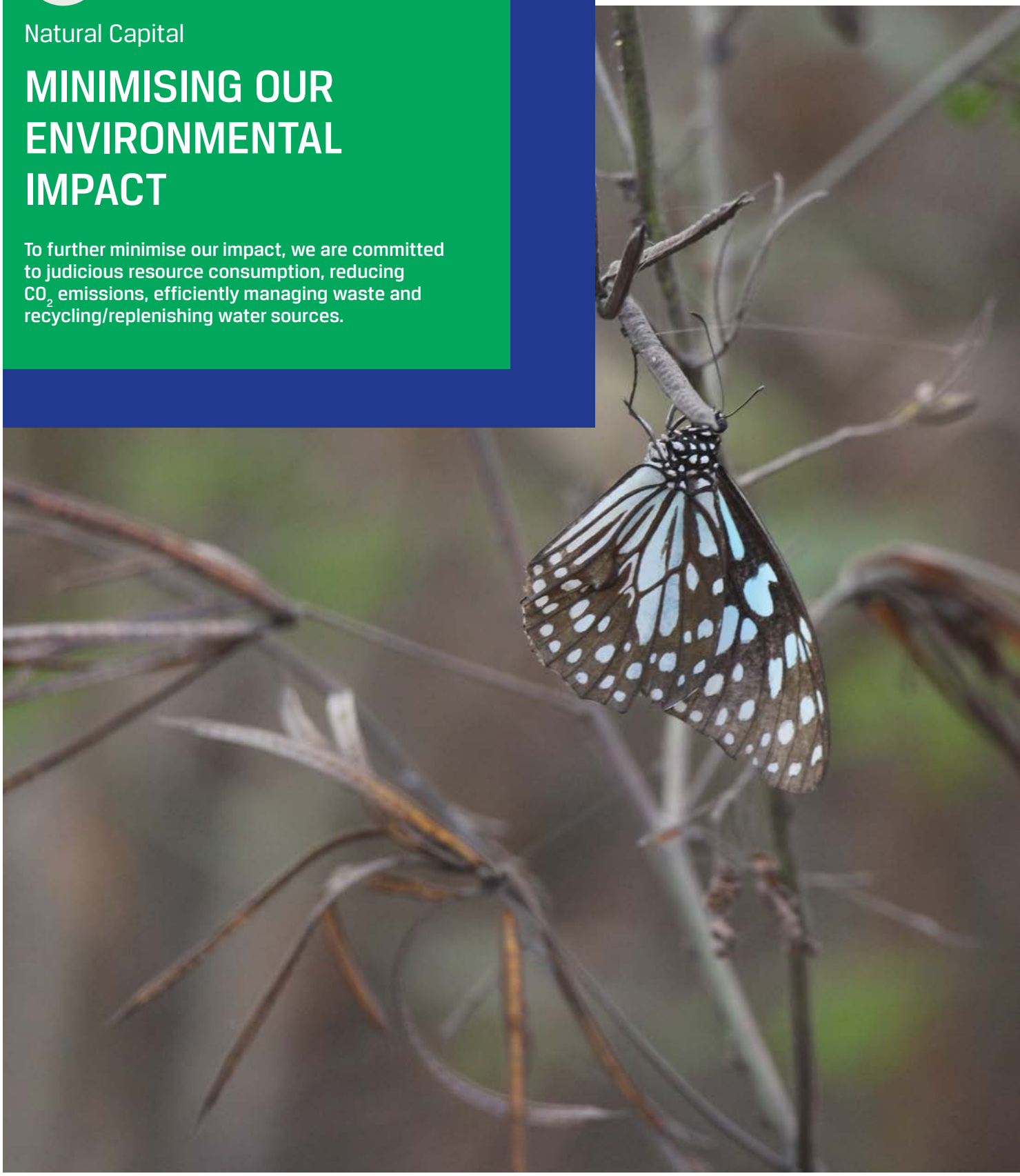
Natural Capital

MINIMISING OUR ENVIRONMENTAL IMPACT

To further minimise our impact, we are committed to judicious resource consumption, reducing CO_2 emissions, efficiently managing waste and recycling/replenishing water sources.



STRATEGIES LINKED S1 S2 S3

RISKS R2 R3 R4 R5

SDGs

MATERIAL TOPICS

- Raw material conservation
- Climate strategy
- Circular economy
- Air emissions
- Energy costs, efficiency and sourcing

FOCUS AREA

1. Minimising Environment Impact
2. Net Zero Concrete
3. Emissions, Energy, Raw Materials, Waste, Water and Biodiversity Management

KPIs

6.89%
Thermal Substitution Rate

1.5 Times
Water positive

~3 times
Plastic negative

FY 2023-24 HIGHLIGHTS AND DEVELOPMENTS

50,672 T
Of CO_2 emissions avoided due to use of AFR at Nandyal

270 KG/T
Of CO_2 emissions per T cementitious material (Scope 1 + Scope 2)

2.21 Lakhs M^3
Harvested rainwater consumed

8.9 MILLION T
Waste-derived resources used

76.8 Litre
Water consumption per tonne of cementitious material

ENSURING ENVIRONMENTAL COMPLIANCE AND AWARENESS

Ensuring environmental compliance is crucial for our plant operations. We strictly adhere to air quality, water management and waste disposal regulations at local and national levels. Regular monitoring ensures that these parameters remain consistently within permissible limits. In FY 2023-24, we had no instances of non-compliance. Show-cause notices, if any, were effectively addressed.

We have implemented environmental policy applicable to all employees, suppliers, service providers, business partners (non-managed operations, joint venture partners, licensees, outsourcing partners, etc.) and contractors across all of our operations and supply chain. We conduct a due diligence process before any mergers and acquisitions occur.

Our environmental training and awareness programme covers aspects such as energy, water, waste water, air emission, waste management, biodiversity and climate change.

CLIMATE CHANGE AND ENERGY MANAGEMENT

Partnering for Net Zero Concrete

Aligned with the Global Cement and Concrete Association's (GCCA) roadmap, we are committed to achieving Net Zero Concrete by 2050. With a focus on high clinker substitution, particularly with slag, we have quadrupled our production while halving emissions over the past decade. Currently, ~85% of our product portfolio is slag-based, with two-thirds of raw materials sourced from by-products and waste materials. By blending clinker with supplementary materials like blast-furnace slag, we reduce carbon emissions. Our goal is to increase the thermal substitution rate to 30% by 2030, while targeting 60% green power by 2030 through solar plants, Waste Heat Recovery Systems (WHRS), and other renewable energy sources. Advanced technologies in our grinding plants prioritise

energy productivity and deliver high-quality blended cement products with superior properties.

To realise our commitment of net zero, we implement strategies like clinker substitution, using alternative fuels and raw materials, and integrating clean energy sources.

We conduct regular internal and external audits to identify opportunities for improving our energy and environment, waste and water performance.

We invested in R&D across our operational activities to develop new, low carbon products and also to optimise our operations by reducing energy and resource consumption.

Clinker substitution

We continue to use industrial waste, such as blast furnace slag/fly ash, to substitute clinker in the production of cement or cementitious products; more than 85% of our products are slag-based.

Using alternate fuel

Our clinker plants at Nandyal and Shiva conserve natural resources such as coal and pet coke via co-processing of alternate fuels. While at Nandyal, we have used approximately 60,000 tonnes of waste as alternative fuels, we also initiated co-processing waste at Shiva clinkering unit. Our average TSR at Nandyal for FY 2023-24 was around 9.8%.

Waste heat recovery

We are prioritising WHRS to reduce the consumption of coal/diesel by utilising waste hot gases from clinker plants for slag drying. The 9 MW WHRS at Shiva Cement now meets almost 70% of its energy needs. In FY 2023-24, we installed 21 MW of waste heat recovery systems, including 8.9 MW at Shiva Cement and 12.3 MW at Nandyal. In FY 2023-24, 8% of our power was sourced through WHRS.

Shifting towards renewable energy

We have expanded our renewable energy capacity by adding 10 MW of solar plant at the Nandyal unit, bringing its total to 15.5 MW, and an additional 8 MW at Vijayanagar. With these installations, along with 3.5 MW solar plants at Salboni through JSW energy, our total renewable energy portfolio stands around 27 MW. This significant increase is aiding our efforts to decarbonise our footprint. In FY 2023-24, 7% of our total power consumption was sourced from solar energy.

Collaborations for a change

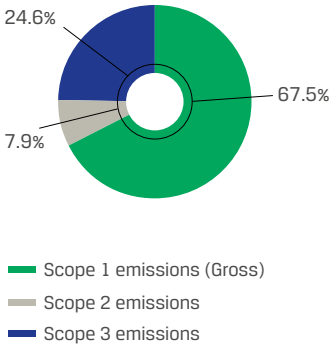
We are a member of many coalitions and associations. In FY 2023-24, we have spent ₹ ~1.5 crore towards the memberships of various organisations, forums, coalitions and associations. Top 5 membership fee being GCCA Global (₹~39 L), CMA (₹ ~40 L), GCCA Innovandi (₹ ~15.3 L), Climate Group (₹ 15 L) and Xynteo's Build Ahead (₹ ~12.5 L).

- **GCCA Global and GCCA India:** We are committed to the GCCA 2050 Cement and Concrete Industry Roadmap for Net Zero Concrete. This is aligned with the target of limiting global warming to 1.5°C outlined in the Paris Agreement. We are also a member of their **'Innovandi'** Program wherein we engage with various start-ups through the GCCA Innovation Challenge Program.
- **Climate Group's RE100, EV100 and EP100:** Joined all three campaigns for renewable energy, electric mobility, and clean power. **We have already achieved our target under EP100.**
- **UN & Industry Partnerships:** Signatory to the UN Energy Compact, Global Decarbonisation Framework Principles, and UNIDO's IDDI advisory group.
- **Xynteo 'Build Ahead':** We are a member of The 'Build Ahead', a business-led coalition founded by Xynteo, a purpose-driven advisory firm that helps the world's largest organisations uncover people and planet-positive ways to grow. The coalition aims to support India's pledge of achieving net-zero emissions by 2070, by increasing the adoption of low-carbon building materials in the design, construction, use, and end-of-life phases of real estate, construction, and infrastructure projects.
- We are a member of **Cement Manufacturing Association** and we work with them to impact the policy and legislative environment, so as to foster balanced economic, industrial and social development in the cement industry. We are also a Signatory to CII's Climate Charter & member of their Climate Council and Development Council for Cement Industry.
- **Science-Based Targets:** Committed to SBTi and submitted our targets for validation.
- We are also a member of **CII's Indian Business and Biodiversity Initiative** and IUCN's Leader for Nature Program.

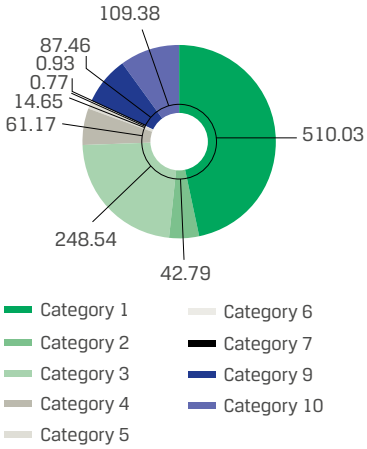
CO_2 EMISSIONS PROFILE

Our GHG emissions primarily stem from cement production and transportation. Our primary objective is to manufacture low carbon products, spearheading the sector's decarbonisation efforts. Our emission intensity is just one-third of the global average and % of the national average. In FY 2023-24, our Scope 1 net emission intensity increased from 173.5 kg/tonne to 241 kg/tonne of cementitious material, primarily due to increased clinker production at the Nandyal and Shiva Plants. Conversely, our Scope 2 emission intensity decreased gradually from 33 kg/tonne to 29 kg/tonne owing to higher utilisation of green power from WHRS and Solar power. We have implemented various strategies to achieve these reductions, significantly lowering our CO_2 footprint.

Emissions per category (%)



Scope 3 CO_2 emissions break-up ('1000 T)



A-
CDP Climate Rating 2023

OTHER EMISSIONS MANAGEMENT

We prioritise air quality protection by addressing emissions from our manufacturing operations, including dust, nitrogen oxides (NOx) and sulfur oxides (SOx). Dust emissions originate from cement production stacks and various manufacturing activities, while SOx and NOx emissions result from fuel and raw material combustion. With continuous emission monitoring systems (CEMS) and ambient air quality assessments in place, we diligently monitor and track emissions to comply with environmental standards. Our efforts include refraining from emitting ozone-depleting substances (ODS) and maintaining negligible auxiliary emissions. Kiln stack emissions are documented, with the Nandyal kiln accounting for all reported emissions. Additionally, the new kiln at Shiva Cement, operational since early 2023, is also equipped with CEMS, with data reporting set to commence next year.

GREEN-CRETE: OUR LOW CARBON CONCRETE

Key Features:

- **CO_2 Reduction:** Green Crete reduces CO_2 emissions by 30-45%.
- **Product Varieties:** The range includes JSW Green Crete Smart and Green Crete Ultima
- **Sustainable Practices:** Green Crete incorporates GGBS and GBFS as partial substitutes for OPC and sand, respectively
- **Carbon Calculator:** Our Carbon Calculator allows customers to measure their CO_2 emission reduction by choosing Green Crete

Benefits:

- **Environment Conservation:** Green Crete substantially reduces CO_2 emissions while ensuring high strength and durability
- **Resource Conservation:** It conserves natural resources and promotes a circular economy by using by-products
- **Geen Rating:** Green Crete's environmental benefits help in obtaining more FSI and Green certifications

ENERGY MANAGEMENT

We primarily source our power from the grid and third parties, supplemented by a captive power plant in Salboni. Additionally, we are expanding our utilisation of solar power and waste heat recovery initiatives across our plants.

599 Million Units
Total electricity consumption

9,810 TJ
Total thermal energy consumption at kiln

738 Kcal/kg
Of clinker-specific Thermal Energy

33.3 kWh/tonne
Of cementitious materials Specific Electrical Energy

27 Million Units
Solar power plant at the Nandyal unit

5.4 Million Units
Solar power plant at the Salboni unit

10.4 Million Units
Solar power plant at the Vijayanagar unit

42.8 Million Units
Solar power consumption at Nandyal, Vijayanagar and Salboni plants

47 Million Units
Power consumption from WHRS at Shiva and Nandyal

15%
Clean Energy portfolio

ENERGY EFFICIENCY

Our thermal substitution rate TSR at Nandyal increased from 8.1% to 9.8% in FY 2023-24 due to the enhanced consumption of alternate fuels such as industrial waste, plastics/RDF waste at our Nandyal plant. To generate energy, we utilise various industrial waste materials, including pharmaceutical hazardous waste, RDF/ plastic waste, carbon black and biomass waste like groundnuts and rice husk. Since we did not start co-processing of AFR at Shiva, our average TSR was at 6.9%.

2.9 Million Units
Electrical saving from projects

2,059 Tonnes
CO_2 emissions avoided due to multiple energy efficiency measures

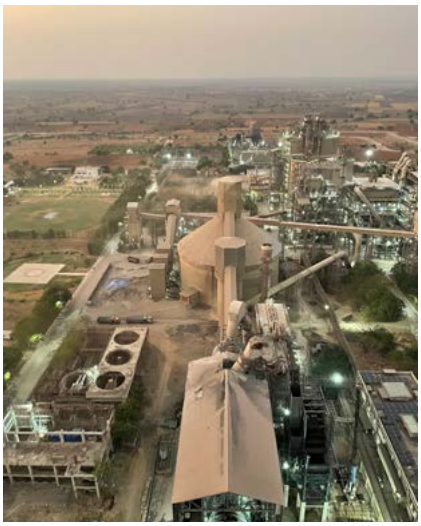
ENHANCING CLEAN ENERGY PORTFOLIO

We are committed to increasing our adoption of clean and green power sources, leveraging electricity generated through WHRS and renewable energy accessed through Power Purchase Agreements (PPAs). During the year, approximately 15% of our power came from clean sources, and we aim to increase this to around 22% in FY 2024-25. Our solar power capacity, managed by JSW Energy, currently stands at 27 MW, complemented by WHRS of 21 MW. This has resulted in an aggregate non-fossil energy capacity of nearly 48 MW, with plans for further expansion in the future.

22%
Projected percentage of power accessed from clean sources in FY 2024-25

Share of Clean energy (%)

Parameter	FY24	FY23	FY22
Share of Clean energy	15	3.9	3.4



INITIATIVES TO IMPROVE ENERGY EFFICIENCY

Nandyal

- Replacing Diesel with PPF in kiln
- Reducing coal/petcoke consumption by utilising 66,218 MT of RDF waste, plastic waste, pharmaceutical waste, and biomass as alternative fuels.
- Operating Slag mill without HAG
- Installing three VFD for Packer Main bag filter Fans
- Expanding WHRS

Salboni

- Using raw water instead of filtered water, reducing pump operational hours.
- Recovering heat by recirculating 20-30% of the ball mill SKS reject (80-90°C) back to the RP-1 circuit.
- Reducing false air for GGBS grinding, lowering coal consumption.
- Reducing voltage from 6.75KV to 6.60KV.
- Implementing chamber DP-based (need-based) purging for Bag House 1 & 3.
- Replaced conventional drain valves with zero drain valves in Unit 1 & Unit 2's 18m air receiver.
- Installed an alternative direct fly ash unloading system at the ball mill.
- Replaced a 78AC root blower with a 5MK root blower, reducing power consumption from 30KW to 15KW

Vijayanagar

- Installing a VFD on RP1 bag filter fan.
- Stopped usage of two fans on the RP bag house air slide in Unit 1 and Unit 2.
- Modified the VRM-1 bag house fan VFD panel to keep one 1.5-tonne split AC off.
- Controlling VRM 1 mill circuit lighting via the DCS system.

Dolvi

- Replacing water-cooled air conditioning units with air-cooled units.
- Switching lighting circuits through CCR.
- Converted ductable AC to VRF in the old admin building.
- Merging compressors into a single grid.

Jajpur

- Running both RPs combined, reducing false air, and cutting thermal energy consumption.
- Utilising IEX by daily bidding with proper plant operation planning.
- Using HT capacitors.

Salem

- Optimised circuit, saving 3.08 kWh/MT power consumption.
- Achieving zero fuel consumption by utilising sinter waste hot air.

64,395 Tonnes/annum
CO_2 emissions avoided due to clean energy consumption

33.3 kWh/Tonne
Of cementitious materials
Specific Electrical Energy

7%
Renewable Energy portfolio

CIRCULAR ECONOMY AND RAW MATERIAL CONSERVATION

RAW MATERIAL CONSUMPTION

Cement production relies on controlled chemical reactions of limestone, sand, iron ore, and other materials. To minimise our environmental impact, we prioritise:

- **Waste as Resource:** Utilising waste materials from other industries
- **Alternative Raw Materials:** Increasing the use of alternate raw materials
- **Circular Economy:** Reducing reliance on conventional raw materials

These efforts contribute to a lower-carbon, more sustainable future.

Alternative Raw Material Consumption (%)

Parameter	FY24	FY23	FY22
Alternative Raw Material Consumption	8.9	7.3	6.0
Conventional Raw Material Consumption	4.9	2.5	3

CONTRIBUTING TO CIRCULAR ECONOMY

Adopting a circular approach to conserve resources and minimise carbon footprint, we leverage industrial waste like slag to lower clinker factor and emissions. Driven by the vision to repurpose waste from the steel industry, our inception aimed to create eco-friendly slag-based cement. Expanding our waste utilisation efforts across JSW Group industries, our ambition is to achieve 30% TSR by 2030.

USING INDUSTRIAL WASTE TO PRODUCE BLENDED CEMENT

Producing Portland Slag Cement (PSC) and composite cement with waste materials like fly ash and slag substitutes naturally occurring limestone, reducing reliance on natural resources.

ALTERNATE FUEL FROM WASTE

Utilising a combination of industrial waste, including hazardous waste, biomass waste and plastic waste, we reduce emissions, foster circular economy principles, and divert waste from landfills.

INNOVATIVE WASTE MANAGEMENT

Co-processing waste materials like industrial liquid hazardous waste and plastic waste at facilities like Nandyal reduces reliance on fossil fuels while efficiently managing waste.

COLLABORATION AND INNOVATION

Collaborating with academic and research institutions, we advance practices like geopolymer concrete, 3D concrete printing and biodegradable polymers for eco-friendly packaging. We are also exploring alternative raw materials like calcined clay to further enhance our sustainable practices. We have invested almost ₹ 10.5 crore (CAPEX and OPEX) towards environmental protection. Out of this, almost ₹ 1.5 crore was towards water related measures.

36%
Natural raw material

13.8 Million T
Of total raw material consumed during FY 2023-24

8.9 Million T
Of alternative materials consumed during FY 2023-24

WASTE MANAGEMENT

Waste Generation and Handling

Our cement manufacturing process minimises process waste, with ancillary and housekeeping activities generating iron scrap, plastic waste and e-waste. Hazardous wastes like waste oil and waste grease are sold to authorised recyclers in compliance with regulations. We further prioritise waste reduction at the source and ensure responsible disposal practices. We use plastic packaging for our products which cannot be reclaimed directly. However, we co-process ~3X of plastic waste from other industries. We have diverted >99% of our waste generated, away from landfilling and disposal.

The increase in waste generation and disposal in FY 2023-24 compared to the previous year is due to increase in the number of projects and higher production.

Recycling and Repurposing

We actively engage in recycling and repurposing waste from various industries to reduce natural resource consumption and minimise GHG emissions per tonne of cement produced. No significant spills occurred at our facilities throughout the year, with wastewater contained within our premises and no discharge into water bodies.

Plastic Packaging and EPR

We are exploring to use the recyclable or biodegradable plastic packaging. Currently, the plastic packaging used by the Company is being recovered through Extended Producer Responsibility (EPR) Framework. Complying with the latest EPR guidelines, we registered ourselves as a Plastic Waste Processor and Brand Owner (BO) under the Plastic Waste Management (Amendment) Rules, 2022. Co-processing around ~58,000 tonnes of RDF or plastic waste at our Nandyal unit aligns with our goal of being plastic negative by 2030.

10x
Plastic negative by 2030

SMART WASTE MANAGEMENT TECHNOLOGIES

Sustainable Technology: Utilising cutting-edge German dry process technology, our plants eliminate water usage, ensuring environmental sustainability. Fully automated plants with centralised control desks minimise air pollutants through dust-free production operations and employ water sprinkling for air quality standards.

Water Management: Absence of liquid waste generation and efficient water circulation through cooling water towers ensure virtually non-existent water pollution. Domestic wastewater treatment in sewage treatment plants (STPs) provides treated water for dust suppression and nurturing green belts.

Solutions for Various Sectors: We provide waste management solutions for sectors like steel, alumina, pharmaceutical, municipal waste, pulp and paper industry, textile industry and more.

WATER

WATER MANAGEMENT

Cement manufacturing is not a water intensive process thus we have less dependency and impact on water resources. Water scarcity is also seen as an emerging risk for few of our operations in medium to long term. Limited availability of water can also impact our downstream value chain as our products can not be used without water. Thus we are putting efforts to mitigate this risk. This is one of the key focus areas in our sustainability framework and sustainability strategy CO-CREATE wherein it appears under the pillar of 'Ecosystem Restoration'.

With a long-term focus on water sustainability, we aim for a 15% reduction in freshwater withdrawal intensity and become 5x water-positive by 2030 (compared to 2021). This will be accomplished through increased use of recycled & harvested water and implementing comprehensive water stewardship programmes. Our Water Resource Management Policy aims at alleviate water scarcity by sourcing water meticulously and utilising innovative recycling techniques. We ensure proper wastewater treatment, fulfilling both statutory and voluntary obligations, and adhering to Zero Liquid Discharge technology. Our initiatives also include rainwater harvesting, groundwater replenishment and the use of water-efficient equipment. We have installed Sewage Treatment Plant (STP) and Effluent Treatment Plant (ETP) to ensure effective management of wastewater across our operations.

In FY 2023-24, our water withdrawal had no significant impact on local water bodies. Out of our six manufacturing sites in India, three (Dolvi, Vijayanagar, and Jajpur) have access to surface water supply and other three

(Shiva, Nandyal, and Salboni) depend on groundwater. At Salem, the primary source of water is surface water.

We undertook Initial water risk assessments across our sites, using tools like the India Water Tool (IWT) and local guidelines. None of our owned sites are in water-stressed regions as defined by Central Ground Water Authority guidelines, however, IWT assessment indicated that 3 sites are low-risk, while three sites Nandyal, Salboni and Vijayanagar may fall under medium to high risk. We have conducted assessments for Nandyal and Vijayanagar plants and are developing a water management strategy. Additionally, we actively engage in collaborating with communities to ensure water security and pre-empt potential future risks through diverse CSR initiatives.

During the year, we were not subjected to any fines, enforcement orders or other penalties for water-related regulatory violations.

In FY 2023-24, we submitted our first CDP disclosure (for 2022) for water management and received a B rating. We are committed to enhancing our water management efforts and improving our disclosures. Our goal is to achieve a water-positive status by 2030. In 2023-24, we recycled **93,269 m³** of waste water. Recognising the increasing scarcity of water, we have incorporated water-related interventions not only within our operations but also in our communities.

Our Waste Water Management Policy aims at addressing water scarcity in the locations where we operate through various strategies to reduce our dependence on freshwater:

- Building rainwater harvesting/ recharge systems
- Ensuring WASH facilities
- Enhanced use of recycled water
- Exploring alternate sources of water (treated wastewater) for operational use
- Reducing water footprint along the whole value chain

Our efforts towards effectively managing water as a shared resource involves integrating a comprehensive assessment of both dependency-related and impact-related water risks across our operations, supply chain and product use phase. This involves evaluating future water availability and quality to ensure long-term operational sustainability. We proactively assess potential impacts on local stakeholders, addressing both the current and future water needs of the communities in which we operate. In addition, we closely monitor and anticipate future regulatory changes at the local level, ensuring compliance and mitigating potential risks. Through these efforts, we aim to safeguard our water resources while fostering sustainable growth and responsible water stewardship.

WATER FOOTPRINT

0.9 million m³
Total water consumption

58.5 litres
Fresh water consumption per tonne of cementitious material

76.8 litres
Water consumption per tonne of cementitious material

B
CDP Water Rating 2023

~25%
Of our total water requirement was met by harvested water

0.09 million m³
Of recycled water used, which was primarily consumed for green belt development and dust control

5X
Water positive by 2030

15%
Reduction in freshwater intensity by 2030 (vs 2020)

RESPONSIBLE MINING AND BIODIVERSITY MANAGEMENT

We are keenly aware that resource extraction can impact biodiversity and thus ensure that we minimise our impact on nature. Together with enhancing biodiversity, we try our best to rehabilitate sites of raw material sourcing and develop the built environment in such a way that we reduce harm to the environment.

CONTROLLED BLASTING

We responsibly manage our mining operations by employing a non-electrical/ shock tube-controlled blasting method, coupled with Minimate Blasters to meticulously monitor each blast. Our approach involves staged waste-dumping to optimise disposal area usage. To enhance productivity and minimise power consumption, the crusher operates at its maximum designed TPH capacity. The blasting process is aided by a meticulous drill-blasting procedure, which determines the optimal charge per hole based on stratum hardness.

TURNING UNUSED MINES INTO RESERVOIRS

We are repurposing our former mines as water reservoirs to strengthen water availability for local populations. Utilising sump water from both active and decommissioned mine pits, we provide water supply to nearby communities. The reclaimed old pits serve dual purposes, being utilised for cultivation and afforestation. This approach benefits from natural groundwater inflow from the surrounding areas, consistently replenishing the sumps and former pits, ensuring a year-round water source.

While cement operations have an impact, Biodiversity and Ecosystem Loss is also seen as an emerging risk. There is a growing environmental awareness and regulations and thus an increased likelihood of stricter regulations and legislation governing the cement industry's environmental impact. Thus we are taking steps not only to identify risks and impact through assessments but we are also taking steps to reduce negative impact and contribute to conservation of biodiversity.

PRESERVING BIODIVERSITY

At JSW Cement, we are committed to conducting our business responsibly and recognise the importance of biodiversity and associated ecosystem services in the long-term sustainability of our operations. We take concerted efforts to protect, restore and promote all forms of life within the ecosystem surrounding us. We are committed to afforestation, planting native species, maintaining green belts and adhering to approved mining and rehabilitation plans. We have also committed to avoiding operational activities near sites containing globally or nationally important biodiversity. In case of projects where tree felling is done, required efforts for compensatory afforestation are carried out ensuring no net deforestation for our operations. Further, we ensure timely restorative measures are carried out to ensure minimal effect on the biodiversity of the region, in compliance with the applicatory regulatory requirements.

Guided by our Biodiversity policy, JSW Cement is committed to conserving/ enhancing biodiversity around its plants and quarry sites through various biodiversity management initiatives. Our goal is to achieve No Net loss of biodiversity by 2030. In case of new projects where tree felling is done, required efforts for compensatory afforestation are carried out ensuring no net deforestation for our operations. While both active mines (Nandyal and Khatkurbahal) are not located near protected areas, the presence of nearby scheduled species necessitates the implementation of wildlife conservation plans. Additionally, the Vijayanagar grinding unit, situated near the Daroji Bear Sanctuary, has a dedicated wildlife conservation plan.

Biodiversity Risk assessment

Cognizant of the proximity of our operations with nature, we have initiated Biodiversity risk assessments for all sites with reference to Global Biodiversity Framework and Taskforce on Nature-related Financial Disclosures (TNFD) in FY 2023-24. We have also integrated biodiversity risks into our Enterprise Risk Management process.

- **Phase I (Desktop Assessment):**

  We conducted a comprehensive GAP assessment using datasets provided by each site, including Environmental Impact Assessment (EIA) reports, site-specific biodiversity studies and secondary data sources. This desk assessment covered all seven operational sites, encompassing a total area of 422.85 Ha. Additionally, dependency and impact assessments were carried out for own operations as well as upstream and downstream activities.

  All operations located within a 10 km radius of protected areas, migratory routes and Ramsar Wetlands sites were mapped using various tools. This facilitated ecosystem mapping, risk identification for each ecosystem, evaluation of ecosystem services and the effectiveness of existing management plans. The site-specific risks (impact and dependencies) were identified according to the JSW Biodiversity Technical Standard. Based on the risk and opportunity mapping, a scoring matrix was developed to prioritise high impact locations.

  Among all sites, Nandyal and Vijayanagar (covering a total area of 323.75 Ha) were identified as high-impact locations. Both sites have existing Wildlife Conservation Plans/Biodiversity Management Plans. To further strengthen our efforts, we undertook Phase II assessment, i.e., onsite assessment at Nandyal and developed Biodiversity Management Plan. For Vijayanagar location, since we are collated with JSW Steel and JSW Energy, we are undertaking a detailed assessment and developing a joint biodiversity management plan.

- **Phase II: On-Site Assessment**

  We have done on-site biodiversity risk assessment at our Nandyal site, where a Wildlife Conservation Plan is already in place as part of compliance requirements. The purpose of this study is to assess and document the biodiversity around the plant, including flora-fauna, habitats, terrestrial ecosystems, distribution of vegetation and aquatic ecosystems, and plan for its conservation and development.

  To mitigate the identified risks and progress towards achieving our target of No Net Loss (NLL), we will prioritise risks based on applicable standards and the Natural Capital Action Plan provided by CII team. This will enable us to create focussed, action-oriented and efficient plans to prevent and mitigate these risks. The assessments are ongoing and we are yet to disclose the final findings.

  By committing to this Biodiversity Risk Assessment, JSW Cement demonstrates its dedication to upholding and promoting biodiversity preservation across its operations. This approach benefits our stakeholders and also contributes to a more sustainable and responsible business environment in the cement industry.

BIODIVERSITY MITIGATING ACTIONS

At JSW Cement, we follow a robust mitigation hierarchy for all biodiversity issues resulting from our operations.

Mitigation measure : REDUCE/MINIMISE

Our practice

We are keenly aware of the potential impact resource extraction can have on biodiversity. To this end, we follow responsible mining practices, including controlled blasting to mitigate environmental impact.

Our mining operations are managed responsibly by employing a non-electrical/ shock tube-controlled blasting method, coupled with Minimate Blasters to meticulously monitor each blast. This approach ensures precise control and reduces negative environmental impacts.

Additionally, we use staged waste-dumping to optimise the usage of disposal areas.

The blasting process is supported by a meticulous drill-blasting procedure, which determines the optimal charge per hole based on the hardness of the stratum.

Mitigation measure : REHABILITATE/RESTORE

Our practice

We implement progressive mine rehabilitation plans at our mines, aligning with regulatory requirements. Further to this, we plant native species annually and maintain the green belt as mandated by regulations.

We repurpose our dormant mines as water reservoirs to enhance water availability for local communities. By utilising sump water from both active and dormant mine pits, we provide a reliable water supply to nearby areas.

These pits serve dual purposes, supporting both cultivation and afforestation. Natural groundwater inflow aided with rainwater harvesting from the surrounding areas, consistently replenishes the sumps and former pits, ensuring a year-round water source.

Mitigation measure : OFFSET

Our practice

At some of our locations, we have implemented the Miyawaki afforestation method to create small, dense forests. This technique compresses layers of a forest – shrubs, trees, canopies – on small plots of land, transforming them into vibrant mini-forests. At our Vijayanagar location, we used 28 varieties of local species to increase the green cover in and around our plants. These forests not only help reverse the decline in tree cover, but also contribute to a better environment by improving air quality and enhancing biodiversity.

PARTNERING CONSERVATION EFFORTS

To further our commitment to preserving biodiversity across our operations, we have joined the Indian Business and Biodiversity Initiative (IBBI), launched by the Confederation of Indian Industry (CII) in collaboration with India's Ministry of Environment, Forest and Climate Change. Additionally, we have also committed to IUCN's 'Leaders for Nature' programme. This association aims to support businesses in amplifying innovation, new business models, and solutions that seamlessly integrate natural capital within their value creation process. This symbiotic approach benefits businesses, biodiversity, and society at large.

2.4 Lakhs
Plantations set up across our locations till date

89,272
Plantation done

2
No. of sites with Biodiversity Management Plan/Wildlife Conservation Plan