



Sustainability starts with  
Clean Energy

# Sustainability Report 2023-24

**NHPC Limited**

(A Government of India Navaratna Enterprise)





# About the Report

This marks the third Sustainability Report released by NHPC Limited, designed to transparently communicate its Environmental, Social, and Governance (ESG) performance for the financial year 2023-2024. NHPC Limited, hereinafter referred to as 'NHPC' or 'Organization'- has been a leading force in India's progress towards a more sustainable energy infrastructure. This includes significant contributions from hydropower projects, which plays a vital role in NHPC's mission to utilize natural water resources for clean, reliable, and efficient energy production, thereby minimizing environmental impact and promoting sustainable practices.



## Reporting Framework

NHPC has prepared this report in alignment with the Global Reporting Initiative (GRI) Standards (2021), and taken into account relevant national and local laws, rules, and regulations for the measurement and reporting of Environmental, Social, and Governance indicators.



## External Assurance

NHPC's Sustainability Report 2023-24 is externally assured by SR Asia. A Limited Assurance is conducted on the non-financial disclosures based on the GRI standards 2021. Read the assurance statement on Page 147.





## Scope & Boundary

This Sustainability Report provides a comprehensive overview of NHPC's operations, with a focus on power generation through Hydropower, Wind, and Solar power stations, as well as its activities in power trading and consultancy services. The boundary of reporting covers 22 Power Stations [Hydropower-20, Wind-1, Solar-1] and 5 regional offices, in addition to the Corporate Office in Faridabad, India. This report underscores NHPC's commitment to sustainable and innovative energy solutions.

Disclosures under this report are made on a Standalone Basis, for the financial period of April 1, 2023, to March 31, 2024. Projects currently under construction and Joint Venture are excluded for this reporting unless specified otherwise.



## Reporting Cycle

Annual



## Your Feedback Matters

We value feedback from all our stakeholders. For any feedback or queries about this report, please write to:

Environment & Diversity Management Division,

NHPC Office Complex, Sector-33, Faridabad - 121003 (Haryana).

Email: [envdivmgn-co@nhpc.nic.in](mailto:envdivmgn-co@nhpc.nic.in)



# Board of Directors



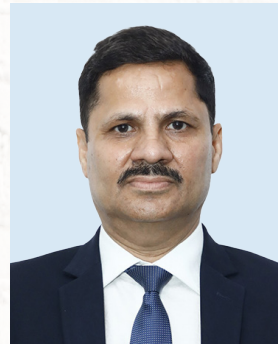
**Shri Raj Kumar Chaudhary**  
 Chairman & Managing Director



**Shri Uttam Lal**  
 Director (Personnel)



**Shri Rajendra Prasad Goyal**  
 Director (Finance)



**Shri Sanjay Kumar Singh**  
 Director (Projects and Technical)



**Shri Mohammad Afzal**  
 Government Nominee Director



**Dr. Uday Saktharam Nirgudkar**  
 Independent Director



**Prof. (Dr.) Amit Kansal**  
 Independent Director



**Prof. (Dr.) Rashmi Sharma Rawal**  
 Independent Director



**Shri Jiji Joseph**  
 Independent Director



**Shri Premkumar Goverthanam**  
 Independent Director

Board of Directors as on November 6, 2024.



# WHAT'S INSIDE

## NHPC at a glance



01	NHPC at a glance	06
02	How We Work	08
03	2023-24 ESG Highlights	09
04	Message from the Chairman's Desk	10
05	Leadership Note	12

## Governance



12	Corporate Governance	38
13	Stakeholder Engagement	44
14	Business Ethics and transparency	46
15	Policy & Accountability	50
16	Powering Innovation, Research and Development	53
17	Risk Assessment	56
18	Cybersecurity and Information Security Management	61
19	Associations and Memberships	62

## Social Responsibility



27	Human Capital Development	92
28	Diversity & Inclusion	97
29	Employee Engagement & Well-being	102
30	Human Rights	106
31	Sustainable Supply Chain	108
32	Occupational Health and Safety	112
33	Corporate Social Responsibility	116

## Corporate Overview



06	NHPC's Pan-India presence	20
07	Economic Performance	23
08	Materiality Assessment	24
09	ESG Goals and Targets	32
10	Certifications	33
11	Awards and Recognition	34

## Environmental Stewardship



20	Climate Change	66
21	Net Zero	70
22	Energy Management	73
23	Emission Management	76
24	Water Stewardship	81
25	Waste Management	84
26	Biodiversity Conservation	86

## Annexures



34	GRI Content Index	129
35	SASB Content Index	138
36	Linkage with BRSR Content	140
37	List of Abbreviations	143
38	Assurance Statement	147
39	Acknowledgement	151



# NHPC at a glance

NHPC Limited [Formerly known as National Hydroelectric Power Corporation Ltd.] was incorporated in 1975 under the Companies Act, 1956. NHPC has been classified as a Navratna Enterprise\* by the Government of India, and ranks among the top ten companies in the nation in terms of investment, and is listed on both NSE and BSE stock exchanges. NHPC engages in the generation, sale, and trading of electricity through Hydro, Wind and Solar power stations in India from power stations owned and operated by NHPC, its subsidiaries and JVs. The organization is self-reliant in the development, construction, and operation of Renewable Energy projects, which are crucial for addressing

India's energy requirements, reducing carbon emissions, and advancing sustainable development. Furthermore, NHPC provides consultancy services, offering expertise in the areas of design and engineering, investigation, geotechnical, construction and project management, procurement, supervision, operation and maintenance of power plants, and rural road and electrification projects construction and modernization of hydropower projects. NHPC has a dedicated Environmental department that ensures a specialized focus on environmental aspect during planning, construction and operation phases of all projects and power stations.

**“ NHPC Achieves Prestigious Navratna Status:  
A Landmark Milestone in Excellence ”**



*\*NHPC has been conferred Navratna status by Government of India on August 30, 2024*





## Operational Highlights

**21,779 MU<sub>s</sub>**

Energy Generation in FY 2023-24

**77.6%**

Plant Availability factor [PAF] in FY 2023-24

Development of **Pumped Storage Projects** in  
Collaboration with various state governments

Progress being made on key projects -  
commissioning **Subansri Lower, Prabati II**  
and construction of **2880 MW Multipurpose**  
Project

Public hearing for **Environmental Clearance**,  
EIA & EMP<sup>1</sup> study conducted for URI-I Stage-II  
HEP



## Financial Highlights

**₹8,404.92 cr**

Revenue from Operations in FY 2023-24

**₹1,908.55 cr**

Declared Total Dividend for the FY 2023-24

**“AAA” credit rating**

Accorded with stable outlook rating assigned  
by domestic credit rating agencies for its  
listed bonds



## Social Highlights

**₹85.73 cr**

Spent on CSR & SD Activities in FY 2023-24

**6.85%**

Human Capital Return of Investment

**100%**

Healthcare coverage for all NHPC  
employees and their dependents

Various initiatives in healthcare, education, and  
rural development in collaboration with local  
authorities



## Energy Highlights

**7144.20 MW**

Total Renewable energy generation  
Installed capacity *(Including JV)*

**14.85%**

NHPC's approximate contribution to  
India's total hydropower generation  
capabilities

**4.08 MW<sub>p</sub>**

Rooftop solar Installed capacity across  
NHPC locations

<sup>1</sup>EIA- Environmental Impact Assessment;

<sup>1</sup>EMP Environmental Management Plan



# How We Work



## Our Vision

To be a global leading organization for the sustainable development of clean power through competent, responsible, and innovative values



## Our Mission

- » To achieve excellence in the development of clean power at international standards.
- » To execute & operate projects through efficient and competent contract management and innovative R&D in an environment-friendly and socio-economically responsive manner.
- » To develop, nurture, and empower the human capital to leverage its full potential.
- » To practice the best corporate governance and competent value-based management for a strong corporate identity and showing concern for employees, customers, environment, and society.
- » To adopt & innovate state-of-the-art technologies and optimize the use of natural resources through effective management.



## Our Values

1. Zeal to excel and zest for change
2. Integrity and fairness in all matters
3. Respect for the dignity and potential of individuals
4. Strict adherence to commitments
5. Ensure speed of response
6. Foster learning creativity and teamwork
7. Loyalty and pride in the company





# FY 2023-24 ESG Highlights

As we reflect on 2023-24, we are proud of the progress we made. We worked hard to reduce our environmental footprint, drive progress throughout our value chain, and create a safer, more inclusive place for people to work.



## Environment

**42,814 tCO<sub>2</sub>e**

Total Scope 1 & 2 Emissions

**GHG Scope 3**

accounting started in FY 2023-24

**15.59 Million tCO<sub>2</sub>e**

avoided through generation of Renewable energy and deployment of EV fleet

**MoU** with NRSC Hyderabad for monitoring of Glacial lakes as part of climate risk R&D initiatives

**17.89 Million** Verified Carbon Units [VCUs] generated in FY 2023-24



## Social

**4,929**

Total Permanent workforce

**128**

Persons with Disabilities

**INR 85.73 Crore**

Total CSR spend for the FY 2024

**Zero fatalities**

of employees in FY 2024

**1.41%**

of Total Revenue spent on Employee Well-being in FY 2023-24



## Governance

**CPGRAMs portal**

[by Govt. of India] being used to address all public grievances

**New policies**

Human Rights, Equal opportunity and Anti Bribery and Anti-Corruption policies were developed during the year

**100%**

Board attendance in FY 2023-24

**55.74%**

Preferential Procurement from MSEs in FY 2023-24



# Message from the Chairman's Desk







I am pleased to announce the release of NHPC's third Sustainability Report, a reflection of our unwavering commitment to environmental stewardship, social responsibility and governance practices for the fiscal year 2023–24. This report highlights our ongoing journey toward sustainability, firmly grounded in our core values and strategic vision.

At NHPC, we believe that sustainable growth is not merely an option—it is essential for the future. It is the foundation of our resilience, allowing us to create lasting value for our stakeholders while making meaningful contributions to the communities we serve. Embracing sustainability is key to ensuring our long-term success and safeguarding the well-being of the planet. In alignment with Global Reporting Initiative (GRI) Standards, this report encapsulates our collective efforts, achievements and goals across the Environmental, Social, and Governance (ESG) domains. The theme of this year's report, "Sustainability Starts with Clean Energy," emphasizes our commitment to harmonizing economic prosperity with environmental sustainability.

In FY 2023–24, NHPC generated 21,779 MUs, achieving an overall Plant Availability Factor (PAF) of 77.60%. Our initiatives have focused on optimizing operational efficiency, fostering community engagement, minimizing our carbon footprint and promoting inclusive growth. We strive for excellence in plant operations through continuous innovation and adherence to best practices. Additionally, we are exploring new avenues like pumped storage, floating solar and green hydrogen technologies.

Our commitment to the well-being and safety of our employees is demonstrated through stringent safety protocols and comprehensive health programs. Moreover, we actively contribute to the welfare of local communities surrounding our projects and power stations by implementing various community development and sustainable practices. Our ongoing Rehabilitation and Resettlement (R&R) efforts for eligible Project Affected Families (PAFs) reflect this dedication. In FY 2023–24, we invested INR 85.73 Crores in CSR initiatives, spanning multiple states across the country. We align our efforts with the Hon'ble Prime Minister's 'Mission LiFE' movement to promote sustainable lifestyles and combat climate change.

I would like to express my sincere gratitude to our Environment and Diversity Management Division for their tireless work in preparing this report and to our Power Stations, Regional Offices, and Corporate Office for their continued support. It is with great pride that I present the Sustainability Report for 2023–24 to our stakeholders, underscoring our ongoing commitment to generating clean energy for a sustainable future. Together with our stakeholders, we are paving the way toward a brighter, more sustainable tomorrow.

**Raj Kumar Chaudhary**  
Chairman & Managing Director



# Leadership Note



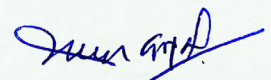
## Message from Director (Finance)

Our Sustainability Report 2023-24 underscores the essential theme, "Sustainability starts with Clean Energy." This report highlights the sustainable business practices of NHPC in the renewable energy sector. Through continuous investment in clean energy projects, we are contributing to achieve the 'Net Zero' target of India by avoiding emissions and fostering a healthier planet for future generations.

We have achieved self-reliance in hydro-sector development, from planning to commissioning, and have expanded our ventures into Solar Power, Wind Power, Green Hydrogen, and Pump Storage Schemes. The development of these projects will enhance the total renewable energy capacity and the company's profitability in the near future.

NHPC's dedication to sustainability goes beyond environmental conservation. It embodies our relentless efforts to enhance social well-being and drive economic development. As a firm advocate for sustainability, NHPC has seamlessly integrated compliance standards into its business operations.

Sustainability remains at the core of NHPC's business operations, policies, programs and activities. We are deeply committed to develop sustainable and clean power-generating infrastructure that meets the needs of the present generation without compromising the planet's valuable resources. This report reflects our determination to continue on this path, ensuring enduring value for all our stakeholders and a sustainable future for all.



**Rajendra Prasad Goyal**

Director (Finance), NHPC Limited





## Message from Director (Personnel)

NHPC is resolute in its mission to advance clean energy solutions and elevate our ESG performance. The Sustainability Report for the FY 2023-24 illustrates our unwavering commitment to clean power generation, concern for society, transparency, and ethical corporate governance.

This year, we have taken significant strides forward in every arena, including health and safety, well-being of employees and exploring new avenues for generating renewable energy. These efforts have been substantiated with the multiple awards and accolades bestowed to NHPC.

As we reflect on our achievements, we are determined to keep moving forward on this path, continually striving for excellence and sustainability in all our endeavors. Together, we will continue to create lasting value for our stakeholders and contribute to a cleaner, greener future.

Our team of dedicated professionals remains our greatest asset, driving progress and making a positive impact on our business, communities and the environment ensuring that our operations are responsible and sustainable.

**Uttam Lal**

Director (Personnel), NHPC Limited





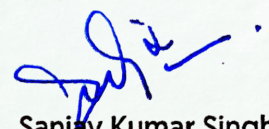
## Message from Director (Projects and Technical)

I'm delighted to share NHPC's third Sustainability Report, covering our progress in the FY 2023-24. This year's theme, "Sustainability Starts with Clean Energy," highlights our commitment to generate energy from renewable sources.

Over the years, NHPC has taken significant initiatives in expanding clean energy, including hydroelectric projects as well as diversification in solar, wind, Green Hydrogen and pumped storage projects.

Our prime focus is to complete construction of these projects on time. In this journey, we adhere to strict environmental standards at every stage of our projects under construction and operations. While doing business, we are dedicated to enhance the wellbeing and safety of our employees, socio-economic development of local communities ensuring a secure and supportive environment for all.

Looking ahead, sustainability will remain central to our business practices as we remain committed to develop clean energy infrastructure that meets today's needs while preserving resources for the future. Together, we are building a more sustainable world with the power we generate.



**Sanjay Kumar Singh,**  
Director (Projects and Technical), NHPC Limited





## Message from ED (Arbitration/EDM/ Planning)

This Sustainability Report embodies our collective vision for a sustainable future, providing a detailed account of our environmental, social and governance progress during the financial year 2023-24. As we move forward, our commitment to sustainability serves as a compelling reminder of our ongoing duty to improve the ESG performance of company and report our progress transparently for the awareness of stakeholders.

I would like to express my gratitude to the NHPC management for their continuous guidance in advancing NHPC's sustainability journey.

I am deeply grateful to all the divisions and units of NHPC, who provided requisite data and support in developing this Sustainability Report. I also take this opportunity to commend all my colleagues at NHPC for their unwavering commitment and active engagement in sustainability efforts, which helped in improving our ESG score last year.

I extend my heartfelt thanks to the ESG Nodal officers of various NHPC units, and particularly the ESG team in the Environment & Diversity Management Division for their significant contributions to this report.

This report stands as a testament to NHPC's relentless pursuit to generate clean energy for a sustainable future.



**Sandeep Batra**  
Executive Director  
(Arbitration/EDM/Planning)





## Message from GM (Environment)

NHPC's third Sustainability Report for FY 2023-24, themed "Sustainability Starts with Clean Energy," showcases our unwavering dedication to build green power generation infrastructure that aligns with India's goal to achieve Net Zero by 2070.

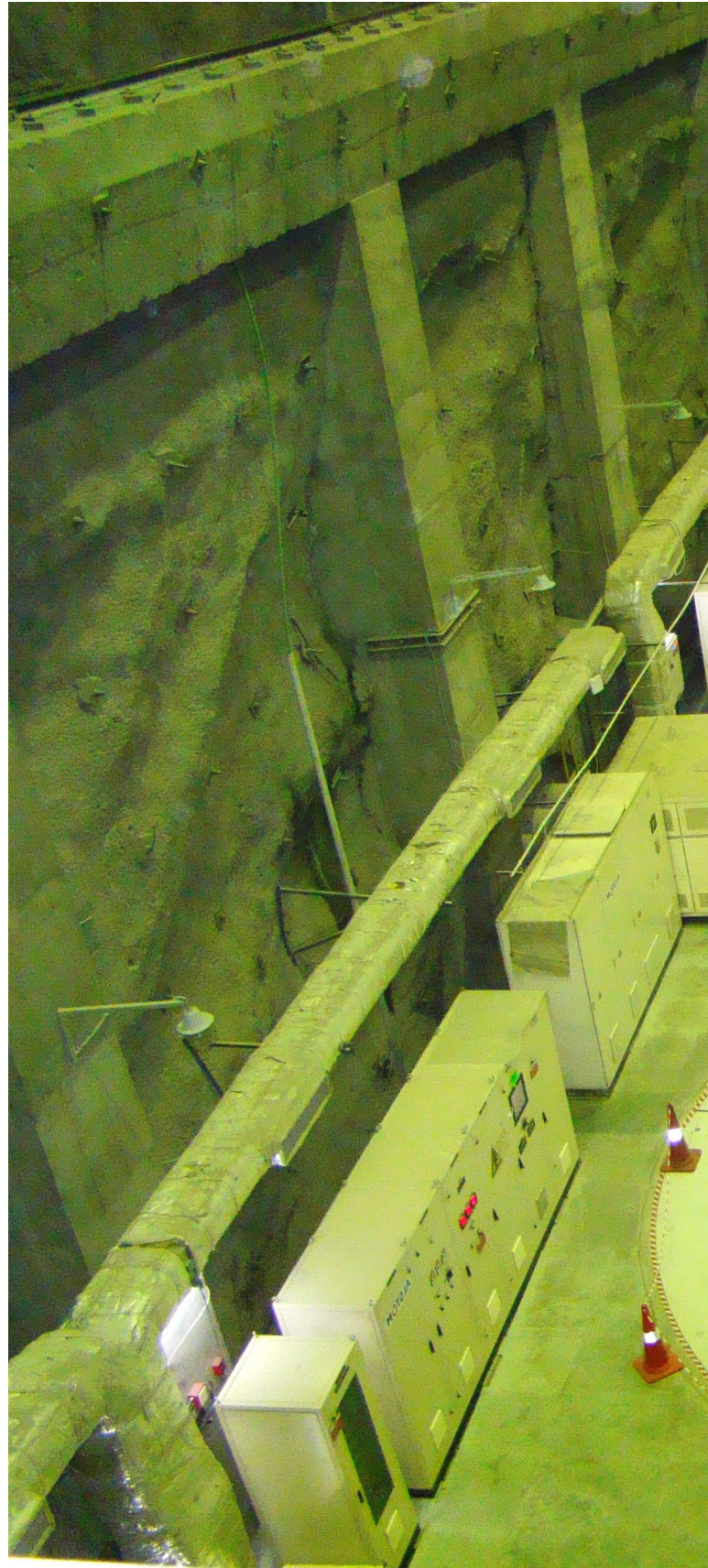
Our commitment to sustainability is reflected in the diverse range of policies, strategies, and initiatives we have meticulously crafted and executed to harmonize economic growth, environmental stewardship and well-being of society.

I extend my deepest gratitude to all our Power Stations, Regional Offices, and Corporate Office for their diligent efforts in providing data to the Corporate Environment and Diversity Management (EDM) Division. I would like to thank to our dedicated ESG team in the EDM Division for their invaluable support in developing this report. A special thanks to Dr. Avinash Kumar GM [Environment] for his continued support in our reporting efforts.

This Sustainability Report is a testament to NHPC's journey towards a sustainable future powered by clean energy. It highlights our collective achievements and sets a benchmark for continued progress in the years ahead.



**Rajeev Ranjan Prasad**  
General Manager (Environment),  
NHPC Limited







231 MW Chamera-III Power Station (Himachal Pradesh) - Power House



A large dam at night with water flowing over it, illuminated by bright lights. The dam is a massive concrete structure with multiple spillways. Water is cascading down the spillways, creating a powerful flow. The scene is lit up by several bright spotlights, one of which is particularly prominent on the left side of the dam. The background shows a dark, silty river or lake. The overall atmosphere is industrial and powerful.

# Corporate Overview

*Powering a nation, Delivering value*





### **In this section:**

- » NHPC's Pan-India presence.....
- » Economic Performance.....
- » Materiality Assessment.....
- » ESG Goals and Targets.....
- » Certifications.....
- » Awards and Recognition.....

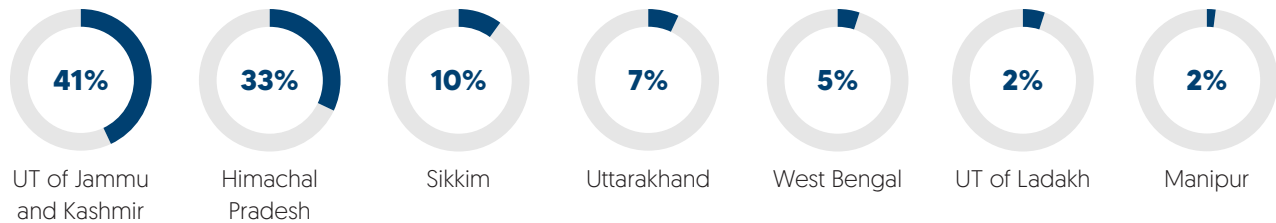






## State-wise Installed Capacity (%) of NHPC

(Hydro Standalone - MW)



### Details of NHPC's Installed Capacity

State/UT	Power Station	Installed Capacity [MW]	Year of Commissioning
<b>Power Stations Standalone</b>			
<b>Hydro Power Standalone</b>			
UT of J&K	Salal	690	1987/1995
UT of J&K	Uri-I	480	1997-98
UT of J&K	Dulhasti	390	2006-07
UT of J&K	Sewa-II	120	2010-11
UT of J&K	Uri-II	240	2013-14
UT of J&K	Kishanganga	330	2017-18
UT of Ladakh	Nimoo Bazgo	45	2013-14
UT of Ladakh	Chutak	44	2013-14
Himachal Pradesh	Baira Siul	180	1981-82
Himachal Pradesh	Chamera-I	540	1994-95
Himachal Pradesh	Chamera-II	300	2004-05
Himachal Pradesh	Chamera-III	231	2012-13
Himachal Pradesh	Parbati-III	520	2014-15
Uttarakhand	Tanakpur	94.2	1992-93
Uttarakhand	Dhauliganga	280	2005-06
Sikkim	Rangit	60	1999-2000
Sikkim	Teesta-V	510	2008-09
West Bengal	TLD-III	132	2013-14
West Bengal	TLD-IV	160	2015-16
Manipur	Loktak	105	1983-84
<b>Total Hydro Power Standalone</b>		<b>5451.2</b>	
<b>Wind and Solar Power Station Standalone</b>			
Rajasthan	Wind Power	50	2016-17
Tamil Nadu	Solar Power	50	2017-18
<b>Total Wind and Solar power Standalone</b>		<b>100</b>	
<b>Total NHPC Standalone installed capacity</b>		<b>5551.20</b>	
<b>Power Station through Joint Venture (JV)</b>			
<b>Hydro Power Station through JV</b>			
Madhya Pradesh	Indira Sagar	1000	2005-06
Madhya Pradesh	Omkareshwar	520	2007-08
<b>Total Hydro power through JV</b>		<b>1520</b>	
<b>Solar Power Station through JV</b>			
Uttar Pradesh [JV]	Kalpi Solar Power	65	2022-23/2023-24
Madhya Pradesh [JV]	Sanchi Solar Power	8	2023-24
<b>Total Solar Power Station through JV</b>		<b>73</b>	
<b>Total NHPC JV installed capacity</b>		<b>1593</b>	
<b>TOTAL INSTALLED CAPACITY</b>		<b>7144.20</b>	



## Details of NHPC's Under construction renewable energy projects

State/UT	Power projects	Installed Capacity (MW)
<b>Standalone projects under construction</b>		
<b>Hydro power projects</b>		
Himachal Pradesh	Parbati-II	800
Assam/ Arunachal Pradesh	Subansiri Lower	2,000
Arunachal Pradesh	Dibang	2,880
<b>Wind and Solar projects (Through NHPC Renewable Energy Limited)</b>		
Gujarat	600 MW Solar Power Project, Kutch, Gujarat under CPSU Scheme	600
Rajasthan	300 MW Solar Power Project, Bikaner, Rajasthan under CPSU Scheme	300
Andhra Pradesh	100 MW Solar Power Project, N.P. Kunta, Andhra Pradesh under CPSU Scheme	100
<b>Total Standalone</b>		<b>6,680</b>
<b>Projects under construction Through Subsidiaries/ JVs</b>		
<b>Hydro power projects</b>		
Sikkim	Teesta Stage-VI HE Project implementing through Lanco Teesta Hydro Power Limited [LTHPL] [A wholly owned subsidiary]	500
Sikkim	Rangit-IV HE Project implementing through Jalpower Corporation Limited [JPCL] [A wholly owned subsidiary]	120
Jammu and Kashmir	Pakal Dul HE Project implementing through Chenab Valley Power Projects Limited [CVPPL] [A Joint Venture with Jammu & Kashmir State Power Development Corporation Limited [JKSPDCL]]	1,000
Jammu and Kashmir	Kiru HE Project implementing through CVPPL	624
Jammu and Kashmir	Kwar HE Project implementing through CVPPL	540
Jammu and Kashmir	Ratle HE Project implementing through Ratle Hydroelectric Power Corporation Limited [RHPCL] [A Joint Venture with JKSPDCL]	850
<b>Solar projects through JVs</b>		
Madhya Pradesh	88 MW Floating Solar Power Project, Omkareshwar Reservoir through NHDC	88
Rajasthan	NHPC REL-700 kW at Ajmer	0.7
<b>Total through Subsidiaries/ JVs</b>		<b>3,722.7</b>
<b>As an Intermediary Procurer: (REIA -Tranche-I)</b>		<b>10,402.7</b>
Rajasthan	300 MW Solar Power project at Jaisalmer, by M/s Eden Renewable Passy Private Limited	300
Rajasthan	600 MW at Barmer by M/s Adani Solar Energy Barmer One Private Limited	600
Rajasthan	400 MW at Barmer by M/s ABC Renewable Energy Private Limited	400
<b>Total as Intermediary Producer</b>		<b>1300</b>
<b>TOTAL RENEWABLE ENERGY CAPACITY UNDERCONSTRUCTION</b>		<b>11,702.7</b>

Source: NHPC Annual Report, FY 2023-24



## Economic Performance<sup>2</sup>

This section underscores NHPC's robust economic performance driven by strategic investments and sustainable practices, reinforcing its position as India's largest hydropower producer. Poised for continued success, NHPC aims to achieve organizational growth by expanding its operations in the Renewable Energy sector. The company's focus on sustainable growth and cost optimization fortifies its balance sheet, creating substantial long-term value for stakeholders. Through prudent capital allocation, NHPC enhances its capability to navigate industry challenges and

seize emerging opportunities, thereby ensuring sustainable value creation over the long term. As of March 31, 2024, the Government of India holds 67.40% of NHPC's shares, while the Life Insurance Corporation of India owns 3.24%. The organization has an authorized share capital of INR 15,000 crores, a paid-up share capital of INR 10,045.03 crores, and an investment base of INR 78,802.59 crores as on 31st March, 2024. The investment base grew to INR 81,658.07 crore as on September 30, 2024.

Particulars	FY 2022-23	FY 2023-24
<b>Direct Economic Value Generated</b>		
Total Income	10,150.90	10,024.99
Rate Regulated Income	-144.41	233.28
<b>Revenue from operations</b>	<b>9,316.34</b>	<b>8,404.92</b>
<b>Economic Value Distributed (Expense)</b>		
Purchase of Power - Trading	-	-
Generation Expenses	936.46	814.27
Employee Benefits Expense	1,301.35	1,296.58
Finance Costs	476.16	425.13
Depreciation and Amortization Expense	1,145.44	1,111.00
Community Investments (incl. CSR Exp.)	127.31	85.73
Other Expenses	1,580.58	2,230.08
Income Tax expenses	605.4	551.54
<b>Economic Value Retained (Profit After Tax)</b>	<b>3,833.79</b>	<b>3,743.94</b>
Dividend to shareholders	1,858.33	1,908.56
<b>Net Profit Ratio [%]</b>	<b>41.15%</b>	<b>44.54%</b>

NHPC demonstrated strong financial performance in financial year 2023-24, achieving a Profit After Tax (PAT) of INR 3,743.94 crore. This result, while slightly lower than the previous year's INR 3,833.79 crore, underscores the organization's resilience in a dynamic market. Total income for the year reached INR 10,024.99 crore, with Revenue from Operations contributing INR 8,404.92 crore. NHPC is dedicated to balancing economic interests with improved sustainability performance. The organization is strongly committed to generating long-term value, which not only strengthens its economic performance but also reinforces its market leadership. By integrating sustainability into its core operations, NHPC ensures that its business growth aligns with broader environmental and societal goals, creating a foundation for lasting success.

<sup>2</sup>GRI 201



# Driving Excellence through our Strategic Performance

NHPC drives excellence through strategic performance by embedding sustainability at the core of its operations. Through comprehensive materiality assessments, ambitious ESG goals and targets, and ISO certifications, NHPC ensures alignment with stakeholder priorities while addressing critical environmental, social, and governance challenges. The ISO certifications and numerous awards demonstrate NHPC's commitment to measurable progress, responsible practices, and leadership in sustainable and operational excellence.

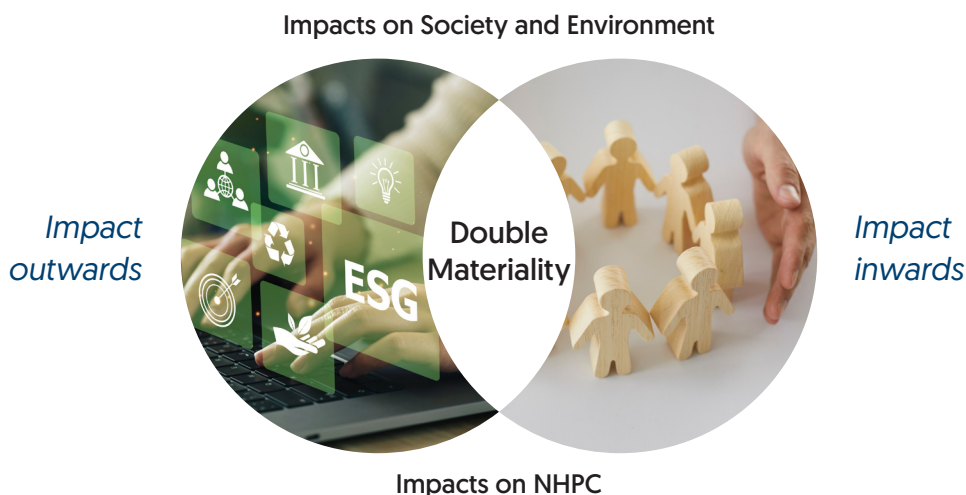
## Materiality Assessment

In FY 2022-23, NHPC conducted a materiality assessment to integrate sustainability into its corporate strategy, aligning with GRI Standards. This process involves identifying key sector-specific ESG issues using the SASB framework, considering industry trends, legal requirements, stakeholder concerns, and potential risks and opportunities. These issues are benchmarked against peers and ranked according to NHPC's strategic objectives. The results of the materiality assessment can be found on page 52 of the [Sustainability Report FY 2022-23](#).

Stakeholder engagement plays a crucial role, ensuring alignment with the GRI framework and assessing the significance of issues for both stakeholders and NHPC. This analysis informs the development of targeted action plans and the identification of strategic goals, aligned with the UNSDGs, that create value over various time horizons. The material topics are plotted on a Materiality Matrix to reflect both stakeholder and business priorities, rated from high to very high in terms of impact and significance.

## Double Materiality Assessment

In FY 2022-23, NHPC undertook a comprehensive impact materiality assessment followed by double materiality assessment, encompassing the corporate office and existing power plants. In the year FY 2023-24, we reviewed the double materiality and ensured the alignment of its outcome with our stakeholders. The double materiality assessment was aligned with the European Sustainability Reporting Standards (ESRS) and the guidelines proposed by European Financial Reporting Advisory Group (EFRAG). It involved extensive engagement with a diverse array of stakeholders, including investors, DISCOMS, contractors and regulators. These stakeholders were integral in providing insights that ensured a comprehensive understanding of NHPC's impacts and responsibilities across its operational landscape. To maintain the relevance and alignment of the material topics with evolving trends and stakeholder expectations, NHPC conducts an annual review of its materiality assessments. This commitment underscores our proactive approach to sustainability, enabling the organization to stay attuned to the dynamic Environmental, Social, and Governance (ESG) landscape. Regular reviews ensure that NHPC can effectively prioritize issues that are critical to both the organization and its stakeholders, reinforcing its sustainability efforts and strategic objectives. This approach is essential in assessing both impact materiality (inside-out perspective) and financial materiality (outside-in perspective).





Impact materiality evaluates how NHPC's operations affect the economy, environment, and society, while financial materiality examines how ESG factors influence NHPC's financial performance. By utilizing this dual perspective, we achieve a holistic understanding of its sustainability impacts and financial risks. The impact materiality consisted of 19 material topics that were later shortlisted to 9 material topics for double materiality based on discussions with stakeholders. We began our Impact, Risk, and Opportunity (IRO) mapping procedure after identification of the material topics relevant to our organization's operations and value chain. These topics were then classified as impact (Negative or positive), risk and opportunity.

This structured and comprehensive approach to IRO mapping enabled us to thoroughly assess both the impact and financial materiality of each material topic, providing a robust framework for informed decision-making and strategic planning.

We evaluated the significance of identified impacts based on their scale and scope. This thorough analysis enabled us to prioritize critical issues that could affect the organization and its stakeholders. For financial materiality, corresponding risks and opportunities associated with these impacts were identified.

NHPC's senior leadership team played an important role in evaluating and prioritizing the material topics ensuring impacts, risks and opportunities of the material topics were meticulously considered. This review was integral part in aligning the materiality assessment with our strategic objectives.

Based on the responses from our stakeholders, double materiality matrix was developed which captured both internal and external perspectives. The material topics for NHPC were placed in order of priority based on their impact on our business operations and their relevance to stakeholders.



105 MW Loktak Power Station - Ithai barrage



## We followed the steps mentioned below in our assessment:







## Double Materiality Matrix for NHPC





# NHPC's Approach for Prioritization of Material Topics<sup>3</sup>

S. No.	Material Topic	Rationale and NHPC's approach	GRI Alignment	UN SDGs Alignment
1.	<b>Climate Change</b>	<p>Climate Change has impacts, such as extreme weather events and rising temperatures, that can disrupt operations, damage infrastructure, and increase remedial costs. Addressing climate change is essential for meeting regulatory requirements, stakeholder expectations, and maintaining our reputation as a responsible organization.</p> <p>The business operations of NHPC are in the renewable energy sector, which has the least impact on environment. However, to mitigate risks of climate change multiple measures are being taken up by company, which includes energy-efficient lighting, energy conservation, roof-top solar installations, and transitioning to electrical mobility solutions. We also monitor and conserve energy at all locations, adopting renewable energy sources to minimize Scope-2 emissions. Additionally, we have installed early warning systems and engaged in R&amp;D study for GLOF studies to reducing the risk of climate change. The assessment of GHG emission from Chamera-1 reservoir has also been conducted as a R&amp;D Study. Automatic water level sensors, along with telemetric data transmission, supports GLOF and modeling studies.</p>	GRI 305: Emission GRI 302: Energy	  
2.	<b>Water Management</b>	<p>Water is vital component for hydropower generation. Hydropower technology involves non-consumptive usage of water, means water is not depleted but rather returned to its source. This approach conserves vital water resources. In the downstream of dam, e-flow is maintained for sustenance of aquatic ecosystem. In the Catchment area in upstream of dam, environment protection measures named CAT plan are being implemented through State Forest Department, to augment water capacity of reservoir by controlling siltation. Also, NHPC has its Water Conservation policy for adopting sustainable practices. Mainly, the water is consumed in facilities like offices/colony. To further optimize water consumption, water-saving measures are being implemented at our offices and colonies. Additionally, wastewater treatment procedures are followed to ensure water reuse and recycling. These initiatives demonstrate our commitment to responsible water management and environmental stewardship.</p>	GRI 303: Water and Effluents	

<sup>3</sup> GRI 3-2 List of Material Topics



S. No.	Material Topic	Rationale and NHPC's approach	GRI Alignment	UN SDGs Alignment
3.	<b>Biodiversity Conservation</b>	<p>Biodiversity conservation is material topic for our company, for which conservation measures are followed as per the regulatory norms and Biodiversity Policy of NHPC. At the inception and planning stage of a proposed hydropower project, detailed biodiversity study is conducted to assess the impacts of a proposed project prior to its construction. Generally, this study is conducted as part of Environmental Impact Assessment [EIA] study through an independent accredited consultants before project implementation. Based on these studies, project or site specific Biodiversity Conservation plans are prepared as part of Environmental Management Plan [EMP] and implemented in consultation with the State Forest Department.</p> <p>Additionally, we undertake voluntary initiatives such as plantation drives, development of herbal, Orchidarium and butterfly parks to support the long-term conservation of the regions' flora and fauna. Also, Fisheries Development plan is also implemented through State Fisheries Department. These efforts demonstrate our dedication to maintaining biodiversity and promoting ecological balance in the areas where we operate.</p>	GRI 304: Biodiversity	 
4.	<b>Stakeholder Engagement &amp; Community</b>	<p>NHPC has its policy for Stakeholder engagement that helps to maintain strategic relationships with both internal and external stakeholders, responding to their expectations and concerns in a timely and appropriate manner. This commitment to progressive engagement ensures that stakeholders are actively involved in our activities and operations.</p> <p>NHPC fosters the well-being and growth of the communities in which it operates.</p> <p>Different types of social development schemes are implemented as per CSR policy of NHPC in line with Section 135 of the Companies Act, 2013, and the Companies (Corporate Social Responsibility Policy) Rules, 2014, amendments and general circulars issued by the Ministry of Corporate Affairs. The grievances redressal mechanism for addressing the concern of employee and community are in place in NHPC.</p> <p>Public consultation is conducted during the process of environment clearance of a project to seek the concern of local community about the implementation of project. Similarly, consent of gram-sabha is solicited for diversion of forestland required for Project. In this way, local community are integral part of business practice of company.</p>	GRI 3: Material Topics GRI 2-29: Approach to stakeholder engagement GRI 413: Local Communities	  



S. No.	Material Topic	Rationale and NHPC's approach	GRI Alignment	UN SDGs Alignment
5.	<b>Safety and Working Conditions</b>	Safety and working conditions ensure a safe and conducive working environment which is essential for maintaining high staff morale and operational efficiency, impact workers health, productivity, and overall well-being. To address these issues, NHPC has dedicated Safety Policy for providing safety training, monitoring for safety norms and conducting regular mock drills on potential emergency scenarios. These steps enhance awareness among employees and stakeholders, reinforcing our commitment to a safe and healthy workplace. NHPC is IMS certified which includes ISO 45001 certification for Occupational Health and Safety.	GRI 403: Occupational Health & Safety	
6.	<b>Employee Wellbeing</b>	NHPC strives for the holistic development of our workforce from recruitment to retirement through various career advancement trainings and related initiatives. Addressing employee well-being, remuneration grievances, and diversity and inclusion concerns are essential strategies to ensure and boost productivity among our employees.  To support these goals, we adhere to the regulations of the Government of India and the Acts governing various aspects of labour and employment. We are dedicated to preventing discrimination, harassment, abuse, and bias in our operations, treating all individuals with dignity and integrity. Our commitment to ethical business practices includes respecting employee and community rights, promoting inclusivity, diversity, and equality. We have established an Internal Complaints Committee under the Sexual Harassment of Women at Workplace (Prevention, Prohibition & Redressal) Act, 2013 and encourage women leadership in all activities. Additionally, we provide facilities such as a creche at our Corporate Office, conduct Annual Health checkups, provide regular training for employees on Health and Stress management, training to divyang employees and human rights training for security personnel and staff. We have also established the National Telemanas programme to promote awareness and support on mental health. These initiatives demonstrate our dedication to fostering a supportive and equitable work environment.	GRI 401: Employment  GRI 404: Training and Education  GRI 405: Diversity / Equal Opportunity  GRI 406: Non-Discrimination  GRI 407: Freedom of Association and Collective Bargaining  GRI 408: Child Labour  GRI 409: Forced or compulsory Labour  GRI 412: Human Rights Assessment	 



S. No.	Material Topic	Rationale and NHPC's approach	GRI Alignment	UN SDGs Alignment
7.	<b>Compliance</b>	<p>Compliance and adherence to laws and regulations established by governmental agencies or other regulatory bodies is essential for maintaining our operational integrity and sustainability.</p> <p>To ensure compliance, we have policy framework like Corporate Environment Policy covering broad aspects of environmental compliance including regulatory norms relevant to power sector. At each project level, environmental safeguard measures are being implemented and being monitored through multiple monitoring mechanisms including six-monthly reports to the Ministry of Environment, Forest and Climate Change [MoEF&amp;CC], monitoring by State Pollution Control Boards [SPCB], and Environmental Management Committee [EMC] meetings. These measures help us stay aligned with statutory and regulatory laws, regulations, and requirements, demonstrating our commitment to responsible and sustainable business practices.</p>	<p>GRI 307: Environmental compliance</p> <p>GRI 2-27 Compliance with laws and regulations</p>	
8.	<b>Risk Management</b>	<p>Risk management ensures the identification, mitigation, and management of various risks that could impact our operations and sustainability. Effective risk management is essential for maintaining business continuity, especially in the face of financial, regulatory, and climate change-related risks.</p> <p>To address these challenges, we have developed and implemented a comprehensive risk management strategy aligned with international standards. This strategy includes robust procedures for cyber security and data protection, aimed at providing a zero-default situation for data leakage and breaches. By proactively managing these risks, we safeguard our operations and uphold our commitment to responsible and sustainable business practices. In addition, efforts are being taken to reduce the climate risk, for which R&amp;D studies associated with remote sensing technology are being applied for GLOF study and Early warning system has been developed.</p>	<p>GRI 201-2 Financial implications and other risks and opportunities due to climate change</p>	 
9.	<b>Ethics and Transparency</b>	<p>Maintaining ethical integrity and openness in governance processes integrates ethical leadership, generates confidence, and creates long-term benefits for all stakeholders.</p> <p>To support these principles, NHPC has established internal procedures supported with policies like Whistle Blower Policy, Conduct, Discipline and Appeal Rules for ensure a zero tolerance for corruption and unethical practices. A dedicated Vigilance Dept. is functional at the corporate office-ensuring ethics, transparency and productivity is maintained in business operations. Our strong commitment to generating long-term value contributes to our robust economic performance and market leadership.</p>	<p>GRI 201: Economic Performance</p> <p>GRI 205: Anti-corruption</p> <p>GRI 206: Anti-competitive Behaviour</p>	



## ESG Goals and Targets

At NHPC, setting objectives is an ongoing process that requires constant monitoring and adjustments. We establish clear goals, develop an implementation plan, and conduct yearly progress reviews. Our objectives and targets are regularly reassessed and revised to adapt to changing circumstances and address unforeseen challenges. NHPC's ESG goals are to optimize resource efficiency for sustainability and operational excellence, foster an inclusive and healthy work environment to support workforce well-being and diversity, and uphold ethics and transparency for integrity and open communication. These objectives align NHPC's strategies with sustainable and ethical standards. The implementation strategy at NHPC is designed to be flexible, with the ultimate aim of achieving excellence in ESG.

### Short Term (<1 year)

- » Strengthening of ESG Data collection and reporting mechanism
- » Building GHG Scope 3 inventory across applicable categories
- » Conducting ESG awareness and capacity building sessions for internal stakeholders

### Mid Term (1-2 Years)

- » Increase coverage of GHG Scope 3 categories in data collection and reporting
- » Conduct awareness sessions and capacity building sessions for selected Value chain Partners
- » Conduct assessment survey of existing water and waste management practices
- » Improve water conservation and waste management practices
- » Reduce our carbon emissions through continued deployment of EV mobility and initiatives for retrofitting of DG sets at the Corporate office

### Long Term >2 Years

- » Install a further 3000 MW of hydro power capacity and an additional 1200 MW of other renewable energy sources by 2030
- » Strengthen the wastewater treatment mechanisms at residential colonies of power stations and projects
- » Maintain Diversity in manpower and its Inclusion at all levels including leadership
- » Collectively nurture Sustainable supply chain through capacity building program
- » Foster stakeholder relationship for progressive grievance redressal with targeted "Zero" pending resolution at close of the year
- » Targeted "Zero Accident" and "Zero Fatality" work environment
- » Periodic monitoring and evaluation of implementation of EMP to ensure that NHPC is compliant with local and national regulations



## NHPC Achieves Excellence: Comprehensive Overview of ISO Certifications Elevating our Commitment to Sustainability

NHPC Limited has established, implemented, maintained and continually improving an Integrated Management System, including the key processes and their interactions in accordance with the requirements of component standards to achieve the intended outcomes and enhance overall performance. This system extends its coverage to include all employees within NHPC Limited. In addition to our Corporate Office, NHPC Limited has already implemented the Integrated Management System in all Power Stations and Regional Offices.

The Integrated Management System of certification (IMS)- that Covers ISO 9001: Quality Management, ISO 14001: Environmental Management and ISO 45001: Occupational Health and Safety. Furthermore, we have also implemented the SA8000:2014 Standards [Social Accountability] at our Corporate and regional offices, and all our IT infrastructure are certified for ISO/IEC 27001:2022 for Information Security Management Systems.

### The ISO certifications maintained by NHPC:

Certifications/ Standards	Title
ISO 9001 : 2015	Quality Management
ISO 14001 : 2015	Environmental Management
ISO 45001 : 2018	Occupational Health and Safety
ISO 27001 : 2013/2022	Information Security Management
SA 8000 : 2014	Standard for Social Accountability





## NHPC's Commitment to Sustainability Recognized with Prestigious Awards

Our dedication to responsible practices and impactful initiatives has earned us prestigious recognition and accolades from esteemed organizations. It reflects our journey towards a more sustainable future, one where responsible energy generation goes hand-in-hand with environmental stewardship and social responsibility. Below, we proudly showcase the awards and recognition bestowed upon us in 2023-24, each one a testament to our unwavering pursuit of a brighter, more sustainable tomorrow.



Hon'ble Vice President of India Shri Jagdeep Dhankhar presenting SCOPE's 'Commendation Certificate' to NHPC in the category of 'Effective Implementation of RTI Act'



Shri Uttam Lal, Director (Personnel), NHPC receiving the Rajbhasha Shield from Shri R.K. Singh, Hon'ble Union Minister of Power, New and Renewable Energy



Shri Uttam Lal, Director (Personnel), NHPC and other senior officers with 'Economic Times HR World Exceptional Employee Experience Award 2023 in 'Large Scale Enterprise' conferred to NHPC in recognition to its wide range of Employees Centric HR initiatives



NHPC conferred 2nd prize under the 'Annual Report' category during 'PRSI National Awards 2023'





**NHPC presented with “India’s Best Hydro & Renewable Energy Public Sector Enterprise” award at PRAKASHmay “16th ENERTIA Award’23 – India & South Asia’s Awards for excellence in Sustainable Energy, Power & Renewables**



**NHPC awarded as ‘Winner’ in Power Generation-Renewables (CPSU) category of Dun & Bradstreet PSU Awards’23 during the 15th edition of “PSU & Government Summit”**



**NHPC conferred with ‘Governance Now India PSU IT Award 2023’**





# Governance

*Integrating economic growth  
for a resilient future*

## In this section:

- » Corporate Governance
- » Stakeholder Engagement
- » Business Ethics & Integrity
- » Policy and Accountability
- » Powering Innovation, Research & Development
- » Risk Management
- » Cyber Security and Information Security Management
- » Associations and Memberships



## Governance Metrics for FY 2023-24

# Zero

Number of complaints against POSH  
[Prevention of Sexual Harassment] Act in FY 2023-24

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# 55.74%

Preferential procurement from MSEs in FY 2023-24

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# 18+

policies on different areas across environmental,  
social and governance processes

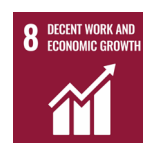
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# 5

New policies such as Hydro-Metereological  
Data Dissemination Policy, Human Rights, Equal  
Opportunity Policy and Anti-corruption & Anti  
Bribery Policy have been introduced this year.

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### Mapping with SDGs





# Corporate Governance

NHPC is committed to upholding robust corporate governance practices that underpin operational integrity and foster positive stakeholder relations. The organization understands the critical role that effective corporate governance plays in ensuring its success. NHPC's governance framework prioritizes transparency, accountability, ethical conduct, and fairness towards a diverse range of stakeholders, including regulators, employees, consumers, vendors, investors, and the public.

NHPC has instituted a standardized governance structure supported by a comprehensive set of policies and guidelines that direct its operations and stakeholder engagements. Key policies include the Code of Business Conduct and Ethics, Whistleblower Policy, Dividend Distribution Policy, and Policy on Stakeholder Engagement, all designed to promote best-in-class governance practices.

The organization adheres to the highest corporate governance standards by ensuring compliance with all relevant regulatory provisions, including the Companies Act, 2013, the Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015 (SEBI LODR), and the Guidelines on Corporate Governance for Central Public Sector Enterprises (CPSEs) issued by the Department of Public Enterprises (DPE) of the Government of India, among other directives. NHPC is dedicated to maintaining a rigorous risk supervision and management system to uphold these high standards.

NHPC's business strategy integrates its commitment to environmental, social, and governance-related stewardship. The organization's corporate governance framework promotes integrity and transparency in all business interactions, ensures timely and fair disclosures, and fosters a culture that benefits all stakeholders.



Board of Directors at 47<sup>th</sup> Annual General Meeting



# Board of Directors

Our strong governance processes and operational performance is driven by our diverse one-tier, Board of Directors. The table below provides details on the composition of our Board.



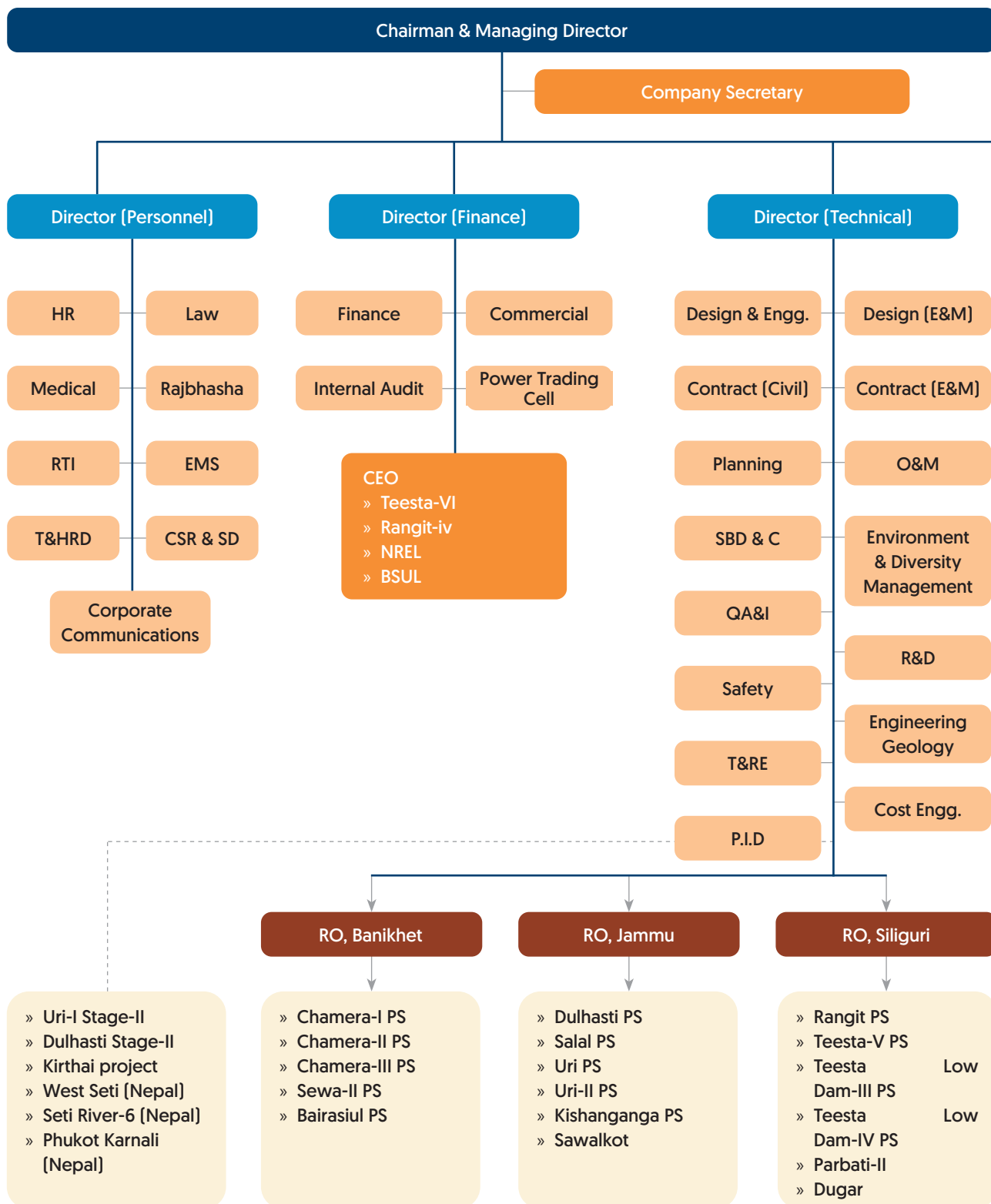
Board of Directors at 47<sup>th</sup> Annual General Meeting

NHPC Board Structure (as on 31 <sup>st</sup> March 2024)	
<b>Shri Rajendra Prasad Goyal</b> Chairman & Managing Director and Director (Finance)	
<b>Shri Raj Kumar Chaudhary</b> Director (Projects and Technical)	<b>Dr. Uday Sakhamam Nirgudkar</b> Independent Director
	<b>Prof. (Dr.) Amit Kansal</b> Independent Director
<b>Shri Uttam Lal</b> Director (Personnel)	<b>Prof. (Dr.) Rashmi Sharma Rawal</b> Independent Director
	<b>Shri Jiji Joseph</b> Independent Director
<b>Shri Mohammad Afzal</b> Government Nominee Director	<b>Shri Premkumar Goverthan</b> Independent Director

The Board of Directors met thirteen (13) times during the financial year 2023-24, which recorded an average attendance of 100% of Board strength. The details of meetings of Board of Directors, Committees of the Board along with the meetings held and attendances are given in Corporate Governance Report, forming part of the Annual Report for FY 2023-24.

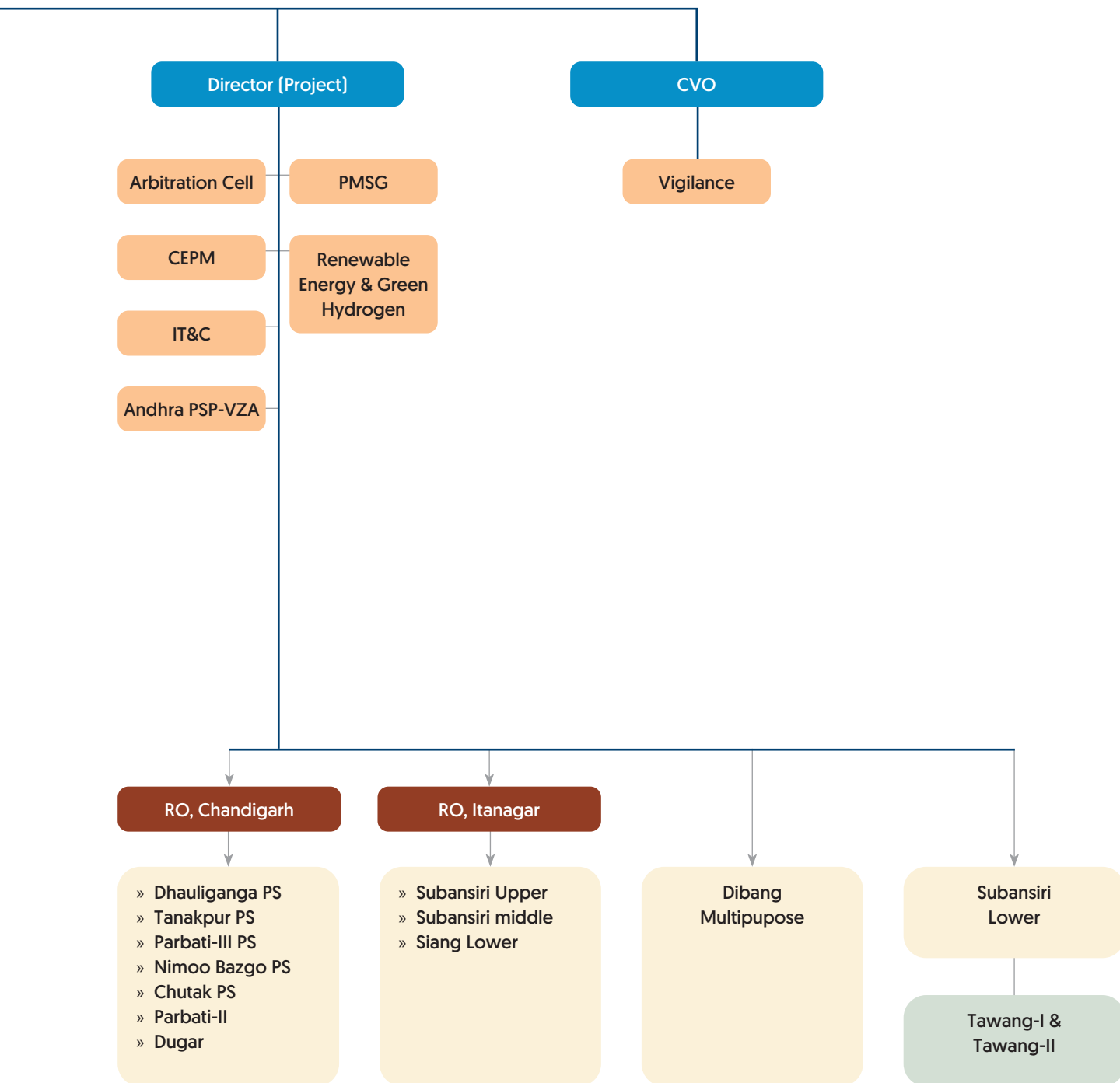


# NHPC's Organizational structure\*



\*Organization Structure as on 01-01-2025





Note :

I. Regional EDs report to Director [Technical] for Power Stations and Survey & Investigation Projects

II. Regional EDs report to Director [Projects] for Construction Projects

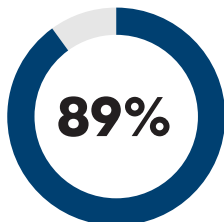


## Board Diversity

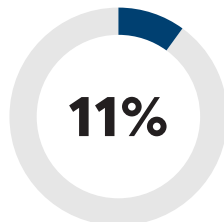
NHPC acknowledges the benefits of having a diverse Board that balances skills, experience, expertise, and perspectives relevant to its business needs. Enhancing diversity at the Board level is deemed essential for maintaining a competitive edge. A genuinely diverse Board will leverage differences in skills, educational backgrounds, regional and industry experience, gender, and other characteristics among Directors. These factors are considered when determining the optimal composition of the Board, with concerted efforts made to achieve an appropriate balance whenever possible. Women represent 11% of the Board's composition including Independent directors (As on 31st March, 2024)

The Board Diversity Policy explicitly outlines the objectives and processes for achieving a diverse Board. This policy is reviewed by the Nomination and Remuneration Committee [NRC]. Link of the policy ([https://www.nhpcindia.com/assests/pzi\\_public/gallery/16941667040.pdf](https://www.nhpcindia.com/assests/pzi_public/gallery/16941667040.pdf)).

### Age Diversity in BoD

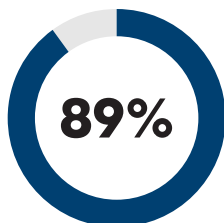


&gt; 50 Years

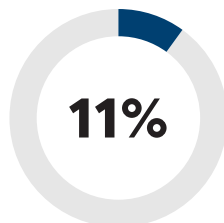


30-50 Years

### Gender Diversity in BoD



Male



Female

*Board of Directors details as on 31st March, 2024*

## Board Committees: Ensuring Effective Governance and Oversight at NHPC

The Board of NHPC is the apex governing body, under which various committees operate and provide oversight on key areas such as audit, risk management, governance, and corporate social responsibility, ensuring effective decision-making and compliance with regulatory standards





## The details of Board Committees as on 31<sup>st</sup> March, 2024 were as follows:

### 1. Audit Committee

Dr. Uday Sakharam Nirgudkar, Independent Director	Chairperson
Shri Jiji Joseph, Independent Director	Member
Shri P. Goverthanam, Independent Director	Member
Shri Raj Kumar Chaudhary, Director (Technical)	Member

### 2. Stakeholders' Relationship Committee

Dr. Amit Kansal, Independent Director	Chairperson
Dr. Rashmi Sharma Rawal, Independent Director	Member
Shri Rajendra Prasad Goyal, Director (Finance)	Ex-Officio Member
Shri Raj Kumar Chaudhary, Director (Technical)	Ex-Officio Member

### 3. Nomination & Remuneration Committee

Dr. Uday Sakharam Nirgudkar, Independent Director	Chairperson
Dr. Amit Kansal, Independent Director	Member
Dr. Rashmi Sharma Rawal, Independent Director	Member
Shri P. Goverthanam, Independent Director	Member

### 4. Committee of Directors on Corporate Social Responsibility (CSR) and Sustainability

Dr. Rashmi Sharma Rawal, Independent Director	Chairperson
Dr. Uday Sakharam Nirgudkar, Independent Director	Member
Dr. Amit Kansal, Independent Director	Member
Shri Jiji Joseph, Independent Director	Member
Shri P. Goverthanam, Independent Director	Member
Shri Rajendra Prasad Goyal, Director (Finance)	Ex-Officio Member
Shri Uttam Lal, Director (Personnel)	Ex-Officio Member
Shri Raj Kumar Chaudhary, Director (Projects)	Ex-Officio Member

### 5. Risk Management Committee

Dr. Amit Kansal, Independent Director	Chairperson
Shri Rajendra Prasad Goyal, Director (Finance)	Ex-Officio Member
Shri Raj Kumar Chaudhary, Director (Technical)	Ex-Officio Member

## Board Compensation & Evaluation

NHPC being a Central Public Sector Enterprise, the appointment, tenure and remuneration of Chairman & Managing Director and Whole-Time Directors in NHPC are decided by the Government of India. Independent Directors receive sitting fees for attending Board and Committee meetings, while Government Nominee Directors do not receive any remuneration or sitting fees. In accordance with the Companies Act, 2013 and the guidelines issued by the Department of Public Enterprises (DPE), the Board of Directors has the authority to set the sitting fees for Independent Directors within the limits established by the Companies Act, 2013.



The policy on remuneration, pay structure, allowances, and other benefits for employees is governed by the relevant Department of Public Enterprises [DPE] guidelines.

#### Details of Director remuneration for the Financial Year ended 31<sup>st</sup> March, 2024

Particulars	Compensation (INR) in FY 2023-24	
	Median	Mean
Total annual compensation of CMD	NIL*	NIL*
Annual compensation of all employees, except CMD	2,837,296	2,834,567
The ratio between the total annual compensation of the CMD and the employee compensation	0	0

\*As the CMD holds an additional charge, no remuneration has been paid

The Ministry of Power [MoP] evaluates the performance of each functional Director based on the DPE-specified methodology for appraising top management in Central Public Sector Enterprises [CPSEs]. The nominating authority assesses the performance of the Nominee Director. NHPC has developed a policy for the performance evaluation of the Board, Board-Level Committees, and Directors in accordance with the Companies Act, 2013, and SEBI LODR. The link to the policy is attached below. [https://www.nhpcindia.com/assests/pzi\\_public/gallery/17315740930.pdf](https://www.nhpcindia.com/assests/pzi_public/gallery/17315740930.pdf)

As per the Policy, following evaluation process has been followed by the Company:

- » The Board carried out an annual evaluation of its own performance, the performance of the Board Committees as well as the individual directors. To conduct the performance evaluation, questionnaires are distributed anonymously amongst Board and Committee Members to gather their feedback, facilitating an impartial review process. Every Director of the Company rate performance of the Board, Board level Committees and the individual Directors on pre-determined criteria as a form of self assessment.
- » The Nomination & Remuneration Committee reviews the performance of Independent Directors & the Board of Directors and determines whether to extend the term of the Independent Director
- » Independent Directors review the performance of Non-Independent Directors, Chairperson of the Company and the Board as a whole
- » Board evaluates the performance of Independent Directors, excluding the Director being evaluated. The performance evaluation of all the Board Members, Board as a whole and mandatory Committees of the Board for financial year 2023-24 was carried out during financial year 2024-25.

## Capacity Building for Board Members

### Strengthening Governance through Training for NHPC Board Members

NHPC has established a training policy for its Board members, including the Chairman & Managing Director [CMD] and other Directors. The company nominates Directors to participate in various conferences and programs that focus on Corporate Governance, the Roles and Responsibilities of Directors, and other pertinent industry topics. These programs are organized both internally and by esteemed organizations such as the Department of Public Enterprises, SCOPE, and the Indian Institute of Corporate Affairs [IICA], aimed at enhancing their knowledge and effectiveness in their roles. The familiarization program for independent directors is available on the website. All Directors and the Company Secretary [KMP] completed a training program on BRSR Principles and emerging ESG topics. An Independent Director also attended the IICA master class on building better boards. The training covered the Board Committees, Corporate Reporting, Regulatory Requirements, ESG, Sustainability, and CSR. These trainings enhance the understanding of ESG's impact on NHPC's reputation, financial performance, and overall success. [https://www.nhpcindia.com/assests/pzi\\_public/gallery/1712660675.pdf](https://www.nhpcindia.com/assests/pzi_public/gallery/1712660675.pdf)

## Stakeholder Engagement

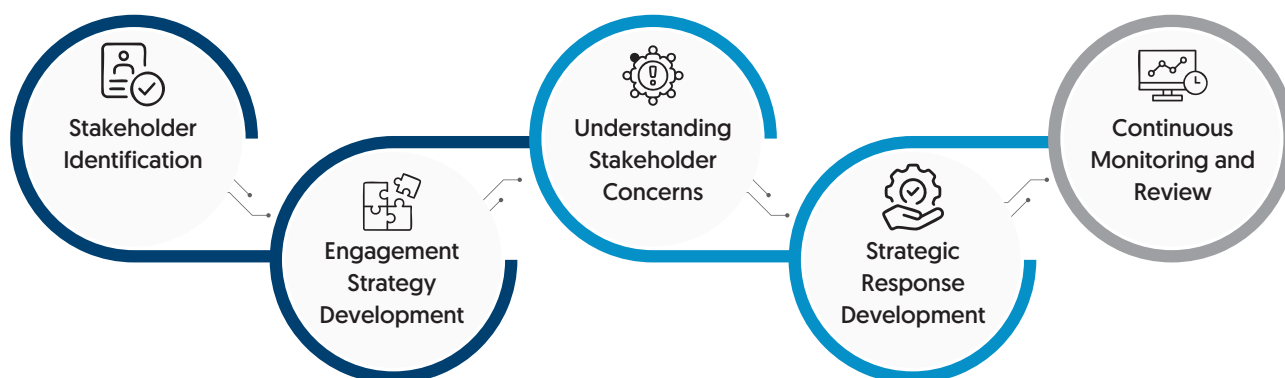
NHPC places significant importance on stakeholder engagement since it's very crucial for us to engage with our stakeholders and assess material impacts. Our process is a comprehensive and structured approach designed to build meaningful interactions with various stakeholders, including those who are disadvantaged, vulnerable, or marginalized. This process involves identifying key stakeholders such as

shareholders, investors, distribution companies (Discoms), employees, local communities, suppliers, contractors, government and regulators, and media outlets. The organization employs a rigorous methodology that includes desk research, community needs assessments, comparative analyses with industry peers, and interviews with key personnel to ensure all relevant stakeholders are considered. The engagement process is meticulously structured to understand stakeholders' concerns, develop strategic responses, and maintain transparent communication channels. Our Stakeholder engagement processes have been outlined in our Stakeholder Engagement policy. Link

to the policy [https://www.nhpcindia.com/assests/pzi\\_public/gallery/1703065928.pdf](https://www.nhpcindia.com/assests/pzi_public/gallery/1703065928.pdf)

In line with our continued dedication to sustainable development and transparent stakeholder engagement, we are pleased to announce a notable achievement in bolstering investor trust and confidence. By the close of the financial year 2023-24, we successfully expanded our investor base in NHPC from 8.35 lakhs [As on 31<sup>st</sup> march 2023] to 33.35 lakhs. This remarkable growth underscores our commitment to cultivating strong relationships with our investor community, acknowledging that their trust is essential to our enduring success and sustainability.

## Stakeholder Engagement Framework



Stakeholder Group	Channels of communication	Frequency of engagement
Investors/ Public	Stock Exchange Filings, Quarterly Earnings Calls, AGM, Investor Presentation, Investor Meetings, E-mails, Newspaper Advertisements, and Company website	Quarterly, As per Statutory requirements and need-based situations
Discoms	Meetings, Emails, Power Purchase Agreements, Industry Meets	Monthly
Employees	Emails, Meetings, Company Intranet, Employee Grievance Mechanism, social media, Training and Awareness programs	Monthly
Local communities	CSR programs, Meetings with communities, Grievance redressal mechanism	Monthly
Suppliers and Contractors	Suppliers meet, Contract documents and agreements, Workshops, trainings, and awareness sessions	Monthly
Government and Regulators	Calls and meetings with Government officials, MOU, Seminars and interactions with associations and industry chambers.	Continuous
Media	Media briefings, Press Releases, Company Website, social media Platforms like Facebook, Twitter, Instagram, YouTube	Continuous
Board of Directors & Key Managerial Personnel	E-mails, Letters, Meetings etc.	Scheduled Board Meetings



# Business Ethics and Transparency

In the governance dimension, we prioritize ethics and integrity as essential values. These principles are crucial because they foster trust, accountability, and transparency, which are vital for sustainable and responsible business practices. It is fundamental to NHPC, building trust and a positive reputation while promoting mutually beneficial relationships with stakeholders. The organization has implemented specific protocols, processes, and systems, including the "Code of Conduct to Regulate, Monitor and Report trading by Designated Persons and Immediate Relatives of Designated Persons and Insiders" and the "Code of Business Conduct and Ethics for Board Members and Senior Management Personnel". All management, non-management, and contract personnel are required to adhere to the relevant policies outlined in NHPC's code of conduct.

NHPC's Code of Business Conduct and Ethics requires Board Members and Senior Management Personnel to operate within the authority granted by the organization and in compliance with applicable laws, prioritizing the organization's best interests. They must act fairly and transparently, refraining from participating in any decision-making process where a conflict of interest exists or may arise, ensuring that independent judgment in the organization's best interest can be maintained. Additionally, NHPC is committed to avoid any antitrust or anti-competitive practices that could harm the organization's integrity or competitive standing. It also ensures compliance with

regulations against money-laundering and/or insider trading/dealing, maintaining the highest standards of ethical conduct and protecting the organization from any legal or reputational risks.

NHPC upholds the principles of freedom of association and the right to collective bargaining. The organization guarantees that there will be no interference with these activities, particularly when they are conducted outside of regular working hours. There are no operational entities within which employees or suppliers are exposed to risks pertaining to the rights of freedom of association and collective bargaining, as well as issues related to child labour and forced or compulsory labour

## Vigilance Mechanism

NHPC has established a Vigilance Mechanism, which includes a Whistle Blower Policy. This policy allows employees, senior management, contractors, and vendors to report any unethical practices, violations of applicable laws, regulations, or the NHPC's Code of Conduct that could adversely impact the organization's operations, business performance, or reputation. The policy provides critical information on the systems and procedures and necessary safeguards available to any whistleblower, and ensures that individuals have direct access to the Chairperson of the Audit Committee. Throughout the year, no individual was denied access to the Audit Committee regarding issues related to



*Introductory meeting between Director [Personnel] & Apex Unions*

the Whistle Blower Policy. The identity of whistle blowers is kept confidential to protect them from any discriminatory practices. A senior-level officer has been appointed as the coordinator to ensure the effective implementation of the policy and to handle complaints reported under it. Notably, no complaints were received under the Whistle Blower Policy during the financial year 2023-24. The Whistle Blower Policy is available on website of the organization at [https://www.nhpcindia.com/assests/pzi\\_public/gallery/1683188102.pdf](https://www.nhpcindia.com/assests/pzi_public/gallery/1683188102.pdf)

Additionally, NHPC has implemented a Fraud Prevention & Detection Policy aimed at preventing, detecting, and facilitating the swift resolution of fraud or suspected fraud. The mechanisms under this policy are effectively

communicated across all levels of the organization and are accessible on the organization's intranet.

As part of the Vigilance Awareness week initiatives to educate and promote an ethical and transparent working environment, NHPC organized Human Chain, 'Nukkad Natak' in association with Murari Lal Senior Secondary School and Walkathon during Vigilance Awareness Week- 2023 at NHPC Corporate Office. A run for Unity and various competitions such as essay writing, drawing/ painting, declamation competitions were also held to promote awareness amongst employees at NHPC. In addition to internal efforts, NHPC officers participated in the Brainstorming session on best practices in Vigilance administration, with Chief Vigilance officers from Other PSUs under MOP.

## Reporting on Breaches reported through Whistleblower Policy and Vigilance mechanism

Reporting areas	Number of breaches
Corruption and Bribery	0
Discrimination or Harassment	0
Customer Privacy Data*	0
Conflicts of Interest	0
Money laundering	0
Insider Trading**	0
<b>Total</b>	<b>0</b>

\*NHPC does not store sensitive customer [DISCOM] data, hence such an instance of breach is not applicable.

\*\*Nil complaints of Insider trading at a company level







Attendees at CVO meet for PSUs under MOP



Essay competition held during Vigilance awareness week

## Grievance Redressal Mechanism

NHPC has maintained a strong track record in addressing stakeholder concerns, resolving 100% of Investor complaints, 99.63% of shareholder complaints and 97.84% of public grievances received in FY 2023-24 through the 'Centralised Public Grievance Redressal & Monitoring System' linked with the Ministry of Power. As a part of preventive vigilance, circulars and guidelines are regularly issued based on various inspections and intensive examinations carried out from time to time. All stakeholders are encouraged to

provide feedback and raise concerns regarding Principles 1 to 9 of the National Guidelines on Responsible Business Conduct.

Customer/ Beneficiary feedback is sought from DISCOMs/ State Governments and other beneficiaries annually through a Satisfaction survey, to gauge the satisfaction and improve our operations down the value chain.

In FY 2023-24 NHPC obtained a Beneficiary Satisfaction score of 93.5%.

## Complaints reported by Stakeholders

Stakeholder Group	Grievance redressal Mechanism	Opening No. of complaints as on 1st April, 2023	Number of complaints filed during the year	Number of complaints pending as on 31st March 2024
Communities	CPGRAMs web-portal of Govt of India is being used for disposal of public grievances by HR Division. The web link of CPGRAMS is: <a href="https://pgportal.gov.in/">https://pgportal.gov.in/</a>	4	185	4
Investors [other than shareholders]	The details of contact person for the redressal of various grievances are provided in the link below <a href="https://www.nhpcindia.com/welcome/page/145">https://www.nhpcindia.com/welcome/page/145</a>	0	69	0
Shareholders	Shareholders can send their grievances to Company/RTA directly through email/letter. The shareholders can also lodge their grievances through SEBI SCORES portal, Stock Exchanges and SMART Online Dispute Resolution Portal [ODR]. The details of contact person for the grievance redressal are provided in the link below <a href="https://www.nhpcindia.com/welcome/page/145">https://www.nhpcindia.com/welcome/page/145</a>	2	816	5
Employees and workers	Yes, NHPC has an 'Employee Grievance Redressal Cell' in place. The details of contact person are provided on the link below <a href="https://www.nhpcindia.com/assests/pzi_public/gallery/1689568899.pdf">https://www.nhpcindia.com/assests/pzi_public/gallery/1689568899.pdf</a>	2	6	0
Customers	Power Sector is a regulated market and the power sold to the customer and the tariff at which electricity is sold to the customer falls under the ambit of various Regulations issued by various MoP, CERC and SERC under the powers conferred to them under Electricity Act, 2003 and amendments thereof. NHPC ensures compliance to these regulations in supplying of power to their customers from various power stations and strives to have cordial relationship with their customers. <a href="https://www.nhpcindia.com/assests/pzi_public/gallery/1689568899.pdf">https://www.nhpcindia.com/assests/pzi_public/gallery/1689568899.pdf</a>	0	0	0
Value Chain Partners	An Integrity Pact is being implemented in NHPC. Bidders may raise their grievances regarding tenders to Independent External Monitors [IEMs], if any. The details of IEMs are being provided in tender documents as well as available on the following link: <a href="https://www.nhpcindia.com/assests/pzi_public/gallery/1689568899.pdf">https://www.nhpcindia.com/assests/pzi_public/gallery/1689568899.pdf</a> The email for grievances is <a href="mailto:iem.nhpc@gmail.com">iem.nhpc@gmail.com</a>	0	0	0





# Policy and Accountability

To uphold our commitment to ethics and integrity, we have implemented comprehensive policies and accountability measures. We are committed to maintaining the highest standards of ethical conduct and operational excellence. Our comprehensive suite of policies serves as a framework for guiding the behavior of our employees, Board members, and stakeholders, ensuring that we operate responsibly and sustainably. Each policy is designed to align with our core values and strategic objectives, promoting transparency, accountability, and integrity in all aspects of our operations. Our policies not only support compliance with legal and regulatory requirements but also reflect our dedication to environmental stewardship, social responsibility, and good governance. Below is a brief overview of each policy that underpins our commitment to ethical practices and sustainable development. Further details of each policy along with links have been provided at relevant sections of this report.



## Environmental Policies



### Conservation of Energy Policy

This policy aims to promote energy efficiency and the reduction of energy consumption in the organization's operations, contributing to sustainability and cost savings.



### Biodiversity Policy

This policy focuses on preserving biodiversity through responsible resource management and conservation efforts, recognizing the importance of ecological balance.



### Corporate Environment Policy

This policy establishes the organization's commitment to environmental protection and sustainability, guiding practices that minimize environmental impact and promote eco-friendly initiatives.



### Waste Management Policy

This policy establishes guidelines for the effective management of waste generated by the organization's operations, focusing on reduction, recycling, and responsible disposal.



### Water Conservation Policy

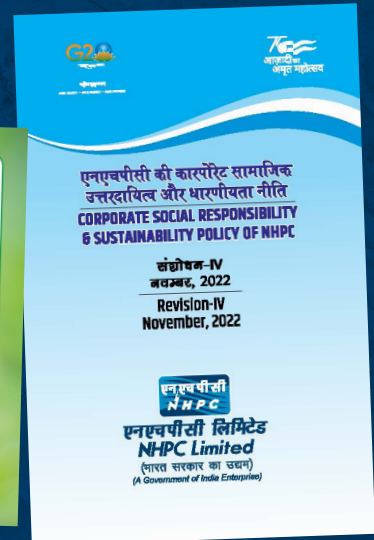
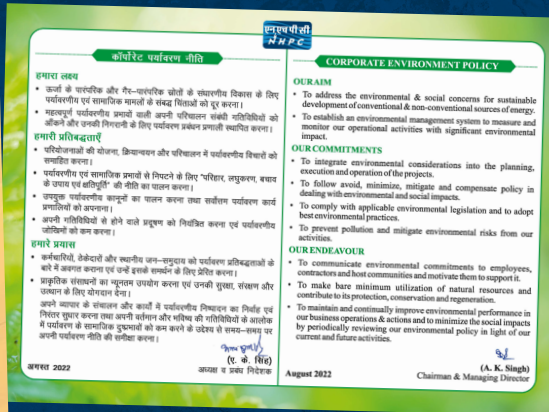
This policy outlines strategies for reducing water consumption and promoting sustainable water management practices within the organization's operations.



### Hydro-Meteorological Data Dissemination Policy

This policy outlines strategies for structured data management and responsible water stewardship through the dissemination of hydro-meteorological data collected at NHPC power stations and projects.





## Social and Human Resource policies



### Human Rights Policy

This policy commits the organization to respect and uphold human rights across its operations and supply chain, promoting fair treatment and dignity for all individuals involved.



### Safety Policy

This policy outlines the organization's commitment to maintaining a safe work environment, establishing protocols and practices to prevent accidents and protect employee well-being.



### Sustainable Procurement/ Sourcing Policy

This policy promotes responsible sourcing practices that prioritize sustainability, ethical considerations, and the reduction of environmental impact in procurement activities.



### Social Accountability Policy

This policy commits the organization to uphold social responsibilities and ethical practices in its operations, ensuring respect for human rights and fair treatment of employees and communities.





## Governance Policies



### Equal Opportunity Policy

This policy promotes a diverse and inclusive workplace by ensuring that all employees and candidates are treated fairly and equitably, regardless of their background.



### CSR & Sustainability Policy

This policy outlines the organisation's commitment to corporate social responsibility and sustainable practices, ensuring a positive impact on society and the environment.



### Stakeholder Engagement Policy

This policy outlines the principles and practices for engaging with stakeholders, ensuring effective communication and collaboration with various parties affected by the organisation's operations.



### Fraud Prevention and Detection Policy

This policy establishes measures to prevent, detect, and respond to fraudulent activities within the organization, promoting a culture of integrity and accountability.



### Anti-corruption & Anti Bribery Policy

This policy establishes the organisation's zero-tolerance stance on corruption and bribery, outlining measures to prevent unethical practices in all operations.



### Public Policy Advocacy Policy

This policy governs the organisation's approach to engaging in public policy discussions and advocacy efforts, ensuring alignment with its values and strategic objectives.



### Code of Business Conduct and Ethics- For Board Members & Senior Management Personnel

This code outlines the ethical standards and expectations for behavior among Board members and senior management, emphasizing integrity, transparency, and accountability in decision-making.



### Enterprise Risk Management Policy

This policy outlines a comprehensive framework to identify, assess, and mitigate risks, ensuring compliance, promoting sustainable growth, and enhancing operational effectiveness across all business functions and projects.



### Prevention of Sexual Harassment SOP

This SOP outlines the standards of a respectful workplace by defining harassment, implementing complaint procedures, providing training, ensuring impartial investigations, and enforcing penalties to protect victims and uphold a secure environment.

# Powering Innovation and R&D

## NHPC's R&D Driving a Sustainable Future

At NHPC, we have a dedicated Research and Development [R&D] Division that stands as a testament to our commitment to constantly push the boundaries of hydropower technology while pioneering sustainable solutions for a greener tomorrow. We have an exceptional in-house design team that consists of a pool of highly skilled professionals who possess unparalleled expertise in hydropower engineering, setting us apart as India's sole hydroelectric power generation utility with such specialized capabilities. This in-house expertise translates into cost-effective project execution, reduced reliance on external consultants, and a legacy of groundbreaking achievements in hydropower development.

NHPC is at the forefront of utilizing advanced geophysical exploration methods such as Tunnel Seismic Prediction, and Tomography & Resistivity Imaging. These state-of-the-art tools empower us to analyze data in-house, generating comprehensive internal reports that inform our decision-making processes and drive continuous improvement.

Our Research and Development [R&D] initiatives focus on addressing critical challenges in dam safety and hydropower generation. We leverage cutting-edge research and collaborations with leading institutions to develop innovative solutions for sustainable infrastructure. This year, our in-house R&D efforts have yielded significant advancements in ensuring the longevity, safety, and efficiency of our under-construction hydroelectric projects and power stations. These R&D achievements demonstrate our commitment to continuous improvement and innovation in the hydroelectric sector.

Through the adoption of advanced technologies and strategic collaborations with leading institutions, we are paving the way for a more sustainable and resilient energy future. Expenditure incurred on Research and Development during the financial year 2023-24 was INR 11.55 crore including INR 7.80 crore towards establishment expenses.

### Highlights of the R&D projects completed in the financial year 2023-24:

#### 1. Extending Infrastructure Lifespan

**Challenge:** Frequent repairs of civil structures in hydroelectric projects impact operational efficiency and cost.

**Solution:** Developed new repair guidelines based on:

- » Extensive experience with remedial measures across various power stations.
- » In-depth study of existing literature and internationally adopted methodologies.
- » Alignment with BIS codes, ASTM, ACI, and European Codes.

**Impact:** Significantly reduce the frequency of repair cycles, enhancing infrastructure lifespan and reducing maintenance costs.

#### 2. Optimizing Geological Investigations

**Challenge:** Geological uncertainties can lead to delays and cost overruns during project construction.

**Solution:** Successfully concluded a project demonstrating the effectiveness of Seismic Tomography in:

- » Providing targeted solutions for optimizing geological investigations.



390 MW Dulhasti Power Station - Machine hall



- » Offering continuous subsurface coverage, minimizing the risk of overlooking critical areas.

**Impact:** Enhances the accuracy of geological investigations, leading to more efficient and cost-effective project execution.

### 3. Refining Seismic Assessments for the Himalayan Region

**Challenge:** Existing generic models may not accurately predict ground motion in the seismically active Himalayan region.

**Solution:** Partnered with IIT Roorkee to analyze strong motion accelerograph data recorded at NHPC power stations.

- » Developed a comprehensive earthquake catalog from global and NHPC network data.
- » Created a General Ground Motion Prediction Equation [GMPE] specifically for the Himalayan region.
- » Validated the design spectrum for Kwar HEP [J&K] using the developed GMPE, showing good conformity with standard practices.

**Impact:** Provides a more accurate and site-specific understanding of seismic hazards, enabling safer and more resilient infrastructure design in the Himalayan region.

### 4. Enhancing Subansiri Dam's Resilience: Investigating the Necessity and Effectiveness of a Concrete Cut-off Wall

This project delves into the critical need for seepage mitigation at the Subansiri Dam and explores the feasibility of implementing a concrete cut-off wall as a robust and cost-effective solution.

**Challenge:** Seepage through the soft rock foundation of the Subansiri Dam posed a potential risk to its long-term stability. Traditional grout curtains, while effective, can be expensive and challenging to implement in certain geological conditions.

**Solution:** We initiated an in-house R&D project to investigate the feasibility and effectiveness of a concrete cut-off wall as a seepage mitigation measure. This innovative approach aims to create a physical barrier within the foundation, limiting seepage and preventing particle migration.

**Impact:** The concrete cut-off wall, coupled with foundation galleries and pressure relief holes, is expected to significantly reduce uplift pressure on

the dam, enhancing its overall safety and stability. This approach offers a potentially more cost-effective and robust alternative to traditional grout curtains in specific geological contexts.

### 5. Sediment and Erosion Control for Hydropower Optimization

**Challenge:** Hydro-abrasive erosion and high suspended sediment concentrations in water sources significantly impact the operational efficiency and lifespan of hydropower plants.

**Solution:** In collaboration with IIT Roorkee, we undertook a project at Bairasiul Power Station to monitor and analyze the impact of these factors on hydropower generation. This involved determining the critical threshold of suspended sediment concentration beyond which power generation is significantly impacted.

**Impact:** This research provides valuable data for optimizing the operation of hydropower plants in sediment-rich environments. By defining the limiting value of suspended sediment concentration, we can implement better water management strategies, implement sediment control measures, and schedule maintenance activities to mitigate the detrimental effects of hydro-abrasive erosion, ultimately extending the operational life of hydropower infrastructure.



MoU between NHPC R&D Division and IIT Patna

# Partnering for Progress:

## NHPC's Collaborative R&D

Our projects undertaken in collaboration with reputed institutions, emphasize the partnership and potential impact:



### Development of Design Guidelines/Charts for quick estimation of Caverns behaviour & support layout including openings based on 3D FEM Analysis (IIT Kanpur)

The objectives of this Project are the safe and economic design of underground caverns of various upcoming projects having underground caverns. The aim is to develop easy-to-use design charts/ guidelines based on advanced 3D numerical analysis for direct estimation of optimal cavern dimensional parameters and external support requirements, without undergoing detailed computational analysis.



### Development of Partial Discharge Monitoring Solutions for High Voltage Electrical Apparatus (NIT Durgapur)

The monitoring system will enable NHPC to move towards a "Predictive Maintenance Practice" from its current Preventive Maintenance Practice. This will improve the system's reliability and minimize the breakdown period.



### MoU signed with NRSC

NHPC has signed an MoU with National Remote Sensing Centre (NSRC), Hyderabad on March 20, 2024 for technical collaboration and capacity building on the monitoring, modelling and management of Glacial Lake Outburst floods (GLOFs) at NHPC's Hydroelectric projects.



### MoA signed with IIT Indore

NHPC has signed an MOA with IIT Indore on September 05, 2023, under which IIT Indore shall provide education, training, research and development and advisory session services to NHPC in the broad areas of its various expertise, hydro, hydrology, water resources, geology, earthquake, renewable energy and environmental management.



### MoA signed with IIT Patna

NHPC has signed an MOA with IIT Patna on December 15, 2023, under which IIT Patna shall provide training, research and development, and advisory session services to NHPC in the broad area of its various expertise, hydro, hydrology, water resources, geology, earthquake, renewable energy, and environmental management.



# Risk Assessment

NHPC's risk management processes proactively identifies, evaluates, and mitigates risks, ensuring the stability and resilience of our operations. This practice is integral to our governance framework. Effective risk management is crucial for maintaining stakeholder confidence and achieving long-term organizational success. The organization strives to balance the delivery of efficient and sustainable energy solutions with strict compliance to legal requirements and a commitment to environmental stewardship through technological advancements. NHPC recognizes the various risks inherent in the power sector, which affect both financial and non-financial outcomes. There is a dedicated Risk cell at Corporate Office, to assess and manage risks at power stations and projects.

To address these risks, NHPC has implemented a comprehensive risk management framework designed to identify, assess, and mitigate potential threats to its projects, operations, and financial stability. This structured approach enables informed decision-making, efficient resource allocation, and the establishment of contingency plans to avert adverse outcomes. Key components of this framework include the Enterprise Risk Management Policy, the Risk Management Committee, and the Enterprise Risk Management Framework, which facilitate proactive risk identification, mitigation, monitoring, and reporting..



## Risk Identification

Identification and recording in the Risk Register, enabling the top management to take a comprehensive view of the same. Risks are identified in several ways, viz: Brainstorming sessions, Surveys/ Interviews/ Working groups, Experiential or Documented Knowledge, Risk Lists - Lessons Learned, Historical risk event information.



## Risk Assessment

Qualitative screening of risks and opportunities(R&O), followed by a quantitative treatment of the most significant R&O, as not all risks are quantifiable, using descriptive scales for each risk and opportunity. The combination of likelihood of occurrence and the magnitude of impact provides the inherent risk level to NHPC.



## Risk Treatment

Risk treatment entails finding and evaluating risk treatment options, as well as developing and implementing risk treatment plans. Risk strategies followed by NHPC: [1] Risk avoidance/termination; [2] Risk Reduction or Mitigation. [3] Risk acceptance and Tolerance; [4] Risk Transfer.

## Risk Identification

NHPC has employed a systematic approach for risk identification, aligning it with internal stakeholder discussions and consultations with the Senior Management team to recognize key business risks. The organization has formulated a Risk Management Policy aimed at fostering confidence in achieving both organizational and shareholder objectives, while ensuring NHPC remains competitive and sustainable by enhancing operational efficiency. The Enterprise Risk Management system is designed to identify risks inherent in all corporate activities and provides guidelines for defining, measuring, reporting, controlling, and mitigating these risks. NHPC categorizes risks into four main types: operational, financial, strategic, and compliance risks.

- » **Strategic Risks** - These involve potential losses due to business factors that negatively impact the achievement of strategic goals and could diminish overall value.
- » **Financial Risks** - These are risks that directly affect the balance sheet and accessibility to capital.
- » **Operational Risks** - These involve potential losses due to inadequate or failed processes and information systems.
- » **Compliance Risks** - These arise from non-compliance or failure to meet legal, regulatory, and statutory requirements.

The identified risks and Mitigation strategies can be found in the Enterprise Risk Management





Policy, 2024. This Policy is hosted on NHPC website for guidance and documentation [https://www.nhpcindia.com/assests/pzi\\_public/gallery/17393621500.pdf](https://www.nhpcindia.com/assests/pzi_public/gallery/17393621500.pdf)

NHPC has established a comprehensive risk governance framework aligned with the Three Lines Model to effectively identify, assess, and mitigate potential risks across operational, financial, strategic, and compliance categories. This process is supported by a well-defined structure, which includes the Risk Management Committee, Risk Assessment Committee, and Risk Cell. The Risk Management Committee, formed in accordance with SEBI [LODR] regulations, is a board level committee, which aids the Board in identifying, evaluating, and mitigating various risks, while also reviewing and approving risk policies and providing oversight on the implementation and effectiveness of our risk management systems. The committee is headed by Chairperson and Independent director, Dr. Amit Kansal

## Risk Reporting Framework

The following risk reporting structure is adhered to by the organization:

### First Line of Reporting

The Department/Regional Office/Project/Power Station Heads are responsible for sending quarterly reports on the status of risks to their respective Risk Coordinators. Risk Coordinators are tasked with sending quarterly reports on risk status and mitigation measures to the Chief Risk Officer [CRO] for inclusion in the Risk Assessment Committee's reporting.

### Second Line of Reporting

The Chief Risk Officer, together with other members of the Risk Assessment Committee, reviews risks and their mitigation measures to identify key risks for reporting to the Risk Management Committee on a quarterly basis. Once

the Risk Assessment Committee approves the risks and their mitigation measures, the Risk Cell records them in the risk register and hands over the risks with their mitigation plans to the CRO, who then informs the concerned Risk Coordinators for implementation of the mitigation plans on a quarterly basis. After deciding and implementing the mitigation plan, the Risk Assessment Committee, through the CRO, presents it to the Risk Management Committee quarterly.

### Third Line of Reporting

The Risk Management Committee is responsible for apprising the Board of the key risks faced by the organization and the mitigation measures taken on a quarterly basis. The Risk Management Committee also informs the Board about any new or emerging risks faced by the organization in cases of exigencies or emergent conditions.

These bodies actively engage in risk management activities conducted annually to ensure a thorough evaluation of the organization's risk landscape. By systematically reviewing and updating the Risk Register and Risk Management Policy, NHPC seeks to maintain a proactive stance in addressing risks and enhancing overall organizational resilience. Through routine Internal and External assurance activities we test the effectiveness of our internal control systems, receive assurance and recommendations to improve our risk management framework. This ensures continuous improvement and compliance, helping us manage risks effectively and achieve our strategic goals.



# Risk Reporting



## First line of reporting

- » Department/Regional Office/ Project/Power Station Heads send quarterly reports on risk status to Risk Coordinators.
- » These coordinators then send the reports to the Chief Risk Officer [CRO] for reporting in the Risk Assessment Committee.



## Second line of reporting

- » The CRO and other members of the Risk Assessment Committee review risks and their mitigation measures, deciding on key risks that are reported to the Risk Management Committee on quarterly basis.
- » After approval, the Risk Cell records the risks and their mitigation plans in the risk register, which is then handed over to the CRO for implementation. The Risk Assessment Committee presents the mitigation plan to the Risk Management Committee quarterly basis.



## Third line of reporting

- » The Risk Management Committee also informs the Board on key risks and mitigation measures taken and informs the Board about new or emerging risks in case of emergencies or emergent conditions.

## Risk Culture

Our Risk management framework ensures that core principles of risk management are embedded into our internal processes. This includes proactive risk identification, timely discussions about risks, and strong implementation of mitigation measures. The de-risking strategies and mitigation plans identified by Risk Assessment committee are reviewed in detail at the Risk Management Committee Meetings on an annual basis. Regular training and awareness sessions for employees help build capacity for effective risk management. Additionally, we provide training for non-executive and independent directors on our company's risk management strategy. This effective risk assessment and management frameworks helps to identify risks that are critical to NHPC like climate risk, market risk, regulatory risk etc

## Emerging Risks

**Addressing the emerging risks having the most significant impact on the business in the future**

### 1. Emerging Risk: Fire Damage to Structures and Vital Installations

NHPC recognizes the risk of damage to its structures and vital installations due to fire as a significant long-term threat.

## Mitigating Actions:

To safeguard against fire hazards, NHPC has established a comprehensive Fire Protection Program [FPP] that includes the following components:

- » Designation of staff positions responsible for the management and implementation of the FPP.
- » Development of administrative policies, procedures, and training practices for general plant personnel to enhance fire safety awareness.
- » Provision of adequate firefighting equipment and smoke masks at power stations.
- » Conducting periodic inspections, testing, and maintenance of fire protection systems to ensure readiness of fire equipment at all times.
- » Installation of automatic fire detection, alarm, and suppression systems, including fire water supply and distribution systems such as sprinklers and water spray systems.
- » Manual suppression capabilities, including portable fire extinguishers, standpipes, fire hydrants, and hose stations.

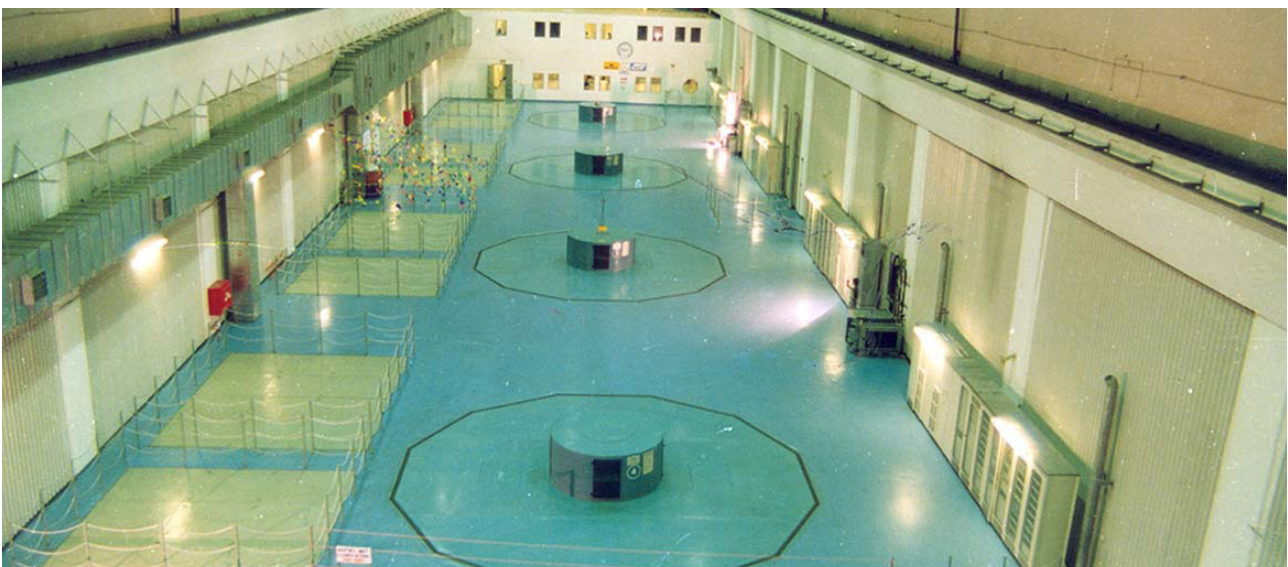
- » Regular fire drills to train personnel in emergency response procedures.
- » Establishment of alternate escape routes, particularly near transformer galleries, along with proper ventilation to minimize risks to human lives.
- » Availability of emergency response measures, including immediate medical aid and ambulance services at all project sites.
- » Development of disaster management plans for each power station, with clear delegation of responsibilities and the formation of a nodal disaster management committee at the corporate office to provide guidance.
- » Implementation of an Environmental, Health, and Safety (EHS) management system to track non-compliance, inspections, audit schedules, and compliance reports.
- » Ensuring that fire tenders are operational and on high alert at all times.
- » Securing appropriate insurance coverage for projects and power stations to indemnify against potential losses.

## 2. Emerging Risk: Risk of Flooding and Geological Instability

NHPC identifies the risk of flooding in powerhouses, dam breakage due to extreme weather events such as floods, earthquakes, and unprecedented rains, as well as geological issues like slope instability, rock falls, and landslides, as significant long-term threats to its operations.

### Mitigating Actions:

- » The organisation has secured natural calamity risk insurance for its projects and power stations to indemnify against potential losses.
- » Disaster management and emergency action plans have been developed for each location, with a designated nodal disaster management committee to oversee implementation and provide guidance.
- » Regular training workshops on disaster management are conducted at plants, complemented by quarterly drills to reinforce learned procedures.
- » NHPC ensures that its disaster management plan is integrated into the State's Master Disaster Management Plan.
- » Gauge and discharge sites have been established upstream of dams to provide advance flow information, enabling timely preparations before floods reach critical areas.
- » The powerhouse will be completely shut down if sediment concentration in inflow water exceeds permissible levels, and intake gates will be closed during reservoir flushing operations.
- » An advanced flood warning system and automatic water level recorders (AWLR) are being installed as necessary.
- » The Dam Safety Team performs pre- and post-monsoon inspections to assess dam health and implement remedial measures for any identified critical issues.



480 MW URI Power Station (J&K) - Power House



- » Emergency response drills are conducted periodically to train personnel on their roles during disasters.
- » Design measures are continuously reviewed to mitigate risks from natural disasters, supported by broad operating procedures for quick response.
- » Immediate medical aid and ambulance services are made available at all project sites.
- » An asset integrity checklist is prepared for each plant, with historical data maintained for compliance assurance.
- » Advanced modeling techniques are explored to predict weather behavior and seasonal patterns in collaboration with the Indian Meteorological Department (IMD) and Central Water Commission [CWC].
- » Protection measures for hydraulic machinery (HM) equipment include the installation of boulder traps and other structures in areas prone to landslides.
- » Seismic monitoring facilities are established at dam sites to assess geological stability.



280 MW Dhauliganga Power Station (Uttarakhand)-Power House

# Cyber Security and Information Security Management

To evaluate and address identified risks, we have employed a centralized IT business process, integrating all operations through Software Driven WAN technology. To protect its IT and Operational Technology [OT] information infrastructure, NHPC has implemented an IT and Cyber Security Policy that standardizes processes across the organization. Following the directives of the Government of India, NHPC observes Cyber Jagrukta Diwas on the first Wednesday of each month to enhance cybersecurity awareness. Additionally, the Corporate Office and all power stations are certified under the Information Security Management System [ISO 27001:2013/2022], ensuring the confidentiality, integrity, and availability of information assets.

NHPC has implemented a Cyber Security Policy and a Cyber Crisis Management Plan [C-CMP] to minimize disruptions to IT services in case of any cyberattack. Director [projects] oversees the Cyber security strategy and is also Chairman of Crisis Management group [CMG] defined in Cyber Crisis Management Plan [CCMP] of the organization. These documents are accessible via the NHPC intranet portal for internal circulation among employees at all sites and are reviewed periodically by the IT&C Division of NHPC Ltd. Regular reviews and audits are conducted to enhance the organization's cybersecurity posture.

In preparation for potential adverse situations, such as crises or disasters, NHPC has established required

infrastructure for the continuity of its IT operations. A Disaster Recovery Site has been developed to support critical ERP and E-office applications as part of the Business Continuity Plan [BCP], ensuring operational resilience during emergencies. We have established a comprehensive IT & Cyber Security Policy aimed at developing robust security technologies to protect information and ensure the privacy and confidentiality of data. Link [[https://www.nhpcindia.com/asests/pzi\\_public/gallery/16857087030.pdf](https://www.nhpcindia.com/asests/pzi_public/gallery/16857087030.pdf)] The corporate office is certified under the Information Security Management System [ISO 27001:2013/2022], which guarantees the confidentiality, integrity, and availability of information assets.

To identify vulnerabilities and secure critical IT infrastructure, Vulnerability Audit and Penetration Testing [VAPT] are conducted every six-months at all generating power stations. A centralized endpoint security solution has been implemented to safeguard servers and desktops against cyber threats. Additionally, NHPC has developed a Cyber Crisis Management Plan [CCMP] as part of its Risk Management Policy, outlining mitigation strategies to address cybersecurity breaches and enhance the security of IT communication systems. In addition to these measures, our IT infrastructure and information security management systems have been duly audited by external auditors in the last Financial year.

## Instances involving loss / breach of data of customers as a percentage of total data breaches or cyber security events

Number of instances of data breaches	0
Percentage of data breaches involving personally identifiable information of customers*	0
Impact, if any, of the data breaches	-

\*NHPC does not store sensitive customer [DISCOMs] data, hence such an instance of breach is not applicable.



Data Privacy Day, 2023 at Corporate Office, Faridabad



# Associations and Memberships

Sl. No.	Name of Professional Body/ Institution
1.	CIGRE [International Council on Large Electric Systems]
2	CBIP [Central Board of Irrigation & Power]
3	IHC [India Habitat Centre]
4	SCOPE [Standing Conference of Public Enterprises]
5	AIMA [All India Management Association]
6	NIPM [National Institute of Personnel management]
7	Power HR Forum
8	DELNET [Developing Library Network]
9	ISRM [International Society for Rock Mechanics & Rock Engineering]
10	ISRM TT [Indian Society for Rock Mechanics & Tunneling Technology]
11	ISEG [Indian Society of Engineering Geology]
12	TAI [Tunneling Association of India]
13	ICSI [The Institute of Company Secretaries of India]
14	CSI [Computer Society of India]
15	DSCI [Data Security Council of India]
16	INHA [Indian National Hydropower Association]
17	TII [Transparency International India]
18	INCOLD [International Commission on Large Dams]
19	Power Sector Skill Council
20	SHRM [Strategic Human Resource Management]
21	NHRD [National HRD Network]
22	Renewable Energy Promotion Association [REPA]

## Contributions and Other Spending

In terms of policy influence, NHPC has not contributed to political campaigns, trade associations and other tax-exempt groups, and on lobbying expenditures.

Currency (INR)	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Lobbying, Interest representation or similar	0	0	0	0
Local, regional or national political campaigns / organizations / candidates	0	0	0	0
Trade associations or tax-exempt groups (e.g. think tanks)	0	0	0	0
Other (e.g. spending related to ballot measures or referendums)	0	0	0	0
Total	0	0	0	0



Internal Customer Meet



# Environment

*Our Commitment to a  
Greener Tomorrow*

## **In this section:**

- » [Climate Change](#)
- » [Net Zero](#)
- » [Energy Management](#)
- » [Emission Management](#)
- » [Water Stewardship](#)
- » [Waste Management](#)
- » [Biodiversity Conservation](#)





## Environmental Metrics for FY 2023-24

**21,779** Million Units

Total renewable energy generated during the year FY 2023-24

**42,814** tCO<sub>2</sub>e

Total Scope 1 & 2 Emissions

**15.59** Million tCO<sub>2</sub>e

avoidance through Renewable energy generation and  
deployment of EV fleet

### Actions

- » Establishing a systematic framework for continuous monitoring of 26 hydropower stations and projects across 8 basins, for climate risk assessment [GLOF]
- » Created Early Warning Systems integrated with e-Aabhas software at multiple hydropower stations.
- » E-flow maintenance at all Power stations for sustenance of aquatic flora- fauna and cultural sensitivities of local communities
- » Biodiversity conservation strategies to enhance habitats for floral and faunal species, including anti-poaching measures at multiple Power Stations including Parbati-III, Parbati-II and Chamera-III in Himachal Pradesh through State Forest Department





*Tamil Nadu Solar Power Station- Array photo*

## Climate Change

Climate change poses risks such as altered precipitation patterns, extreme weather events, natural calamities like GLOFs, flash floods etc. In view of the impending threat of climate change, it is imperative to take mitigation measures particularly, reducing GHG emission and aligning the business operations with sustainable initiatives. In this perspective, hydropower generation, the core business operation of NHPC is in renewable energy sector and thus plays a pivotal role in combating climate change by avoidance of greenhouse gas emissions during power generation. However, understanding and mitigation of climate risks are paramount for NHPC to ensure a reliable power supply and safeguard our infrastructure. At the planning stage of project, climate-related risks and opportunities are analyzed and strategies are implemented to enhance our resilience in the face of these challenges.

Hydropower generation is a cost-intensive business for construction of project and requires continuous water flow for its operation. Therefore, proper planning and investigation of project is carried out to ensure its sustainability in terms of environmental, technical and financial viability of project in long run. As per the prevailing norms of Central Electricity Authority (CEA), (Government of India), Detailed Report Preparation (DPR) of a Project is prepared by NHPC with incorporating the details of hydrological data, GLOF study,

Power Potential studies, environmental aspects besides other technical and design aspects of project. DPR of Project is submitted to CEA for examination and concurrence. The expert team of CEA after thorough analysis of DPR and discussion with NHPC (project proponent) concurs the DPR for construction activities with certain mitigation measures, which are undertaken during the execution phase of the project.

Climate change poses significant risks to hydro power generation, particularly due to increased variability in water availability. These changes can lead to flooding, droughts, and other disruptions that affect the stability and safety of power generation facilities. Mitigation and adaptation to these risks are important for NHPC to ensure a reliable power supply and safeguard our infrastructure. However, these risks also present opportunities for innovation and improved resilience. The integration of advanced technologies and methodologies can enhance the capability to monitor and respond to climate-related challenges. One such opportunity is the development and implementation of Early Warning Systems (EWS), which are essential for proactive risk management in hydroelectric projects.

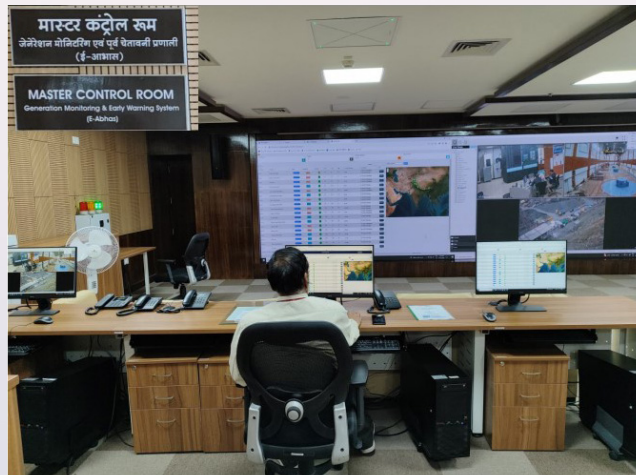
## NHPC Leads Climate Resilience with advanced Early Warning System for Sustainable Hydropower

NHPC's implementation of the "Early Warning System [EWS] - e-Aabhas" serves as a strategic solution to address climate-related risks, particularly those associated with physical hazards like floods and glacial melts. This cloud-based application enables real-time monitoring of water levels and river discharge, providing critical alerts when conditions become hazardous. The upstream monitoring feature of the system ensures that all power stations receive early warnings from upstream river data, allowing for quick responses to potential flooding, which is a growing concern due to changing precipitation patterns. To mitigate the risks to local populations, NHPC has installed hooters at dams and powerhouses to alert communities about impending water releases. Centralized coordination is further enhanced through the Master Control Room, which oversees vulnerable hydroelectric projects across the country, ensuring a rapid, unified response to emergencies. The collaboration of the organization on monitoring glacial lakes via satellite data is also critical in understanding and mitigating risks from glacier melts, which can lead to sudden increase in water levels and flood risks. By harnessing innovative technology like Remote sensing technology, GIS, etc. and fostering cross sector collaboration, NHPC is effectively mitigating the physical risks posed by climate change, ensuring the safety and resilience of its operations, while positioning itself as a leader in sustainable energy generation. These measures not only address immediate threats but also contribute to long-term climate adaptation and risk management, aligning the organization with global efforts to combat climate change.

## Addressing Glacial Lake Outburst Floods: NHPC's Strategic Response to Climate Change Threats

Human settlements and infrastructure, including hydropower projects in the Himalayan region are inherently vulnerable to Glacial Lake Outburst Floods [GLOF]. These catastrophic events occur when the natural dam of a glacial lake fails, unleashing a sudden torrent of water that can devastate downstream communities and infrastructure. Climate change exacerbates this risk, with rising temperatures accelerating glacial melting and increasing the frequency of extreme weather events. This alarming trend underscores the urgent need for enhanced monitoring and management strategies to mitigate the potential disasters posed by GLOFs, in the form of a Climate Risk Assessment to assess Impact-related water risks, and impact to other stakeholders.

NHPC has identified 26 Hydropower Stations and projects in the Himalayan Region, spread across 8 basins in the first stage of study. It is imperative to study the GLOF risks related to these HEPs. In response to these pressing risks, NHPC has proactively started a comprehensive R&D project in collaboration with the National Remote Sensing Centre [NRSC] under ISRO, aimed at bolstering GLOF management efforts. The Memorandum of Understanding [MoU] signed on March 20, 2024, outlines a multi-faceted approach. The core objective of this modeling study is to monitor glacial lakes and accurately forecast the outflow hydrograph resulting from breaches in potentially hazardous lakes. The study evaluates the impact of the GLOF on existing dam infrastructure, ensuring that spillway capacities are appropriately calibrated. Consequently, the GLOF projections will furnish critical insights into the flood hydrograph resulting from dam breaches, delineating maximum water levels and temporal dynamics at key downstream locations. These insights are instrumental in formulating robust mitigation and management strategies to address potential flood events effectively.



Master Control Room [MCR] for Early Warning System Monitoring and Implementation



**The Memorandum of Understanding (MoU) signed on March 20, 2024, outlines a multi-faceted approach that includes:**



#### **Technical Collaboration and Capacity Building:**

NHPC officials are receiving specialized training on monitoring glacial lakes using advanced satellite data techniques. This capacity building is essential for effective real-time monitoring and risk assessment, empowering staff with the necessary skills to respond to emerging threats.

#### **Monitoring Framework Development:**

A systematic framework for monitoring 26 Hydropower stations and projects across 8 basins has been established, significantly enhancing NHPC's ability to track changes in lake conditions over time. Continuous support from NRSC ensures that NHPC staff are well-equipped to handle evolving challenges.

#### **Ranking and Prioritization:**

NHPC and NRSC are collaboratively ranking and prioritizing glacial lakes based on their potential risk for GLOFs. This targeted approach allows for more efficient allocation of resources to high-risk areas, minimizing the likelihood of catastrophic events.

#### **Methodology Formulation for Early Warning Systems (EWS):**

The development of an Early Warning System tailored to monitor specific threshold risks for individual lakes is underway. Pilot implementations in two selected hydropower projects will evaluate the effectiveness of these systems in real-world scenarios.

#### **GLOF Modeling:**

Comprehensive GLOF modeling for selected lakes will predict potential outburst scenarios and their impacts, providing critical insights for proactive management. With a total investment of ₹151.53 lacs and an implementation timeline of 18 months, these initiatives are designed to enhance NHPC's capabilities in managing climate-related risks.

The proactive measures undertaken by NHPC are anticipated to yield several significant outcomes that align with broader climate resilience goals:

- » **Enhanced Monitoring Capability:** Continuous monitoring of glacial lakes will provide real-time data, enabling NHPC to anticipate and respond effectively to potential GLOFs, thereby improving situational awareness.
- » **Risk Reduction:** By prioritizing high-risk glacial lakes, NHPC can efficiently allocate resources and implement preventative measures, significantly reducing the risk of catastrophic floods.
- » **Effective Emergency Response:** The establishment of an Early Warning System will ensure timely alerts to downstream communities, facilitating prompt evacuations and informed emergency planning.

- » **Improved Infrastructure Resilience:** With enhanced understanding and preparedness, both hydroelectric projects and surrounding communities will be better equipped to withstand GLOF events, bolstering overall resilience.
- » **Research and Development Insights:** The findings from GLOF modeling and monitoring will inform broader strategies for managing glacial lakes across the Himalayan region, contributing to national and international efforts in climate resilience.

By proactively addressing the risks associated with climate change and GLOFs, NHPC is not only safeguarding its operations and local communities but also demonstrating leadership in the quest for sustainable energy solutions in a changing climate.





# Reducing Financial Risk through Insurance Policies

Recognizing the financial implications of Natural Disasters, NHPC takes tailored insurance policies for the protection of infrastructure. These policies provide coverage against damages caused by extreme weather events, ensuring financial security and facilitating quicker recovery and reconstruction efforts.

As climate change continues to pose challenges, such strategies are crucial to ensure the safety and sustainability

of hydropower projects and the communities around them. By prioritizing climate readiness, NHPC not only protects its investments but also contributes to the broader goal of sustainable development in the region, paving the way for a more resilient future amidst changing environmental conditions. These mitigation actions have been endorsed in our Risk Management policy.

## Climate Governance

The Enterprise Risk Management [ERM] policy identifies Environmental and Climate Change Risks in the NHPC's spheres of operation. The Risk management Committee-

a Board level body, oversees the period evaluation, assessment and mitigation strategies put in place to counter these risks.



*Tamil Nadu Solar Power Station- Switch Yard*

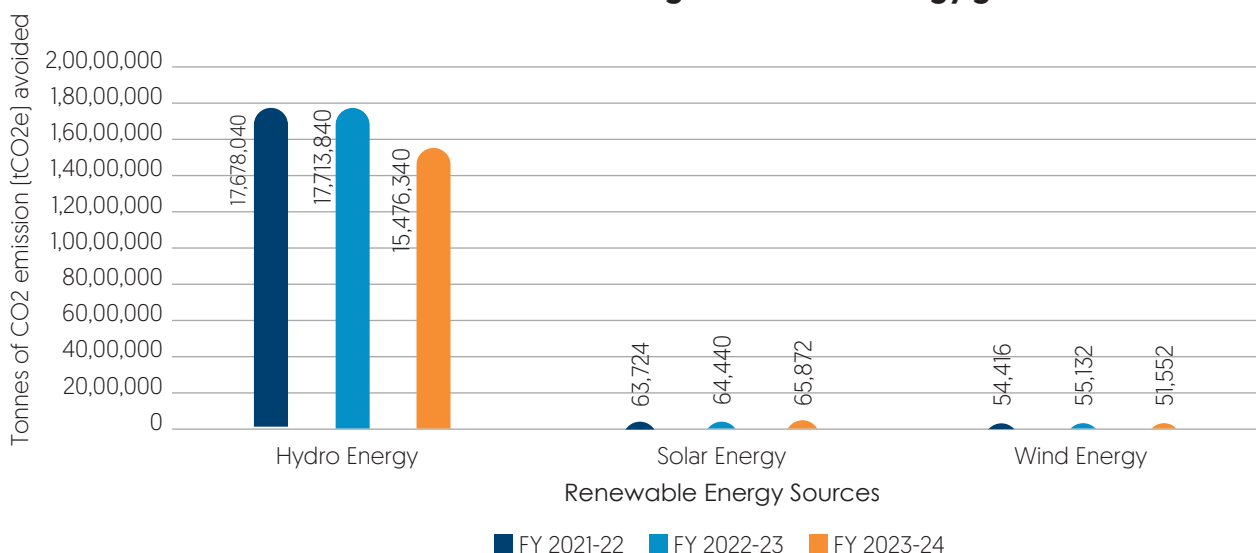


# Net Zero

NHPC recognises the urgent need to address climate change and are committed to achieving net-zero greenhouse gas emissions by 2070, in alignment with India's Decarbonization targets. Hydropower plays a crucial role in the shift towards a greener energy future due to its significant ability to produce large-scale low-carbon electricity while utilizing water in a non-consumptive manner. The Intergovernmental Panel on Climate Change [IPCC] highlighted in its Fifth Assessment Report that the median lifecycle greenhouse gas emissions from hydropower are lower than most other power generation

sources, surpassed only by wind and nuclear energy in having lower emissions. NHPC is earning Certified Emission Reduction [CER] from hydropower generation, which substantiates that hydropower is clean energy and contributes to Net Zero journey of country. The continuous capacity addition of hydropower and other renewable energy by NHPC paves the way for faster achievement of Net Zero target of country. During the FY 2023-24 NHPC has generated 21,779 MU of electricity thus it avoided 15.59 Million Tonnes of CO<sub>2</sub> emission.

## Avoidance of GHG emissions through Renewable Energy generation



In order to streamline our Net Zero journey, NHPC has already started measuring and reporting of scope-1 & 2 emissions in the last two financial years. From this year [FY 2023-24], reporting of Scope-3 emission has been incorporated. Our strategy encompasses a multi-faceted approach to reduce emissions across our operations, enhance energy efficiency, and invest in renewable energy sources- Hydro, Wind and Solar. NHPC generates electricity without emitting greenhouse gases or other pollutants into the atmosphere, and non-consumptive use of water unlike Thermal power plants. To curb ancillary emissions, NHPC employs innovative technology and sustainable practices, with an aim to significantly reduce our carbon footprint while contributing to the nation's commitment to a sustainable energy future.

NHPC continues to engage with stakeholders, monitor progress, and adjust our strategies to ensure transparency and accountability. Through commitment to innovation and sustainability, we strive to not only meet regulatory requirements but also lead the way in promoting clean energy solutions that benefit both the environment and society.

## Green Hydrogen Solutions

In alignment with the National Green Hydrogen Mission launched by the Ministry of New and Renewable Energy in January 2023, NHPC aims to contribute to establishing India as a leader in the production, use, and export of green hydrogen. Recognizing the potential of this technology, NHPC is positioning itself to explore opportunities within

the power sector and beyond. These green hydrogen initiatives are part of efforts to achieve the Government of India's Net Zero carbon emission goals. Strategic Initiatives and Benefits of green hydrogen solutions include

- » **Adoption of Technology:** Green Hydrogen Technology is expected to facilitate the integration of renewable energy sources with the grid, supporting grid balancing services.
- » **Sustainable Energy Source:** As an energy source with zero carbon emissions, green hydrogen could meet future energy demands in transportation, power industries, and microgrids.
- » **Scalability Potential:** Insights from pilot projects will inform the scalability and commercial viability of green hydrogen technologies for various sectors.

## Pilot Projects and Development Initiatives

NHPC is developing Green Hydrogen Technology through several pilot projects to lay the groundwork for future endeavors:

1. **Pilot Green Hydrogen-Based Fuel-Cell Microgrid [25 kWe] at NBPS Guest House, Leh:** Construction is underway, with project commissioning anticipated in the financial year 2024-25 at Nimoo-Bazgo Power station [NBPS], NHPC
2. **Pilot Green Hydrogen Mobility Station at Kargil, UT of Ladakh:** An EPC contract has been awarded, with work expected to conclude in the financial year 2024-25.
3. **Pilot Green Hydrogen Mobility Station at Chamba, Himachal Pradesh:** Currently in the tendering process.
4. **Procurement of Hydrogen Fuel Cell Electric Buses:** The tendering process for three buses (two for Kargil and one for Chamba) is in progress.



Tamil Nadu Solar Power Station- Array photo





## Carbon Credit Trading

As part of our commitment to sustainability and climate action, we actively participate in the Clean Development Mechanism [CDM] established by the United Nations Framework Convention on Climate Change [UNFCCC]. Through this mechanism, we have implemented emission-reduction projects in India, allowing us to earn Certified Emission Reduction [CER] credits. Each CER represents a reduction of one tonne of CO<sub>2</sub> emissions, which we can trade and sell in carbon markets. These credits not only provide a financial incentive for our projects but also support our efforts to meet global emission reduction targets set under the Kyoto Protocol. By generating these credits, we

contribute to a more sustainable future while promoting responsible energy generation. In addition to our CDM initiatives, we have also earned carbon credits through the Verified Carbon Standard [VCS] program, managed by Verra. This program ensures that our projects adhere to rigorous verification standards, guaranteeing the credibility and effectiveness of the emission reductions we achieve.

NHPC has 2 power stations registered under the Clean Development Mechanism [CDM] and 5 under the Verified Carbon Standard [VCS] program.

### Clean Development Mechanism

Nimoo Bazgo (45 MW) U.T of Ladakh

Chutak (44 MW) U.T of Ladakh

### Verified Carbon Standard (VCS) program

Teesta-V (510 MW) Sikkim

Teesta Low Dam-IV (160 MW) West Bengal

Teesta Low Dam-IV (160 MW) West Bengal

Parbati-III (520 MW) Himachal Pradesh

Kishanganga (330 MW) U.T of J&K

Registered Power Stations	VCUs generated	Date of Generation
TLDP IV	2,327,229	13/11/2023
Teesta V	11,776,268	19/03/2024
Parbati III	3,791,041	24/01/2024
Total	17,894,538	
<b>Opening Balance of Credits on 1st April, 2023</b>		
Teesta V	2,436,839	
<b>Closing Balance of Credits on 31st march, 2024</b>		<b>20,331,377</b>



# Energy Management<sup>4</sup>

NHPC is dedicated to minimize its environmental footprint by expanding its renewable energy portfolio and adopting sustainable technologies. The organization has taken various measures to conserve energy and significantly reduce its environmental impact. NHPC is committed to integrate energy-saving practices across all its operations, with the intent to emphasize energy conservation. This commitment is embodied in its energy conservation policy as well. The primary goal is to achieve this through a comprehensive and inclusive energy management strategy that involves closely monitoring energy usage, distinguishing between

renewable and non-renewable energy sources, and implementing initiatives to enhance sustainable energy practices. The organization has established a well-rounded energy consumption strategy that intelligently combines grid-sourced electricity with renewable energy sources in an efficient manner.

Energy audits are conducted once every two years, of all administrative facilities of NHPC (Corporate Office), independently by third party agencies as per Bureau of energy efficiency [BEE] notification dated 28.04.2010

## Energy Generation

Source of Energy Generation	Gross generation FY 2023-24 [MUs]	Share generation FY 2023-24 [%]	Revenue generated 2023- 24 (INR, in Crores)
Wind	72	0.33%	26.26
Hydropower	21,615	99.25%	7,897.75
Solar	92	0.42%	33.42
<b>Total renewables</b>	<b>21,779</b>	<b>100%</b>	<b>7,957.43</b>

\*Source: Annual Report FY 2023-24

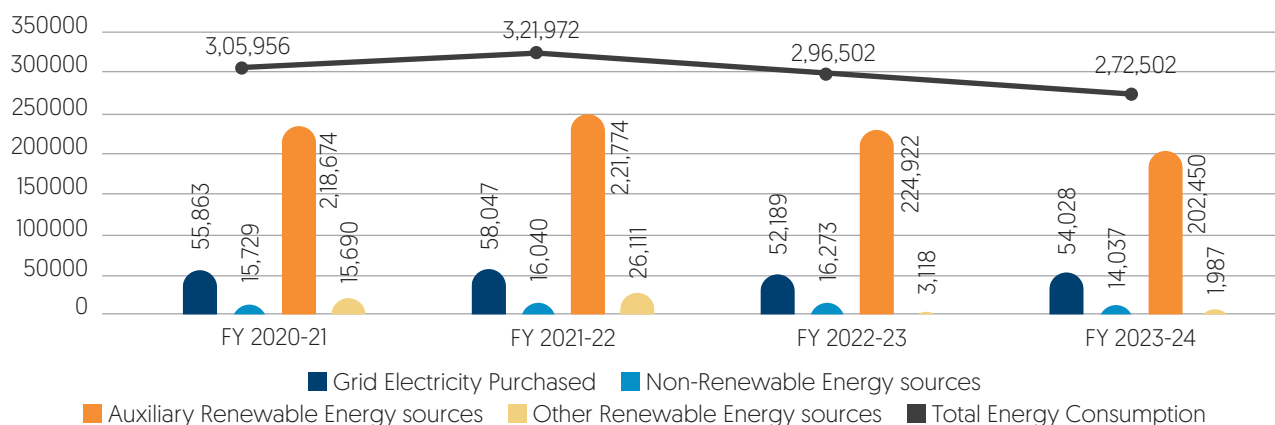
During the year 2023-24, the overall power generation was a total of 21,779 MUs, compared to 24,907 MUs in the previous year. The primary factors contributing to reduced generation included flash floods in the Himachal region in July 2023, an unprecedented flash flood from Lhonak Lake in October 2023 in Sikkim, and a general decrease in water inflow.

## Energy Consumption

Our energy consumption is mainly driven by its operational needs, with key sources including grid electricity, auxiliary hydropower, fossil fuels, and solar energy. NHPC has developed a robust energy consumption strategy that effectively combines grid-supplied electricity with renewable energy sources. This strategy ensures that all

facilities, buildings, and offices are powered by a sustainable and eco-friendly energy mix. Over the years, NHPC has made a conscious and positive shift towards consumption of a larger proportion of renewable energy, with 75% of the total energy consumption coming from renewable sources in FY 2023-24.

### Total Energy Consumption (in MWh)

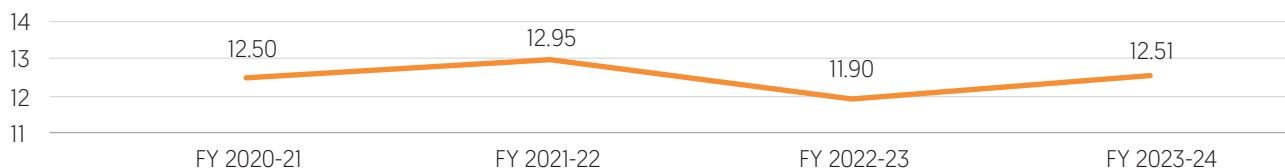


<sup>4</sup> GRI 302: Energy

Owing to the development in the Environmental and sustainability data tracking and collection processes, we have been able to monitor and collect data from all NHPC locations in a detailed manner. In light of the aforementioned improvements, we have restated the prior year's renewable energy consumption data from auxiliary sources, to ensure comparability, accuracy, and quality of disclosures. Based on which energy intensity and overall energy consumption has been updated.



### Energy Intensity (MWh/MUs)



The minor increase in overall Energy intensity, is attributed to reduction in overall units generated in FY 2023-24 over FY 2022-23, rather than due to increased energy consumption.

### Highlights of our energy conservation journey

NHPC has a progressive approach, taking initiatives to improve energy efficiency and reduce energy consumption. Energy audits are a regular part of the maintenance processes, where NHPC evaluates the efficiency of key electrical equipment. The Corporate Office, Neer Shakti Sadan, earned a Four-star rating from GRIHA, while the Jyoti Sadan Building received a Three-star rating from BEE, reflecting NHPC's commitment to sustainable practices. NHPC installed a 230 kWp Grid Solar Power Station on the rooftops of Neer Shakti Sadan, Jyoti Sadan, and the Canteen Building, along with a 1000 kWp Solar PV Power Plant at its residential colony in Faridabad and a further 2,854 kWp installed across other NHPC locations. These installations are maintained regularly to ensure efficiency. Advanced energy conservation technologies, such as motion detectors and sensors, have been implemented in various areas of the Corporate Office. A Building Management System has been introduced in Neer Shakti Sadan to optimize energy use. Routine maintenance of the HVAC system, including monthly filter cleaning during peak seasons, ensures optimal performance and energy savings. Our journey highlights its dedication to sustainability and energy efficiency, paving the way for a greener future.

### Other Initiatives:

**Electric Vehicle Support:** Established EV charging points in the Neer Shakti Sadan Office Complex to promote the use of electric vehicles and reduce carbon emissions.

**Efficient Equipment Procurement:** Installed five-star rated air conditioners, refrigerators, and water pumps, replacing old, non-star-rated units to significantly lower energy consumption.

**Improved Air Circulation:** Introduced 400 five-star rated BLDC ceiling fans to enhance energy efficiency and replace outdated fans, contributing to overall energy savings.

**Energy Efficient Lighting:** For illumination during the night, LED streetlights and solar PV standalone streetlights have been installed at the NHPC Corporate Office Complex and the Residential Colony.

### Energy Conservation Awareness Initiatives

NHPC raises awareness among its staff about energy-saving practices through thoughtfully designed posters aligned with the Mission LiFE (Lifestyle for Environment) initiative. We also display energy-saving slogans on the NHPC Intranet and during the closing of PCs allotted to employees. Additionally, NHPC actively participates in the National Level Awareness Campaign of the Ministry of Power by organizing a National level Competition to promote energy awareness among students at the School, State, and National levels.



The Energy Conservation Task Force is in place at the Corporate Office to enhance awareness among users, monitor the effectiveness of energy-saving measures, and provide feedback to both management and users. Founded in 2008, the task force focuses on conserving energy and minimizing consumption within the facility. Each floor of the building has a designated leader responsible for overseeing and implementing energy conservation initiatives, who submits biannual reports to the Executive Director to ensure accountability and track progress in the organization's energy-saving efforts.

Under the aegis of Bureau of Energy Efficiency [BEE], Ministry of Power, Govt. of India, NHPC was allotted the UTs and states namely- Arunachal Pradesh, Jammu & Kashmir, Ladakh & Madhya Pradesh, to organize School & State Level Painting Competition on Energy Conservation for the year 2023. This campaign aims to create awareness on the need to conserve energy for students and their parents.

The winners of the State Level Painting Competition participated in the National Level Painting Competition held in Noida & Gurugram on 11th December 2023. Master Awaiz Alam, from Madhya Pradesh was awarded 'Appreciation Prize' by Shri R.K. Singh, Hon'ble Union Minister of Power, New & Renewable Energy during National Energy Conservation Day function, 14th December 2023.



Tamil Nadu Solar Power Station- Array photo



## Emission Management<sup>5</sup>

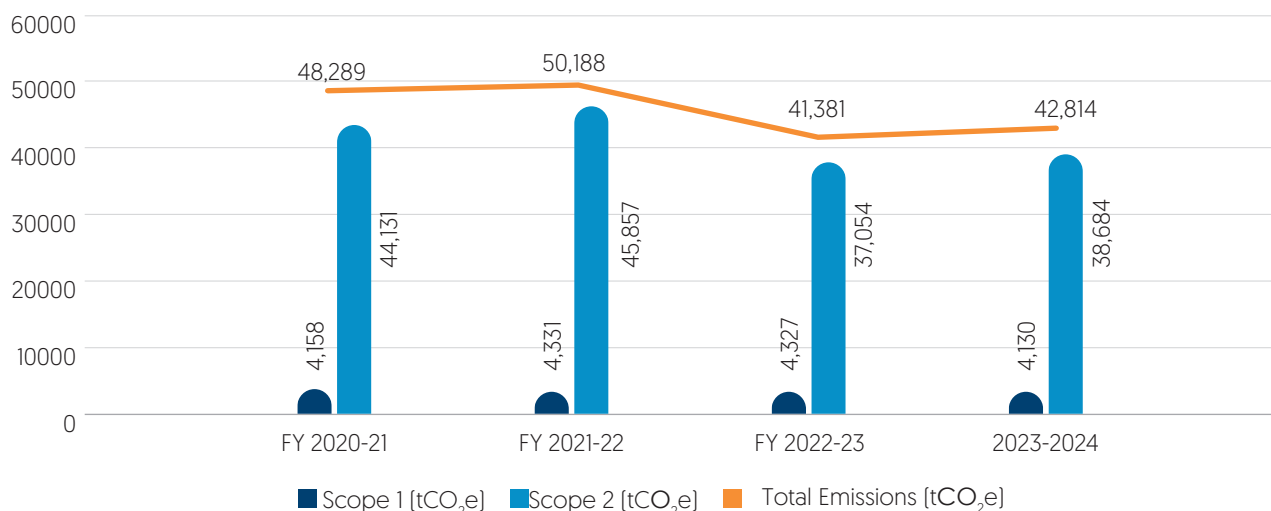
To limit global warming to 1.5 degrees Celsius, there is a global push to triple renewable energy capacity and double energy efficiency improvements by 2030. India is committed to achieving 500 GW of installed renewable energy and ensuring 50% of its power capacity comes from clean sources by the end of the decade, necessitating integrated policy, investment, and infrastructure efforts. Globally, efforts to reduce harmful emissions by transitioning to renewable energy have been highlighted to combat the impacts of climate change. In this direction, NHPC plays a crucial role in India's proactive approach to combating climate change, aligning with the nation's ambitious Nationally Determined Contributions (NDCs) to reduce emission intensity by 33–35% by 2030 compared to 2005 levels and achieving net-zero emissions by 2070. NHPC's focus on hydropower significantly bolsters this transition. By generating purely renewable energy, NHPC not only contributes to reducing GHG emissions but also supports India's broader clean energy goals. Our commitment to develop sustainable hydropower projects aligns seamlessly with the nation's climate objectives and paves the way for a greener, more sustainable future. Through our emission-reduction projects in India NHPC earns Certified Emission Reduction (CER) credits that represents a reduction of one tonne of CO<sub>2</sub> emissions.

### Scope 1 and Scope 2 GHG Emissions

Even though NHPC's business activities do not significantly contribute to greenhouse gas (GHG) emissions, we recognize our responsibility to set industry benchmarks and demonstrate exemplary practices. To achieve this, NHPC closely monitors its emissions from its facilities (DG Sets, Vehicles etc) and integrates detailed carbon management practices and environmentally friendly behaviors to advance our environmental goals.

Since the financial year 2018-2019, NHPC has been collecting data for the calculation and reporting of all Scope 1 and Scope 2 emissions. This commitment to transparency and accountability underscores our dedication to understanding and mitigating our environmental impacts. By actively tracking and managing our emissions, we not only adhere to best practices but also lead by example in the industry. Our efforts reflect our commitment to sustainability and our proactive role in promoting environmental stewardship. Over the past two financial years NHPC has steadily progressed towards reducing our GHG emission footprint, by achieving a reduction of 15% from FY 2021-22 to FY 2023-24 [Refer graph below].

**Total Emissions (Scope 1 & 2)**



<sup>5</sup> GRI 305: Emissions

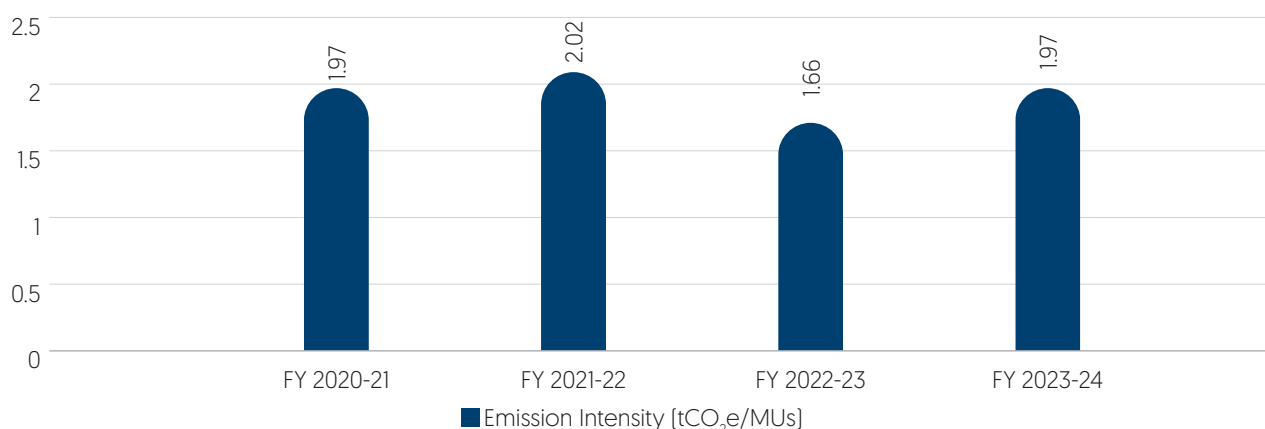
Emissions (tCO <sub>2</sub> e)	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Scope 1 (tCO <sub>2</sub> e)	4,158	4,331	4,327	4,130
Scope 2 (tCO <sub>2</sub> e)	44,131	45,857	37,054	38,684

For Scope 1 emissions, NHPC includes direct emissions originating from sources owned or controlled by the organization, such as fuel consumption in DG Sets, vehicles etc. Scope 2 emissions, on the other hand, account for indirect emissions resulting from purchased energy.

In our current reporting, we used conversion factors from the DEFRA 2023 guidelines to ensure accurate calculations of these emissions.

## GHG Emission Intensity

### Emission Intensity (tCO<sub>2</sub>e/MUs)



The minor increase in overall Energy intensity, is attributed to reduction in overall units generated in FY 2023-24 over FY 2022-23, rather than solely due to increased emissions. This period of increased emission intensity serves as a catalyst for further innovation and investment in cleaner and more efficient technologies, ultimately contributing to a more sustainable future.



Celebrating World Environment Day 2023 at Corporate Office, Faridabad



## Our Scope 3 GHG Inventory

As part of our commitment to advancing sustainability and reducing our carbon footprint, NHPC has undertaken a pioneering initiative to calculate Scope 3 greenhouse gas (GHG) emissions for the first time. This year, we focused on two critical categories: business travel (tours for meetings, trainings and other official work) and employee commuting. The scope boundary for employee commute is corporate office (based on daily commute data of 777 employees) and that for business travel is corporate office and power stations. By quantifying these emissions, we aim to highlight areas where we can implement meaningful changes and engage in strategic partnerships.

In this inaugural assessment, the total Scope 3 emissions are calculated as 1,391.6 tCO<sub>2</sub>e. Of this, employee commuting

accounted for 853.0 tCO<sub>2</sub>e, while business travel contributed 538.6 tCO<sub>2</sub>e. This initiative not only underscores our dedication to transparency and accountability but also sets the foundation for future comprehensive analyses of our indirect emissions, ultimately contributing to our long-term sustainability goals.

Looking ahead, NHPC plans to expand the scope of GHG Scope 3 assessments to include all NHPC locations, beyond the Corporate office. By incorporating a broader range of locations, we aim to capture a more comprehensive picture of our environmental impact. Furthermore, we are committed to accounting for additional categories of Scope 3 emissions in future assessments, thereby deepening our understanding and management of our carbon footprint.

Scope 3 Category	Unit	FY 2023-24
Commute to workplace by Employees	tCO <sub>2</sub> e	853.0
Business Travels by Employees	tCO <sub>2</sub> e	538.6
<b>Total indirect emissions (Scope 3)</b>	<b>tCO<sub>2</sub>e</b>	<b>1,391.6</b>

## Our journey toward lowering emissions

Our proactive approach to environmental stewardship and climate change mitigation is clearly demonstrated through its comprehensive afforestation initiatives within hydropower projects. These initiatives, which include both compensatory and voluntary efforts, represent a significant move towards fostering a greener environment. NHPC adheres with the Mission LiFE- 'Lifestyle for environment' motto through initiatives undertaken at Offices/Power Stations and display of informative posters to promote awareness. These posters highlight practical tips and best practices for conserving energy, waste management and water conservation, thereby fostering a culture of

environmental responsibility. Initiatives to reduce our emissions include the use of Electric Vehicles and setting up EV Charging infrastructures in our office complex, Use of 400 BLDC fans that are 5 star rated, Replacing ACs, refrigerators and water pumps with 5 star rated products, to significantly lower our emission impact. Through these efforts, we not only promote energy efficiency but also contribute to the broader goal of mitigating climate change. By integrating Compensatory and Voluntary tree-planting campaigns, NHPC not only offsets the environmental impact of its operations but also actively participates in global efforts to combat climate change. These actions underscore the organization's commitment to reducing carbon footprints and enhancing biodiversity.



*Electric Vehicles deployed at Corporate Office, Faridabad*

## Electric Vehicles at NHPC Corporate Office

NHPC is committed to environmental sustainability and reducing carbon footprints. To this end, the organization has initiated a phased plan to replace its conventional fossil fuel-powered vehicles with electric vehicles (EVs). This initiative aligns with the Government of India's "Faster Adoption and Manufacturing of [Hybrid &] Electric Vehicles [FAME]" scheme, part of the National Electric Mobility Mission Plan (NEMMP), which aims to promote eco-friendly vehicles nationwide. Currently, NHPC is utilizing 29 electric vehicles for day-to-day operations at its Corporate Office. In a significant step towards furthering environmental protection, NHPC has signed E-Mobility Agreements with Convergence Energy Services Limited (CESL). These agreements include the leasing of twenty-five additional electric vehicles and the supply, installation, and commissioning of three electric vehicle fast chargers for NHPC. NHPC's proactive measures underscore its dedication to sustainable practices and climate action. We encourage other organizations and stakeholders to join us in adopting eco-friendly transportation solutions, contributing collectively to a greener and more sustainable future.

Through the use of these EVs in daily activities we have avoided progressive quantities of Carbon emission year on year. Total avoidance of 72.65 tCO<sub>2</sub>e in FY 2023-24, 67.87 tCO<sub>2</sub>e in FY 2022-23 and 57.26 tCO<sub>2</sub>e in FY 2021-22.



EV Charging infrastructure at Corporate Office, Faridabad

## Case Study: Installation of Rooftop Solar Plants at Chamera-II Power Station, Chamba (Himachal Pradesh)



### The Challenge

The Chamera-II Power Station in Chamba, Himachal Pradesh, faced challenges related to high dependency on fossil fuel-based electricity, leading to increased greenhouse gas (GHG) emissions and higher electricity bills. The need for a sustainable and self-reliant power generation solution was imperative to reduce environmental impact and operational costs.



### The Solution

To address these challenges, Grid Connected **230KWP Rooftop Solar Plants** were installed at various locations within the power station premises, including:

- » KV School
- » Hospital Building
- » SCADA Hall
- » Field Hostel
- » Residential Colony
- » The installation aimed to harness solar energy to meet the power station's electricity needs, thereby reducing reliance on fossil fuels.



### Sustained Outcomes

The implementation of the rooftop solar plants resulted in several positive outcomes:

- » **Annual Generation:** The solar plants are expected to generate approximately 3,18,338 units of electricity annually.
- » **Self-Reliance:** The power station has become more self-reliant in its power generation, reducing dependency on external electricity sources.
- » **Cost Savings:** There has been a significant reduction in electricity consumption and billing, leading to cost savings for the power station.
- » **Environmental Impact:** The reduction in GHG emissions contributes to a lower carbon footprint, supporting environmental sustainability.



## Air Emissions

Air pollution is a health hazard and therefore it is imperative to address air emissions from business operation for improving public health and mitigating climate change.

Air emissions in the hydropower generation process, are mainly released during the construction phase of a hydropower project. As we move to operation phase, the air emissions are greatly reduced and can be attributed mainly to the use of DG sets, use of vehicles, dust from roads, etc. We are committed to maintaining air quality and we monitor both stack and ambient air quality at Power stations and Regional Offices. A real-time display of ambient air quality has been installed at the Corporate office.

During both construction and operation phases, NHPC implements strict air pollution control measures, such as using water sprinklers, maintaining equipment, and covering materials to reduce dust and emissions. Regular air quality monitoring is conducted through NABL-certified laboratories, with frequent inspections by the State Pollution Control Board. Emissions from diesel generators are also closely monitored following CPCB guidelines. The DG stack emissions were well within the permissible limits as defined by air quality standards of CPCB. This initiative ensures consistent evaluation of air quality, regardless of usage patterns.

Power Stations/ Offices	FY 2023-24		
	So <sub>x</sub> (Tonnes)	No <sub>x</sub> (Tonnes)	PM (Tonnes)
Corporate Office	0.027	0.165	0.037
Bairasiul Power station	0.016	0.257	0.031
URI I Power station	0.172	0.318	0.041

Annual emission (in Tonnes per year) of SO<sub>x</sub>, NO<sub>x</sub> and PM [Particulate Matter] from DG stacks at Corporate Office and selected Power Stations of NHPC.



Real-time air quality monitoring at Corporate Office, Faridabad

# Water Stewardship<sup>6</sup>

NHPC is committed to water conservation as a key component of reliable power generation and sustainability. Our Corporate Environment Policy ([https://www.nhpcindia.com/assests/pzi\\_public/gallery/16844978530.pdf](https://www.nhpcindia.com/assests/pzi_public/gallery/16844978530.pdf)) and Water conservation Policy ([https://www.nhpcindia.com/assests/pzi\\_public/gallery/16976967080.pdf](https://www.nhpcindia.com/assests/pzi_public/gallery/16976967080.pdf)) underscores this commitment, focusing on effective water resource management to conserve ecosystems and support local communities. Although our primary activity, hydropower generation, uses water non-consumptively, we primarily use water in our office and residential facilities. Through diligent water conservation practices at offices/colonies, complying with regulations and fostering a culture of stewardship among employees, conservation of water is ensured. These efforts help to sustain and protect aquatic ecosystems, and strengthen relationships with local communities. We also maintain environmental flow to support aquatic ecosystems, agriculture, and cultural needs downstream of our dams.

NHPC actively promotes water conservation throughout its operations, fostering a culture of stewardship among employees. We implement sustainable practices such as using reclaimed water and installing rainwater collection systems. Additionally, dam reservoirs provide essential functions like flood control, drinking water supply, groundwater recharge, and agricultural support.

For FY 2023-24, total water withdrawal and consumption have decreased notably due to two main factors: the implementation of various water-efficient measures and the exclusion of under-construction sites from the evaluation/reporting, which previously contributed to higher water usage in FY 2022-23.

## Water Stewardship -related Initiatives

NHPC installed **15 rainwater harvesting pits** across corporate office and the residential colony. These pits captured the rainwater, replenishing groundwater levels and reducing our reliance on external sources.

In addition to water stewardship initiatives, NHPC has published a Hydro-Meteorological Data Dissemination Policy, which aims to facilitate the sharing of critical hydro-meteorological data collected at various NHPC power stations and projects. This data, essential for water resource development, includes river water levels, discharge, sediment flow, and various meteorological parameters such as rainfall and temperature. The policy categorizes data into classified and unclassified types based on geographical regions and outlines procedures for dissemination to Indian and foreign users. Unclassified data is accessible upon request, with a structured pricing model, whereas classified data requires specific authorization and is intended for particular studies. The Executive Director of Design & Engineering is the data custodian, and the SBD&C Division acts as the nodal point for processing requests and handling payments. The policy ensures that the data's use is acknowledged in any resulting publications, with strict guidelines to maintain confidentiality and compliance with international treaties, such as the Indus Water Treaty. Overall, this policy underscores NHPC's commitment to responsible water stewardship through structured data management and dissemination. The policy can be found on <https://www.nhpcindia.com/welcome/page/410.html>



Chamera I -540 MW power station

<sup>6</sup>GRI 303: Water and Effluents

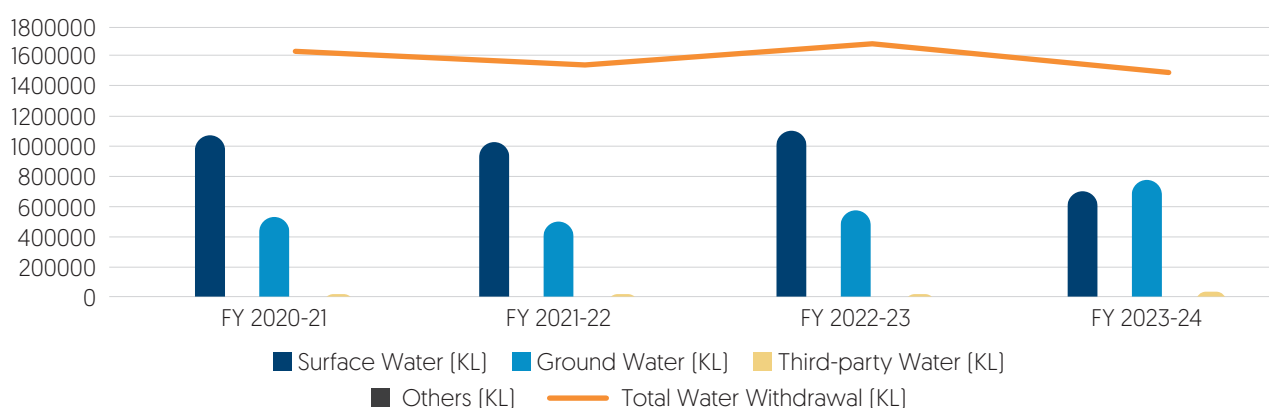


## Water Withdrawal and Consumption

NHPC maintains a low water footprint, as hydroelectricity generation is primarily non-consumptive. The organization focuses on utilizing water efficiently for routine functions within its facilities, including offices and residential colonies at its Power stations. Additionally, NHPC optimizes water usage by implementing a range of water-saving measures

at its offices and power stations. The organization efficiently manages and treats wastewater discharges while actively preserving local water sources. This is achieved through our mechanism for the reuse, recycling, and restoration of water across operational sites.

**Total Water Withdrawal (KL)**



### Details of Water Withdrawal and Consumption

Water Withdrawal (in KL)*	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Surface Water (KL)	1,066,873	1,025,367	1,099,746	700,358
Groundwater (KL)	536,790	497,677	562,284	763,112
Third-party water (KL)	16,216	17,766	15,944	27,665
Others (KL)	-	-	-	619

Water Consumption (in KL)*	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
	1,108,969	999,310	1,058,675	1,213,172

### Waste water Management

NHPC is committed to sustainable wastewater management, ensuring that discharge practices adhere to regulatory standards while minimizing environmental impact and protecting public health and ecosystems. We strictly follow the 'General Discharge Standards' set by the Central Pollution Control Board (CPCB) and the Government of India, ensuring that only treated wastewater is released. NHPC has defined Waste Management Policy, which can be found on the following link. [https://www.nhpcindia.com/assests/pzi\\_public/gallery/16976967570.pdf](https://www.nhpcindia.com/assests/pzi_public/gallery/16976967570.pdf)

For instance, at NHPC's residential colony in Faridabad, we have implemented various waste management initiatives, including a Sewage Treatment Plant, a composting machine (from a Green Waste Processor), and a two-bin system for waste segregation at the source. These efforts aim to transform the colony into a 'zero waste' environment. Additionally, Sewage Treatment Plants have been installed at many Power projects to manage wastewater from residential colonies and office complexes. In some older establishments and colonies, waste water is treated through Septic tanks and Soak pits. NHPC remains committed to embracing waste water treatment across its projects and power stations to further improve sustainability and environmental protection.

\* The boundary of the Sustainability Report for FY 2023-24 includes power stations, regional offices and Corporate Office whereas, FY 2022-23 also included under-construction projects [2 HEP] in addition to power stations, regional offices and Corporate Office. Thus, the prior year metrics may vary in some disclosures.

## Details of Wastewater generated, recycled and discharged

Wastewater Discharged*	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Total wastewater generated (KL)	579,930	637,250	727,370	356,087
Waste water reused/ recycled (KL)	69,020	95,750	108,070	77,504
Waste water discharged (KL)	510,910	541,500	619,300	278,582

The decline in water discharge in FY 2023-24 can be attributed to the change of boundary of reporting- from Previous Financial years.



240 MW Uri-II Power Station [J&K]-Dam Right Bank Aerial View

\* The boundary of the Sustainability Report for FY 2023-24 includes power stations, regional offices and Corporate Office whereas, FY 2022-23 also included under-construction projects [2 HEP] in addition to power stations, regional offices and Corporate Office. Thus, the prior year metrics may vary in some disclosures.



# Waste Management<sup>7</sup>

At NHPC, we prioritize environmental protection by implementing effective waste management practices in all our operations. According to our Corporate Environment Policy and Waste Management Policy, we are committed to environmental conservation and strictly adhere to the Waste Management Rules set forth by the regulatory authorities. By integrating current industry standards into our processes, we ensure that all generated waste is carefully collected, sorted, and disposed of as per the applicable waste management guidelines. We comply with all rules and regulations to ensure that our waste management practices are both responsible and sustainable. In addition,

we conduct awareness programs on waste. As part of MissionLife initiatives, we conduct to raise awareness, better understand the benefits of reducing waste across operations and inspire responsible waste management practices among our employees as part of our 'Mission LIFE' aligned initiatives. We are committed to minimizing waste generation right from the source. It ensures that waste is disposed of properly, following all prescribed management and environmental safeguard measures. NHPC also adheres to the principles of Reduce, Reuse, and Recycle to promote sustainability and environmental responsibility.

Total Waste Generated (Metric Tonnes) <sup>7</sup>	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Hazardous waste generated [MT]	83.96	36.51	60.59	51.7
Non-hazardous waste generated [MT]	1858.43	1182.36	1410.44	2290.39
Total Waste Generated [MT]	1942.39	1218.87	1471.03	2342.09


<sup>7</sup>GRI 306: Waste 2020

At NHPC, we have developed waste management procedures for each type of waste. Non-hazardous materials, like scrap and ferrous metals, are collected, stored in designated areas, and periodically auctioned once they reach a sufficient volume. Municipal and biodegradable waste is managed through local municipal bodies where applicable. Hazardous waste, including oil, batteries, and e-waste, is stored and disposed of through authorized recyclers and vendors. The buy-back policy allows for the exchange of used batteries at a discounted rate. We also adhere to an E-Waste Policy, ensuring all electronic waste is handled by certified e-waste management organisations. As such, there is no input and output of hazardous waste or toxic chemicals in the hydropower generation process. However, during the construction phase, tunneling generates solid waste in the form of muck (soil and rock boulders). This muck is managed according to a project-specific Muck Disposal Plan, which allows for a portion to be reused as aggregates, while the rest is disposed of at designated muck dumping sites. These sites are subsequently leveled and restored with plantings. For biomedical waste, disposal is handled by authorized recyclers and vendors, or by deep burial in remote locations following the Biomedical Waste



Bio medical waste segregation station at Corporate office,  
Faridabad

Management Rules, 2016. Construction and demolition debris from our activities is utilized to fill low-lying areas and repair road patches.

Non-biodegradable waste is separated and transported to designated disposal allotted by local authorities. The State Pollution Control Board regularly monitors our waste management practices at power stations and projects. To enhance our monitoring capabilities, we are upgrading our data management system on our intranet portal to allow for better tracking and management of waste disposal.

Waste Disposal Methods*	FY 2020-21 (MT)	FY 2021-22 (MT)	FY 2022-23 (MT)	FY 2023-24 (MT)
Recycled	0.00	0.00	0.00	69.47
Re-use	0.00	21.76	3.41	0.57
Other recovery operations	1364.46	676.49	950.62	0.01
Waste diverted to disposal*	FY 2020-21 (MT)	FY 2021-22 (MT)	FY 2022-23 (MT)	FY 2023-24 (MT)
Incineration	0.12	0.11	0.10	0.39
Landfilling	44.54	44.54	50.15	355.63
Other disposal operations	533.37	475.98	466.76	1853.72

Our Estate Management Services Division at the Corporate Office and the Township Complex at various Power Stations are committed to responsible waste disposal in Residential Colonies. We employ waste segregation mechanisms at the source and recovery measures including recycling into valuable products like compost-demonstrating how we can reprocess waste materials to be used in non-business operations- like horticulture. For instance, at the NHPC Residential Colony in the Corporate Office in Faridabad, all biodegradable waste is converted into compost and reused for horticulture. This initiative ensures that no waste is discharged into the environment, making the colony a 'zero waste producer complex.'

At the Kishanganga Power Station, domestic waste is responsibly managed in collaboration with the Municipal

Committee of Bandipora, Union Territory of Jammu and Kashmir. The Municipal Committee collects and transports the garbage from designated collection points to municipal landfill sites, ensuring proper disposal. Loktak Power Station has implemented initiatives to enhance the solid waste management system of the Ningthoukhong Municipal Council in Manipur. The station has provided a Vertical Plastic Baler and a Plastic Shredder [Scrape Grinding Machine], along with a water pump, to support waste management at the municipal solid waste dumping site in Ningthoukhong Ward No. III. This initiative also assists in managing the solid waste generated from the Loktak Power Station's office complex and residential colony. NHPC is committed to maintaining high standards of waste management by working closely with local authorities and adhering to regulatory guidelines.

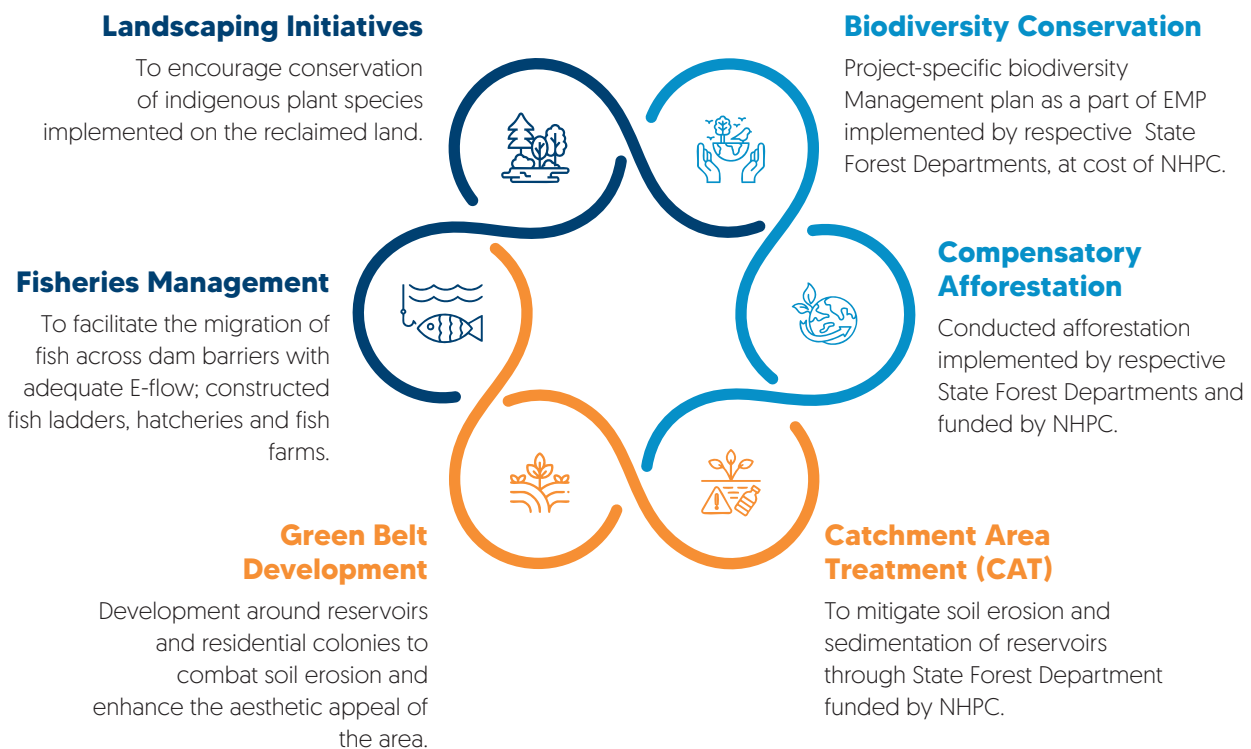
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# Biodiversity Conservation<sup>8</sup>

At NHPC, conservation of biodiversity is a part of our environmental stewardship- viewing it as a core. We take proactive measures and adhere to all applicable regulatory norms, as detailed in NHPC's Biodiversity policy- to protect and enhance ecosystems, ensuring the long-term health and resilience of natural environments, as depicted below.

One such measure is conducting comprehensive biodiversity studies during the Environmental Impact Assessment (EIA) study of a power project a power project, as per the EIA notification 2006 of MOEF&CC. This is a mandatory step for all hydroelectric projects before construction begins, ensuring that we thoroughly understand and mitigate any potential impacts on biodiversity. This step ensures that power projects undergo a comprehensive Biodiversity Risk Assessment, identifying and assessing Impact related risks and Dependency-related Biodiversity risks through this process.



## Process Description for Identifying and Assessing Biodiversity Risks

### Location-Specific Approach

NHPC employs a location-specific approach to biodiversity risk assessment. Each project undergoes a detailed Environmental Impact Assessment (EIA) during the Survey and Investigation (S&I) stage. This assessment considers the unique ecological characteristics of the project area, including local flora and fauna, habitat types, and potential environmental impacts, if any.

As part of the Environmental Impact assessment, Biodiversity impact and exposure is assessed, covering upto a 10 KM radius from all major components of a power project, as per Terms of reference (TOR) notified for an EIA study. Through

this practice, all of NHPC's power stations are covered in the Environmental impact assessment (as applicable).

### Methodologies and Frameworks Used

NHPC references established methodologies and frameworks for biodiversity risk assessment. These include:

**Environmental Impact Assessment (EIA) Studies:** Conducted to evaluate the potential environmental impacts of projects.

**Environmental Management Plans (EMP):** Developed based on EIA findings to outline project-site specific different conservation measures, including Compensatory Afforestation, CAT Plan, Green Belt, etc.

<sup>8</sup>GRI 304: Biodiversity 2016

**Biodiversity Conservation Plans:** Tailored to address the unique biodiversity challenges of each project site. These plans are implemented through the State Forest Department, at NHPC's expense.

## Holistic integration into Risk Management Systems

Biodiversity risk is integrated into NHPC's Risk Policy, as part of the Environmental risks identified. This integration ensures that biodiversity considerations are factored into broader project planning and decision-making processes, aligning with NHPC's commitment to sustainable development.

## Dependency-Related Biodiversity Risks

NHPC's risk assessments consider dependency-related biodiversity risks, such as:

**Ecosystem Services:** Evaluating how project activities might affect ecosystem services that local communities and wildlife depend on.

**Habitat Connectivity:** Assessing the potential for habitat fragmentation and its impact on species movement and genetic diversity.

**Indigenous Populations:** Prior to diversion of forest land for power projects, the consent of forest dwellers are sought through Gram Sabha meeting as per Forest Right Act, 2006. This process is undertaken by State Government.

## Impact-Related Biodiversity Risks

Impact-related biodiversity risks are also a key focus of NHPC's assessments. These include:

**Habitat Loss and Degradation:** Identifying areas where project activities might lead to habitat loss or degradation and implementing measures to mitigate these impacts.

**Species Conservation:** Assessing the potential impacts on threatened and endangered species and developing conservation strategies to protect them.

## Biodiversity loss mitigation

In light of the highlighted Dependency and Impact related Biodiversity Risks, NHPC employs various measures and initiatives to mitigate Biodiversity Loss risks

- » **Avoid:** The steps taken to avoid adverse environmental impact include the use of Technological levers and actions. Remote sensing GIS technology is utilized at the time of site selection and planning, helping to avoid any impact on protected areas.
- » **Regenerate:** Many measures are undertaken to ensure that impact areas are rejuvenated to its original state or even better. Green Belt development and Catchment Area Treatment are some of the measures used to regenerate the environment around NHPC's own sites.
- » **Restore:** NHPC undertakes activities to return an area to the original ecosystem that was present before impacts. Compensatory afforestation, Fisheries management, Landscaping initiatives to name a few. Net Present

Value [NPV] of forest land required for a power project, is paid to the Forest Department keeping in mind the ecological services delivered by the forest.

- » **Monitoring:** EIA report of a Project and NHPC's Six Monthly Progress Report on compliance of conditions of Environmental Clearance provides detailed information about biodiversity impact assessments and biodiversity management plans. The six- monthly report is available on NHPC's website and is updated on a six- monthly basis. For more details, project-specific reports are available on the following link, [https://www.nhpcindia.com/welcome/sub\\_page/29](https://www.nhpcindia.com/welcome/sub_page/29). Project-specific Biodiversity Management plans are formulated, for all power projects as part of the EMP designed at planning stage after conclusion of the EIA.
- » **Policy:** NHPC's Corporate Environment Policy serves as a guiding framework for our operations, emphasizing our commitment to generating clean energy while adhering to stringent environmental standards. This policy highlights the implementation of measures to mitigate environmental impacts and prioritize biodiversity conservation in all aspects of our activities, including project development, power station operations, and facility management. The Corporate Environmental Policy covers all our Power stations, Regional offices, Corporate office and extends to all our Value chain partners. Building on this foundation, NHPC's Biodiversity Policy, extends the principles outlined in our Corporate Environment Policy, 2022. This policy reaffirms our dedication to environmental protection and sustainable development.
- » **Reduce:** The Forest Appraisal Committee [FAC] of MoEFCC suggest use of non forest land for the construction of residential colonies in order to reduce the forest land requirement for construction of projects. In this way use of bio-diverse forest lands are greatly reduced and optimized.

Moreover, as mandated by the Van [Sanrakshan Evam Samvardhan] Adhiniyam, 1980, NHPC funds the compensatory afforestation [CA] Plan to offset the forest land diverted for project construction. This involves planting locally significant plant species and maintaining them according to CA schemes prepared by the State Forest Departments. Additionally, NHPC Conducts regular afforestation as part of its Green Belt Development plan and voluntary afforestation schemes.

In this reporting year, NHPC does not have any new projects in or around ecologically sensitive areas, hence there was no direct negative impact or violation related to environmental, biodiversity or ecological issues. NHPC has not paid any significant fines (> USD \$10,000) related to environmental or ecological issues in the past four financial years.



## Biodiversity Calendar

NHPC had published its 'Annual Calendar of Year 2024' focusing on promotion of Biodiversity Conservation. The calendar highlighted six wild animals which are officially recognized as the concerned State Animals of India. This calendar was distributed among employees posted across different power stations/projects/offices and prime external stakeholders to create awareness about diverse wildlife in India.

Name of Wildlife	Declared State Animal
Snow Leopard	UT of Ladakh, Himachal Pradesh
Kashmir Stag	UT of Jammu-Kashmir
Red Panda	Sikkim
Sangai	Manipur
Fish Cat	West Bengal
Gayal	Arunachal Pradesh



## Specific initiatives in Biodiversity Conservation

NHPC also engages in ex-situ conservation strategies, such as establishing Herbal Parks, Orchidariums, and Butterfly Parks. Through this comprehensive environmental management approach, we not only fulfill our corporate responsibilities but also lead in sustainable energy practices by integrating biodiversity conservation into our operations.

### Specific initiatives include:

- » **Biodiversity conservation strategies** have been implemented to enhance habitats for floral and faunal species, including anti-poaching measures at multiple Power Stations including Parbati-III, Parbati-II and Chamara-III in Himachal Pradesh through State Forest Department.
- » **Orchidariums:** Established at Lower Subansiri Project [Gerukamukh, Assam], Tippi [Arunachal Pradesh], and TLDP IV PS [West Bengal] to conserve diverse floral species. Habitat improvement for the one-horned rhinoceros under the CA scheme at TLDP-IV has been carried out by the Forest Department with NHPC's funding.
- » **Butterfly Park at Teesta-V PS [Sikkim]:** Created in collaboration with the State Forest Department, with partial funding from NHPC.

- » **Herbal Parks at Chamara Power Station Stage-I:** Developed with the expertise of the Research Institute in Indian System of Medicine, Mandi, Himachal Pradesh, these parks focus on conserving medicinal plants and enhancing community interest in health and environmental harmony.
- » **NHPC regularly conducts environmental awareness,** and plantation drives as part of initiatives such as Environment Day, Van Mahotsav, and Azadi Ka Amrit Mahotsav at all its offices, power stations, and project sites. These events include sapling distribution and plantation drives organized in collaboration with the forest department and circle office.
- » **Fish Mangement Plan:** To support fish migration, fish ladders are installed at four of NHPC's power stations: Uri-I, Tanakpur, Teesta Low Dam Stage-III, and Teesta Low Dam Stage-IV. Additionally, fish hatcheries or fish farms have been constructed under the Fisheries Management Plan at various NHPC projects. We have also signed a Memorandum of Understanding [MoU] with ICAR-DCFR, Bhimtal, and the Directorate of Fisheries, Government of Arunachal Pradesh, to provide consultancy for the Fisheries Management Plan of Subansiri Lower HEP.

## Environmental conservation and restoration initiatives

### » Environmental Flows [E-Flow]

NHPC is committed to generating hydropower responsibly, with a strong focus on preserving aquatic ecosystems, biodiversity, and addressing the needs of downstream users. To minimize the effects of changing flow patterns during different power generation phases, NHPC maintains environmental flows through modeling studies, adhering to regulatory standards to ensure environmental sustainability. For real-time monitoring of downstream water flow, e-flow meters are being installed within the dam structure

### » Reservoir Rim Stabilization

NHPC implements Reservoir Rim Stabilization efforts to enhance stability and prevent soil erosion from unstable regions such as landslides and slips surrounding the reservoir, based on the area's topography and suitability. Furthermore, NHPC promotes Green Belt Development to reduce soil erosion and prevent sediment from accumulating in the reservoir.

### » Catchment Area Management

NHPC actively employs a range of Catchment Area Management strategies across its projects to reduce soil erosion and reservoir sedimentation. These strategies, carried out by the State Forest Department

at NHPC's expense, encompass various engineering, bio-engineering, and biological techniques, including constructing check dams, gabion walls, catch water drains, brushwood or bamboo check dams, and planting native tree species.

### » Restoration of Dumping Sites and Construction Areas

NHPC identifies suitable dumping sites for muck disposal during project planning, crucial for managing tunneling and road work waste. Restoration efforts include soil placement, afforestation, and coordination with the State Forest Department for forest land. NHPC ensures meticulous restoration of dumping and quarry sites to maintain the natural landscape, using gabion structures, retaining walls, and afforestation. In Himachal Pradesh, the Mining Department authorizes crusher plant owners to collect muck from designated sites, preventing the need for new quarries and allowing the state to earn royalties. For instance, muck from the Tarera site [DS-3] of Parbati-III is used for aggregates. NHPC's proactive restoration enhances site aesthetics and prevents muck spillage, exemplifying environmentally responsible management. NHPC collaborated with the Institute of Himalayan Bio-resource Technology to restore sites in Parbati II power project, and results were published in journals.



Celebrating World Environment day at Corporate Office, Faridabad



# SOCIAL

*Empowering Communities,  
Enriching Lives!*

## **In this section:**

- » Human Capital Development
- » Diversity & Inclusion
- » Employee Engagement & Well-being
- » Human Rights
- » Sustainable Supply chain
- » Occupational Health and Safety
- » Corporate Social Responsibility



## Social Metrics for FY 2023-24

# 4929

Total permanent workforce

# Zero

 Fatalities  
of employees in FY 2023-24

# 1.41%

of Total Revenue spent on Employee Well-being in FY 2024

# INR 85.73<sub>cr</sub>

CSR spend for the FY 2023-24

## Mapping with SDGs





# Human Capital Development

## Empowering Our Workforce: The Key to NHPC's Success

Our workforce is the foundation of our organization and our most valuable asset. We prioritize their growth, well-being, and skill development, recognizing their essential role in our success. By promoting a positive work culture and focusing on career advancement and health, we commit to achieve high levels of employee satisfaction. This commitment has driven our growth and significantly contributed to our accomplishments.

At NHPC, Human Resource Development (HRD) is a strategic initiative designed to align employee competencies with the organization's goals. This approach ensures that the workforce remains adaptable, innovative, and capable of meeting current and future challenges in a dynamic industry. NHPC's commitment to HRD is evident in the exceptional team of skilled and dedicated professionals cultivated over the years. This team not only excels in their individual roles but also collaborates effectively to

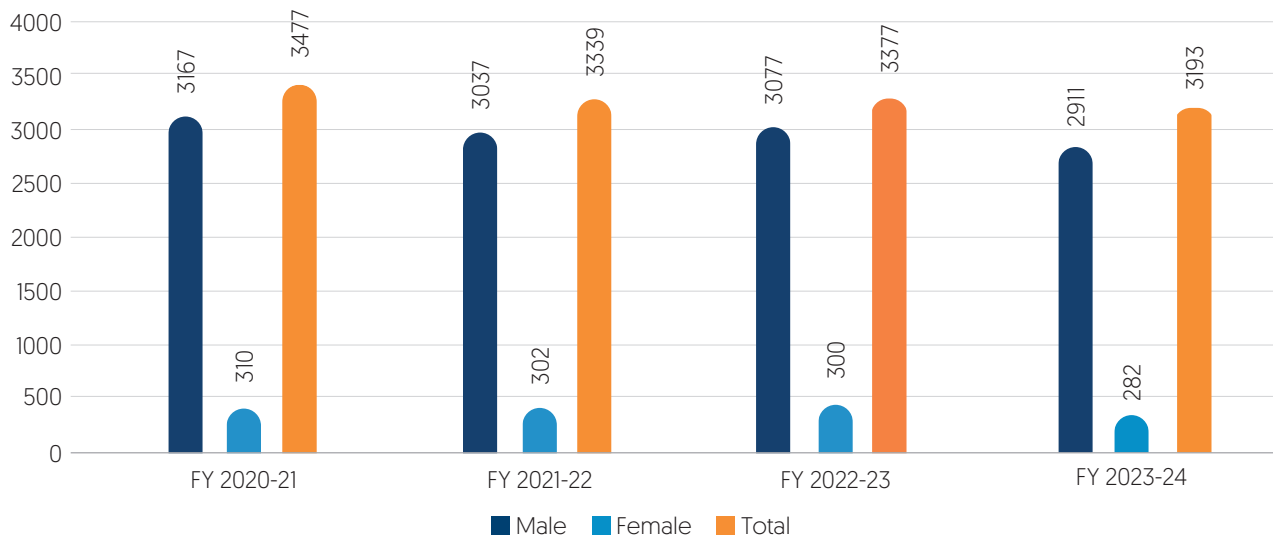
achieve NHPC's ambitious objectives. NHPC recognizes the significant potential within its workforce, understanding that skills, creativity, and dedication are crucial to its success. The HRD strategy goes beyond recruitment; it encompasses comprehensive methods to attract, develop, and retain top talent, ensuring NHPC remains competitive and responsive in an evolving industry landscape. By investing in HRD, NHPC enhances employee engagement and drives organizational effectiveness and sustainable growth. As of March 31, 2024, the organization boasts a dedicated workforce of 4,929 employees, comprising 3,193 executives and 1,736 non-executives. The total workforce comprises 3371 employees in NHPC (standalone) and 1,558 employees deputed to Joint Ventures (JVs).

Permanent employees and workers refer to the regular full time employees at NHPC. Regular employees include Executive and non executive roles. Non executive roles include Supervisor and workmen roles.

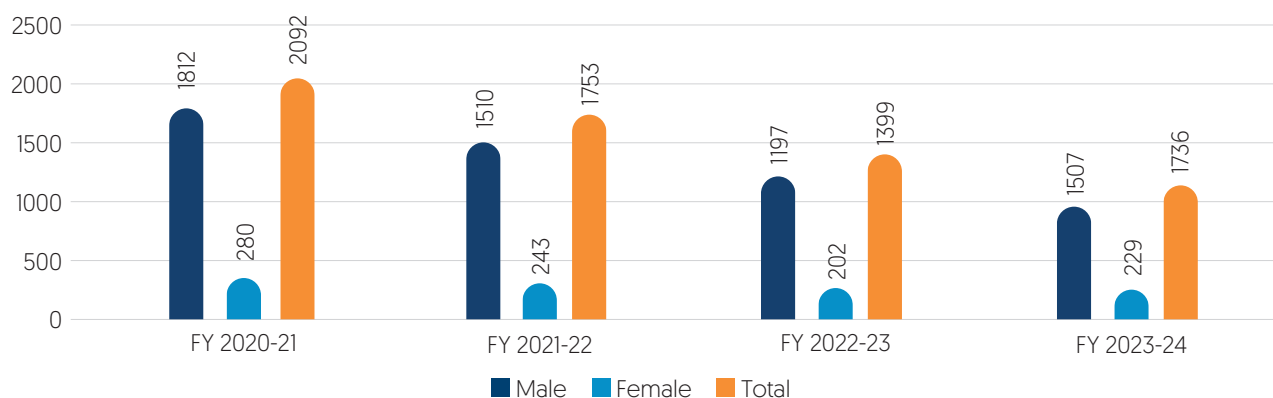


Labour laws training at Corporate Office, Faridabad

### No. of Permanent Employees at NHPC (Executive employees)



### No. of Permanent Workers at NHPC (Non-executive employees)



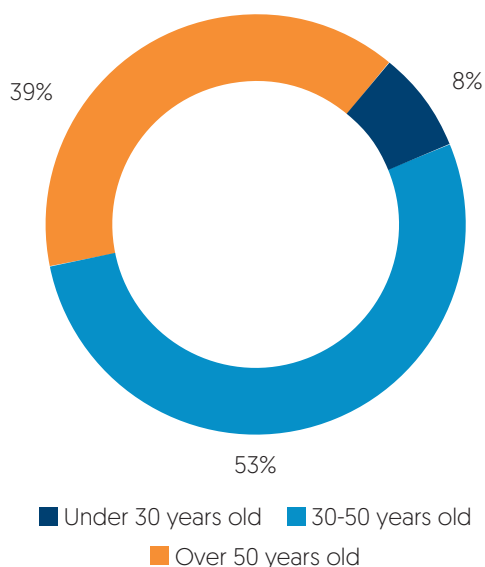
### Details of NHPC's Workforce

Workforce description	FY 2020-21			FY 2021-22			FY 2022-23			FY 2023-24		
	Male	Females	Total	Male	Females	Total	Male	Females	Total	Male	Females	Total
Management	235	12	247	240	13	253	1,734	149	1,883	427	23	450
Other Employees [Non Management]	2,932	298	3,230	2,797	289	3,086	1,343	151	1,494	2,484	259	2,743
<b>Total permanent employees at NHPC</b>	<b>3,167</b>	<b>310</b>	<b>3,477</b>	<b>3,307</b>	<b>302</b>	<b>3,339</b>	<b>3,077</b>	<b>300</b>	<b>3,337</b>	<b>2,911</b>	<b>282</b>	<b>3,193</b>
Permanent Workers	1,812	280	2,092	1,510	243	1,753	1,197	202	1,399	1,507	229	1,736
<b>Total Permanent workforce</b>	<b>4,979</b>	<b>590</b>	<b>5,569</b>	<b>4,547</b>	<b>545</b>	<b>5,092</b>	<b>4,274</b>	<b>502</b>	<b>4,776</b>	<b>4,418</b>	<b>511</b>	<b>4,929</b>
Contract Workers			6,264	6,241	781	7,022	6,241	781	7,022	6,756	878	7,634
<b>Total Workforce</b>	<b>11,833</b>			<b>12,114</b>			<b>11,798</b>			<b>12,563</b>		

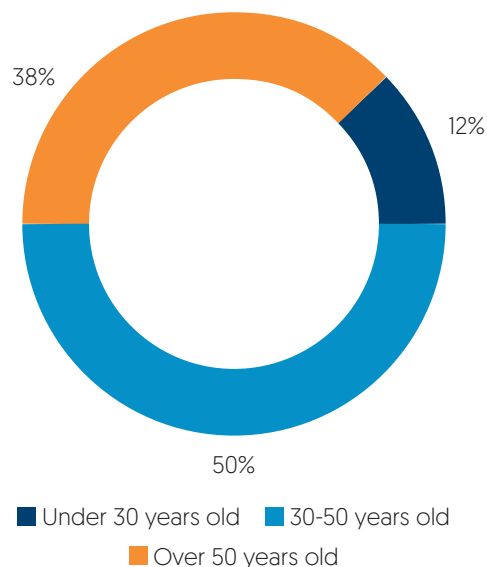


## Gender-wise age group distribution in FY 2023-24

**Permanent Employees-  
Female Age Group (%)**



**Permanent Employees-  
Male Age Group (%)**



**Note:**

Regarding Contractual Workers: NHPC do not engage Contractual Workers. However, NHPC awards Running & Maintenance /Service Contracts through tender process to the successful bidders/ contractor. In turn the Contractors engage his/her staff [Contract Labour] to execute the R&M/Service contracts at the establishments of NHPC Limited in accordance with the provisions under Contract Labour [Regulation & Abolition] Act 1970.

## New Employee Hires

At NHPC, we believe in the moto "Together We Grow." Our workforce is a dynamic blend of seasoned professionals and emerging talents, fostering a harmonious mix of perspectives, skills, and experiences. With representation from across India, our diverse team enhances our ability to leverage various strengths and viewpoints. This diversity acts as a catalyst for innovation, market agility, and overall organizational excellence. In line with our commitment to growth, we actively seek to hire new employees who bring unique skills and fresh perspectives, further strengthening our capabilities and contributing to our collective success.

Our gender distribution for FY 2023-24 highlights our commitment to inclusivity and diversity across all employee categories. In the Executive category, female representation

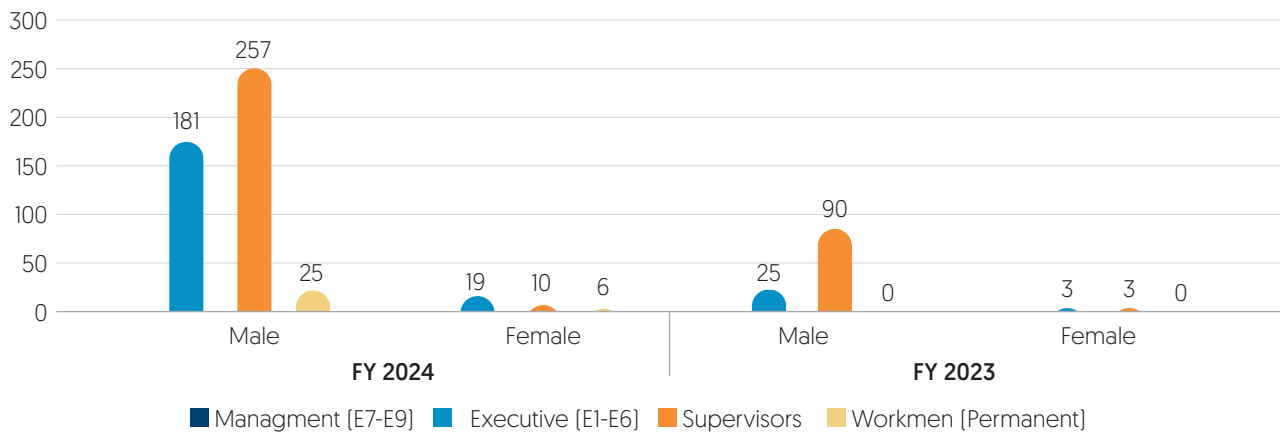
has increased from 3 to 19, demonstrating our efforts to promote gender diversity. This improvement demonstrates our efforts to promote gender diversity, although females still constitute approximately 9.5% of the total executive workforce. Similarly, in the Supervisors category, the number of female employees has increased from 3 to 10, representing about 3.8% of that group. Additionally, the Workmen category has made significant progress, with 6 females recorded among 31 total workmen, marking an important milestone in the organization's journey toward inclusivity.

## Details of New Hires

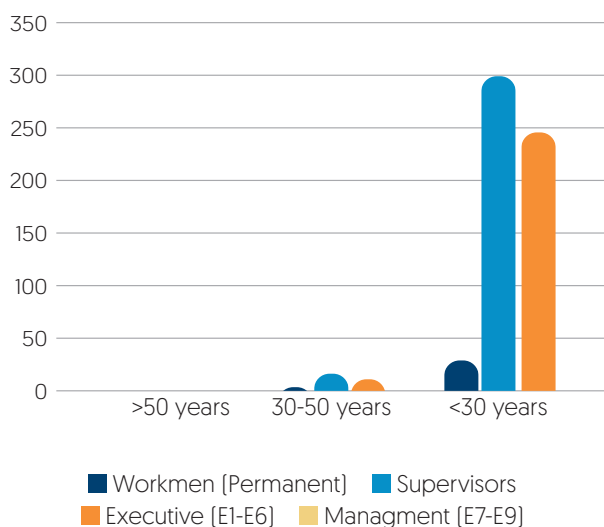
New hires based on Age	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Below 30 years	15	31	131	419
30 to 50 years (including 30 and 50)	1	11	26	78
More than 50 years	0	0	0	1

New hires based on Gender	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Male	10	32	151	463
Female	6	10	6	35

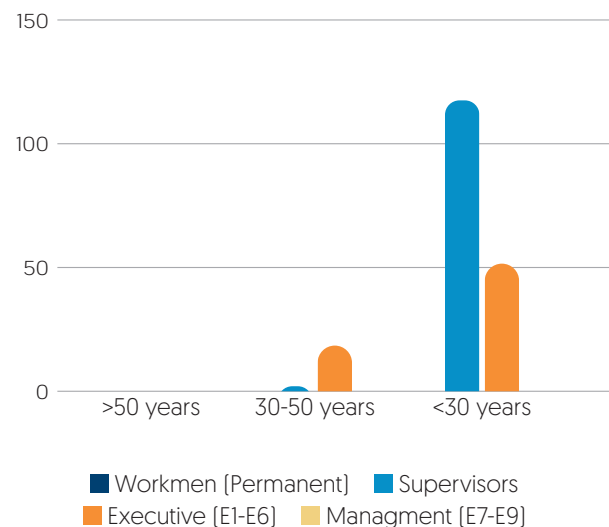
### Comparative overview of Category-wise New Hires



### Age-distribution of New Hires in FY 2023-24



### Age-wise distribution of New Hires in FY 2022-23



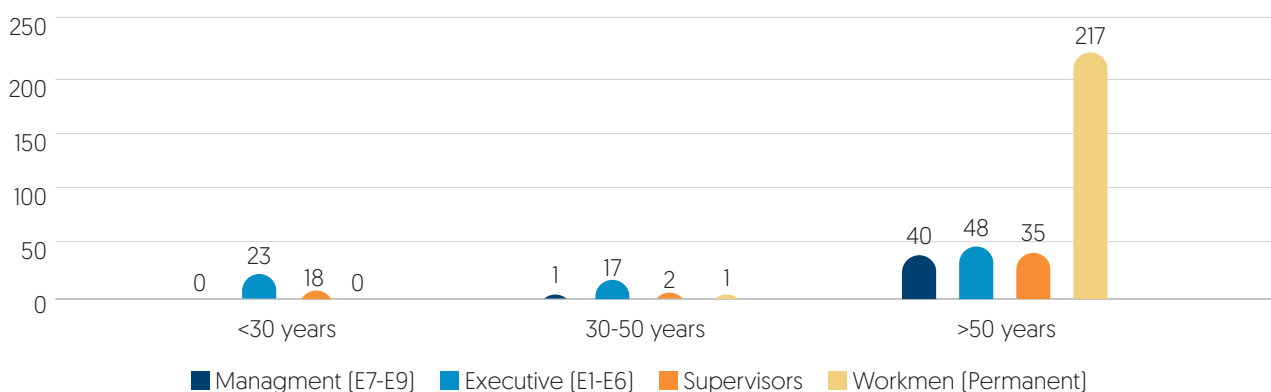


## Employee Turnover Rate

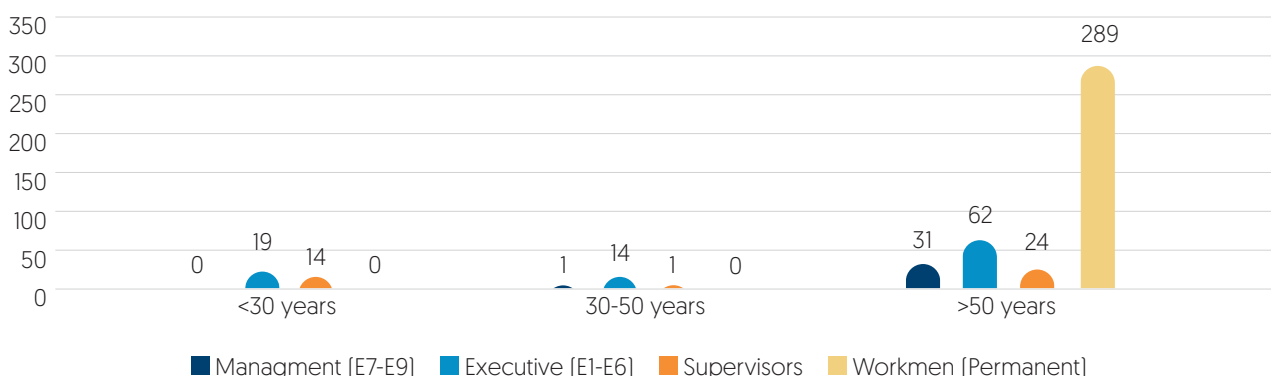
Employee turnover is considered to be a significant indicator of organizational health and employee satisfaction. The workforce turnover data for NHPC reveals notable trends across different age groups for financial years 2024 and 2023. In the Management category [E7-E9], turnover among employees over 50 years old increased significantly, rising from 31 to 40 departures, while turnover for those under 30 years remained stable [at zero], indicating effective retention of younger management personnel. In the Executive's category [E1-E6], turnover for younger employees (under 30 years) rose from 19 to 23, and the 30-50 years age group experienced a slight increase from 14 to 17. However, there was a decrease in turnover for executives over 50 years,

dropping from 62 in FY 2023 to 48 in FY 2024, suggesting improved retention efforts for this demographic. Among supervisors, turnover for those under 30 years increased from 14 to 18, while only 2 departures were recorded in the 30-50 years age group, indicating relative stability. There was, however, a significant rise in turnover for supervisors over 50 years, which rose from 24 to 35. For permanent workmen, there were no departures among those under 30 years in either financial year, but turnover for employees over 50 years decreased from 289 in FY 2022-23 to 217 in FY 2023-24, reflecting a substantial number of retirements. The Data includes the employees deputed in Joint ventures of the NHPC.

**Age-wise Workforce Turnover (FY 2023-24)**



**Age-wise Workforce Turnover (FY 2022-23)**

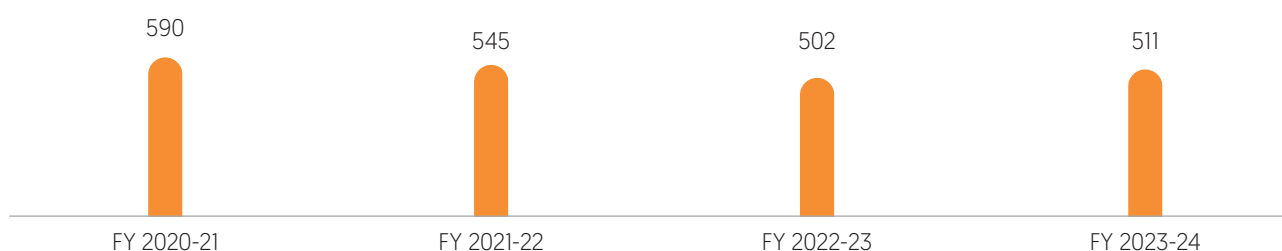


# Diversity and Inclusion<sup>9</sup>

NHPC places paramount importance on diversity and inclusion [D&I], reflecting its commitment to creating a workplace environment where individuals from diverse backgrounds can thrive. The D&I initiatives at NHPC aim

to foster a culture in which every employee feels valued, respected, and empowered to contribute fully to the organization's goals.

## Permanent Female workforce



**10.37%**

overall woman employees strength

**4.67%**

women in STEM-related positions \*\*

**4.8%**

women in management positions in revenue generating functions\*

**5.45%**

women in junior management positions\*\*\*



Unity Run organized at Corporate Office, Faridabad

\*Revenue-generating functions refer to line management roles in departments such as sales, or that contribute directly to the output of products or services. May also be referred to as roles that have P&L responsibility. STEM: Science, technology, engineering and mathematics. [E7-E9]

\*\*Excluding IT positions

\*\*\*Junior management refers to employee bands E7 to E8

<sup>9</sup> GRI 405: Diversity and equal opportunity



NHPC's commitment to diversity and inclusion [D&I] is exemplified by its Equal Opportunity Policy, which reinforces the organization's dedication to maintaining a fair and inclusive workplace. This policy ensures that every member of NHPC's workforce, regardless of gender, nationality, community, religious beliefs, or physical and mental abilities, is treated with the utmost respect and dignity. While NHPC is registered under the Companies Act, 1956 in India and listed on the NSE and BSE stock exchanges, Indian regulations do not mandate companies to collect information on ethnicity or racial details. Link of the NHPC policy attached here. [\[https://www.nhpcindia.com/assess/pzi\\_public/gallery/16945035260.pdf\]](https://www.nhpcindia.com/assess/pzi_public/gallery/16945035260.pdf)

NHPC acknowledges that embracing diversity is both a moral responsibility and a strategic benefit. By utilizing the varied talents and viewpoints of its workforce, the organization fosters an environment that encourages innovation, creativity, and collaboration. NHPC's unwavering commitment to diversity and inclusion [D&I] not only cultivates a vibrant workplace but also enhances its reputation as a socially responsible and progressive organization. NHPC is presently participating in the Employee Satisfaction Survey, being conducted by 'Great Place to Work Institute, India'. Following which NHPC may be listed in the Annual Best Workplaces List.



International Women's Day at Corporate Office, Faridabad



### Training and Development

Women employees are regularly nominated for various programs and seminars focused on women empowerment and related issues.



### Maternity Leave

Women employees are entitled to maternity leave for up to 180 days.



### Child Care Leave

Women employees are eligible for childcare leave with pay for up to 730 days to care for two children up to the age of 18 years [no age limit for children with a minimum disability of 40%].



### Crèche Facility

The NHPC Corporate Office in Faridabad provides a crèche facility for employees with infants aged 6 months to 6 years.



### Medical Dependents

Women employees have the option to declare their parents or parents-in-law as dependents under medical rules.



### Internal Complaints Committees (ICCs)

ICCs have been established at all organisation locations to address grievances and complaints related to the sexual harassment of women employees.



### Selection Committees

Women representatives are nominated to the selection boards/committees responsible for the promotion and recruitment of employees.

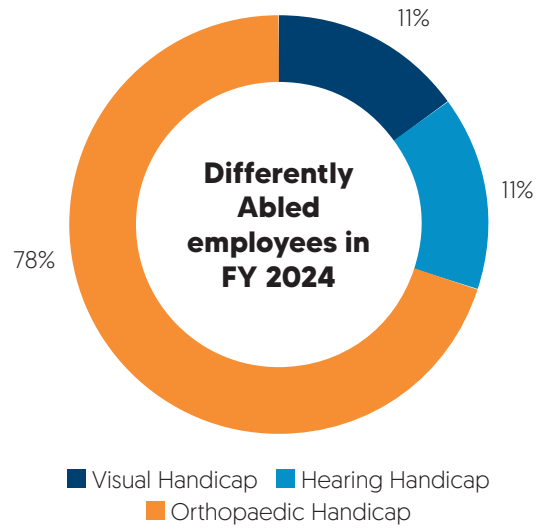


### WIPS Cell

The Women in Public Sector (WIPS) Forum Cell has been constituted at the Corporate Office.

## Diversity Drives Us: Every Ability Matters

NHPC is committed to the welfare of differently abled employees and has implemented various measures to support their needs. The organization recognizes the importance of fostering an inclusive environment and provides necessary accommodations to ensure accessibility and comfort in the workplace. With a representation of 15 visually impaired (VH), 7 hearing impaired (HH), and 106 orthopedically impaired (OH) employees, including the employees deputed in JVs, NHPC continues to promote initiatives that enhance their professional development, facilitate their integration into the workforce, and ensure equal opportunities for career advancement. Through dedicated resources and support systems, NHPC aims to empower differently abled employees to thrive in their roles and contribute meaningfully to the organization.



POSH and Gender sensitization training at Corporate Office, Faridabad



We celebrated the International Day of Persons with Disabilities with great enthusiasm under the theme 'Amplifying the Leadership of Persons with Disabilities for an Inclusive and Sustainable Future'. We acknowledge the courage and dedication of our Divyang employees with praises for their determination, resilience, and various achievements in both their professional and personal lives. NHPC reiterated its commitment to promoting inclusivity and maintaining an ideal workplace for its Divyang employees, ensuring a working culture that is sustainable and inclusive for all.

A special film was screened on this occasion, showcasing the inspiring achievements of NHPC's Divyang employees and illustrating how they have overcome challenges and made significant contributions to NHPC's success.

The film, available on YouTube at <https://www.youtube.com/watch?v=VDwrwRJxNH4> showcases the dedication,

resilience, and significant contributions of these employees to the organization. This inspiring documentary aims to celebrate their success stories and promote a message of empowerment and inclusion within the workplace. It is a testament to the strength and determination of the Divyang community at NHPC.

Ms. Arunachalam Nalini, an employee of NHPC's Finance Division was applauded for her exceptional success at the 7th World Dwarf Games 2017, held from August 4-12 in Ontario, Canada. Upon her return, we had the distinct honor of felicitating her exemplary performance. She distinguished herself by securing a total of five medals: a gold medal in Boccia [Team Event] and four bronze medals in Badminton Women's Singles, Badminton Women's Doubles, Javelin Throw, and Discus Throw. NHPC was privileged to sponsor her participation in this prestigious event.



*Orientation Session held at Corporate Office, Faridabad*



*Training programme organised for Divyang employees*

## Initiatives for Differently Abled Employees



### Exemption from Rotational Transfer

Differently abled employees and employees who are caregivers to dependent specially-abled children are exempted from rotational transfer. They are given the option to choose their preferred place of posting at the time of transfer/promotion.



### Artificial Limbs Assistance

Reimbursement of the cost of artificial limbs is provided, along with an interest-free loan for employees and their dependents.



### Vocational Training Assistance

Financial assistance is provided to employees who become physically handicapped while in service for vocational training.



### Medical Benefits for Disabled Children

There is no age restriction for considering specially-abled children as dependents for medical and other benefits.



### Hearing Aid Reimbursement

Reimbursement of expenses for the purchase of hearing aids is given to hearing-impaired employees and their dependents.



### Smart Stick and Smart Glass for Visually Impaired

Reimbursement towards Smart Stick/Smart Glass for visually impaired is allowed to employees and their dependents once in 2 years, which is allowed beyond the OPD ceiling.

## Gender Pay Indicator

The ratio of basic salary and remuneration of women to men is an important metric for assessing gender pay equity within an organization. We strive to provide fair and equitable compensation for all employees, regardless of gender. By regularly reviewing our pay practices and implementing transparent compensation policies, we ensure that women and men receive equal pay for equal work. Below is the breakup of the basic salary and total remuneration (including other allowances) for male and female employees:

Average Basic Salary and Remuneration				
Categories	Male		Female	
	Basic Salary (in INR)	Basic + Other allowances (in INR)	Basic Salary (in INR)	Basic + Other allowances (in INR)
Executive Level (E1-E9)	210,387	3,267,133	197,450	2,967,463
Management Level (E10-E11)	279,439	5,731,480	-	-
Non-executive Level (Supervisor & Workmen)	106,732	1,534,455	103,553	1,361,581



# Employee Engagement and Well-being

## Employee Trainings Programs<sup>10</sup>

NHPC organizes various developmental programs for its employees, focusing on behavioural (soft skill), managerial skills, and core competencies. These programs, conducted in-house or through premier management and engineering institutions, keep employees updated with the latest developments in their fields. Special outbound training programs for women cover management, leadership, and teamwork, with women executives nominated for international training in HRM and the Power Sector to enhance their professional skills. NHPC also sponsors executives to

acquire higher qualifications and specializations, boosting their productivity and effectiveness. Workshops and knowledge-sharing sessions, held in both physical and virtual modes, update employees' knowledge bases. Additionally, special programs on Corporate Governance are conducted for senior officials. NHPC reports an average of 40 hours of training and development per full-time employee [FTE]. This substantial investment underscores the organisation's commitment to continuous employee growth and skill enhancement.

Average hours of training per year per employee in FY 2023-24 (Hrs.)

Employee Category	Male (Training hours)	Female (Training hours)
Management [E7-E9]	87	67
Executives [E1-E6]	54	65
Supervisor	6	10
Workmen	3	4

Total number of employees receiving trainings and development programs in FY 2023-24

Employee Category	Male (Nos.)	Female (Nos.)
Management [E7-E9]	362	22
Executives[E1-E6]	1920	226
Supervisor	153	31
Workmen	126	29



Online Central Library portal

<sup>10</sup>GRI 404: Training and Education

## Employee Development Programs

Our Employee Development Plan 2023-24 is designed to address the diverse training and development needs of the employees, ensuring their holistic growth and alignment with organizational goals. This comprehensive plan includes a variety of programs that cater to different aspects of professional and personal development. From advanced

renewable energy technologies to essential health and safety practices, these programs aim to equip employees with the necessary skills and knowledge to excel in a dynamic business environment. The details of some of the employee development programs are listed below:

Name of the program	Brief	Impact	No. of participation [FTEs]
Energy Transition and Hydrogen Economy	This program focuses on the transition to renewable energy sources and the emerging hydrogen economy. It covers the latest advancements, technologies, and strategies in the field of renewable energy.	Enhanced knowledge and skills in renewable energy technologies, improved project implementation, and increased efficiency in energy management.  Increased awareness and commitment to sustainable practices, fostering innovation and leadership in renewable energy.	0.8%
Yoga, Health and Lifestyle Management	This program aims to improve the overall health and well-being of employees through yoga, stress management, work-life balance, and natural healing practices.	Improved physical health, reduced absenteeism, and increased productivity.  Enhanced mental well-being, better stress management, and improved work-life balance.	6.3%
General Safety Awareness, Occupational Health and Safety, Electrical Safety, Fire Safety, First Aid, Statutory training as per Electricity Rules, etc.	This program provides comprehensive training on various safety protocols and health measures to ensure a safe working environment. It includes topics such as electrical safety, fire safety, first aid, and statutory training as per electricity rules.	Reduced workplace accidents, compliance with safety regulations, and improved emergency response.  Increased safety awareness, enhanced safety culture, and improved employee morale.	6.6%



## Employee Performance Reviews

NHPC prioritizes employee growth through regular performance and career development reviews. These reviews facilitate constructive conversations between employees and Appraising Authority about achievements, expertise, and growth opportunities, ensuring alignment with organization objectives. A Management by Objective (MBO) approach, is followed- where permanent employees undergo these reviews to receive structured feedback, establish career goals, and enhance their professional development. NHPC's Performance Appraisal Report (PAR) system sets out a detailed assessment against a comprehensive list of Key performance parameters like competency, value, potential, integrity among others. This provides a holistic [360 degree] feedback and assessment

of an individual employees performance during the year. These Performance reviews are conducted annually for all permanent employees at the end of the financial year.

NHPC's structured appraisal system involves three roles: the Initiating Officer, Reviewing Officer, and Accepting Officer. For personal staff attached to senior officials, one individual serves in all three roles. Appraisals objectively assess capability, performance, personality, strengths, and scope for improvement, with a predetermined grading ceiling for each category. The HR Division ensures completeness and fairness, forwarding appraisals to the PAR cell. During the Annual Raising Day celebration, the "Star of NHPC" award recognizes outstanding employee performance.

Employees receiving regular performance reviews in FY 2023-24 (No. s)		
Employee Category	Male	Female
Management (E7-E9)	424	23
Executives(E1-E6)	2484	259
Supervisor	579	52
Workmen	928	177

## NHPC Enhances Employee Well-being with Benefits Package

NHPC offers a wide range of employee benefits that prioritize workforce well-being and satisfaction. It provides medical facilities to its employees and their dependent family members through a structured framework outlined in its Medical Attendance Rules and the Retired Employees' Health Scheme (REHS). NHPC has also implemented e-Sushrut, Hospital Management Information System (HMIS) to enhance healthcare services for its employees and their families managed by C-DAC. Regular employees receive extensive coverage through the Group Personal Accident Insurance Scheme and the Employee's Deposit Linked Insurance Scheme (EDLI).

Additionally, NHPC supports employees with House Building Advance (HBA), Advance for purchase of Conveyance and NHPC Children Higher Education Advance. The holistic benefit package reflects NHPC's commitment to offering competitive compensation, recognizing the significant contributions of its employees. By providing these benefits, NHPC not only shows appreciation for its workforce but also supports their financial security and personal development, fostering a caring and professional environment where employees can thrive.

Defined Contribution Plans	
Plan	Description
Social Security Scheme	The company offers a monthly matching contribution for each employee, designed to support families in the event of an employee's death or permanent total disability.
Employees-Defined Contribution Superannuation Scheme (EDCSS)	The organization provides a superannuation scheme where employees contribute 5% of their Basic Pay and Dearness Allowance to secure pension benefits.

### Defined Contribution Plans

Plan	Description
Provident Fund	The Company provides a fixed contribution to the Provident Fund at predetermined rates. This contribution is directed to a separate Trust, which invests the funds in permitted securities.
Gratuity	Employees with five or more years of service receive a gratuity of 15 days per year, up to INR 0.20 Crore, as per the Payment of Gratuity Act, 1972, upon superannuation, resignation, termination, disablement, or death.
Retired Employees Health Scheme [REHS]	Provides medical facilities to retired employees, their spouses, and eligible dependent children in company and empaneled hospitals.
Allowances on Retirement/Death	Offers relocation assistance to employees after retirement and to families of deceased employees, determined through actuarial valuation.
Memento on Superannuation	Employees receive a memento valued at INR 10,000 upon reaching superannuation.

### NHPC Employees Family Economic Rehabilitation Scheme

Implemented in April 2021, this scheme provides financial assistance to employees in the event of Permanent Total Disability and to families in the event of death, provided these occur during the employee's tenure with the company.

### Leave Benefits

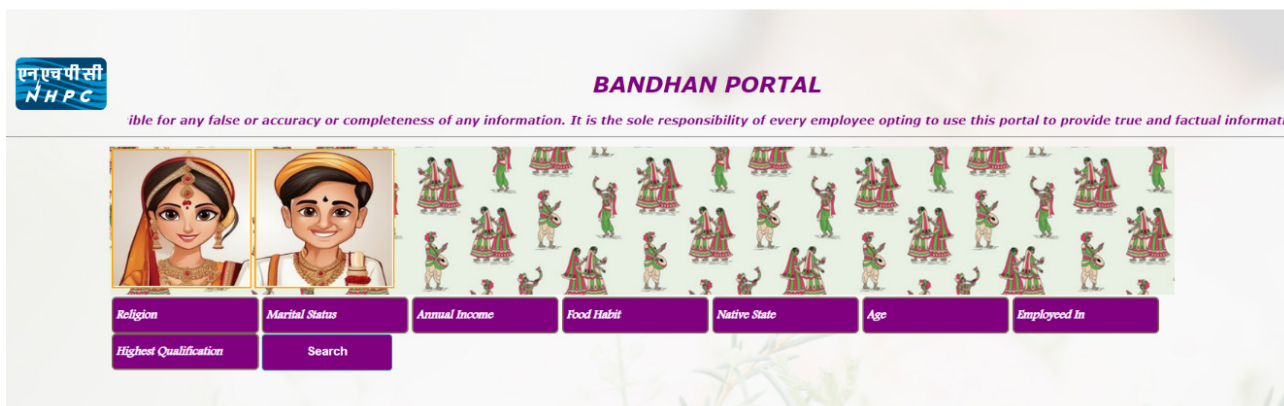
Employees receive earned leave and half-pay leave, accumulating annually at rates of 30 and 20 days respectively. These leaves can be converted into cash while still employed.

We provide paid parental leave benefits to our employees, ensuring they have the support they need during this important time. Women employees may avail maternity leave upto 180 days, and 12 Weeks Maternity Leave is allowed to Commissioning mothers on delivering child through surrogacy. As a result, we have achieved outstanding return to work and retention rates for permanent employees and workers who took parental leave. Both male and female employees and workers have demonstrated a 100% return to work rate and a 100% retention rate. This remarkable consistency across all categories highlights our supportive work environment and effective parental leave policies, ensuring that all employees feel valued and motivated to continue their careers with us after taking parental leave.

NHPC is dedicated to fostering a supportive and inclusive environment for its employees and their families, recognizing the importance of work-life balance and community connection. The Aangan Creche Facility underscores this commitment by offering dependable childcare services, enabling working parents to engage fully in their professional roles while ensuring their children are cared for in a safe and nurturing setting.

In addition, NHPC has launched the "Bandhan" portal, a unique initiative designed to facilitate matrimonial connections among NHPC employees and their children across diverse geographies, from remote areas to urban centers. This platform not only strengthens community bonds but also underscores NHPC's role in supporting the personal lives of its workforce. Together, these initiatives reflect NHPC's holistic approach to sustainability, prioritizing both employee well-being and community engagement.





Screenshot of online Bandhan portal by NHPC

## Human Rights<sup>11</sup>

NHPC is committed to upholding and advancing the fundamental human rights of all its stakeholders. The organization incorporates human rights principles into its operations and business practices, adhering to internationally recognized standards such as the Universal Declaration of Human Rights and the conventions established by the International Labour Organization. Additionally, NHPC emphasizes the protection of rights as defined in the Constitution of India.

The organisation actively safeguards human rights in key areas, including its supply chain, labour rights, community interactions, and security measures. Human rights considerations play a crucial role in NHPC's strategic decisions, including those related to acquisitions, mergers,

and investments. During the reporting period, NHPC maintained a clean record, with no reported human rights violations, which underscores its commitment to ethical practices and respect for human dignity. This dedication reinforces NHPC's standing as a responsible corporate entity and builds trust and collaboration with stakeholders.

NHPC's Human Rights Policy reflects its strong commitment to essential labour standards, explicitly prohibiting child labour and forced or compulsory labour within its supply chain and facilities. In the 2023-24 period, NHPC did not receive any reports of child labour or forced labour, affirming its steadfast dedication to upholding human rights and ensuring compliance with ethical labour practices throughout its operations.



Changing Face of Retirement

<sup>11</sup> GRI 205: Anti-Corruption

GRI 406: Non-Discrimination

GRI 408: Child Labour

GRI 409: Forced or compulsory labour

## Commitment to a Discrimination-Free and Harassment-Free Workplace at NHPC in FY 2023-24



NHPC maintains a strict zero-tolerance policy against unlawful discrimination or harassment directed at its employees throughout its value chain. The organisation is committed to protecting individuals from discrimination based on age, gender, marital status, economic status, disability, race, national or regional origin, ancestry, indigenous status, personal beliefs, religion, political affiliation, sexual orientation, and HIV/AIDS. This commitment is embedded in all aspects of NHPC's operations and reinforced through targeted training programs that promote alignment with these principles.

In addition, NHPC enforces rigorous measures to prevent sexual harassment in the workplace, consistent with its zero-tolerance stance. The organisation has implemented a comprehensive policy for the Prevention, Prohibition, and Redressal of Sexual Harassment of Women at the Workplace, in compliance with the Sexual Harassment of Women at Workplace (Prevention, Prohibition & Redressal) Act, 2013. Internal Complaints Committees are established at all NHPC locations to effectively manage complaints of sexual harassment. The committee at the Corporate Office in Faridabad is chaired by a senior female officer and includes a representative from a non-governmental organization

[NGO] to ensure impartiality and support. The organisation has established clear protocols and proactive measures to address and prevent sexual harassment, categorizing it as misconduct within the comprehensive "NHPC Conduct, Discipline and Appeal Rules." The organization also conducts extensive training sessions to ensure employees are familiar with these policies and procedures.

The organization has also implemented anti-corruption operations to assess and mitigate risks related to corruption. We prioritize communication and training about our anti-corruption policies and procedures to ensure all employees are well-informed and vigilant. As a result of these proactive measures, we are proud to report zero confirmed incidents of corruption or Sexual Harassment, and no actions required to address such issues in the FY 2023-24. This reflects our commitment to maintaining the highest standards of integrity and transparency in all our operations.



# Sustainable Supply Chain<sup>12</sup>

NHPC is dedicated to promoting sustainability throughout its supply chain by utilizing innovative procurement strategies that encourage a socially responsible ecosystem. The organization's Sustainable Procurement Policy is designed to ensure efficiency, transparency, economy, fairness, integrity, and value for money. This is achieved by following established standards, policies, procedures, and guidelines for all procurement activities across the Corporate Office and its Projects/Power Stations. NHPC expects its suppliers to adhere to environmental, social, and governance (ESG) standards, which include directives concerning Occupational Health and Safety, Labour and Human Rights, Environmental Sustainability, and Business Integrity and Ethics.

To effectively manage its suppliers, NHPC implements a thorough screening process to identify key suppliers and provides them with necessary support—both remotely and on-site—to assist with corrective actions and improvements, as and when required. During FY 2023-24, total number of tier-1 supplier were 3083. All the suppliers directly supply goods & services to NHPC and therefore, NHPC does not have any non-tier-1 suppliers. NHPC utilizes the Government of India's e-tendering platform, GeM, to effectively engage with a diverse array of vendors and suppliers, ensuring

streamlined coordination and efficient resource allocation. All tender processes are conducted through the Central Public Procurement [CPP] Portal and the GeM Portal, both of which comply with the Government of India's guidelines for transparent procurement practices. This approach promotes fairness in the bidding process, providing equal opportunities for all interested parties to participate.

Supplier Screening	Supplier Information
Total number of Tier-1 suppliers	3083
Total number of significant suppliers in Tier-1	3083
% of total spend on significant suppliers in Tier-1	100%
Total number of significant suppliers in non-Tier-1	0

NHPC strictly adheres to relevant government policies governing public procurement, including the 'Public Procurement [Preference to Make in India] Order' 2017, the Public Procurement Policy for Micro and Small Enterprises [MSEs] Order 2012, and policies related to land border sharing, among others. Additionally, NHPC has established its own preferential policy for project-affected families.

<sup>12</sup>GRI 204: Procurement Practices

GRI 308: Supplier Environmental Assessment

GRI 414: Supplier Social Assessment





Tenders are evaluated by a dedicated committee following the guidelines set by the Central Vigilance Commission [CVC], and the assessment criteria for vendors and suppliers are comprehensive, incorporating social, environmental, and governance factors. Under the integrity pact, both bidders/contractors and NHPC commit to maintaining transparency throughout the tendering process and the execution of contracts.

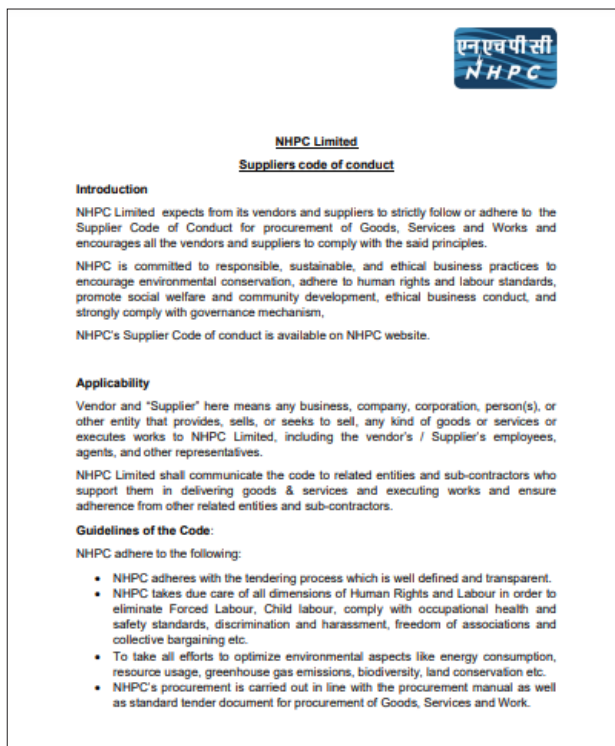
NHPC adheres to the International Competitive Bidding [ICB] system to select the most qualified agencies for its hydropower projects. The evaluation process aligns with internationally recognized ICB practices, as well as the guidelines set by the Central Vigilance Commission [CVC] and Government of India standards. In line with this commitment, NHPC has established a Memorandum of Understanding [MoU] with Transparency International India to effectively implement the Integrity Pact Programme in accordance with CVC guidelines. Furthermore, the grievance redressal policy, detailed in the bid and tender

documents, incorporates the use of Independent External Monitors [IEMs] to ensure accountability and address any concerns that may arise during the procurement process.

NHPC diligently follows the latest directives from the Government of India on Public Procurement, prioritising indigenous products and fostering opportunities for Micro and Small Enterprises [MSEs] and Start-Ups. NHPC achieved significant milestones in its procurement efforts during the financial year 2023-24. With a procurement rate of 55.74% of Goods produced and Services rendered by Micro and Small Enterprises [MSEs], surpassing the mandated target of 25% set by the Ministry of Micro, Small and Medium Enterprises, Government of India, NHPC demonstrates its commitment in supporting small scale enterprises. NHPC's procurement included 3.46% from SC/ST MSEs and 5.15% from women owned MSEs. These efforts benefited a total of 2420 MSEs, including 120 owned by SC/ST entrepreneurs and 385 owned by women entrepreneurs.



## 'Supplier's Code of Conduct'



and governance parameters related to sustainable procurement. Also, consultations and pre-bid meetings are held with suppliers for further knowledge sharing and aligning them with NHPC's processes and expectations.

Vendors and suppliers are expected to deliver products and services of the desired quality that comply with all applicable standards, including those related to product packaging, labeling, and after-sales service obligations. They must adhere to human rights and labour laws concerning forced labour, child labour, occupational health and safety, discrimination and harassment, as well as respecting freedom of association and collective bargaining. Suppliers are also required to refrain from engaging in corrupt practices, bribery, fraud, collusion, and coercion, while complying with all relevant laws and regulations in the territories where they operate. Additionally, suppliers should strive to provide a safe, healthy, and clean working environment for their employees and extended workforce, while also focusing on environmental sustainability and resource efficiency, particularly in managing greenhouse gas emissions, water resources, waste, and hazardous materials. Under the integrity pact, both bidders/contractors and NHPC commit to maintaining transparency throughout the tendering process and the execution of contracts.

NHPC requires its vendors and suppliers to adhere strictly to the Supplier Code of Conduct for the procurement of Goods, Services, and Works, encouraging compliance with these principles. The organization is committed to responsible, sustainable, and ethical business practices that promote environmental conservation, uphold human rights and labour standards, and foster social welfare and community development, aligning with the ESG landscape.

NHPC follows a well-defined and transparent tendering process that addresses all dimensions of human rights and labour issues, including the elimination of forced labour and child labour, compliance with occupational health and safety standards, and prevention of discrimination and harassment. The process also respects freedom of association and collective bargaining and incorporates environmental considerations, with adherence to government guidelines on minimum wages and labour laws included as minimum qualification criteria in tender documents.

Procurement at NHPC is conducted according to the procurement manual and standard tender documents, evaluating vendors based on clearly defined terms and conditions that encompass various social and environmental aspects. With the intention of Supplier development, NHPC regularly organizes training programs for employees focusing on a range of socio-environmental



Upstream Reservoir- Kishanganga Power Station

## NHPC's ESG Expectations from Suppliers: Promoting Sustainable and Responsible Sourcing

The Supplier's Code of Conduct of NHPC ensures that suppliers meet ESG framework requirements, fostering a collaborative approach to sustainability. This initiative aims to build a responsible and resilient business ecosystem. Most of NHPC's vendors and suppliers are reputable companies with strong ESG practices. NHPC has established procedures

for sustainable sourcing, ensuring that all procurements are sustainable and safe. These procedures are comprehensive and sourced from various channels. NHPC prioritizes ensuring that its operations and suppliers do not negatively impact the environment or social stakeholders.



These efforts highlight NHPC's shared values and principles guiding its collaboration with the supply chain. By adhering to these standards, NHPC aims to foster a responsible and sustainable business environment, integrating social, environmental, and ethical considerations into collective success.



# Occupational Health & Safety<sup>13</sup>

NHPC is dedicated to conducting its business with a strong environmental conscience, ensuring protection during the construction and operation phases of its hydroelectric projects. The organisation operates in a socially responsible manner, promoting sustainable development, safe workplaces, and enhancing the quality of life for employees, customers, and the community. NHPC recognizes its obligation to conserve and protect the environment. During the investigation stage, potential environmental impacts are assessed and identified. Environmental Management Plans (EMPs) are developed and implemented to mitigate adverse effects. Compliance with safety systems, procedures, and environmental laws is regularly monitored.

The Safety Manual & Safety Policy ([https://www.nhpcindia.com/assests/pzi\\_public/gallery/16857028460.pdf](https://www.nhpcindia.com/assests/pzi_public/gallery/16857028460.pdf)) has been prepared which provides the detail of Scope, Applicability of Laws, Standard Operating Procedures (SOPs), Operations Control Procedures, Roles & Responsibilities etc. for effective Safety Management. All Power Stations/ Projects have prepared their Crisis & Disaster Management Plan. Safety Policy & Safety Manual has been implemented at all Power Stations/ Projects of NHPC with a target of Zero hazard potential at workplace. In addition of the above, Occupational Safety, Health and Working Conditions Code, 2020/ Factories Act, 1948, Building and Other Construction Workers Act 1996, Disaster Management Act, 2005, the Environment Protection Act, 1986, Hazardous Waste Rules, 2016, National Building Code and other applicable, Acts,

Rules & Standards are being followed at all Power Stations/ Projects.



International Yoga Day 2023 at Corporate Office, Faridabad

## “NHPC’s Commitment to Safety and Environmental Excellence”

### 1. Comprehensive Safety Audits and Training:

- » Annual internal and external safety audits are conducted to identify, assess, and control hazards. Mock drills, training sessions, and awareness camps are organized to prepare employees and stakeholders for potential threats and risks.

### 2. Early Warning Systems and Public Alerts:

- » Early warning systems are installed at all power stations and projects to receive upstream river warnings. Hooters are installed at dams and powerhouses to alert the public before water release.

### 3. ISO Certifications for Quality and Safety:

- » All NHPC power stations are certified under ISO 9001:2015, ISO 14001:2015, and ISO 45001:2018, ensuring sustainable development and improved quality of life for stakeholders. Compliance with safety systems and environmental laws is regularly monitored.

NHPC is committed to adhering to all legal requirements related to Occupational Health and Safety at its power stations and projects. The organisation strives to implement these provisions effectively, diligently identifying,

monitoring, and controlling hazards to achieve “Zero Injuries, Zero Losses, and Environmental Protection.” NHPC also ensures that its contractors comply with all relevant safety acts, rules, regulations, standards, and requirements.

## Safety Governance Structure at NHPC

The safety governance structure at NHPC is led by the Power Station/Project Head at the project level, supported by the Safety Division at the corporate level. The administrative responsibility for safety at each power station/project lies with the Head of Project (HOP), while the Corporate Head of the Safety Division holds functional responsibility. At the corporate level, policies, targets, and guidelines are formulated, and project-level teams are responsible for implementation.

Safety Committees are established at all power stations/projects, ensuring equal representation of management and workers as per statutory requirements. These committees provide a platform for workers to participate in resolving safety issues and audit recommendations. Safety Committee meetings are held monthly at construction projects and quarterly at power stations. Decisions made during these meetings are collectively determined under the leadership of the safety committee chairperson.



Blood donation camp organised at Corporate Office, Faridabad



## NHPC's Safety and Risk Management Framework



*Emergency exit shoots in Chamera 1, Power house*



### Hazard Analysis and Risk Management

NHPC's structured safety management system identifies, assesses, controls, and reviews hazards and risks. Comprehensive Job Safety Analysis [JSA] and Risk Assessment and Method Assessment [RA & MA] are developed for each project stage. A Site Hazard Communication [HazCom] Program includes an inventory monitoring system and Material Safety Data Sheets [MSDS] for all hazardous materials, available in local languages.



### Incident Management System

NHPC has a detailed procedure for reporting accidents and dangerous occurrences, as outlined in the NHPC Safety Manual. Each incident is thoroughly investigated to determine causes, extent of loss, and preventive measures to avoid recurrence.



### Emergency Management Plan

NHPC has established a comprehensive Emergency Management System for each power station to handle emergencies efficiently. This includes:

- » **On-Site Emergency Management Plan:** Preparedness for events like fires or flooding, with regular mock drills.
- » **Off-Site Emergency Management Plan:** Strategic response to emergencies such as explosions or toxic releases, with bi-monthly mock drills.
- » **Crisis and Disaster Management Plan [C&DMP]:** Addresses natural and man-made disasters, with regular mock drills and early warning systems. A Master Control Room for Early Warning Systems [EWS] is set up for 24/7 monitoring, supported by the e-Aabhas software and automatic water level sensors.

## NHPC Elevates Safety Standards with Comprehensive Training and Updated Manual

NHPC has developed a safety manual that outlines statutory requirements, defines employee roles and responsibilities, and ensures the implementation of advanced safety standards across all NHPC locations. Regular updates ensure compliance with the Central Electricity Authority's (CEA) regulations for constructing, operating, and maintaining electrical plants and lines.

Employees undergo regular training sessions covering safety protocols during power station operations, disaster preparedness, fire safety management, chemical safety measures, and employee engagement in safety management. The program also includes general safety

awareness, first aid, proper use of personal protective equipment, and firefighting equipment. NHPC mandates a minimum of 10 hours of training for all contract workers, addressing general safety awareness, first aid, proper use of personal protective equipment, firefighting equipment, handling catastrophic events, and site-specific hazards.

### NHPC Safety Performance: Proactive Hazard Mitigation

NHPC employs a comprehensive approach to identify and mitigate potential hazards. This includes conducting both External and Internal Safety Audits and implementing Hazard Identification and Risk Assessment (HIRA) processes. These systematic evaluations help identify potential threats and hazards, promoting a safer environment by recognizing and mitigating risks before they escalate into actual incidents.

#### Details regarding the contract workers who sustained injuries

Safety Incident/Number	Measure	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Lost Time Injury Frequency Rate (LTIFR) [per one million-person hours worked]	Rate	-	0.21	0.63	0
Fatalities as a result of work-related injury	Number	7	7	7	3
	Rate	0.38	0.27	0.21	0.09
High-consequence work-related injuries [excluding fatalities]	Number	1	2	1	1
	Rate	0.05	0.08	0.00	0.03
Recordable work-related injuries	Number	3	3	25	2
	Rate	0.16	0.12	0.73	0.06
Working Hours	Million	18.59	25.93	34.08	31.81

#### Details regarding the employees who sustained injuries

Safety Incident/Number	Measure	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Lost Time Injury Frequency Rate (LTIFR) [per one million-person hours worked]	Rate	-	0	0.09	0
Fatalities as a result of work-related injury	Number	0	0	2	0
	Rate	0.00	0.00	0.26	0.00
High-consequence work-related injuries [excluding fatalities]	Number	0	0	0	0
	Rate	0.00	0.00	0.00	0.00
Recordable work-related injuries	Number	0	0	2	1
	Rate	0.00	0.00	0.26	0.10
Working Hours	Million	8.69	8.07	7.69	9.37



# Corporate Social Responsibility<sup>14</sup>

Corporate Social Responsibility [CSR] is a core element of NHPC's business philosophy. NHPC operates with high organizational integrity and ethical behaviour, adhering to transparency standards in reporting and performance disclosure. The organization demonstrates social welfare concern, adopts best management practices, and employs effective operational methods to gain stakeholders' trust and confidence.

NHPC has a comprehensive CSR Policy aligned with the provisions of Section 135 of the Companies Act, 2013, and the Companies [CSR Policy] Rules, subsequent amendments and general circulars issued by Ministry of Corporate Affairs [MCA] from time to time.

NHPC also aims to follow guidelines on CSR issued by Department of Public Enterprises. The CSR activities undertaken by NHPC are in-line with the areas or subject specified in Schedule VII of the Companies Act, 2013.

NHPC has implemented various CSR initiatives for communities around its projects, power stations, and units. These initiatives cover areas such as education, health, sanitation, rural development, skill development, environmental sustainability, women empowerment and others. Notably, NHPC's CSR efforts have made a significant contribution to the socio-economic development of rural communities near its facilities.

## NHPC's CSR Vision

To contribute to sustainable development and inclusive growth while taking care of People, Planet and Organization Goals /Growth



## NHPC's CSR Mission



To become socially responsible corporate entity committed to improving the quality of life of the society at large.



To create and develop facilities for the communities we engage with



To balance social, economic and environmental development objectives through collective and unified effort of all stakeholders

## NHPC's Strategic Approach to CSR: Engaging Stakeholders for Sustainable Impact



## Procedure for Identifying and Implementing CSR Projects

NHPC identifies CSR projects through a structured procedure that ensures effective utilization of resources. The process entails the allocation of at least 2% of the average net profits from the last three financial years for CSR activities. Priority is given to spending at least 80% of these funds in areas surrounding NHPC's projects, power stations, and offices, preferably within a 25 km radius. CSR proposals are collected from various NHPC locations, including Detailed Project Reports (DPR) and necessary clearances. An internal CSR Committee initially reviews these proposals based on criteria such as alignment with Schedule VII of the

Companies Act, 2013, and project sustainability. A senior-level interdisciplinary committee further evaluates the proposals and makes recommendations to the Committee of Directors on CSR & Sustainability through the Nodal officer of CSR, which are then submitted to the Board of Directors for approval. The selection of implementation partners involves due diligence to ensure reliability and capability.



### Details of CSR Expenditure in FY 2023-24 (in INR)

a	Average net profit of the Company as per sub-section [5] of section 135	4002.11 Crore
b	Two percent of average net profit of the Company as per sub-section [5] of section 135	80.04 Crore
c	Surplus arising out of the CSR Projects or programmes or activities of the previous financial years	0
d	Amount required to be set-off for the financial year, if any	115.21 Crore
e	Total CSR obligation for the financial year [(b)+(c)-(d)]	(-) 35.17 Crore
f	Amount spent on CSR Projects (both Ongoing Project and other than Ongoing Project)	81.55 Crore
g	Amount spent in Administrative Overheads	4.07 Crore
h	Amount spent on Impact Assessment, if applicable	0.11 Crore
i	Total amount spent for the Financial Year [(f)+(g)+(h)]	85.73 Crore

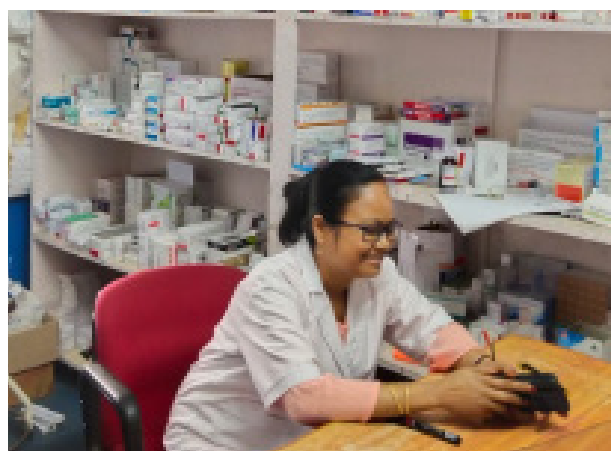
## Outreach of NHPC's CSR initiatives:

NHPC has spent INR 781.25 Crores from FY 2014-15 to 2023-24 across the length and breadth of the country towards implementing various CSR Initiatives. Major beneficiary states for the CSR initiatives of NHPC have been in the Himalayan belt in Assam, Arunachal Pradesh, Sikkim, Manipur, Himachal Pradesh, the UTs of Jammu & Kashmir and Ladakh, West Bengal and Uttarakhand. The other states that have also benefited are Haryana, Uttar Pradesh, Bihar, Gujarat, Madhya Pradesh, Rajasthan, Punjab, Odisha, Kerala, Tamil Nadu, Andhra Pradesh etc.

The beneficiaries of NHPC's CSR initiatives have been the rural remotely placed underprivileged people, women, children, the girl child, PwD etc. NHPC has been assigned three Aspirational Districts, namely Baramulla in the UT of J&K, Chamba in Himachal Pradesh, and West Sikkim (now renamed as Gyalshing) in Sikkim.

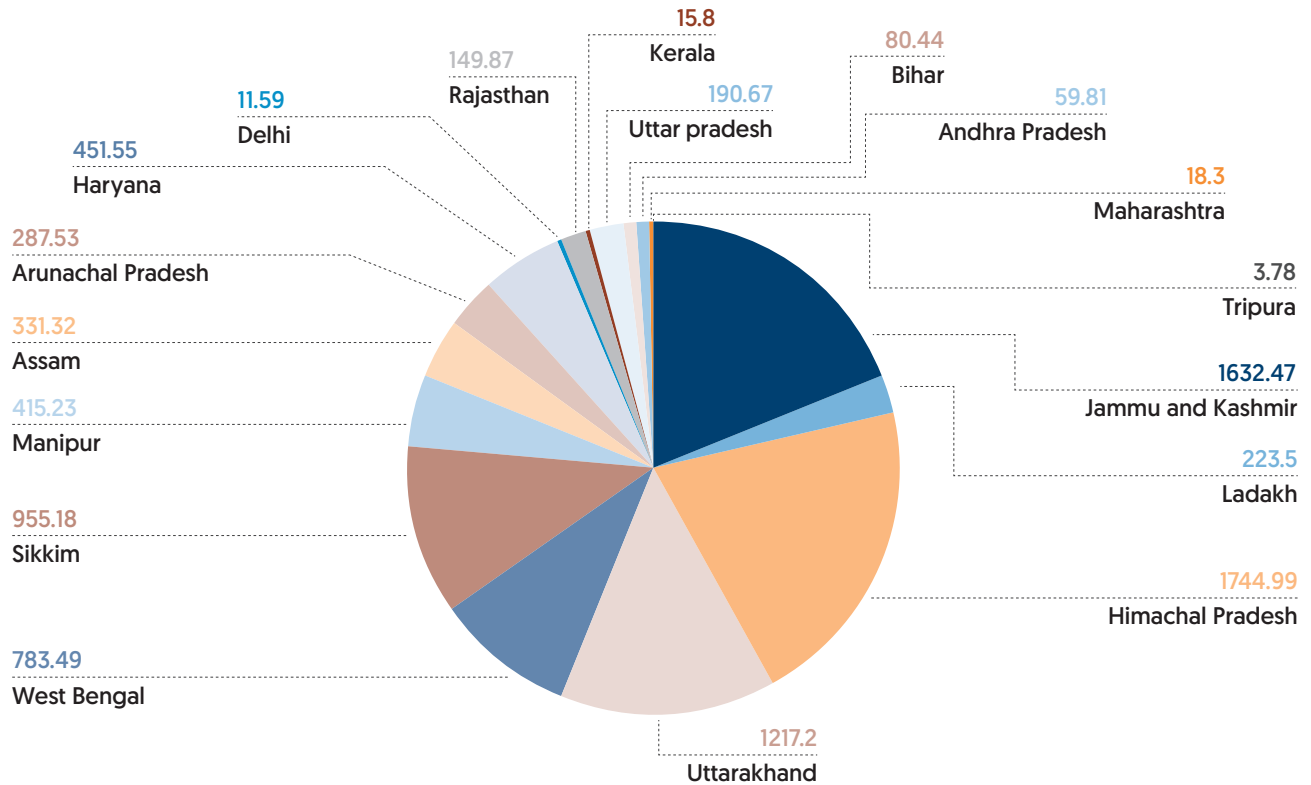


Afternoon Nourishment Meal Program for Underprivileged Girl Students at Amitasha Foundation for Upliftment of Underprivileged Children at Noida, Uttar Pradesh

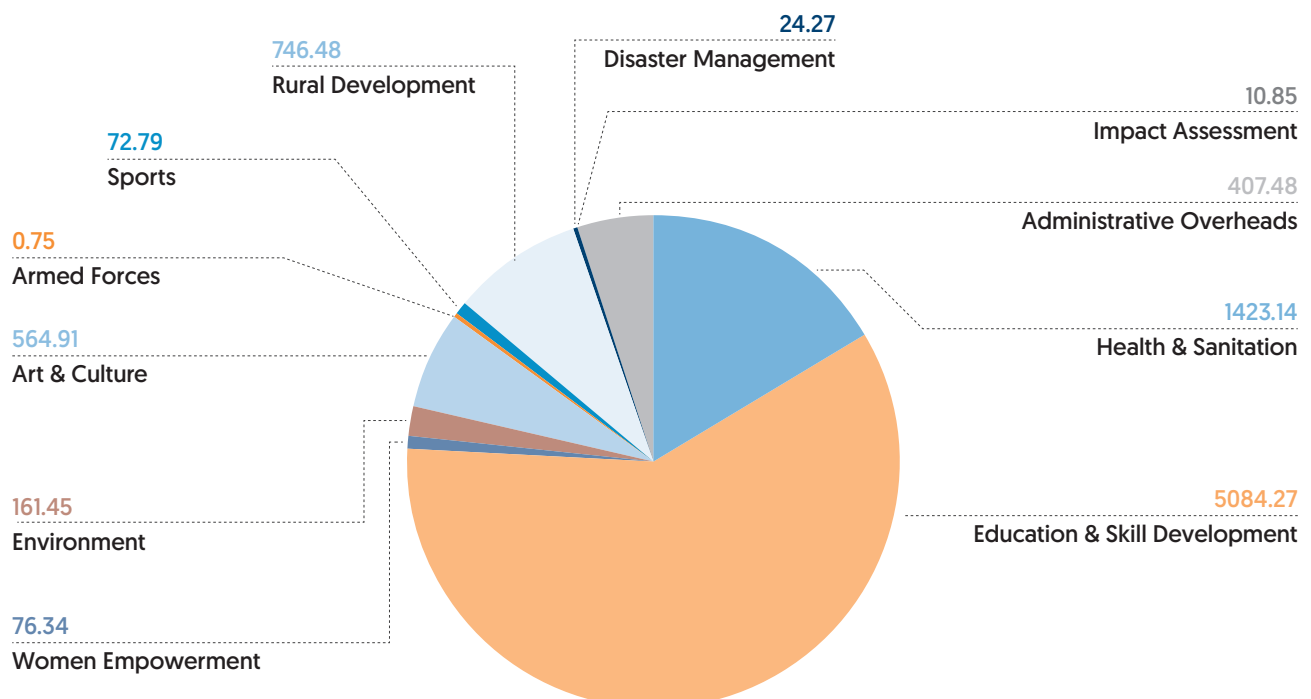


Providing healthcare facilities to the local population through NHPC Hospital/ Dispensary

## State-Wise Expenditure on CSR during FY 2023-24 (INR in lakh)



## Sector-wise expenditure on CSR during FY 2023-24 (INR in lakh)





# Building a Better Future: NHPC's CSR Success Stories

## Sector-wise NHPC's Key CSR initiatives undertaken during FY 2023-24

### Education and Skill Development

Many rural communities near NHPC locations lacked access to quality education, with specific educational infrastructure needs in certain areas, necessitating enhancements in educational facilities and support.

**Steps undertaken:** NHPC Limited executed several CSR initiatives in the education sector during FY 2023-24, focusing on different aspects:

- » **Support for Kendriya Vidyalayas and Other School:** NHPC spent INR 38.94 Crore to provide quality education through Kendriya Vidyalayas and other school near NHPC Townships, benefitting 5,467 children from rural communities.



KV near Tanakpur power Station



KV at Parbati-II

- » **Development of Kindergarten in Vivekananda Vidyalaya, Kothamangalam, Kerala:** An MoU was signed with Sewa Kiran Charitable Society for the construction of a new school building, including three

classrooms, a staff room, and four toilets. A contribution of INR 79.00 lakh was made, with INR 63.20 lakh spent in FY 2022-23 and INR 15.80 lakh in FY 2023-24. The project benefitted 273 children.





- » **Educational Improvement Programme in Leh Area:**  
NHPC's Nimmo-Bazgo Power Station provided financial assistance for hiring tutors to conduct winter tuition for

students in five villages [Alchi, Bazgo, Likir, Khaltsi, and Lamayuru], with a budget of INR 11.00 Lakh, benefitting 300 students.



*Educational Improvement Programme in Leh Area*

### Outcomes:

- » Thousands of students gained access to better educational facilities and resources, contributing to improved learning outcomes.
- » The projects fostered community engagement and demonstrated NHPC's commitment to supporting local educational needs.
- » The construction of new educational facilities provided a safer and more conducive learning environment for young children.

### Healthcare and wellness

Numerous regions in India, especially remote areas and underserved communities, faced significant challenges in accessing quality healthcare services, medical equipment, and support for individuals with disabilities.

**Steps undertaken:** NHPC Limited executed several CSR initiatives in the healthcare sector during FY 2023-24, targeting different areas of need:

- » **Healthcare Facilities through NHPC Dispensaries:**  
NHPC spent INR 6.66 Crore to provide free healthcare services through project dispensaries operational at its power stations and units, primarily in remote areas. This benefited 92,158 individuals by promoting preventive healthcare and reducing disease incidence.



*Dispensary at Chamera-II power station*



*Dispensary at Bairasiul Power station*



- » **Distribution of Aids and Assistive Devices:** An MoU with ALIMCO facilitated the distribution of aids and assistive devices to around 1,000 Divyangjans in North and North-Eastern states, with INR 35.25 Lakh spent



*Distribution of Aids and assistive devices to Divyangjans in the North & North-Eastern states*

- » **Ambulance and Mobile Medical Unit Provision:** NHPC provided financial support totaling INR 78.92 Lakh for ambulances and mobile medical units to various



*Providing ambulance to Mahabodhi International Meditation Centre, Leh*

- » **Support for Cheshire Home India, Delhi Unit:** NHPC is implementing a CSR project valued at INR 68.24 Lakh to provide medical care and nutritional support to approximately 60 physically and mentally challenged residents at Cheshire Home India, Delhi. INR 11.59 Lakh was spent in FY 2023-24, with ongoing support for healthcare personnel and services.



*Cheshire Home India, Delhi Unit*

in FY 2023-24. Devices such as motorized tricycles, wheelchairs, and hearing aids etc. were distributed, benefitting 274 individuals in Udhampur and Jaisalmer.



regions, including Leh, Kargil (UT of Ladakh), and Gurez (J&K), enhancing emergency medical response capabilities in these remote areas.



*Mobile medical Unit for Community Health Centre Sankoo*

- » **Support for School of Mentally Retarded Children, Faridabad:** An MoU with Rajasthan Association led to a INR 34.64 Lakh project to provide capital items and running expenses from 2023-2026, benefitting 26 students. INR 18.38 Lakh was utilized for this initiative in FY 2023-24.



*Specially abled Children*

- » **Healthcare Equipment for Baramulla District (J&K):** NHPC Uri power station spent INR 1.07 Crore in upgrading healthcare infrastructure in Baramulla District, equipping health centers with medical machinery and life-saving equipment, significantly enhancing healthcare service delivery.
- » **Infrastructure and Equipment for Healthcare Centres in Sopore, Baramulla (J&K):** The initiative included civil works and provision of modern medical equipment at Sub-District Hospital, improving healthcare accessibility and quality. NHPC Uri power station spent INR 12.15 Lakh on this initiative in FY 2023-24.

### Outcomes:

- » Thousands of individuals received better healthcare facilities and medical support, leading to improved health outcomes.
- » The distribution of assistive devices empowered persons with disabilities, enhancing their mobility and independence.
- » The provision of ambulances and mobile medical units bolstered emergency healthcare services in remote and underserved areas.
- » The initiatives strengthened community health infrastructure, ensuring timely and effective medical care for residents.



*Livelihood Enhancement Training in Arunachal Pradesh*

## Skill development and livelihood enhancement

Several regions in India, including Arunachal Pradesh, Himachal Pradesh, and Jammu & Kashmir, faced challenges in creating livelihood opportunities and offering skill development for economically weaker sections, particularly women and youth.

**Steps Undertaken:** NHPC Limited implemented several CSR initiatives focused on livelihood enhancement and skill development during FY 2023-24:

- » **Livelihood Enhancement Training in Arunachal Pradesh:** NHPC's Subansiri Lower HE Project made an arrangement to provide training on the operation of automatic handlooms for 160 economically disadvantaged women in Dollungmukh Circle, Kamle District. The initiative, with a financial implication of INR 53.40 Lakhs, equipped women with skills to enhance their livelihoods. INR 46.40 Lakh was spent in FY 2022-23 and INR 7.00 Lakh in FY 2023-24.
- » **Vocational Training in Distt. Chamba, Himachal Pradesh:** An MoU was signed to provide vocational training courses in cutting & tailoring, beauty culture, and computer applications to 360 rural youths over three years (2023-26). NHPC Regional Office, Banikhet spend INR 9.50 Lakh on this initiative in FY 2023-24, with training currently ongoing.



*Vocational Training in Distt.*



- » **Cutting and Tailoring Centre in Udhampur, Jammu & Kashmir:** NHPC Regional Office Jammu is implementing a CSR project to establish a training center for cutting and tailoring in Latti, Udhampur. The centre aims to



- » **Saksham Livelihood & Skill Development in Reasi, J&K:** NHPC Salal power station is implementing a skill development program for unemployed adolescent girls and women in Reasi District. Centers were established in Dhanva and Dassano Villages, with training for the first batch completed by March 2024 and the second batch underway. The initiative targets 120 women beneficiaries, with INR 2.00 Lakh spent in FY 2023-24.

#### Outcomes:

- » Hundreds of women and young individuals gained valuable skills, increasing their employability and income-generating potential.
- » The initiatives fostered economic independence and contributed to the socio-economic upliftment of the communities involved.
- » By providing practical training and skills, NHPC's efforts supported long-term livelihood sustainability for participants.

provide training to 500 underprivileged women. An amount of INR 15.00 Lakh was spent on this initiative in FY 2023-24.

#### कटिंग और टेलरिंग सेंटर हेतु समझौता ज्ञापन पर हस्ताक्षर

**एनएचपीसी की जरूरतमंद महिलाओं के लिए सीएसआर एंड एसडी के तहत पहल**

जम्मू। स्टेट समाचार

एनएचपीसी लिमिटेड और एनजीओ रानी वेलफेयर सोसाइटी, जम्मू के बीच क्षेत्रीय कार्यालय, जम्मू में विक्रम सिंह, कार्यपालक निदेशक की उपस्थिति में सोमवार को एनएचपीसी सीएसआर योजना के तहत लाटी तहसील, जिला- उधमपुर (जे.एंडके) में 'आर्थिक रूप से कमजोर महिलाओं के लिए कटिंग एंड टेलरिंग सेंटर' की स्थापना और प्रशिक्षण प्रदान करने हेतु



एक समझौता ज्ञापन पर हस्ताक्षर किया। इस अवसर पर विक्रम सिंह ने कहा कि इस गतिविधि के तहत, एनजीओ, लाटी तहसील की आर्थिक रूप से कमजोर महिलाओं को कटिंग और सिलाई का प्रशिक्षण प्रदान करेगी ताकि वे आत्मनिर्भर बन सकें और आजीविका बेहतर तरीके से स्वयं चला सकें। इस अवसर पर, एनजीओ अध्यक्ष सविता परिहार ने कहा कि सीएसआर एंड एसडी

के तहत एनएचपीसी द्वारा प्रदान की जाने वाली वित्तीय सहायता से आर्थिक रूप से कमजोर महिलाओं को आत्मनिर्भर बनाने का प्रयास किया जाएगा। इस अवसर पर पे. सत्यमूर्ति, महाप्रबंधक (मानव संसाधन), एस.के.जेना, महाप्रबंधक (वित्त), एस.लुहा, महाप्रबंधक (सिविल), एनएचपीसी के अन्य वरिष्ठ अधिकारी और एनजीओ के अधिकारीगण भी उपस्थित थे।

#### Rural Infrastructure Development

Various rural areas in India, including regions in Himachal Pradesh, Jammu & Kashmir, Andhra Pradesh, and Baramulla, faced challenges related to inadequate community infrastructure and development, affecting the welfare and growth of local communities.

**Steps undertaken:** NHPC Limited executed several CSR initiatives focused on rural development during FY 2023-24:

- » **Construction of Balika Ashram in Chillli, Tissa:** NHPC Bairasiul Power station has undertaken the construction of a Balika Ashram to support 50 beneficiaries. INR 2.89 crores was spent on the project in FY 2023-24, which is progressing, with the second floor and third-floor work underway.
- » **Community Hall Complex in Basohli:** NHPC Sewa II Power station constructed a community hall at Mandla village, Basohli tehsil, Kathua district, UT of J&K to benefit SC/ST families and local residents. The facility includes a meeting hall, dressing room, public kitchen, and toilets. INR 20.08 Lakh was spent on this initiative in FY 2023-24.



- » **Community Halls in Krishna District, Andhra Pradesh:** NHPC allocated Rs. 143.00 Lakh for building community halls in three villages, benefiting 7,843 people. Rs. 59.81 Lakh was spent in FY 2023-24, with work ongoing.
- » **Adoption of Sai Lanjan Village, Reasi District:** Salal Power Station adopted Sai Lanjan as an Adarsh Gaon, contributing Rs. 49.02 Lakh to enhance village infrastructure.



*Improving the long kutch approach road to the village from the PWD Road in Reasi District, UT of J&K*

- » **Community Hall in Pounsali Village, Reasi District:** NHPC Salal power station has undertaken the construction of Community hall in Pounsali Village in Reasi District, UT of J&K. During FY 2023-24 INR 19.91 Lakh was spent on the CSR initiative aimed at upgrading local community infrastructure.
- » **Modernization of Horticulture Nurseries in Baramulla:** NHPC Uri power station contributed in modernizing nurseries at Khawaja Bagh and Baghe Sundari Sopore, with a total project cost of INR 172 Lakh and INR 30.79 Lakh spent in FY 2023-24.

### Outcomes:

- » Enhanced facilities and infrastructure, supported social welfare and community gatherings, benefiting various groups, including SC/ST families.
- » Improved infrastructure, such as roads and community halls, facilitated better connectivity and economic opportunities for rural residents.
- » Modernization of horticulture nurseries supported agricultural development and sustainability, benefiting local farmers and the broader community.



*Repair and renovation carried out at Pakigaon Secondary School, District Soreng*



## NHPC's Commitment to Social Responsibility and Community Welfare:

### Glimpses of NHPC's CSR initiatives in FY 2023-24



Providing regular sports training to Persons with Intellectual and Development Disability [PWIDD]



Repairing & Maintenance Works [Building, Boundary Wall and Toilets] at Govt. Primary School, Thanpal, Distt : Reasi, J&K



Skill Development Programme for un-employed Poor Adolescent Girls and Women near Salal Power Station



Construction of Third Floor in Arogya Sandhan Santoshpur Alternate Home for Senior Citizens, Arapanch, Sonarpur, South 24 Parganas, West Bengal



Installation of Grid Connected Roof Top Solar Plant in various Government Schools in District Kullu, Himachal Pradesh



Construction of Civic Amenity Building, at Badrinath Dham in Uttarakhand

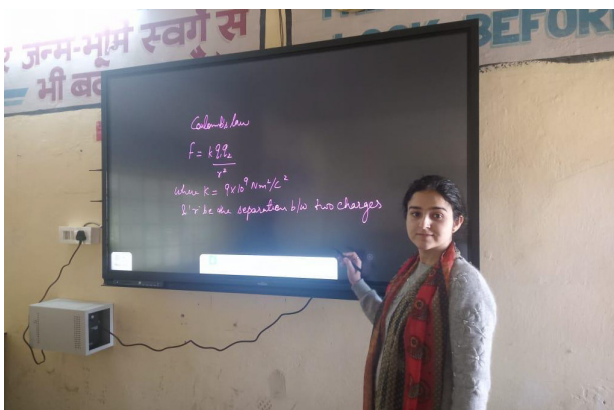




Providing water for Alchi village through repair of concrete artificial pond



Solar Light for CHC Sankoo installed by Chutak Power station



Installation of Interactive Smart Boards and Computers at DAV Public School, Surangani by Bairasiul Power Station



Provisioning of Sanitary Vending Machine and Incinerator in Government Secondary and Senior Secondary Schools under 'Project Bahini'



Solar lights in Siddharth Nagar District of U.P.



Installation of Solar Street Lights to Rigyu Village, Lumsi village and Daknyo Colony of Midpu Village, Dollungmukh Sub-Division, Kamle District, Arunachal Pradesh





*Phumdi at Loktak Power station, Manipur*

# GRI Content Index

<b>Statement of use</b>	NHPC Limited has reported in accordance with the GRI Standards for the period starting 1st April 2023 to 31st March 2024.
<b>GRI 1 used</b>	GRI 1: Foundation 2021
<b>Applicable GRI Sector Standard[s]</b>	[Titles of the applicable GRI Sector Standards]

GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION	PAGE NO.
GRI 2: General Disclosures 2021	2-1 Organizational details	About the Report ; NHPC at a glance	2-6
	2-2 Entities included in the organization's sustainability reporting	About the Report ; NHPC at a glance	2-6
	2-3 Reporting period, frequency and contact point	About the Report ; NHPC at a glance	2-6
	2-4 Restatements of information	Energy Management	73
	2-5 External assurance	About the Report	2
	2-6 Activities, value chain and other business relationships	NHPC at a glance, NHPC's Pan-India Presence	6, 20-22
	2-7 Employees	Human Capital Development, Diversity, Equity and Inclusion	90-99
	2-8 Workers who are not employees	Human Capital Development, Diversity, Equity and Inclusion	90-99
	2-9 Governance structure and composition	Corporate governance	38-45
	2-10 Nomination and selection of the highest governance body	Corporate governance	38-45
	2-11 Chair of the highest governance body	Corporate governance	38-45
	2-12 Role of the highest governance body in overseeing the management of impacts	Corporate governance	38-45
	2-13 Delegation of responsibility for managing impacts	Corporate governance	38-45
	2-14 Role of the highest governance body in sustainability reporting	Corporate Governance, Business Ethics and Transparency	38-49
	2-15 Conflicts of interest	Business Ethics and Transparency	46-49
	2-16 Communication of critical concerns	Stakeholder engagement	44-45



GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION	PAGE NO.
GRI 2: General Disclosures 2021	2-17 Collective knowledge of the highest governance body	Corporate Governance- Capacity Building for Board Members	44
	2-18 Evaluation of the performance of the highest governance body	Corporate Governance- Board Compensation and Evaluation	43-44
	2-19 Remuneration policies	Corporate Governance- Board Compensation and Evaluation	43-44
	2-20 Process to determine remuneration	Corporate Governance- Board Compensation and Evaluation	43-44
	2-21 Annual total compensation ratio	Corporate Governance- Board Compensation and Evaluation	43-44
	2-22 Statement on sustainable development strategy	Message from Chairman's Desk, Leadership Note	09-10
	2-23 Policy commitments	Policy and Accountability	50-52
	2-24 Embedding policy commitments	Policy and Accountability;	50-52
	2-25 Processes to remediate negative impacts	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
	2-26 Mechanisms for seeking advice and raising concerns	Business Ethics and Transparency	46-49
	2-27 Compliance with laws and regulations	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
	2-28 Membership associations	Associations and Memberships	62
	2-29 Approach to stakeholder engagement	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
	2-30 Collective bargaining agreements		
GRI 3: Material Topics 2021	3-1 Process to determine material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
	3-2 List of material topics		
	3-3 Management of material topics		

GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION	PAGE NO.
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	Economic Performance	23
	201-2 Financial implications and other risks and opportunities due to climate change	Economic Performance; Risk Assessment	23; 56-60
	201-3 Defined benefit plan obligations and other retirement plans	Employee Engagement and Well-being	102-105
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 202: Market Presence 2016	202-1 Ratios of standard entry level wage by gender compared to local minimum wage	NHPC maintains this data internally as it is confidential.	
	202-2 Proportion of senior management hired from the local community		
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	Building a Better Future: NHPC's CSR Success Stories;	116-128
	203-2 Significant indirect economic impacts	Biodiversity Conservation	86-89
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	Sustainable Supply Chain	108-111
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	Business Ethics and Transparency; Vigilance Mechanism; Human Rights	46-49; 106-107
	205-2 Communication and training about anti-corruption policies and procedures		
	205-3 Confirmed incidents of corruption and actions taken		



GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION	PAGE NO.
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Business Ethics and Transparency-Vigilance Mechanism; Human Rights	46-49; 106-107
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 302: Energy 2016	302-1 Energy consumption within the organization	Energy Management	73-75
	302-2 Energy consumption outside of the organization		
	302-3 Energy intensity		
	302-4 Reduction of energy consumption		
	302-5 Reductions in energy requirements of products and services		
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	Water Stewardship	81-83
	303-2 Management of water discharge-related impacts		
	303-3 Water withdrawal		
	303-4 Water discharge		
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment; Stakeholder Engagement	24-31; 44-45
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	Biodiversity Conservation	86-89
	304-2 Significant impacts of activities, products and services on biodiversity		
	304-3 Habitats protected or restored		
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations		

GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION	PAGE NO.
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	Emissions Management	76-79
	305-2 Energy indirect (Scope 2) GHG emissions		
	305-3 Other indirect (Scope 3) GHG emissions		
	305-4 GHG emissions intensity		
	305-5 Reduction of GHG emissions		
	305-6 Emissions of ozone-depleting substances (ODS)		
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions		
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	Waste Management	84-85
	306-2 Management of significant waste-related impacts		
	306-3 Waste generated		
	306-4 Waste diverted from disposal		
	306-5 Waste directed to disposal		
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	Sustainable Supply Chain	108-111
	308-2 Negative environmental impacts in the supply chain and actions taken		
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45



GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION	PAGE NO.
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	Human Capital Development- New hires	94-95
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	Employee Engagement and Well-being	102-105
	401-3 Parental leave	Employee Engagement and Well-being	102-105
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 402: Labour/ Management Relations 2016	402-1 Minimum notice periods regarding operational changes	Human Rights	106-107
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	Occupational Health and Safety	112-115
	403-2 Hazard identification, risk assessment, and incident investigation		
	403-3 Occupational health services		
	403-4 Worker participation, consultation, and communication on occupational health and safety		
	403-5 Worker training on occupational health and safety		
	403-6 Promotion of worker health		
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships		
	403-8 Workers covered by an occupational health and safety management system		
	403-9 Work-related injuries		

GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION	PAGE NO.
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	Employee Engagement and Well-being	102-105
	404-2 Programs for upgrading employee skills and transition assistance programs		
	404-3 Percentage of employees receiving regular performance and career development reviews	Employee Engagement and Well-being - Employee Performance Reviews	104
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	Diversity and Inclusion	97-101
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	Human Rights	106-107
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
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	Not Applicable. NHPC has no established union or association.	
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 408: Child Labour 2016	408-1 Operations and suppliers at significant risk for incidents of child labour	Human Rights Sustainable Supply Chain	106-107



GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION	PAGE NO.
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 409: Forced or Compulsory Labour 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labour	Human Rights; Sustainable Supply Chain	106-111
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 410: Security Practices 2016	410-1 Security personnel trained in human rights policies or procedures	Human Rights	106-107
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 411: Rights of Indigenous Peoples 2016	411-1 Incidents of violations involving rights of indigenous peoples	Biodiversity- Dependency Related risk; Human Rights	87; 106-107
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	Building a Better Future: NHPC's CSR Success Stories;	116-128
GRI 413: Local Communities 2016	413-2 Operations with significant actual and potential negative impacts on local communities		
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	Sustainable Supply Chain	108-111
	414-2 Negative social impacts in the supply chain and actions taken		
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45

GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION	PAGE NO.
GRI 415: Public Policy 2016	415-1 Political contributions	NHPC does not make any contribution towards any political parties either financially or through in-kind Contributions	63
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories 416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	NHPC is a power generation company and sells its power to various DISCOMs which sell it further to end consumers. It does not advertise its products and services.	
GRI 3: Material Topics 2021	3-3 Management of material topics	Driving Excellence through our Strategic Performance: Materiality Assessment ; Stakeholder Engagement	24-31; 44-45
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	Cybersecurity and Information Security Management	52-53



# SASB Content Index

SASB Topic	Accounting metrics	Unit of Measure	Code	Corresponding GRI-metric / Section/ Remarks
GHG Emissions	Gross global scope 1 emissions, percentage covered under emissions-limiting regulations and emissions-reporting regulations	Metric tons [t] CO <sub>2</sub> e, Percentage [%]	IF-EU-110a.1	GRI 305-1: Direct GHG emissions (scope 1)
	GHG emissions associated with power deliveries	Metric tons [t] CO <sub>2</sub> e	IF-EU-110a.2	GRI 305-2 Energy indirect (Scope 2) GHG emissions
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, missions reduction targets and an analysis of performance against those targets	N/A	IF-EU-110a.3	Strategic ESG Goals and Targets
Air Quality	Air emissions of the following pollutants: CO, NO <sub>x</sub> [Excluding N <sub>2</sub> O], Sox, particulate matter (PM <sub>10</sub> ) mercury (Hg) lead (Pb) and volatile organic compounds	Metric tons [t], Percentage [%]	F-EU-120a.1	GRI 305-7: NO <sub>x</sub> , SO <sub>x</sub> and other significant air emissions.
	Total fresh water withdrawn, total fresh water consumed, percentage of each in regions with high or extremely high baseline water stress	Thousand cubic meters, percentage	IF-EU-140a.1	GRI 303-3 Water withdrawal GRI 303-4 Water discharge GRI 303-5 Water consumption
	Number of incidents of non-compliance associated with water quantity and/or quality permits, standards and regulations	Number	IF-EU-140a.2	GRI 307-1 Non-compliance with environmental laws and regulations
	Description of water management risks and discussion of strategies and practices to mitigate those risks	N/A	IF-EU-140a.3	Water Conservation
Coal Ash Management	Amount of coal combustion residuals [CCR] generated; percentage recycled	Metric tons [t], Percentage [%]	IF-EU-150a.1	The topic does not directly apply to NHPC, since it's a renewable energy producer.
	Total number of coal combustion residual [CCR] impoundments, broken down by hazard potential classification and structural integrity assessment	Number	IF-EU-150a.2	

SASB Topic	Accounting metrics	Unit of Measure	Code	Corresponding GRI-metric / Section/ Remarks
Energy Affordability	Average retail electric rate for [1] residential, [2] commercial and [3] industrial customers	Rate	IF-EU-240a.1	NHPC is a power producing company and the produced energy is sold through Power purchase agreements to States/ DISCOMS.  The topic does not directly apply to NHPC.
	Typical monthly electric bill for residential customers for [1] 500 kWh and [2] 1,000 kWh of electricity delivered per month	Reporting currency	IF-EU-240a.2	
	Number of residential customer electric disconnections for non-payment, percentage reconnected within 30 days	Number, Percentage [%]	IF-EU-240a.3	
	Discussion of impact of external factors on customer affordability of electricity, including the economic conditions of the service territory	N/A	IF-EU-240a.4	
Workforce Health & Safety	[1] Total recordable incident rate [TRIR], [2] fatality rate and [3] near miss frequency rate [NMFR]	Rate	IF-EU-320a.1	GRI 403-9 Work-related injuries GRI 403-10 Work-related ill health
End-Use Efficiency & Demand	Percentage of electric utility revenues from rate structures that [1] are decoupled and [2] contain a lost revenue adjustment mechanism [LRAM]	Percentage [%]	IF-EU-420a.1	NHPC is a power producing company and the produced energy is sold through Power purchase agreements to States/ DISCOMS.  The topic does not directly apply to NHPC.
	Percentage of electric load served by smart grid technology	Percentage [%] by megawatt Hours [MWh]	IF-EU-420a.2	
	Customer electricity savings from efficiency measures, by market	Megawatt Hours [MWh]	IF-EU-420a.3	
Nuclear Safety & Emergency Management	Total number of nuclear power units, broken down by U.S. Nuclear Regulatory Commission [NRC] Action Matrix Column	Number	IF-EU-540a.1	The topic does not directly apply to NHPC, since it's a renewable energy producer.
	Description of efforts to manage nuclear safety and emergency preparedness.	N/A	IF-EU-540a.2	



SASB Topic	Accounting metrics	Unit of Measure	Code	Corresponding GRI-metric / Section/ Remarks
Grid Resiliency	Number of incidents of non-compliance with physical and/or cybersecurity standards or regulations	Number	IF-EU-550a.1	NHPC is a power producing company and the produced energy is sold through Power purchase agreements to States/ DISCOMS.
	[1] System Average Interruption Duration Index [SAIDI], [2] System Average Interruption Frequency Index [SAIFI] and [3] Customer Average Interruption Duration Index [CAIDI], inclusive of major event days	Minutes, Number	IF-EU-550a.2	The topic does not directly apply to NHPC.

# Linkage with BRSR Content Index

SEBI - BRSR Framework	Chapter/ Section in report	Page no
<b>Section A: General Disclosures</b>		
I. Details of Listed Entity	About the Report ; NHPC at a glance	2-6
II. Products / Services	About the Report ; NHPC at a glance	2-6
III. Operations	NHPC's Pan India Presence	20-22
IV. Employees	Human Capital Development, Diversity, Equity and Inclusion	90-99
V. Holding, Subsidiary and Associate Companies (Including joint ventures)	About the Report ; NHPC at a glance	2-6
<b>Section B: Management and Process Disclosures</b>		
B1-B3	Corporate governance	38-45
B4	Associations and Memberships;	62
B5-B6	ESG Goals and Targets	32
B7	Message from Chairman's Desk,	09-10
B8, B9	Corporate Governance	38-45
B11	About the Report	2-3

SEBI - BRSR Framework	Chapter/ Section in report	Page no
<b>Section C: Principle wise Performance Disclosure</b>		
<b>PRINCIPLE 1- Businesses should conduct and govern themselves with integrity, and in a manner that is ethical, transparent, and accountable</b>		
P1-E1	Employee Engagement and Well-being	102-105
P1-E2-E7	Business Ethics and Transparency-Vigilance Mechanism; Human Rights	46-49; 106-107
P1 L1	Sustainable Supply Chain	108-111
P1-L2	Business Ethics and Transparency	46-47
<b>PRINCIPLE 2- Businesses should provide goods and services in a manner that is sustainable and safe</b>		
P2-E1	Powering Innovation, Research and Development	53-55
P2-E2	Sustainable Supply Chain	108-111
<b>PRINCIPLE 3- Businesses should respect and promote the well-being of all employees, including those in their value chains</b>		
P3-E1-E2	Employee Engagement and Well-being	102- 105
P3-E4	Diversity and Inclusion	97-101
P3-E5	Employee Engagement and Well-being	102- 105
P3-E6	Grievance Redressal Mechanism	48-49
P3-E8	Employee Engagement and Well-being	102- 105
P3-E9	Employee Engagement and Well-being: Employee Performance Reviews	105
P3, E10-E12	Occupational Health and Safety	112-115
P3-E13	Grievance Redressal Mechanism	48-49
P3-L1	Employee Engagement and Well-being	102- 105
P3-L3	Occupational Health and Safety	112-115
<b>PRINCIPLE 4- Businesses should respect the interests of and be responsive to all its stakeholders</b>		
P4-E1, E2, P4 L1-L3	Stakeholder Engagement	44-45
<b>PRINCIPLE 5- Businesses should respect and promote human rights</b>		
P5 E1,E2	Employee Engagement and Well-being	102- 105
P5 E3	Diversity and Inclusion	97-101
P5 E4-E8	Grievance Redressal Mechanism; Human Rights	48-49; 106-107
P5 E9	Sustainable Supply Chain	108-111
P5 L3	Diversity and Inclusion	97-101



SEBI - BRSR Framework	Chapter/ Section in report	Page no
<b>PRINCIPLE 6- Businesses should respect and make efforts to protect and restore the environment</b>		
P6 E1, P6 L4	Energy Management	73-75
P6 E3-E5	Water Stewardship	81-83
P6 E6-E8, P6 L2	Emission Management	76-79
P6 E9,E10	Waste Management	84-85
P6 E11-E13, P6 L3	Biodiversity Conservation	86-89
P6 L5	Occupational Health and Safety	112-115
<b>PRINCIPLE 7- Businesses, when engaging in influencing public and regulatory policy, should do so in a manner that is responsible and transparent</b>		
P7 E1, P7 L1	Associations and Memberships	62
<b>PRINCIPLE 8- Businesses should promote inclusive growth and equitable development</b>		
P8 E3	Grievance Redressal Mechanism	48-49
P8 E4, P8 L3	Sustainable Supply Chain	108-111
P8 L2, L6	Building a Better Future: NHPC's CSR Success Stories	116-128
<b>PRINCIPLE 9- Businesses should engage with and provide value to their consumers in a responsible manner</b>		
P9 E1	Grievance Redressal Mechanism	48-49
P9 E5-E7	Cybersecurity and Information Security Management	52-53

# List of Abbreviations

Abbreviations	Meaning
AGM	Annual General Meeting
AIMA	All India Management Association
APTEL	Appellate Tribunal for Electricity
AP	Arunachal Pradesh
AWLR	Automatic Water Level Recorders
BCP	Business Continuity Plan
BEE	Bureau of Energy Efficiency
BOD	Board of Directors
BRSR	Business Responsibility and Sustainability Reporting
BSE	Bombay Stock Exchange
BSUL	Bundelkhand Saur Urja Limited
CAIDI	Customer Average Interruption Duration Index
CBIP	Central Board of Irrigation & Power
CDM	Clean Development Mechanism
CEA	Central Electricity Authority
CERs	Certified Emission Reduction
CERC	Central Electricity Regulatory Commission
CESL	Convergence Energy Services Limited
CIGRE	International Council on Large Electric Systems
CISF	Central Industrial Security Force
CMD	Chairman and Managing Director
CMG	Crisis Management Group
COP	Conference of the Parties
CTE	Consent to Establish
CPCB	Central Pollution Control Board
CPGRAMS	Centralized Public Grievance Redressal & Monitoring System

Abbreviations	Meaning
CPP	Central Public Procurement
CPSE	Central Public Sector Enterprises
CPSU	Central Public Sector Undertaking
CSR	Corporate Social Responsibility
CVC	Central Vigilance Commission
CVPPPL	Chenab Valley Power Projects [P] Limited
CWC	Central Water Commission
DELNET	Developing Library Network
DEFRA	Department for Environment, Food and Rural Affairs [UK]
DG/ DG Set	Diesel Generator / Diesel Generator Set
DISCOM	Distribution Company
DMP	Disaster Management Plan
DPE	Department of Public Enterprises
DPR	Detailed Project Report
DSCI	Data Security Council of India
EAP	Emergency Action Plan
EC	Environment Clearance
ECA	Export Credit Agencies
EDCSS	Employees Defined Contribution Superannuation Scheme
EDLI	Employee's Deposit Linked Insurance Scheme
EHS	Environment, Health, and Safety
EIA	Environmental Impact Assessment
EMC	Environment Monitoring Committee
EMP	Environmental Management Plans
ERM	Enterprise Risk Management
ESG	Environment, Social and Governance
EU	European Union



Abbreviations	Meaning
EWS	Early Warning System
FPP	Fire Protection Program
FY	Financial Year
GEDCOL	Green Energy Development Corporation of Odisha Ltd.
GeM	Government e-Marketplace
GHG	Green House Gases
GHNP	Great Himalayan National Park
GIS	Geographic Information System
GJ	Giga Joule
GLOF	Glacial Lake Outburst Flood
GMPE	Ground Motion Prediction Equation
Gol	Government of India
GRAT	GHG Risk assessment tool
GRI	Global Reporting Initiative
GRIHA	Green Rating for Integrated Habitat Assessment
GW	Gigawatt
HazCom	Hazard Communication
HBA	House Building Advance
HEP	Hydroelectric Project
HH	Hearing Handicap
HIRA	Hazard Identification and Risk Assessment
HM	Hydraulic Machinery
HOD	Head of Department
HOP	Head of Project
HP	Himachal Pradesh
HR	Human Resources
HT	High-tension
HVAC	Heating, Ventilation and Air Conditioning

Abbreviations	Meaning
ICAI	Institute of Chartered Accountants of India
ICB	International Competitive Bidding
ICSI	Institute of Company Secretaries of India
IEM	Independent External Monitors
IF-EU	Infrastructure - Electric Utilities & Power Generators
IHA	International Hydropower Association
IICA	Indian Institute of Corporate Affair
IIT	Indian Institute of Technology
ILO	International Labour Organization
ILR	Ice Lined Refrigerators
IMS	Integrated Management System
IMD	Indian Meteorological Department
INCOLD	Committee for International Commission on Large Dams,
INHA	Indian National Hydropower Association
INR	Indian Rupee
IPCC	Intergovernmental Panel on Climate Change
IPO	Initial Public Offering
IREDA	Indian Renewable Energy Development Authority
ISEG	Indian Society of Engineering Geology
ISMS	Information Security Management System
ISO	International Organization for Standardization
ISRM	International Society for Rock Mechanics
ISWM	Integrated Solid Waste Management
IUCN	International Union for Conservation of Nature
J&K	Union Territory of Jammu and Kashmir

Abbreviations	Meaning
JKSPDCL	Jammu & Kashmir State Power Development Corporation Limited
JSA	Job Safety Analysis
JV	Joint Venture
KMP	Key Managerial Person
KL	Kilo Litres
KPIs	Key Performance Indicators
KV	Kilovolt
KVA	Kilovolt-Ampere
KWH	Kilowatt Hour
KWP	Kilowatt Peak
Ladakh	Union Territory of Ladakh
LED	Light-emitting diode
LODR	Listing Obligations and Disclosure Requirements
LPM	Litres per minute
LRAM	Lost revenue adjustment mechanism
LT	Low tension
LTHPL	Lanco Teesta Hydro Power Pvt Ltd.
MASW	Multichannel Analysis of Surface Waves
MCA	Ministry of Corporate Affairs
MoA	Memorandum of Association
MOEF&CC	Ministry of Environment, Forest and Climate Change
MoU	Memorandum of Understanding
MSDS	Material Safety Data Sheet
MSE	Medium and Small Enterprise
MSW	Municipal Solid Waste
MT	Metric Tonnes
tCO <sub>2</sub> e	Tonnes of Carbon Dioxide Equivalent
MU	Million Units

Abbreviations	Meaning
MVA	Motor Vehicle Advance
MW	Mega Watt
NDC	Nationally Determined Contributions
NDRF	National Disaster Response Force
NGO	Non-governmental Organization
NIPM	National Institute of Personnel Management
NIT	National Institute of Technology
NMFR	Near Miss Frequency Rate
NO <sub>x</sub>	Nitrogen Oxides
NRC	Nuclear Regulatory Commission
NRSC	National Remote Sensing Centre
NSDC	National Skill Development Corporation
NSE	National Stock Exchange
OBC	Other Backward Classes
ODS	Ozone-depleting Substances
OEM	Original Equipment Manufacturer
OHSAS	Occupational Health and Safety Assessment Series
PAFs	Project Affected Families
PAF	Plant Availability Factor
PAT	Profit after Taxes
PCC	Portland Cement Concrete
PGCIL	Power Grid Corporation of India
PHE	Public Health Engineering
PPA	Power Purchase Agreements
PPE	Personal Protective Equipment
PS	Power Station
PSU	Public sector undertakings
PV	Photovoltaics
PVC	Polyvinyl Chloride



Abbreviations	Meaning
PwD	Persons With Disabilities
QSP	Quality System Procedure
RA & MA	Risk Assessment and Method Assessment
R&R	Rehabilitation and Resettlement
RCC	Roller-Compacted Concrete
REC	Renewable Energy Certificate
REHS	Retired Employees Health Scheme
RFCTLARR	Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act
RO	Regional Office
RPC	Regional Power Committees
RTA	Registrar & Share Transfer Agent
SAFA	South Asian Federation of Accountants
SASB	Sustainable Accounting Standards Board
SC	Scheduled Castes
SCADA	Supervisory Control and Data Acquisition
SDG	Sustainable Development Goals
SEBI	Securities and Exchange Board of India
SERC	State Electricity Regulation Commission
SIA	Social Impact Assessment
SO <sub>x</sub>	Sulphur Oxides
SPCB	State Pollution Control Board
SRMTT	Society for Rock Mechanics and Tunnelling Technology
ST	Scheduled Tribes
STP	Sewage Treatment Plant
TAI	Tunneling Association of India
TBM	Tunnel Boring Machines
TEC	Techno-economic Clearance
TII	Transparency International India

Abbreviations	Meaning
TLD	Teesta low dam
TRIR	Total Recordable Incident Rate
UK	Uttarakhand
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UPPCL	Uttar Pradesh Power Corporation Limited
USA	United States of America
USD	US Dollar
UT	Union Territory
VERs	Voluntary Emission Reductions
VCS	Verified Carbon Standard
VCU	Verified Carbon Units
VH	Visual Handicap
VOC	Volatile organic compounds
WB	West Bengal
WIPS	Women in Public Sector Forum



## Social Responsibility Asia (SR Asia)

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### Independent Assurance Statement

General Manager (Environment)

NHPC Limited

NHPC Office Complex,  
Sector-33, Faridabad - 121003  
Haryana, India

#### 1. Type, Scope and Level of Assurance Service

**Type-1, Limited Assurance** was applied on the subject matter based on the ISAE 3000 and ISAE 3410 requirements.

The objectives of the assurance process were to:

- Assess the extent to which NHPC's sustainability reporting adheres to ISAE 3000 standards of Inclusivity, Materiality, Responsiveness and Impact, as well as the additional reporting principles of Neutrality/Balance and Comparability.
- Assess the extent to which collection, collation and reporting of key sustainability data from NHPC's plant and office sites meets limited expectations for accuracy, consistency, completeness and reliability, as tested at the desktop/off-site level.
- Assess the extent to which NHPC's disclosure of quantitative comparable sustainability performance data meets limited stakeholder expectations for completeness and reliability.
- Assess the extent to which the Report adheres to stakeholders expectations

#### 2. Scope and subject matter

The scope of Limited Assurance covers visit to NHPC Corporate office Faridabad and project sites through video conferencing to verify and validate data, information management systems, its completeness, accuracy, comparability and neutrality. The assurance requires observation on deviation of each data item in the report data, information vis-à-vis actual finding on the actual source, collecting sample copy of the evidence of data, information checked.

The boundary of our assurance covers the non-financial sustainability disclosures of standalone project sites as per scope agreement.

#### 3. Criteria applied by SR Asia

Assurance Type: Limited

Assurance Level: Moderate Engagement

Reporting Standards: GRI Standard

Assurance Standards: ISAE 3000, ISAE 3401 as amended, AA1000As v3, AccountAbility UK

#### 4. Responsibilities

SR Asia and the Management both recognized the responsibilities of parties as specified in the Non-Disclosure Agreement, Engagement Agreement, and Work Order documents. The Management is fully responsible for the presentation of data, information, and disclosures in the Report. While the Responsibility of SR Asia is to provide an

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**Corp. Office:** 4F-CS-25 & 26, Ansal Plaza Mall, Vaishali Sector-1, Ghaziabad (NCR Region), Uttar Pradesh 201010, INDIA

Landline/Mobile: +91-120-4103023; +91-9810059109

Email: [info@sr-asia.org](mailto:info@sr-asia.org) | Website: [www.sr-asia.org](http://www.sr-asia.org)

**Regd. Office:** A-39, FF Complex, Okhla Phase-3, New Delhi-110020 India

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assurance service, not an audit, on the Report content. SR Asia is also responsible for generating conclusions and recommendations, including the Statement derived from the results of assurance work based on the agreed standards and methodology as indicated in the agreement document. Unless the law requires it, our responsibility to disclose the results of assurance work is only to the Management. SR Asia has No responsibilities or accountabilities for any risks or claims arising from third-party reliance on the results of assurance work, the Statement, and the Report, or any issues, data, and information not covered in this Statement or the Report.

### 5. Independence, Impartiality, and Competence

SR Asia implements assurance mechanisms and procedures in accordance with a professional code of conduct, ensuring that all engagements are conducted with objectivity and integrity, in compliance with the principle of independence. A pre-engagement assessment is conducted to evaluate engagement risks, as well as to verify the independence and impartiality of experts involved in the assurance process. The Assurance Team comprises qualified professionals with expertise in ISO 26000 and AA1000 AccountAbility standards, along with extensive experience in sustainability and integrated reporting. The team is well-versed in various reporting frameworks and assurance standards, including GRI, ISAE 3000, and AA1000AS, ensuring a comprehensive and credible assurance process.

### 6. Methodology

The Limited Assurance engagement involved verifying reported data, assessing integrity, and evaluating quality protocols. Our procedures were designed to obtain a limited level of assurance and do not encompass exhaustive evidence. While we considered the effectiveness of management's internal controls in defining our approach, our engagement did not extend to testing these controls or verifying data aggregation within web portal systems. The process included gap assessment, inquiries with personnel responsible for the **Sustainability Report FY 2023-24**, and the application of analytical and other appropriate procedures.

Our procedures included:

- Checking the standard disclosures regarding the company's material sustainability aspects contained in the report;
- Checking consistency of data / information within the report;
- Testing on a random sample basis, (physical and virtual), underlying source information to check the accuracy of the data for the following sites, through physical and virtual consultations with the site team and corporate sustainability team;

S No	Sites*	City and States	Mode of Assessment
1	NHPC Corporate office	Faridabad	Physical
2	Chamera-1 Project	Himachal Pradesh	Virtual
3	Rangit Project	Sikkim	Virtual
4	Loktak Project	Manipur	Virtual
5	Uri-1 Project	Jammu and Kashmir	Virtual

\* Executing an assessment trail of claims and data streams, on a random sample test basis, to determine the level of accuracy in collection, transcription and aggregation processes followed;

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Email: [info@sr-asia.org](mailto:info@sr-asia.org) | Website: [www.sr-asia.org](http://www.sr-asia.org)

**Regd. Office:** A-39, FF Complex, Okhla Phase-3, New Delhi-110020 India

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### 7. Limitations and approach used to mitigate limitations

The assurance scope excludes following:

- Data related to the Company's financial performance.
- Data and information outside the defined Reporting Period FY 2023-24.
- Data outside the operations mentioned in the assurance boundary above unless and otherwise specifically mentioned in this assurance report.
- The Company's statements that describe expression of opinion, claims, belief, aspiration, expectation, aim to future intention provided by the Company and assertions related to Intellectual Property Rights and other competitive issues.
- Strategy and other related linkages expressed in the Report.
- Mapping of the Report with reporting frameworks other than those mentioned in reporting criteria above.
- Aspects of the Report other than those mentioned under the scope and boundary above.
- Performance of any management function or making any decision relating to the services provided by us in the terms of this report. The Company is responsible for making management decisions, including accepting responsibility for the results of our services.
- Review of legal compliances.

**BIREND  
RA DUTT  
RATURI**

Digitally signed by  
BIRENDRA DUTT RATURI  
DN: cn=BIRENDRA DUTT  
RATURI c=IN  
o=PERSONAL  
Reason: I am the author of  
this document  
Location:  
Date: 2025-02-10  
16:27+05:30

**Team Leader:** Birendra Raturi

India, 7<sup>th</sup> February, 2025

The assurance provider,



### Social Responsibility Asia (SR Asia)

*International office*

Corporate office: 4<sup>th</sup> Floor CS 25 & 26 Ansal Plaza Mall Sector-1 Vaishali

Ghaziabad Uttar Pradesh 201010, INDIA

Landline / Mobile: +91-120-4103023; +91-9810059109

E-mail: [info@sr-asia.org](mailto:info@sr-asia.org), Website: [www.sr-asia.org](http://www.sr-asia.org)

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### Annexures

The reported information on General Disclosure along with Management approach as per disclosure requirements of GRI 102, GRI 103 is covered.

#### *Sector Specific Disclosures*

- GRI 3-1 to 3-3: Disclosure on Material Topics
- GRI 302-1: Energy consumption within the organization (Hydropower, renewable energy usage)
- GRI 302-3: Energy intensity (Energy consumption per MWh generated)
- GRI 303-1 to 303-5: Water usage, conservation, wastewater treatment
- GRI 304-1 to 304-3: Impact on biodiversity, protected areas affected by hydropower plants
- GRI 305-1 to 305-5: Greenhouse gas (GHG) emissions (Scope 1, 2, and reduction initiatives)
- GRI 306-3 to 306-5: Waste
- GRI 401-1 to 401-3: Employee recruitment, turnover, parental leave policies
- GRI 403-1 to 403-9: Occupational health and safety
- GRI 404-1 to 404-3: Training and education
- GRI 405-1: Diversity and Equal opportunity
- GRI 406-1: Non-discrimination, workplace diversity policies
- GRI 413-1 to 413-2: Local community engagement, impact assessments
- Materiality Assessment process
- Resettlement & Rehabilitation (R&R): Policies for displaced communities
- Dam Safety & Risk Management: Compliance with national and global standards

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# Acknowledgement

We extend our heartfelt gratitude to all the Nodal officers [ESG/BRSR] from Power Stations, Regional Offices, and the Corporate Office for their exemplary dedication and timely data submission to the Corporate Environment and Diversity Management [EDM] Division [NHPC] which has been instrumental in the preparation of the Sustainability Report for FY 2023-24.

We also express our sincere appreciation to the various concerned divisions of the Corporate Office, including Company Secretary, Finance, Human Resources, Planning, CSR, Contracts, R&D, Safety, EMS, EDM, and other Divisions for their inputs on the Sustainability Report. Their insightful contributions and invaluable feedback have significantly shaped the quality and comprehensiveness of this report.

Lastly, we commend the relentless efforts and dedication of the ESG team members from the Corporate EDM Division. Their hard work and commitment have been pivotal in the successful compilation and review of the Sustainability Report for FY 2023-24.



**Shri D. P. Rathore**  
Gr.DGM [Environment]



**Shri Manoj Kr. Singh**  
Gr.SM [Environment]  
Nodal Officer [ESG/ BRSR]



**Ms. Pooja Sundi**  
Manager [Environment]



*Herbal Park at Corporate Office, Faridabad*





A Navratna Company



# NHPC Limited

[A Government of India Enterprise]

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**Corporate Office:** NHPC Office Complex, Sector-33, Faridabad-121003

CIN: L40101HR1975GOI032564, Website: [www.nhpcindia.com](http://www.nhpcindia.com)