

Natural Capital

Responsibility towards Planet and Resources

Grasim Industries Limited | Integrated Annual Report 2022-23

Grasim's commitment to environmental sustainability is rooted in our purpose of creating and maximising value for all, with a strong focus on future generations. We prioritise making environmentally responsible choices and actively work towards reducing our carbon footprint. Through best-in-class manufacturing processes, we minimise energy, water, and resource consumption. Leveraging technological advancements, we continuously work to reduce waste generation and embrace circular practices across our operations.

STAKEHOLDERS IMPACTED

- Government and Regulators
- Local Communities, NGOs and Other Groups
- Customers and Suppliers
- Investors and Shareholders

MATERIAL ISSUES

- Energy Consumption and GHG Emissions Management
- Water and Effluents
- Waste Management
- Climate Change Adaptation
- Product Stewardship
- Responsible Supply Chain
- Innovation and R&D
- Air and Soil Pollution
- Biodiversity and Land Use

KEY RISKS

- Emerging Risk
- Operational Risk
- Compliance Risk

ALIGNMENT WITH SDGs



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FY23 Highlights

8%

Share of renewable power

17%

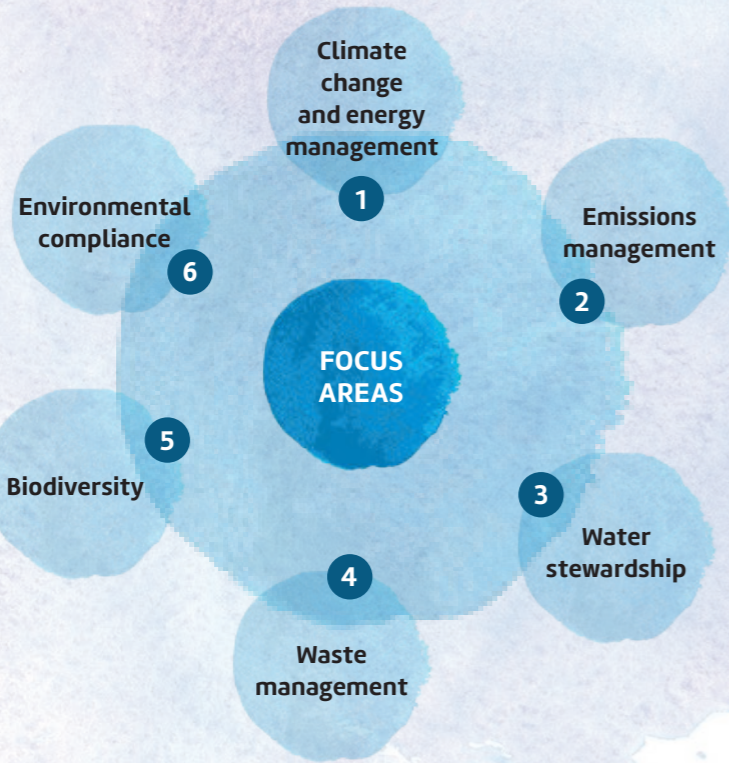
Reduction in energy consumption intensity

15%

Reduction in freshwater withdrawal intensity

OUR APPROACH

Grasim leads by example, aiming for a greener future through sustainable operations and innovation. As industry pioneers, we prioritise innovation and responsible practices to safeguard the planet. Through reduced water usage and circular economy principles, we promote sustainability. Our commitment to eco-friendly products and optimised resource consumption drives value creation.



1

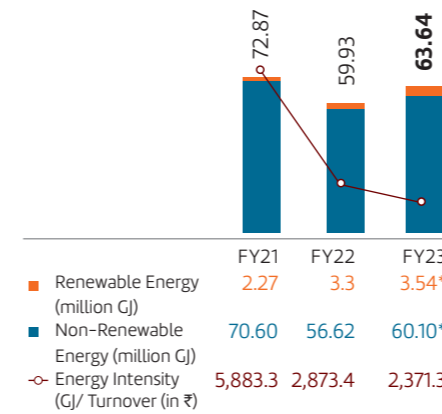
CLIMATE CHANGE AND ENERGY MANAGEMENT

In an effort to address climate change, we are working to reduce energy intensity consumption to lower the environmental impact of our operations, and we are prioritising reducing greenhouse-gas emissions through energy-efficient technologies and renewable energy sources. In order to ensure that our innovative measures work, we have enlisted the support of both our employees and stakeholders in our march toward combatting climate change.



Performance

TOTAL ENERGY CONSUMPTION



NON-RENEWABLE ENERGY CONSUMPTION (% CONSUMPTION SEGMENT WISE)



Viscose	52
Chemicals	46
Textiles and Insulators	2

RENEWABLE ENERGY CONSUMPTION (% CONSUMPTION SEGMENT WISE)



Viscose	70
Chemicals	25
Textiles and Insulators	5

*Indicator covered under assurance scope

Initiatives

Energy Efficiency

- Increased the efficiency of coal-based captive power plants through continuous performance monitoring and advanced process control
- Implemented measures to reduce specific energy consumption in the process and eliminate energy-intensive steps in the operational series
- Upgraded and optimised the generation of electrolyzers through recoating/re-membrane
- Implemented electrolyser cell power optimiser and Life Cycle and Performance Management Systems

- Optimisation of system and equipment efficiency throughout our operations
- Proactively replaced conventional equipment with highly efficient latest-design equipment

Renewable Energy | Green Power | Alternate Fuel

- Three more sites joined the race to source RE power manufacturing units, taking the count to a total of 8 units. Increasing the share of RE power from 5% to 8% on a y-o-y basis
- Vilayat and Karwar unit of the chlor-alkali business has increased their RE-power sourcing by 9MW in total

- Harihar unit in the pulp and fibre business has successfully implemented a 10 MW green power generation system that utilises waste liquor, effectively reducing coal consumption
- The pilot trial has been successfully carried out for replacing fossil fuels like coal with low-carbon fuel or renewable fuel like agro, process waste as a fuel source

2

EMISSIONS MANAGEMENT

Climate change has a significant impact on the health of our planet. On the rebound, it affects our ability to create value. Recognising this, we are taking measures to reduce carbon footprint, we are currently working towards setting a Net Zero emissions target in sync with our Group's ambitious goals to be Net Zero by 2050. We have entered into a collaboration with subject matter experts for:

- A systems-based approach to set a decarbonisation roadmap
- Process optimisation
- Digitisation to meet GHG reduction goal



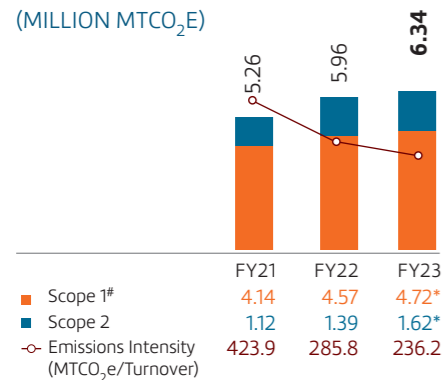
For computing Scope-1 GHG emissions, factors from Intergovernmental Panel on Climate Change (IPCC) has been considered for all sources of fuel except

for CO₂ emissions from coal which considers CEA CO₂ baseline database for the Indian power sector version 13.

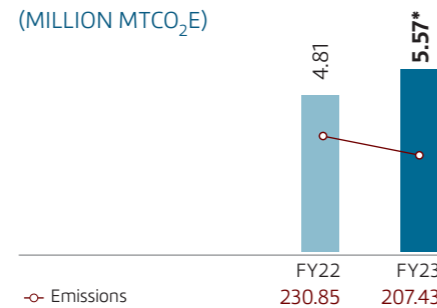
Performance on Carbon Emissions

Total Emissions

GHG EMISSIONS



SCOPE 3[^]



We believe that the first step to control emissions is to monitor. In line with that, we conducted a thorough measurement and mapping of our Scope 3 emissions covering relevant categories, as we are committed to reducing emissions across all Scopes in the upcoming years to decrease our environmental impact in FY23.

↓
20%

Reduction in Scope 1 intensity

↓
9%

Reduction in Scope 2 intensity

↓
10%

Reduction in Scope 3 intensity

Business-wise Carbon Emissions

SCOPE 1
(% OF TOTAL EMISSIONS)



SCOPE 2
(% OF TOTAL EMISSIONS)



*Indicator covered under assurance scope

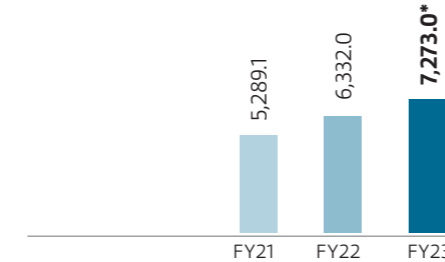
#Scope 1 emissions doesn't include emissions from refrigerant gases

^Categories 1, 2, 3, 4, 5, 6, 7 and 9 considered for calculation of Scope 3 GHG emissions

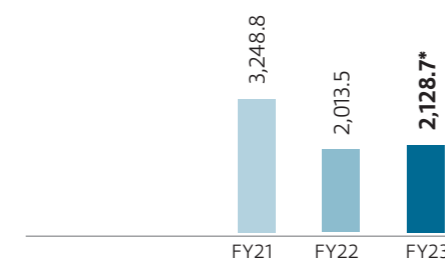
Air Emissions

In our efforts to truncate emissions to air, we are working towards improving in-house processes. We have installed Ambient Air Quality (AAQ) monitors at our facilities to help us track our emissions and comply with the regulatory norms of the pollution control board.

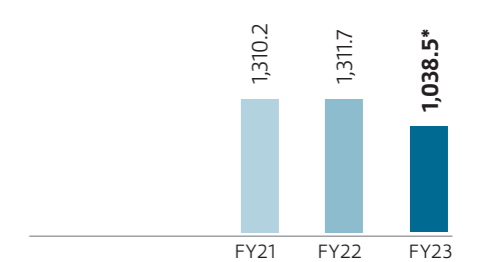
SOx
(MT)



NOx
(MT)



PM
(MT)



*Indicator covered under assurance scope

Business-wise Air Emissions

SOx
(% OF TOTAL EMISSIONS)



NOx
(% OF TOTAL EMISSIONS)



PM
(% OF TOTAL EMISSIONS)



3

WATER STEWARDSHIP

Water, a vital component of our operations, is of utmost importance to Grasim. We have embraced a water stewardship approach based on three key principles: efficiency, conservation, and responsible use. Through the implementation of various measures, including conservation, treatment, and reuse, we strive to minimise water consumption. Furthermore, we have installed Zero Liquid Discharge (ZLD) and Minimum Liquid Discharge (MLD) plants to reduce water discharge from our manufacturing facilities.

9*

ZLD Plants

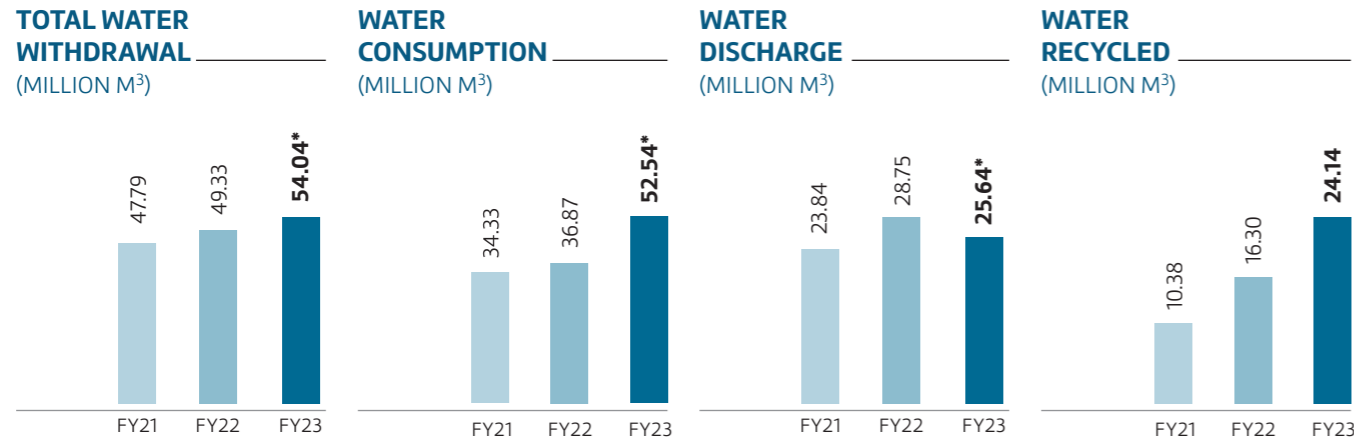
*One under commissioning

We have assumed all our plants to be in water-stressed regions based on the WRI Aqueduct Tool. We are working towards strengthening the tracking system

to capture breakdown of total water withdrawal for each of the sources based on its total dissolved solids content.

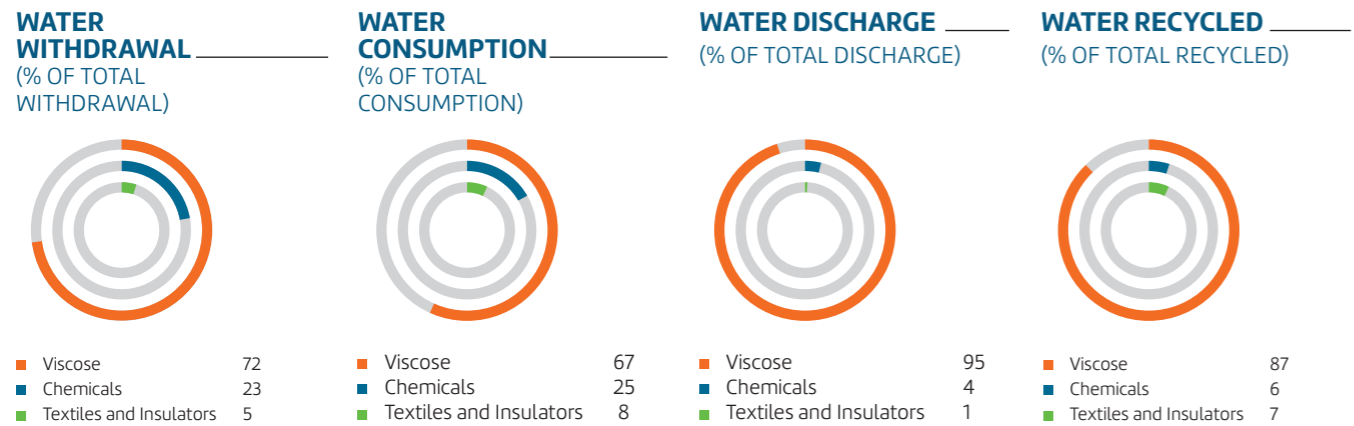


Performance



*Indicator covered under assurance scope

Business-wise Performance



Initiatives

Apart from ZLD and MLD initiatives across VSF, Textiles and Chlor-alkali business, speciality chemicals are on their journey to minimising effluent generation by plant effluent characterisation and increasing recycle-reuse of wastewater.



CASE STUDY

Reduction of Water Consumption at India's Largest VSF Manufacturing Site



BACKGROUND

Grasim Cellulose Division (GCD), Vilayat, is India's largest VSF manufacturing site at a single location. VSF is a nature-based regenerated fibre, made by chemically dissolving wood cellulose and regenerating it in the form of fibre that can be used for making textiles. This case study focuses on the implementation of a closed-loop process within the VSF manufacturing process at GCD-Vilayat.



OBJECTIVE

Our objective is to achieve 'minimum' freshwater consumption and EU-BAT certification for VSF manufacturing. To achieve this objective, we have set a target that surpasses the norms of statutory, regulatory, and industry standards.



INTERVENTION

To reiterate our commitment to becoming environmentally sustainable, we have in the past five years made significant investments to improve processes and systems. This facility is compliant with the European Union Best Available Technology (EU-BAT) standards. Several initiatives have been implemented to reduce our environmental impact, including:

1. Installation of RO systems to recover and reuse up to 70% of processed water from various effluent streams
2. Influent and effluent characterisation, closed-loop backwashing, pinch for washing, utilising RO reject for once through quenching
3. Expansion and upgradation of ETP and process improvisation

These initiatives demonstrate our commitment to sustainability and our efforts to continuously improve our environmental performance.



RESULTS

We have significantly reduced our water consumption, thanks to our pioneering measures. Our overall water intensity has been reduced by 70% from the baseline FY16, in a phase-wise manner.

GCD-Vilayat Units' exemplary performance in environmental management has been recognised with the 'Excellence in Environment Management' award at the CII-ITC Sustainability Awards 2022, and the ET-Promising Plant Award 2022 bestowed upon GCD, Vilayat.

On the environmental front, VSF has been found to use marginal land, and, yet has a high yield, which is advantageous over natural fibres that require arable land needed for food crops. Additionally, our efforts are in absolute alignment with UN SDG 6 by increasing freshwater availability and UN SDG 12 through responsible consumption. The efforts have also resulted in orders from several global fashion brands that have committed to using only sustainable and low-carbon fibres. On the business front, reducing external dependency and related interruptions has led to improved product consistency and customer satisfaction.



CONCLUSION

These efforts are resulting in a significant positive impact on the environment and business.



4

WASTE MANAGEMENT

Grasim considers waste management as a crucial aspect of the business. We continuously work towards waste categorisation, seeking utilisation options, minimising waste generation at the source, and investing in cleaner technology for waste reduction. We involve our employees and stakeholders through

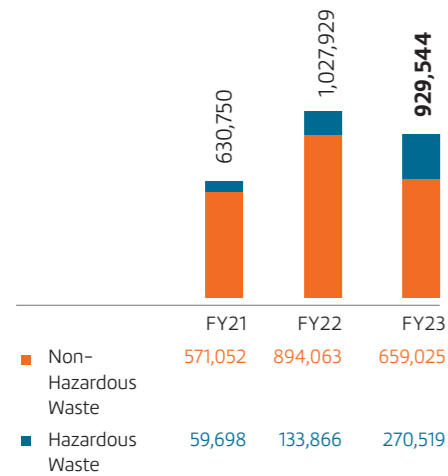
awareness programmes to promote best waste management practices.

Our sustainability strategy focuses on achieving circularity by innovating and upgrading our products and processes to extract value from waste streams. We prioritise safety and compliance in waste disposal, ensuring minimal to no environmental impact.

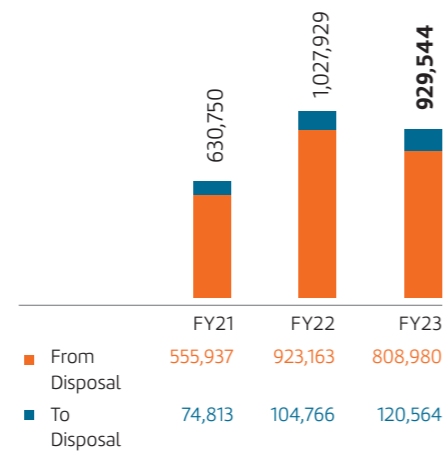
The systems are being strengthened to track the bifurcation of total waste being diverted from disposal between onsite and offsite, which has not been disclosed for the current financial year.

Performance

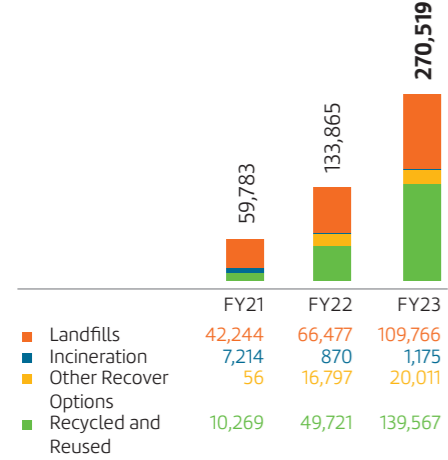
TOTAL WASTE DISPOSED (MT)



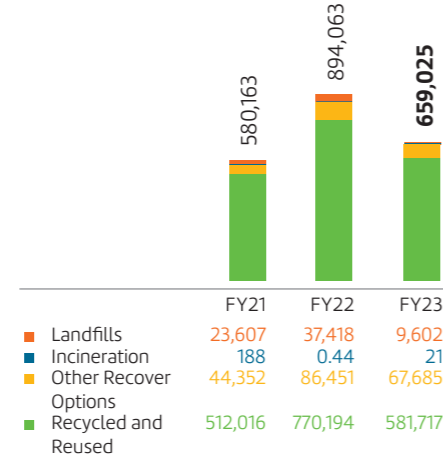
TOTAL WASTE DIVERTED (MT)



HAZARDOUS WASTE (MT)



NON-HAZARDOUS WASTE (MT)



BUSINESS-WISE WASTE (% OF TOTAL WASTE)

Non-Hazardous



Hazardous



Initiatives

Circularity

We go beyond waste recycling by prioritising transparency and traceability in the textile value chain. Our focus is on research, development, and innovative feedstock options for a sustainable future in the industry. By closing the loop in man-made cellulosic fibres (MMCF) and advancing textile-to-textile recycling, we aim to revolutionise sustainability practices and promote circularity. We utilise two primary approaches: mechanical and chemical recycling. While mechanical recycling has limitations, chemical recycling technologies offer efficient

handling of bulk textile waste and can produce fibres of equal or superior quality to virgin materials.

Extended Producer Responsibility

Grasim fully embraces extended producer responsibility (EPR) for plastic waste as a core principle in our sustainability strategy. We have obtained brand owner registration and submitted an EPR Plan aligned with Central Pollution Control Board of India (CPCB) guidelines. To ensure goal achievement, we have set year-wise percentage-based targets defined by the CPCB as milestones for our progress. We collaborate with CPCB-registered plastic waste processors for recycling rigid and

flexible plastics, earning EPR Credits through the CPCB's online portal. Our objective is to minimise waste generation, conserve resources, and protect the environment for future generations.



5

BIODIVERSITY

At Grasim, we prioritise the conservation and enhancement of biodiversity. Our policies and practices are designed to minimise the impact of our operations on biodiversity while promoting its conservation and restoration. We undertake initiatives such as afforestation and reforestation programmes to restore degraded ecosystems and create wildlife habitats. We actively engage with local communities to raise awareness about the importance of biodiversity conservation and the protection of ecology and wildlife.

Additionally, we support the establishment of community-focused farms to enhance the local ecosystem and improve livelihoods while supporting local fauna. During the year, we planted 1.2 lakh trees bringing up our cumulative total by crossing 7 lakh trees. We aim to plant 70 thousand more trees in the next financial year.

Biodiversity Policy <https://www.grasim.com/Upload/PDF/biodiversity-policy.pdf>



1.2 lakh
Trees planted

Initiatives

Natural Resource Development

Grasim's biodiversity initiative focuses on forestation using the Miyawaki method to improve the environment. Partnering with Dr. R K Nair, a renowned forest creator, we obtained a two-acre plot of land in Bharuch, Gujarat, for plantation. Following the Miyawaki method, we created nine trenches and installed sprinklers for effective irrigation. Exceeding

initial estimates, we planted 30,020 saplings and an additional 10% of shrubs to enhance biodiversity. Using organic manure and the 1x1 metre cage method for monitoring, we ensured healthy sapling growth and transparency. We engaged local women in the plantation process, promoting skill development and generating employment. To support the saplings, bamboo sticks were installed, and wild grass was used for mulching.

Our initiative included planting around 80 different species of native saplings, fostering a diverse ecosystem.

After a year of nurturing, we are pleased to see significant sapling growth, demonstrating the project's success. Our efforts contribute to natural resource conservation, foster biodiversity, and create a sustainable environment for future generations.



Olive Ridley Turtle Conservation

We are dedicated towards biodiversity conservation. Towards this, we have undertaken commendable efforts in the realm of Olive Ridley Turtle Conservation. With a deep commitment to preserve the nesting grounds of these magnificent creatures, we have invested ₹1.2 crore towards the implementation

of a comprehensive wildlife conservation plan. In collaboration with the Forest Department, we actively assisted in procuring field kits for Olive Ridley Sea Turtle Conservation. Furthermore, we have established a fruitful partnership with powerboat drivers to monitor wildlife activities, ensuring the safety and well-being of the endangered turtles.

Our involvement in this cause extends beyond financial support. We actively

engage with forest department officials and scientists, lending our expertise for site studies and research. Additionally, we organise annual beach-cleaning activities, promoting a clean and safe environment for nesting turtles. Recognising the importance of minimising human impact, we also work towards modifying the direction and intensity of streetlights to prevent the disorientation of sea turtles.

Canopy Hot Button Report

We are proud to announce that for the third consecutive year, we have achieved the highest category, known as the 'Dark Green Shirt,' in Canopy's esteemed Hot Button Report 2022. This accomplishment is a testimony to our ongoing dedication to conserving ancient and endangered forests and to our robust efforts to promote circular business models within the fashion industry.

The Hot Button Report is a first of its kind report, enabling fashion brands and retailers to thoroughly assess the forest management practices of MMCF suppliers. It focuses on their commitment to eliminating fibre from ancient and endangered forests in the production of rayon and viscose, as well as their leadership in developing sustainable solutions.

Our placement in the top category of the latest report reflects our unwavering commitment to improving sustainable wood-sourcing practices, conserving forests, fostering innovation, developing next-generation fibre solutions, and enhancing transparency throughout the value chain.

Grasim is proud to be recognised as a leader in sustainable sourcing and forest conservation. We remain committed to promoting responsible practices and contributing to the preservation of our planet's invaluable forest ecosystems.

Going Clean and Green, Yet Again

Celebrating our third dark green shirt in the **Canopy Hot Button Report** this year.



6

ENVIRONMENTAL COMPLIANCE

We prioritise environmental compliance across all aspects of our operations, implementing stringent measures to meet regulations and guidelines. From responsible sourcing to waste management and emissions control, we actively reduce our ecological

footprint. Regular audits and assessments help us identify areas for improvement and ensure ongoing compliance. Our dedicated team of environmental experts continuously monitors, evaluates, and implements best practices that surpass legal requirements.

By integrating environmental compliance into our core business strategies, we strive for sustainable growth while preserving natural resources. Our commitment to environmental responsibility benefits local communities, biodiversity, and a healthier planet for future generations.

