

EXCEL EVOLVE ELEVATE

2024-25

14th Sustainable Development Report



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ABOUT THE REPORT



This report, our 14th Sustainability Report for the fiscal year 2024-25, is an endeavour by us to communicate our performance on Environmental, Social and Governance fronts to all our stakeholders in a concise, clear and transparent manner. Being one of India's premier aluminium manufacturing companies, we ensure that the interests of stakeholders remain at the forefront of our efforts. The report covers material issues, sustainability strategies, performance metrics, significant organisational achievements, challenges encountered, and actions taken to address stakeholder concerns. In short, this report highlights our commitment and achievements in the sustainability journey in a shared effort towards a sustainable future.

The reporting framework of this report adheres to the GRI Sustainability Reporting Standards, aligning with the reporting principles of the GRI Standard, including materiality, stakeholder inclusiveness, sustainability context, and completeness, ensuring a comprehensive coverage of our contributions to sustainable development. No effort has been spared to present facts in a clear, accurate and reliable manner. A detailed description of material issues and their prioritisation is included in this report. The contents and disclosures adhere to the guidance of GRI Standards principles, technical protocols, and disclosure protocols. A comprehensive index of GRI disclosures and their locations is duly included in this report.



This report has been crafted in accordance with the GRI Standards 2021.

This report delineates concise information pertaining to sustainability performance, material risks, and governance structures for the period spanning April 1, 2024, to March 31, 2025. It offers an integrated overview of Nalco's operations, specifically in Odisha, which include the Bauxite Mine, Alumina Refinery, Aluminium Smelter, Captive Power Plant, Coal Mines and the Visakhapatnam port facility. Exclusions from this report comprise joint ventures and certain non-material topics, with clear boundaries for material topics delineated within the document. Notably, some non-material subjects, such as the 'policy for responsible sourcing of bauxite,' are addressed in response to stakeholder interest.

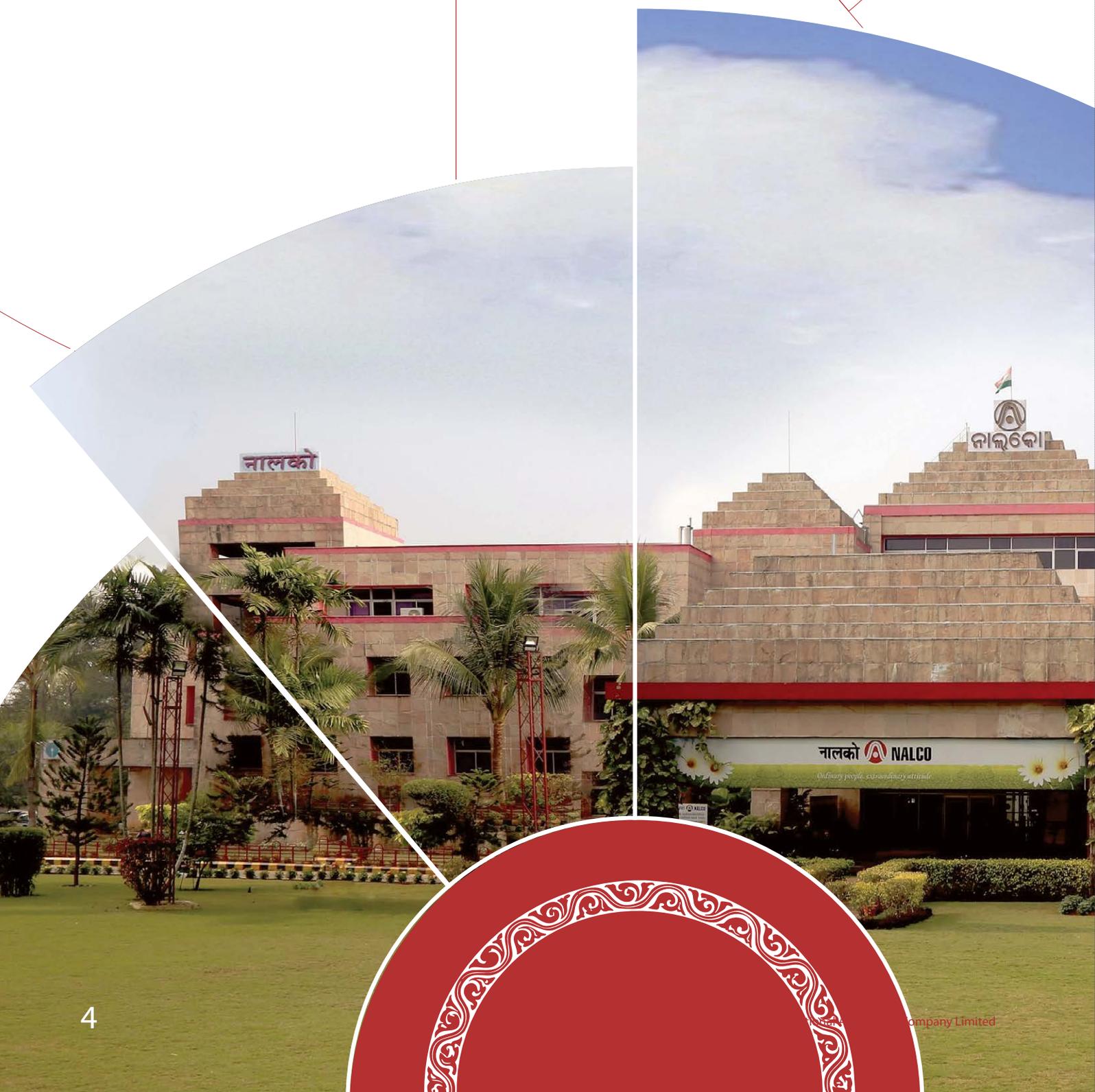
Thoroughness and accuracy in data verification have been ensured across various levels. Our primary data sources include documentation such as the Annual Report and Financial Statements, which undergo rigorous scrutiny. We employ diverse internal reporting systems to gather and evaluate relevant data for inclusion in our reports, adhering to strict internal controls throughout the data collection and analysis processes. When applicable, we transparently disclose any significant constraints or limitations affecting the information presented. Data presented in this report wrt energy, GHG emissions, water, and waste has been **subjected to third-party assurance as part of the requirements specified by SEBI for the BRSR (Business Responsibility & Sustainability Report) for FY 2024-25, which is included in our Annual Report.** Therefore, additional third-party assurance for this report is not considered a pertinent requirement.

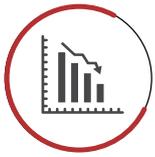
We value feedback and welcome contributions and ideas from all of our stakeholders. For any feedback and suggestions regarding the report, kindly contact the following personnel.

GM (TQM)

NALCO Bhawan, P/1, Nayapalli,
Bhubaneswar - 751013, Odisha.
Email: sustainability@nalcoindia.co.in,
Website - <https://nalcoindia.com/>

ESG HIGHLIGHTS





Lowest Cost Producer in the World*

Bauxite
Alumina



EBIDT (in INR Crore)

7,921.65



A leading Net FOREX earning CPSE in India



Social contribution

Around 1,33,000 patients in the periphery of plant areas extended medical treatment by MHUs & OPDs



Green initiatives

1,79,194 saplings planted,
Net 281 MU wind power generated

*Position retained as per Wood Mackenzie Report



NALCO Bhawan Corporate Office



CMD address on the highest-ever profit

VISION, MISSION & CORE VALUES



Vision

To be a Premier and Integrated company in the Aluminium value chain with strategic presence in Mining, both domestic & global, Metals and Energy sectors.



Mission

To sustainably grow multi-fold in Mining, Alumina and Aluminium business along with select diversification in Minerals, Metals and Energy sectors, while continuously improving on efficiency and business practices, thus enhancing value for all stakeholders.



Core Values:

- B • Benefitting Stakeholders** - We provide our customers, suppliers and other stakeholders with the utmost level of value, service and satisfaction.
 - E • Excellence and Quality** - We ensure that our products, manufacturing & business processes adhere to the highest quality levels and standards.
 - S • Sustainability** - We relentlessly pursue sustainable practices and create a positive impact on the communities we engage with.
 - T • Trust & Integrity** - We conduct ourselves with dignity, integrity, equity, transparency and accountability to build trust.
-

MESSAGE FROM CMD



Dear Stakeholders,

We are pleased to present our 14th annual Sustainable Development Report for FY 24-25 that adheres to GRI's sustainability reporting standards and illustrates how we have integrated environmental and social performance with economic performance while upholding good governance. While the world economy in general and the Indian economy in particular continue to grow despite global geopolitical and trade uncertainties, so does the need for responsible resource management, social equality and ethical governance. As an organisation that listens, learns and

leads in its quest for business excellence, we measure our true performance in terms of the impact on our planet and the communities.

Economic Performance and Innovation

Continuing with the trend of surpassing previous records, our company achieved outstanding economic results for the reporting year, enabled by cost-effective operations and buoyed by a favourable business climate. Our sales turnover and Profit after tax (PAT) increased by 27.5 % & 158.5 % over the previous year. Our production and sales figures were in keeping

with plans and projections, with the absence of any major disruptions.

Riding high on the rising demand of Aluminium in the fast-growing economy of India and also the demand of Alumina Hydrate in the international market, our company is well poised for quantum leaps in operations with expansion projects. Our expansion project for adding a 5th stream at the Alumina Refinery is in full swing and expected to be operational in 2026. Pottangi Bauxite Mines is also expected to be operational in 2026. As for Aluminium smelting capacity, a brownfield smelter expansion project of 0.5 MTPA at Angul has been rolled out, which will take a definite step very soon. Not content with the core business, we have diversified into renewable energy generation with Wind power plants, upstream raw material security with a caustic soda JV and downstream with Aluminium Park JV. We have also ventured into the acquisition of Strategic Minerals overseas with a JV.

On the innovation front, we endeavour to innovate not only to meet the needs of today but also to create solutions that will benefit future generations. Backed by infrastructure that includes a full-fledged R&D centre and several collaborations, we have steadily developed solutions for the industry, e.g. waste recovery, energy saving and product development. In the reporting year, we spent a total of INR 43.23 crores towards R&D expenditure and our achievements include the development of the Alumina certified reference material (CRM), a first in the country.

Environmental & Social Stewardship

Since its inception, our company has placed due emphasis on managing environmental footprint and gone beyond compliance for excellence in environmental performance. We have assiduously contained emissions, effluents and waste and assimilated technologies and best practices to reduce or mitigate the impacts of our operations on air, water and land, while adopting the circularity principle wherever possible. With an avowed intention to conserve resources, we have diligently monitored consumption of raw materials, energy and water, with several initiatives in that direction.

Our consistent record of IBM's 5-Star rating for Panchpatmali Bauxite Mines and a multitude of environmental excellence awards for our plants is a testament to our resolute efforts.

During the reporting year, among several accomplishments, we completed construction of the second red mud pond for Alumina Refinery, did EPR registration for use of plastic materials in packaging, chalked out augmentation of the nanotechnology based effluent treatment plant at Smelter, and used 93.3 Mill.

Units of renewable energy wheeled from our own Wind Power plant at Gandikotta, commissioned an additional 40 Kwp roof-top solar capacity at bauxite mines and started trial co-firing of bio-mass pellets at the captive power plant. We spent INR 15.45 crores on green-belt activities and planted 1,79,194 saplings, the bulk of it at Panchpatmali Bauxite Mines to preserve the ecosystem and biodiversity.

On the social front, apart from investing in health, safety, wellbeing and morale of our employees, we have reached out to the communities in the peripheral vicinity of our operations. Re-affirming our firm commitment to bring social development to the vulnerable and marginalised, we spent INR 61.3 crores towards CSR expenses during the reporting year, with thrust areas being health care, education, drinking water, rural development and socio-economic development of the communities in periphery villages.

Green Transition

As the world relentlessly moves to a low-carbon future, Aluminium plays a crucial role in the transition, being a versatile, lightweight, durable and highly recyclable metal. Use of Aluminium in electric vehicles, renewable energy systems and energy-efficient buildings is growing in leaps and bounds. The demand for aluminium is growing worldwide as governments and regulatory bodies are scrambling for low-carbon solutions and renewable energy.

While the same is a boon for our business, we face the mandate to reduce the carbon footprint of our own operations. This is a formidable challenge, as making aluminium is a highly energy-intensive process, and we must consider both the feasibility and the economics of alternatives.

Nevertheless, we resolve to stand by India's climate commitments to become net-zero, to reduce emission intensity and to increase energy generation from non-fossil fuels. We are in the process of developing a road map that will define and guide our actions.

Moving Forward

Our stakeholders expect nothing less than the highest standards in every aspect of our business, and we are committed to strong governance to ensure the same. While it is a complex and difficult journey to reach true sustainability, we assure all stakeholders that we will continue to set ambitious goals, track our progress and remain accountable to our mission, vision and core values.

Thank you,
Shri Brijendra Pratap Singh
Chairman cum Managing Director, NALCO

CORPORATE OVERVIEW

About NALCO

National Aluminium Company Limited (NALCO) is a prominent Central Public Sector Enterprise classified under Schedule 'A' and conferred with the distinguished 'Navaratna' status by the Department of Public Enterprises, Govt. Established on January 7, 1981, with our registered office being located at Bhubaneswar, Odisha, we are one of India's largest integrated complexes specialising in bauxite, alumina, aluminium, and power generation. Our role is crucial in the country's industrial landscape, with the Indian government holding a 51.28% stake in the company.

Since commencing commercial operations in 1987, we have consistently demonstrated operational excellence and resilience, maintaining profitability through the years. A thrust on product quality and reliability has positioned us among the nation's top foreign exchange-earners. International recognition as the lowest-cost producer of bauxite and alumina validates our commitment to efficiency and competitiveness in the market. For further details, please visit our website at <https://nalcoindia.com>



Nalconagar, Bhubaneswar

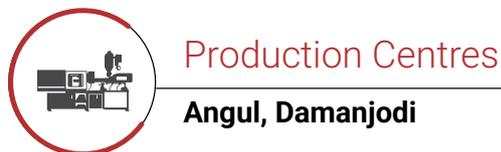
Organisation profile

We are one of the country's largest bauxite, alumina, aluminium and power complexes. We operate a Bauxite Mine with three blocks of combined capacity of 99.75 lakh tonnes per annum (TPA) and a 21.00 lakh TPA normative capacity Alumina Refinery in Damanjodi, located in the Koraput district of Odisha. A 4.60 lakh TPA Aluminium Smelter and a 1200 MW captive power plant are located at Angul, Odisha. Additionally, we have captive Utkal-D&E Coal Mines of 40 lakh TPA capacity at Chhendipada in Odisha and 14 lakh TPA port facilities at the Visakhapatnam seaport for export of alumina as well as import of caustic soda lye.

We operate seven stockyards across India and registered sales offices in major cities like Delhi, Kolkata, Mumbai and Chennai.

We were the first public sector company in India to enter the global metal market by registering on the London Metal Exchange (LME) in May 1989. Since 1999, we have been listed on the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE).

Locations



Scale of Operation

Activities, Brands, Products and Services



Aluminium Products

Product Range and Applications:

- Product portfolio includes Standard Ingots, Alloy Ingots, T-Ingots, Sow Ingots, Billets, Wire Rods, Cold Rolled Coils, Sheets, and Chequered Sheets.
- Our Ingot offerings—Standard, Alloy, T, and Sow —serve as inputs for a wide range of end-use products.
- Billets are the primary input for producing premium-quality extrusions. Our high-speed alloy billets are specifically designed to enhance the efficiency of the extrusion process.
- Wire Rod Coils are inputs for the manufacturing of conductors and cables.
- Rolled Products and Chequered Sheets meet the needs of the manufacturing and automotive sectors, while our Foil Stock is widely utilised in the packaging industry.



Alumina Products

Alumina product range includes Calcined Alumina, Alumina Hydrate, and Speciality Hydrate.

- Calcined Alumina is a crucial input for various industries, including aluminium smelting, refractories, ceramics, and high-alumina cement.
- Alumina Hydrate is an essential component in the production of alum, poly-aluminium chloride, and other specialised chemicals.
- Speciality Hydrates are utilised in a wide array of applications, serving as filler materials in plastics, rubber, paper, fire retardant chemicals, and in the manufacturing of alumina chemicals.



Power Products

Renewable power generated in our Wind Power Plants is partly used to meet the requirements of our production sites, and the rest is injected into the respective grids.



Employment

As of 31st March, 2025, our Company had a total of 4,803 employees on role.

(Ref: ESG Databook)

Markets Served



We have established a strong presence in key geographic regions, including Southeast Asia, the Middle East, the Indian Subcontinent, China, and the USA, in addition to the domestic Indian market. As of FY 2024-25, our markets spanned 24 states across India and 9 countries internationally.

Supply Chain

We have worked over the years to build a strategic, robust, reliable and sustainable supply chain for key raw materials and fuels, adhering to all transparency norms. There is a special emphasis on procurements from Micro and Small Enterprises (MSEs). These local partners are crucial in our sustainability efforts, and we are dedicated to fostering their growth and development.

We prioritise resource efficiency throughout our supply chain, from sourcing to distribution, through close collaboration with suppliers. Furthermore, we strive to ensure sustainable sourcing by carefully selecting transportation methods and ensuring that our suppliers adhere to established social responsibility standards.

Ownership & legal structure

Majority of NALCO's ownership is held by the Government of India, followed by Foreign Portfolio Investors and the Indian Public. Please refer to the Databook for the shareholding pattern as on 31st March 2025.

External Initiatives

NALCO's policies, procedures, and operational guidelines stemming from the guidelines set forth by the Department of Public Enterprises are aligned with global standards and initiatives, including the UN Sustainable Development Goals and the Universal Declaration of Human Rights. Our commitment to responsible business practices is further reinforced by adherence to the guidelines set forth by the International Labour Organisation (ILO) and the National Guidelines for Responsible Business Conduct as adopted by the Government of India.

Our annual Business Responsibility & Sustainability Report (BRSR), which is prepared in accordance with SEBI regulations, serves as a key component of our Annual Report.

Our Bauxite Mines operate in strict accordance with the regulatory framework established by the Indian Bureau of Mines (IBM), which in turn ensures sustainable mining practices.

Implementation of international ISO standards-based management systems for Quality, Environment, Occupational Health & Safety, Energy, Social Accountability and Information Security, corresponding regular audits and reviews, ensures that the risks & concerns are duly taken care of.

In support of the nation's developmental goals, NALCO actively engages in initiatives such as Swachh Bharat Abhiyan, Make in India, and Digital India.

Membership of Associations

As on 31st March 25, NALCO had affiliation with 18(eighteen) trade & industry chambers/associations. The prominent affiliations are:

Aluminium Association of India (AAI)
Confederation of Indian Industry (CII)
Standing Conference of Public Enterprise (SCOPE)
Chemicals and Allied Products Export Promotion Council (CAPEXIL)
Federation of Indian Mineral Industries (FIMI)
Federation of Indian Export Organisations (FIEO)
National Institute of Personnel Management (NIPM)
International Chamber of Commerce (ICC)
Indian Chamber of Commerce (ICC)
Indian National Committee- World Mining Congress
National Safety Council (NSC)
Engineering Export Promotion Council (EEPC)
Utkal Chamber of Commerce (UCC)



Leadership Team

Corporate Governance

We regard strong governance as fundamental to our success and growth. Our Board of Directors, comprising professionals with distinguished careers and proven track records, sets the strategic direction and oversees the company's performance. The Board represents the interests of shareholders while also considering the wider community of stakeholders.

Our governance practices follow the guidelines of the Securities and Exchange Board of India (SEBI) and the Companies Act of 2013. Also being a CPSE, we comply with the directives of the Department of Public Enterprises.

Effective governance at NALCO has led to transparency, accountability, and compliance, fostering a culture of integrity and trust.

Our Approach to Governance

Our company is dedicated to creating value for all stakeholders while maintaining high standards of corporate governance. We subscribe to responsible practices in all activities and actively engage with the communities we serve.

Governance Structure

Our Board of Directors provides strategic leadership and oversight, ensuring that long-term and short-term objectives align with stakeholder expectations. The Board is accountable to shareholders and operates within the framework of applicable laws and regulations, including the Companies Act, SEBI guidelines, and DPE directives for public sector enterprises. Directors are appointed by the Government of India based on merit in a process overseen by the Public Sector Enterprises Board (PSEB).

We are a Public Sector Undertaking with the Government of India as our primary shareholder. As of March 31, 2025, the Government held a majority stake of 51.28% in our company. The remaining 48.72% of the equity shares are distributed among a diverse group of shareholders. This shareholder structure reflects our status as a government-owned enterprise and underscores the nation's strategic interest in our operations.

Leadership

Functional Directors, including Chairman-cum-Managing Director, are appointed by the President of India for a period of 5 years from the date of assuming charge or till the date of superannuation or until further orders of the Government of India, whichever is earlier. Part-time Official Directors are nominated by the Administrative Ministry, and they continue in office till further orders from the Administrative Ministry. Part-time Non-official (Independent) Directors are appointed by the President of India for a tenure of 3 years. As of 31st March 2025, the Board consisted of six full-time functional directors, including the Chairman and Managing Director and two part-time official directors. By the same date, appointment of new part-time (independent) Directors to the Board was in process after the completion of the tenure of previous ones. During different periods in FY 2024-25, seven independent directors had served on the Board and various board-level committees

Board Level Committees

At our Company, committees are established at the Board level, focusing on specific areas and with charters of functions. These committees include both functional and independent directors. There are both statutory and voluntary committees, all of which operate under the same governance standards. These committees are essential in supporting the Board's decision-making process.

Statutory Committees

Audit Committee
Nomination & Remuneration Committee
Stakeholder Relationshipw Committee
Risk Management Committee
CSR & Sustainability Development Committee
Technology Committee
Share Transfer Committee

Non- Statutory Committees

Human Resource Committee
Ethics and Corporate Governance Committee
Committee of Directors for Projects and New Ventures

Performance & Remuneration of the Governance Body

The remunerations, benefits and Performance Related Payments (PRP) of Functional Directors are governed as per extant DPE guidelines. MCA has exempted Government Companies from formulating policy relating to remuneration of Directors as required under Section 178 of the Act. Government Nominee Directors are not entitled to any remuneration/sitting fees as per DPE guidelines. Independent Directors are paid sitting fees for attending each meeting of the Board and for attending meetings of Board constituted Committees within the statutory limit prescribed under the Act. For comprehensive information on our evaluation and remuneration policies, please refer to our 44th Annual Report: <https://nalcoindia.com> > investor-services > annual reports > 44th Annual Report 2024-25.pdf.

Directors of the Company are evaluated by the Administrative Ministry; no separate review of the performance of independent directors, chairperson and the Board as a whole is done. Consequently, a formal evaluation report within this sustainability report is not mandated.

e-Governance

Technology is a fundamental component of our commitment to transparency, integrity, and ethical practices. Implementation of the SAP Enterprise Resource Planning (ERP) system has allowed us to streamline our core business functions, including sales, finance, materials management, human resources, and production planning. To further enhance efficiency and transparency, we access the Government e-Marketplace (GeM) and the Central Public Procurement Portal (CPPP) to facilitate seamless procurement processes. Our digital ecosystem also extends to our employees through centralised applications and self-service portals, ensuring a smooth experience. To promote accountability and transparency, we have introduced the e-Office system, which supports remote work and efficient document management. Additionally, we have deployed a range of digital solutions, including online vendor bill tracking, contract labour management, recruitment portals, and mobile applications, all designed to enhance the experience of our stakeholders. Our organisation has implemented various online web-based applications to strengthen governance and monitoring. These applications enable real-time tracking of capital expenditure, fund utilisation, compliance management, and vigilance complaint resolution.

Internal Control Systems



At our Company, an adequate system of internal controls has been established to ensure:

- Compliance with applicable statutes, policies & procedures, rules & regulations and delegated authority.
- Adherence to applicable Indian Accounting Standards and Significant Accounting Policies.
- Proper recording of transactions and timely reporting.
- Effective use of resources and efficient operations.
- Safeguarding of assets.

The approved policies, procedures & guidelines are effectively and responsibly being used while executing the business of the Company. Our Company has developed & implemented an Internal financial control framework duly approved by the Audit Committee.

Material observations of internal auditors are submitted to the Audit Committee for its review, analysis and advice to further strengthen the internal control system. Action Taken Report thereon is submitted to the Audit Committee periodically.

During the reporting year, controls were tested, and no reportable material weakness in design and effectiveness was observed, as certified by Internal Auditors and as opined by Statutory Auditors in their report.



Inauguration of Smart Access Control System at Port Facilities

Policies and Manuals

Current Policies and Manuals	Web Address
Code of Business Conduct and Ethics for Board Members and Senior Management	https://nalcoindia.com > company > Policies & Documents > Code of Conduct
Fraud Prevention Policy	https://nalcoindia.com > company > Policies & Documents > Fraud Prevention Policy
Whistle Blower Policy	https://nalcoindia.com > company > Policies & Documents > Whistle Blower Policy
Delegation of Power	(Internal circulation only)
CVC Vigilance Manual	https://nalcoindia.com > Vigilance > Manuals & Policies > CVC Vigilance Manual
Marketing Guidelines	(Internal circulation only)
Contracts Manual	https://nalcoindia.com > company > Policies & Documents > Contract Manual
Purchase Manual	https://nalcoindia.com > company > Policies & Documents > Purchase Manual - 2024
Independent External Monitor for Integrity Pact	https://nalcoindia.com > company > Policies & Documents > Independent External Monitor for Integrity Pact
Nalco Integrity Pact	https://nalcoindia.com > company > Policies & Documents > Nalco Integrity Pact
Code of Practices and Procedures for fair disclosure of unpublished price-sensitive information	https://nalcoindia.com > company > Policies & Documents > Code of Practices and Procedures for fair disclosure of unpublished price sensitive information
Risk Management Policy	https://nalcoindia.com > company > Policies & Documents > Risk Management Policy
NALCO Recruitment & Promotion Rules for Executives	https://nalcoindia.com > company > Policies & Documents > HR Policies & Procedures- Recruitment & Promotion Rules 2017 & SOP
Equal Opportunity Policy for Persons with Disabilities	https://nalcoindia.com > company > Policies & Documents > HR Policies & Procedures- Equal Opportunity Policy for Persons with Disabilities
Dividend Distribution Policy	https://nalcoindia.com > company > Policies & Documents > Dividend Distribution Policy
Social Accountability Policy	https://nalcoindia.com > company > Policies & Documents > Social Accountability Policy
Policy on related party transaction	https://nalcoindia.com > company > Policies & Documents > Policy on related party transaction
Sustainable Development Policy	https://nalcoindia.com > company > Policies & Documents > Sustainable Development Policy wef 19.01.25



Board Room

Compliance of the guidelines on Corporate Governance

We are committed to upholding high standards of corporate governance. As part of this commitment, we submit quarterly self-appraisal reports to the Department of Public Enterprises (DPE) to assess our adherence to their guidelines. We are pleased to report that we received a "very Good" rating for the 2024-25 financial year.

For more details on our self-appraisal reports, please visit our website: <https://nalcoindia.com/investor services > self-evaluation report on corporate governance>.

Policy Influence

NALCO, as a member of top trade associations, engages in influencing public and regulatory policy responsibly and transparently. NALCO does not make any monetary contributions to and spending for political campaigns, political organisations, lobbyists or lobbying organisations.

Ethics & Integrity

Moral and ethical principles steadfastly guide our Organisation and employees in every transaction, action, and decision. We firmly believe that these values are absolutely critical for building trust with stakeholders, and our sustained growth is dependent on the same. Every course of action taken by us is rooted in these principles, ensuring that our business operates with the highest standards of integrity, transparency and responsibility.

Values and Principle-driven Company

NALCO is built on a strong foundation of values such as transparency, accountability, and responsibility. Our governance framework is in line with government and institutional regulations and corporate best practices. We have established sound policies and procedures to prevent fraud, bribery, and unethical behaviour. This includes detailed guidelines for contracts, procurement, and marketing, as well as protections for whistleblowers. Our commitment to transparency is demonstrated through initiatives like the Integrity Pact and the Public Information Disclosure and Protection of Informer scheme.

Code of Conduct

At NALCO, there is a Model Code of Business Conduct and Ethics, which all board members, government nominees, independent directors, and senior management are required to adhere to. This code outlines our ethical principles, guidelines for disclosing conflicts of interest, accountability measures, compliance audit procedures, and protections for confidential information. To ensure adherence, we have implemented strict disciplinary actions for any violations of the code. During the reporting period, we are pleased to report that no breaches occurred.



Vigilance Awareness Week oath taking

Mechanisms for Advice and Concerns about Ethics

Regular audits, including those by the Comptroller and Auditor General, help us spot areas for improvement. Our Vigilance department actively monitors for any ethical risks. We have clear protocols for handling contract deviations, which include independent monitors and strict guidelines. For serious issues, we conduct thorough investigations and seek expert advice when necessary.

Integrity Pact

In a bid to promote fair and transparent business practices, we require all bidders for contracts over INR 50 lakh to sign an Integrity Pact. This pact is designed to effectively prevent bribery and corruption. We engage with independent external monitors to ensure proper oversight and quickly address any concerns that arise.

Whistle-blower Protection

NALCO's whistle-blower policy encourages employees to report unethical or illegal activities without fear of consequences. This policy protects those who disclose wrongdoing in good faith and covers a wide range of misconduct. The Policy covers a wide range of misconduct, including:

- Abuse of authority
- Violations of contracts
- Negligence that could harm public health and safety
- Data manipulation or falsification
- Financial irregularities, including fraud
- Theft of confidential or proprietary information
- Breaches of legal or regulatory requirements
- Misuse of company funds or assets
- Violations of the employee code of conduct
- Unethical, biased, or imprudent behaviour

Fraud Prevention Policy

This policy covers all cases of fraud, whether confirmed or suspected, involving any individual associated with NALCO. We are committed to the strict implementation and unwavering adherence to this policy throughout all aspects of our corporate operations.

As per the independent auditors' report, no fraud by the Company or any fraud on the Company had been noticed or reported during the reporting year and no report had been filed under Sub-section (12) of Section 143 of the Companies Act by the auditors in Form ADT-4 as prescribed under Rule 13 of Companies (Audit and Auditors) Rules, 2014 with the Central Government during the reporting year.

Corporate Vigilance

The vigilance function plays a crucial role in maintaining internal vigil and preventing unethical practices. At NALCO, our vigilance department is led by a Chief Vigilance Officer (CVO) who is appointed by the Government of India. The department is staffed full-time by a team of vigilance officers selected under the CVO's

guidance. We have established the vigilance function at three key locations: our corporate headquarters in Bhubaneswar, the S&P Complex in Angul, and the M&R Complex in Damanjodi.

During the reporting year 2024-25, our Vigilance department received 81 complaints. Investigations were completed in respect of 25 complaints, and 5 complaints were under process as of 31st March, 2025. The Vigilance Department also conducted 18 Capacity Building Programs as per the mandates of the Central Vigilance Commission (CVC). As part of Preventive Vigilance Measures, the Vigilance Department carried out 09 Surprise Inspections, 08 Sample Checks, 14 Regular Inspections, 09 CTE type inspections and one System Study. Furthermore, the Vigilance Department carried out 3 Months long Vigilance Awareness Campaign in NALCO as per the mandate and guidelines of CVC.

In the Company's online Vigilance Portal, there is a user-friendly interface for submitting complaints and tracking their resolution. The portal simplifies the complaint-handling process and improves the effectiveness of our vigilance operations.

The Vigilance function



Study of contract/purchase/ sales files and Internal Audit Reports



Investigating complaints



Implementation of Integrity Pact



Surprise checks in sensitive areas



Advising on the rotation of officials in sensitive posts



Undertaking CTE type inspections & Scrutiny of audit reports



IT initiatives like Learning Portal, Online Vigilance Clearance, Online Exit Process and Online Vigilance Portal



Suggesting system improvements



Advising CMD on vigilance matters and matters relating to disciplinary procedures



Liaising with CBI



Scrutiny of Property Returns



Conducting training programs for awareness among employees and the general public as a part of a preventive vigilance mechanism

Right to Information

As part of our commitment to transparency and adherence to the RTI Act, we have established a due mechanism for responding to RTI queries and appeals by appointing an appellate authority, a Public Information Officer (PIO), and eight Assistant Public Information Officers (APIOs) who process RTI requests. We strive to make it easy for individuals to submit RTI queries and appeals by accepting both

physical and online submissions. Since 2017, we have actively engaged with the DoPT Government of India's RTI portal (<https://rtionline.gov.in>). For information regarding RTI applications and appeals received during the year, please refer to the ESG Databook. Third-Party Transparency Audit conducted during the year elicited satisfactory remarks from the Auditors.

Operations Assessed for Risks Related to Corruption

We have implemented strong anti-corruption measures to protect our operations. All significant transactions are thoroughly reviewed to ensure compliance with our internal policies and procedures. Additionally, these transactions are rigorously audited by the Comptroller and Auditor General (CAG). Our vigilance department

conducts regular inspections to maintain constant oversight. We also use a comprehensive system of sample checks and detailed examinations to reinforce our commitment to anti-corruption. To further enhance our compliance framework, we carry out regular internal audits.

Communication and Training about Anti-Corruption Policies and Procedures

We prioritise building a strong ethical framework through comprehensive training and open communication. Our approach includes the following key elements:

1. Continuous Training: Employees receive ongoing training to promote vigilance and integrity.
2. Regular Training Sessions: We conduct sessions to ensure adherence to evolving policies and procedures, covering:
 - In-depth understanding of company rules and regulations
 - Comprehensive knowledge of Central Vigilance Commission (CVC) guidelines
 - Familiarity with disciplinary procedures
 - Proficiency in tendering and procurement processes
 - Awareness of common irregularities
 - Specialised Training for Vigilance Officers
3. Engagement Initiatives: Our training efforts are supported by speeches, seminars, and discussions centred on vigilance and anti-corruption.



Risk Management & Sustainability Strategy

Enterprise Risk Management

We have established a strong risk management framework to identify, assess, and mitigate potential threats to our business. A Board-level committee oversees this process, ensuring strategic alignment. Regular risk assessments and evaluations are conducted, with identified risks documented and escalated as necessary. This proactive approach safeguards our operations and promotes sustainable growth.

Regular reviews and evaluations are conducted to proactively manage risks. Designated risk officers document identified risks and maintain risk registers, which are reviewed by our internal auditors and senior management. Any issues are escalated to the Risk Management Committee for guidance.

Precautionary Principle of Approach

We are committed to the precautionary principle, emphasising environmental and human safety. Our strong risk management framework incorporates environmental, social, and economic factors. By keeping abreast of the latest research from respected organisations such as NEERI, TERI, IPCC, and UNEP, we promote a culture of continuous learning and improvement. Our commitment to excellence is further demonstrated by our strict adherence to ISO management system standards.

To enhance our precautionary approach, we have developed a comprehensive policy and guideline framework. Each project undergoes a thorough assessment to identify potential financial, environmental, and social impacts, which we proactively address through collaboration with all stakeholders.

Sustainability Strategy

Consistent with our Vision, Mission and Core Values, our sustainability strategy is inherent in all business decisions we take. All business opportunities, i.e. making investments, forming partnerships, embarking on ventures, expansion projects, upgradation projects, etc., are taken with a view to long-term value creation and carefully assessed wrt environmental and social impacts. Central to our sustainability approach is a strong dedication to stakeholder engagement, inclusive growth and community development, which we believe is key to creating lasting value for both our business and stakeholders. We track our progress using key performance indicators (KPIs) aligned with our organisational objectives, enabling us to continuously evaluate and improve our performance.

Our Sustainable Development Policy fully aligns with the National Guidelines on Responsible Business Conduct (NGRBC) and, as stated, we are committed to responsibly conducting our business and to continually evolve our structure, policies, systems, processes and practices to match global standards and to ensure a better planet for future generations.

Social Strategy

Apart from ensuring that a fair, rewarding, safe, healthy, lively and wholesome work environment is in place for employees, we have wholeheartedly promoted inclusive growth and equitable development in the local communities in the peripheral areas. Our CSR policy, aligned with the Companies Act of 2013, provides a strong framework for designing, implementing, and monitoring initiatives that support sustainable communities. We focus on key areas such as education, healthcare, sustainable livelihood enhancement, safe drinking water, rural infrastructure, cultural preservation and sports development.

The NALCO Foundation, a dedicated arm of our organisation leads project-based initiatives that address specific community needs while ensuring accountability and engaging stakeholders. The NALCO Foundation plays a crucial role in our social outreach, empowering youth, women, and local governance bodies, contributing to their overall development and capacity building.

Plantation at Panchpatmali Bauxite Mines



Environmental Strategy

We are committed to effectively dealing with the environmental impact of our operations. Our approach to environmental stewardship focuses on reducing degradation, expanding renewable energy sources, and using advanced energy-efficient technologies. Through initiatives such as reforestation, responsible resource management, water conservation and waste management practices, we strive for environmental excellence. Our operational units have achieved ISO 14001:2015 certification, highlighting our dedication to going beyond mandatory regulations and establishing benchmarks.

Raw Material & Fuel Security

We have obtained long-term leases for the Panchpatmali Bauxite Mines and the Pottangi Bauxite Mines, ensuring adequate bauxite reserves. Additionally, to further strengthen our resource base, we are operating mining leases for the Utkal-D& E coal mines.

Responsible Mining

We are cognizant of the responsibilities associated with mineral extraction and the emphasis placed upon sustainable mining practices. We take due care in deploying the right mining technology, methods and equipment, and follow strict mine closure plans and land reclamation strategies.

Environmental impact is minimised by implementing stringent controls to reduce noise, vibration, and air pollution. To maintain ecological balance, we use precision mining techniques, replace blasting with ripping & dosing, maintain a green barrier and ensure proper machinery maintenance. As a result, we have fully demonstrable sustainability in mining and have consistently secured 5-star ratings from IBM.

We are dedicated to continuous improvement in mining operations by refining our practices and assimilating the latest techniques, including IIoT. By proactively identifying and addressing risks, we work collaboratively with government authorities, communities, and stakeholders to promote sustainable mining practices.





NALCO's Policy for Responsible Sourcing of Bauxite

NALCO sources its entire Bauxite requirement from its own Captive Mines, located at Panchpatmali in the Koraput district of Odisha. NALCO has been mining Bauxite from the leased area granted by Government of Odisha and has all necessary statutory clearances from IBM (Indian Bureau of Mines, Government of India), OSPCB (Odisha State Pollution Control Board), DGMS (Directorate General of Mines Safety), MoEF&CC (Ministry of Environment, Forest & Climate Change, Govt. of India), Directorate of Mines, Govt of Odisha etc. All mining activities are carried out in accordance with the provisions, rules, and guidelines of the statute applicable to Mining.

NALCO's mines are located within the district of Koraput, where there is no widespread incidence of violence, armed conflict, political/ institutional instability, repression, war of liberation, insurgency or civil wars.

In order to mitigate risks arising on account of mining of bauxite, NALCO has established the following key measures:

- a) Mines has adequate mechanisms to ensure the security of its establishment and operations. The Central Industrial Security Force (CISF) has been deployed at NALCO's Mines to ensure the security of the establishment and operations. The CISF is an independent Central Government Force, under the aegis of the Ministry of Home Affairs, Government of India, which provides security cover to India's most critical infrastructure facilities. Monthly Security review meetings are held between the authorities of NALCO and CISF to review security risks and take necessary corrective action as required.

- b) NALCO neither makes payments to nor provides logistical assistance or equipment to any non-state armed group. There has been no instance of any non-state armed groups illegally controlling mine sites or transportation routes in the region of our bauxite mines.
- c) The role of the CISF, which is a public Security force, deployed by NALCO at its Mines facilities include maintenance of law (including safeguarding of human rights), providing security to Mines workers, equipment and facilities and protecting the mines site and transportation routes (within NALCO Mines area) from interference. Payments to the CISF (against salaries & other benefits of personnel) are made by NALCO every month. Details of payments made to CISF are disclosed publicly in NALCO's Annual Report, which is available in the public domain, for complete transparency, proportionality and accountability.
- d) Our Company has set up a Risk Management Committee at the Board level. This Committee reviews the exceptional Risk Reports and advises remedial measures from time to time. The risk mitigation measures are periodically reviewed to ensure that executive management controls risk through means of a properly defined framework. For the identified risks, the nominated risk officers maintain risk registers in a prescribed format, which are also reviewed by Internal Auditors of the Company and at senior management level. Deviations, if any, are reported to the Risk Management. Risk reports are furnished by Mines to the Corporate Office every month. The same is compiled for review by Board level committee.
- e) Further operational risks are identified at the Mines level through the establishment of HIRA teams. Each department has a HIRA (Hazard Identification and Risk Assessment) team to review the risks on a routine basis and devise an appropriate action plan for mitigation of the risks. Similarly, departmental HODs review the environmental and quality risks associated with their departments and take required mitigation measures.
- f) Ethics and transparency at NALCO's Mines are guided by central policies developed at NALCO's Corporate level. Our contract Manual and Purchase Manual have ample provisions to ensure fair deals with suppliers, contractors and service providers in matters of contract and procurement. Likewise, Marketing guidelines provide procedures and guidelines for fair, transparent and credible transactions in an international scenario. The Sustainable Development Policy reflect our commitment towards integrity, ethical practices and transparency. The system is further augmented with NALCO's approved and published "Fraud Prevention



Policy", "Whistle Blower Policy", "The Code of Business Conduct & Ethics for Board Members and Senior Management", "Code of conduct and procedures for fair disclosure of unpublished price sensitive information", Approved Conduct, Discipline and Appeal (CDA) Rules applicable to all executives of the Company, Certified Standing Order applicable to other employees etc.

- g) Any mala-fide deviation in the form of fraud, bribery, appeasement, etc., in any business transaction attracts stringent action as per the Company's Vigilance manual, CVC Guidelines, SEBI guidelines, Code of Conduct and other applicable guidelines. Any complainant lodging a complaint under the Public Information Disclosure and Protection of Informer (PIDPI) Scheme of Govt of India receives due protection as per the provisions of the scheme.
- h) NALCO does not offer, promise, give or demand any bribes to conceal or disguise the origin of minerals, to misrepresent taxes, fees and royalties paid to Central and/or State Governments for purposes of mineral extraction, trade, handling, transport and export. There is complete transparency in payment of fees & taxes, and royalties to the government, which are online transactions as per the requirements of government agencies.
- i) NALCO neither tolerates nor by any means profits from, contributes to, assists with or facilitates any form of torture, cruel, inhuman and degrading treatment or any forms of forced or compulsory labour, including Child labour, nor is any work extracted using coercion and/ or threat of penalty.
- j) NALCO's Bauxite mining operations are organised and large-scale in nature and do not come under the ambit of small-scale or artisanal mining, and are, therefore, hardly susceptible to the more serious abuses associated with the extraction and transport of minerals.

Alignment with Sustainable Development Goals of the United Nations

In 2015, the United Nations secured the support of all its member nations for the Sustainable Development Goals (SDGs), also known as the Global Goals. These goals represent a united global effort to eliminate poverty, protect the environment, and promote well-being and peace worldwide by 2030. The SDGs provide a detailed roadmap to achieve key objectives, including reducing inequality, combating climate change, and eradicating poverty.



Elements of the SDG Mapped to GRI Standards

- Earnings, wages and benefits (GRI 202-1)
- Economic development in areas of high poverty (GRI 203-2)
- Community Development (GRI 413-2)

NALCO Contribution

- We at NALCO ensure generous compensation for our employees, with non-permanent workers engaged through contractors consistently receiving wages above the prescribed minimum.
- Our sustainable livelihood and infrastructure development programs have significantly uplifted the local economy in the areas where we operate.
- Implement local community development projects based on a careful evaluation of the specific needs of the communities we serve.



Elements of the SDG Mapped to GRI Standards

- Significant indirect economic impacts (GRI 203-2)

NALCO Contribution

- Provide direct and indirect employment opportunities, which are essential for local livelihoods.
- Support a significant number of local suppliers through our operations.
- Our CSR programs play a crucial role in fostering self-reliance and generating livelihoods within local communities.



Elements of the SDG Mapped to GRI Standards

- Access to medicines (GRI 203-2)
- Air Quality (GRI 305-1, 305-2, 305-3, 305-6)
- Occupational health and safety (GRI 403-2 & 403-3)
- Spills and Water Quality (GRI 306-1, 306-2, 306-3, 306-4)
- Infrastructure investments (GRI 201-1 & 203-1)

NALCO Contribution

- We operate OPDs, mobile health units, and health camps that offer free medical consultations and dispense free medicines to people around our plant areas.
- We have established Occupational Health Centers to prevent the spread of occupational diseases.
- Continually monitor emission and effluent parameters and ensure effective spill containment.



Elements of the SDG Mapped to GRI Standards

- Access to medicines (GRI 203-2)
- Air Quality (GRI 305-1, 305-2, 305-3, 305-6)
- Occupational health and safety (GRI 403-2 & 403-3)
- Spills and Water Quality (GRI 306-1, 306-2, 306-3, 306-4)
- Infrastructure investments (GRI 201-1 & 203-1)

NALCO Contribution

- We provide generous support to schools and meritorious girl students in the areas surrounding our operations through our CSR initiatives.
- Established fully-aided schools in our plant townships for the children of our employees and other outstanding students.
- Offer in-house training institutes and sponsor external training programs to ensure regular skill enhancement for our employees and workers.



Elements of the SDG Mapped to GRI Standards

- Equal remuneration for women and men (GRI 202-1)
- Diversity and Equal Opportunity (GRI 405-1, 405-2)
- Gender Equality (GRI 401-1, 404-1, 404-3, 405-1)
- Non-discrimination (GRI 406-1)

NALCO Contribution

- We uphold a policy of equal pay for both men and women.
- Our recruitment and selection procedures ensure representation from all genders, geographical regions, ethnic groups, religious groups, and social classes.
- We do not tolerate any form of discrimination.



Elements of the SDG Mapped to GRI Standards

- Water (GRI 303-1, 303-3)
- Waste (GRI 306-2)
- Wastewater quality (GRI 306-1)

NALCO Contribution

- We have implemented rainwater harvesting, STP, ETP, and water conservation practices in our plants and mines.
- We ensure zero discharge to external areas, minimising any negative impact on water bodies.
- Support for Swachh Vidyalaya Abhiyan and Open Defecation Free (ODF) Villages

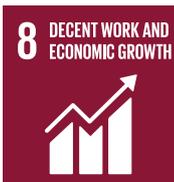


Elements of the SDG Mapped to GRI Standards

- Energy efficiency (GRI 302-1, 302-2, 302-3, 302-4)

NALCO Contribution

- We operate with Energy-Efficient Equipment and Systems, and achieve the specific energy consumption targets
- We generate renewable energy through rooftop solar power and wind power plants.



Elements of the SDG Mapped to GRI Standards

- Infrastructure investments (GRI 203-1)
- Earnings, wages and benefits (GRI 202-1)
- Employment (GRI 401-2)

NALCO Contribution

- We comply with all provisions for decent work as per the SA8000 Social Accountability certification.
- Ensure our supply chain adheres to social accountability norms.
- Consistently create and distribute significant economic value



Elements of the SDG Mapped to GRI Standards

- Infrastructure investments (GRI 201-1, 203-1)

NALCO Contribution

- We support infrastructure development programs for communities and society.
- We invest in R&D and have established a well-equipped R&D centre.
- Consistently promote innovation among employees through various reward schemes.



Elements of the SDG Mapped to GRI Standards

- Equal remuneration for women and men (GRI 405-2)

NALCO Contribution

- Ensure the same pay for the same rank without discrimination.
- Sponsor skill-development and technical training for unemployed youth from peripheral affected families.
- Assist underprivileged, needy, and differently-abled individuals through our CSR schemes.



Elements of the SDG Mapped to GRI Standards

- Infrastructure investments (GRI 203-1)

NALCO Contribution

- Utilise energy-saving technology and equipment, along with wind and solar power.
- Maintain controlled emissions and ensure no discharge to the environment.
- Prioritise water conservation in our operations.



Elements of the SDG Mapped to GRI Standards

- Energy efficiency (GRI 302-1, 302-2, 302-3, 302-4)
- Materials efficiency/ recycling (GRI 301-1, 301-2)
- Procurement practices (GRI 204-1)
- Spills (GRI 306-3)
- Transport (GRI 302-1 & 302-2)
- Water efficiency (GRI 303-3)
- Water quality (GRI 306-1)

NALCO Contribution

- We monitor raw material and energy consumption according to set norms.
- Achieve 100% reuse of overburden and actively reclaim mined-out areas.
- Recycling of aluminium scrap and aluminium dross
- We optimise energy consumption, control emissions, and monitor air and water quality to protect the environment.
- Optimise transport modes and routes for products and raw materials.



Elements of the SDG Mapped to GRI Standards

- Energy efficiency (GRI 302)
- Environmental investments (GRI 305, 306)
- GHG emissions (GRI 305-1, 305-2, 305-3, 305-4, 305-5, 305-6)
- Risks and opportunities due to climate change (GRI 201-2)

NALCO Contribution

- Monitoring of specific energy consumption targets
- Focus on energy conservation
- Projects in controlling emissions and effluents.
- We focus on renewable energy generation
- Monitor and manage our GHG emissions.



Elements of the SDG Mapped to GRI Standards

- Marine Biodiversity (GRI 304-1, 304-2, 304-3, 304-4)

NALCO Contribution

- We maintain zero water discharge, ensuring no impact on marine life.



Elements of the SDG Mapped to GRI Standards

- Environmental investments (GRI 305, 306)
- Forest degradation (GRI 305-1, 305-2, 305-4, 305-5)
- Mountain ecosystems and Natural habitat degradation (GRI 304-1, 304-2, 304-3, 304-4)

NALCO Contribution

- We allocate adequate resources for managing emissions, effluents, and waste.
- Focus on rehabilitating mined-out areas and conducting large-scale plantations for afforestation.
- Engaged a professional organisation for biodiversity investigations in the bauxite mine core and buffer zones, and the PCCF (Wildlife), Odisha, created and approved our wildlife management plan.



Elements of the SDG Mapped to GRI Standards

- Anti-corruption (GRI 205-1)
- Compliance with laws and regulations (GRI 307-1, 419-1, 416-2)
- Grievance mechanisms (GRI 2-16)
- Non-discrimination (GRI 406-1)
- Human Rights

NALCO Contribution

- We uniformly adhere to fairness, non-discrimination, and human rights principles.
- Committed to maintaining high standards of ethics and transparency.
- Implement a robust governance framework, including a contract manual, purchase manual, fraud prevention policy, whistleblower policy, CDA rules, standing orders, and an integrity pact.

Stakeholder Engagement & Materiality

True to our stated Core Values, managing trustworthy, mutually beneficial and enduring relationships with stakeholders remains a fundamental focus. The same is essential to our commitment to inclusive and responsible growth. Understanding the unique needs, interests, and expectations of the stakeholders is a key part of our engagement strategy. We believe that engaging in active dialogue with individuals, pressure groups, and organisations affected by our operations is vital for improving our overall performance, expanding our knowledge, fostering goodwill, and reinforcing our operational legitimacy.

Transparent and open communication has been crucial in building strong and lasting relationships with our stakeholders. Our process for identifying stakeholders is based on a thorough assessment of their impact on our operations and their influence in helping us achieve our corporate goals.

Stakeholder Identification

Our methodology for identifying stakeholder groups is predicated on the scope of engagement and guided by specific attributes. These attributes include:



Dependency:

We consider entities or individuals who rely on our operations, products, or services, as well as those upon whom our operations depend.



Responsibility:

We acknowledge groups or individuals to whom we have legal, commercial, operational, or ethical obligations.



Attention:

We prioritise stakeholders who require immediate attention due to financial, economic, social, or environmental issues.



Influence:

We recognise entities or individuals who can affect our strategic or operational decision-making.



Diversity:

We value groups or individuals who provide diverse perspectives, helping us gain new insights and uncover potential opportunities.

Prioritised Stakeholders



Government / Regulatory Bodies



Suppliers & Vendors



Investors & Shareholders



Contractors/other service providers



Employees



Industry Associations



Customers & Consumers



Civil society & local communities



Approach to Stakeholder Engagement

We actively engage with all our stakeholders, calibrating our interaction levels based on their influence and interest in our organisation. Our engagement strategy is supported by a thorough assessment of both internal and external stakeholders.

We carefully evaluate our position within our operational environment, focusing on the economic, environmental, and social aspects of sustainability. This reflection helps us identify any gaps in our responsible business strategy and take corrective actions when needed. By maintaining open and regular communication, we ensure that we have a clear understanding of stakeholder needs and expectations.

Stakeholder group	Mode of engagement	Concerns	NALCO's Response
Government & Regulators	<ul style="list-style-type: none"> Meetings with different Central and State Government Bodies, such as: Ministry of Mines, Ministry of Power, Ministry of Corporate Affairs, Ministry of Environment, Forests and Climate Change Different circulars, directives, office orders, letters and information Submissions of various returns & compliances to statutory Authorities 	<ul style="list-style-type: none"> MOU performance Infrastructure development Capital expenditure Tax & Dividend Labour relation & Labour welfare Corporate Social Responsibilities Compliance with various rules, acts, regulation and laws 	<ul style="list-style-type: none"> Compliance of Govt directives and alignment with the Government. Policies Performance MoU with the Ministry of Mines Apprising different Parliamentary Committees, Constitutional & Statutory Commissions and subordinate bodies Filing of Returns, Compliances, ATRs and status reports
Shareholders & Investors	<ul style="list-style-type: none"> Annual General Meetings, Periodic financial & performance reports to shareholders and investors Reports, Memorandum & Press releases of SEBI, CAG, Banks and Financial institutions Shareholders' surveys and meetings 	<ul style="list-style-type: none"> Profit & return on Investment Financial restructuring and disinvestment of Govt. Shares Share price & Dividend Grievance resolution Foreign exchange & exchange rate 	<ul style="list-style-type: none"> Quarterly results, Audited Financial performance Annual general meeting, Annual report Analyst meet & Analyst briefings Press releases, social media updates Shareholders' grievance handling
Employees	<ul style="list-style-type: none"> Official communications like office order, notice, circular Intranet Bipartite & tripartite meetings with labour unions, Collective bargaining Interaction with officers' associations Employee satisfaction surveys Grievance redressal forums 	<ul style="list-style-type: none"> Employee benefits and remuneration. Performance appraisal and recognition Career growth and succession planning Training and skill development Safe and healthy working conditions Quality of life 	<ul style="list-style-type: none"> Regular sharing of information Interaction with Unions, Officers Associations & similar forums Training & performance feedback Address by members of top management
Customers & Consumers	<ul style="list-style-type: none"> Regional and national customer meets Customers' plant visits and management interactions Advertisements in print and audio-visual media Customer Feedback, satisfaction surveys and grievance resolution Product information and response to enquiries 	<ul style="list-style-type: none"> Product quality, cost, and delivery Product life cycle, including environmental aspects Customer complaint resolution 	<ul style="list-style-type: none"> Stringent quality control and timely delivery Product information through the website customer satisfaction surveys Customer complaint resolution system Product support and downstream development

Stakeholder group	Mode of engagement	Concerns	NALCO's Response
Suppliers & Vendors	<ul style="list-style-type: none"> • Tender & contract • Periodic vendor meets • Regional, National and International trade fairs 	<ul style="list-style-type: none"> • Simplified procedure & timely payment. • Terms & conditions of purchase • Special privilege to MSE units • Transparency & anticorruption practices • Speedy liquidation of disputes & redressal of grievances 	<ul style="list-style-type: none"> • Vendor development and import substitution • eProcurement, e-billing & e-Payment • Support, including purchase preference to MSE units • Plant level sub-committee meets • Plant-level advisory committee meeting • Half-yearly supplier satisfaction surveys
Community / civil society	<ul style="list-style-type: none"> • Gram-Sabha and public hearing • RPDAC meetings • Cultural, religious and social events • Need assessment interactions for CSR projects • Local community events 	<ul style="list-style-type: none"> • Community needs on infrastructure, livelihood, education, health, sanitation, etc 	<ul style="list-style-type: none"> • Operating mobile health units & organising health camps in peripheral villages • Sponsoring children from peripheral villages for formal education • Other CSR initiatives • Social media posts
Industry Associations	<ul style="list-style-type: none"> • Conference, workshops & seminars • Trade Fair, exhibitions and industrial expo • Membership in different industrial & professional associations 	<ul style="list-style-type: none"> • Policy issues • Statutory regulations • International & domestic market • Technological developments 	<ul style="list-style-type: none"> • Active participation and sharing of common issues in different industrial and professional platforms, • Mentoring and sponsoring programs of different industry associations & professional bodies
Contractors / Service providers	<ul style="list-style-type: none"> • Tender enquiries and RFQ • Meetings and discussions • Training, skill development, work instruction • On-the-job supervision • Techno commercial discussions for the award of work 	<ul style="list-style-type: none"> • Statutory regulations & compliance • Health and safety at the workplace • Welfare measures • Working hours and labour practices • Grievance resolution 	<ul style="list-style-type: none"> • On-the-job counselling and feedback • Timely payment • Safety instructions • Periodic meetings with the manager in charge

Key Topics Emerging out of Stakeholder Engagement

Key concerns identified through stakeholder engagement are outlined below, considering all relevant aspects. These topics serve as the foundation for evaluating and analysing materiality.



ECONOMIC

- Economic Performance
- Procurement Practices
- Anti-Corruption



SOCIAL

- Employment
- Occupational Health and Safety
- Diversity and Equal Opportunity
- Non-Discrimination
- Forced or compulsory labour
- Child Labour
- Training and Education
- Local Communities



ENVIRONMENTAL

- Materials
- Energy
- Water and Effluents
- Emissions
- Waste

Materiality Process

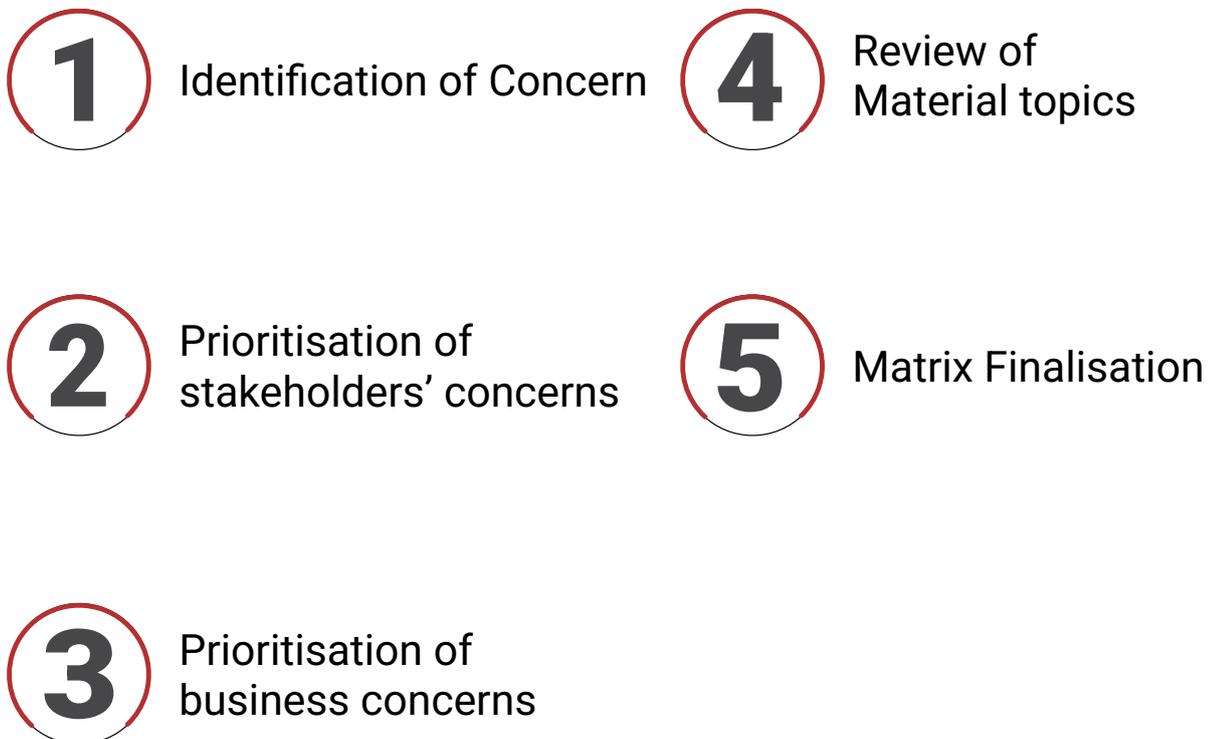
Materiality refers to how important an issue is for reporting purposes.

To understand and sort the importance of environmental, social, and governance (ESG) factors for our stakeholders, a thorough materiality assessment exercise was conducted by us. This process helped us identify, prioritise, and define the key issues that impact both our stakeholders and our company's performance. Following GRI Standards, we carried out a detailed materiality analysis that included the Report Content Principles and Materiality Test. We used a structured survey based on GRI Standards, industry best practices, and our operational challenges to engage with stakeholders. We gathered diverse perspectives through questionnaires sent to a representative group of our stakeholders.

The results were duly and carefully analysed, taking into account our operational context and insights from stakeholder interactions. The key issues we identified were plotted on a materiality matrix that compared their importance to management with their impact on stakeholders. This visual tool helped us clearly see the most critical areas that need our attention. Our sustainability strategy is built around these material issues.

Material issues with high business and stakeholder impact are the focus of this report. There are no significant changes in scope or topic boundaries from the previous report. All efforts have been made to report on the identified material issues in accordance with GRI 3: Material Topics 2021.

MATERIALITY PROCESS



Materiality Matrix

Stakeholder Impact	High	<ul style="list-style-type: none"> Forced or Compulsory Labor Training & Education Diversity & Equal Opportunity Non-Discrimination 	<ul style="list-style-type: none"> Water and Effluents Emissions Waste Energy Economic Performance Materials Anti-Corruption Occupational Health & Safety
	Low	<ul style="list-style-type: none"> Anti-competitive Behaviour Supplier Social Assessment Supplier Environment Assessment Indirect economic impact Freedom of Association and Collective Bargaining 	<ul style="list-style-type: none"> Employment Child Labour Local Communities Procurement Practices
		Low	High
		Business Impact	

Materiality Boundaries

Materiality Boundaries	
Materiality Topic	Topic Boundary (Inside or outside the boundary)
Economic Performance	Inside
Procurement practices	Inside
Anti-Corruption	Inside
Materials	Inside
Energy	Inside
Water and Effluents	Inside
Emissions	Inside
Wastes	Inside
Occupational Health and Safety	Inside
Training and Education	Inside
Local Community	Outside

Data Transparency

In our organisation, data is thoroughly screened for completeness and accuracy at various levels. The primary data source is audited reports, statements and returns submitted to statutory authorities. When direct measurements are not feasible, we use data calculated based on standard assumptions and protocols, ensuring transparency by clearly explaining the assumptions, formulas, and standardisations used in data estimation and quantification. Data presented in this report with respect to energy, GHG emissions, water, and waste have been subjected to third-party assurance as part of the requirements specified by SEBI for the BRSR (Business Responsibility & Sustainability Report) for FY 2024-25.

Changes to Materiality

There is no change in the material topic or its boundaries, and no information is restated.

ECONOMIC PERFORMANCE

At NALCO, we achieved spectacular results for FY 2024-25 on economic parameters (Ref: ESG Databook) in keeping with a highly consistent track record of profitability. Over the years, we have remained free from debt-encumbrance. We regard economic value creation as a key measure of the success of our organisation and are committed to exceeding the financial expectations of our shareholders, the government, and society. Each investment proposal is subjected to scrutiny to ensure alignment with stakeholder expectations and organisational objectives. The same is against the backdrop of continued customer satisfaction supported by consistent product quality and priority to customer requirements, along with ISO9001:2015 certification of production units.

The properties of Aluminium including exceptional malleability, ductility and corrosion resistance, establish it as a popular metal across such diverse industries from utensils to spacecrafts. Also, the exceptional recyclability of aluminium as a metal in the value chain offers an advantage in the reduction of greenhouse gases, thereby enabling environmental sustainability.

Global demand for Aluminium was slightly more than supply in 2024, and global demand for Alumina was in excess of 1 million tons of supply in 2024, driving the aluminium prices higher. The global aluminium market is expected to grow at a CAGR of approximately 4.8 %. The world's demand for metallurgical grade Alumina is bound to grow in tandem with the production of Aluminium to match rising demand.



Domestically, for India, demand for Aluminium is expected to grow from 5.5 million tons in 2025 to 9.0 million tons by 2033, riding on a rapidly developing economy, a rise in the standard of living and heavy investments in infrastructure by Govt of India. Domestic primary aluminium consumption in India registered an increase of 11.6 % year-over-year for 2024-25. On the other hand, the primary aluminium industry in India is vulnerable to global market conditions & price volatility.

For NALCO, a stable and consistent supply of bauxite ore, the vital raw material from the abundant reserves in the state, translates into a substantial cost advantage and enhanced competitiveness as a primary alumina & aluminium manufacturer in the global market. Nalco's captive mines at Panchapatmali (Central & North Block) and South Block have all statutory clearances with lease validity up to 16.11.2032 & 19.07.2029, respectively. Further, relentless thrust on operational efficiency, cost control and quality improvement has added to the competitiveness.



Aluminium Rolled Strip



Alumina Wagons

Economic Risks & Opportunities

Our perceived economic risks and opportunities are condensed and summarised below:

Opportunities	Threats
<ul style="list-style-type: none"> • Transportation, construction, packaging and electrical sectors are the four key sectors steering global demand for aluminium metal. • Rapidly increasing adoption of EVs and development of aluminium-air batteries will significantly drive up aluminium consumption in the automotive industry. • Construction of new airports, railways, highways, smart cities and other infrastructural projects increasingly use aluminium due to its lightweight, durability and corrosion resistance. The Government of India's ambitious infrastructural projects give a definite impetus to aluminium demand. • In the electrical sector, the need for conductor cables in power transmission & distribution, as well as in renewable energy projects, e.g., solar panel components and wind turbines, is pushing up the demand for aluminium in the country. • Aluminium is highly favoured for eco-friendly & sustainable packaging solutions, which is another factor in the growth in demand for the metal. • Adoption of Industry 4.0, including automation, IIoT and AI, is an opportunity to enhance process efficiency, reduce energy consumption and minimise waste. 	<ul style="list-style-type: none"> • Geo-political tensions across the globe carry the threat of supply disruptions and market upheavals. • Trade barriers such as punitive tariffs impact exports of both downstream and primary aluminium products, which can result in surplus products being diverted back to the Indian market, potentially putting pressure on domestic prices. • Domestic primary Aluminium producers face competition from lower-cost imports of aluminium scrap. • Stricter environmental regulations require substantial investments in cleaner technologies and waste management. • Carbon emission intensity of Indian primary aluminium producers remains high compared to the world average, due to reliance on fossil fuel-based thermal energy sources and challenges in securing a consistent supply of a huge amount of renewable energy in India.

Expansion Projects in Progress

- Capacity expansion at Alumina Refinery- Addition of 5th stream at Alumina Refinery to expand capacity by 1 MTPA. The project is scheduled to be completed in respect and production to commence during 2026.
- Pottangi Bauxite Mines- planned to be operational during 2026.
- Crushing and Conveying system for alternate sourcing of bauxite for the 5th stream of alumina refinery from existing & operational Panchpatmali mines south block- the project is scheduled to be operationalised by April 2026.

Business Opportunities Developed

- GACL-NALCO Alkalis & Chemicals Private Ltd. (GNAL), a Caustic soda project at Dahej in Gujarat, through a JV Company with GACL, which is operational since May'2022
 - Angul Aluminium Park Private Ltd. (AAPPL), a JV with Odisha Industrial Infrastructure Development Corporation (IDCO) for promotion of downstream industries to manufacture conductors, extrusions, castings, foils and other aluminium products – all infrastructure development works completed, and some project proponents have started building their plants
 - Khanij Bidesh India Limited (KABIL), a JV Company with M/s Hindustan Copper Ltd. and m/s Mineral Exploration Consultant Ltd. for the acquisition of strategic Minerals in overseas - focusing on identifying and sourcing battery minerals like Lithium and Cobalt; Exploration and development of five lithium mines in Argentina is in progress
- Apart from the above, a plan for the brownfield expansion project of Smelter to add 0.5 MTPA capacity at Angul has already been drawn up, and pre-project activities have been initiated.

R&D Initiatives

NALCO has established a fully equipped R&D centre, the NRTC (Nalco Research & Technology Centre) at Gothapatna, Bhubaneswar, along with R&D set-ups at both Smelter and Refinery. During the reporting year;

- The final project report on the research work under the aegis of Niti Aayog, in collaboration with three national-level R&D institutes and involving three top domestic aluminium producers, including NALCO, for “Holistic utilisation of Red Mud”, was released.
- Under a MoU with BARC, Alumina certified reference material, CRM Alumina- B1301, was developed and launched.
- Development of the process for 4N High Pure Alumina and substrate was in progress. Studies to synthesise Zeolite-13X with NALCO liquor were completed.
- A collaborative research project titled “Prototype development, fabrication and validation of Al-Graphene composite battery with cooling plates” was completed.
- A pilot plant project for “Recovery of Alumina and REE from fly Ash” with NALCO as the industry partner was in progress.
- A MOU was signed with BARC and Heavy Water Board to set up a pilot-scale demonstration facility for the recovery of Gallium from Bayer’s liquor at Damanjodi Refinery plant.

Financial Implications and Other Risks and Opportunities Due to Climate Change

Global consensus on Climate change as a primary threat and consequent emphasis on a low-carbon future is a source of both challenges and opportunities for our industry & company.

The geographic location of our operations makes us comparatively less vulnerable to extreme weather events and consequent financial implications.

Aluminium, as a metal, will see rising demand in sectors such as automotive, renewable energy, and packaging in the global green shift, and the same presents a definite opportunity to us as a producer of aluminium and alumina, to retain our margins and grow.

At the same time, we are facing increasing scrutiny on our carbon footprint and have been assigned GHG emission intensity targets by MOEFCC (Ministry of Environment, Forest & Climate Change) under the CCTS (Carbon Credit Trading Scheme) as an ‘obligated entity’. While it remains an uphill task for us as an energy-intensive industry to shift to renewable energy due to both logistics & economic considerations, we are actively working on reducing energy consumption and carbon footprint.

Procurement Practices

Our purchases are mostly through the GeM (Government e-Marketplace) promoted by the Government of India, barring coal, caustic soda, lye, fuel oil, items procured against GTE, imported goods and works contracts for which specific exemption has been sought from the Ministry. Such practice ensures transparency and fair competition. Moreover, the 'Purchase Manual' and 'Contract Manual' of NALCO lay down a set of guidelines for us follow for procurements.

With a firm belief that suppliers are key partners in our success, we work closely with them, building open and trusting relationships. Our supplier network is diverse, including everyone from raw material providers to equipment suppliers. We look for long-term partners who share our values and meet high standards. We regularly review our suppliers to ensure they meet our expectations. We're committed to ethical business practices and support local businesses whenever possible. By working together, we can achieve our shared goals.

Nurturing Local Suppliers

In a bid to ensure inclusive growth, we actively seek relationships with local and regional suppliers and contribute to their success. We have set up support centres at our facilities to offer comprehensive assistance to Micro and Small Enterprises (MSEs). These centres provide technical and commercial guidance to help and improve the capabilities of MSEs.

We have launched NAMASYA (Nalco Micro & Small Enterprise Yogayog Application), a mobile App to facilitate both the existing MSEs registered with us as well as those not registered. The App empowers MSEs with information about the vendor registration process, items which can be supplied by them with technical specifications, vendor development programmes and training programmes, etc.

To encourage MSEs to participate in our procurement process, we have implemented various measures, such as easing tendering procedures and waiving the Earnest Money Deposit (EMD). Additionally, we have included purchase preferences for MSEs in our procurement manual. These efforts are designed to empower MSEs and enhance our local supply chain. Our procurement manual stipulates to extend purchase preference to MSE units that quote within 15% of the lowest quoted price for a minimum quantity of 25% ear-marked for them. For quantitative data on MSE procurements, please refer ESG Databook.

Highlights of NALCO's Support to Ancillary Units & MSEs in FY 2024-25



All India Vendor Meet

- Procurement of goods and services from MSEs based in Odisha amounted to INR 570.46 crore. The total procurement from MSE units, including those outside Odisha, stood at INR 898.76 crore. The same at 47.42% of the Company's total eligible procurement from MSEs, surpassed the mandated target of 25% as per the Public Procurement Policy for MSEs

- Number of MSE vendors registered increased from 3,090 in the last fiscal to 3,493 in FY 2024-25.
- The number of women-owned MSEs registered risen from 253 in the last fiscal to 295 in FY 2024-25.
- Five Vendor Development Programs exclusively for MSEs were conducted, with a special focus on SC/ST vendors and women entrepreneurs. These included an All-India Vendor Meet to strengthen vendor engagement.
- A Virtual Vendor Meet was held to promote collaboration and inclusivity among domestic and international vendors.
- In the reporting year, 132 additional MSE vendors were onboarded on the RXIL TReDS platform, increasing the total to 230 vendors. Additionally, 31 MSE vendors were onboarded on M/s. A. TReDS Ltd. (Invoicemart) this year.



ENVIRONMENTAL PERFORMANCE

Water Sprinkling in Mines Haul Road

NALCO has strived for and achieved excellence in environmental management since its inception, has surpassed mandatory regulations in a routine manner and continues with zeal to improve upon the performance, adopt new solutions and practices. Key initiatives include advanced pollution control technologies for emissions and effluents, water conservation, afforestation and waste utilisation. Our focus on effluent management, waste reduction, and biodiversity protection ensures minimal environmental impact. We've invested in advanced pollution control technologies and have consistently upgraded them. The same has enabled us to not only meet but also to exceed the stringent regulations outlined in the consent-to-operate conditions. Combustion control and effective gas treatment processes keep emissions in check. We continuously seek viable alternative applications for waste and reject through in-house and collaborative R&D efforts. We employ effective solutions to minimise water pollution and achieve. Continued adherence to the ISO 14001:2015 management system ensures environmental performance exceeding the regulatory requirements.

Our commitment to environmental stewardship is evident in our ongoing efforts to protect biodiversity and mitigate adverse effects on biological resources and natural ecosystems. We regularly review and update our objectives and policies to ensure continued progress towards a sustainable future.

Environmental Performance Pillars

- Diligent assessment of environmental impacts of operations

- Full-fledged facility and labs for pollutant and wastewater quality monitoring.

- Thrust on wastewater treatment & recycling, water conservation, and zero-discharge

- R&D initiatives on recycling and alternative waste applications.

- Compliance with all regulatory requirements

- ESP, FTP, bag filters, dust suppression and extraction systems in susceptible areas.

- Adoption of non-polluting, environmentally friendly technologies.

- Automated burner management, appropriate fuel handling, and enhanced combustion technology.

- Every production facility is certified to ISO 14001:2015.

- Proper disposal of non-biodegradable solid waste, electronic waste, and hazardous waste.



5 Star rating of Panchpatmali Bauxite Mines

Environmental Risk and Concern Management

Minimising impact on the environment and effective implementation of mitigation measures have always remained a priority with us. Apart from the installation of appropriate technology and assimilation of best practices, our research and development efforts in hazardous waste disposal and waste management have yielded positive results. The following matrix illustrates the environmental concerns and our response with regard to our mines and plants.

	Concern	Mitigation
Air Pollution:		
 Bauxite Mines	<ul style="list-style-type: none"> Emissions from heavy vehicles Fugitive dust emissions during mining/handling, including crushing and conveying Noise during blasting and the operation of heavy vehicles 	<ul style="list-style-type: none"> Proper selection and maintenance of vehicles to minimise emissions. Water spraying on haul roads and stockpiles using mobile and fixed sprinklers Fog cannons near stockpiles. Adoption of vacuum suction/wet drilling in drill machines. Replaced blasting with ripping and dosing. Planted trees around the area to reduce noise propagation
 Alumina Refinery	<ul style="list-style-type: none"> Stack Emission Dust in Calcined Alumina, Bauxite, Coal, and Ash handling areas 	<ul style="list-style-type: none"> Electrostatic Precipitators (ESPs) are used in boilers and calciners to collect particulate matter from flue gas and alumina dust. Bag filters and de-dusting systems are used to prevent dust emission in alumina handling areas. Sprinkler and de-dusting systems control fugitive emissions in lime handling, red mud pond, ash, coal, and bauxite handling areas.
 Smelter	<ul style="list-style-type: none"> Fluoride & particulate emissions due to pot operation Generation of PFC during anode effect in potlines Coke dust 	<ul style="list-style-type: none"> Adsorption of fluoride in alumina in FTPs & FTCs to control fluoride emission. Continuous laser-based fugitive fluoride monitoring system Advanced pot regulation system minimises anode effect Pneumatic conveying system of coke dust for dust reduction.
 CPP	<ul style="list-style-type: none"> Flue gas from the boiler. Fugitive dust from the coal and ash handling area. Heat emission in flue gas to the atmosphere. 	<ul style="list-style-type: none"> ESPs capture ash and particulate matter in flue gas paths. Dust extraction systems and sprinklers in coal and ash handling areas Air heaters and economisers recover heat from flue gas.
 Coal Mines	<ul style="list-style-type: none"> Fugitive emissions during coal mining and blasting Emissions during coal transportation by heavy vehicles Noise during blasting and operation of HEMM Emission during handling of overburden and topsoil 	<ul style="list-style-type: none"> Use of surface miner fitted with water sprinkling facility and truck-mounted mist cannon for dust control Periodic maintenance of HEMM and water sprinkling on haul road by use of truck-mounted sprinklers. Blasting is limited only to loosening of overburden materials Use of wet type drilling machine fitted with a water spray system Water spraying on coal stock yard by use of rain gun and mist cannon Use of fog cannon at OB dump site and topsoil storage area.

	Concern	Mitigation
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Water pollution and conservation



Bauxite Mines

- Wastewater from Mining, Canteen, Vehicle Washing, and sewage from toilets

- In-situ peripheral barrier to prevent rainwater from leaving the mining area.
- Check dams at strategic points to filter muddy water.
- Collection of rainwater in ponds and percolation into the ground.
- Canteen wastewater is treated in biological treatment units, and vehicle wash water in oil water separators.
- Treated water is reused for dust suppression and plantation.
- Zero-discharge of wastewater



Alumina Refinery

- Waste effluent
- Sewage & Waste water
- Surface Run-off water

- Wastewater at Red Mud Pond and Ash Pond is recycled and reused for process use
- In a Sewage Treatment Plant, wastewater is treated and is used for horticulture.
- Surface runoff and stormwater are stored in the Sabari Lake and disposed of outside after necessary treatment.
- Zero-discharge of wastewater



Smelter

- Effluent wastewater
- Sewage wastewater
- Generation of fluoride-contaminated surface runoffs

- Surface runoffs from Potlines & Carbon Area, along with wastewater from the shop floor, are collected in three holding pools. This water is then treated in Ion-Exchange and Emrion Nano De-fluoridation (DF) plants.
- The treated water from Ion-Exchange and Emrion Nano DF plants, surface runoffs from other areas, subsoil water from Potlines, effluent water from the HW Incinerator, and STP water are all recycled.
- Zero-discharge of wastewater



CPP

- Effluent wastewater
- Sewage wastewater
- Surface runoff water

- Effluent treatment plant treated wastewater reused for ash slurry making.
- Sewage treatment plant treated wastewater reused for horticulture and plantation.
- Decanted water from the Ash Pond is chemically treated and recycled for ash slurry making.
- Water from the Rainwater Harvesting and Recycling system is used in the plant
- Zero-discharge of wastewater



Coal Mines

- Waste water generated from Mine pit, surface run off, Canteen, office, etc

- Use of settling pond for treatment of mine pit water and surface run off for re-use.
- Use of Effluent Treatment Plant (ETP) for treatment of effluent water generated from the workshop and vehicle washing system
- Use of Sewage Treatment Plant (STP) for treatment of sewage water generated for canteen and office buildings
- Use of treated wastewater for dust suppression, firefighting and plantation purposes.

	Concern	Mitigation
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Land Degradation & Solid Waste



Bauxite Mines

- Overburden material from the excavation of minerals.
- Organic waste from the canteen

- 100% overburden is reused for backfilling mined-out areas.
- Concurrent mining and backfilling
- Rehabilitated mined-out areas through extensive plantation
- Implemented a biogas plant to treat organic waste.



Alumina Refinery

- Lime grit
- Red mud
- Ash

- Lime Grit is disposed to red mud pond
- Red mud is disposed to red-mud pond
- Fly ash is discharged to the Ash Pond as slurry and to Silos as dry ash. Pond Ash is used for low-lying area filling. Dry Ash is sold to brick manufacturers.



Smelter

Hazardous waste like Spent Pot Linings (SPL), Dross, etc.

- All hazardous waste managed as per OSPCB authorisation
- Spent Pot lining (SPL) Refractory & mixed portion is segregated & stored on an impervious floor under well-ventilated covered sheds; Carbon portion is disposed to authorised recyclers for detoxification and subsequent utilisation of energy value.
- The majority of Aluminium dross is recycled in the process. Legacy stock of dross is sold to authorised recyclers.
- Spent Anode Butts: Fully recycled for anode production.



CPP

- Mill Rejects
- Ash

- Mill rejects are stored in demarcated low-lying areas for disposal to authorised parties for reuse.
- Bottom and fly ash are disposed of in lean slurry mode to the abandoned mine void or ash pond. Dry ash is used for filling and brickmaking.



Coal Mines

- Overburden material from the mine excavated area.
- Topsoil from the mine excavated area
- Generation of hazardous waste from the workshop

- Storage of the entire overburden material at a designated area for future use within the mine for backfilling activity
- Storage of the entire topsoil material at a designated area for future use within the mine after backfilling activity
- Disposal of hazardous waste to an authorised recycler.





World Environment Day at Damanjodi

Environment Management Highlights in 2024-25

- At Alumina Refinery, the second Red Mud Pond construction work was completed.
- EPR registration in CPCB Portal for the use of plastic materials for both Importer and Brand owner has been done for the first time by Smelter SH&E department for all Units.
- At Bauxite Mines, monsoon plantation in the mines backfilled and hill slope/safety zone area, grass-turfing completed as per target.
- At Alumina Refinery, retrofitting work for Boiler#3 ESP pass-A and pass-C and Boiler#1 ESP pass-A was completed.
- At Bauxite Mines, weather parameters like Temp, Humidity, Rainfall & Wind are incorporated into the continuous ambient air quality monitoring station (CAAQMS-3), which has been relocated to Mines Central Store to enable online monitoring of weather data.
- At CPP, a trial run of co-firing of Biomass Pellets along with Coal in Boiler done in March 2025.
- At CPP, action taken for replacement of R-22 refrigerant used in Dx plant by eco-friendly new generation R-407C, which is a CFC-free, zero ozone-depleting potential & low GWP (Global warming potential) refrigerant.
- At Smelter, installation of online flow measuring device with digital display and data recorder at Drain-1, 2 & 3 completed.
- At Smelter, recalibration and data validation of PM-CEMS for ten major stacks (FTP-1 to 8 attached to Potline & FTC-1 to 2 attached to Bake Oven) for the Star Rating Programme were carried out, and reports were submitted to OSPCB.
- At Smelter, performance evaluation of Air Pollution Control/Water Pollution Control Devices, online monitoring Systems and HD IP Surveillance Cameras conducted by IIT Bhubaneswar and report submitted to OSPCB.
- At CPP, an Online Fluoride Analyser was commissioned at Ash Pond to measure the fluoride contamination in Ash Pond Seepage Water Discharge Outlet.
- At all Units, treatment/disposal of waste carried out as per authorisation. A third-party audit on HW management in the Smelter Plant was carried out, and a report was submitted to OSPCB.
- At all Units, promotional events, e.g., Environment Day, Van Mahotsav, etc., were observed to build awareness and enthusiasm.

Responsible Consumption of Materials

We ensure that raw material consumption is optimised through diligent monitoring and control as per the specific consumption norms set by the board-level Technology committee. NALCO is committed to optimising raw material usage through technology, process redesign, and waste minimisation.

Recycled Input Materials

We have recycled 9628.26 MT of internally generated aluminium scrap at the Aluminium Smelter during the reporting year, through remelting in our furnaces. This aligns with the circular economy approach.

At the Alumina Refinery, Red mud, a by-product of alumina refining, is thoroughly cleaned and thickened to minimise caustic liquor release. The cleaned red mud is pumped into a lined pond for storage. Solids settle at the bottom, and the clarified water is pumped back to the plant for mud washing and other purposes. This recycled water contains approximately 2-3 grams of caustic soda per litre. In the reporting year, 13.15 % caustic soda was recycled from red mud.



Energy

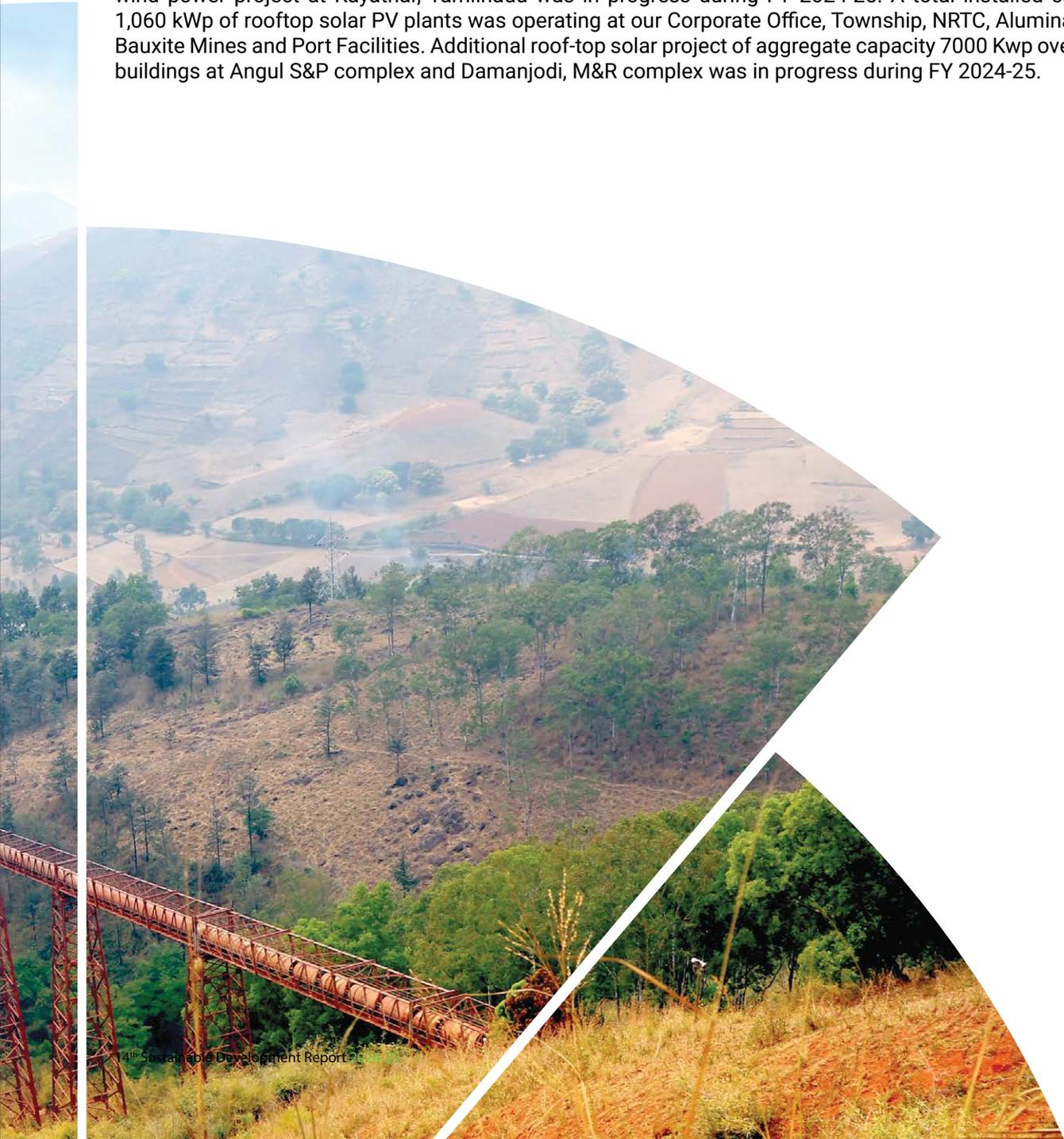
We are in an energy-intensive industry and have realised that energy efficiency is not only the key to reducing costs and gain competitive edge, but also for reducing our climate footprint. We've implemented energy-saving measures and achieved ISO50001:2018 certification for our Alumina Refinery, Captive Power Plant, and Aluminium Smelter. Regular energy audits identify opportunities for savings, which we carefully assess and implement, demonstrating our commitment to sustainable energy practices and climate change mitigation.

Energy Consumption within the Organisation

We consumed 10,59,93,036 GJ of energy from all fuels and imported electricity in the reporting year, which includes 3,44,919 GJ of renewable energy. For estimation of the same, calorific values and other factors were used as per international protocols. Please refer ESG Databook for more details.

Renewable Energy

Total net 281 MU of wind power was generated in the reporting year from the four wind power projects located in Andhra Pradesh, Rajasthan, and Maharashtra, with a total capacity of 198.4 MW. An additional 15 MW capacity wind power project at Kayathar, Tamilnadu was in progress during FY 2024-25. A total installed capacity of 1,060 kWp of rooftop solar PV plants was operating at our Corporate Office, Township, NRTC, Alumina Refinery, Bauxite Mines and Port Facilities. Additional roof-top solar project of aggregate capacity 7000 Kwp over multiple buildings at Angul S&P complex and Damanjodi, M&R complex was in progress during FY 2024-25.



Energy Conservation Initiatives implemented during FY 2024-25

- At Smelter, 43 pots were graphitised, resulting in a reduction of specific electrical Energy consumption in the pot line. Also, 15 nos. of pots operating on AP2XN technology were running successfully, resulting in the saving of Specific DC energy consumption.
- At bauxite Mines, HSD consumption reduction continued with the addition of fuel additives in HEMM, modification in the methodology of operations, optimum selection of HEMM for bauxite generation and modification in the methodology of loading of excavated ore in Central Block Sector-2 area.
- At Al. Refinery, pump speed reduction resulted in a reduction of energy consumption in SL Feed pump P-196, 197 and P-1138B, 1138C. Also, the CT fan blade angle was optimised and P-152 & P-153 were upgraded, resulting in energy savings.
- At Al. Refinery, replacement of conventional profile heating elements with advanced profile heating elements carried out in Boiler-2 Air pre-heaters, resulting in energy savings.
- At Smelter, the cold well pump for Cooling Tower-1 EE was replaced with an energy-efficient centrifugal pump and 02 nos. of obsolete screw compressor replaced with energy-efficient centrifugal compressor resulting in energy savings.
- At Smelter, installation of 84 nos. of riser dampers for ABF-1 in conjunction with the installation of 04 nos. of exhaust manifolds helped in the reduction of HFO consumption.
- Modification of the Winch trolley communication control system for ABF-2 & 3 at Smelter also resulted in less consumption of Electrical energy.
- 02 nos. of 22 kW Hydraulic pump motors replaced with 11 Kw energy efficient pump motor at Furnace #C & D of Cast House-B of Smelter with potential for energy reduction.
- At CPP, 80 nos. old LT motors were replaced with new energy-efficient IE3 motors, VFD was commissioned and tested in APH-A & B drive motor of Unit-5 and 60 nos. of old conventional 70-Watt ceiling fans were replaced with energy-efficient 35-Watt BLDC fans, all resulting in energy savings.
- At Bauxite Mines, 16 nos. of old, inefficient air conditioners were replaced with energy-efficient ones
- At Al. Refinery, 60 nos. of 90W LED floodlight fittings, 100 nos. of movement sensors in office rooms, 1,000 nos. of 10W LED highbay lights, 150 nos. of 20W LED tube lights, 3500 nos. of 40W LED well glass fittings installed and a VFD provided in the motor of Mud Pump P-003, resulting in energy savings. Also, 20 nos. of 3-Star and above energy efficient ACs were installed, and IE2 & above energy efficient motors were installed

Energy conservation projects taken up or in progress during FY 2024-25

- Installation and commissioning of Anode Slot Cutting Machine at Bake Oven-II of Smelter to reduce specific DC energy consumption in Pots
- Replacement of 04 nos. of electrically heated desiccant air dryers with refrigerated air dryers, replacement of 02 nos. of reciprocating compressors with centrifugal compressors, installation of VFD in 55 kW fan assembly of Homogenising Furnace-2 mobile cooler assembly, installation of VFD for melting furnace combustion air fans in Rolling Plant Caster and installation of regenerative VFD at one EOT crane main hoist in Rolling Plant at Smelter.
- Renovation & Modernisation of two sets of existing Air-Preheaters in Units 7 & 8 with advanced profile heating element and double sealing arrangement, revamping of one Cooling Tower in Units 1 to 5 and replacement of inefficient HPH-5 of Units 1 & 2 with new HP Heaters at CPP
- Installation of occupancy sensors in a phased manner, replacement of 03 nos. of old pumps and replacement of 110 nos. of old ceiling fans with energy-efficient BLDC fans at Bauxite Mines.
- Interconnection of BM-1001 & 1002 Air-compressors to enable running one compressor at a time for both the mills, provision of VFD in RC pump motors of Phase-1,2&3 Digestion and Desilication, grinding media conversion from hyper steel to high chrome in BM-003 and sump pump motor modification at Alumina Refinery.

Water Stewardship

With prescient recognition that water is a precious natural resource, NALCO accords top priority to water stewardship. We're committed to responsible water usage and conservation, the same being inexorable for sustainable growth.

Our water management approach emphasises conservation and technological advancements. We've implemented high-volume water recycling systems and treat sewage and wastewater for reuse. We've successfully achieved zero-discharge and have ventured into groundwater recharge and rainwater harvesting. During the reporting year 2024-25, surface water withdrawal from rivers to the tune of 48,087.77 ML was made. For break-up data, please refer to the ESG Databook.

Water Discharge by Quality and Destination

Zero discharge of wastewater is implemented across the mines and plants of NALCO as described below. The management and disposal of treated effluents generated during plant operations are governed by the specific operating consent orders issued by the State Pollution Control Boards, which our plants and units strictly follow.

At the Bauxite Mines, 100% of the treated wastewater, originating from the canteen's biological treatment system and vehicle wash water treatment plant, is reused for dust suppression, ensuring complete water reutilisation and zero discharge status.

Alumina Refinery practices circular water practices by recycling wastewater from the Red Mud Pond, Holding Pond, Ash Pond, and treated sewage from the STP. This reclaimed water is reused across multiple processes, including the Bayer process and site horticulture, enhancing resource efficiency.

At the Smelter Plant, surface runoff from the Potline and Carbon areas, along with shop floor wastewater, is systematically directed into three engineered holding basins. This collected water undergoes advanced treatment through Ion-Exchange and Emrion Nano De-fluoridation (DF) systems to ensure removal of contaminants, particularly fluoride. The facility maintains a robust closed-loop water management system. Treated water from Ion-Exchange and Nano DF plants, combined with runoff from key operational zones such as the Zero Discharge Sump, Spent Pot Lining (SPL) Storage Area, Captive Landfill Area as well as subsoil water from Potlines, effluent from the Hazardous Waste Incinerator, and treated sewage from the Plant STP, is efficiently recycled and reused within plant operations, reinforcing the commitment to zero liquid discharge and sustainable water stewardship.

At the Captive Power Plant, a stringent zero liquid discharge (ZLD) protocol is maintained. Decanted water from the Ash Pond undergoes chemical treatment and is efficiently recycled for ash slurry preparation, minimising freshwater dependency. Similarly, treated water from the Sewage Treatment

Plant and Effluent Treatment Plant is reused inside the plant.

At the Utkal D&E Coal Mines, a Zero Liquid Discharge regime is maintained throughout the year. During the monsoon season, excess treated water is released into a nearby nallah strictly in accordance with the conditions specified in the Consent to Operate (CTO) issued by the Odisha State Pollution Control Board (OSPCB), with prior intimation to the authority.



Water Recycled and Reused

Effective recycling and reuse of water is practised throughout NALCO units in a bid to conserve water, and the systems are progressively augmented and refined.

For quantitative data on water recycling and re-use, please refer to the ESG Databook.

Rainwater Harvesting

At Alumina Refinery, rainwater harvesting is being carried out in the admin building and the Training centre.

At CPP, Rain water Harvesting and Recycling system has been commissioned with a pond capacity of 50000 m³ of water, equipped with 2x250 m³/hr of pumping capacity. The recycled water is used for plant usage. Also roof-top water rainwater harvesting system had been installed in the CW pump house and RCPH. Water collected during the monsoon is fed to the CW fore-bay and the fire hydrant fore-bay, respectively, thereby reducing water makeup.

At the township of Smelter & Power complex, rainwater from the rooftops of new quarters is channelised to 3 charging wells to charge the groundwater. At the Corporate headquarters, the rainwater harvesting system on roof top of the Mahanadi Niwas Guest House in the Township

Additional Water Conservation Measures



Bauxite Mines

- Fixed sprinklers on haul roads use less water compared to mobile options.
- Sensor-activated faucets in restrooms.
- Constructed ponds with a 65,880 cubic meter capacity collect rainwater for plantation and other uses.
- An in-situ peripheral barrier around the mine pit captures rainwater, preventing it from draining away and allowing it to recharge groundwater



Smelter

- Recycling of Surface run-off by Re-routing of Drain, from SPL Storage Area, from Captive Landfill Area, from near Watch Tower No. 23
- Recycling of Subsoil water of Potlines



Alumina Refinery

- Sodid Condensate (process liquor condensate)- Used for Cooling Tower make-up, area hosing and Ash slurry pit make-up purposes.
- Red mud filtration system enables less water discharge to the Red Mud Pond



Smelter Nano-technology Plant



CPP

- Clariflocculator with a capacity of 3000 m³/hr. has been installed at the plant to improve the quality of recycled water from the Ash Pond and my void. This facility reduces water turbidity, ensuring it meets quality standards for reuse.



Coal Mines

Garland drains are constructed all around the overburden (OB) dump storage area, Coal Storage area and topsoil storage area to collect the storm water during the monsoon season. This collected water is then channelised to a settling pond for treatment and re-use. 100% water for various mining activities is sourced from mine pit water after treatment in the settling pond.



Settling Pond, Utkal D&E Coal Mines

Emissions

NALCO is committed to reducing GHG and other harmful emissions. Our GHG emissions are accounted for by the burning of fossil fuels, the import of electricity and process emissions in the Aluminium Smelter. We are continually monitoring and making efforts to reduce energy consumption in our processes and auxiliaries by focused projects and initiatives, including roof-top solar power to reduce fuel consumption and energy import. Process emissions are being minimised by appropriate technology, upgradation and stringent process control. Our ALPSYS pot regulation system works effectively to reduce the frequency and duration of anode effects and to contain the generation of perfluorinated compounds (PFCs). Wheeled renewable wind power and large-scale plantations also serve to mitigate GHG emissions.

To other harmful emissions, including particulate matter, we use appropriate technology, enhance combustion controls, and implement best practices in order to limit emissions to the lower end of the emission spectrum in accordance with applicable regulations. We closely monitor stack emissions and utilise real-time monitoring stations for ambient air quality. Data from these stations is submitted to the OSPCB online for recording and monitoring. Our annual Environmental Statement to regulatory agencies includes emissions data, which has consistently remained within permissible limits.

Please refer to the ESG Databook for quantitative data on GHG emissions and other emissions in the reporting year.

Waste

Waste management is a fundamental aspect considered during project planning at NALCO. We consider waste types, nature, best practices, regulatory frameworks, and available options to select appropriate methodologies and technologies. Our waste management plan is regularly reviewed to stay updated on technological advancements and evolving regulations. External auditors verify our waste management system during certification and surveillance audits, ensuring prompt resolution of any gaps. Regulatory agencies such as IBM, SPCB, and MoEF&CC monitor our compliance.

Waste Management

We adhere to the 4R principle (Reduce, Reuse, Recycle, Recover) in our waste management practices. Repurposing waste materials is a key aspect of our plan. We identify, categorise, and assign responsibilities for handling, collection, reception, storage, treatment, transportation, and disposal of waste materials.

We separate hazardous and non-hazardous wastes at their point of generation. Hazardous wastes are safely disposed of in accordance with applicable statutory requirements and our established treatment procedures.

For quantitative details on hazardous and non-hazardous waste generation and disposal in the reporting year 2024-25, with disposal method, please refer to the ESG Databook.

Overburden Control

Mining results in overburden and topsoil removal. We carefully manage this process by dumping overburden in backfilled or mined-out areas and stacking it for reclamation. The recovered ground is suitable for reforestation after levelling the lateritic overburden and creating benches and terraces. Topsoil is then applied and treated appropriately. The mined-out area is restored concurrently with reclamation, as per the authorised Mining Plan/ Progressive Scheme's Mine Closure Plan.



SOCIAL PERFORMANCE

Performance on the social dimension is an integral to business organisations and accounts for one of the 'P' in the triple-bottom line. We are cognizant of the importance of human capital and promote social initiatives. As a sustainability-driven organisation, we strategically employ social development activities to create a positive impact. Our track record of enhancing the quality of life in our vicinity and our dedication to inclusive growth are well-established. Through our operations, we generate direct and indirect employment opportunities, stimulating economic activity. Our community development efforts, focused on healthcare, education, drinking water,

rural development, environmental sustainability, and the development of iconic places, have significantly impacted the surrounding landscape. We are equally committed to employee well-being, implementing policies for health and safety, benefits, work-life balance, human rights protection, and a safe workplace. Our supportive and growth-oriented work environment empowers our employees to excel. We ensure a discrimination-free workplace. Our commitment to equitable quality of life is evident in our employees' pay, benefits, engagement, development opportunities, social security, and professional advancement.



Employment

Generous employee-centric policies, e.g., fair compensation, professional development opportunities, along with a positive work environment, non-discriminatory practices have been established. By cultivating a unique and collaborative workplace culture, we prioritise health, safety, and employee empowerment. We foster a welcoming and encouraging environment where individuals can reach their full potential. We are committed to being an equal opportunity employer, ensuring that no employee is discriminated against based on their caste, creed, gender, religion, or place of origin. Our HR practices are designed to attract, develop, and retain the right talent in the right roles. We invest in comprehensive learning and development programs to facilitate fulfilling careers with ample opportunities for advancement. To address any disputes or concerns between management and staff, we have established formal grievance procedures. Our HR department actively listens to employees' perspectives, facilitates communication, and resolves valid grievances to foster a positive and collaborative work environment.

Industrial Relations

We maintained a positive and peaceful work environment throughout the year. There were no work stoppages due to labour disputes. We have followed government guidelines, involved employees in decision-making, and complied with all labour laws related to employee benefits and well-being. The absence of any strikes, lockouts, or stand-offs during the reporting period serves as the best example of the exceptional employee management relationship.

Employment Benefits

About employee well-being, we offer a comprehensive package of benefits, including competitive remuneration and a wide range of additional benefits, including healthcare, travel concessions, housing assistance, various allowances, parental leave, pension plans, educational incentives, loans, child scholarships, and many more. We have established well-defined benefit schemes for provident funds, pensions, settling-in benefits, long-service awards, a benevolent fund, post-retirement medical benefits, and others. At plant locations, entire townships

with modern amenities, such as schools, hospitals, shopping centres, clubs, parks, gyms, stadiums, and more, have been developed. Additionally, we have guest houses, transit houses, 24-hour security, a Co-operative Society and community transport services for our employees. Contractor workers receive benefits like paid time off, health insurance, provident funds, and additional insurance coverage apart from ESIC. Benefits for Contractors' workers are aligned with statutory government regulations.



Meritorious Students Felicitated

Benefits extended to employees include:

Provident Fund
Cafeteria Allowance
Leave travel concession
Benevolent Fund
Contributory Pension Scheme
Leave Encashment
Medical Benefits
Post-retirement medical benefits
House Building Advance
Scholarship for children of employees
Performance-related Pay
ESIC

Multipurpose Allowance
Accident insurance cover
Subsidised canteens
Gratuity
Employee Family Benefit Scheme
Parental Leave
Settling-in Benefit
Retirement Welfare Scheme
Superannuation Gift Scheme
Long Service Award
NEFARS

Employee Diversity

NALCO values diversity and believes in creating an inclusive workplace. We prohibit all forms of discrimination, whether based on gender, sexual orientation, race, ancestry, marital status, or membership in trade unions or majoritarian or minoritarian groups, and actively promote diversity in our hiring and promotion practices. Our recruitment process ensures that our workforce represents a broad spectrum of society, in compliance with government regulations and presidential directives.

Gender Diversity

We actively encourage female employment and promote gender diversity within our workforce. Our organisation strictly adheres to the policy of "Equal Remuneration for Men and Women Workers for Work of Equal Value." We provide equal opportunities for all employees, both male and female, in terms of salary, benefits, professional growth, social security, and other areas

Employee Engagement

A variety of communication channels, including the intranet-hosted applications, circulars, announcements, official events, social media posts and functions, provide employees with access to a wide range of information. Employee interactions also occur through union-management meetings, officer association meetings, wage negotiations, safety committee meetings, training and workshops, employee grievance forums, shop-floor council meetings, HR connect and other platforms. Top management engages in mass communication activities to interact with large groups of employees. Effective communication through these channels enhances employee productivity and a sense of belonging to the organisation by aligning their work with the company's goals and objectives. We also utilise employee feedback, Kaizen initiatives, and suggestions through the Sarjana Scheme to foster employee involvement. The Quality Circle activity has proven to be an effective tool for employee engagement, involving team formation, problem identification, brainstorming, solution finding, and presentation at various forums. All necessary infrastructure has been created at the Complexes for encouraging Sports and Cultural activities to maintain a healthy workforce.

Protection of Human Rights

Human Rights and Forced Labour

Our company is committed to respecting the UN Global Compact on Human Rights and the Universal Declaration of Human Rights in all aspects of our supply chain and business operations. Our employee-related policies align with various labour laws, the Indian Constitution, and the principles of human rights. We strictly adhere to relevant legislation, including the Factories Act of 1948, the Industrial Disputes Act of 1947, the Mines Act of 1972 and the Payment of Gratuity Act of 1972. Significant human rights issues, such as forced labour, discrimination, pay, and work hours, are addressed in the terms and conditions of employment contracts for contractors and suppliers. We have also implemented the SA8000 Social Accountability Management System to further enhance our commitment to human rights. NALCO's corporate office and operational divisions have achieved certification to the SA 8000 Social Accountability Standard.

The following methods are used to monitor suppliers for preventing violations of human rights:

- All vendors, contractors, and suppliers are required to sign written agreements that mandate compliance with relevant labour laws covering various acts,

including the Wage Payment Act of 1936, the Minimum Wages Act of 1948, the Equal Remuneration Act of 1976, the Industrial Dispute Act of 1947, the Employees State Insurance Act of 1948, the Child Labor (Prohibition and Regulation) Act of 1986, and the Contract Labor (Regulation & Abolition) Act of 1970.

- A centralised e-portal for contract labour management promotes transparency and facilitates efficient decision-making, further strengthening our contract labour management system.

We are committed to never using forced or involuntary labour of any kind. All employees receive detailed appointment letters outlining their terms of employment. The service rules and regulations manuals are accessible to all employees through our online portal.

In pursuance of Section 4 of the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013, an Internal Complaints Committee have been constituted at the production units and the corporate office of the Company to redress complaints relating to sexual harassment.

There was no recorded case during the reporting year of any violation of human rights. Also, there were no cases of any kind of child labour, forced or involuntary labour.



Foundation Day at Angul, S&P Complex

Equal Opportunity Employer

All NALCO employees have equal access to service conditions, advancement opportunities, and other matters, and our HR manual outlines a standardised set of rules that apply equally to all employees. Our organisation adheres to equal opportunity principles in all aspects of employee recruitment, placement, promotion, transfer, pay, training, and benefits. Decisions are based on individual merit, competence, and the organisation's business needs. We comply with all relevant government guidelines regarding the employment of SC, ST, and OBC candidates. We also consider individuals with disabilities in accordance with the Persons with Disabilities Act of 1995. To oversee reservation concerns for SCs, STs, OBCs, and PWDs and monitor the implementation of government and presidential directives, we have designated liaison officers.

Grievance Redressal Mechanism

We have an Online Grievance Portal, which has been developed to ensure the prompt and effective redressal of grievances raised by NALCO employees. The portal provides a structured, workflow-based system for grievance submission, escalation, tracking, and resolution. It ensures a seamless and timely mechanism for addressing employee concerns while maintaining transparency and accountability at each stage of the

grievance handling process. The Online Grievance Portal is fully aligned with the Approved Grievance Procedure applicable to both Executives and Non-Executives, ensuring uniformity, fairness, and adherence to organisational policies.

Training & Development

Training and development are essential for organisational success. We invest in employee development through various methods, including classroom instruction, on-the-job training, coaching, and mentoring. Our L&D (Learning & Development) centres at the corporate office, S&P and M&R complexes manage these initiatives. We identify training needs, develop tailored programs, and deliver training through our internal faculty or external specialists.

We focus on enhancing functional and behavioural competency, aligning individual needs with organisational objectives, and improving overall performance. We also provide training in areas like healthcare, stress management, and well-being. Our commitment to social responsibility extends to offering skill development training to contract employees, apprentices, and students. By investing in employee development, we empower our workforce, enhance our capabilities, and foster a positive organisational culture.



Health and Safety

For us, the health & safety of employees and workers engaged through contractors remains a foremost responsibility and concern. We continually work towards preventing workplace injuries and accidents and do not tolerate unsafe practices or disregard for safety regulations. Our occupational health and safety policy emphasises accident prevention and addressing workplace health issues. Standard operating procedures, work instructions, maintenance schedules, safety signages etc adequately provided to warn working personnel regarding the hazards in operations and how to safeguard against them. Safety is considered in all technological decisions, equipment purchases, shop floor layouts, personal protective equipment recommendations, and more. All our industrial sites, including the port complex in Vizag, are certified to the ISO 45001:2018 Occupational Health & Safety Management System.

We conduct regular hazard identification and risk assessment to develop effective safety management policies and procedures. Safety audits and inspections are conducted, and appropriate actions are taken

to address identified safety issues. Controls are implemented to prevent similar incidents. Behaviour-based safety for improving safety performance and reducing human error incidents is a key focus.

We proactively adhere to all relevant occupational health and safety laws and regulations. Safety signages are placed throughout our facilities to promote safe practices. Fire extinguishers are readily available with clear usage instructions for quick response. We conduct safety campaigns using various methods, including pamphlets, safety badges, skits, and audiovisual messaging.

Personal protective equipment (PPE) is used in accordance with prescribed requirements, including helmets, safety goggles, gloves, and safety shoes. Working at heights or in hazardous environments requires the use of safety equipment and obtaining a safety permit. All contracts include clauses mandating adherence to workplace safety regulations. Violations in the same are strictly dealt with. Accidents and near-misses are thoroughly investigated to implement necessary corrective actions.

Worker Health and Safety Committee

Each unit has a safety committee composed of senior authorities and union representatives. The committee reviews safety performance, makes recommendations, and develops action plans for continuous improvement during meetings. The Chief Safety Officer (CSO) convenes the committee, which includes other key executives and employees. The safety committee periodically sends representatives to other industries to learn about the latest safety practices.

Injury Statistics

We diligently monitor the frequency of injuries category-wise, man-days lost, the severity rate, and work-related fatalities. In accordance with the ISO 45001 management system, we analyse accidents to implement corrective measures. For quantitative data, please refer to the ESG Databook.

Occupational Health

Occupational health centres with necessary resources are established at our Angul S&P complex and Daman Jodi M&R complex for detecting, managing and preventing occupational health issues among employees. These centres are staffed by doctors, paramedics, and experienced technicians. Our



medical facilities at S&P and M&R provide treatment for all illnesses, including occupational diseases, to employees and their families. In case of severe conditions, referrals may be made to other government or speciality hospitals.

We conduct awareness programs to promote overall employee health and well-being. Periodic medical examinations (PMEs) are mandatory for employees and workers engaged through contractors. PME statistics for the reporting year are provided in the data book. Based on the nature of work and environment, NALCO employees do not have a high risk of any specific occupational diseases.



Safety Week at Mines

Highlights of Occupational Health & Safety initiatives during 2024-25

- At all plants & mines, Safety Talks/ safety gatherings/ Tool Box talks/ internal safety audits are conducted regularly. Classroom and on-site safety training, first-aid training, fire safety training, behaviour-based safety training provided to non-executive employees and contractors' workers by internal/external faculties.
- Safety Committee meetings are conducted monthly
- Near-miss reporting was duly promoted. At bauxite Mines, QR code-based scanners are installed at all working areas of mines for instant reporting of unsafe acts, unsafe conditions, near misses and for safety suggestions. At Al. Refinery also, QR code-based safety suggestion scheme.
- NALCO Suraksha Mobile App is widely used. In the reporting year, at Smelter, 751 safety inspection points were raised through the app with a compliance rate of 90%. Similarly, at CPP, 222 safety inspection points were raised through the App with a compliance level of 53%.
- At CPP, to demonstrate a continued commitment to safety, a program of "Safety Line Walk" on the shop floor was launched. These unannounced monthly inspections involve directly engaging employees and workers to gain valuable insights into workplace safety practices & identifying unsafe Acts & Unsafe Conditions.
- Mock drills as per plan carried out successfully to ascertain the readiness of Emergency Response Team Members to cater for any credible emergency scenarios in and around the Plant and Community. Also at Refinery, a state level Mock Drill on Chemical Disaster was organised by the National Disaster Management Authority (NDMA) & Odisha State Disaster Management Authority (OSDMA) in association with the District Administration, Local Authorities and NALCO. At CPP, 2 nos. of On-Site Mock Drills were conducted in association with the District Crisis Group (DCG), Angul.
- At Bauxite Mines, basic dumper operation and skill up-gradation training for HEMM operators was provided by using the Dump-truck Simulator and VR-based training provided to HEMM technicians.
- At Utkal D&E Coal Mines, a separate vehicle pathway was provided for light vehicles, and HEMM vehicles and 31 nos. of new SOPs were formulated for the activities.
- At Alumina Refinery, a state-of-the-art Safety Induction Centre established facilitate easy and convenient Safety Orientation for contractor workers. The Safety Induction Centre is equipped with an advanced interactive display, ergonomic seating capacity, and audio-visual training packages.
- At Al. Refinery, two nos. of radar-based Vehicular Speed Display Boards installed inside the Alumina Refinery to alert the vehicle drivers to maintain their speed within the prescribed limit.
- At Smelter in the reporting year, 411 workers engaged in work at height underwent vertigo testing for identifying balance and dizziness issues, ensuring the safety and well-being of workers performing high-risk tasks.
- At Utkal D&E Coal Mines, eye refraction Test of 103 nos. HEMM operators completed.
- At Smelter, AAINAA, a model workplace was inaugurated at New PCRS, Potline, showcasing advanced safety systems and best practices.
- At the coke unloading area of Smelter, a Rail Traffic signalling light with a hooter installed on the rail track regulates wagon placement. This system enhances safety by providing clear visual and audible signals, helping operators manage wagon movement efficiently.
- All Safety promotional events, i.e. National Safety Week, Fire Safety Week, Electrical Safety Week, National Road Safety Week, were carried out for safety awareness among employees & workers.

Community Development

NALCO believes that development is inclusive and must benefit all stakeholders. We prioritise equity-based development in all our activities, recognising that no one can succeed in isolation. Inclusive growth is a sanctified part of business sustainability, and our community development projects have holistically impacted the quality of life in the areas we operate. These initiatives vindicate our sense of accountability to society and the nation. We have contributed to improved life, health and education, even before the concept of corporate social responsibility gained prominence.

Driving Local Employment for Inclusive Growth

Direct and indirect job creation goes a long way in improving the livelihoods of marginalised and vulnerable communities. Employment can uplift living standards by addressing barriers to education and health associated with poverty. This has a cascading impact on community development.

We support the creation of both direct and indirect employment opportunities in our peripheral regions through outsourcing, capacity building, and contractual engagement. We consider candidates registered with local employment agencies based on their employability and skills.

Those who lost land during the NALCO project acquisition have been provided with job opportunities.

Local contractors in transportation, security, maintenance, and project sectors hire workers to fulfil contractual commitments, creating new job prospects for the local population. In the reporting year, contractors hired 15,125 persons in various mines, plants and offices to meet their contractual obligations.

Sustainable Livelihood-
Onion Farming at a Village



Corporate Social Responsibility

Our CSR Policy aims to support inclusive growth for marginalised communities through planned and meaningful initiatives. It follows a complete approach that includes identifying needs, involving society, planning, implementing, monitoring, evaluating impact and reviewing the outcomes.

Community engagement helps us gather useful feedback, which guides our approach and ensures that vulnerable groups receive the intended support. Our community-based programs address women's empowerment, sports, education, healthcare, sanitation, skill development, livelihood, and rural infrastructure.

The welfare of our stakeholders is an important part of our business processes. All CSR activities aim to create a positive and fair impact on society.

To review the effectiveness of our CSR work, a Board-level subcommittee on CSR and Sustainable Development

meets regularly. This subcommittee is headed by an independent director. A separate Monitoring and Evaluation system is in place, which ensures the timely completion of projects.

CSR interventions are planned based on need assessments carried out by CSR and Peripheral Development departments of NALCO and the NALCO Foundation. District-level RPDAC (Rehabilitation and Periphery Development Advisory Committee) meetings, conducted by district administration, also highlight the concerns and grievances of local communities. These programs are continuously monitored to ensure that they match community needs.

The NALCO Foundation directly implements the company's CSR activities. It is registered under the India Trust Act, 1882, and carries out CSR projects through community engagement and by promoting sustainable development models at the local level.

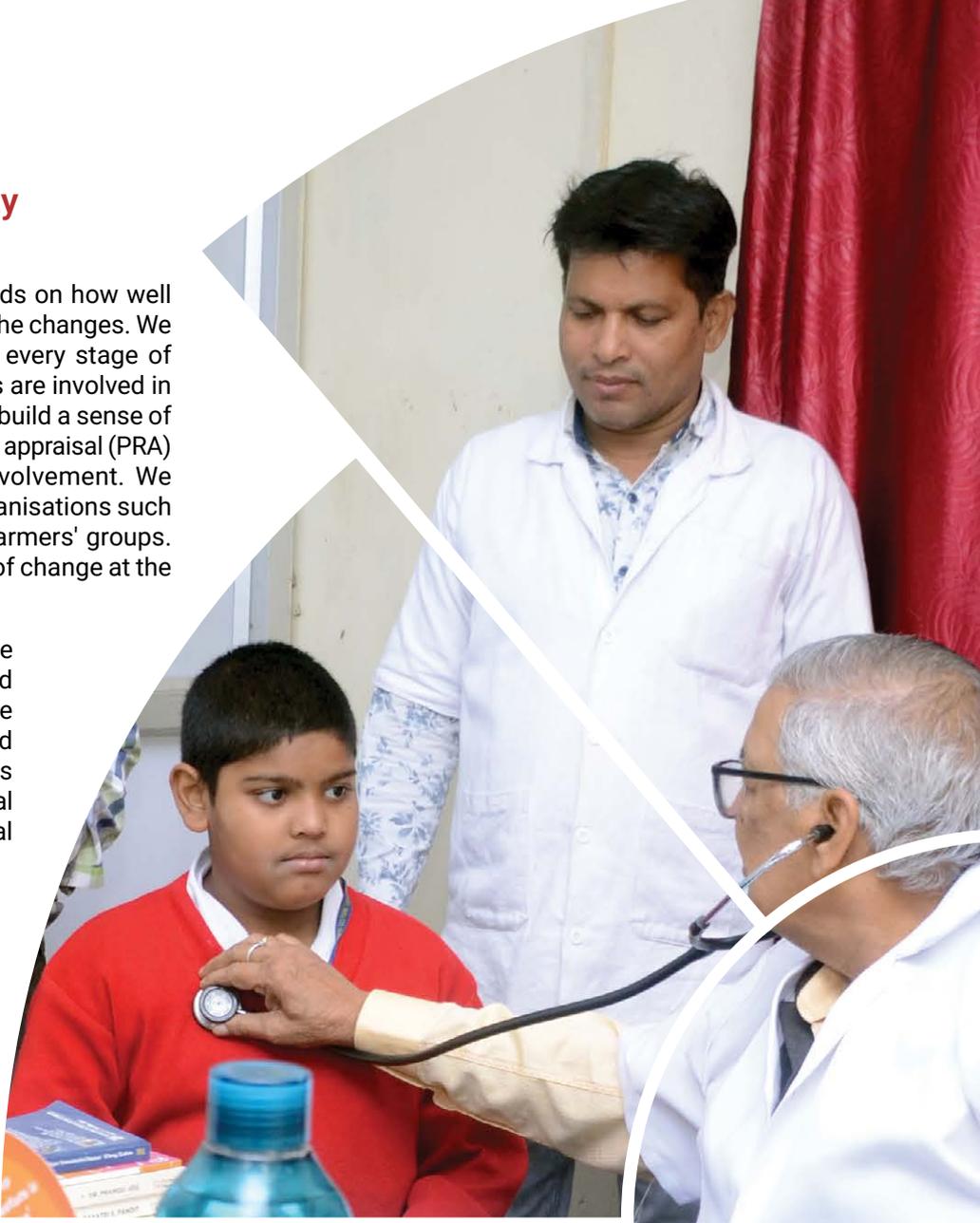


Mobile Health Unit, Damanjodi

Stakeholder & Community Engagement Mechanism

The success of our projects depends on how well the beneficiaries accept and adopt the changes. We follow a participatory approach at every stage of the CSR project cycle. Communities are involved in identifying and prioritising needs to build a sense of ownership. We use participatory rural appraisal (PRA) tools to encourage community involvement. We also support community-based organisations such as SHGs, VDCs, youth clubs, and farmers' groups. These organisations act as agents of change at the grassroots level.

To strengthen acceptance, we organise awareness workshops and village meetings. We also collaborate with government bodies, NGOs, and other implementing agencies in areas like health, education, livelihoods, rural development, environment and tribal welfare to expand our reach.



Outdoor OPD at Angul



CSR Activities in FY 2024–25

NALCO's CSR initiatives aim at the sustainable development of stakeholders and the surrounding villages. All CSR work is carried out as per the CSR Policy and focuses on generating long-term value for nearby communities. The NALCO Foundation, formed in 2010, implements CSR activities on behalf of the company.

NALCO follows the requirements of the Companies Act, 2013, while implementing CSR projects. These initiatives are finalised after discussions with local people, village representatives, PRI members and the district administration.

For FY 2024–25, following the annual CSR theme and continuing the company's flagship programmes, and in line with Government of India guidelines for Aspirational Districts, NALCO spent INR. 61.31 crore against the mandated INR. 57.93 crore. The main focus areas for CSR in FY 2024–25 include healthcare, education, drinking water, environmental sustainability, rural development, and socio-economic development of peripheral communities.

Some of the major projects taken up during FY 2024–25 are as follows:

Health Care Initiatives:

- **Mobile Health Units:** Mobile Health Units provide doorstep primary healthcare with free medicines to deprived and hard-to-reach communities in NALCO's peripheral villages. This service has been running for more than 10 years. During the year, about 1.2 lakh beneficiaries from 211 villages around the M&R Complex, Damanjodi & Pottangi Mines, and 44 villages around the S&P Complex, Angul received healthcare services
 - **Out-Patient Department:** A Multi-Speciality Out-Patient Department with doctors from Medicine, Paediatrics and Gynaecology is functioning at the S&P Complex, NALCO. Around 20,000 beneficiaries from nearby villages received specialised treatment with free medicines.
- **NALCO's Support for addressing the health issues under the Aspirational District Programme:**
 - a. Supported INR. 124.70 Lakh to District Administration Malkangiri for Screening of anaemia and management of Sickle Cell Anaemia and Tuberculosis Control programme under Aspirational District Programme.
 - b. Further to above, the Company has also supported INR. 125.30 Lakh to the District Administration, Nabarangpur, for screening of Anaemia and addressing the Sickle Cell Anaemia, Malnutrition and Stunting issues amongst children under the Aspirational District Programme.



Outdoor OPD at Angul

- Support to Saheed Laxman Nayak Medical College, Koraput:

NALCO contributed INR. 1010.00 lakh to strengthen healthcare facilities by getting advanced medical equipment for critical patient care.

- Support to SVNIRTAR, Olatpur, Cuttack:

NALCO supported INR. 598.00 lakh to establish a 4-bedded ICU/HDU unit with modern medical equipment for persons with disabilities.

- Support to AIIMS, Bhubaneswar:

NALCO contributed INR. 265.00 lakh to strengthen the Radiation Oncology Department with medical equipment for cancer treatment.

- Support for Animal Welfare:

NALCO contributed INR. 55.65 lakh to Chandaka Wildlife Division for vehicles and water bodies to improve management of the Elephant Camp, and also supported Nimapada, NAC for animal Ambulance.

- Support for Pradhan Mantri TB Mukta Bharat Abhiyan:

NALCO provided INR. 33.60 lakh to the Visakhapatnam District Administration for nutritional food baskets for TB patient families.

- Support to Sub-Divisional Hospital, Bagha, Bihar:

NALCO contributed INR. 100.00 lakh for setting up dialysis units.

Provision for Safe Drinking Water:

- An RO water purifier has been installed at Jagannath Ballava Math, Puri, for pilgrims.

- Safe drinking water was supplied to 27 peripheral villages facing severe water shortages during summer.

Swachhata Initiatives:

- As a part of the “Swachhata Hi Sewa” campaign, several cleanliness drives were organised involving people from all walks of life (with Janbhagdari) at Bhubaneswar, Puri, Damanjodi and Angul with community participation.



TB Free Campaign at Angul

Initiatives on promotion of Education:

- **NALCO Ki Ladli Programme:** Under this flagship initiative of the Company, a total of 280 meritorious girl students from BPL / Poor families studying in different High Schools in the periphery villages of NALCO have been supported with INR. 6000/- per annum per student for continuity in education. This scheme has been formulated under the Govt of India's programme called "Beti Bachao, Beti Padhao".
- **Indradhanush:** Under this initiative, 572 students from Class-I to X from the periphery villages of the M&R Complex, NALCO, Damanjodi have been supported for free residential education in three reputed Schools, i.e., Kalinga Institute of Social Science (KISS), Bhubaneswar, Adarsh Vidyalaya, Koraput and Bikash Vidyalaya, Koraput.
- **Day Schooling Facility:** Students of peripheral villages from both the units of NALCO are supported for pursuing quality education in Saraswati Vidya Mandir Schools at Damnajodi and at Angul.

Promotion of Art, Culture & Sports:

- NALCO has been promoting traditional art & culture since its inception, in this endeavour supported INR. 45 Lakh District Administrations of Koraput for organising the district level Cultural festival "PARAB" and INR.15 Lakh to the local cultural association for conducting "Panchpattmali Natya Mohatsav" in Damanjodi.
- Similarly, the company has also supported INR.20.00 Lakh District Administration, Angul, for organising the district-level Zilla Mohatsav- 2025.
- A sum of INR. 5.00 Lakh provided to Ekal Gram Sangathan for organising state level sports competition for deprived and underprivileged students.

Swachha Iconic City Development Project, Puri:

- Nine Battery-Operated Vehicles (BOVs) are operating between Jagannath Ballav Math and Shree Jagannath Temple for hassle-free movement of senior citizens, persons with disabilities and women.
- Five BOVs are operating at Puri, Bhubaneswar and Cuttack railway stations for easy movement of passengers.
- Gandhi Park near Puri Sea Beach has been developed and is maintained by NALCO.
- NALCO supported INR. 85 lakhs to Shree Jagannath Temple (SJTA) for installing a 10,000 LPH RO water plant and water supply system inside the Shree Jagannath Temple.



Rural Development:

- The company has taken up various rural development initiatives to improve the infrastructure and living conditions in peripheral villages. These projects include the construction of roads, drains, culverts, construction and strengthening of the cremation grounds.

Sustainable Livelihood Initiatives:

- NALCO supported five SHGs with 50 members to form the Jayadurga Producer Group at Gellaguda, Pottangi. Members were trained in processing and value addition of local products like ragi, ginger and jackfruit, including packaging and branding.
- Members were taken on exposure and sales visits to Dilli Haat and Konark. Their products, including ragi biscuits, ragi mixture, jackfruit chips, pickles, ginger flakes and ginger candy, received a good response. Each member now earns an additional income of INR. 4000–5000 per month.

Social Impact Assessment of CSR initiatives undertaken:

- Social Impact Assessment study on socio-economic contribution of NALCO in M&R Complex, Damanjodi was undertaken by M/s I – Land informatics Limited, Kolkata during February 2005.
- Socio-Economic Survey of periphery villages of S&P Complex, Angul was done by M/s National Institute of Rural Development (NIRD), Hyderabad during December 2008.
- Social Impact Assessment of various CSR Projects of NALCO Foundation was conducted by Central University of Odisha, Koraput, during the year 2012.
- Social Impact Assessment of various CSR Projects of NALCO Foundation was conducted by Madras School of Social Sciences in the year 2018.

AWARDS AND ACCOLADES IN 2024-25

- The Company awarded Top Exporter Gold Trophy under the Large Enterprise category at EEPC's 38th and 39th Eastern Region Export Awards ceremony
- The Company felicitated for adopting the 'Nikshay Mitra' initiative of the Govt. of India.
- The Central & North and South Blocks of Panchpatmali Bauxite Mines, Koraput, Odisha, were awarded the prestigious 5-Star Rating for the financial year 2023-24 by the Indian Bureau of Mines (IBM)
- South Block of Panchpatmali Bauxite Mines was accorded a 5 Star Rating Award from the Indian Bureau of Mines for Sustainable Mining for the financial year 2022-23.
- Bauxite Mines received multiple awards for its commitment to sustainable mining and environmental protection at the 26th MEMC Week 2025
- Panchpatmali Bauxite Mine awarded 24th Global Greentech Environment and Sustainability Award for outstanding contribution in the Environment Protection category
- Alumina Refinery bagged CII Eastern Region SHE Excellence Award (3 Star)
- Smelter Plant was adjudged as one of the Top 75 innovative companies in the CII Innovation Award 2024 for demonstrating its innovative processes, products and services among business circles and received the above trophy at the CII Annual Summit
- Smelter plant received the Safety Excellence Award from the Labour and ESI Department, Government of Odisha.
- Captive Power Plant (CPP) honoured with the Environment Excellence Award 2025 by the Mission Energy Foundation in the <250 MW coal-based category
- Captive Power Plant (CPP) awarded under the category of Efficient Management of Fly Ash at the 14th International Conference for Fly Ash Utilisation
- Captive Power Plant (CPP) won the "Best Energy Efficient CPP of the Year" award in the CEE 4th National Power-Gen Efficiency Award 2025
- Bauxite Mines, Alumina Refinery, Captive Power Plant and Aluminium Smelter bagged the Kalinga Environment Excellence Award, 2024 at the 10th National Conclave on Environment, Energy & Climate Change (EECC) 2025
- Captive Power Plant, Alumina Refinery, Panchpatmali Bauxite Mines received the prestigious Kalinga Safety Excellence Award, 2023 in the Platinum category
- Coal Mines received general Safety awards for best Safety practices during the Annual Mine Safety Fortnight 2024
- Alumina Refinery bagged the Quality Circle Forum of India (QCFI) – 5S Awards in the Par Excellence Category, at the 11th National Conclave
- The Company received the highest state honour, 'Biju Patnaik Sports Award 2023', on National Sports Day, 2024, for the best contribution to the promotion of sports & games.
- Smelter & Power Complex, Angul received the Appreciation Certificate from Angul District TB Unit, for raising awareness about Tuberculosis under the National TB Elimination Programme.



ESG DATABOOK

Economic Performance

Financial & Sales Performance

Item	Unit	2022-23	2023-24	2024-25
Sales Performance				
Export				
Alumina	In Mt	11,82,054	11,12,216	10,64,881
Aluminium	in Mt	25,214	51,163	6,114
Domestic				
Alumina Hydrate & other chemicals	in Mt	64,583	55,970	41,204
Aluminium	in Mt	4,38,871	4,18,946	4,54,600
Financial Performance				
Gross Sales	in INR Crores	14,170.86	13070.12	16,662.21
Domestic Sales	In INR Crores	9,954.10	8794.39	11,145.24
Export Turnover	in INR Crores	4,216.76	4,275.73	5,516.97
Profit Before Tax	in INR Crores	1,954.99	2783.57	7,135.10
Profit After Tax	in INR Crores	1544.49	2059.95	5,324.67
Net Worth	in INR Crores	13,238.45	14,571.66	18,045.76
Return on Net Worth	%	11.67	14.14	29.51
Book value per share (face value Rs. 5/-)	INR	72.08	79.34	98.25
Earnings Per Share	INR	8.41	11.22	28.99

Production

Particulars	Production			
	Unit	FY 2022-23	FY 2023-24	FY 2024-25
Bauxite	Mt	74,56,776	75,27,016	72,61,808
Alumina Hydrate	Mt	2123000	21,24,000	20,75,500
Aluminium	Mt	460000	4,63,428	4,60,137
Power (net)-CPP	MU	5,788	6,386	6,641
Wind Power	MU	280	313	281

Direct Economic Value Generated and Distributed

Particulars	FY 2022-23	FY 2023-24	FY 2024-25
Direct Economic Value Generated (Values in INR Crores)			
Revenue from operations	14256.85	13,149.15	16,787.63
Revenue from other sources	233.64	250.71	357.01
Total	14,490.49	13,399.86	17,144.64
Economic Value Distributed (Values in INR Crores)			
Operating expenses (Excluding employees' wages and benefits)	10703.44	8,582.23	8,223.07
Employee wages and benefits	1,832.06	2,034.06	1,786.47
Payments to providers of capital	918.32	734.65	1,836.64
Payments to government (Tax on PBT)			
Corporate Tax	294.41	839.71	1,860.71
Total economic value distributed	13748.23	12,190.65	13,706.89
Economic Value Retained	742.26	1,209.21	3,437.75
Additional information on Expenditures included in operating expenses (Values in INR Crores)			
Community investment			
CSR expenses	39.54	50.54	61.3
Total community expenses	39.54	50.54	61.3
Horticulture (Green belts within and vicinity of the plants)	12.61	12.62	15.45

CSR Expenditure

Year	Mandatory CSR Expenditure Obligation (in INR crores)	Actual CSR Expenditure (in INR crores)
2022-23	36.64	39.54
2023-24	48.15	50.54
2024-25	57.93	61.3

Expenditure on R&D (INR Crore)

Nature	2022-23	2023-24	2024-25
Capital	143.63	88.60	21.81
Revenue	17.95	17.76	21.42
Total	161.59	106.36	43.23
R&D Expenditure as % of Turnover	1.14	0.81	0.26

Direct Employment Benefits and Financial Implications

Defined benefit plan obligations and other retirement plans							
Net Liability Arising from Defined Benefit Obligation (INR Crores)							
Liability	Post Retirement Medical Benefit	Settling in Benefit	NALCO Benevolent Fund Scheme	NALCO Retirement Welfare Scheme	Super-annuation Gift Scheme	Gratuity (Funded)	Honour Scheme
Net liability arising from defined benefit obligation as on March 31, 2025	(35.16)	(13.59)	(2.6)	(9.89)	(5.13)	3.41	(32.93)

Highlights of Nalco's support to Ancillary Units & MSEs

Nature	2022-23	2023-24	2024-25
Total value of goods & services procured from MSEs (Including MSEs owned by SC/ST entrepreneurs) (In INR crore)	960.00	1059.84	898.76
Total value of goods & services procured from only MSEs owned by SC/ST entrepreneurs (In INR Crore)	11.50	7.24	14.7
Total value of goods & services procured from only MSEs owned by women entrepreneurs (In INR crore)	32.01	108.05	48.66
Percentage of procurement from MSEs (Including MSEs owned by SC/ST & women entrepreneurs) out of total procurement*	29.88%	30.64%	47.4 %
Percentage of procurement from only MSEs owned by SC/ST entrepreneurs out of total procurement*	0.36%	0.21%	0.77 %
Percentage of procurement from only MSEs owned by women entrepreneurs out of total procurement*	1.00%	3.12%	2.56 %
Total annual procurement (In value) (In Rs. crore)	3212.99	3458.80	1895.00*
Total number of Vendor Development programmes for MSEs	10	08	05

*Total annual value of procurement through GeM; excludes items such as coal, caustic soda, lye, fuel oil, items procured against GTE, imported goods and works contracts for which specific exemption has been sought from the Ministry.

Governance

Ownership & legal structure - Shareholding pattern

(as on 31st March 2025)

SL. No.	Category	No. of Shareholders	No. of shares	% of shareholding
1.	Promoter (Government of India)	1	94,17,93,011	51.28
2.	Banks/ Financial Institutions	10	6,33,889	0.03
3.	Mutual Funds	125	17,24,99,889	9.39
4.	Insurance Companies	25	11,53,12,716	6.28
5.	Foreign Portfolio Investor	363	29,03,46,031	15.81
6.	Bodies Corporate	1,811	2,64,79,581	1.44
7.	Indian Public	9,33,933	27,64,75,933	15.05
8.	Others	10,850	1,30,91,537	0.71
total		9,47,118	1,83,66,31,787	100

Board of Directors

(as on 31st March 2025)

Name of Director	Role	Date of Appointment
Shri Brijendra Pratap Singh	Chairman-cum-Managing Director	08.01.2025
Shri Ramesh Chandra Joshi	Functional Director	04.02.2022
Shri Sadashiv Samantray	Do	22.03.2022
Shri Pankaj Kumar Sharma	Do	01.02.2023
Shri Jagdish Arora	Do	11.10.2023
Shri (Dr.) Tapas Kumar Pattanayak	Do	02.01.2025
Shri Sanjay Lohiya, IAS	Part-time Official Director	09.11.20
Shri Vivek Kumar Bajpai, IRSME	do	28.11.2014

NOTE: As on 31st March 2025, there were no part-time (independent) Directors on the Board. However, during FY 2024-25, seven independent directors, i.e. Shri Ravi Nath Jha, Dr B. R. Ramakrishna, Adv, George Kurien, Dr Ajay Narang, Shri Y. P. Chillio, Ms (Dr.) Shatorupa, Adv. Dushyant Upadhyay and Shri S. R. Patil had served on the Board and various board-level committees. On 01.04.2025, three part-time independent Directors were appointed by the Ministry of Mines, GOI.

RTI Application and Appeals

Heads	Requests	First Appeals
Under Process as on 01.04.2024	22	4
Received during the FY (including cases transferred from other Public Authorities)	554	70
No. of cases transferred to other Public Authorities	8	0
Decisions where requests/ appeals were rejected	119	0
Decisions where requests/ appeals were accepted and settled	431	70
Under Process as on 31.03.2025	18	4

Materials

Materials Used by Weight or Volume Raw Materials

Head	Material consumed	Unit	Source	FY 2022-23	FY 2023-24	FY 2024-25
Raw Material	Bauxite	Mt	Internal Production	73,28,937	74,50,372	72,17,387
	Calcined Alumina	Mt	Internal Production	9,15,770	9,09,540	8,96,606
	CP Coke	Mt	External Suppliers	1,83,222	1,96,690	1,91,841
	CT Pitch	Mt	External Suppliers	43,449	44,559	41,775
Associated Process Material	Caustic Soda	Mt	External Suppliers	2,56,170	2,64,514	2,41,509
	Aluminium Fluoride	Mt	External Suppliers	8,526	9,182	10,257
	Lime	Mt	External Suppliers	63,625	63,676	74,089
Packaging Material	HDPE fabric	m2	External Suppliers	8,97,686	2,75,060	8,54,270
	Wood in wooden pallets	CFT	External Suppliers	72,513	74,209	83,304
	Steel Straps	Mt	External Suppliers	199	217	217

Recycled Input Materials

Material	2022-23	2023-24	2024-25
Aluminium Scrap recycled as % of hot metal produced	2.0055	1.8	2.08
Caustic Soda recycled from red-mud as % of the total consumption of caustic soda	12.64	12.85	13.15

Energy

Energy Consumption

Energy (GJ)	2022-23	2023-2024	2024-25
HFO	80,25,770	84,19,415	85,65,139
LPG	734	868	779
LDO	1,47,218	2,00,119	1,39,803
Diesel	2,48,164	4,55,366	8,09,348
Coal	9,01,59,018	9,80,23,023	9,47,75,120
Indirect Energy Consumption	43,59,616	22,99,542	17,02,847*
Total Energy Consumption	10,29,40,520	10,93,98,335	10,59,93,036

*Includes 3,44,919 GJ from renewable sources, Wind Power, and rooftop solar

Renewable Energy Capacity (Wind Power) as on 31st Mar'2025

Location	Capacity (in MW)
Gandikota, Kadapa, Andhra Pradesh	50.4
Jath, Sangli, Maharashtra	50.4
Devikot, Jaisalmer, Rajasthan	50
Luderva, Jaisalmer, Rajasthan	47.6

NOTE: An additional 15 MW capacity wind power project at Kayathar, Tamilnadu was in progress during FY 2024-25

Renewable Energy Capacity (Solar Power) as on 31st Mar'2025

Location	Capacity (in kWp)
Corporate office, Township and NRTC	630
Alumina Refinery	40
Bauxite mines	220.76
Port Facilities, Vizag	170

NOTE: Additional rooftop solar project of aggregate capacity 7000 Kwp over multiple buildings at Angul S&P complex and Damanjodi, M&R complex was in progress during FY 2024-25

Energy Intensity

	2022-23	2023-24	2024-25
Energy Intensity Aluminium Smelter (GJ/Mt)	55.34	55.06	55.23
Energy Intensity Alumina Refinery (GJ/Mt)	8.26	8.46	8.89

Water Stewardship

Surface Water Withdrawal by Source

Surface Water	Unit	Source	FY 2022-23	FY 2023-24	FY 2024-25
Smelter & CPP incl. township	ML	Brahmani River	35,717.3	39,097.536	38,246.322
Alumina Refinery Incl. township	ML	Kerandi River	7,821.18	9,175.274	8,877.735
Bauxite Mines	ML	Jholaguda Stream	774.27	977.197	963.713
Total surface water withdrawal	ML	-	44,312.745	49,250.01	48,087.77

Water Recycled and reused

	Unit	FY 2022-23	FY 2023-24	FY 2024-25
Bauxite Mines				
Total freshwater intake	ML	774.27	977.197	963.713
Recycled through ETP and STP	ML	76.65	87.947	203.708
Water Recycled/Reused as a proportion of freshwater intake to Bauxite Mines	%	9.9	8.99	21.13
Alumina Refinery				
Total freshwater intake	ML	7,821.18	9175.274	8,877.735
Recycled through STP	ML	551.00	550.95	1,095
Recycled through Ash Pond	ML	7836.44	4614.095	8,463.503
Recycled through the Red Mud Pond	ML	4227.6	8383.68	5,021.374
Water Recycled/Reused as a proportion of freshwater intake to Alumina Refinery	%	161.28	147.66	164.23
Smelter				
Total freshwater intake (through CPP)	ML	1733.88	1745.345	1,675.627
Emrion Nano DF Plant, Ion-Exchange DF Plant, Zero Discharge Sump, Sub-soil water	ML	762.04	718.773	693.899
Water Recycled/Reused as a proportion of freshwater intake to the Smelter	%	43.95	41.18	41.41
CPP				
Total freshwater intake	ML	22,099.364	29,781.922	24,464.955
Recycled through STP	ML	50.5	63.87	63.87
Recycled through ETP	ML	4533.88	2687.945	3,047.695
Recycled through Ash Pond, decanted, and Mine-void (Lean Slurry project)	ML	22675.186	2,07,82.92	25,594.1
Water Recycled/Reused as a proportion of freshwater intake to CPP	%	123.35	79.02 %	117.33

Wastes

Major Non-Hazardous Wastes

Sites	Waste type	Unit	FY23-24	FY 24-25	Waste Management Method
Bauxite Mines	Overburden	Mt	9,50,775	9,09,555	Reused in the backfilling of mined out area
Alumina Refinery	Lime Grit	Mt	25,239	34,417	Disposal to red mud pond; Part of Lime grit is utilised for road embankment/ land development inside the plant, and brick making
	Fly Ash	Mt	6,80,358	7,38,184	Discharged to Ash Pond as slurry and to Silos as dry ash; Utilised for low lying area filling, brick making, supply to cement plants, Road development, etc
	Red Mud	Mt	34,11,271	32,83,273	To the dedicated Red Mud Pond
Smelter	Ferrous Scrap	Mt	1,878.9	2,045.12	Recycled/ reused/ sold to outside agencies
	Non-Ferrous Scrap	Mt	525.22	1,264.98	Non - Ferrous scrap with economic value is recycled/ reused/ sold to outside agencies, and the rest is disposed of at low-lying areas inside the plant.
	Refractory Bricks	Mt	4,269.7	760	Used for hard surfacing and making roads inside plants.
CPP	Fly Ash	Mt	29,17,869	33,32,793	Used in an eco-friendly manner, like filling abandoned mine voids, road development, low land filling, brick units & ash pond dyke raising, ash mound construction
Port Facilities	Mixed metal scrap	Mt	48.56	46.58	Sold to outside agencies
Coal Mines	Overburden with topsoil	CuM	47,87,666	69,44,438	Stored for back-filling of mined-out areas

Major Hazardous Wastes

Sites	Waste type	Unit	FY 2023-24	FY 2024-25	Waste Management Method
Bauxite Mines	Used Oils	Mt	80	118.345	Disposed of authorised recyclers
	Used vehicle filter	Mt	12.09	7.135	Incineration
Alumina Refinery	Waste residue containing oil	Mt	0.038	2.8	Stored for disposal to incinerator
	Used Oil	Mt	88.56	106.45	Disposed of authorised recyclers
	Discarded Asbestos	Mt	10.31	48.24	Disposed to authorised recycler CHWTSDF, Sukinda, Jajpur
	Empty discarded Container	Nos	4048	2404	Disposed of through authorised recyclers
	Spent Resin	Mt	0	5.0	Stored for disposal to incinerator
Smelter	Aluminium Dross	Mt	9,972.434	10,216.3	The majority of Aluminium dross is recycled in the process. Legacy stock of dross is sold to authorised recyclers.
	Spent Anode	Mt	76,729	74,592	100% recycled in anode making
	Cathode Residue, including pot lining	Mt	1,925	2,035	Refractory & mixed portion is segregated & stored on an impervious floor under well-ventilated covered sheds; Carbon portion is disposed of to authorised recyclers for detoxification and subsequent utilisation of energy value.
	Waste containing oil	Mt	76	81.05	Incinerated in the HW incinerator.
	Rejected Filter Bags	Mt	28.436	13.69	Incinerated in Pots for the recovery of Fluorine.
	Rejected AIF3 Bags	Mt	26.483	30.769	Incinerated
	Used Oils	Mt	134.275	59.78	Disposed of authorised recyclers
	Spent Resin	Kl	7.45	7.9	Stored in impervious-lined pits for final disposal
	Used Lube Oils	Kl	24.05	54.34	Disposed of authorised recyclers
CPP	Used Transformer Oil	Kl	Nil	105.99	Disposed of authorised recyclers
	Used oil	Mt	Nil	0.54	Disposed of authorised recyclers
Port Facilities	Used Oil	Mt	25.8	22.17	Disposed of authorised recyclers
Coal Mines	Used Oil	Mt	25.8	22.17	Disposed of authorised recyclers

Summary of Waste Generation and Disposal

Category	2023-24	2024-25
Total Plastic waste generated (in Mt)	0	0.78
Total E-waste generated (in Mt)	13.169	4.77
Total Bio-medical waste generated (in Mt)	1.859	1.48
Total Construction and demolition waste generated (in Mt)	12	9
Total Battery waste generated (in Mt)	32.154	28.71
Total Other Hazardous waste generated (in Mt)	99,324.153	93,916.83
Total Non-hazardous waste generated (in Mt)	1,10,62,779.91	2,03,47,919.68
Total waste generated (in Mt)	1,11,62,163.25	2,04,41,881.25
Total waste recycled (in Mt)	87,039.82	85,015.7
Total waste Re-used (in Mt)	9,50,923	9,68,729.13
Total waste Incineration in own facility (in Mt)	126.454	102.451
Total waste Landfilling in own facility (in Mt)	32.721	39.11
Total waste with other disposal operations (in Mt)	44,41,323.36	1,89,91,093.69

Waste Utilisation

Parameters	2022-23	2023-24	2024-25
Ash utilisation at CPP (%)	121.29	89.77	80.44
Ash utilisation at Refinery (%)	100.63	100.6	7.84
Aluminium Dross recycling at Smelter (%)	75.6	64.5	45.12

Emissions

Air Emission & Pollutants

Parameter	Unit	FY 2022-23	FY 2023-24	FY 2024-25
NOx				
Smelter FTP/FTC stacks avg.	mg/Nm ³	31.40	37.76	49.59
CPP Boiler Stacks avg.		257.76	290.16	297.13
Refinery Boiler Stacks avg.		232.00	276.00	260.045
Refinery Calciner Stack		450.00	420.00	326.82
SOx93				
Smelter FTP/FTC stacks avg.	mg/Nm ³	62.47	76.80	93.99
CPP Boiler Stacks avg.		514.66	499.41	520.32
Refinery Boiler Stacks avg.		461.60	478.00	343.41
Refinery Calciner Stack		319.70	282.00	319.25
Particulate matter (PM 2.5)				
Smelter FTP/FTC stacks avg.	mg/Nm ³	30.63	32.28	28.05
CPP Boiler Stacks avg.		70.89	70.30	77.8
Refinery Boiler Stacks avg.		79.53	84.09	84.48
Refinery Calciner Stack		22.54	24.12	24.99
Volatile organic compounds (VOC), Smelter Bake Oven Stacks, PAH emission	µg/Nm ³	< 0.2	< 0.2	<0.2
Other (Fluoride & Fugitive Fluoride emission from Smelter Potlines & Bake Ovens)	Kg/Mt	0.4515	0.388	0.468

Greenhouse Gas Emission

Source & Type	Unit	FY 2023-24	FY 2024-25
HFO (Scope 1)	tCO ₂ e	6,51,663	6,62,942
LDO (Scope 1)	tCO ₂ e	14,829	10,359
Coal (Scope 1)	tCO ₂ e	94,20,013	91,07,889
Diesel (Scope 1)	tCO ₂ e	33,743	59,973
LPG (Scope 1)	tCO ₂ e	55	49
Emission from PFC (Scope 1)	tCO ₂ e	1,30,319	18,392
Process carbon emissions from electrolysis in pots (Scope 1)	tCO ₂ e	7,21,538	6,97,056
Process carbon Emission from anode baking (Scope 1)	tCO ₂ e	67,954	80,299
Electricity from Grid (Scope 2)	tCO ₂ e	4,52,210	2,74,226
Total Scope 1+ Scope 2 GHG Emissions	tCO₂e	1,14,92,323	1,09,15,361

*GHG emissions are estimated based on actual usage of fuels and electricity, IPCC emission factors, CEA grid emission factor, actual production figures and the Aluminium sector GHG workbook

Consumption of Ozone Depleting Substances (ODS)

Particular	Unit	Bauxite Mines	Alumina Refinery	Smelter	CPP	Port Facilities	Utkal D&E Coal Mines
R-22	kgs	Not in use	Not in use	671	61	Not in use	Not in use
R-124	kgs	Not in use	Not in use	455	NIL	Not in use	Not in use
R-134a	kgs	Not in use	Not in use	62	NIL	Not in use	Not in use
R227	kgs	Not in use	Not in use	660	NIL	Not in use	Not in use

Land & Biodiversity

Number of Saplings Planted (Nos)

Location	2024-25
Bauxite Mines	1,50,889
Refinery & Township	15,092
Smelter and Township	3,100
CPP	5,020
Utkal D&E Coal Mine	5,083
Total	1,79,194

Mined Out Area Rehabilitated

Year	Unit	Mined Out Area Rehabilitated
FY 2022-23	Ha	15.54
FY 2023-24	Ha	14.55
FY 2024-25	Ha	16.7

Employment

Employees as on 31st Mar'2025

Category	Male	Female	Total
Non-executive employees (Supervisory & Skilled Workmen)	2800	222	3022
Executive employees	1683	98	1781
Total	4483	320	4803*

*Includes 37 differently-abled employees

Number of Employees Hired

By Gender	
Male	350 nos.
Female	23 nos.
Others	0
Age Group (years)	
<30	238 nos.
30-50	132 nos.
50-60	03 nos.

Number of Employees Separated

By Gender	
Male	395 nos.
Female	21 nos.
Others	0
Age Group (years)	
<30	09 nos.
30-50	09 nos.
50-60	398 nos.

Parental Leave

Particulars	No. of Employees who availed Parental leave in 2024-25
Maternity Leave	13
Paternity Leave	101

Human Rights Related Complaints

Category	No. of complaints filed during the F.Y. 2024-25	No. of complaints pending as on 31.03.2025
Child labour/ forced labour/ involuntary labour	Nil	Nil
Sexual harassment	Nil	Nil
Discriminatory employment	Nil	Nil

Training & Development

Safety & Health Training coverage in Year 2024-25

Category	No. of People Trained
Executive Employees	991 nos.
Non-Executive Employees (Supervisory & workmen)	1,207 nos.
Total	2,198 nos.
Non-permanent Contractors' Workers	10,602 nos.

Training & Capacity building

Training Man-days in FY 2024-25	Male	Female
Health & Safety, wellness-related	2028	254
Skill Upgradation related	3474.5	420.5
Human Rights-related	163	26
Anti-corruption and vigilance-related	154	11

Injury Statistics

Unit	Category	Reportable Accidents (includes fatal accidents)	Man-days worked	Man- days lost	Man-hours Worked	Lost days Rate	Rate of Injury	Absentee Rate
		(1)	(2)	(3)	(4) = (2) x 8	(5) = (3)/ (2) x 100	(6) = (1)/ (4) x 10 ⁶	(7) = (3)/ (4) x 10 ⁶
Bauxite Mines	Employees	NIL	1,15,227	0	9,21,816	0	0	0
	Contractors' Labour	NIL	2,33,532	0	18,68,256	0	0	0
Alumina Refinery	Employees	NIL	3,76,561	0	30,12,488	0	0	0
	Contractors' Labour	NIL	18,54,408	0	1,48,35,264	0	0	0
Smelter	Employees	01	4,89,800	6000	39,18,400	0.12	0.255	1531.23
	Contractors' Labour	05	13,08,875	7123	1,04,71,000	0.54	0.477	680.25
CPP	Employees	NIL	1,93,106	0	15,44,848	0	0	0
	Contractors' Labour	NIL	6,41,537	0	51,32,296	0	0	0
Port Facilities	Employees	NIL	8,492	0	67,936	0	0	0
	Contractors' Labour	NIL	29,391	0	2,35,128	0	0	0
Coal Mines	Employees	NIL	15,194	0	1,21,552	0	0	0
	Contractors' Labour	NIL	1,85,667	0	14,85,336	0	0	0

*Employees include both executives & non-executives

Fatalities Statistics

Unit/Area	Employee	Contractors' Labour
Bauxite Mines, Panchpatmali	NIL	NIL
Alumina Refinery, Damanjodi	NIL	NIL
Aluminium Smelter, Angul	01	01
Captive Power Plant, Angul	NIL	NIL
Port facility, Visakhapatnam	NIL	NIL
Utkal D&E Coal Mines	NIL	NIL

Safety Incidents

Safety Incident/Number	Category	FY 2023-24	FY 2024-25
Lost time injury frequency rate (LTIFR) (Per one million-person hours worked)	Employee (Executives)	0	0
	Workers (Both permanent & non-permanent)	Refinery- 0.159	Smelter- 0.449
		Smelter- 0.071	
Total recordable work-related injury	Employee (Executives)	0	0
	Workers (Both permanent & non-permanent)	Refinery- 3	Smelter- 6.0
		Smelter- 1	
Number of fatalities (safety incident)	Employee (Executives)	0	0
	Workers (Both permanent & non-permanent)	3	2
Health consequence works related injury or ill health (excluding fatalities)	Employee (Executives)	0	0
	Workers (Both permanent & non-permanent)	1	4

PME Statistics

Unit/Area	Employee	Contractors' Labour
Bauxite Mines, Panchpatmali	454	619
Alumina Refinery, Damanjodi	1170	7947
Aluminium Smelter, Angul	1833	3029
Captive Power Plant, Angul	684	1747
Port facility, Visakhapatnam	34	94
Utkal D&E coal mines	21	0

GRI CONTENT INDEX



CONTENT INDEX ESSENTIALS SERVICE

2026

For the Content Index – Essentials Service, GRI Services reviewed that the GRI content index has been presented in a way consistent with the requirements for reporting in accordance with the GRI Standards, and that the information in the index is clearly presented and accessible to the stakeholders.

Statement of use	NALCO has reported in accordance with the GRI Standards for the period 01.04.2024 to 31.03.2025 [FY 2024-25].
GRI 1 used	GRI 1: Foundation 2021

GRI STANDARD / OTHER SOURCE	DISCLOSURE	Page no.
General disclosures		
GRI 2: General Disclosures 2021	2-1 Organizational details	Page 11
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LIST OF ABBREVIATIONS

APIO	Assistant Public Information Officers
BEE	Bureau of Energy Efficiency
BRSR	Business Responsibility & Sustainability Report
BSE	Bombay Stock Exchange
CAG	Comptroller and Auditor General
CCTV	Closed Circuit Television
CDA	Conduct Discipline and Appeal
CEMC	Centre for Envotech and Management Consultancy Private Limited
CHWTSDF	Common Hazardous Waste Treatment, Storage, and Disposal Facility
CII	Confederation of Indian Industry
CMD	Chairman cum Managing Director
CPCB	Central Pollution Control Board
CPP	Captive Power Plant
CPSE	Central Public Sector Enterprises
CSO	Chief Safety Officer
CSR	Corporate Social Responsibility
CTE	Chief Technical Examiner
CVC	Central Vigilance Commission
CVO	Chief Vigilance Officer
DPE	Department of Public Enterprises
EBITDA	Earnings Before Interest, Tax, Depreciation and Amortisation
ERP	Enterprise Resource Planning
ESG	Environmental, Social, and Governance
ESI	Employees State Insurance
ESP	Electrostatic Precipitator
ETP	Effluent Treatment Plant
FIMI	Federation of Indian Mineral Industries
FOREX	Foreign Exchange
FTP	Fume Treatment Plant
GACL	Gujarat Alkalies and Chemicals Ltd.
GeM	Government e-Marketplace
GHG	Greenhouse Gas
MSEs	Medium and Small Enterprises
MSSW	Madras School of Social Work
MU	Million Unit
MW	Mega Watt
NALCO	National Aluminium Company Limited

GRI	Global Reporting Initiative
Ha	Hectare
HDPE	High-Density Polyethylene
HFO	Heavy fuel oil
HIRA	Hazard Identification and Risk Assessment
HR	Human Resource
IBM	Indian Bureau of Mines
IDCO	Industrial Infrastructure Development Corporation
IEMs	Independent External Monitors
ILO	International Labor Organisation
IPCC	The Intergovernmental Panel on Climate Change
ISO	International for Standardisation
IUCN	International Union for Conservation of Nature
JV	Joint Venture
KABIL	Khanij Bidesh India Limited
kL	Kilo Litres
KPIs	Key Performance Indicators
LDO	Light Diesel Oil
LPG	Liquefied Petroleum Gas
LME	London Metal Exchange
MCA	Ministry of Corporate Affairs
MECL	Mineral Exploration Corporation Limited
MHU	Mobile Health Unit
ML	Mega litres
MT	Million Tonnes
Mt	Metric Tonnes
MoEF&CC	Ministry of Environment, Forest and Climate Change
MoC	Ministry of Coal
MoM	Ministry of Mines
MoP	Ministry of Power
MoCA	Ministry of Corporate Affairs
MoU	Memorandum of Understanding
RMP	Red Mud Pond
RPDAC	Rehabilitation and Periphery Development Advisory Committees
RTI	Right to Information
SA	Social Accountability
SAP	Systems, Applications & Products (in Data Processing)

NAPCC	National Action Plan on Climate Change	SC	Schedule Caste
NGRBC	National Guidelines on Responsible Business Conduct	SCOPE	Standing Conference of Public Enterprise
NOx	Nitrogen Oxides	SDG	Sustainable Development Goal
NRTC	NALCO Research & Training Centre	SEBI	Securities and Exchange Board of India
NSE	National Stock Exchange	SEC	Specific Energy Consumption
OBC	Other Backward Classes	SIA	Social Impact Assessment
OPD	Outpatient Department	SHGs	Self-Help Groups
OSPCB	Odisha State Pollution Control Board	SOx	Sulphur Oxides
PAT	Perform, Achieve & Trade scheme	SPCB	State Pollution Control Board
PAT	Profit After-tax	SRM	Supplier Relationship Management
PFCs	Perfluoro carbons	ST	Scheduled Tribe
PSEB	Public Sector Enterprises Board	STP	Sewage Treatment Plant
PSUs	Public Sector Units	tCO ₂ e	Tonnes of carbon dioxide equivalent
PV	Photovoltaic	TPA	Tonnes per Annum
PWD	Persons with Disabilities	UN	United Nations
R&D	Research & Development	UNGC	United Nations Global Compact

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CIN: L2720300R1981GOI000920

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