processing (NLP) technologies is operational in local vernacular languages as well improve customer service delivery with near zero call wait time.

In today's era, individuals have various options to express their grievances in a convenient manner and without leaving their homes or workplaces. These options encompass a range of communication channels such as phone calls, formal written complaints, a Queue Management System for in-person visits, social media platforms, websites, text messages, emails, the CESC Application, WhatsApp, and automated chatbot services.

Digital office

Plethora of digital services at consumers' fingertips, from the comfort and safety of their homes

CESC mobile app

One stop solution online payments, billing complaints, supply issues, and AC applications

WhatsApp bot

Superior customer experience and services on a daily use platform of customers' choice

24x7 Call center

State-of-the-art IVRS, auto complaints, supported by GIS and algorithms

Chatbot- eBuddy

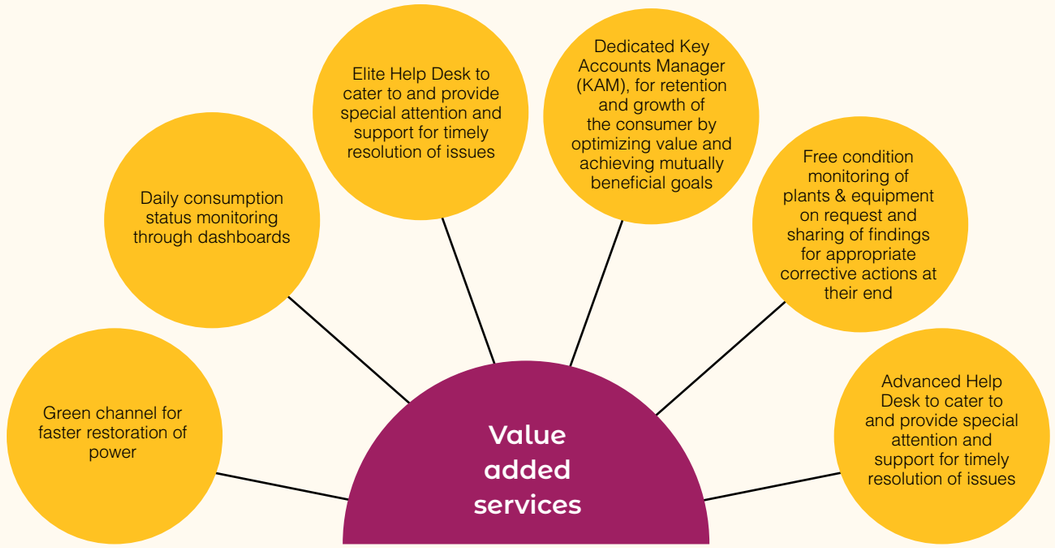
Leveraging AI/ML techniques to address customer queries

Social media (sentiment analysis)

For better customer service, tracking activity on FB, Twitter, Instagram, LinkedIn, etc.

Furthermore, for premium customers, there is personalized range of value-added services depicted in the following page.

Additionally, we constantly monitor response times for complaint resolution and query handling, which is supplementing our new VoiceBot- Aastha , AI chatBot- Saathi and Video Call Centre (VCC).



Aastha: a multilingual voice bot

Aastha is an initiative launched to improve customer experience by providing a digital voice assistant integrated with AI, ML, and NLP technologies. It is connected to the existing CRM and Outage Management System to offer quick and consistent assistance to customers. This VoiceBot communicates with customers in their preferred language, helping them with outage-related issues and registering complaints. The utility company became the first in the country to introduce a humanoid voice assistant in regional languages alongside English and Hindi. The VoiceBot understands various words related to power outages and eliminates wait time by taking over calls when call center executives are busy.

Saathi: AI chatbot at NPCL

"Saathi" is an AI chatbot developed by NPCL to enhance digital services for consumers. It offers a wide range of services, including online complaint and request registration, bill downloading, and online payment of estimates. The call centre, supported by an Interactive Voice Response System (IVRS) system, allows consumers to register complaints or queries conveniently from their homes. In the future, NPCL plans to introduce menu-based solutions within the chatbot's functionality, improving accuracy and providing an additional channel for direct interaction with an agent.

Project Maitri at NPCL

For redefining service experience for our highly valued consumers, NPCL has launched 'Project Maitri' during the reporting period. The prime focus of this project is to deliver excellence and render priority services by assigning a dedicated Key Account Manager (KAM) to every high-value consumer. The KAM is responsible to closely monitor every intervention in terms of complaints, requests and queries and ensure redressal with proactive approach.

Video Call Centre (VID-U)

The Video Call Centre (VCC) is another first-of-a-kind service provided by an Indian utility to its customers for added support during supply-related cases. This has enabled customers to interact with live agents on a real-time basis via video call.

NPCL Appointment Based Services

NPCL in its digital journey launched three initiatives to make access easier for its customers in July-22.

i. The Doorstep Services (DSS)- DSS are designed for senior citizens and those with chronic illnesses or disabilities. They aim to make life easier for commuters and those with technology-driven challenges. The Customer Relations team assesses requests and sends personnel to the applicant's registered communication address. Services covered include new service connections, load enhancement, name and address correction, and meter shifting from Monday to Friday.

ii. Video call support- NPCL has introduced video call support for its services from home, Monday to Friday, from 10:00 a.m. to 5:00 p.m. Applicants and customers can submit requests using various touch points, and the facility will soon be deployed at the call centre.

iii. Pre-book appointment- Customers/applicants who prefer in-person visits at our Customer Care Offices (CCOs) at Knowledge Park 1 and TechZone can now pre-book appointments to avoid waiting time at CCOs. To avail of these services, consumers are required to select a suitable time slot through the NPCL website, WhatsApp, Mobile App or Chatbot.

Salient features of Appointment Based Services

Multi-channel Online Payment

CESC prioritizes ensuring high quality services to its consumers, through upgrading and adopting cutting-edge technological solutions and digitalizing processes. The range of digital services offered also extends to digital modes of payment.

As a part of our efforts towards creating a digital India, we have been enhancing our digital payments continuously. The focus of our enhancements is user-friendly and intuitive technologies which make online bill payments easier for our customers. A wide array of options is available to our customers when it comes to online bill payments. These options include mobile wallets, debit/credit cards, net banking, ECS, NEFT/RTGS, auto pay, Bharat QR and UPI.

Such continuous adaptation and evolution have enabled us to create extraordinary user experiences through online billing for more than a decade now. We are absorbing convenience fees for payment processing through digital channels, including secure gateways and payment wallets such as PayTM, PhonePe, Amazon Pay for improving our services. We have also engaged multiple e-Zones across the licensed area to ensure ease of digital payments.

These successful digital implementations have not only improved user experience, but also has increased the penetration of online payments from 71% to 74.28% over last 3 years. The online payment penetration for NPCL and CESC Rajasthan is 87% and 67.44% respectively. To encourage people to participate in the GoGreen initiative, a lucky draw was organized for the local consumers of NPCL who were regularly paying online.

We strive to enhance the online payment penetration to 90% by expanding the options provided in our digital ecosystem. We utilize digitalization as not only a driver of sustainability but also to provide reliable and continuous power supply.

Targets Summary

2030 Targets	Progress in FY-23	
We Target to have>90% of payments from digital platforms by 2030.	CESC: 74.28% MPSL: 28%	CESC Rajasthan: 67.44% NPCL: 87%

Reliable and Continuous Power Supply

Unexpected and un-anticipated power outages due to faults, observed to have a decreasing trend over the years, occasionally affect our goal of providing our customers with quality and stable power supply throughout the year. It is our responsibility to detect such cases of outages and restore power at the earliest possible.

To uphold our promise to customers, we have implemented an intelligent outage management system.

Step 1: Outage detection

Not all consumer premises have smart meters, thereby limiting remote outage detection. Consumer complaints are the only way to know about outages, causing delays in restoration. To improve this, a novel outage detection system was implemented using AMR infrastructure. This includes, all utilities have been retrofitted with modems to send outage and restoration alerts.

Step 2: Customer Relationship Management System

All complaints received are documented in the Customer Relationship Management (CRM) system and sent to LT control room engineers for dispatch. SMS is sent to inform consumers about faults and expected restoration time. An Outage Management System application, synced with SCADA, provides real-time information on outages and restoration. LT Control Room Engineers monitor the CRM dashboard 24/7, ensuring supply restoration is expedited.

Targets Summary

2030 Targets	Progress in FY-23	
Maintain Average Response time below 1 hr for large area outages	CESC: 1.05 Hrs NPCL: 1.33 Hrs	MPSL: 0.9 Hrs CESC Rajasthan: 0.9 Hrs

Targets Summary

2030 Targets	Progress in FY-23	
95% TAT adherence to consumer complaints	CESC: 93% NPCL: 98.36%	MPSL: 73.79% CESC Rajasthan: 73.82%

Step 3: Crew Mobilization and Outage Restoration

The HT & LT command centres utilize GIS technology to enable quick mobilization of gangs and GPS tracking for supply restoration. Remotely operable motorized Ring Main Units (RMUs) with communication infrastructure provide multiple supply connectivity options, to ensure faster restoration. HV Automation has been deployed at essential consumers viz. drainage pumping stations, hospitals, burning ghats, government buildings and offices etc. to ensure uninterrupted power.

CESC's approach to preventing power interruptions during significant events

At CESC, we fulfill our commitment by guaranteeing uninterrupted and smooth execution of important events such as elections, exams, vaccination programs, and festivals. We create a comprehensive list of the event venues and map their respective power supply points.

Regular condition monitoring is performed at the power supply points, and are designated as 'Non sheddable' to ensure reliability. We realign network isolation points and introduce network automation at crucial locations to expedite the restoration process. To promptly address any power outages, we deploy dedicated nodal officers and establish centralized monitoring at the regional/district level. This coordinated effort involves competent administrative authorities.

In Kolkata, during the Durga Puja festival, we meticulously maintain and prepare all our plants, equipment, and networks to guarantee uninterrupted power supply by implementing a modern smart network with automation to facilitate faster power restoration. We deploy over 200 emergency supply restoration vans, 100 repair teams, and allocate 6000 employees to various strategic locations. Additionally, we operate a dedicated 24x7 Control Room during festival days specifically for Puja Organizers.

Preventive to Predictive Maintenance

For further enhancement of operational efficiency, we have adopted several breakthrough technologies for predictive maintenance, with a focus on 'Zero Downtime'. Such technologies include remote IoT based monitoring of critical assets, drone-based monitoring of distribution infrastructure, self-healing network, and pan-tilt motor mounted thermal cameras for monitoring of substation assets.

1. Self-Healing Network

For 33kV consumers

To enhance decision making, a smart solution using Programmable Logic Controllers (PLCs) has been implemented. These PLCs, combined with Remote Terminal Units (RTUs) or Intelligent Electronic Devices (IEDs), allow key 33kV consumers to quickly restore their power supply from nearby networks automatically, without any intervention, immediately after a power outage.

For 6kV and 11kV consumers

To ensure uninterrupted power supply, automated Remote Monitoring Units (RMUs) have been enhanced with edge computing capabilities. These intelligent RMUs quickly restores power locally within seconds, without any manual intervention, in the event of a supply outage from either of the two feeding points in the network.

For LT Consumers

For specific low-tension (LT) consumers with dual power feeds, automatic LT changeover equipment has been installed. This equipment enables the consumers to seamlessly switch to an alternate supply point without any manual intervention in the event of a power interruption.

For Substations

Existing Automation Units (RTUs) have been enhanced with self-healing capabilities to facilitate automatic and rapid restoration of bulk loads in substations without any intervention. This technology ensures seamless and uninterrupted power supply for substations, enabling quick recovery in case of disruptions.

2. IoT Sensor-based Condition Monitoring of Transformers

Transformers now have IoT-based sensors installed to monitor various parameters such as temperature, humidity, oil level, and door status. This ensures the well-being of our assets. Any damage to a transformer, whether caused by overloading, insulation failure, or excessive heat in the windings due to internal issues, can lead to prolonged power outages affecting hundreds of consumers, which is undesirable for any utility provider.

These sensor readings are wirelessly transmitted to our in-house software using Internet of Things (IoT) technology via lightweight MQTTS transport technology. The data is then presented in real-time through a dashboard in both graphical and tabular formats. This enables timely predictive maintenance, extends the lifespan of assets, and helps prevent potential faults and outages. Ultimately, these improvements have a positive impact on the environment and society.

3. Drone-based Monitoring of Distribution Infrastructure

UAVs (drones) are being increasingly used in distribution line maintenance across the world. At CESC, we use drones for the services depicted below.

- Health assessment of towers and conductors
- Distribution corridor mapping
- Thermographic scanning
- Monitoring and supervision of maintenance works

4. Pan Tilt Motor Mounted Thermal Cameras for Monitoring of Substation Assets

Thermal imaging is conducted annually, or as needed, using thermal vision cameras to inspect all electrical joints. This process identifies areas of high contact resistance by detecting hotspots. Once these critical spots are identified, they are promptly addressed and attended to as a priority.

5. Punctured Insulator Detection Test

Every two years, Punctured Insulator Detection (PID) test is conducted on all insulator strings connected to the 220/132 kV lines. This test examines the insulator discs by analyzing the flux distribution along each disc. Any faulty insulator discs detected, are replaced based on their criticality. This ensures the reliability and functionality of the insulator system.

6. Measurement of Tower Footing Resistance

The performance of a distribution line is significantly influenced by the tower footing resistance of each tower. Lightning transients causes frequent tripping due to back-flashover across the insulators. The magnitude of overvoltage across the insulators, and consequently the back-flashover rate, is directly related to the tower footing resistance. To assess this resistance, a Tower Footing Resistance (TFR) meter is used once every two years. It is desirable to have a low tower footing resistance to minimize overvoltage. If the resistance exceeds the specified value of 10 ohms, necessary measures are taken to reduce it.

7. Extended Reality: Augmented Reality (AR), Virtual Reality (VR) and Mixed Reality (MR)

Our New Cossipore and Park Circus Substations in Kolkata have been mapped using Extended Reality (XR) technologies. Through the implementation of Mixed Reality (MR) applications, engineers virtually enter the substations with a simple click and gather real-time data such as live current and voltage readings. Equipped with real-time information about the substation, enables engineers to investigate faults by accessing the fault analyzer and receive disturbance records on their mobile devices for analysis and network restoration, without manual intervention.

Moreover, with Simultaneous Localization and Mapping (SLAM) technology, virtual placement of equipment such as 33 kV RMU, LT pillar boxes, and meter arrangements at the site becomes possible using the built-in cameras of mobile devices or tablets. This technology allows users to anticipate potential installation issues and ensures sufficient clearance maintenance around the equipment. Consequently, it facilitates faster and more effective decision-making, optimizes manpower, and increases workforce productivity at the site.

Disaster Management

With increasing climate change related disasters all over the country, occurrences of floods and cyclones have become more frequent and intense. In several states of India, these disasters cause damage to life and property, and force people to displace.

At CESC, we have a comprehensive set of standard operating procedures developed for pre, during and post-disaster activities with guidance from the top management. The execution of this plan is overseen by a three-tier governance structure depicted alongside.

This 3-tier plan ensures communication, coordination, resource augmentation and redundancy enhancement to ensure disaster preparedness.

- Apex Disaster Management Group (ADMG)
- Central Disaster Management Group (CDMG)
- Nodal Disaster Management Group (NDMG)

Decentralization

With the aim of reducing disruptions in the electricity generation systems, we strive towards decentralising our electricity systems. Clean and green energy are at the centre of this transition, creating a positive impact on multiple sectors and stakeholder groups.

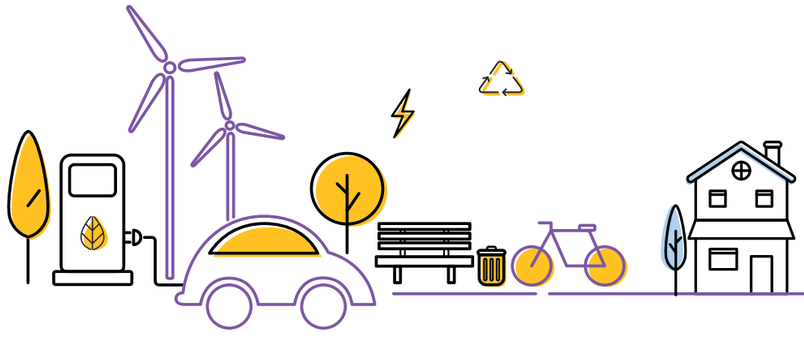
To meet the increasing electrical demand, distributed solar power generation is a key contributor. Also, clean energy requires high capital investment towards addition of utility scale solar PV and cost-effective energy generation.

At CESC, we recognize this a tremendous opportunity to turn disruptive threats into opportunities through new value-driven business models. Service-oriented microgrid technologies act as gamechangers in the future, due to their resilience and ability to deliver efficient and competitive service.

Decarbonization

Rapid and focused decarbonization is essential for our future. The increase in energy efficiency has positive consequences in the long term. We, at CESC, lay great emphasis on decarbonization.

The ESG Policy serves as the direction for CESC's specified plan, which includes enhancing energy efficiency including renewable energy in our operations, pushing for a low-carbon transformation of the value chain, encouraging demand side management initiatives, and reducing distribution losses which are all examples of good practices. At CESC, these serve as different levers to achieve decarbonization. They are as follows:



1. Green Buildings

CESC believes in optimization of energy resources and increasing utilization of renewable energy by implementing the concept of green building. "Green Building" refers to both a structure and use of methods that are resource and environmentally conscious throughout a building's life cycle, from planning through maintenance. CESC embraces the principles of green building to enhance resource optimization and efficiency. Most of our offices, administrative buildings and substations operates on green building principles to supplement the decarbonization process through energy efficiency measures.

Several establishments of CESC comprising of three substations, one office building and one gate complex were converted to certified green buildings during the year.

CESC's Green Building Initiative

Our pathbreaking transformative journey of converting 1.5 million square feet of operating area into green certified spaces testifies our commitment towards our goal to become the most responsible player in the power industry. Green buildings have now been ingrained in the DNA of the company. We are proud to disclose that twelve of the company's establishments are certified green buildings with many firsts. Our pioneer project, CESC House, an 80 plus years nationally recognized heritage building, has been awarded LEED Platinum Certification by the United States Green Building Council (USGBC), which is a first in India. CESC Ltd's Park Circus Distribution station is LEED (v4.1 O+M) Gold certified by USGBC under existing building category in May 2022 making it the first LEED (v4.1 O+M) Gold certified Electrical Distribution station in India.

FY 22-23 was a remarkable year for CESC Ltd. from the perspective of green buildings. During FY 23, five of the company's establishments got green building certification which includes four certifications from USGBC and one from IGBC. The details of the same are as follows:

1. Princep Street Substation – received LEED (v4.1) O+M Gold certification form USGBC. This project has 5kWP solar plant onsite.
2. BT Road Substation - received LEED (v4.1) Gold certification. The project achieved 18% water savings over and above the USGBC baseline for similar type of buildings.
3. Patuli Substation – received a LEED (v4.1) O+M Platinum certification from USGBC. This project achieved almost 30% energy savings over and above the USGBC baseline for similar types of buildings.
4. Lord Sinha Road Office - received a LEED (v4.1) Gold certification from USGBC. This project comes with a 10 kWP of onsite solar power plant. It has also achieved 25% energy savings over and above the USGBC baseline for similar buildings.
5. Gate complex at Budge Budge Generating Station – received the prestigious IGBC Platinum rating under existing building category. This project has an onsite solar power plant of 18kWP, rainwater harvesting facility, energy recovery ventilation units etc.

All the four certifications from USGBC came with the unique feature of real-time monitoring of building performance through the Dynamic Arc Platform.

With these achievements we added approximately 1 lac square feet of certified green space to their existing portfolio. This itself speaks loud of our commitment towards greening our businesses and operations

Patuli SS – Certified as LEED v4.1 Platinum in 2023 by USGBC

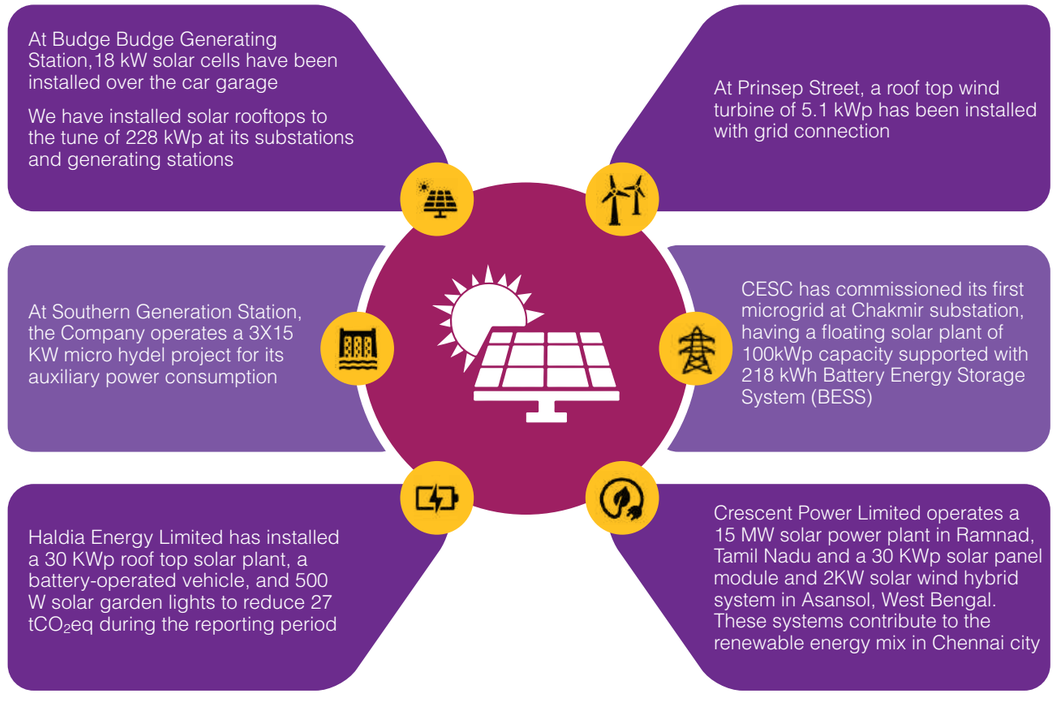
BBGS gate complex - Certified as "IGBC Platinum in 2023

B T Road SS – Certified LEED v 4.1 Gold in 2023 by USGBC

Lord Sinha Road Office – Certified as LEED v4.1 Gold in 2023 by USGBC

2. Integration of Renewable Energy

Renewable energy is a key factor for reducing our cost and carbon footprint. At CESC, we recognize the adoption of renewable energy results in efficient use of material and hence offsets the environmental impacts. We take an active stance towards energy consciousness. implements latest eco-efficient solutions to increase energy savings in the business operations. Our interventions implemented is showcased below.



3. Low Carbon Transformation of Value Chain

CESC believes in the reduction of the carbon intensity of its business processes by substituting conventional fossil fuels with alternate fuels. We prioritize electrifying the value chain to enable low-carbon transformation. In this effort we encourage public and our consumers to use environmentally friendly technologies and appliances, such electric cars and e-cooking.

Targets Summary

2030 Targets	Progress in FY-23	
100% of operational fleet will be replaced by green technology such as Electric Vehicles	CESC: 4.2% NPCL: 6%	MPSL: NIL CESC Rajasthan: NIL
10,000 commercial/industrial/residential canteens and roadside eateries in adopting e-cooking to replace conventional fuel	CESC: 500 NPCL: NIL	MPSL: NIL CESC Rajasthan: 4

Adoption of Electric Vehicles

At CESC, we strive on reducing carbon footprint by the utilization of electric vehicles. The Government of India's Faster Adoption and Manufacturing of Hybrid & Electric Vehicle (FAME) Policy, along with several supplementary policies that require the establishment of electric vehicle charging infrastructure in residential and commercial buildings, are driving in the growth of electric vehicle market.

We have targeted to convert the whole distribution fleet to electric cars by 2030 and have introduced electric two-wheelers for captive usage in our operations at CESC and NPCL.

CESC recognizes the importance and necessity of using electric vehicles. Currently, three EV public charging stations have been installed in partnership with Kolkata Municipal Corporation covering three key locations. Additionally, we have built captive EV charging stations at two locations (CESC House and Taratala DTI) and two electric vehicle charging stations at NPCL for internal use.

Additionally, we provided supply to West Bengal Transport Corporation (WBTC) to facilitate electric bus charging at 11 nos. bus depots throughout the licensed area. We are in the process of providing supply at another 13 nos. bus depots to cater to the upcoming EV charging load. CESC has also provided supply to the EV charging stations being set up at fuel pumps of major Oil Marketing Companies (OMCs) by charge-point operators.

Collaboration with GoBykes, a rental e-bike aggregator for internal e-Scooty commuting at CESC

EV charging station

Adoption of Electric Cooking

In addition to the usage of electric vehicles, we encourage the usage of electronic kitchen appliances which was also showcased at the Kolkata International Book Fair. To provide the public a clean and healthy atmosphere, we target to aid 25,000 commercial/industrial/residential/canteens/roadside eateries to adopt e-cooking over conventional cooking by 2030.

As a result of our demand side interventions, we ensure that our consumers become conscious regarding their usage by adopting energy efficient practices and have successfully converted 500 canteens, restaurants and road-side eateries to electric cooking.

Demand Side Management

CESC recognizes energy as a finite resource which needs to be utilized mindfully and responsibly. CESC makes dedicated efforts to aware its consumers about the conscious usage of energy. The electricity bill provided by us aids customers in management of power demand. The bill enlightens the consumers regarding their consumption and tariff details thus maintaining transparency, and additionally providing energy efficiency tips. CESC also has an e-booklet “Be Smart Save Smart” delivering energy-saving tips. CESC’s website and other digital service platforms is a powerful tool to inform the customers about the latest technologies promoting energy conservation.

Furthermore, CESC has achieved tremendous progress in tracking its carbon footprint and lowering its emissions over time through the effective adoption and implementation of the decarbonization strategy.

Loss Control

Distribution loss is one of the key parameters for CESC and its distribution subsidiaries. There are two categories of distribution losses- technical and non-technical. Non-technical losses occur due to electricity theft, whereas technical losses are caused due to dissipation of energy in the conductors and magnetic losses. These losses impact the health of the utility, both economically and operationally thereby increasing our greenhouse gas footprint. Our strategic Loss Control Cell (LCC) schedules periodic energy audits, identifies loss-prone areas, and applies innovative methods ensuring minimisation of distribution losses. We have undertaken several measures to prevent electricity theft and arrest system losses.

Arresting system losses

We, at CESC implemented two measures to arrest system losses during the reporting period portrayed below.

Replacing non-functional Automatic Power Factor Control panels (APFC):

We identify APFC panels with old, damaged, derated and burnt components which were beyond repair. To improve the power factor of the distribution transformer and arrest the loss, CESC initiated phase-wise replacement of the panels. This has reduced losses, and improved voltage profile for our customers. The average power factor has been significantly corrected from 0.79 to 0.96.

Phasing out 2G-based street light meters:

Due to the emergence of better, advanced 2G technology and IOT devices reading (AMR) of street light meters is becoming an obsolete practice. We have implemented 4G meters in our system to ensure cent percent billing and improve our AMR communication.

Preventing electricity thefts

Unauthorized energy consumption continues to plague our efforts to curtail our greenhouse gas emissions and our endeavour to provide safe and reliable electricity.

It not only impacts our power purchase decisions, but also inevitably accounts for blackouts, encouraging our customers to opt for electricity sourced from alternatives such as diesel generators. Some of the measures we have adopted to address this issue are listed as follows:

Social Measure

Besides ensuring access to authorized electricity, our purpose extends to building a harmonious relationship and engaging with our customers and their family members in social reconstruction interventions.

Management Measure

A three-layered governance structure was implemented to eliminate unauthorized access to power and convert unauthorized users into authorized consumers. The process involved site inspection, billing, and meter installation within 24 hours. Local youths and Lions Club collaborated to identify households without authorized supply. Applications were clustered into a single application, reducing inspection time and ensuring meter connections were installed within 24 hours. The team continues to follow up with non-applicants to minimize distribution losses and create access to authorized electricity.

Technical Measure

To complement the management measures, the technical measures we have adopted are network reconfiguration, tamper proof metering, smart metering and Loss Management System (LMS), securing pillar boxes and distributing lines to prevent tampering.

The above measures have enabled us to significantly reduce our distribution losses. The following technical solutions at subsidiaries have enabled us to reduce the losses.

CESC Rajasthan

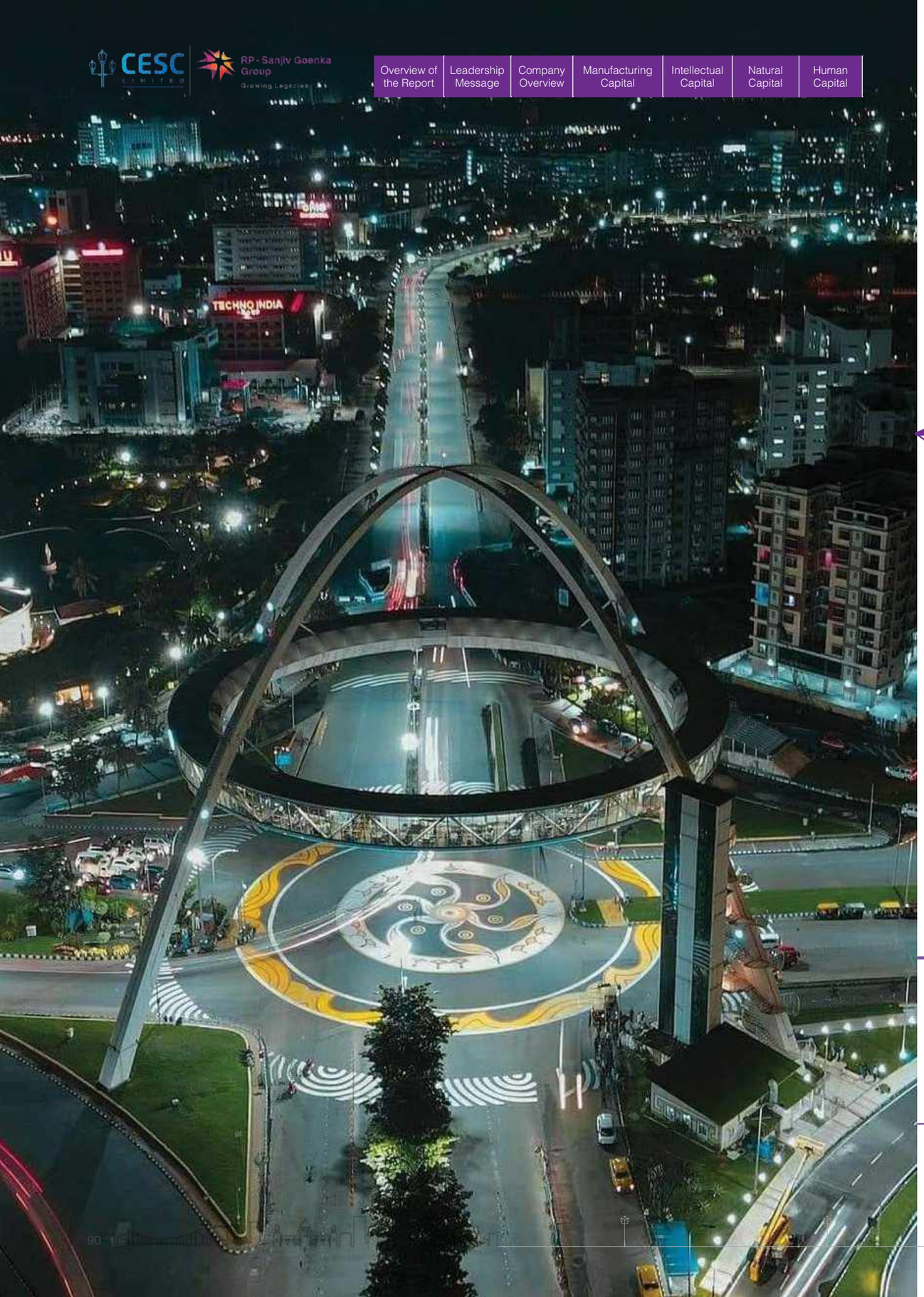
- Replacement of old and dilapidated network with state-of-art network peripherals
- Replacement of old meters with new meters
- Replacement of cable with open joints and damaged insulation with armoured cables
- Optimization of transformer loading and creation of load centres
- CESC and its distribution subsidiaries have developed a roadmap towards a low carbon transformation. Our detailed carbon footprint and energy footprint is available in Annexure A and Annexure B of this report respectively

NPCL

- Surveillance team has been deputed on site for capturing the images of theft cases and damaged network via mobile app which is connected to a distribution transformer
- Other than routine inspection drives, conducted special drives with Police support in high theft prone areas for booking theft cases under Sec 135 of Electricity Act 2003
- Started drives in the night hours and early morning hours in the rural area to detect theft cases in rural area.
- Booked theft cases through meter data download analysis by implementing software tools based on artificial intelligence approach
- Collection of theft information from consumers through WhatsApp and web-site
- NPCL started using Unmanned Aerial Vehicles (UAVs), more commonly called drones after taking an Unique Identification Number (UIN) and an Unmanned Aircraft Operator Permit (UAOP) from the Directorate General of Civil Aviation (DGCA) to identify cases of direct cable-hooking. The high-resolution aerial pictures captured though drones are being presented, as proof, in the court of law
- Assigned Feeder Managers to provide theft inputs through field surveillance for effective vigilance drives and conducted de-hooking drives at night
- Providing offenders information indulging in theft of electricity through press release in various newspapers and also executed village wise public announcement for demotivating the offender, providing awareness against electricity theft and safety of network to public at large

MPSL

- DT cleaning on high loss feeder
- Erection of pole whenever required
- Stringing of armoured cable
- Service cable replacement
- Secondary Lighting Distribution Board (SLDB) replacement
- Defective meter replacement
- Meter sealing and SLDB Sealing
- New Service Connection (NSC) document received, and demand note issued against un-meter consumer
- Peak Time Rebate augmentation from 5 MVA to 10 MVA
- 11 KV feeder bifurcation
- Conductor replacement with higher capacity
- 11 KV new feeder addition
- Bare to Aerial Bunched (AB) cable on high loss DTRs
- Pillar box replacement and sealing
- New Distribution Transformer (DTR) addition, DTR augmentation, load balancing
- 1-phase and 3-phase meter replacement and shifting with armoured cable
- Vigilance surveillance on high loss area. New service connection released
- De-hooking on top high loss feeders
- Night drive (checking) with police and without police on plastic industry and power loom area
- Terminal sealing of PCO consumer with carpatch
- Providing 3-phase meter box with existing meter
- Prodigy meter rectified/ replacement on high value consumers
- Common Meter Reading Instrument (CMRI) analysis on PC0 consumers



Public Safety and Accessibility

At CESC, it is important for us to ensure public safety and provide access to affordable and reliable electricity. Electricity is a critical resource that mandates highest levels of safety and precaution in its handling. At CESC, we ensure that safety norms are established and followed across our value chain and extended to all stakeholders.

Theft of electricity comes with the added risks of electrocution, fire, and damage to electrical appliances. People indulging in electricity theft often have lack of access to electricity, caused by poverty.

Through our actions illustrated under Corporate Citizenship, we are also addressing poverty. Furthermore, we maintain additional measures to make electricity safer and more accessible.

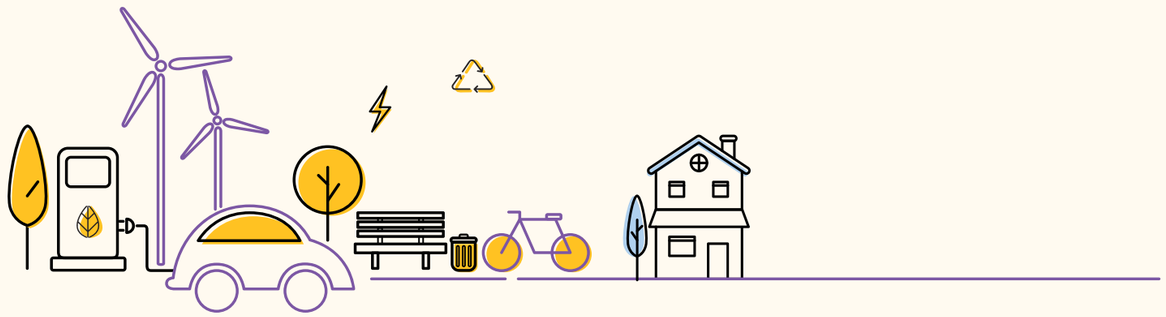
Public Safety

As a responsible corporate, CESC highly prioritizes public safety. During unpredictable situations such as tropical cyclones (like Amphan and Yaas), we weathered risks by incorporating a three-pronged approach, that ensures safeguard to the public from losses, injuries, or damages.

To deploy the three-pronged approach, the Safety Cell works in close collaboration with the Corporate Communication Department and Customer Relations Department, to seamlessly mitigate any incidents caused due to logistics, transportation, installation, or repair of equipment.

As part of this approach, the interventions implemented are discussed in the following sections.

- Ensuring safety during installation and maintenance activities
- Ensuring safety and access control of plants and equipment in public places
- Safe handling of electricity



1. Ensuring safety during installation and maintenance activities

All the latest installations are performed with utmost consciousness ensuring zero harm to the public. To securely perform installations, fault isolation, repairs, and maintenance work, CESC workmen and employees undertake the required precautions and measures. Danger notices, caution boards and physical barriers are installed to alert the public while working near residential areas or roads.

Our strategy for mitigating any possibility of hazard exposure to public is:

Assessment of work zone where construction, maintenance, or utility work activities are done → **Ensuring compliance of effective safety control, competent workforce and use of correct tools and tackles** → **Ensuring that the area is returned to its original condition to the extent possible**

2. Ensuring safety and access control of plants and equipment in public places

CESC is a liable organization and is conscious of the probable health and safety effects caused due to the installation in the public spaces. By identifying the coordinates where the frequency and probability of risk occurrences is high, we develop strategic plans to alleviate the impacts due to installation. Various measures to lessen the risks mentioned below:

- Routine checking of earth resistance at individual poles
- Development and introduction of insulated FRP pole-jacket and FRP Pole clamp
- Trimming of tree branches
- Replacement of bare overhead conductors with Arial Bundle (AB) Cables
- Raising of distribution pillar boxes in low lying areas
- Introduction of IOT based water level sensors

One of the interventions we conducted to mitigate these potential impacts is mentioned below:

Safe Handling of Electricity during monsoons in Kolkata

We frequently receive calls from customers during monsoon season about pillar boxes or poles leaking electricity or becoming alive. In such crucial cases, we immediately deploy our teams to de-energize supply to affected poles and pillar boxes. This prevents any electrocution, shocks or potential dangers to public at large.

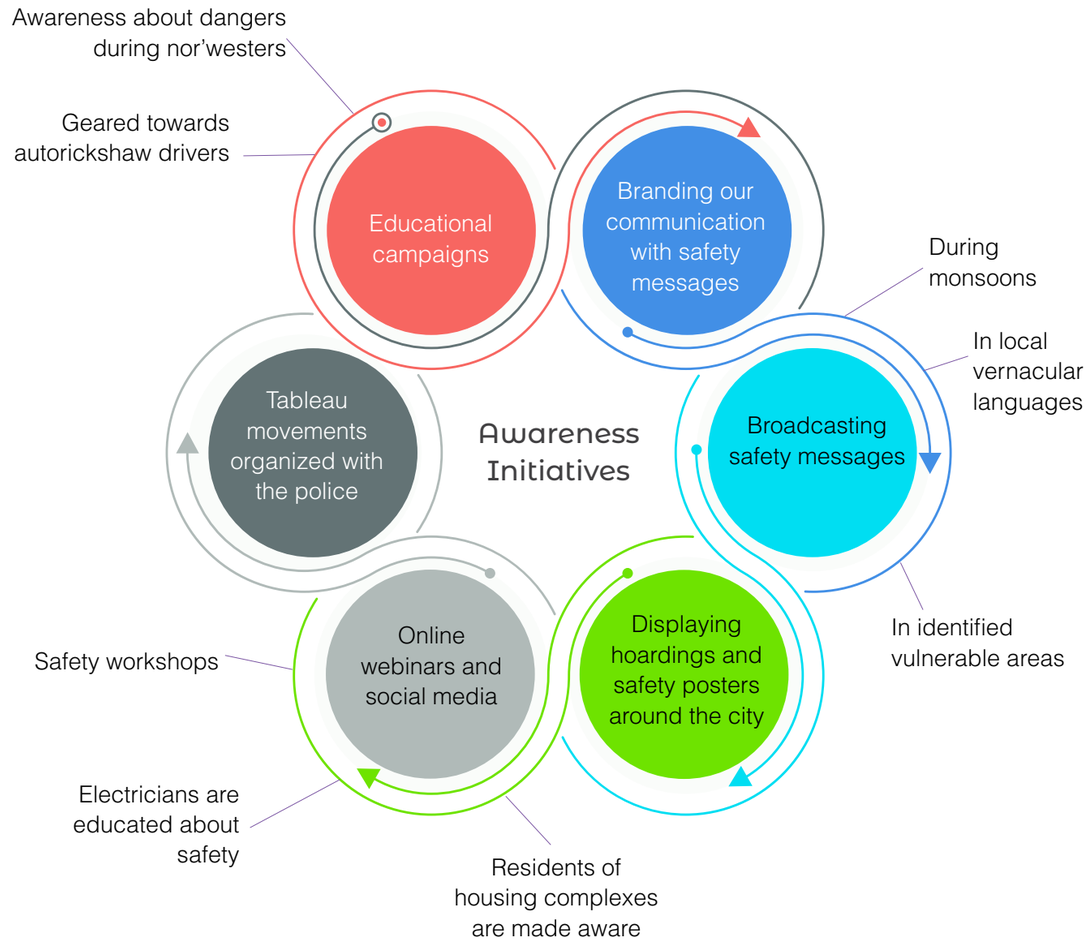
We incorporated a preventive system to avoid 'pillar box-pole alive' incidents and prepared a list of pillar boxes vulnerable to waterlogging through a detailed analysis of past incidents. We use PVC jacket to insulate the lower part of such poles and increase the height of the pillar boxes.

For additional danger-mitigation, we fixed water-level indicators to pillar boxes of logging-prone areas. Increase in water-level above safe levels triggers an SMS which gets recorded in our CRM system and is received by the LT Control Room Engineers who deploy a field crew to de-energize the pillar box and avert any danger.

Reduction of water level to safe standards triggers another message, which prompts the restoration of normal electric services in an efficient manner by the field crew. Besides significantly reducing the number of complaints regarding unsafe pillar boxes, this scheme has proven to be a cost-effective solution which has improved customer satisfaction and ensured safe and reliable access to power.

Safe handling of electricity

Issues like lack of awareness, improper earthing, and damage in the insulation of electrical wires can lead to dangerous electrocutions. Hence, to create awareness and prevent electrocutions and other potential hazards, CESC uses the following means:



Canter Movement: Public Awareness Initiative

In the monsoon season of the reporting period, CESC collaborated with 82 identified police stations in 10 districts of Kolkata to organize a creative tableau display. Six tableaus branded with safety creatives were deployed around the lanes and by-lanes with broadcast of audio messages in Bengali and Hindi, along with distribution of tri-lingual colourful leaflets to ensure greater penetration of safety messages.

Canter movement for public safety awareness during monsoon

Aalaap: Engagement Initiative

To reach out to consumers in the comfort of their own homes, team Customer Relations held 12 sessions at various residential complexes of Kolkata. These meets covered discussions on electrical safety, online services, sustainability Q/A sessions with commercial executives from our regional offices and various interesting games and activities. The average turnout at each event was more than 70. To stay in touch with our Aalaap participants, we requested them to follow us on social media and review us on our Facebook page.

Furthermore, apart from creating awareness, we have developed disaster management plan in line with the Central Government's Disaster Management Plan. The plan is formulated and is at the final stage of incorporation. Based on Indian Meteriological Department's reports, we have enhanced the mobilization of resources and public awareness programmes comprehensively to effectively manage disasters like floods and cyclones. Currently, our Cross Functional Teams are also in the process of preparing a Crisis Management Plan for CESC.

Engagement activity of AALAP

Energy Access

The World Bank's 'Ease of Doing Business' initiative ranks countries based on ten parameters. One of these parameters is 'Getting Electricity', which evaluates how easy, cheap, fast, and transparent the procedures are for getting new electricity connections. Providing access to safe and reliable electricity is part of the parameters of Ease of Doing Business (EODB) and plays a critical role for the continuity of businesses in the license area CESC serves. Thus, we make it one of our foremost commitments to fulfil new-connection requests within 24 hours, using the following procedure.

2030 Targets	Progress in FY-23
100% new connection (LOOP Connection) requests are fulfilled for consumers within 24 hours subjected to compliance	CESC: 96.98% NPCL: 34.07% MPSL: Nil CESC Rajasthan: 27.06%

Procedure used to fulfill New Connection Requests

Step 1

Online Application

- Online application submission over website
- Application support over phone, at helpdesks at customer centers, and e-corners
- System generated acknowledgement of submission
- Applications up to 150 kVA (and within 650 V) are process through self certification online, without approval from Chief Electrical Inspector

Step 2

Inspection & billing

- Auto-scheduling and instant communication of meter-fixing jobs based on payment-intimations driven by the system
- Transparent billing and quick bill generation
- New Connection Bill based on Load-band based Service Charging for all single-beneficiary applications up to 150 KVA

Step 3

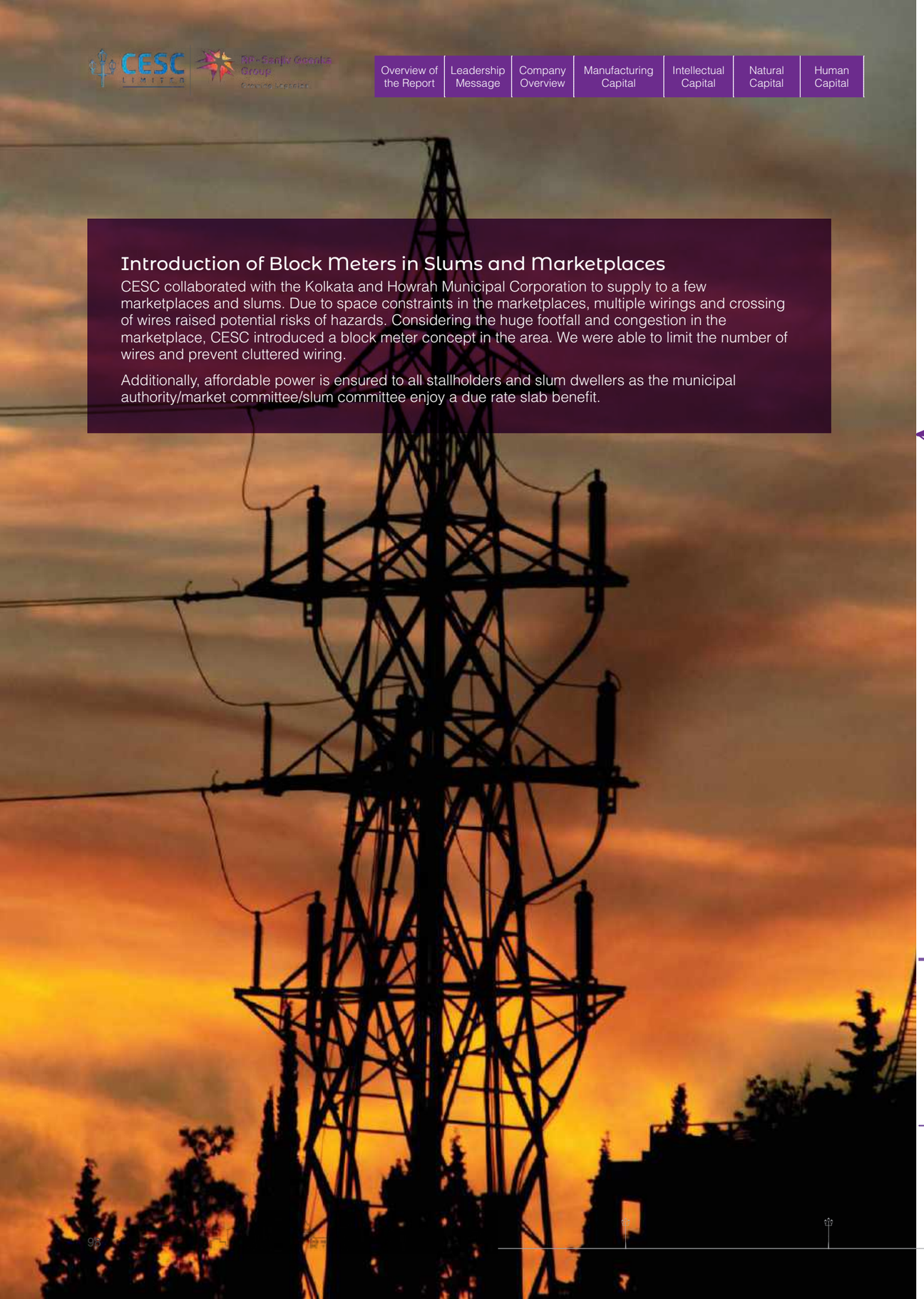
Payment & execution

- The applicable monthly variable cost adjustment charges and tariff chart are posted to our corporate website as part of transparency practices
- Multi-channel payment modes (online & offline) through NEFT/RTGS/Net Banking/Credit/Debit
- Reduction in execution timeline

Step 4

Additional services

- Faster, enhanced service experience through WhatsApp Bot, Chatbot and Voice Bot 'Aastha'
- Cost Estimator service and provisional bill service provided online
- Standard rates for new connections (upto 150 kVA for single beneficiaries) in the form of load based service charge
- Unique Identification Number (UID) used to effect connection



Introduction of Block Meters in Slums and Marketplaces

CESC collaborated with the Kolkata and Howrah Municipal Corporation to supply to a few marketplaces and slums. Due to space constraints in the marketplaces, multiple wirings and crossing of wires raised potential risks of hazards. Considering the huge footfall and congestion in the marketplace, CESC introduced a block meter concept in the area. We were able to limit the number of wires and prevent cluttered wiring.

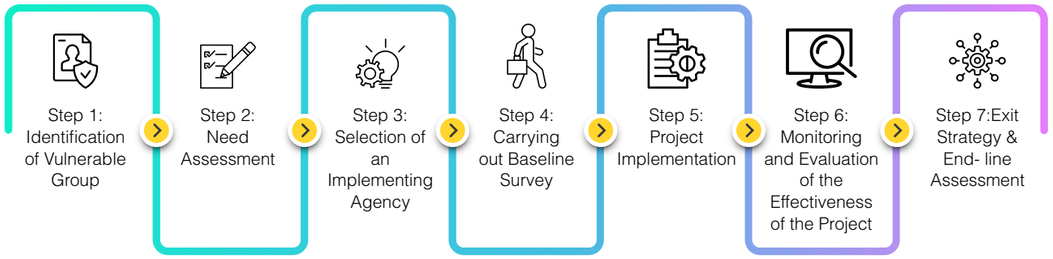
Additionally, affordable power is ensured to all stallholders and slum dwellers as the municipal authority/market committee/slum committee enjoy a due rate slab benefit.

Corporate Citizenship

CESC believes that strong communities are the underpinning of a successful and responsible business. CESC upholds its brand equity, builds trust, and harmonizes its relationship with the communities in which it operates by listening to their voices, responding to their needs and actively participating through engagements that are designed to facilitate the provision of these needs.

Our CSR Approach

At CESC, our approach towards being recognized as a "Community Changemaker", is in line with our CSR policy which follows the process of systematically assessing the community requirements, designing, and implementing the CSR programs. The process in place has been represented below:



Our CSR Strategy

Consistent with our approach, we align our strategy with the United Nations Sustainable Development Goals (UNSDGs). Our strategy aims at not only alleviating the inequalities and deprivations persistent in our communities but also ensuring our operations are conducted in a harmonious way. The following thrust areas are identified based on prioritization of the social needs and the influence of the community on the business.

Education
- **Akshar**
- **Indradhanush**
- **Muktangan**

Health
- **SNEH**
- **Eye Camp**

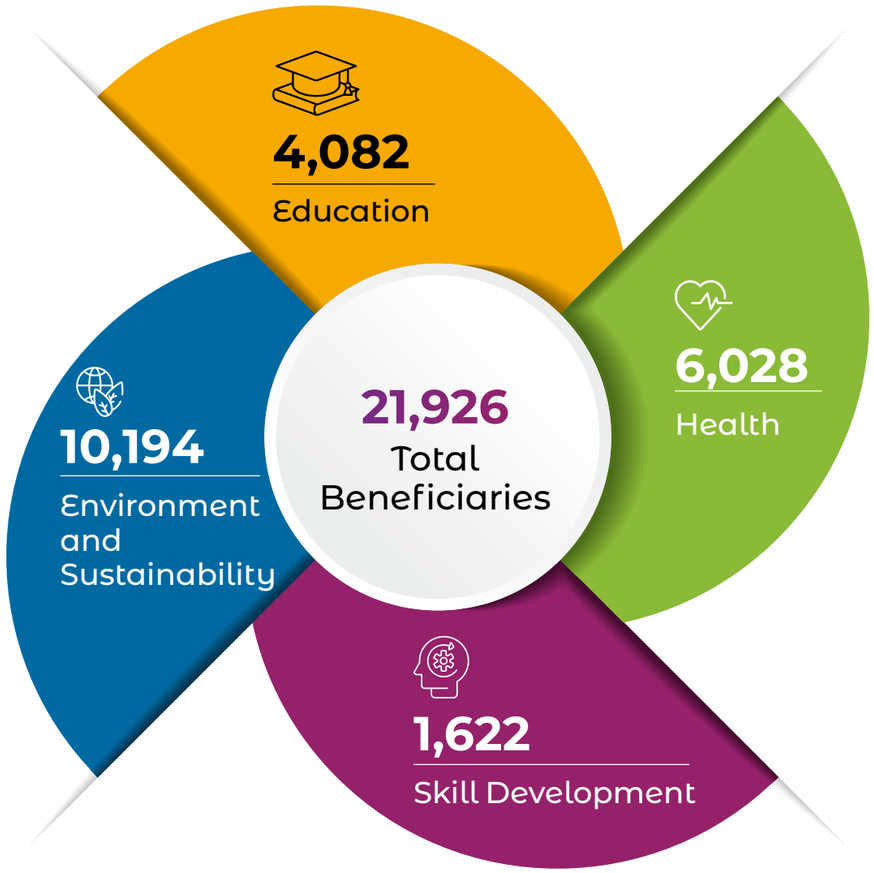
Skill Development
- **Eklavya-CESC Skill Academy**

Environment and Sustainability
- **Jaldhara**
- **Urja Chetana**
- **Kiran**

Our Ambitions

Our CSR ambitions help us establish clear objectives and goals that guide our actions around community development. By setting targets, we hold ourselves accountable to all our stakeholders for achieving the desired outcomes. We thus, align our business strategies and available resources in tandem to achieve our CSR ambitions.

CSR targets encourage us to continually improve our social impact in various thematic areas. By setting ambitious targets, we challenge ourselves to go beyond compliance and strive for a bigger positive change.



Theme 1

Education

We believe education is a basic right of every child and is a steppingstone for their bright future ahead. It is the primary driver for reducing the gap in youth unemployment in India. To support young and talented students we have taken an integrated approach towards strengthening the government schools and enhancing the quality of education.

Akshar

Many a child are deprived of access to quality education, owing to financial and family constraints leading to high school dropout rates. It is our objective that through "Akshar" we mobilize the community at Ward No. 66 of the Tiljala area under Kolkata Municipal Corporation, through multi-pronged awareness campaigns to sensitize household members of the identified dropout children. Our continuous and relentless efforts are focussed at bringing these children back to the education system with the necessary financial support.

Through our support centres, 'Early Child Education and Development' and 'Community-Based Academic Centres', we have covered the entire spectrum of schooling from pre-primary to higher secondary school. Thus, through this programme we have benefited 450 children between the ages of 3 and 18.

Indradhanush

We also have implemented a similar programme with a common objective but focussed on the children between the age groups of 6 and 16 years in the Kamarhati Municipality area. We uplift the literacy level of the underprivileged children in the local community through the Indradhanush programme.

Through the Indradhanush programme we have been able to create a positive impact in the lives of 400 children between the ages of 6 and 16.

Muktangan

Understanding the needs for quality education among the underprivileged students beyond Kolkata, we have put in place the 'Muktangan' initiative focused on empowering disadvantaged children in Pujali area of the South 24 Parganas district.

Through the Muktangan programme, we provided supplementary education for disadvantaged children between classes VI to X. The programme promises quality education through continuous monitoring on the progress of each student based on effective evaluation processes. Special attention and guidance are provided to students requiring subject specific support in a conducive learning environment, where language is not a barrier. Our approach has led to impacting the lives of 243 students.

Total Lives Impacted:

4,082

Impact Stories

Nisha Roy, a resident of Ward No.8, Pujali Municipality, was identified by the project mobilizers while she was washing utensils at her home. She had dropped out from school as she was unable to clear her Madhyamik Examination in the previous year. Her family discontinued her from studies due to the severe financial constraints. Her father, a van puller and her mother, a domestic help try hard to make ends meet, while Nisha supports her family by managing the home by completing all the household chores. The project team staff spoke to Nisha and then approached her parents requesting them to allow her to continue studying. They informed them about free academic support provided at the Muktangan centre, a CSR initiative of CESC Ltd and managed to convince them to allow her to pursue her studies. The team also arranged to get all her paperwork in order and have her re-enrolled at Kalipur Girls' School where she had dropped out from. Nisha now attends school regularly and is happy to appear for her Madhyamik examination for the second time.

Snapshot of Akshar Programme

Snapshot of Indradhanush Programme

Theme 2

Health

Good health contributes to an improved quality of life for individuals and communities. When people are healthy, they can be most productive and become a key contributor to the economy, while ensuring good quality of life.

Understanding this concern, we at CESC are focussed at ensuring mothers and children of the society have access to good nutrition and healthcare services; and through preventive and curative health care cater to mass community requirements.

Sustainable Nutrition and Health Education (SNEH)

Safe motherhood and child survival programme integration are essential for overcoming high infant and child mortality as well as maternal mortality. Through Sustainable Nutrition and Health Education (SNEH) Programme, we focus on providing intensive care to new-born children and their mothers for first 1,000-day period post-delivery. Through multiple awareness programmes on topics like 'Children below two years' and 'Non-Communicable Diseases (NCDs)', we spread awareness around health, hygiene, and well-being among the target beneficiaries.

The programme also enables categorizing mothers who are identified as frontline workers as 'At Risk' mothers and monitoring them and their children through a 'cohort' tracking system. During the reporting period, SNEH has catered to 5,492 beneficiaries comprising children (0-2 years), pregnant mothers, lactating mothers, parents, community members, community mobilizers and local community members. We have already touched 35,000 vulnerable slum people coming from 7,000 homes.

Eye Camp

With eye ailments on the rise due to changing lifestyle and environment, we at CESC consider it as one of the highly neglected health areas. Thus, through our CSR initiative we conduct eye camps with an objective to identify people with cataracts and facilitate in providing free cataract treatment for sight restoration among underprivileged communities. All our eye tests are free of costs and free glasses are also distributed among the people who require them.

Through our eye camps we have been able to help 550 people in Pujali, Budge Budge.

Total Lives Impacted:

6,028

Impact Stories

Mehejabin Khatoon, a beneficiary under the SNEH Project, is a pregnant mother who lives with her family in a slum in Ward No. 66, Tiljala. During the usual home visits, the project team members visited her house and while interacting with her, understood that the area in which she resides does not have an ICDS centre. Hence, she and her 3 year old daughter are deprived of services of the ICDS such as receiving supplementary nutrition, pre-school education, health education etc. Moreover, she was not aware of the importance of the journey of the first 1,000 days of a child. Community Health Volunteers under the project frequently interacted with her and created awareness regarding right nutrition in-take and enrolled her name in a nearby ICDS Centre. While they helped her with these facilities, they ensured that she attends the mothers' meetings regularly to grasp the knowledge imparted. The volunteers also kept note and made sure that she received support from the local UPHC (Urban Primary Health Centre) in receiving iron tablets and regular health check-ups.

Theme 3

Skill Development

We believe that empowerment of the marginalized youth will unlock economic growth potential within a nation. In pursuit of bridging the current skill gap on basis of local industry requirements and improving the quality of life for these individuals and their families.

Through our flagship skill development programme, 'Eklavya – CESC Skill Academy' we focus on empowering underprivileged youth with the relevant skills and providing them with relevant training with emphasis on developing 'core employability'. Thus, through skill development, we unlock individuals' abilities and growth opportunities.

As part of our initiative, we impart several technical training programmes, such as but not limited to basic computers with advanced excel, tally and GST, tailoring, beauty and wellness, AC/refrigerator repairing, customer relations management, retail management, and electrician training.

The programme being carried out across 12 training centres in Kolkata has trained over 1,100 individuals over the reporting period and has successfully placed 64.30% of them.

Total Lives Impacted:

1,622

Impact Stories

Sakir, a bright student had to give up his studies during lockdown due to the financial constraints faced by the family. His father, a vegetable vendor found it difficult to earn a living during the lockdown due to the restrictions imposed. Sakir tried to fetch himself a job but was unable to get hold of any opportunity. He learnt about Eklavya - CESC Skill Academy from one of the project mobilisers and enrolled himself for training in Customer Relationship Management (CRM) course being conducted at the centre in Kamarhati. On successful completion of the course, Sakir managed to crack an interview and got an opportunity to work with Maruti Suzuki as a supervisor, earning a monthly salary of Rs.10,000. He now dreams of building his career in this sector and moving up the ladder in due course of time.

Bilkis Parveen has a family of 6 members and initially her father was the sole earning member of the family. Through a mobilisation drive, Bilkis learnt about the Eklavya - CESC Skill Academy at Tiljala and pursued a course on Assistant Beauty Therapist (ABT). On successful completion of the course, Bilkis joined 'Anika Cute & Cut Beauty Parlour' with a monthly salary of Rs 8,000. She believes that Eklavya CESC Skill Academy has helped her to garner not only skills of a beautician but also taught her about the work ethics of the concerned field which has aided her become a professional. She is happy to feed the family along with her father. She feels there's no looking back and focuses to do better in career in the future ahead.

Tailoring training programme

Technical training programme

Theme 4

Environment

The environment bestows us with abundance of natural resources which helps in generating gainful income and livelihoods for the society. As a responsible corporate citizen, we understand our responsibility to preserve these resources through various initiatives that enable water-positivity and mitigate impacts of climate change. Our approach to natural resource management involves curating various initiatives in water infrastructure development, waste management and environment education.

Jaldhara

Water resources are limited, and water is becoming a scarce commodity due to increased demand in proportion to a rapidly increasing global population, industrialization, urbanization, and global climate change. Conservation of water resources is necessary, and water harvesting techniques are important conservation tools.

Kolkata Medical College is a place where around 5,000 people come daily for treatment and around 3,000 people stay admitted in various departments. Beside this, there is a nursing college and a few hostels within its premises. The medical and non-medical staff use the available ground water for various purpose. The water which is available is also used for gardening, floor washing etc. This created a scope for an alternative usage of water which would greatly benefit Kolkata Medical College.

Jaldhara, a rainwater harvesting project was thus, implemented with a catchment area of 900 sq. m. and has been marked on the rooftop of the Super Speciality Block of Kolkata Medical College and Hospitals.

- Created capacity for storing 22,000 litres of harvested rainwater in rooftop and underground reservoirs
- Built pits for groundwater recharge from the excess rainwater flowing out of the reservoirs

Urja Chetana

Environmental education helps students develop an awareness and understanding of the natural world, its ecosystems, and the interconnections between human activities and the environment. By integrating environmental education into the curriculum, a culture of environmental consciousness can be created among students who would become environmental advocates and change agents in their communities tomorrow.

Aligning with the ideology above, we have launched the initiative 'Urja Chetana'. Through Urja Chetana we facilitate a capacity-building program in which teachers and students are educated and made aware on critical environmental issues like air pollution, waste management, biodiversity management, and environmental conservation.

Through the initiative, we have directly involved 230 students and 19 teachers across schools. Additionally, through indirect approach 5,476 students and 306 teachers are benefited.

Kiran

When organic waste, such as food scraps and yard waste, decomposes in landfills, it produces methane, a potent greenhouse gas. Methane has a much higher global warming potential than carbon dioxide, contributing to climate change. Landfills are a significant source of methane emissions globally.

To address this issue environmental concern, we have curated the CSR programme called 'Kiran'. Kiran is a community-based waste management initiative being implemented in Metro colony area near Dakshineswar. Through this programme we strive diligently to educate the community about vermicomposting and its benefits, while creating job opportunities. Community members are now recycling their organic waste into vermicompost, thereby creating a cleaner and more hygienic living environment.

We have been able to impact 200 homes and 1,000 slum dwellers. At our project implementation area, we have been able to divert 100% organic waste away from the landfills. The local community has turned 25% of that garbage into vermicompost .

Total Lives Impacted:

10,194

Impact Stories

Moyna lives in Dakshineswar slum for the last 9 years with her husband and two daughters Anamika (20 years) and Ambika (13 Years) who are school going. Her husband is the sole bread winner of the family and engaged with daily labour jobs in Kolkata, basically a seasonal migrant worker. Moyna, a simple housewife, spends most of her time in household chores including cooking, washing etc. like every single normal Bengali housewife till CR started the vermicompost unit in Dakshineswar metro colony slum.

Though Moyna is from rural area and had prior knowledge of vermicompost but using household wastes to make vermicompost was a new thing to her which encouraged her to join this unit. Moyna joined vermi unit out of her love and passion for the making of fertilizers using domestic and natural wastes. She is happy about the work at vermi unit not only because it helps her earn money but also aids in keeping the environment clean and free of diseases especially flies and mosquitoes. Moyna played a key role in encouraging other women to volunteer at the unit resulting in rising of community ownership eventually.

CSR Programmes at Subsidiaries

HEL CSR Initiatives

Project Paniya Jol (Drinking Water Project)

1. Constructed bore well with hand pump to ensure safe drinking water, in nearby Jhikurkhali village in consultation with the Haldia Municipality. Additionally, borewell with submersible pump was provided to nearby local communities.
2. Formed community managed drinking water supply system in Joynagar under supervision of Gram Panchayat Joynagar, and assistance of Water and Sanitation Committee. This committee administers operation and maintenance of borewell, submersible pump, and water storage tank, ensuring users have access to clean drinking water.

Installation of bore well for safe drinking water for nearby Jhikurkhali village

Project Sufola (Agriculture/on farm activities)

1. Promoted use of bio-fertilizers and bio-pesticides and sustainable organic farming practices. Further, in partnership with Krushi Vigyan Kendra (KVK), Purba Medinipur, HEL collectively works on the development of agricultural practices by introducing various modern agricultural techniques. Also organized a training program with KVK scientists to promote indigenous crops, including new varieties of aromatic rice and barley stems for baby food.
2. Organized training program in collaboration with Krushi Vigyan Kendra (KVK), Purba Medinipur to upskill rice variety selection and treatment techniques for identifying health seeds. The program involved 31 farmers in project villages and dispensed selected rice variety seeds such as Swarna Sub-1, Bidhan Suruchi, and Gotra Bidhan (GB-4) Varasha.
3. Distributed various minor fruits, immensely nutrient rich and adaptable to the agro climate of Haldia per household. A total of 282 beneficiaries received various fruit saplings like mango, berry, guava, jackfruit, lemon, and banana in consultation with KVK Purba Medinipur.
4. Started an innovative approach in fruit tree plantation by the distribution of total 200 dragon fruit saplings and planted by 50 farmers on an experimental basis during October 2021. The farmers successfully cultivated the dragon fruit plant and produced the fruits post 8 to 10 months of plantation.

Distribution of rice seeds

Project Swarojgar (Income Generation Activities)

1. 16 beneficiaries received Indira Gandhi Awas (IGA) support to start small businesses like goat rearing, poultry and strengthening their existing shops, small business-like business and agricultural groceries members activities. Self Help Group (SHG) Further, continued regular work like bag making masala making, and muri and agricultural activities.
2. Promoted organic farming along with the use of bio fertilizer and, the from vermi compost the household waste program was initiated in the project villages. 27 beneficiaries prepared compost pits, and 10 cultivated earth worms in association with KVK Purba Medinipur team.
3. The HEL Field staff provided training on mushroom cultivation to SHG members. The 10 selected SHG groups received mushroom spawn along with its technical aspects and efficiently produced it in their premises.

Mushroom cultivation

Project Gyanarjan (Education Development Activities)

Smart classes inauguration at two schools

In tune with the National Digital Literacy Goals, the HEL CSR team built smart classrooms at Vivekananda Agrani Sangha High School and Purba Shrikrishnapur BTM High School. The objective of installing cutting-edge technology is to aid virtual teaching during difficult times like COVID-19 as well as bringing audio-visual aids into the classroom to enhance in-person lectures.

Education Facilitation Center

Education facilitation centres have been organized specifically for less-privileged children from the Rupnarayan chak and Sallukkhali Rehabilitation colony, to provide regular coaching and learning activities. Dedicated volunteer teachers help students to complete their after-school studies and encourage them to participate in extra-curricular development through dance and drawing.

First batch of HEL-initiated Computer Literacy program graduates

With the objective of building capacity among youth to use computers, HEL CSR collaborated with Dr. Meghnad Saha Institute of Technology (MSIT) to organize a 6-month certificate course in Computer Applications. A certificate-awarding ceremony was organized for the first batch of students, who have successfully completed the course.

Satyendranath Bose Physics Laboratory in Paranchak Siksha Niketan, Purba Shrikrishnapur

Dedicated to the notable Indian mathematician and physicist Mr. Satyendranath Bose, HEL opened a Physics laboratory in Paranchak Siksha Niketan. The physics laboratory was inaugurated by Vice President & Plant Head- HEL in presence of the Headmaster of the school and Manager-CSR & Admin and other dignitaries.

Book Bank initiative at Joy Nagar High School

With the objective of making educational resources more accessible, HEL CSR team supported the Book Bank initiative by providing books to 140 needy students of 11th & 12th class of Joy Nagar High School. Taking advantage of the occasion, HEL celebrated Aranya Saptaha in collaboration with the West Bengal Forest Department.

Mache Bhate mid-day meal on Children's Day

The Mid-day meal scheme is a school meal program in India designed to better the nutritional standing of school-age children nationwide. HEL extended its helping hand for this program through a unique initiative called "Mache Bhate Mid-day Meal" on Children's Day. HEL supplied fishes caught from the plant reservoir to the nearby Baneshwar chak Palli primary school for the mid-day meal.

Career Counselling session

To advance successful careers of school children and provide valuable guidance, career counselling sessions are being organized in nearby schools for high school students to explore different career paths post completion of the board exams. Experts from the industries as well as academia are taking the session in collaboration with HEL

Education Facilitation Center (EFC)

Project Swastha (Health Care)

Health Referral Camp

Regular weekly referral camps are being organized at the 6 project villages. Dr. Sanat Adhikary, doctor in-charge of Joy Nagar PHC has consulted more than 1,000 patients at the referral camps in this quarter. Free medicines were distributed to the consulted patients.

Diabetes Check-up Camp

To ensure good treatment of diabetes and timely detection, free diabetes check-up camps were organized in association with Haldia Medi Assist Welfare Society where Dr. Sumona Si of sub-division hospital, Haldia consulted the beneficiaries. Free medicines were distributed among the beneficiaries after the check-up.

Primary Eye Check-up Camp

To maintain good vision and eye health, free primary eye check-up camps were organized in association with Ramakrishna Sarada Mission Ashram Netralaya, Haldia. Free medicines were distributed among the beneficiaries after the check-up. Around 335 people have availed benefits from the 4 camps conducted

COVID-19 Booster Dose

Awareness generation & motivation for vaccination are being done for the eligible categories for booster dose. Further, facilitation is being provided during vaccination at Joy Nagar and Rehab colony hospital.

Training on Handcrafting and Menstrual Hygiene

At the one-day training program, a professional designer who works on designing handicraf titems, took a session on making best handicraft items using low-cost items. Similarly, the student counsellor of Sutahata hospital counselled the adolescent girls on best practices on menstrual hygiene and health.

Adolescent Girls Program

Health kits and sanitary napkins are being distributed among 90 girls on a cost-sharing basis. In this quarter, 20 meetings were organized in different project villages. Various nutritional vegetable seeds have been given to 50 adolescent girls to develop a nutrition garden.

Primary eye checkup camp

NPCL CSR initiatives

Under the CSR mantra of CARE which aims towards conserving energy/natural resources, awareness to the community on health, hygiene, waste management, energy efficiency, reaching to the underprivileged and empower society with life skills, various activities were conceptualized, approved and implemented at site.

To improve the overall quality of education, engagement, health, and safety of children belonging to parents of Low Income Group (LIG), Project "समर्थ" was launched.

Conserving Energy

Promote Energy efficiency-Distribution of LED's, an initiative under which 1,050 LED's were distributed to the rural household and government schools during Parent Teacher Meetings for making then aware on importance of saving energy.

Awareness to the society

Azadi ka Amrut Mahotsav - Celebrating 75th year of Independence in 12 government schools to helped renewed our sense of pride in our country and was effective for fostering curiosity and patriotism among the children.

Awareness Sessions – Sessions was conducted to create awareness on electricity conservation and reduce electricity theft, good touch bad, health & hygiene among students of government schools.

Distribution of jute bags under "Say No to plastic" - Distribution of jute bags and improving awareness on using bio-degradable bags instead of plastic bags and contributing towards Swachh Bharat Abhiyaan 6507 jute bags are distributed by NPCL in Schools (during PTM's) and villages of greater Noida.

Nukkad Natak – They were organized at 51 locations which includes 15 government. to make community aware in rural areas/schools (during PTMs) on energy efficiency, power theft is a social evil, save by paying electricity bill on time etc.

Jute bag distribution

Health camp

Self-defence workshop

Reaching to the underprivileged

Smart classes - The digital divide in 10 schools was bridged by installing smart classrooms. Smart classrooms reduce distractions, and therefore, students can concentrate more and retain more information. One classroom in each school is equipped with a smart interactive panel comprising of K – 12 NCERT curriculum for 5 years. The initiative covered teachers' training and capacity building.

Infrastructure upgrade - Prioritized meeting the infrastructure needs in 7 schools by constructing washrooms, fully equipped classrooms, biology laboratory, computer laboratory, boundary walls etc.

Health camp - Health check-ups enable children to be healthy and create awareness about healthy living. These 12 schools are located in the interior parts of Greater Noida where Public Health Centre are not accessible easily. To address this situation, scheduled visits of ophthalmologist, pediatrician and dentist was conducted followed by a free Out Patient Department (OPD) consultation.

Felicitation of meritorious students - The practice of recognizing deserving school students inspires both students and faculty to strive for academic excellence and raises the general level of education in society. 15 students of 10th and 12th UP Board were recognized by MD & CEO of NPCL through a scholarship cheque, gift hamper, certificate of excellence in a ceremony attended by their parents.

Project Pehal – Project Pehal is conceptualized to support the government's efforts in primary education with an aim to reduce dropouts. The aim is to address this problem by building a conducive environment for learning through innovative teaching methods, co-curricular activities and parent engagement in distinct 10 government schools.

Fitness/Play equipment's – 5 equipment in each 4 government schools were installed to improve bodily health and motor skills of the students. This became an attraction point for even weak students to come to play and learn.

Empower Society with life skills

Self-defense workshop - To empower women and make them self-reliant for their own safety and security. Krav Maga – an Israeli martial art self-defence workshop conducted for girl students and female teachers in all 12 schools

Across the 22 government schools who are immediate beneficiaries, a total of 6,800 studnets, 168 teachers, 22 principals and 12,000+ parents have been benefitted.

DIL CSR Initiatives

Education Program

DIL started 2-hour classes and libraries for 6-14 years years children after school hours to provide access to quality education to 390 children from 6-14 years of age and develop their overall personality through extracurricular activities.

Women Empowerment Program

DIL aided 100 women for self-employment through Self Help Group (SHG) and provided them capital to set up Micro enterprises. 19 SHG members successfully started LED light manufacturing enterprise at Shengaon, Morva & Pandharkwada villages with monthly earning income of Rs. 10,000 to Rs.12,000.

6 SHG women earn Rs. 15,000 to Rs. 18,000 per month by running food stall and 8 SHG members have started boutique with the support of DIL.

Adolescent Girls Program

Trained 327 adolescent girls about menstrual hygiene. 110 adolescence girls HB level found below 8.5 gm received medicine & guidance on nutrition from the medical officer.

Agriculture Program

Distributed 1,500 fruit saplings to 9 villages and provided training to one farmer on organic farming in government-based associations of farmers. Training provided to farmers on polyhouse and greenhouse in exposure visit Pimplner, as result of which 3 farmers developed poly house in their farm.

Health & Sanitation Program

Provided free medical treatment to 875 villagers a 358 villagers of Sonegaon, Morva & Borda benefited from the eye check-up camp. Also, 175 spectacles were distributed in three villages, 3 toilets & 2 urinals were constructed at Sonegaon and Pandhrkwada.

Rural Development Program

Distributed 42 water cans at Grampanchayt Morva and provided purified drinking water for Pandharkwada villagers. Successful completion of road construction enabling farmers to access their farm during rainy season.Other activities lilke CCTV installation were also carried out in association with government scheme for rural development.

Skill Development Program

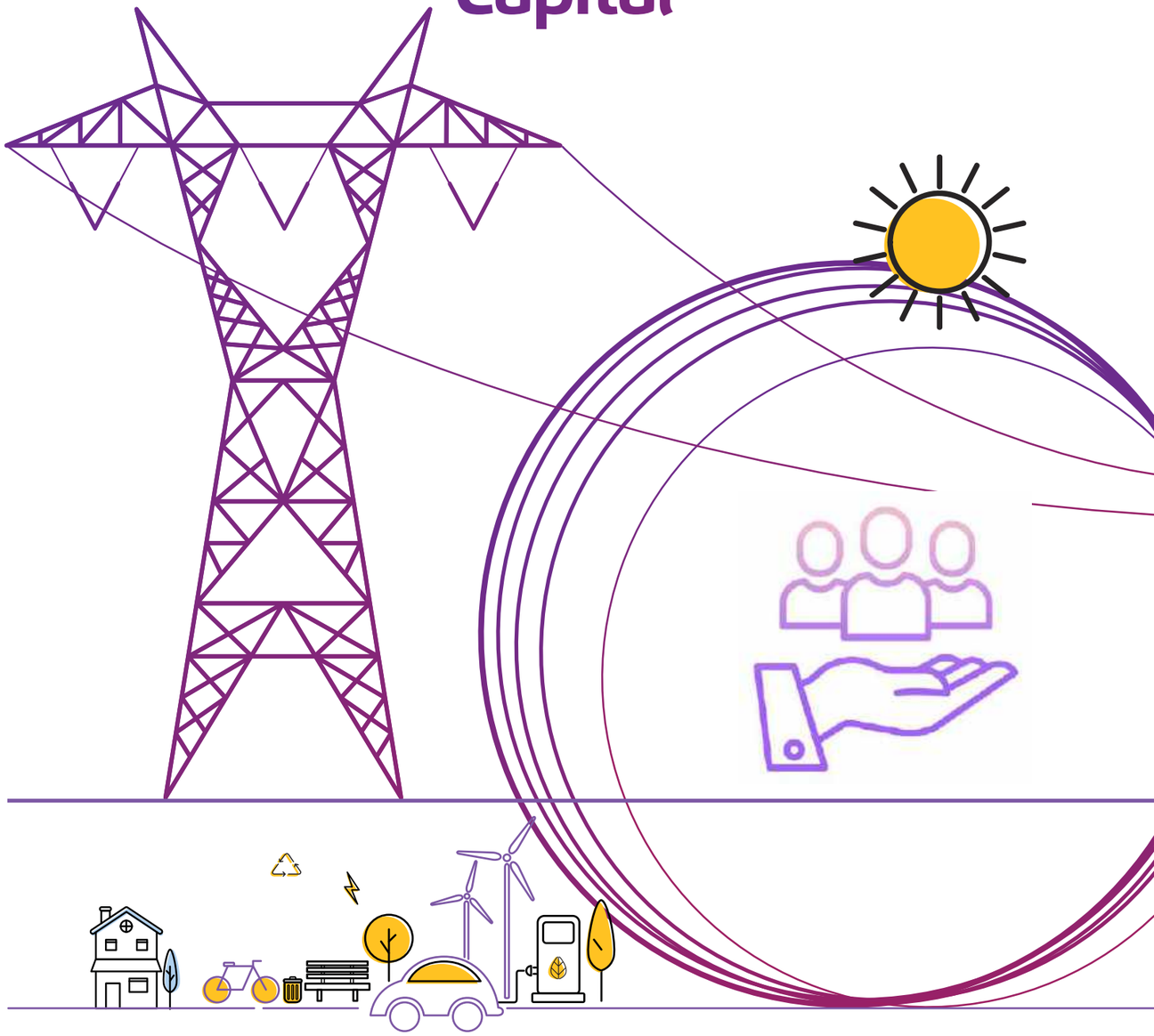
Organized automobile and mobile repairing courses for interested youths in villages. Four of them got placement at Tata Motors Pune and two of them started their own micro enterprise.

CSR Recognitions

Certificate of Appreciation from Zilha Parishad Chandrapur

Certificate of Appreciation from Panchayat Samiti Chandrapur

Our Human Capital



Our People

We firmly believe that our dedicated workforce is one of the key driving forces towards achieving our business goals. CESC highly values all its employees and constantly endeavours to create a safe and inclusive work environment, where all employees get the right opportunity to grow.

CESC's employee friendly policies and practices ensures transparent human resource management within our organization, while valuing the ideas expressed by them.

We have incorporated our organization HR strategy, which stands on the employee dialogues and feedbacks.

Our employee management is governed by the Executive Director-HR & Admin at the apex. They oversee the HR performance of the organization, progress against targets, implementation of relevant policies, learning and development reports, monthly review, and divisional meeting. We have been certified as Great Place to Work® (GPTW) for four consecutive years through our efforts to making CESC a people-centric organization. CESC has also been recognized by GPTW to Among India's 100 best companies to work and among the best in energy, oil and gas for last four years. Our commitment towards ESG has enabled us to constantly excel in our aspirations and grow as an organization.

Our employee strength at CESC and its subsidiaries as on 31st March 2023 is 9,612.

Table 7: Workforce by employee category

Employee by Category	CESC	NPCL	CESC Rajasthan	MPSL	HEL	DIL	CPL	Total
Top Leadership Team / Executive Management	64	1	2	0	7	2	0	76
Senior Management	146	9	1	0	3	2	1	162
Middle Management	225	22	9	1	11	15	1	284
Junior Management	361	101	58	60	104	73	18	775
Junior Management Staff (JMS)	174	391	233	8	59	63	52	980
Non-covenant	5,499	7	0	581	558	690	0	7,335
Total employee strength	**6,469**	**531**	**303**	**650**	**742**	**845**	**72**	**9,612**

Diversity and Inclusion

We acknowledge the importance and benefits of creating an inclusive and diverse work environment for innovation and growth.

As an equal opportunity employer, we do not discriminate based on gender, age, caste, creed, colour, ethnicity, religion, marital status, political opinions, sexual orientation, and union membership. Additionally, we focus on merit and calibre of each individual while employing and performance evaluation. We have also framed an equal opportunity policy for people with disability and transgender individuals.

CESC regularly conducts awareness programme on POSH for its employee as well as deployed e-Learning modules on it.

CESC's workforce comprises of 7.76% of female employees, an increase of around 8% of that in previous year, against our target of 12% female employees by 2030. We foster leadership qualities among our female employees by conducting specialized women leadership programmes in reputed Institutes like IIM, Ahmedabad, ASCI, CII, Amity Institute etc. The representation of women in the top leadership team has increased to 4 numbers.

Women Leadership Programmes

- Outbound Programme on leadership & team building
- Women's Leadership Development Programme
- "Being Free - Reclaiming Our Innate Power as a Woman", a programme for leveraging strength or success in women

We also inculcate a culture of diversity among our subsidiaries.

CESC Ltd. celebrates International Women's Day every year to appreciate the women in the team and recognize their contribution to the organization. In 2023, the celebration focussed on the United Nations' theme of embracing equity. CESC Rajasthan launched Badminton Championship in the annual employee engagement programs across for women employees to motivate & encourage their engagement.

HEL conducted POSH awareness session.

Women's Day Celebration at NPCL

NPCL celebrated International Women's Day on 6th March 2023 by organizing an awareness session on POSH Act 2013 and theme on #EmbraceEquity. The session emphasised on the need for and importance of Gender Equity to be part of society and critical aspect to understand the difference between Equality and Equity

All women-customer care office" at NPCL

Table 8: Workforce by employee diversity

Our diversity in workforce by gender and age groups is represented below:

	By Gender			
	FY 21-22		FY 22-23	
	Employee Classification (in %)		Employee Classification (in %)	
	Male%	Female%	Male%	Female%
CESC	92.76%	7.20%	92.22%	7.78%
NPCL	95.25%	4.80%	92.66%	7.34%
CESC Rajasthan	49.80%	3.10%	97.69%	2.31%
MPSL	99.35%	0.60%	98.46%	1.54%
HEL	99.58%	0.40%	99.60%	0.40%
DIL	99.46%	0.50%	99.29%	0.71%
CPL	98.69%	1.30%	97.22%	2.78%
Consolidated	**92.52%**	**5.22%**	**94.07%**	**5.93%**

	By Age (only permanent employees)					
	FY 21-22			FY 22-23		
	Employee Classification (in %)			Employee Classification (in %)		
	<30 years	30-50 years	>50 years	<30 years	30-50 years	>50 years
CESC	3.66%	41.92%	54.42%	3.90%	41.52%	54.58%
NPCL	24.12%	30.21%	6.33%	39.55%	50.47%	8.66%
CESC Rajasthan	15.74%	32.27%	3.39%	32.34%	60.73%	1.98%
MPSL	4.37%	5.02%	0.97%	4.00%	5.38%	1.23%
HEL	1.82%	18.07%	5.74%	1.75%	18.73%	4.31%
DIL	2.40%	13.94%	0.87%	1.07%	15.74%	1.54%
CPL	1.31%	1.97%	5.90%	4.17%	72.22%	32.69%
Consolidated	**5.52%**	**33.39%**	**36.19%**	**6.36%**	**36.38%**	**38.00%**

We believe our success depends on having strong leadership and a diverse pipeline of human resources. We are committed in increasing diversity in CESC through hiring female employees and ensuring their capacity building through career development trainings.

Talent Attraction and Retention

At CESC, we passionately believe that onboarding the right talent and investing in their growth is one of the key drivers to our business' success and growth. As a pioneering organization, we strive towards developing a talent sustainability by creating future readiness. All our systems at CESC are robust, professional, and unbiased. Our recruitment process is purely based on the skillset and merits of the candidate.

Our recruitment approach focuses on attracting young talents and engrossing students from several educational institutions through various forms of engagements.

"Unmesh", our flagship summer internship program is specifically designed for pre-final year students. This program enables us to evaluate the skills and cultural fit of the students by assigning them real-life business projects under the guidance of our domain experts. The top-performing candidates in the programme are offered pre-placement positions in our company. During the reporting period, we extended our summer internship programme to include five more reputed institutes in addition to the existing pool of colleges.

To ensure that we attract the best talents in the industry, we have established a Cross Functional team (CFT).
The CFT is a mix of current employees and alumni of prestigious institutes. They arrange technical seminars and campus events to establish a connection with the potential candidates and is responsible for helping the candidates until their onboarding begins.

During the reporting period we boosted our workforce with some fresh faces through our various hiring programmes and initiatives:

Table 9: Proportion of Workforce hired

Male

Company Name	FY 21-22 Hiring Rate (%)	FY 22-23 Hiring Rate (%)
CESC	0.87%	1.04
NPCL	18.27%	15.63
CESC Rajasthan	20.00%	25.78
MPSL	34.92%	43.33
HEL	4.44%	2.15
DIL	1.96%	1.06
CPL	1.25%	0
Total	**2.25%**	**2.99%**

Female

Company Name	FY 21-22 Hiring Rate (%)	FY 22-23 Hiring Rate (%)
CESC	4.17%	4.17
NPCL	12.12%	1.31
CESC Rajasthan	0	0.7
MPSL	100%	100
HEL	0	0
DIL	20%	0.11
CPL	0	0
Consolidated	**5.32%**	**5.61%**

Overall

Company Name	FY 21-22 Hiring Rate (%)	FY 22-23 Hiring Rate (%)
CESC	1%	1.28
NPCL	11%	16.94
CESC Rajasthan	19%	26.48
MPSL	36%	44.26
HEL	4%	2.15
DIL	2%	1.17
CPL	1%	0
Consolidated	**2.42%**	**3.14%**

Talent Induction

All our new hires undergo a thorough induction and orientation programme, where they gain a comprehensive understanding of our operational structure, business conduct and value systems. This helps our new joiners to handle responsibilities in a very competent and effective manner in line with CESC's values.

"Annwesan" is our induction programme for the newly appointed management trainees while the newly hired trainee assistant officers have their exclusive induction programme called "Unmilon".

The induction programmes last six weeks and provides a holistic exposure to all our departments through classroom training, outbound programs, senior leader mentorship, departmental visits, and interactions with different teams. This is followed by extensive on-the-job training for a year. To gain the best and full potential out of the talents, we have a curated talent management system. This system helps the talents grow professionally in a rewarding way.

All our subsidiaries also have their respective induction programmes with a similar objective of seamlessly integrating the new hires within our organization.

Anneswan Outbound programme

At NPCL, a pre-placement program is designed to attract fresh graduates from various colleges and other institutions.

Aarambh, an initiative by NPCL provides with support to the new hirings, to acquire business acumen and to help them in their acclimatization with the culture and values of NPCL, a 3-day Classroom Induction Program is designed with the following objectives:

- To familiarize with vision, mission, core values & company policies and procedures
- To broadly understand various functions of our departments at NPCL
- To meet and interact with Senior Leadership Team of our organization

Furthermore, Campus to Corporate is an exclusive NPCL program where fresh creative minds are provided special care through a detailed and structured induction program of 20 days. This program is designed with theory sessions organized by internal trainers to help them assimilate knowledge. Campus to Corporate sessions, consisting of soft skills programs, help students transition smoothly into corporate life, empowering them with tools for personal and professional excellence.

CESC Rajasthan conducts Diploma Engineering Trainee (DET) recruitment drive, Graduate Engineering Trainee (GET) / Management Trainee (MT) recruitment drive, and Induction Programme.

HEL organizes 7 day Induction program enlightening the new recruits about all the departments. Additionally, they are briefed on IMS Standards, Safety Standards and Campus to Corporate transition.

MPSL conducts campus recruitment drive in nearby engineering colleges to acquire fresh graduate engineers.

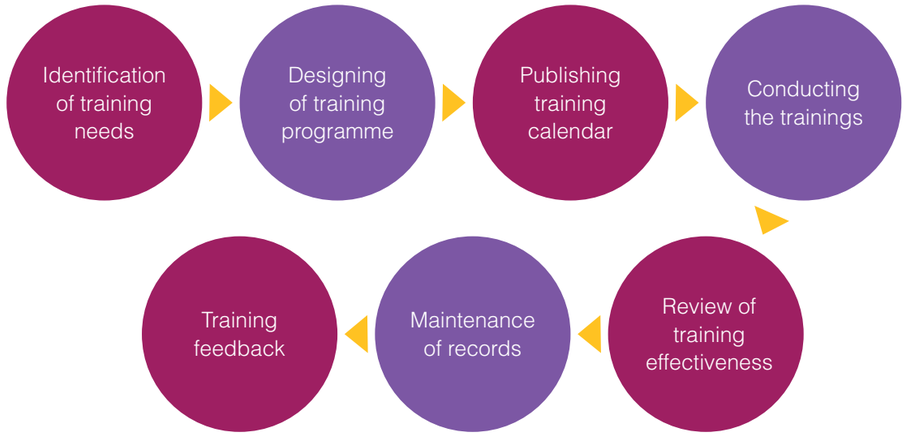
Rewarding Career Opportunities

It is crucial to ensure that all individual's abilities are provided with appropriate opportunities and resources to help them grow in CESC. Supporting and acknowledging each employee's efforts can facilitate their progress and contribute to their sense of job gratification.

We have an online appraisal system for assessment of our employee performance against each individual's targets and competencies. The system is deployed in tandem with the Balanced Business Score Card. Based on the results, the individual's increments, performance bonus and career progression is decided.

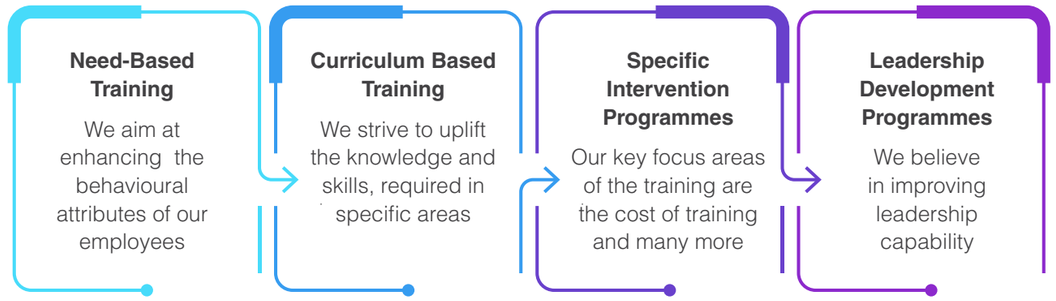
The appraisal system captures the training needs of the employee. We use this as a development opportunity and map the same with the annual training plan of the individual. The trainings are imparted through various media like classroom training, webinars, outbound programmes, e-learning, training simulators, models, film, and handbooks. For a continuity in the learning process, all course modules are available on Oracle Learning Management System.

We have incorporated a structured learning approach for all our employees as follows:



On a regular basis, we review and update our training programmes and add new training courses. To achieve our goal of 'Digital Skill' by 2030 we have introduced an e-learning platform, Udemy. We have also conducted programmes on cyber security, digital skills, and digitization process, AIML, IOT, Big data analytics, and many more. Some of the training programmes are mentioned below:

- Programme on HT Network Operations
- Familiarisation with BBGS plant & equipment
- Programmes on power system technologies and power plant technologies in collaboration with IIT, Kharagpur
- Advanced condition monitoring of power cables
- Technical course on power distribution technology
- Condition monitoring of transformer using robot
- Programmes on emerging technology covering Big data analytics, IOT and applications and AI&ML applicable in small power and industry
- Special trainings on customer centricity
- Behaviour based programmes for officers
- Programmes on disaster management in power utility



Training through partnership with Asia Institute of Power Management (AIPM) — the ISO 9001-2015 certified training and consulting wing of CESC — has established itself in training of power professionals all over India and abroad. In FY 22-23, AIPM conducted seventeen physical trainings with executives from West Bengal Power Development Corporation (WBPDCL), West Bengal State Electricity Distribution Company Limited (WBSEDCL), Eastern Regional Power Committee (ERPC), National Thermal Power Corporation (NTPC), Punjab State Power Corporation Limited and Bhutan Power Corporation with the support of USAID.

During the year AIPM offered training to 231 senior executives on upgrading distribution network, improving efficiency in thermal generation and HR management. AIPM also conducted training on smart grid activities and integrating renewable sources of power.

At CESC, we have a cross-functional team to train employees on process improvement and innovation. Our comprehensive approach towards building our employees has led us to a fruitful growth, which is indicated by the number of training hours invested per employee.

Table 10: Employee training details

	FY 21-22			FY 22-23		
	Total Training and Development Expenses (Lakh INR)	Percentage of total employees receiving training	Training Hours/ Employee	Total Training and Development Expenses (Lakh INR)	Percentage of total employees receiving training	Training Hours/ Employee
CESC	201.63	44%	7.39	381.48	81.19%	5.22
NPCL	10.41	100%	36.59	13.83	93%	10.21
CESC Rajasthan	3.41	96%	2.08	12.72	92.50%	12.95
MPSL	-	82%	2.98	-	77.50%	4.62
HEL	5.73	98%	4	11.53	88.04%	17.42
DIL	8.89	98%	5.21	10.78	87.01%	22.19
CPL	-	13%	1.48	3.90	68.05%	1.55
Consolidated	**230**	**60.14%**	**8.53**	**434**	**83.00%**	**8.1**

At CESC, we encourage our employees to develop their leadership qualities and technical abilities through training programmes conducted. During the reporting year, we have collaborated with renowned institutes which are mentioned below:

Our partnership programmes help us to improve our training and development courses for the employees. We aim at building long-term success by identifying the right people for the right job through succession planning.

Succession Planning

Our succession planning has a detailed structure to ensure the right people with right competencies are placed at critical roles and positions.

CESC has also put in place a unique initiative of Young Executive Board (YEB), a shadow management board comprising of young high performing and high potential executives drawn from various departments, to develop them as future business leaders. They undertake projects of strategic importance under the guidance and mentorship from the members of the top leadership team which provides them opportunity to view the organization beyond the confines of their functional jobs. They also undergo special Management Development Programme (MDP) at institutes like IIM/XLRI, coaching, outbound experiential learning and benchmarking visits to organizations of repute

We also arrange various Development Centres for selected talents from the ranks of Assistant Manager to Deputy General Manager. Individual development plans are framed for the participants for their areas of improvement.

Various Management Development Programmes arranged in collaboration with premier educational institutes and one-is-one coaching sessions also help our employees enhance their managerial and behavioural skills.

Training session organized at our development centre

Rewards and Recognitions

We are committed towards fostering a culture that is driven by performance, along with respecting and appreciating employee talents and achievements. We acknowledge good behaviour, a happy work environment and job satisfaction in our organization.

Every year on 13th July, we celebrate the RP-Sanjiv Goenka Group Foundation Day to appreciate our employee's contribution which is aligned with our Group Core Values. On this day, we honour our employees with the Outstanding Achiever Award, Core Value Champions Award and many more.

CESC Team Award

Sanhati Team Award was launched to recognize team-based projects/activities which may involve members from different departments/divisions across the organization

Our Company Level Awards are:

- Udaan - for Senior level executives
- Nakshatra - for Mid and Junior level executives
- Surya- Supervisor of the Year
- Saptarshi for team performance of workmen
- Eklavya Workman of the Year
- Abhay- for team performance of workmen
- Sabash- Spot award for non covenant workers
- Kudos Spot Award for officers in the ranks of Executive to Deputy Manager
- Kaizen and 5S - Innovative approach towards better ways of doing things

In the reporting period, we launched a Team Recognition Award called Sanhati to reward and recognise inter and intra-departmental teams working on important tasks and projects.

As a result of our continuous efforts towards creating a healthy workspace, we at CESC along with our subsidiaries receive recognition from external institutions and industry bodies for efficient human resource management. Some of the recognitions received during the reporting period are mentioned below:

CESC received Prize for Leadership in HR Excellence in CII National HR Excellence Award 2022, Prize for 'Sustained Excellence in HR' for scoring in highest bracket for three consecutive HR Excellence Awards, Certified "Great Place to Work"- 2022 (Mar 2022–Mar 2023); been certified for three consecutive years. Among India's best workplaces in Energy, Oil & Gas sector. Among India's Top 100 "Great Place to Work" Companies.

NPCL

- At NPCL, 39 Awards were received on various improvements made during the reporting period

HEL and DIL

- HR Practices received special recognition and appreciation during external IMS Audit and Information Security Audit 27001, Dhruv-Employee of the month
- Kaizen Awards to recognize the initiatives and innovations in day-to-day work

GPTW Award: Among India's 100 Best Companies To Work For

Award for Leadership in HR Excellence, 2022-2023 by CII

Employee Wellbeing

Our key focus area at CESC is the wellbeing of our employees and their families. We are an employee-centric company that regularly engages its employees through different channels of events and activities.

Employee Engagement

At CESC, we believe in nurturing a performance-driven organization by acknowledging and engaging with our employees to motivate them. We organize several events to foster our employee health and well-being. Some of the engagement activities carried out by our companies are mentioned below:

Subsidiary	Employee Engagement Programme/Activity
CESC	➢ **Ankur Samman:** Recognizing scholarly accomplishments of children of employees ➢ **International Women's Day:** Recognizing and celebrating the joy of womanhood ➢ **Sports & Extracurricular Activities:** Inter- Divisional T-9 Cricket Carnival / 5A Side Football Carnival / Chairman's Tennis Cup / Annual Sports / Indoor games competition / Sit & draw competitions ➢ **Central Safety Day:** Propagating awareness to adhere to safety norms during electrical installations and related work ➢ **Avishkar:** Strengthening the relationship of the organization with the employee's family ➢ **Mega Health Awareness Programme:** Eminent doctors invited as guest speakers for the program Held annually for employees & their families ➢ **OTHER INITIATIVES:** ➢ **Gymnasium** – At major office establishments; ➢ **Swimming** – Corporate membership at ILSS; ➢ **BCL Membership** – Institutional membership cards; ➢ **Executive Wellness Programme** – Yoga classes; ➢ **EXPLORE** – Online library; ➢ **CESC Shooters** – Photography Club; ➢ Holiday home facilities across major popular tourist destinations
HEL and DIL	➢ Snacks pe Charcha is an event wherein the Senior officer's council mentors the junior officers post the office hours in Chummery ➢ Inauguration of library for Officer's kids ➢ Inauguration of contractor workmen's canteen ➢ OBL event for junior and mid-level officers ➢ Sports event for contractor's workmen and their family members ➢ Work life balance events like picnic and New Year celebration
NPCL	➢ Holi celebration with all the employees ➢ Customer Service Excellence Training Program (Consumer Week) ➢ Sports month witnessed participation from more than 200 employees across the organization in various categories involving table tennis, cricket, carrom, badminton ➢ Srijan (internal newsletter) circulated on quarterly basis, covering numerous activities, initiatives performed, along with write-ups, and poetry submitted by the employees ➢ Implemented an on-site gym facility for employees' well being and fitness ➢ Celebration of Quality Month and Safety Week as part of our commitment to cultivate a strong organizational culture centred around quality and safety.
CESC Rajasthan	➢ Annual cricket competition ➢ Annual badminton competition ➢ Annual calendar with employee photographs ➢ Annual health check up ➢ Foundation day celebration ➢ Celebration of New Year's Eve with employee and their family members
MPSL	➢ Cricket tournament for the employees ➢ Celebration of different festivals ➢ New year celebration

Avishkar- Talent Hunt Programme

At CESC, our primary focus is the welfare of our employees by creating a safe and healthy workspace. We offer a wide variety of employee benefits and schemes to our employees.

Employee Benefits

By offering fair compensation, and alternate Saturdays off, we ensure that our employees work in a pleasant, competitive, and satisfying atmosphere. We have also initiated a "minimum number of weeks" time which is 2-3 weeks, to aware the employees about the substantial changes, from operations to joining. At CESC, our employees have access to a grievance redressal mechanism. We aim to empower and motivate our employees by providing long-term financial and health benefits.

HEL has various forums for expressing grievance involving MD Townhall and Plant Head communication meeting along with Grievance Committee as well.

The various benefits for both permanent and contractual employees which remains unchanged for our subsidiary companies is depicted here.

We follow all applicable laws and rules established for our employee's benefits. To establish a relationship of belongingness we conduct annual surveys.

Permanent Employees

- Provident fund
- Gratuity
- Employee's Deposit Linked Insurance (EDLI)
- Co-operative credit society
- Job based & attendance-based incentive scheme
- Insurance coverage
- Accident compensation scheme
- In-house medical facility
- Recruitment of eligible nominees in case of the death of a permanent employee
- Hospitalization facility and medical insurance
- Reimbursement of cost
- Family medical benefit scheme
- Post-retirement medical insurance

Contractual Employees

- Provident fund
- Gratuity
- ESI

Additional Employee Benefits at Subsidiaries

HEL & DIL	• Annual health check up in two categories, 40 years & above with spouse every year and below 40 years for the employees, once in every 2 years • Insurance coverage • Provident fund and gratuity • Provision of loans and advances • Co-operative credit society • Guest house facility • Periodic health talks with facilitators from Dr. Reddy's
NPCL	• Annual health check-up in two categories, below and above 40 years of age • Increased insurance coverage • Increment in maternity benefit/sum-insured coverage for Mediclaim Policy • Collaboration with health care partners such as Lal Path Lab, Max Lab, Fortis – Greater Noida, for better provision of health care to employees and their families • Gym facility • Online health talks on various health related topics • Health camp for all employees on World Heart Day • Introduction of First-Aid certification Program
CESC Rajasthan	• Collaboration with various renowned hotel and resort chains to provide discounted rates • Provision of multiple benefits across restaurants, airlines and apparel shopping
MPSL	• Incorporation of extra space for employee activities at Malegaon corporate office • Reimbursement of fuel expenses for associates on field duty

Employee Opinion Survey

As a core of people strategy, CESC has always fostered a culture of inclusion so that everyone at CESC is valued, included, and is able to perform at his/her peak level. With the aim of assessing the key factors that impact the wellbeing, satisfaction and motivation, the employees are empowered to share their views, feelings, emotions and ideas through structured opinion surveys, communication meetings as well as informal discussions throughout the year.

To understand the needs and perceptions of all the employees, surveys have been conducted in collaboration with GPTW since the year 2014. Great Place to Work Institute annual research on Workplace Culture is followed by more than 6,500 organizations globally. Almost 90% of the target population has responded to the online survey questionnaire in 2022. The GPTW Trust Index Score increased to 87% as compared to 86% in 2021. CESC has become Great Place to Work Certified and has been recognized by GPTW among top 100 companies in India to Work for, for the 4th consecutive years. The survey is carried out on five major areas:

87%
CESC
(GPTW- Trust Score)

87 %
NPCL
(Gallup Score)

At NPCL undertook an employee satisfaction survey, and we received 87% response rate. Our low turnover rates are a true reflection of the employee's trust with CESC.

Table 11: Employee turn-over rates

Company Name	Male (%)	Female (%)	Overall (%)
CESC	11.00	6.00	11.00
NPCL	11.00	6.00	11.00
CESC Rajasthan	13.7	1.08	14.80
MPSL	8.00	-	8.00
HEL	9.00	-	8.00
DIL	9.00	-	8.00
CPL	-	-	-
Consolidated	**10.23**	**3.94**	**9.86**

Human Rights

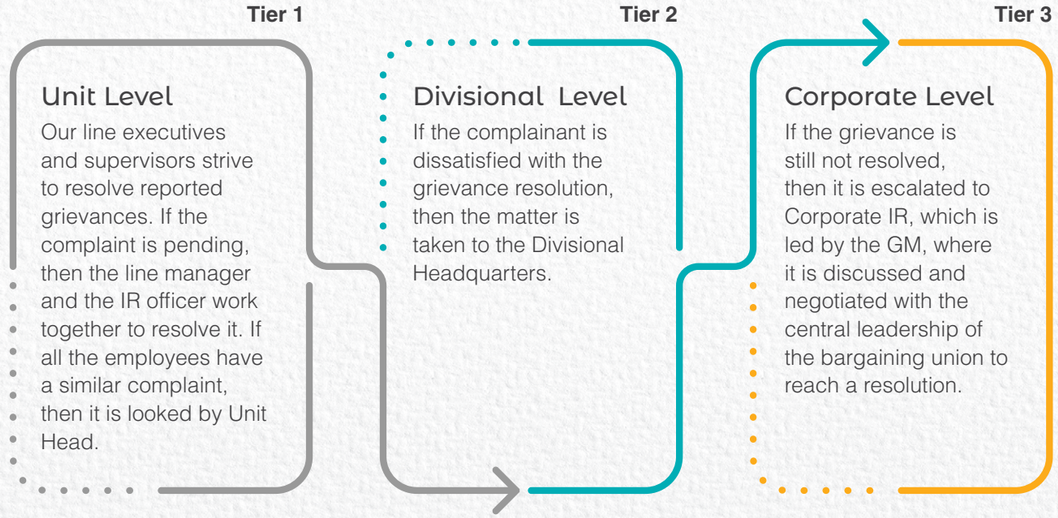
The fairness of our approach is echoed by

the voices of our employees. We are recognized as one of the best places to work. At CESC, we are driven by our vision of a diverse, inclusive, and equitable workplace and are conscious of our fundamental responsibilities.

The Labour Relations Policy reflects our commitment to human rights and considers the following factors shown alongside.

We have a systematic grievance redressal procedure based on the principle of 'prevention is better than cure' to address and resolve human rights concerns. We operate under an 'open door' policy wherein anyone can approach the CESC executives, including the Managing Director. We conduct Leadership Connect which is a web-based platform that enables all Executives, including MDs, to directly discuss their concerns, ideas, and questions with members of the Top Leadership team.

At CESC, we have formed a three-tier grievance redressal procedure as shown below:



At CESC, we have an Internal Complaint Committee (ICC) that deals with sexual harassment-related issues. It has six members and is led by a female Executive Director.

During the reporting period, we are proud to disclose that we did not receive any complaints around violations of human rights.

Occupational Health and Safety

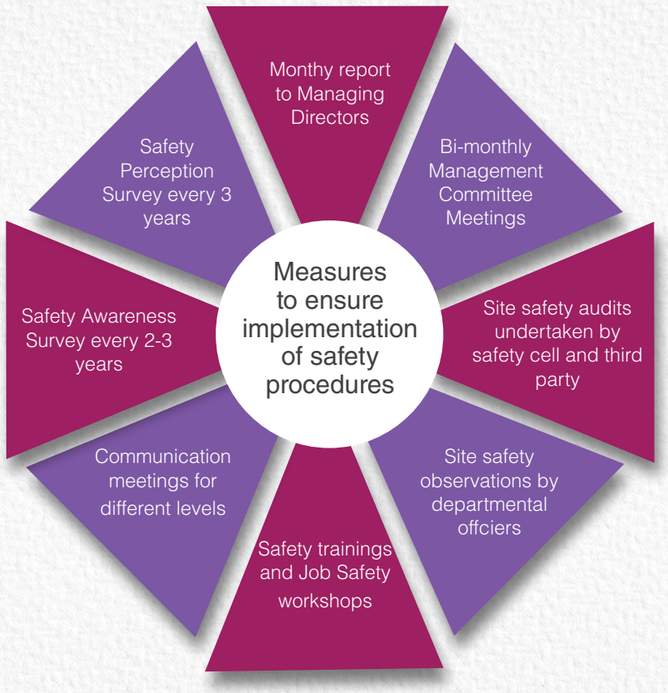
A holistic safety culture within an organization leads to excellent safety practices and makes every accident avoidable. At CESC, we ensure 'Zero Incidents' by promoting a robust safety culture, implementing safe work procedures, and monitoring and controlling unsafe work conditions. This guarantees that the workspace is free from health and safety hazards. Through our Safety Vision, Safety Principle, Safety Policy, and Safety Pledge Statements we convey our inherent belief that 'Good Safety is Good Business'.

To maintain high standards of health and safety, we have developed and disseminated the Corporate Safety Manual and the Corporate Safety Policy, which alongside eight sets of Internal Safety Standards: 'Confined Space Entry', 'Working at a Height', 'Electrical Safety', 'Permit to Work', 'Safety Observation', 'Incident investigation', and 'Material Handling', is in accordance with the requirements of ISO 45001.

The Apex Safety Committee comprising of the Managing Director (Distribution), Managing Director (Generation) and the Executive Director (HR & Admin) periodically review the safety performance and ensure the effective implementation of policies and standards by the Safety Cell, Divisional Safety Monitoring Committees and Unit Safety Committees.

Departmental officers, employees and workers are equally represented in the Unit Safety Committee, where they monitor safety incidents, identify unsafe acts, facilitate trainings, and suggest amendments in safety procedures through the Capability Building Sub-Committee, Rules and Procedure Sub-Committee, Safety Observation Sub-Committee, and Incident Investigation Sub-Committee respectively.

The measures mentioned below are adopted to ensure the safety procedures, and corrective and preventive actions are effectively implemented.



Safety competition

Healthcare provisions for employees

Healthcare is at the heart of CESC. CESC regularly promotes and provides healthcare to all its employees. Through collaborations and tie-ups with other institutions, CESC offers state-of-the-art medical facilities to its employees. This includes major super-speciality hospitals, nursing homes and diagnostic clinics, 27 well-equipped dispensaries operated across the organization and managed by qualified doctors and pharmacists available round the clock.

At all our generating stations, state-of-the-art ambulance with -support services functions is available 24X7. In addition to regular health check-ups of all employees as part of our occupational health initiative, we conduct electro-hysterography for vertigo testing, cardiovascular risk monitoring, bone mineral density testing, eye and dental check-up camps, orthopaedic campus, diabetic camps, cardiac camps, and a snake bite workshop.

CESC Rajasthan regularly conducts periodic health check-up for all on-roll employees and organizes seminars & webinar for all employees on varied subject of health concerns.

Healthcare provisions at NPCL

- Medical insurance coverage for entire employees (including third party)
- Personal accident & term life for the employees (grade wise eligibility)
- Parental insurance at subsidized rates
- Regular health talks from reputed hospital
- In-house medical camps for employees
- Special medical camps for drivers, call centre, control room employees
- COVID vaccination & testing camps
- Weekly health tips shared on email to all the employees
- Subsidized OPD facilities for the employees from various renowned medical chain of hospitals such as Apollo, Yatharth, Kailash, Jaypee, Neo, Medanta
- Cordial relation with government nearby hospital, GIMS for various vaccination & testing drives
- Empanelment from leading Pathlabs (Dr. Lal, Max Health care etc) providing discounts on tests
- Annual/biennial detailed medical health check-ups for employees (16 parameters- includes blood & radiology tests)
- Company paid pre-employment health check- Ups for new joiners
- Free Out Patient Department (OPD) facilities at Fortis Noida & Greater Noida

Mitigation of Risks

Recognizing and mitigating the health hazards is highly prioritized at CESC. Aligned with our aspirations towards 'Zero Incidents' at the workplace, we conduct Hazard Identification and Risk Assessments (HIRA) and Job Safety Analyses (JSA) for routine and non-routine jobs, based on which risks are observed, assessed, and classified as high, moderate, and acceptable, post which risk control and minimization measures are used to bring down the risk index within the acceptable limit. From incident investigation reports, safety rules violation identification through site safety audits, unsafe acts observed during safety observations and recommendations from external experts, our risk assessment and control process recognizes the importance of root cause analysis.

The seamless integration of precautions and safety procedures into standard operations has ultimately led to the preparation of Safe Work Procedures (SWPs), and such effective implementation of SWPs and the corresponding Work Instructions (WIs) through trainings is the result of mitigated risks and increasingly safer workplaces.

CESC engages to perform numerous safety initiatives, to enhance health and safety in operations. Some of the initiatives in our generation and distribution operations are listed below:

Safety Initiatives at CESC

Safety Initiatives undertaken in Generation

- Colour coding of chain pulleys to determine load test status of chain pulley blocks at a distance
- Medium velocity spray water system at cable galleries
- Load testing of electric overhead traveling cranes with water weight
- Forced fresh air circulation system (ventilation) for the air-conditioned rooms
- Tarpaulin removal platform for easy removal of tarpaulin by the drivers from coal trucks.
- Fibre reinforced polymer insulated ladders , fibre reinforced polymer gratings and handrail to approach cooling tower fan motor hub area to prevent damage from corrosion
- Chemical spill suits for chemical handling
- Aluminized fire proximity suits for high temperature works
- 12-Watt LED hand lamp in confined spaces to reduce fire and explosion risk
- Neulite Fire Nozzle with least back pressure installing hydraulically operated truck loader to facilitate loading/ unloading of cylinders,inflatable light for emergency work,use of portable fire water pump
- Robot camera for checking boiler tube thickness which decreases risk of human at height
- Virtual reality application for safety training

Safety interventions in Distribution

- HV cable end termination guard
- Flash test equipment in LV distribution system
- 5-way and 6-way shorting clips in HV and LV distribution systems
- Telescopic OH line earthing cum testing rod in LV distribution system
- 400 V test lamp with probes during meter inspection
- Insulated crowbar to ensure safety during manual excavation
- Safe zone creation with hard barricading
- Special eye-guard for spec-wearing gas cutters
- Work position lanyard for working at height in switch yards
- Waterproof waders for distribution tower maintenance
- Provision of polyethylene hard foldable 2-seater boats to access distribution lines in marshy areas
- Designing and customization of low and medium height trolley
- Installation of hydraulically operated truck loader to facilitate loading/unloading of cylinders
- Provision of inflatable light for emergency work
- Implementation of portable fire water pump
- Re-commissioning of old transformer yard emulsifier annunciation system
- Pictorial representation of SOP for critical jobs
- IR sensor-based touchless lift
- Introduction of android-based APP - SWAPP for registering of unsafe act / condition, near miss and taking necessary actions
- Google form for safety observations by safety office

Safety Initiatives at Subsidiary Companies

NPCL

- Celebration of safety week through awareness programmes for employees & contractor staff
- Circulation of safety awareness mailers to all the employees during safety week
- Training provided to HT consumers on "how to maintain metering room/apparatus", and "electrical panels"
- Internal trainings provided to employees as per the annual training plan of HRD on various safety aspects / use of PPE's / Network Augmentation / Metering Practices / Operational Safety
- External trainings on first aid, and site operations in collaboration with Karam Industries
- Conduction of mock drills at various NPCL office sites for awareness on fire hazard
- Inclusion of safety in 6S audit
- Conduction of internal audits by certified internal auditors using ISO 45001:2018 certification
- Calculation of CAPA analysis by process owners for robust management system

CESC Rajasthan

- Successful organization and celebration of the National Safety Week
- Accidents regularly reported and maintained in the record with root cause analysis
- Introduction of Internal Accident Reporting System (IARS)
- Identification and listing of the necessary PPE's, tools & equipment for different categories circulated to all engineers and vendors
- Issue of rule 3 authorization as per CEA Regulation to all Operating Engineers
- Identification of unsafe site related to asset, public hazards,
- DTR fencing, broken/damaged poles, stay without guy insulator, pillar box door missing
- Missing / damaged pillar box doors were coated with fibre doors
- Provision of HDPE pipe on Iron & PCC
- Implementation of the Lock Out Tag Out (LOTO) and Permit To Work (PTW)

CPL

- Remote equipment handling
- Regular inspection of safety equipment
- Monitoring all major equipment and machinery
- Don't overlook cyber threats
- Conduction of regular safety drill
- Provision of safety shoes, safety helmet and tinted goggles
- Provision of 24 x 7 dispensary

MPSL

- Imparted safety training on permanent & contractor employees
- Provided PPE for MPSL employees and ensured the same for contractor employees
- TBM is being conducted at every site
- Monthly safety meetings are being conducted with HO safety department
- Assigned representatives for safety monitoring & coordination for safe work practices from all three operational departments
- Near miss reporting

DIL	HEL
Cup-lock type scaffolding erection in boiler furnace during Unit-1 AOH	Improvement in Ilumination in coal unloading area of Track Hopper, Wagon Tippler and underground conveyors
Structure for tarpaulin removal of coal trucks	Safety for Online 400KV maintenance job
Replacement of water type DSS with DFDS system in WT & RBF floor	Proper procedure for electrical energy isolation
Strengthening of cable tray support in BFP area of Unit-2	Use of non sparking tools in hydrogen admission and storage rooms. All single phase sockets are to be uniform in nature to restrict naked electrical connection
Fire monitors and hydrant posts were added to the fire fighting system of chlorination plant	Provision of separate power source for welding machines and flusher machines to restrict multiple connection from a single source
Safety audit conducted by National Safety Council of India	Preparation of permanent access for operating different valves in different parts of the plant to avoid injury
Prohibition of mobile usage in work areas	Cable tray of cooling tower was rusted where there are probability of collapse and fall of cable tray
Footpath provided for pedestrian workers for safe commutation within plant premises	Minimization of gap in skirt rubber and coffin box in crusher to prevent coal spillage and damaging the environment
Deployment of a dedicated safety officer in specific areas to ensure safe work environment during AOH of Unit-1	Requirement of ELCB tester to test ELCB monthly
Improvement in illumination in CHP tunnel area	Identification of high potential risks in the plant which may lead to disaster and risk assessment accordingly as part of On Site Emergency Plan
Development of separate isolation checks for 415V, 6.6 kV and 400 kV electrical systems	Checking and certification of the electrical machines and equipment during boiler annual survey activities
	Usage of fibre reinforced polymer insulated ladder in power transformers and switchyard
	Usage of FRP gratings for cooling tower motor maintenance job to prevent damage of mild steel gratings due to corrosion
	Use of low voltage LED lamps in confined spaces

Application of Technology in Hazard Prevention

At CESC, we use digitalization and technology as a crucial instrument for enhancing safety, lowering operating expenses, and expanding the range of client service. In addition to successfully reducing hazards through process improvements, utilizing safer materials, and the employment of personal protective equipment, technological advancements enable us to redefine processes through advanced integration with the immersive environment.

Employees are also trained on how to respond to different situations effectively through virtually simulated conditions using Virtual Reality (VR). It offers an immersive virtual atmosphere for training situations, which helps make the workforce ready for real dangers, and enhancing skills and safety. It offers the opportunity to examine equipment, thereby reducing the possibility of utility personnel getting injured.

Installation of Large Format TVs (LFTs) in our site offices with specially prepared in-house training films for our supervisors and workmen attached to the Mains department.

Two training videos elaborate on safe work procedures prepared by experienced technicians

Health and Safety Trainings

As part of our holistic health and safety approach, we undertake several initiatives to monitor, treat and improve health of our employees. Along with technological interventions, adequate awareness on safety risks and preventive measures is also important to mitigate health and safety risks. Our trainings are classified as:

- General safety measures training
- Training on SWP and work
- Behavioural based safety trainings
- Job specific video-based safety trainings

Table 12: Health and safety training performance

Summarized below is our safety training performance over the FY 22-23

Company Name	Health and Safety Training hours (for permanent employees)	
	FY 21-22	FY 22-23
CESC	7,389	13,690
NPCL	3,055	4,560
CESC Rajasthan	572	3,715
MPSL	66	114
HEL	635	3,206
DIL	850	3,440
CPL	264	112
Total	**12,831**	**28,837**

Creating a Safety Culture

To imbibe a holistic safety culture within the employees of CESC, several health and safety communication campaigns concerning areas of attention are carried out in addition to formal training. Our employees proactively participate in all health and safety programmes and share the safety vision of the top management. They abide by safety norms and believe in leading by action.

The atmosphere of safety culture is built through behaviour-based, creative safety programmes, such as slogan competitions, poster competitions, safety suggestion competition rallies and drama competitions, as well as motivational award programmes for exemplary safety behaviour and performance on special days like National Safety Day and National Safety Week.

To empower each member of our workforce, we have laid down the foundation for safety management system for identification of unsafe acts and conditions. Employees can report unsafe acts and conditions using an android-based application and providing suggestions on the 'Click to Safety' portal. The reported cases are then analyzed and investigated for corrective or preventive action.

Positive reinforcement of safe actions among employees, monthly awards, and recognition programme is organized to acknowledge efforts ensuring zero incidents at workspace. At HEL and DIL, we also gratify contract workers with 'Spot Award' and 'Employee of the Month' award to reward their efforts towards ensuring a safe workplace. NPCL has embraced top standards for improvements in productivity, with the robust belief that quality and safety is everyone's responsibility.

Celebration of Safety Week to prioritize and emphasize the importance of a safe work environment. This dedicated week serves as a platform to raise awareness, educate employees about safety protocols, encourage safe practices, and foster a strong safety culture. By highlighting safety measures and engaging employees in various activities, Safety Week helps prevent accidents, reduces risks, and ultimately contributes to the well-being of all employees, while also enhancing the company's overall productivity and reputation.

Safety oath during Central Safety Day

Health and Safety Performance

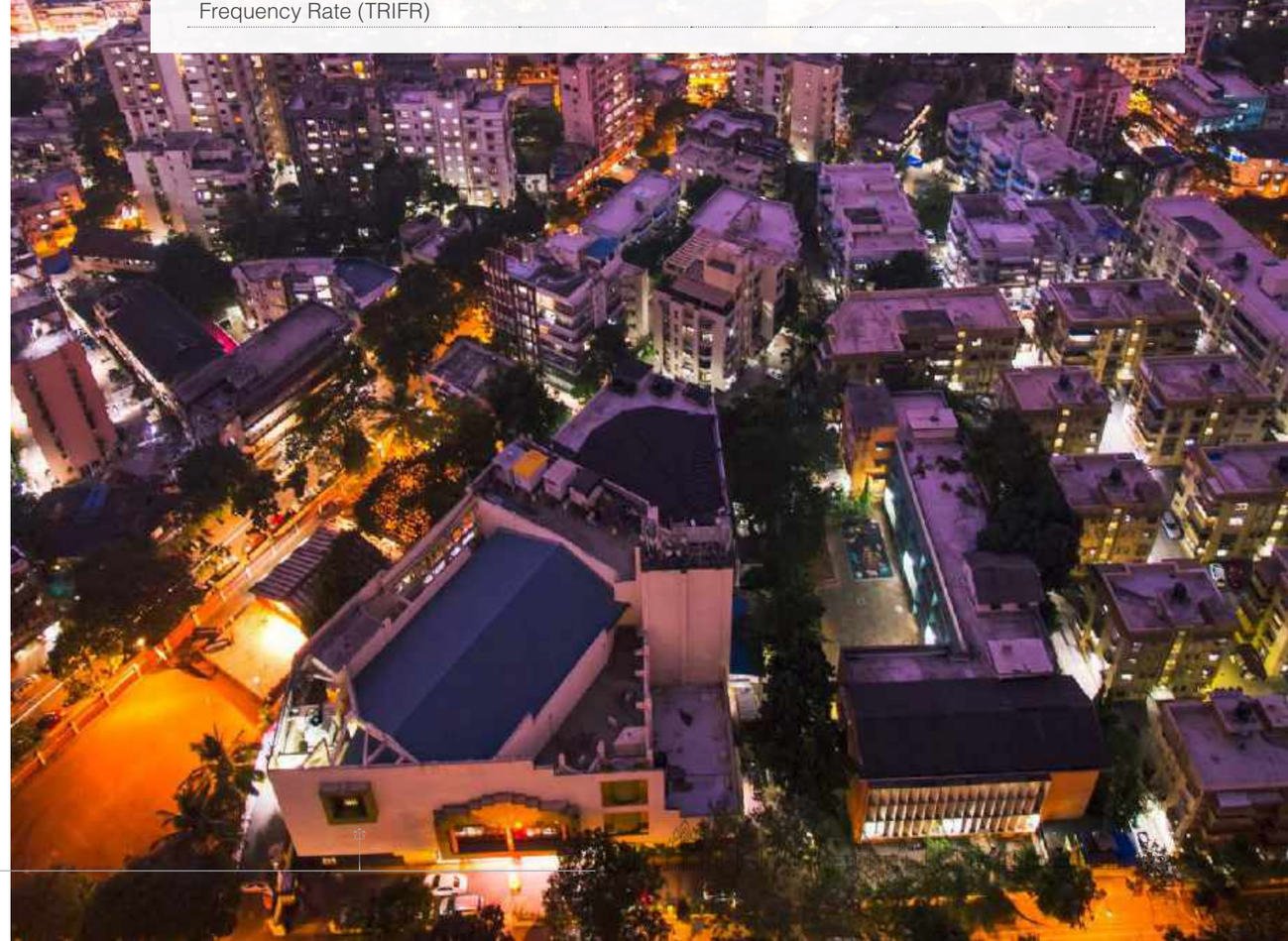
CESC's persistent efforts through technological advancement, trainings and other safety programmes have helped us achieve a robust safety management system.

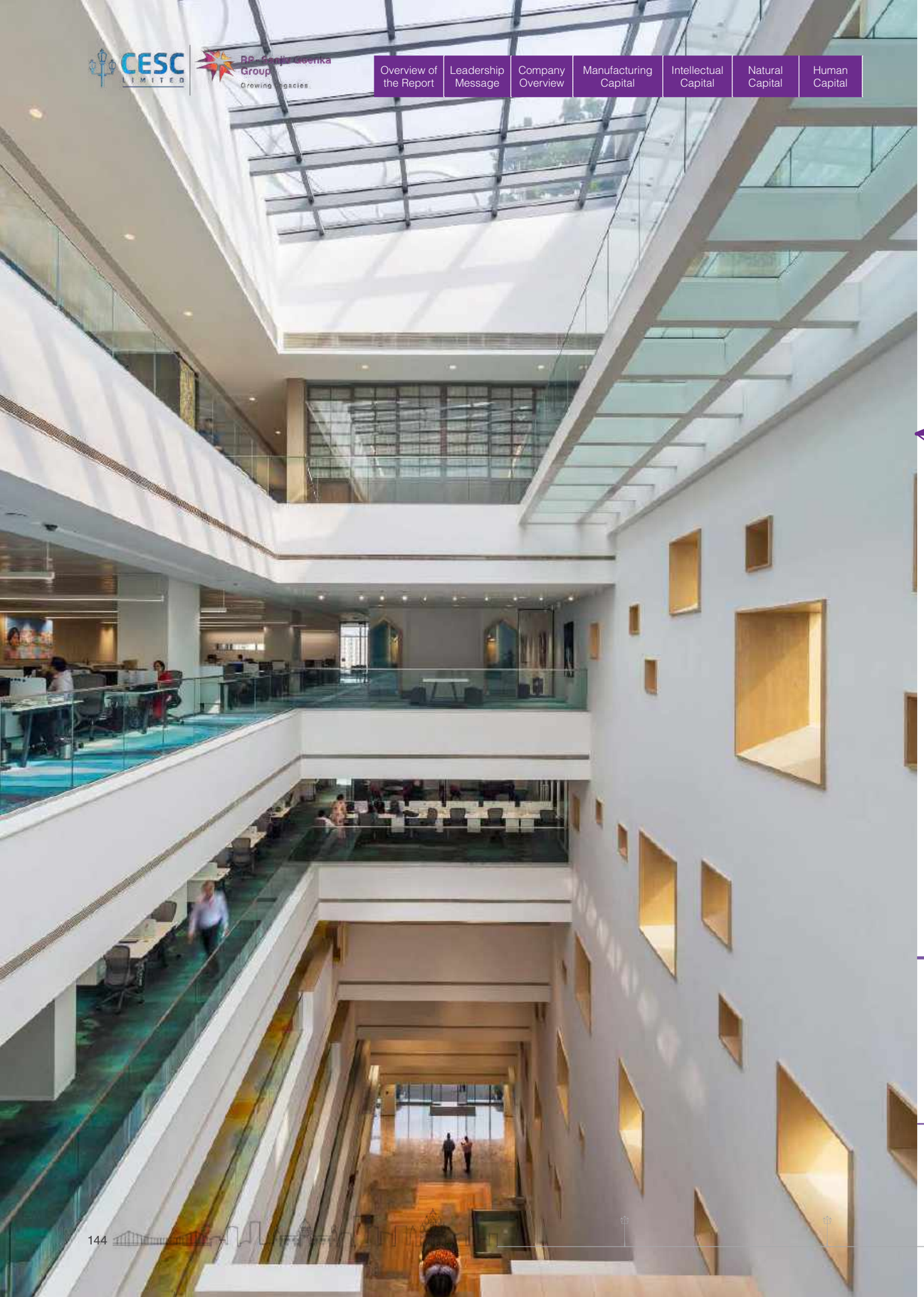
All our workplace incidents, including Lost Time incidents and fatalities are timely reported to us by the relevant departments using the safety incident reporting system.

The following table illustrates our health and safety performance for permanent employees in the FY 22-23.

Table 13: Health and safety incidents

	CESC	NPCL	CESC Rajasthan	MPSL	HEL	DIL	CPL
Fatalities	-	-	-	-	-	-	-
Lost work cases	21	-	-	-	-	-	-
First aid cases	6	-	4	-	3	-	6
Loss Time Injury Frequency Rate (LTIFR)	1.30	-	-	-	-	-	-
Total Recordable Injury Frequency Rate (TRIFR)	13.65	-	-	-	-	-	-





Environment Management

Energy and Carbon

Climate change is one of the greatest challenges faced by our world today. To combat climate change, we need to reduce emissions to control global warming. CESC has a central role in providing consumers with reliable electricity supply while phasing down fossil fuel use. To put forth our contribution in limiting the increase in the planet's temperature below 2°C in line with the Glasgow Climate Pact, and the landmark agreement in Paris. We strive to reduce greenhouse gas emissions as an urgent priority.

The key contributor to our carbon footprint is our fossil-fuel based resource consumption. To manage our resources responsibly, we implement efficient and judicious processes. Our resource footprint of the FY 22-23 is as follows:

Table 14: Fuel Consumption

Type of material	Unit	BBGS	SGS	HEL	DIL	CPL	Total
Coal (sub-bituminous)	tonnes	32,27,864	3,84,429	30,34,159	27,96,115	3,99,912	66,46,452
Light diesel oil	litres	7,73,290	2,89,170	4,94,000	3,88,890	47,620	19,92,970
Lubricant	tonnes	60	7	132.85	20	6	226
High Speed Diesel	litres	2,40,166	1,15,767	2,28,813	3,205	1,200	5,89,151
Liquified Petroleum Gas	tonnes	-	2	-	-	1	3
Chemicals	tonnes	-	56	1,999	2,821	86	4,962

We have begun our transformation to become a low-carbon business and aspire to mitigate the negative impacts of our resource footprint. By integrating renewable energy and fuel diversification programmes along with our efforts in reducing Auxiliary Power Consumption (APC), we reaffirm or commitment as a climate steward.

Managing our Auxiliary Power Consumption

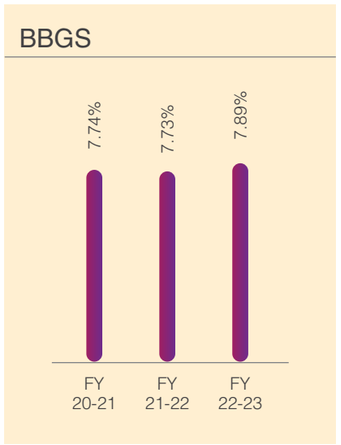
Auxiliary Power Consumption (APC) is one of the most significant performance indicators of a power generation station. Under the 'Perform, Achieve and Trade' Programme of the Bureau of Energy Efficiency, we implement various initiatives to improve process parameters along with use of energy efficient equipment and technologies to successfully reduce our APC. This has helped us reduce greenhouse gas emissions significantly. Some of the initiatives and their impacts are given alongside:

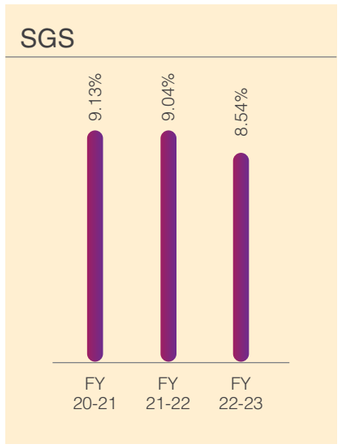
- Replacing existing lights with LED lights
- Rationalization of ESP operations
- Replacement of cooling tower parts
- Reduction in lighting load through sensor based technology and voltage optimization
- Installation of variable frequency drives
- Maintenance of air preheaters
- Modification of pump and fan rotating elements
- Replacement and refurbishment of pumps
- Rationalization of pumping operations

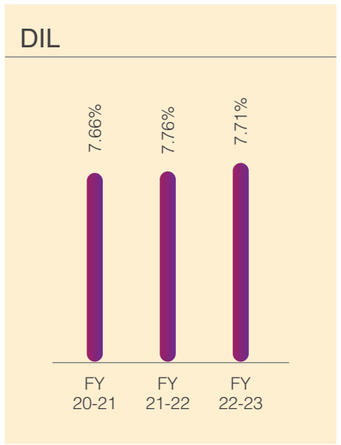
Table 15: Annual energy savings

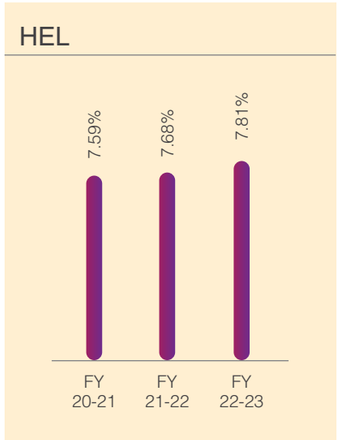
Company name	Annual energy savings (in GJ)
BBGS	58,669
SGS	3,444
CESC (BBGS + SGS)	62,113
HEL	2,52,907
DIL	4,876
CPL	65
Total	**3,19,961**

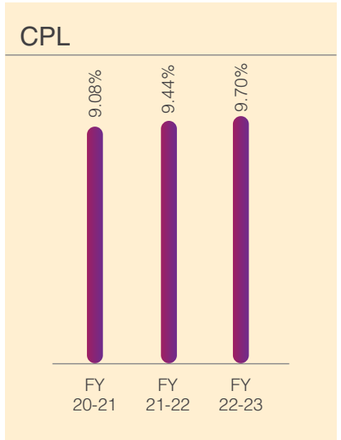
Auxiliary Power Consumption (%)











Integrating Renewable Energy in operations

Besides identification and implementation of opportunities to save energy for our own operations, CESC continues to offset its fossil fuel consumption by using renewable sources of energy. Illustrated below are some of our interventions across generating stations:

1. Southern Generating Station

Micro hydel units have been installed to retrieve energy from CW discharge flow to river Hoogly.

2. Budge Budge Generating Station

In FY 22-23, BBGS saved 12,718 kWh internal energy consumption by solar powered units. Some new initiatives are:

- Gate Complex Building of BBGS has been converted to a IGBC Platinum rated Green Building. For this purpose, 18kW solar panel has been installed. The building gets a significant portion of required electric power from solar cells during the day.

3. Haldia Energy Limited

In FY 2022-23, HEL saved 38,794 kWh internal energy consumption by solar powered units. Some new initiatives are battery powered EV cars for internal transportation which are recharged from solar power. Also, solar garden lights have been installed near the administrative building.

4. Crescent Power Limited

At Ramnad, Tamil Nadu of CPL, we continue to run a solar power plant. At Asansol, West Bengal, we operate a solar panel module and a hybrid solar-wind system, which was recommissioned in the earlier reporting period.

Fuel diversification

Considering India's vast agrarian economy and the extensive air pollution problem due to stubble burning, the Central Electricity Authority (CEA) estimated that the stubble, or agricultural waste biomass can be used to produce biomass pellets of equivalent calorific value as that of Indian coal. Recognising that effective use of agro-residue is not only eco-friendly but can also be one step towards substituting coal as a cleaner fuel, CESC has begun conducting trials for co-firing biomass pellets from agro-residues like rice husk, groundnut shells, and paddy straw at all coal-based thermal power plants. Under the guidance of our senior management, different methods of firing and their effects are explored with a series of experiments. Pellets were co-fired to substitute a part of coal consumption of power plant operation. Through modifications and upgradation, the feasibility of this solution can be improved, and challej145nges can be mitigated.

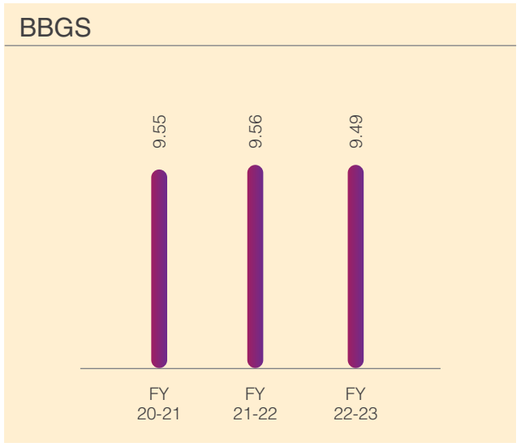
From co-firing 50 MT of biomass in FY 21-22, we have co-fired 155 MT biomass as follows in FY 22-23.

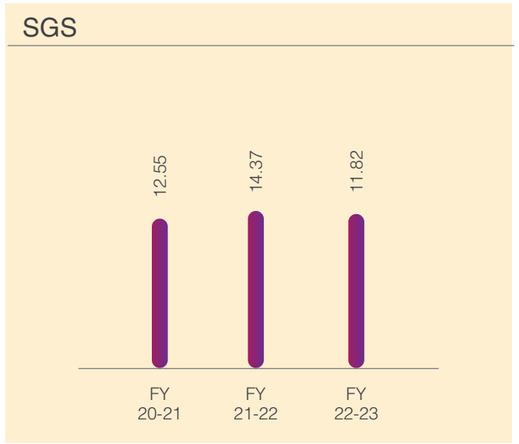
Table 16: Biomass utilization

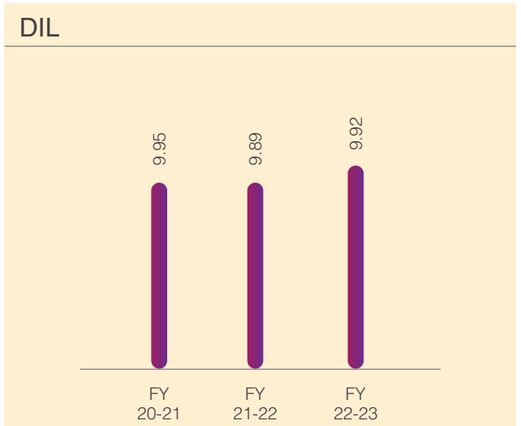
Subsidiary	Biomass co-fired (MT)
BBGS	101
HEL	30
DIL	24
Total	**155**

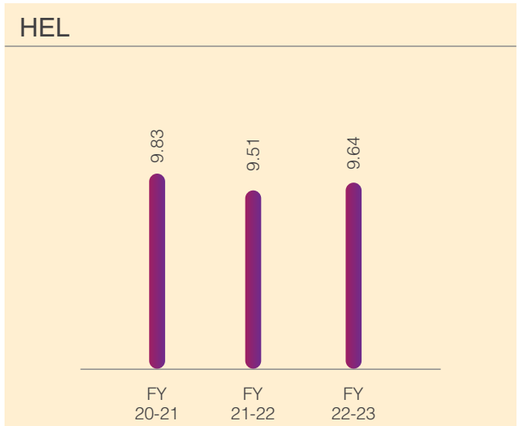
These persistent efforts on our behalf testify our aspirations to provide our consumers with low-carbon electricity, which has a reduced carbon footprint.

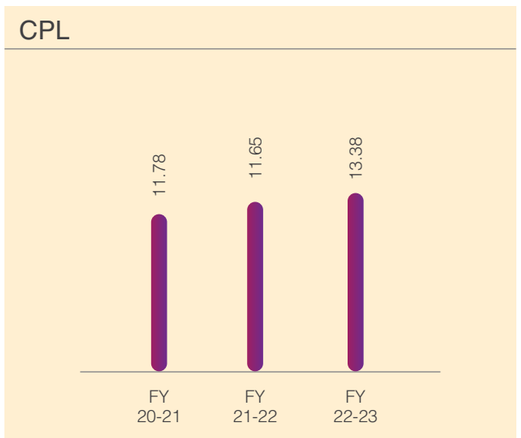
Energy Intensity (GJ/MWh)







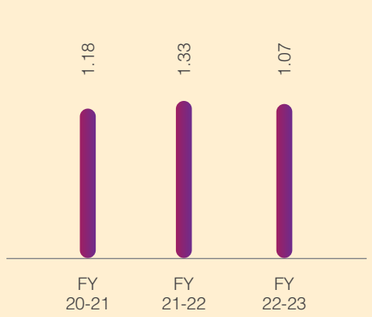




Emissions Intensity (tCO_2eq/MWh)

BBGS

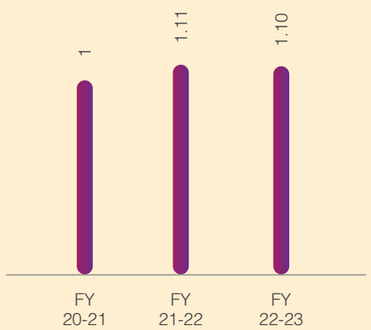
SGS



DIL

HEL

CPL



We target the conversion of all plant administration buildings into certified green buildings and embrace green technologies such as EV as we transform our operational fleet. At HEL, we have calculated and reported the amount of carbon sequestered by the extensive plantation in and around the plant." as first sentence The detailed carbon and energy footprint of CESC is available in Annexure A and Annexure B of this report respectively.

Case Study: HEL Flora Biodiversity

Haldia Energy Limited (HEL) with an area of 375.78 acre has developed a greenbelt area of 106 acres to mitigate the rise of carbon dioxide levels, at a local scale. The carbon sequestration project, in collaboration with Techno India University of West Bengal, aimed to evaluate the species-wise carbon sequestration potential of the major plant species and stored carbon in the soil compartment in and around the greenbelt area of Haldia Energy Limited.

After collection, sampling, and scientific analysis of the plant species in the area, the amount of sequestered carbon was calculated, along with calculations and research on stored Soil Organic Carbon (SOC).

HEL has successfully offset 1.95 Lakh MT of carbon dioxide in and around the plant, since 2013


CARBON SEQUESTRATION CERTIFICATE

CARBON SEQUESTRATION
Verification and Validation Audit
REPORT cum CERTIFICATE
April, 2023
Presented to
Haldia Energy Limited, Haldia
For Offsetting
1, 95,638.57 MT of CO_2
(Within 106 Acres of Land Areas covered with Diverse Floral Species since 2013 in & Around the Plant)

By Dr Antara Chakraborty
PhD,Carbon Nanomaterials
Department of Energy Science and Engineering ,
Indian Institute of Technology Bombay

Air Emissions

We are conscientious of the environmental impacts of air pollutants emitted during power generation activity. Thus, we adhere to the regulatory standards of stack emission at all our sites. At CESC, we take a proactive approach to monitor ambient air emissions through sophisticated instruments. Some of the technologies embedded are:

Emission reduction initiatives

- Installation of dry fog dust suppression system
- Telescopic chutes installed in fly ash unloading spout
- Installation of high-efficiency ESPs
- Development of green belt in coal stock
- All coal conveyors equipped with dust extraction systems
- Installation of rain guns and water sprinklers automated ammonia dosing system to control the PM emission
- NO_x control technologies like low NO_x burners and over-fire air dampers in the boilers are in place at all generation stations

We ensure proper functioning of Electrostatic Precipitators (ESPs) by by regular monitoring and preventive maintenance, monitoring of Ammonia dosing system and periodic checking of stack emission by Corporate Environment Cell and WBPCB approved and NABL accredited laboratory.

Table 17: Quantum of air emissions

FY22-23

Generating station/company	capacity	PM mg/Nm³	So_x mg/Nm³	NO_x mg/Nm³
BBGS	750	20-30	850-1,000	400-550
SGS	135	30-45	800-850	350-450
HEL	600	15-25	1,500-1,600	400-460
DIL	600	25-40	1,800-2,200	500-580
CPL	40	43	562	293

Generating station / company	PM FY20-21 tonnes	PM FY21-22 tonnes	PM FY22-23 tonnes
BBGS	573	568	545
SGS	18	66	139
HEL	273	378	372
DIL	352	428	669
CPL	35	20	43
Total	**1,251**	**1,460**	**1,768**

Generating station / company	SO_x FY20-21 tonnes	SO_x FY21-22 tonnes	SO_x FY22-23 tonnes
BBGS	16,600	20,598	17,836
SGS	304	1,117	4,337
HEL	18,967	26,318	24,099
DIL	17,938	21,973	37,888
CPL	640	970	1,612
Total	**54,449**	**70,976**	**85,772**

Generating station / company	NO_x FY20-21 tonnes	NO_x FY21-22 tonnes	NO_x FY22-23 tonnes
BBGS	10,448	11,364	7,796
SGS	152	603	2,072
HEL	5,344	6,895	7,297
DIL	3,758	6,587	10,732
CPL	1,792	343	604
Total	**21,494**	**25,792**	**28,501**

Water Stewardship

Around the world, more and more places have begun to experience water stress due to water demand exceeding availability. Freshwater is getting depleted and water quality is deteriorating. This decline in availability of safe and clean water is a threat to human health and ecosystems.

CESC is cognizant of the water intensity of its operations and realizes its role in protecting water quality and stewarding water resources. We strive to manage water resources effectively through our policies by continuously monitoring the water risk filter tool of the World Wildlife Fund (WWF).

Water Withdrawal

For use at the CESC generation stations, we source raw water from local rivers. River water is pre-treated to remove suspended solids, and the clarified water obtained is fed to a demineralization plant where filtration and chemical processes remove dissolved impurities. The treated water is suitable for use in boilers to generate steam. At Budge Budge and Haldia, Ultra Filtration Reverse Osmosis Plants (UF-RO) are installed to ensure that the high chloride content of the water is reduced and does not pose any issues.

Water withdrawn at CESC and its subsidiaries for the reporting period of FY 22-23 is:

Table 18: Water withdrawal (in m3) by source

Source	BBGS	SGS	CESC (BBGS+SGS)	HEL	DIL	CPL	Total
Surface Water	1,08,80,141	10,59,43,363	11,68,23,504	91,93,009	85,90,589	12,10,988	**13,58,18,090**
Rainwater	3,148	-	3,148	4,10,606	-	7,200	**4,20,954**
Third party water	8,969	7,732	16,701	-	-	-	**16,701**
Total withdrawal	**1,08,92,258**	**10,59,51,095**	**11,68,43,353**	**96,03,615**	**85,90,589**	**12,18,188**	**13,62,55,745**

Water Conservation

In thermal power plants, water is mainly required for steam generation (the power cycle), condenser cooling, equipment cooling and in bottom ash conveying system. Other uses of water, aside from process-related requirements, include gardening, drinking, hygiene purposes and in sprinklers and foggers. At the CPL solar generation station, water is also used for solar module washing.

We acknowledge that with the installation of Flue Gas Desulphurization (FGD) units, water consumption may increase. To ensure that the impact of this increase is mitigated, we have a holistic plan in place to reduce our consumption below 2.25 kL/MWh by 2030.

Our plan entails a three-fold approach which aims to:

- Improve water efficiency
- Identify alternative water sources
- Implement zero liquid discharge

Improving water efficiency

To prevent overuse of water, it is important to make operations efficient. We endeavour to eliminate losses in our system and optimize water consumption to the extent possible, by incorporating innovative technologies. We believe that adopting a proactive approach for attending to water and steam leakages helps minimize damages, besides saving water resources. By implementing All Volatile Treatment (AVT) at HEL, DIL and BBGS, we have not only controlled boiler water chemical parameters, but also reduced boiler blowdown significantly.

At BBGS, an RO plant supplying input water to the demineralization plant has reduced the frequency of regeneration of resins and subsequently reduced water consumption. Likewise, at CPL, an RO plant helps convert cooling tower blowdown water to cooling tower makeup water for reuse, which has reduced consumption. Sewage Treatment Plants installed at BBGS & HEL recycles the sewage water.

Air to Water Generator at BBGS

A 100 Litres/day atmospheric air to water generator has been installed at the BBGS canteen. The equipment helps trap atmospheric moisture, purifies it and converts into potable drinking water. A 2KW solar panel has been installed for running this air to water generator in the canteen.

Identifying alternative water sources

Beyond our operations, we have taken the initiative to install rainwater harvesting structures to collect, and store rainwater to address water stress and reduce water shortage. Collection is carried out through rainwater harvesting ponds at HEL (1 lakh cubic metres capacity in two ponds) and at CPL (71,000 cubic metres capacity in one pond). At DIL, a natural 'nallah' originates upstream of the plants and helps us harvest 25.3 lakh cubic metres of rainwater.

Additionally, rooftop rainwater harvesting systems at BBGS (7,025 cubic metres annual capacity), HEL (16,000 cubic metres annual capacity) and at SGS (3,013.2 cubic metres annual capacity) have helped us reduce water withdrawal.

Collected rainwater can be utilized for various operations such as demineralized water production, cooling tower makeup water, ash water tank filling, landscaping, dust suppression on roads and many more.

27 Lakh
cubic metres rainwater harvested and water collected in reservoir structures

Air to Water Generator at BBGS

Implementing Zero Liquid Discharge

After achieving Zero Liquid Discharge (ZLD) at our thermal power plants- BBGS, DIL and CPL, the next milestones on the journey of meeting our specific water consumption target is to achieve ZLD at all our other thermal power plants. The processes that have enables us to reuse and recycle 100% of the water used in our operations, and successfully implement ZLD are:

Zero Liquid Discharge Strategy

- Ash water recirculation system for re-use of water in bottom ash removal system
- Reuse of treated water from sewage treatment plant
- Reuse of blowdown water from boiler and cooling tower for dust suppression
- Reuse of water reject from dual media filtration and ultra filtration process
- Reuse of treated effluent water in pisciculture

Before reusing treated effluent water, we first arrest oil, grease, suspended and solid particles. After treatment the wastewater is recycled back to the raw water treatment plant for subsequent reuse in different areas like cooling tower makeup, plant service water and fire fighting system. Further, treated water from the sewage treatment plant is reused in various applications.

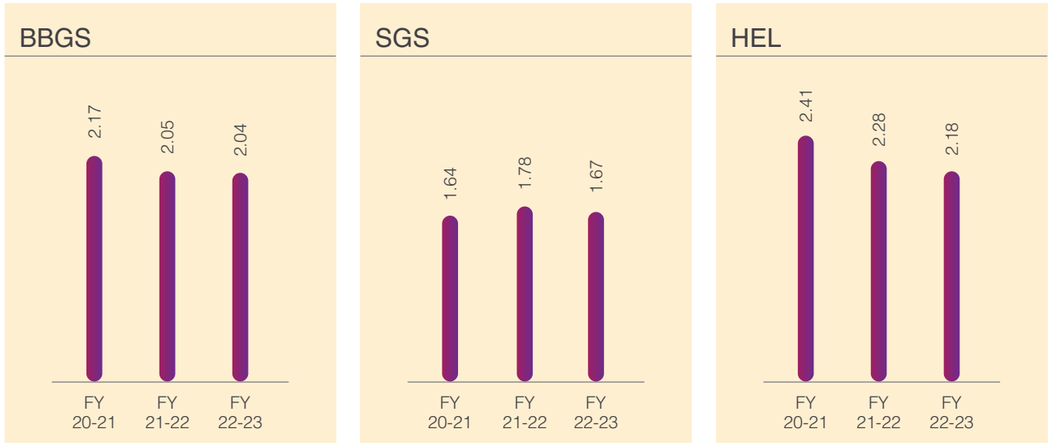
Our efforts to steward water resources over the years are illustrated by the decreasing trend in water consumption at some of our generating stations. CESC is proud to have achieved specific water consumption below the statutory limit of 3.5 cubic metres per MWh.

Table 19: Water consumption (in m^3)

Generating Station/Company	FY 20-21	FY 21-22	FY 22-23
BBGS	1,17,47,952	1,13,82,812	1,08,92,258
SGS	1,47,075	2,91,562	10,64,291
CESC (BBGS+SGS)	1,18,95,027	1,16,74,374	1,19,56,549
HEL	1,01,87,754	97,40,909	91,93,009
DIL	90,02,994	85,34,342	90,20,370
CPL	12,08,615	11,60,036	12,18,188
Total	**3,22,94,390**	**3,11,09,661**	**3,13,88,116**

Note: At CESC Kolkata distribution is 1,77,020.17m^3. This includes consumption across all offices and stations.

Specific Water consumption (m^3/MWh)



Protecting Water Quality

We understand the adverse impact that industrial effluents can have on ecosystems if they are not discharged properly, in alignment with the statutory laws of the SPCB. Toxins and chemicals can get biomagnified within natural food chains and cause diseases to humans. To avoid any such implications on the environment, we follow a robust effluent treatment process. Physical, chemical, and biological treatment are leveraged to return water to desired quality standards.

Additionally, SGS has open circuit condenser cooling system, and the cooling water is returned to river Hoogly, which is the source river.

Table 20: Water discharge (in KL)

Generating Station	FY 20-21	FY 21-22	FY 22-23
CESC (SGS)	1,48,32,379	2,70,65,132	10,48,86,804
HEL	28,82,404	30,57,102	25,56,635
Total	**1,77,14,783**	**3,01,22,234**	**10,74,43,439**

Note: SGS has open circuit cooling system in which the cooling water is returned back to the source(river Hoogly).

The discharge quality is monitored and tested at in-house laboratories and complies with all applicable norms. In FY 22-23, we confirm that there have been no incidents of non-compliance with respect to the water quantity and quality, permits, standards and local regulations.

The relevant management procedures and initiatives to streamline our waste disposal processes are highlighted in the next section.

Circular Economy

At CESC, we are committed to zero waste to landfill. Through our waste management practices, we contribute towards a circular economy. We are conscious of transitioning to a low-carbon economy. We are taking proactive initiatives to accelerate the change through efficient and responsible waste management.

Hazardous waste generated by our operations is handled diligently, with appropriate disposal, and by authorized recyclers in accordance with SPCB laws and regulations (State Pollution Control Board). We assure waste is managed responsibly due to the highly toxic nature of hazardous waste and its negative impact on the environment. During the reporting year, hazardous waste generated is depicted in the below table

Table 21: Waste generated:

	CESC	NPCL	HEL	DIL	MPSL	CPL	CESC Rajasthan
			Total waste generated (In metric tonnes)				
Plastic waste		0.733	-		-	-	10
E-waste	-	-	-	3.02	-	-	-
Bio-medical waste	9.32	-	0.00652	0.071	-	-	-
Construction and demolition	-	-	-	-	-	-	-
Battery waste	-	-	0.503	2.94	-	-	0.5
Other Hazardous waste	134.56	-	1.48	11.49	-	0.98	-
Other Non-hazardous waste	137.97	145.24	-	-	-	-	31
Total	281.85	145.973	1.98	6.031	-	0.98	41.5
Grand Total				**478.314**			

We have initiated some waste management initiatives. We have installed composting machines at our operations to promote organic farming. HEL has provided manure to local communities for kitchen gardening and agricultural needs as part of operation Shyamala. In the reporting year, there has no occurrences of significant spillage.

Ash Management

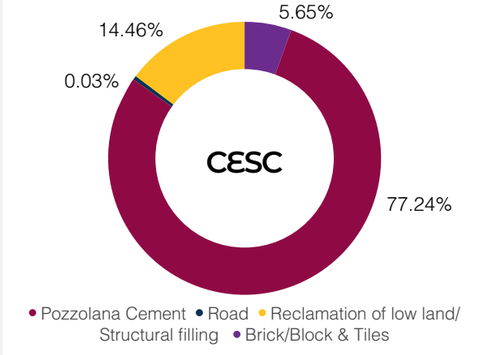
Ash is a by-product generated from the combustion of coal. when ash is released into the air and water bodies it leads to ailments in the lungs and heart. To protect the environment and public health, it is crucial to properly collect, transfer, and store ash under regulated conditions. There are two types of ash generated at our operations. Fly ash is fine particle ash and it is generally captured by particle capture equipment like ESP (Electrostatic Precipitator) before the flue gases reach the chimneys. Bottom ash is heavier ash & is captured from a hopper at the bottom of the boiler where it gets mixed with water for subsequent removal in slurry form.

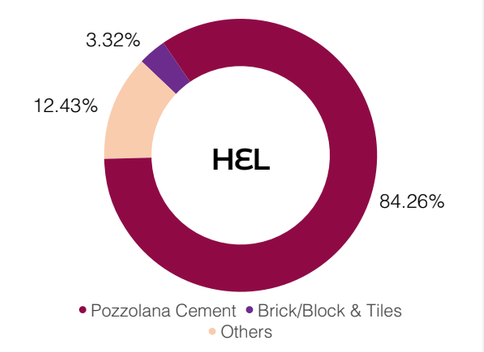
The total ash generation including fly ash and bottom ash from all generation stations is tabulated below:

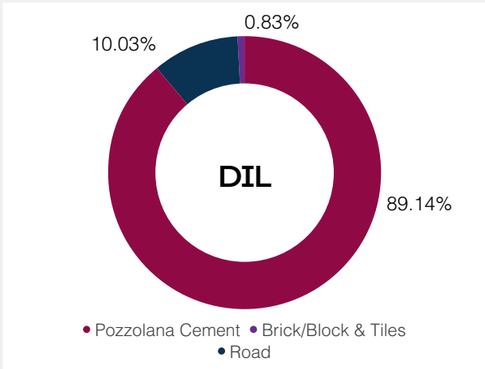
Table 22: Ash utilization in FY 23

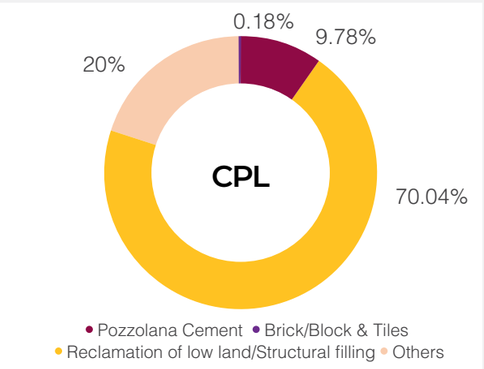
Generating Station/Company	Ash Generation in Lakhs (Lakh MT)	Ash Utilization (%)
CESC	11,58,655	100%
HEL	11,78,732	100%
DIL	10,65,337	100%
CPL	2,45,161	100%
Total	**36,47,885**	**100%**

Ash Utilization in %









Biodiversity Management

We maintain, enhance, and conserve biodiversity in all operating plants by adhering to environmental standards. We preserve biodiversity hotspots such as wild habitats, flora and fauna species, and forests to have a positive ecological impact. We strive to identify the biodiversity risks related to our business activities and reduce the threats and consequences. Some of our biodiversity protection activities include:

Butterflies

A butterfly garden at HEL has been created as part of the Titli Rani programme to attract more butterflies for feeding and breeding.

Within the operating region, 17 butterfly species, including the blue tiger and lime butterfly, are found in 5 families.

Birds

37 species from 30 families of avian birds live in and near the HEL activities including migratory and aquatic species.

A swan park is sustained at DIL, with waterfowl species helping CESC's activities to be more biologically diverse.

Floral Biodiversity

The HEL medicinal plant garden preserves 77 plant species, as part of the project "Rishi Krishi". 17 different species of medicinal plants, herbs, trees, and shrubs, are cultivated in the BBGS facility.

DIL has constructed an orange orchard and a sandalwood corridor in addition to planting activities.

Mammals

Animals such as the Golden Jackal, Jungle Cat, and Little India Civet are prevalent species that are offered a sanctuary.

BBGS medicinal garden

Medicinal garden at Chakmir substation

A medicinal garden has been set up on the eastern swathes of our Chakmir substation.

The garden as been built up on a 25m X 23m land parcel having 42 numbers of soil reservoirs interspersed with 0.8 m wide alleys and a walkway which centrally divides the entire land area into two equal halves.

42 different species of medicinal plants have been grown in each of the reservoirs sprawled across the surface area.

The Medicinal garden is an addition to our existing green initiatives and also enhances the overall aesthetics of the substation.

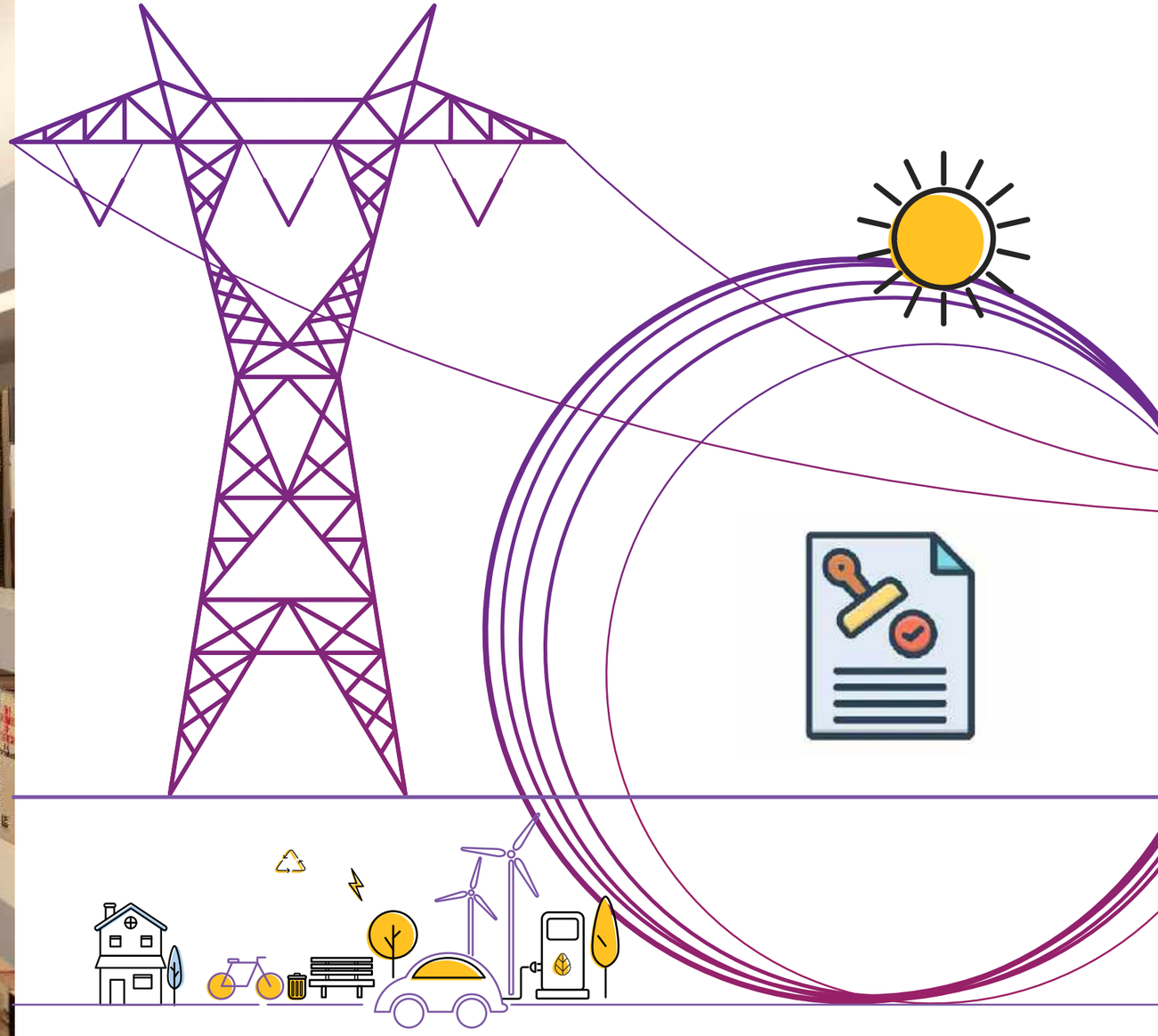
Ashwagandha plantations

Garden entrance

Top view of garden

Sweet Berala plantations

Annexure



Annexure A: Organization wide carbon footpirnt

GHG Scope 1 Emissions (tCO_2eq)

	Generation	
	FY 21-22	FY 22-23
CESC	53,35,276	52,64,379
HEL	39,66,392	36,86,497
DIL	37,92,318	38,03,726
CPL	4,18,533	4,30,571
Total	**1,35,12,519**	**1,31,85,173**

	Distribution	
	FY 21-22	FY 22-23
CESC	251	696
NPCL	274	295
MPSL	0	0
CESC Rajasthan	0	0
Total	525	991
Grand Total	**1,35,13,004**	**1,31,86,164**

GHG Scope 2 Emissions (tCO_2eq)

	Generation	
	FY 21-22	FY 22-23
CESC	7,737	3,049
HEL	0	0
DIL	2,105	93
CPL	162	284
Total	**10,004**	**3,426**

	Distribution	
	FY 21-22	FY 22-23
CESC	3,174	8,630
NPCL	2,248	2,567
MPSL	149	143
CESC Rajasthan	1,212	328
Total	6,783	11,668
Grand Total	**16,787**	**15,094**

Annexure B: Organization wide Energy Intensity

Total Direct Energy Consumption (GJ)

	Generation	
	FY 21-22	FY 22-23
CESC	5,55,33,479	5,81,04,997
HEL	4,06,74,784	4,06,90,912
DIL	3,94,68,903	4,19,84,938
CPL	43,58,037	44,80,820
Total	14,00,35,203	14,52,61,667

	Distribution	
	FY 21-22	FY 22-23
CESC	1,965	2,651
NPCL	1,49,424	1,50,689
MPSL	0	0
CESC Rajasthan	0	0
Total	1,51,389	1,53,340
Grand Total	**14,01,86,592**	**14,54,15,007**

Total Indirect Energy Consumption (GJ)

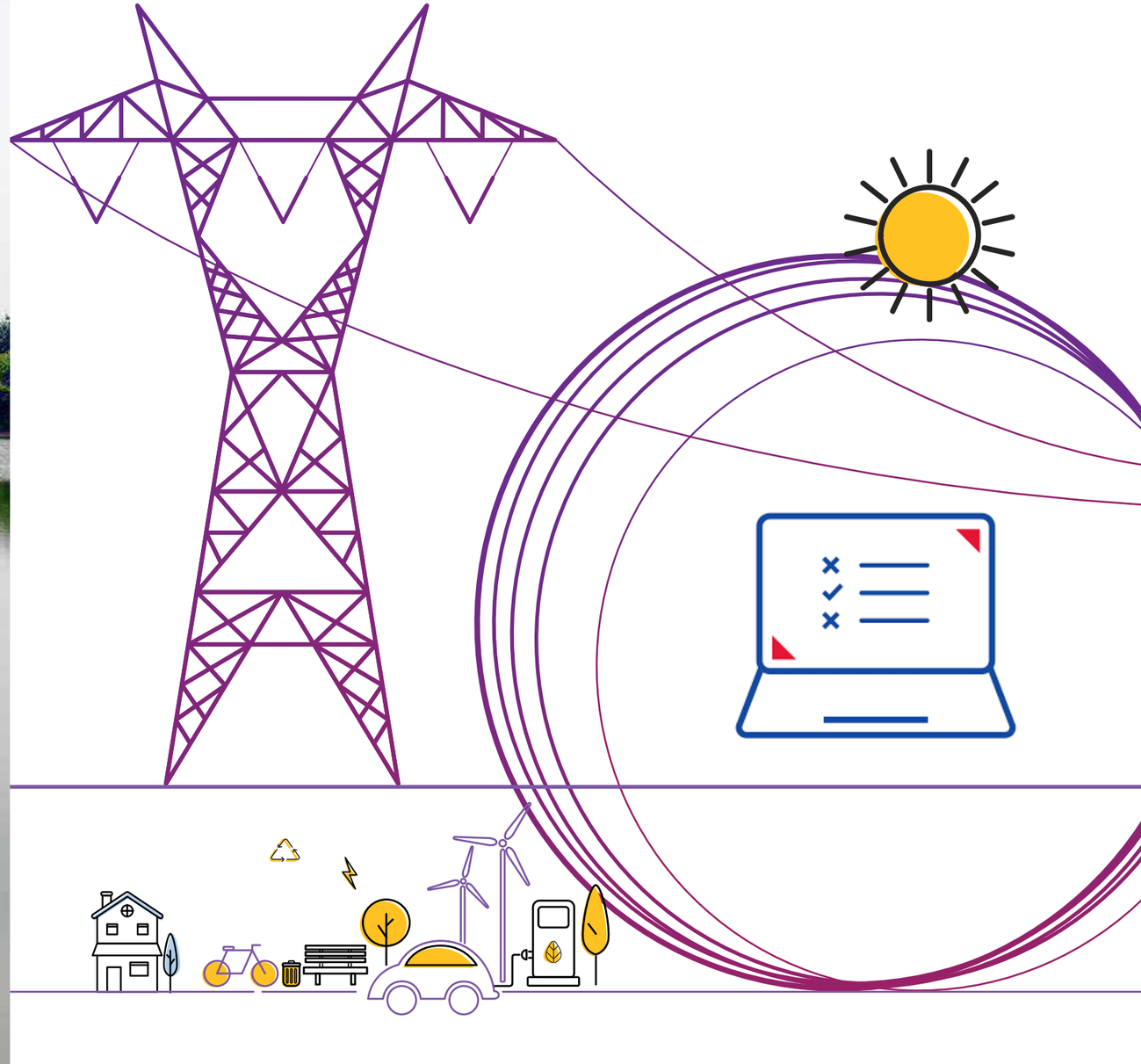
	Generation	
	FY 21-22	FY 22-23
CESC	30,611	13,893
HEL	0	140
DIL	8,328	366
CPL	643	1,253
Total	**39,582**	**15,652**

	Distribution	
	FY 21-22	FY 22-23
CESC	12,560	52,221
NPCL	8,893	6,578
MPSL	660	631
CESC Rajasthan	4,797	1,447
Total	26,910	60,877
Grand Total	**66,492**	**76,529**

Annexure C: Economic intensity metrics across organization

	FY 21-22	FY 22-23
GHG intensity (tCO_2eq/USD Million)	8,011	7,629
Energy intensity (GJ/USD Million)	83,047	84,076
Particulate Matter intensity (Tonnes/USD Million)	0.86	1.02
SO_x intensity (Tonnes/USD Million)	42.03	49.57
NO_x intensity (Tonnes/USD Million)	15.27	16.47
Water consumption (m^3/USD Million)	18,421	18,138

GRI Index



GRI Standard	Disclosure	Page Number/ Comments
GRI 2: General Disclosure	2-1 Organizational details	5
	2-2 Entities included in the organization's sustainability reporting	5
	2-3 Reporting period, frequency and contact point	5
	2-4 Restatements of information	5
	2-5 External assurance	5
	2-6 Activities, value chain and other business relationships	16
	2-7 Employees	120
	2-8 Workers who are not employees	120
	2-9 Governance structure and composition	58
	2-10 Nomination and selection of the highest governance body	58
	2-11 Chair of the highest governance body	58
	2-12 Role of the highest governance body in overseeing the management of impacts	58
	2-13 Delegation of responsibility for managing impacts	58
	2-14 Role of the highest governance body in sustainability reporting	58
	2-15 Conflicts of interest	62
	2-16 Communication of critical concerns	58
	2-17 Collective knowledge of the highest governance body	58
	2-18 Evaluation of the performance of the highest governance body	61
	2-19 Remuneration policies	58
	2-20 Process to determine remuneration	58
	2-21 Annual total compensation ratio	Refer Annual Report
	2-22 Statement on sustainable development strategy	6
	2-23 Policy commitments	62,65
	2-24 Embedding policy commitments	61
	2-25 Processes to remediate negative impacts	61
	2-26 Mechanisms for seeking advice and raising concerns	62
	2-27 Compliance with laws and regulations	62
	2-28 Membership associations	18
	2-29 Approach to stakeholder engagement	20
	2-30 Collective bargaining agreements	100%
GRI 3: Material Topics 2021	3-1 Process to determine material topics	22
	3-2 List of material topics	22
	3-3 Management of material topics	22

GRI Standard	Disclosure	Page Number/ Comments
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	Refer Annual Report
	201-2 Financial implications and other risks and opportunities due to climate change	Refer Annual Report
	201-3 Defined benefit plan obligations and other retirement plans	Refer Annual Report
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	Refer Annual Report
	203-2 Significant indirect economic impacts	54-56 and 100-118
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	72
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	62
	205-2 Communication and training about anti-corruption policies and procedures	62
	205-3 Confirmed incidents of corruption and actions taken	62
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	62
GRI 301: Materials 2016	301-1 Materials used by weight or volume	71
	301-2 Recycled input materials used	71
	301-3 Reclaimed products and their packaging materials	72
GRI 302: Energy 2016	302-1 Energy consumption within the organization	164
	302-2 Energy consumption outside of the organization	164
	302-3 Energy intensity	149
	302-4 Reduction of energy consumption	146
GRI 303: Water and Effluents 2018	303-3 Water withdrawal	153
	303-4 Water discharge	157
	303-5 Water consumption	155
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	160
	304-2 Significant impacts of activities, products and services on biodiversity	160
	304-3 Habitats protected or restored	160
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	164
	305-2 Energy indirect (Scope 2) GHG emissions	164
	305-4 GHG emissions intensity	150
	305-5 Reduction of GHG emissions	142
	305-6 Nitrogen oxides (NO_x), sulfur oxides (SO_x), and other significant air emissions	152

GRI Standard	Disclosure	Page Number/ Comments
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	158
	306-2 Management of significant waste-related impacts	155
	306-3 Waste generated	158
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	123
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	131
	401-3 Parental leave	Refer Annual Report
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	136
	403-2 Hazard identification, risk assessment, and incident investigation	138
	403-3 Occupational health services	137
	403-4 Worker participation, consultation, and communication on occupational health and safety	138
	403-5 Worker training on occupational health and safety	142
	403-6 Promotion of worker health	143
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	136
	403-8 Workers covered by an occupational health and safety management system	138
	403-9 Work-related injuries	144
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	127
	404-2 Programmes for upgrading employee skills and transition assistance programmes	126
	404-3 Percentage of employees receiving regular performance and career development reviews	49
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	59
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	62
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	134
GRI 408: Child Labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	134
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	136
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programmes	56, 102
GRI 414:Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	68
	414-2 Negative social impacts in the supply chain and actions taken	68
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	92
	416-2 Incidents of non-compliance concerning the health and safety impacts of product and service	92
GRI 418:Customer Privacy	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	65

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