Grasim Industries Limited

Task Force on Climate-related Financial Disclosures (TCFD)

Grasim's Approach to Climate Change and Net Zero

FY2022-23 Summary Report

Index

Further information can be found online at **grasim.com**

About this Report

Grasim Industries Limited (hereafter referred to as Grasim, 'We,' 'Our,' 'the Company') is pleased to present the Company's first Task Force on Climate-related Financial Disclosures (TCFD) report for Financial Year (FY) 2022-23. This report offers a detailed insight into our climate-related financial disclosures, including assessments and management of Physical and Transition risks. It also shares a transparent update on the governance structure and approach to manage climate-related risks, the KPIs we monitor and the progress we have made in integrating climate risks and opportunities into our business strategy.

The TCFD report is prepared following the recommendations of TCFD. We are committed to disclosing climate-related risks and opportunities transparently to our stakeholders. A brief of the report for FY2022-23 is included in the "TCFD Summary" section of our Integrated Annual Report.

REPORTING PERIOD

The report contains information pertaining to our climate-related data, encompassing energy consumption patterns, GHG emissions and water consumption for the period: April 1st, 2022 to March 31st, 2023.

REPORTING BOUNDARY

The report covers our operations spread across the following business lines and locations:

- **Viscose Staple Fibre (VSF) –** Nagda, Harihar, Kharach and Vilayat
- **Pulp –** Harihar
- **Chemicals –** Nagda, Vilayat, Veraval, Karwar, Rehla, Renukoot, Balabhadrapuram and Ganjam
- **Textiles –** Rishra, Malanpur and Kolhapur
- **Insulators –** Halol and Rishra
- **Viscose Filament Yarn (VFY) –** Veraval and Kalyan

FEEDBACK

We look forward to your feedback regarding this report. You may reach out to us at: gilcorp.esg@adityabirla.com

FORWARD-LOOKING STATEMENT

Some statements in this report regarding our business pertain to future expectations and are based on discussions about our market position, financial status, business strategy, and objectives for upcoming operations. These forward-looking statements can be recognised by terms like 'anticipates,' 'expects,' 'intends,' 'may,' 'will,' 'believes,' 'estimates,' 'outlook,' and other similar expressions used when discussing future operational, environmental, social, and financial performance.

Our forward-looking statements are based on our present expectations, reasonable assumptions, and assessments of projected trends. However, they are subject to risks, uncertainties, and external factors, which might cause actual results to differ from the projections stated in these statements, and we do not undertake any obligation to update or revise these statements except as required by law.

Message from the Managing Director

Dear Readers,

I am delighted to present our inaugural Climate Disclosure for the FY2022-23, which aligns with the recommendations of the **Task Force on Climate-related Financial Disclosures (TCFD)**. Financial Stability Board (FSB), an international body that was formulated by G20 after the London Summit in 2009, created the TCFD and recommended a set of climate-related disclosures that companies and financial institutions can use to better inform investors, shareholders and other stakeholders regarding their climate-related financial risks.

Climate change, among various dimensions, poses significant financial risks to the global economy, making it imperative to provide clear and comprehensive information about its impact. The TCFD recommendations serve as a guide for companies worldwide to disclose their climate change-related risks and opportunities while also urging governments to address this critical issue.

This report is a testament to Grasim's unwavering commitment to sustainable business practices.

We acknowledge the risks and opportunities associated with rising temperatures, climate-related policies, and emerging technologies in our ever-changing world. We believe that understanding the potential impact of future climate scenarios, coupled with proactive mitigation and intervention plans, will future-proof our businesses. It is crucial to comprehend the climate change risks that may affect our workforce, local communities, and assets. By adopting a preventive approach, we aim to minimise reactive behaviour and reduce disruptions caused by extreme weather events across our operations and value chain.

> We extend our gratitude to all stakeholders for their unwavering support and trust in our commitment to sustainable practices. Together, we can contribute to creating a better, more resilient future for our planet."

Climate scenario analysis is an evolving iterative process, and we anticipate that the approaches, tools, and data quality for climate risks and opportunities will mature over time. As we continue to transform our business processes, these assessments will be integrated into our strategic planning and enterprise risk management frameworks, thereby strengthening our resilience and adaptation to climate change.

We extend our gratitude to all stakeholders for their unwavering support and trust in our commitment to sustainable practices.

Together, we can contribute to creating a better, more resilient future for our planet.

Sincerely,

Harikrishna Agarwal
Managing Director

Message from the Chief Sustainability Officer

I am delighted to present the first summary report for Task Force on Climate-related Financial Disclosures (TCFD). This report demonstrates our steadfast dedication to transparency, responsible business practices, and sustainable development.

At Grasim, we recognise climate change as a threat to our planet, communities, and the global economy. As an organisation, we firmly believe that addressing climate-related risks and opportunities is crucial not only for environmental health but also for ensuring a resilient and prosperous future for generations to come.

Throughout this report, we have aligned our disclosures with the TCFD's recommendations, providing a comprehensive overview of our governance, strategy, risk management, and targets concomitant with prevention of environmental damage. Our disclosures highlight the concrete steps we are taking to integrate climate considerations into our decision-making processes. We acknowledge that low carbon future presents significant opportunity for innovation and growth.

This report reflects our progress towards a more resilient and sustainable future. We are currently in the process of developing a roadmap to achieve our target of Net Zero GHG emissions that align with the Aditya Birla Group's Net Zero goals. Grasim Industries Limited, a Company with a diverse products and businesses portfolio, has set businesswise targets. The man-made cellulose fibre business has set a target to achieve net-zero emissions across all operations by year 2040. The Chemicals business aims to procure 25% of its electricity from renewable sources by FY2024-25 and reduce 30% of Scope 1 and Scope 2 emissions by 2030 over the baseline of 2017. Additionally, the Textile business strives to increase the share of renewable power to 70% by 2030.

> "We are currently in the process of developing a roadmap to achieve our target of Net Zero GHG emissions that align with the Aditya Birla Group's Net Zero goals."

In the past year, we have achieved 17% reduction in energy intensity and a 15% reduction in freshwater withdrawal intensity compared to the previous financial year. About 8% of our total power consumption is now sourced from renewable sources. We are conducting studies to measure and map processes that are key contributors of our total emissions' and we are identifying various levers to reduce our emissions. Majority of our products like man made cellulosic fibre, linen and wool drives the agenda of consciously fashionable. Moreover, we are investing in various technologies to make our processes more sustainable and minimise our environmental impact.

We recognise that transitioning to net-zero emissions will require collaborative efforts, and we highly value the opinions and insights provided by our investors, customers, employees, suppliers, and communities, as they guide and strengthen our approach to efficiently address climate-related challenges.

We are optimistic about our targets as we continue to find creative solutions for protecting the environment while creating long-term value for our stakeholders. Through this letter I would also like to take an opportunity to thank you for your unwavering belief and support for our journey towards sustainable future.

Sincerely,

Surya Valluri
Chief Sustainability Officer

About the Company

Grasim Industries Limited, a flagship Company of the Aditya Birla Group, is one of India's leading producers of Viscose Staple Fibre, Diversified Chemicals, Linen Yarn and Fabrics. With a rich history of more than 75 years, we began as a textiles manufacturer. Over time, we have evolved into a formidable diversified player, boasting a robust presence in various sectors.

Grasim Industries operates within three primary business verticals: Viscose, Chemicals and Textiles. The Company is one of the global leading players in production of Viscose Staple Fibre. The production capacity of 824,000 TPA is spread across four facilities in India. Additionally, we have one dedicated facility for pulp production. The Company is the largest Caustic Soda producer and Speciality Chemicals (epoxy resins and curing agents) producer in India with a capacity of 1,311,000 TPA spread across 9 locations and 123,000 TPA at Vilayat respectively. The Company is also one of the leading producers of Linen Yarn and Fabric, Woollen Yarn and Premium Cotton Fabrics in India. The textile production is spread across three locations.

In 2021, the Company announced foray into paints business with a capital allocation of ₹10,000 crore, establishing six plants at different locations across India. The capacity is the second largest production of decorative paints in India. Additionally, to leverage large B2B ecosystem within the Group, the Company allocated ₹2,000 crore to establish B2B E-commerce platform for building materials. The Company's key subsidiaries also include UltraTech Cement Limited (UTCL) - India's largest manufacturer of grey cement and ready-mix concrete, Aditya Birla Capital Limited (ABCL)- one of the leading diversified financial services player and Aditya Birla Renewables Limited (ABReL) - clean energy solutions provider.

Grasim's Sustainability Journey: Key Milestones Achieved

2019

- Published the first Sustainability Report
- Disclosed GHG Scope 1 and 2 emissions for VSF and Chemicals business
- Participated in DJSI, achieving a score of 54, higher than the industry average score of 45
- Chemicals business sets a target to reduce GHG emissions of the main product (Scope 1 & 2) by 30% by 2030 (over the base year of FY2016-17)

2020

- Published the first Integrated Report detailing business-wise GHG Scope 1 and 2 emissions
- VSF business ranked #1 globally with "Dark Green Shirt" in Canopy's Hot Button Report 2020
- DJSI score improved to 68

2021

- Participated in CDP Climate Change disclosure, achieving a score in line with the global average
- Released energy and carbon policy
- Total renewable power capacity at 23.2 MW
- Birla Cellulose's Grasim Cellulosic Vilayat site achieves EU BAT compliance
- Achieves MSCI Rating BB

2022

- Aditya Birla Group announces its aim to become Net Zero by 2050
- The VSF business announces its goal to become Net Zero by 2040
- Became a TCFD Supporter
- Performed a Climate Risk Assessment (Physical and Transition)
- Disclosed GHG Scope 3 Emissions for 8 categories
- DJSI score improved to 69. CDP score "In-line" with the global average
- Total renewable power capacity at 30.2 MW
- MSCI rating improved to BBB
- Included in FTSE4Good Index

2023

- Publishing maiden TCFD Report
- Total renewable power capacity at 44.2 MW

Overview

Climate change-induced extreme weather events pose unprecedented risks, including substantial financial risks to businesses. Identification and mitigation of climate-related risks is critical for ensuring business continuity and long-term value creation. Towards this end, stakeholders, including shareholders, are expecting organisations to disclose clear, comprehensive, and high-quality data on the impacts of climate change on business. This encompasses the risks and opportunities posed by rising temperatures, climate-related policies, and emerging technologies. The recommendations of the TCFD are guiding businesses globally to disclose and address the risks and leverage opportunities posed by climate change. The key goal of the task force was to make recommendations for consistent Company disclosures that will help stakeholders understand the financial impacts of climate-related risks and opportunities.

The suggestions of the TCFD are structured around four widely-adoptable recommendations that reflect crucial components of how businesses operate: Governance, Strategy, Risk Management, and Metrics & Targets. These areas are intended to support and enhance one another. Further, the task force developed 11 recommended disclosures around four recommendations.

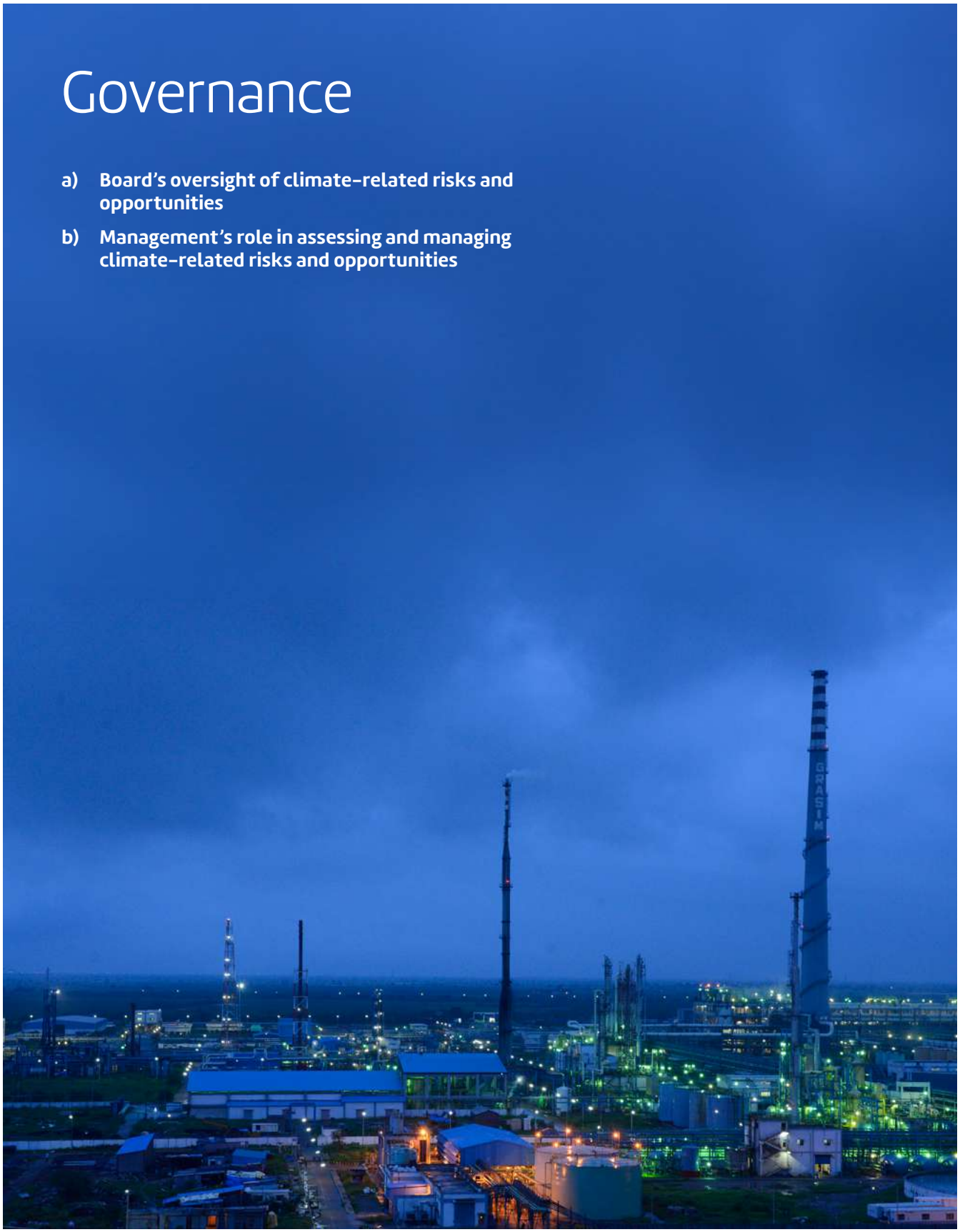
This report provides information on each of these four pillars as relevant to our operations and how the incorporation of TCFD recommendations into our overall business strategy and risk management is making Grasim more resilient.

CRUCIAL COMPONENTS OF HOW BUSINESSES OPERATE

Governance

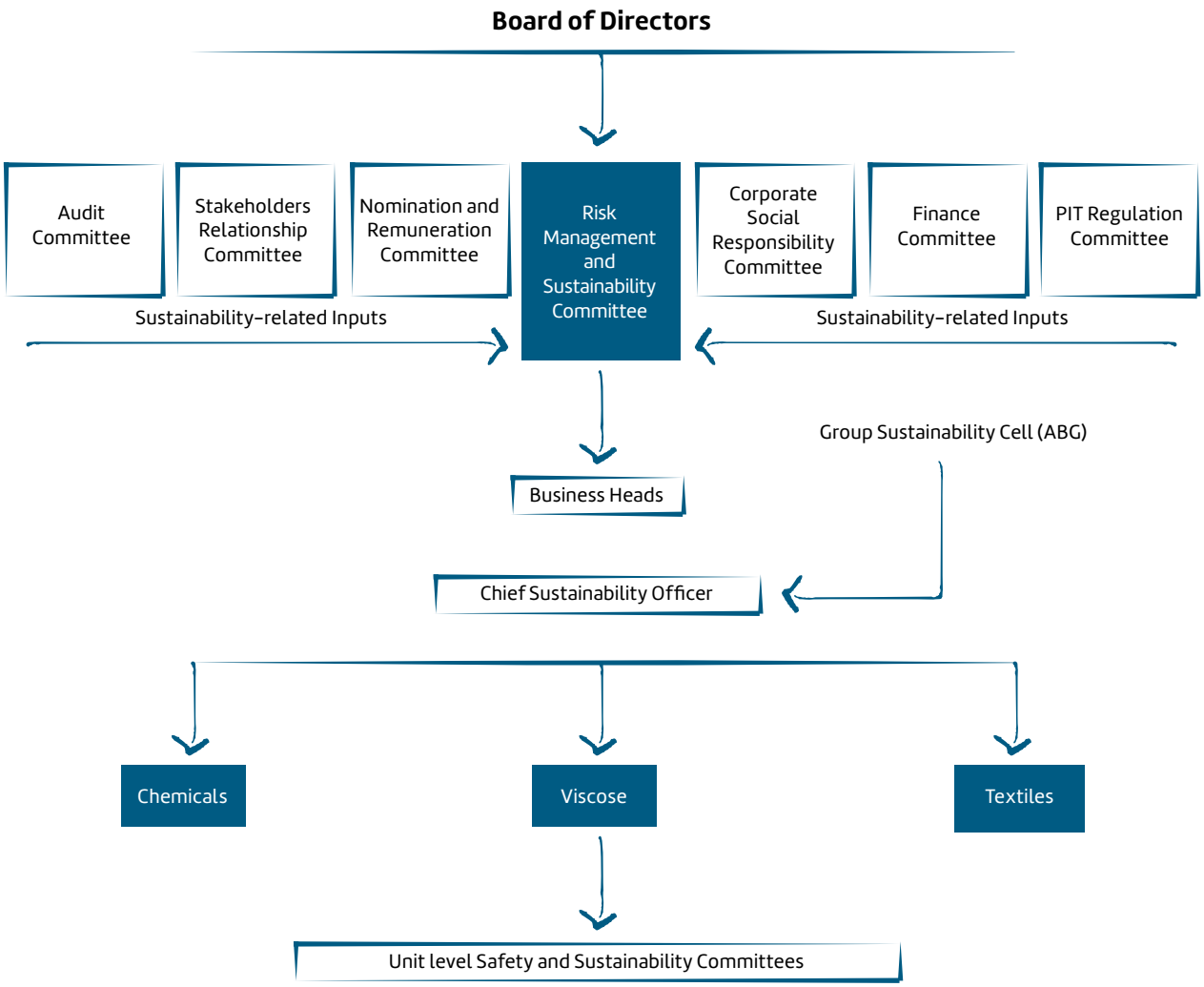
a) **Board's oversight of climate-related risks and opportunities**

b) **Management's role in assessing and managing climate-related risks and opportunities**



Grasim's governance framework represents the goals of all its business entities. The Board of Directors provides strategic direction and oversight on climate-related issues. A robust governance led by an experienced and empowered Board is critical to identifying and managing environment-related risks and opportunities to create long-term value for all our stakeholders. Our governance mechanism facilitates seamless coordination among the Board of Directors, Management, Business Heads and Unit-level Committees to manage climate-related issues effectively.

ORGANISATIONAL CLIMATE GOVERNANCE STRUCTURE



BOARD OVERSIGHT

We uphold a strong commitment to good governance processes. The Company's Board of Directors, represented by its Risk Management and Sustainability Committee, provides essential guidance and direction to the management concerning the Company's sustainability and climate change-related risks. They actively collaborate on action plans to effectively mitigate these risks.

The Chief Sustainability Officer (CSO) collaborates closely with both the Risk Management and Sustainability Committee and various business units within the Company. Together, the CSO and the Sustainability teams in the business units conduct regular reviews of the progress made on all sustainability initiatives and ensure the implementation of necessary actions.

Key issues overseen by Board through Risk Management and Sustainability Committee:

- Guiding and directing the management to effectively implement strategies and plans for sustainable business operations.
- Monitoring and reviewing the progress made towards achieving targets related to climate-related issues.
- Reviewing and guiding risk management policies to ensure comprehensive risk mitigation throughout the organisation.

MANAGEMENT OVERSIGHT

The sustainability SPOCs of each business unit meets quarterly to oversee enterprise risks, mitigation measures, and the sustainability performance of each business, including climate-related challenges.

At each unit/plant, Safety and Sustainability committee has been constituted, led by the Unit Head and comprised of members from critical functions. The Committee assumes the responsibility of identifying problem areas and implementing performance-enhancing measures. It convenes monthly to review progress and subsequently reports its findings to the Business level Safety and Sustainability Committee.

At Grasim, our approach centres around incentivising to align the interests of our leaders with the long-term viability and health of our businesses. We provide incentives for initiatives that focus on climate protection, such as reducing emissions, enhancing energy efficiency, and broadening the range of sustainable products. To drive renewable energy projects and activities, a dedicated committee is in place. Moreover, the committee assigns objectives that are directly tied to the key result areas (KRAs) of the business unit managers.

OUR POLICIES

Grasim has adopted relevant sustainability and climate-change policies which act as a guiding light for all our sustainability actions. The key policies are listed below.

Environment Policy

The policy highlights Grasim's commitment to manage environmental impact effectively and integrate sound business practices to minimise negative impact. Link to the Environment Policy.

Energy & Carbon Policy

The policy covers Grasim's aspirations to reduce energy consumption and carbon emissions and develop strategies to enhance these parameters. The policy also highlights our commitment to take appropriate actions within our operations and supply chain. Link to the Energy & Carbon Policy.

Water Stewardship Policy

The policy underlines the importance of water as a key resource for continuing our business operations. It outlines the steps we undertake toward water conservation and responsible water management. Link to the Water Stewardship Policy.

Biodiversity Policy

The policy establishes Grasim's commitment to biodiversity preservation by adhering to all laws and actively working towards conservation goals. This includes setting goals to protect species, habitats, and ecologically sensitive areas. Link to the Biodiversity Policy.

Risk Management Policy

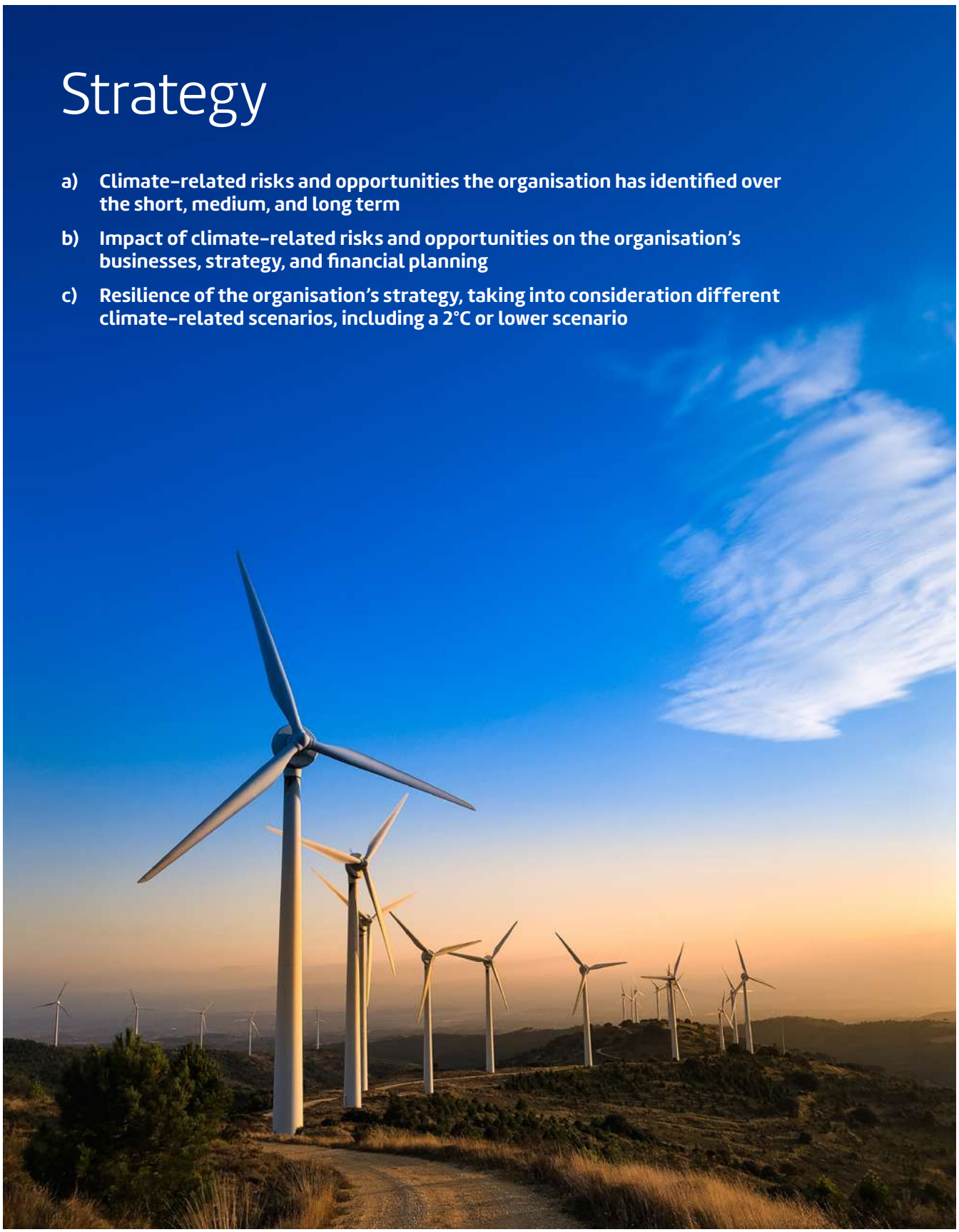
The policy establishes a common risk management framework across the Company. Further, it defines procedures to analyse risks within agreed parameters. Link to the Risk Management Policy.

Strategy

a) **Climate-related risks and opportunities the organisation has identified over the short, medium, and long term**

b) **Impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning**

c) **Resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario**



OUR CLIMATE-RELATED RISKS AND OPPORTUNITIES

Recognising the paramount importance of monitoring and mitigating climate impact and in line with the goals of the Paris Agreement, Grasim has committed to undertake measures to help limit global temperature rise to well below 2°C. We also have an even more ambitious target of helping keep global temperature rise below 1.5°C to mitigate the most severe impacts of climate change. In line with the TCFD recommendations, we conducted a comprehensive climate risk assessment, including a scenario analysis, in FY2021-22.

The risk assessment covered both physical climate risks and transition-related risks. It helped us understand and assess the potential impacts of climate change on our business operations and strategy by adopting a top-to-bottom and bottom-up scenario analysis to ensure comprehensive coverage. Each business unit within the Company took a proactive stance by carefully assessing how climate-related risks might affect their respective strategies and future business projections. We reviewed our strategy for different opportunities to capitalise on them effectively. We aim to incorporate climate-related risks and opportunities into our business strategies in a resource-efficient manner.

The methodology of our analysis is detailed below:

1 Identification of Risks and Opportunities

1.1 We studied and analysed peer risks and opportunities, sectoral trends and international policy and regulations including,

Transition Risks

- Regulatory
- Market
- Technology
- Reputational

Physical Risks

- Chronic
- Acute

Opportunities

- Resource Efficiency
- Energy Source
- Products
- Market
- Resilience

1.2 We developed an universe of risks and opportunities for all our businesses.

2 Risk and Opportunity Analysis

2.1 We analysed the universe of transition risks with customised risk rating (risk rating = impact X frequency X exposure of Indian sites), timeline of impact and SSP scenario applicability.

We also analysed opportunities with timeline of impact and SSP scenario applicability.

2.2 Further, we projected emission reduction pathways as per rigid scenarios to assess impact of expected emission trading scheme in India.

We also conducted physical risk assessment for our facility locations to assess the impact of changing climate on temperature, precipitation, and sea level at the sites.

3 Assessing Climate Strategy of the Company

Lastly, as per the assessment outcomes, we over viewed our resilience strategies for each risk and growth strategy for each opportunity. We performed this exercise by listing our initiatives for different businesses and identifying key areas of improvement.

This assessment improved the understanding of our action plan and climate strategy at Grasim for different scenarios and time frames.

TRANSITION RISKS

As global efforts focus on adopting sustainable practices and combating the effects of climate change, businesses are likely to face various challenges and uncertainties during this transition. These changes have the potential to impact a Company's financial performance, market position, and overall sustainability. The journey towards a lower-carbon economy involves navigating through policy adjustments, legal frameworks, technological advancements, and shifts in market dynamics. These changes bring about both risks and opportunities for organisations.

Policy and Legal Risk

Policy measures aimed at limiting activities that contribute to the negative impacts of climate change and those focused on facilitating climate change adaptation. These may lead to heightened legal risks as these measures transform into legislation.

Market Risk

These risks may result in shifts in the supply and demand of particular commodities, goods, and services driven by growing climate change-related concerns.

Reputation Risk

These are risks arising from changing consumer attitudes towards companies based on their actions that contribute to mitigating or negatively impacting climate change.

Technology Risk

Advances in technology solutions and innovations that accelerate the transition to energy-efficient and lower-carbon economies will create new risks for organisations.

TRANSITION RISK SCENARIO ANALYSIS

We conducted a comprehensive transition risk scenario analysis to understand how these changes may impact our business operations. This analysis was based on the International Energy Agency (IEA) Net Zero Emissions (NZE) Scenario and the Shared Socioeconomic Pathway (SSP) 1-1.9 scenario that is designed to limit global temperature increase to 1.5 degrees, and the SSP 1-2.6 scenario, aligned with keeping the increase well below 2 degrees.

To understand the implications, we first projected business-as-usual emissions for our Viscose, Chemicals and Textiles business, considering our existing climate commitments and emission reduction plans. Next, we developed specific emission reduction pathways for each scenario by comparing the business-as-usual emissions with the expected implications under different emission reduction scenarios. As a result of this study, we have identified new measures for our existing transition risk resilience. For Grasim, decarbonisation is a critical resiliency measure to mitigate transition risks. By reducing carbon footprint and aligning operations with the goals of a low-carbon economy, our businesses can enhance their competitiveness, adapt to evolving regulatory landscapes, and better position themselves for long-term sustainable growth.

Grasim is in the process of developing a decarbonisation roadmap in line with the SBTi recommendations. However, the businesses of Grasim are actively setting targets towards reducing their carbon footprint, such as the Chemicals business has targeted to reduce GHG emission Scope 1 and Scope 2 of the main product by 30% by 2030 (over the base year of FY2016-17).

In the Chlor-Alkali business, we plan to increase the share of renewable power up to 25% by FY2024-25. In the Textiles business, we are progressing on our journey to reduce emissions and estimated carbon liability. The Textiles business contributes very minimal amounts to the total GHG emissions of Grasim; however, we aim to increase the share of renewable power in this business to 70% by FY2029-30. All our businesses are undertaking actions in line with the Aditya Birla Group's commitment to reach Net Zero Emissions by 2050.

For more details, please refer to the section "Embracing Sustainability: A Journey Towards Decarbonisation" in this report.

Scenario	IEA NZE Scenario for Global Industrial Sector	SSP 1–1.9 Scenario for Global Industrial Sector	SSP 1–2.6 Scenario for Global Industrial Sector
Net- Zero Emissions Target Year	2050	2050	Near 2075
Scenario Description	In this scenario, electricity linked emissions from electricity are projected to fall fastest. By 2030, the fall in industry and transport related emissions is projected to accelerate. Bioenergy with Carbon Capture and Storage (BECCS) and Direct Air Carbon Capture and Storage (DACCS) technologies are estimated to remove around 1.9 Gt CO_2 by 2050.	This represents the IPCC's most optimistic scenario, depicting a world where global CO_2 emissions reach Net Zero by approximately 2050. In this scenario, societies are envisaged to transition towards more sustainable practices, prioritising overall well-being over mere economic growth. Investments in education and health are expected to increase and societal and economic inequality is expected to fall. Extreme weather events are expected to become more prevalent. However, it is expected that the world would have averted the most severe consequences of climate change.	In the next-best scenario as per IPCC, global CO_2 emissions come down exponentially but fast enough, reaching Net Zero after 2050. Nevertheless, temperatures are projected to stabilise around 1.8°C higher by the end of the century.
Temperature Increase °C	1.5°C	1.5°C	Below 2°C
Data Source	IEA NZE Report	SSP Public Database (Version 2.0)	SSP Public Database (Version 2.0)

TRANSITION RISKS

Regulatory Risk

Risk	Risk Description	Resilience Measures
Enhanced emissions-reporting obligations	The regulatory environment in India concerning climate change and sustainability is rapidly evolving. Presently, listed companies are required to disclose their environmental, social, and governance (ESG) data in accordance with the Business Responsibility and Sustainability Report (BRSR) framework mandated by SEBI (Securities and Exchange Board of India). Moreover, SEBI is now making it mandatory for this ESG reporting framework to undergo assurance.	At Grasim, current regulations are always prioritised and adhered to avoid any non-compliance. We are actively exploring opportunities for increasing the integration of renewable and alternative energy sources like solar and wind energy and natural gas, among others. Embracing these sustainable options will significantly decrease our reliance on fossil fuels and minimise our exposure to regulations like coal cess in India. In our Chemicals business, we have already set a target to procure 25% of our power requirements from solar and wind sources by FY2024-25.

Risk	Risk Description	Resilience Measures
	Additionally, two Indian regulatory mandates, i.e., coal cess (GST Compensation Cess of ₹400 per tonne) as a green tax and PAT (Performance, achieve, trade mechanism on energy intensity), can impact our businesses. Till the country develops feasible sources of renewable energy, continued usage of coal and increasing taxes on the same can have financial implications on our businesses.	We are continuously investing in reducing our product carbon footprint by replacing old technologies with new, energy-efficient models to build a more sustainable product portfolio. For example, our Kolhapur facility in the Textiles business already has a biomass briquette-based boiler, which has significantly reduced the coal cess risk in the facility. These initiatives will lead to decreased coal consumption and increased energy efficiency.
Exposure to litigation	Climate change is directly impacting water availability, leading to more irregular rainfall patterns. We have observed that our drought-prone locations are expected to experience a decline in summer rainfall in the future. Due to this reduced water availability in rivers and the anticipation of stricter pollution regulations, there is a possibility that the statutory body may enforce Zero Liquid Discharge (ZLD) norms on our sites.	We understand the importance of reusing water to meet our needs. As of now, all 4 land-locked sites operate on ZLD in the Chlor-Alkali business. Another 3 sites, (1 in Insulators Business, 1 in VSF Business and 1 in Textiles Business have already joined the ZLD club). Further, textiles business is in the process of commissioning ZLD at one more location.
Enhanced emissions-reporting obligations	EU ETS scheme is a mandatory cap and trade mechanism for carbon emissions in European Union. The carbon prices have quadrupled in European countries over the last 2-3 years. From the comprehensive scenario analysis, we understand that ETS in India might have a financial impact on our business-as-usual scenario, and the lack of a decarbonisation plan may have a financial impact on the Company.	In our Chemicals business, we have set a goal of reducing emissions by 30% over main product from the 2017 baseline by the year 2030. Additionally, for our viscose business, we have a target to achieve net zero emissions by the year 2040. We are actively assessing various decarbonisation strategies for both the chemical and textile sectors in alignment with the Aditya Birla Group's broader commitment to achieving Net-Zero Emissions by 2050.
Mandates on and regulation of existing products and services	The EU CBAM (The European Union (EU) Carbon Border Adjustment Mechanism) can be a potential risk for the exports of the Company as the CBAM regulation would levy prices on the carbon content of imported products in the near future, which may have minimum or no impact on the businesses	Grasim aspires to become a Net Zero organisation in alignment with the Aditya Birla Group's broader commitment to achieving Net-Zero Emissions by 2050. This will help in limiting the value chain emissions.

Market Risk

Risk	Risk Description	Resilience Measures
Increased cost of raw materials	Climate-related changes can impact the supply and costs of raw materials such as coal, wood and charcoal. During heavy monsoons, coal shortage has been observed in India and going forward, we forsee stricter rules for forestry products resulting in increased costs of raw materials as well as manufacturing costs.	Grasim is continually exploring the use of alternative and more sustainable raw materials & fuels. Our Viscose business procures wood pulp through sustainable forest management, where 2-3 trees are planted for every tree used. This maintains the sustainable raw material price and availability of the business. Also, the Company has developed LIVA REVIVA, a circular fiber made from recycled fabrics. This fiber uses 30% of consumer waste in place of wood pulp as alternative raw material.
Changing customer behaviour	It is expected that there will be a shift in the way consumers make purchasing decisions against the growing challenges of climate, leading to a shift in preferences for responsible products with a lower life cycle carbon footprint. Additionally, businesses may also face pressure from stakeholders, including consumers, investors, and regulators, to reduce the carbon footprint of the products. This could lead to a shift in the market demand towards products with a lower environmental impact, including a lower life cycle carbon footprint product.	We are conscious of changing customer demands and increasing activism towards sustainable products. All our businesses are making excellent moves towards the same. The business is also increasing its focus on green chemistry by improving their recyclability for thermoset composite, and optimising technology to reduce the energy requirements of products and processes. Our Viscose business has four sustainable products, i.e., dope-dyed, LIVA eco, LIVA eco modal and LIVA Reviva and thus is leading in the sector as well. Our textiles business has also developed a sustainable product offering, i.e., Cavallo, which is made from linen waste and cotton. More about our sustainable products can be found in the 'Our climate-related opportunities' section.

Reputational Risk

Risk	Risk Description	Resilience Measures
Increased stakeholder concern or negative stakeholder feedback	Many stakeholders, including investors, customers, and employees, are increasingly concerned about the organisation's environmental impact and its efforts to address climate change. Failing to achieve our climate commitments and meet stakeholder requirements may lead to negative feedback or concerns from them.	We actively engage with the communities through regular programs, implement grievance management procedures, sustain transparency by publicly stating our policies and performance, as well as establish various corporate social responsibility initiatives. These efforts aim to strengthen our ties with our stakeholders and foster long-term partnerships. In addition, we invest in implementing technologies that reduce emissions of harmful gases and energy consumption, discharge of harmful chemicals with effluents and reduce consumption of natural resources to limit and mitigate the environmental and societal impact of our operations. Grasim has invested nearly ₹610 Cr to comply with stringent norms of European Standards, i.e., EU-BAT (Best Available Technologies). This has enabled us to go beyond statutory, regulatory and industry norms as well as mitigate reputational risk for our businesses. One of the largest VSF manufacturing sites of Grasim complies with EU BAT norms, and another site is in the process of commissioning a project to comply with EU BAT.

Technology Risk

Risk	Risk Description	Resilience Measures
Substitution of existing products and services with lower emissions options	The growing focus on addressing climate change, shifting towards sustainable energy options, and promoting eco-friendly products necessitates technological advancements. However, resistance to adopting these new technologies may result in potential business losses.	We are actively investing a significant amount in research and development (R&D) to explore alternative technologies that align with these objectives. Birla Cellulose has achieved a breakthrough in manufacturing viscose fibre 'Liva Reviva' using pre-consumer cotton waste and following the principles of a circular economy. This development helped us stabilise the production of the Recycled Claim Standard (RCS) certified product, which contains up to 30% pre-consumer waste and the rest wood pulp from sustainable forests. It has a complete traceability system on the GreenTrack™ platform, which provides traceability of the entire value chain based on blockchain-based technology and a unique embedded molecular tracer.

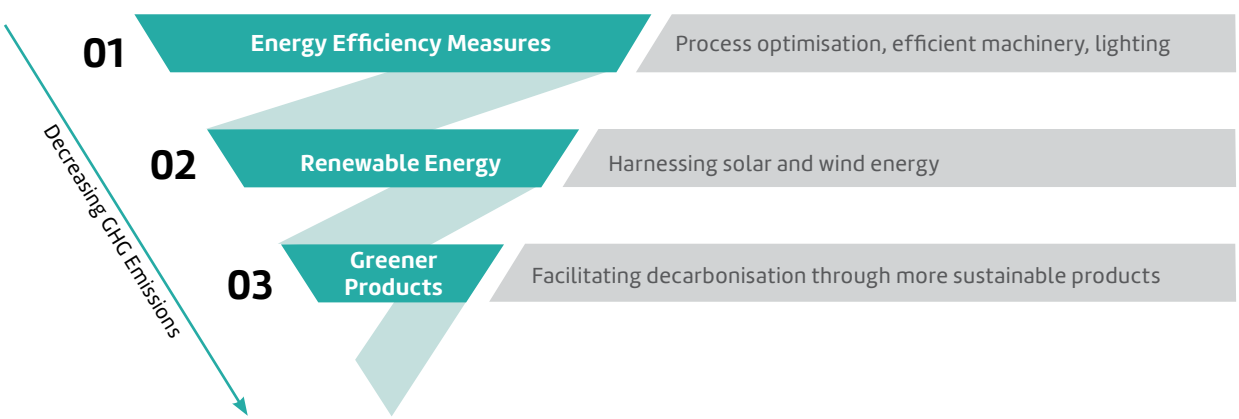
EMBRACING SUSTAINABILITY: A JOURNEY TOWARDS DECARBONISATION

Our businesses are actively advancing their decarbonisation journeys, exemplifying a strong commitment to sustainability. We integrate environmental considerations into our decisions, ensuring that carbon emission reduction remains a focal point across all our operations. Additionally, we are dedicated to developing sustainable products that facilitate decarbonisation throughout their entire lifecycle.

Our ambitious emission reduction targets for each business reflect our unwavering dedication to environmental stewardship. To achieve these goals, we are concentrating on three key areas: first, enhancing energy efficiency to optimise resource usage and minimise emissions; second, embracing renewable energy sources to power our operations and reduce our carbon footprint; and third, driving innovation to create greener and more sustainable product ranges that align with our commitment to a circular economy.

By pursuing these strategies in unison, we aim to not only mitigate our environmental impact but also pave the way for a more sustainable future. Our efforts in decarbonisation and sustainable product development underscore our responsibility as a forward-thinking, environmentally conscious organisation. Through these collective actions, we are actively contributing to a greener, more resilient world for generations to come.

Our major initiatives towards decarbonisation



A brief on our major initiatives is given below:

1. Energy Efficiency

This presents a unique opportunity for us to simultaneously reduce operational costs and carbon emissions over the long term. Our approach to achieving energy efficiency centers around process optimisation and the strategic replacement of outdated and inefficient machinery, lights, and fans with the latest, highly efficient designs at all our locations. More information on our energy efficiency initiatives can be found in the 'Metrics and Targets' section of this report.

2. Process Improvement

We are converting organic waste to energy using biogas reactors. This helps us reduce the consumption of fossil fuels such as furnace oil.

In addition, we are investing in installing more efficient technologies. An investment of over ₹3.5 Crore was made for emission reduction initiatives for our business. This included introducing large-scale emission reduction technologies like a Steam Accumulator for the first time in the history of the Asian textile industry. This technology optimizes boiler operations and lowers steam consumption on the shop floor, thereby reducing GHG emissions..

3. Renewable Energy

In FY2022-23, we used 5.6% renewable energy across our businesses that includes biomass fuel (steam and power generation) and solar and wind (electricity generation). For the steam and heat generation, we utilise non-fossil fuel sources such as biomass fully and partially for the Textiles and Viscose business, respectively. In addition, we have achieved a renewable power share of 8% and ~7% for the Chemicals and Textiles business, respectively.

4. Sustainable Product Development

We have invested about 18% of our total R&D expenditure in developing low-carbon products, lifecycle analysis and use of recycled waste. From sourcing to the use phase, we ensure sustainability throughout the lifecycle of our products. We have a stringent 'Wood Sourcing Policy' for sustainable wood sourcing. The not-for-profit Canopy's annual Hot Button Report has recognised our Viscose Business by placing it in the 'Dark Green Shirt' category. This is a result of our efforts to conserve ancient and endangered forests and robust initiatives to scale circular business models in the fashion industry. One of our latest innovations, 'tree-free' Lyocell fibre derived from bacterial cellulose grown from industrial waste, was awarded 'Cellulose Fibre Innovation of the Year' during Cellulose Fibres Conference 2023 held in Germany. The chemicals business has introduced the TWIST range of phthalate-free specialty blends as an alternative to primary plasticisers added with PVC to make it softer and more flexible. The textiles business has also developed a sustainable product offering, i.e., Cavallo, made from linen waste and cotton. More information on each of these products can be found in this report's 'Our Sustainable Products' section.

5. Carbon Sequestration

We also target to plant 200,000 trees across multiple locations in the vicinity of our manufacturing sites to sequester carbon dioxide.

Going forward, we also aim to explore emerging low-carbon technologies, including, but not limited to green hydrogen, electric vehicles, and carbon sequestration technologies, amongst others.

PHYSICAL RISKS

Our physical risk assessment approach analysed acute risks associated with extreme weather events and chronic risks stemming from long-term climate changes. The primary focus was on evaluating how these risks could impact our various business units. To initiate the process of identifying climate-related hazards, we conducted a site-specific baseline physical risk analysis, which involved a thorough examination of historical weather patterns and their effects on our business operations. By studying past weather occurrences, we gained valuable insights into the vulnerabilities and potential risks faced by each of our locations. We then linked this historical analysis with scenario-specific forecasts like SSP 1.9, SSP 2.6 and SSP 8.5, enabling us to comprehensively understand risk variability across short, medium, and long-term time frames.

PHYSICAL RISKS SCENARIO ANALYSIS

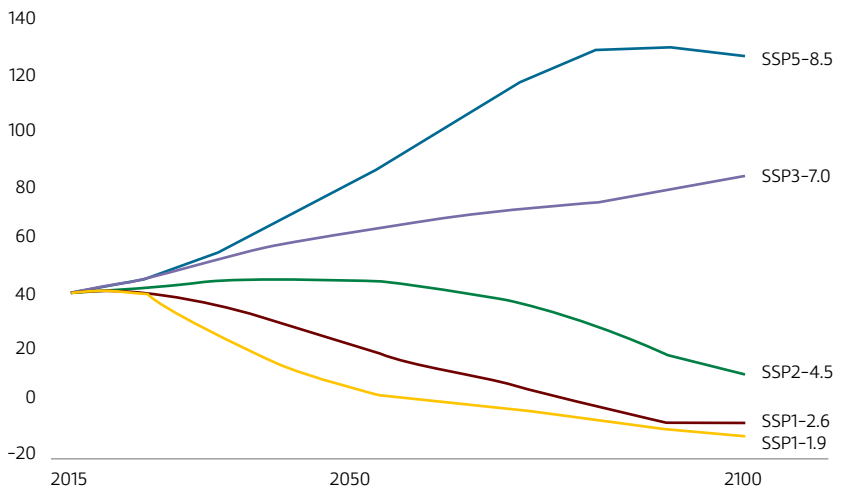
Our risk management approach includes anticipating future possibilities to make well-informed business and financial decisions. To do the same, it is important to assess the impacts of climate-related chronic risks which are emerging over the years due to rapidly changing climate. To evaluate chronic risks, we considered IPCC-Shared Socioeconomic Pathway scenarios for projections of temperature, precipitation and number of very hot days. SSP project expected global socioeconomic changes till 2100.

They are used to develop the scenarios for GHG emissions taking various existing and evolving climate policies into consideration. SSPs have been used to produce IPCC's Sixth Assessment Report on climate change, published in 2021.

The global carbon emissions per year are projected to change as visible in different SSP Scenarios. In SSP 1-1.9, the emissions are projected to progressively decrease over the years, reaching net zero around 2050. In SSP 5-8.5, the emissions are projected to continuously increase till the 2080s.

CARBON DIOXIDE

($GtCO_2/yr$)



Shared Socio – economic Pathways	Description	Estimated Warming (2081–2100)	Representative Concentration Pathways	Estimated Warming (2081–2100)
SSP 1–1.9 Sustainability (Taking the Green Road)	IPCC's most optimistic scenario where global CO_2 emissions become Net Zero around 2050.	1.4 °C	--	--
SSP 1–2.6 Middle of the road	The next-best scenario where CO_2 emissions come down severely but not as fast, reaching Net Zero only after 2050.	1.8 °C	RCP 2.6	1.0 °C
SSP 2–4.5 Regional Rivalry (A Rocky Road)	In this scenario, the global CO_2 emissions stay at current levels before falling by mid-century but do not reach Net Zero by 2100.	2.7 °C	RCP 4.5	1.8°C
SSP 3–7.0 Inequality (A Road divided)	Emissions and temperatures will rise steadily, and CO_2 emissions roughly double from current levels by 2100.	3.6 °C	RCP 6	2.2°C
SSP 5–8.5 Fossil-fuelled Development (Taking the Highway)	This is a future to avoid at all costs. It envisages current CO_2 emission levels to roughly double by 2050 due to global economic growth primarily fuelled by exploiting fossil fuels.	4.4 °C	RCP 8.5	3.7°C

We studied the monthly variation of the indicators for all our sites by making separate Climate Risk Profiles for each under the above SSP scenarios. Resilience measures are being designed and deployed to ensure minimal impact of extreme weather events on our businesses, customised to each profile.

Further, we also studied the impacts on natural water reserves through which we currently withdraw water for our sites. This exercise was done with Aqueduct Water Risk Atlas, where we studied the plausible impacts on water stress, water supply, water demand and seasonal water availability for all our sites in 2030s and 2040s in SSP2 RCP4.5 and SSP3 RCP8.5 scenarios.

PHYSICAL RISKS RESILIENCE

A brief on climate-related physical risks for our Company is given below:

Risk	No. of Sites with High Risk	Impact of Risk	Resilience Measure
Heatwave	12	Revenues fall and costs rise due to negative impacts of climate change on the workforce (e.g., health, safety, absenteeism)	During heatwaves, we are taking various measures to provide refreshments whenever required to the employees during extremely high temperatures. Healthcare facilities are present for employee wellbeing.
Drought	7	Increased operating costs (e.g., inadequate water supply for hydroelectric plants or to cool fossil fuel plants)	• Adopting the 3R philosophy of reducing, reusing, and recycling water at our plants helps us conserve and ensure a seamless water supply. • Sufficient rainwater harvesting plants help us source continual water availability throughout the year for our operations. • At select locations, we are exploring alternate water sources to reduce the dependency on a single source of water supply. • We are also conducting studies on the economic and technological feasibility of desalination plants in our facilities near the sea. • Preventive actions are taken to reduce water consumption in the plant and eliminate water wastage. We recycle water at ETP and RO plants to further reuse them, ensuring that our facilities have Zero Liquid Discharge. Minimum Liquid Discharge mechanisms in place as applicable Damaged pipelines and leakages are identified and repaired or replaced timely.
Cyclone	9	Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions) Increased capital costs (e.g., damage to facilities) Insurance premiums increase. There is also the risk of challenges in securing insurance for assets in "high-risk" locations	• Cyclone disaster management guidelines have been developed and circulated throughout the plants. • Roads and drains are maintained as a part of preparedness to address the challenges of monsoons and cyclones. • Adequate insurance coverage has been taken at select locations. • Flood walls and barriers and storm water drains are constructed whenever required. We have ensured a resilient supply chain during monsoons by diversifying suppliers, increasing spare capacity during monsoon season and protecting stored raw materials from rains.
Flood (Coastal/ River)	Riverine Flood-2 Coastal Flood-4		

CLIMATE-RELATED OPPORTUNITIES

At Grasim, we believe in decarbonising our operations and contributing to India's net-zero goals by developing more sustainable products. We have outlined our endeavors to tap relevant climate-related opportunities below:

	Response to Opportunity
Resource efficiency Deploying higher efficiency production and distribution processes	**Water Efficiency:** The growing challenges of water scarcity have always been a concern for Grasim. We are reducing freshwater consumption by increasing the usage of recycled water in our processes, thereby decreasing effluent discharge. We have achieved a reduction of water withdrawal intensity by 15% in the reporting year as compared to the previous year. **Energy Efficiency:** Adopting high-efficiency equipment, improving process heat utilisation and digitalisation are helping us facilitate data-driven decision-making to optimise energy consumption, reducing emissions and costs. We recognise and honor our employees for their efforts to reduce energy consumption. In FY2022-23, our energy consumption intensity decreased by 17% year-on-year. **Material Efficiency:** We are developing products made with pre and post-consumer waste through increased use of alternate feedstock. This effort leads to a substantial decrease in the life cycle emissions of the products and conserves already scarce material. (Refer section "Sustainable Product" for more details)
Energy Sources Utilising greener energy sources with lower emissions	• Our Chemicals business is increasing the share of renewable power in their operational location - to 25% by 2025. • As a part of our Net zero commitment, renewable energy use is one of the pillars of decarbonisation to help us reduce operational GHG emissions and cost.
Market Broadening access to new markets	Heightened awareness about climate change has the potential to influence customer preferences, leading them to buy products or services with low climate impact from companies they trust and perceive as leaders in this domain.
Products and Services Developing and expanding portfolio of sustainable products with lower carbon footprint	Our R&D endeavors propel the development of more sustainable products. We are developing circular products that recycle pre and post-consumer cotton waste into fresh cellulosic fibres. This reduces reliance on virgin wood-based pulp in the long term. Grasim has partnered with Nanollose, a research and development company, to develop fibres using industrial and agricultural organic waste as feedstock.
Resilience Strengthening resilience against changing regulatory and market conditions	By taking action on climate mitigation initiatives, such as increasing the renewable energy mix, adopting energy-efficient technologies, and developing sustainable products, we are bolstering our regulatory compliance with EU BAT, CBAM, and PAT, ensuring a smoother transition and enhancing our resilience.

We actively encourage employees to participate in enhancing the energy and water efficiency of plant operations and recognise and reward their efforts to promote environmentally friendly practices. To date, 45 employees from different business units have been honoured with the esteemed Pride Award, amounting to ₹19.35 lacs. Our people have played a vital role in accomplishing various goals, including reducing energy consumption, transforming waste into valuable resources, and developing environmentally friendly products.

OUR SUSTAINABLE PRODUCTS

There has been an increase in demand for sustainable products from our partners and stakeholders. We believe in continuous research and development to innovate the world's best products while ensuring no environmental harm. With our cutting-edge innovation, we believe we are pioneering in providing our customers and partners with first-in-class sustainable products.

Birla Cellulose Pulp and Fibre is the winner of the Golden Peacock for Innovation Management Award for FY2021-22. A dedicated team of scientists has developed numerous patented innovations in man-made cellulosic fibres, showcasing their commitment to customer-centric and innovative fibre manufacturing. Our new generation innovative products like Livaeco, Liva Reviva, Birla Excel (Lyocell) and Birla Spunshades are designed with superior sustainable inputs and processes. These products result from the concerted efforts of teams spread across six advanced research and innovation centres equipped with state-of-the-art facilities and pilot plants.

Our approach goes beyond simple waste recycling to embrace transparency and traceability throughout the textile value chain. We invest in research, development, and the pursuit of innovative solutions, such as investigating alternative feedstock options. In line with this approach, we have developed Liva Reviva, which uses 30% cotton textile waste to replace dissolving pulp. Our target is to increase circular products to 100,000 tons per year by 2024 using pre and post-consumer and alternate feedstock. Some of our sustainable products that help leverage climate-related opportunities for the Company are listed below:

Tree Free Fibre

Grasim and Nanollose, a leading bio-materials company, began developing the first "tree-free" Lyocell fibre derived from bacterial cellulose grown from industrial waste in 2020. In January 2021, Grasim and Nanollose together filed a patent application for "High-tenacity Lyocell fibres" manufactured from bacterial cellulose based on R&D efforts by developing Nullarbor™ which derives its name from nulla arbour in Latin, which means 'no trees.'

Bacterial cellulose, made from agricultural waste and by-products, does not damage old-growth or endangered forests as it creates pure cellulose. Microbial cellulose can be utilised in the current Lyocell fibre spinning facilities. A closed-loop solvent system makes Lyocell synthesis ecologically friendly.

Chemistry for a Greener World

Our TWIST series products comprise of specialty blends that are free from phthalates. They are a viable substitute for primary plasticisers typically incorporated into PVC to enhance its flexibility and softness. The TWIST range comprises two grades, TWIST FC 73 and TWIST FM-M0, and several sub-grades with specific properties. These grades are utilised to produce compounds such as wires, cables, footwear, paver blocks, and plastisol products like textile auxiliaries and inks.

The chemicals business shifted to using less toxic Long Chain Chlorinated Paraffins, post restriction imposed by REACH (EU) and Stockholm Convention (UN) on Short Chain Chlorinated Paraffins as persistent pollutants. Grasim developed a process for producing LCCPs to meet customer demand for diverse applications. LCCP product is compliant with REACH regulations and exhibits favorable potential for export. Post above R&D and plant efforts and attaining the quality requirements the LCCP product is being marketed as TWIST CPR and is being manufactured since FY2022-23.

Manmade Cellulosic Fibres

Growing consumer awareness about the impact of clothing on the environment, depletion of resources and climate change has led to the industry exploring and adapting more sustainable raw material options. MMCFs are made from natural and renewable wood sourced from sustainably managed forests and are made using a closed-loop process, which has a much lower environmental impact than other fibres. These fibres are biodegradable in soil, water and marine environment and are easily compostable at the end of life. The range of sustainable products using MMCF's cellulose that have shown a positive impact on the environment are outlined below.

Birla Viscose

A first generation regenerated cellulosic fibre made from wood pulp sourced from sustainably managed forests. Birla Viscose™ is not only biodegradable and eco-friendly but also one of the most purified forms of cellulose.

Birla Spunshades™

These are colored man-made cellulosic fibres where pigments are injected into the viscose dope before the fibre is spun & cut. Birla Spunshades fibres with unique Colour-Lock™ technology make fabric fade-resistant and ensure best-in-class color consistency. The spun dyed fibre eliminates the process, such as the dyeing step at the fabric stage, saving large amounts of water and chemicals and preventing wastewater generation.

Next Generation Solutions to Strengthen a Circular Business Model

It is estimated that the fashion industry generates nearly 92 million tons of waste annually, of which less than 1% is recycled. Most of it goes to landfill/ incineration, accompanied by significant environmental leaks leading to land and water pollution. However, the fashion industry faces three key challenges to building a circular business model. These include the availability of technology to recycle the fibres, lack of reverse logistics to segregate recyclable fibres, and not designing fabrics with an end goal of recycling.

Investing in textile waste recycling technology has been a key part of Birla Cellulose's commitment to contributing to a circular economy. Our R&D efforts have led to several innovations that have shown promising results and are in the developmental stage.

Liva Reviva

Birla Cellulose has achieved a breakthrough in manufacturing viscose fibre "Liva Reviva" using pre-consumer cotton waste following the principles of a circular economy. The unit has successfully stabilised the production of the Recycled Claimed Standard (RCS) certified product, which contains up to 30% pre-consumer waste and 70% wood pulp sourced from sustainable forests. Liva Reviva is supported by a comprehensive traceability system integrated into the GreenTrack™ platform. This advanced system utilises blockchain-based technology and a distinctive embedded molecular tracer to offer full traceability throughout the entire value chain. Currently, these efforts are being expanded.

Wealth out of Waste

Jayashree Textiles was generating huge quantities of flax waste. The disposal of this waste was a challenge. We decided to convert this waste into wealth. A partner was identified to blend the flax waste with cotton and other fibres to create blended yarn and linen-rich fabric and ready-to-wear apparel under the sub-brand – CAVALLO.

Risk Management

a) **Organisation's processes for identifying and assessing climate-related risks**

b) **Organisation's processes for managing climate-related risks**

c) **Processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management**

All businesses face a range of inherent risks that must be identified and addressed proactively and on time to ensure seamless value creation for stakeholders.

Increasingly businesses, including Grasim, are facing growing climate change risks arising from the increasing frequency and severity of extreme weather events ("physical risks"). Organisations also face the risks emanating from the global transition to a low-carbon economy ("transition risks"). At Grasim, we have incorporated both physical and transition risks into our overall enterprise risk profile.

RISK GOVERNANCE

The Board of Directors, through its Risk Management and Sustainability Committee (RMSC), guides and directs the management on the Company's sustainability and climate-change related risks and action plans for mitigating them.

The Chief Sustainability Officer (CSO) works closely with the Risk Management and Sustainability Committee and various business units of the Company. The CSO and Sustainability teams at the business units regularly review the progress of all related initiatives and required actions.

Key issues overseen by the Board's Risk Management and Sustainability Committee:

- Guiding and directing the management in implementing the strategy and plans for sustainable business operations
- Monitoring and reviewing the progress against the targets for addressing climate – related issues
- Reviewing and guiding the development and deployment of Risk Management policies

A cross-functional central leadership team at the business level composed of the CFO, CTO, CIO and CMO meets every quarter to monitor progress on risk identification and mitigation initiatives. This team shares updates on progress with the RMSC every six months.

A Unit level Safety and Sustainability Committee (SSC) has been established, composed of cross-functional team members, including the unit head and respective functional leaders. The members meet every month to frame and execute activities to meet targets and monitor the performance of climate-related targets. The unit-level SSC provides quarterly updates on risk mitigation activities to sustainability SPOCs.

PROCESSES FOR IDENTIFYING AND ASSESSING CLIMATE-RELATED RISKS

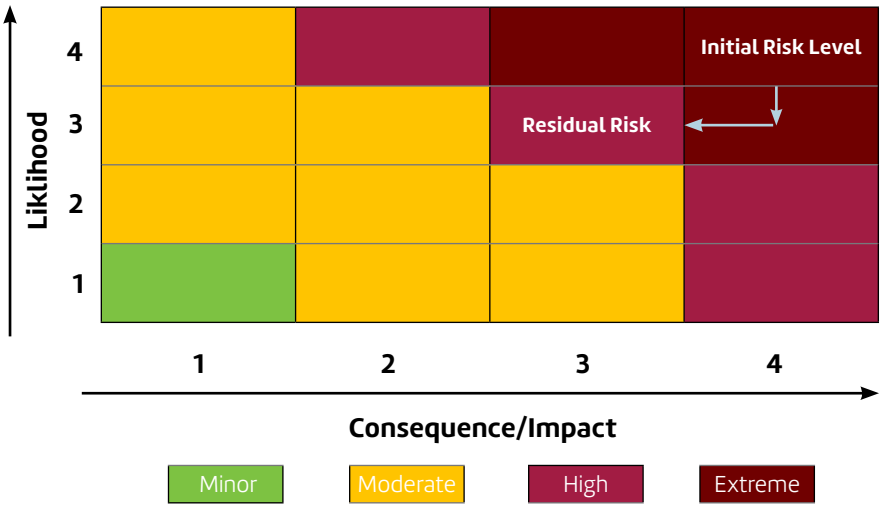
We monitor the external environment and internal operations to proactively anticipate and mitigate any emerging and imminent risks. A robust risk management framework and system, guided by our Board, helps us navigate effectively through challenges.

As with other enterprise risks, climate change risks are integrated into the Company's review of strategic and other investments that guides the management of climate-related risks and opportunities.

The responsibility for identifying, assessing, treating and reporting risks lies with the operational business units. Grasim conducts a top-down assessment at the Group level to gauge primary risks, a bottom-up review takes place, combining individual market assessments to form an aggregated view.

Our risk identification process involves internal and external approaches. The internal approach includes interviews with senior management, a review of technical and financial documents, historical data analysis, and learning from past experiences. While the external approach consists of assessing the business environment, market trends, and regulatory and technology developments. We have integrated technology into our risk management process, leveraging tools and applications such as SAP and Enablon.

We also conduct materiality analysis periodically to ascertain key topics for the Company and our stakeholders. As a conglomerate, each of our businesses has conducted detailed materiality assessments focussed on their businesses and stakeholders.



Adhering to the TCFD framework, we have conducted a physical risk analysis of our sites by focusing on historical data on climate events such as floods, droughts, and cyclones. We use geographic tools to profile risks and identify existing or required mitigation and adaptation measures. Also, we have identified business-wise risks and opportunities related to the transition to a low-carbon economy. We are developing new measures to strengthen our resilience in addition to the existing ones.

Identified risks have been assessed on their potential impact (EBITDA / cash flows) on our business, where quantifiable and the likelihood of occurrence while considering established risk control measures. If financial quantification is not possible, a criterion is developed to identify the impact rating from minor to extreme. We maintain a risk register that provides a comprehensive view of the Company's potential risk categories.

Risks identified at the unit levels are prioritised to determine the top risks for the business division based on their ratings. Top risks identified at the respective business division are re-prioritised at the Company level in consultation with the business.

MONITORING AND MANAGING CLIMATE RISK

We use a systematic risk management methodology to continuously monitor and analyse possible risks. This approach involves Company-wide multidisciplinary risk identification, assessment and management process to achieve strategic and business objectives.

Our risks are categorised into 6 board categories:

External Risks:

These risks arise from incidents impacting external environments in which we operate (e.g., Natural disasters, Terrorism, etc.).

Strategic Risks:

These risks may arise from the actions of other participants in the marketplace and/or the opportunities selected and decisions made by the business.

Compliance Risks:

These are associated with non-conformance or inability to comply with the applicable rules and regulations.

Operational Risks:

These include the risks concerned with the business processes employed to meet the objectives.

Financial Risks:

These are related specifically to the processes, techniques and instruments utilised to manage our finances and sustain effective financial relationships with customers and third parties.

Knowledge Risks:

These are associated with the management and protection of knowledge and information, including Cyber Security.

Each identified risk is assigned to an owner who proactively manages risks with a comprehensive action plan. For an effective and efficient Risk Management Framework and associated processes and controls, assurance is carried out at different levels by:

- Senior management through reports and oversight processes.
- Internal Auditors who review each unit periodically for the risks identified, their effect and the steps taken to mitigate them.
- The Audit Committee, through the monitoring, oversight and reporting of risks and mitigation efforts.
- Independent external auditors who provide an audit opinion as required by law.

Metrics and Targets

a) **Metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process**

b) **Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks**

c) **Targets used by the organisation to manage climate-related risks and opportunities and performance against targets**

The disclosure of metrics and targets offers insight into the Company's progress toward environmental indicators. These disclosures are critical for tracking and transparently reporting progress on pledges or goals to manage and mitigate the effects of climate-related hazards. We methodically detail our measurements, targets, and progress toward them. As part of our dedication to transparency and accountability, we conduct third-party assurance for our sustainability parameters, including Energy, GHG emissions and Water withdrawal on a yearly basis. This approach ensures we present accurate and credible information to all stakeholders, reinforcing our commitment to openness and sustainable practices.

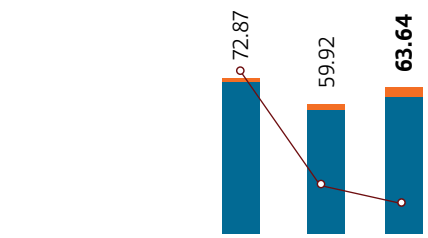
ENERGY CONSUMPTION

Our total energy consumption encompasses both non-renewable and renewable sources of energy. Presently, our reliance is mainly on non-renewable sources, including coal, natural gas, and grid electricity, among others, while renewable energy sources comprise various types of biomass fuels and solar electricity.

For the reporting period, our total energy consumption from the domestic business operation was 63.64 million GJ, out of which the Viscose business has a share of 52.6%, followed by the chemicals business with a share of 44.9 %, while textile business account for 2.4 %.

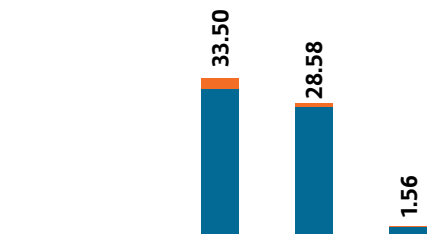
Despite the overall increase in our total energy consumption, we are proud to report that Grasim has successfully reduced energy intensity by 17% compared to the previous financial year. This significant achievement can be attributed to the various initiatives we have undertaken to minimise energy consumption.

ENERGY CONSUMPTION



	FY21	FY22	FY23
Renewable Energy (million GJ)	2.27	3.3	3.54
Non-Renewable Energy (million GJ)	70.60	56.62	60.10
Energy Intensity (GJ/ ₹ Revenue)	5,883.3	2,873.4	2,371.3

BUSINESS-WISE ENERGY CONSUMPTION FY2022-23



	Viscose	Chemicals	Textiles and Insulators
Renewable Energy (million GJ)	2.47	0.9	0.17
Non-Renewable Energy (million GJ)	31.03	27.68	1.39

OUR TARGETS

Business	Target	Target Year	Progress
Chemicals	25% Renewable Power Share	2025	8% Renewable Power achieved.
Textiles	70% Renewable Power	2030	The domestic textiles business has installed a 6.2MWp rooftop solar power plant. One of our facilities runs boiler operations using 100 % non-fossil fuel.

OUR INITIATIVES

We have undertaken several energy efficiency projects at our facilities, such as replacing conventional lights with LED lights and upgrading ceiling fans to energy-efficient BLDC fans. Exhaust fans fitted with V belt drives have been converted to energy-efficient flat belt drives, and reciprocating air compressors have been replaced by screw compressors to improve efficiency. Conventional cooling towers are being replaced with a mist-type fill-less cooling tower for the spin bath and old low-efficiency air compressor is being replaced with a high-energy-efficient air compressor.

In addition, implementing renewable energy sources has been a significant achievement for our organisation to reduce the consumption of non-renewable electricity. Furthermore, the incorporation of renewable energy sources has been a significant achievement for our Company in its pursuit of reducing the use of non-renewable electricity. Our Chemicals business successfully installed 31 MW of renewable power till FY2022-23. Furthermore, the textiles business has committed to install 30 lakh units of renewable power to demonstrate its commitment to reducing non-renewable power consumption.

We operate one of our textiles plants with a boiler powered entirely by biomass fuel, meeting 15% of our energy requirements through renewable means.

GHG EMISSIONS

We calculate and report our GHG inventory, including Scope 1 (Stationery and Process emissions), Scope 2 (purchased electricity) and Scope 3 (indirect emissions) following – The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition). These disclosures also align with the Corporate Value Chain Accounting and Reporting Standards as defined by the World Business Council for Sustainable Development (WBCSD) and the World Resource Institute (WRI).

Regarding Scope 3 emissions, we have made substantial progress by identifying 8 out of the total 15 categories for which we have already calculated the emissions. As we continue our efforts, we are committed to disclosing data for other relevant categories falling under Scope 3. Our ongoing commitment to transparency and sustainability will guide us in expanding our coverage and understanding of our environmental impact.

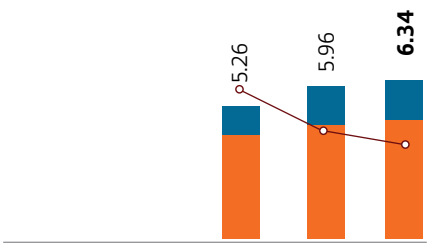
Our commitment to environmental responsibility drives us to strengthen our GHG inventory through robust monitoring and reporting of our fuel, electricity, and value chain consumption. By diligently calculating our Scope 1, Scope 2, and Scope 3 emissions, we aim to gain comprehensive insights into our GHG emissions.

For the year FY2022-23, scope 1 emissions share is around 75% of the total Scope 1 + Scope 2 emissions, primarily due to the usage of coal for process steam and power generation. Business-wise, the Viscose business accounts for 58% of Scope 1 emissions, while the Chemicals business contributes 41%. In Scope 2 emissions, the Chemicals business has a share of 80%, and the Viscose business contributes 13%.

As for Scope 3 emissions, purchased goods and services account for 52% of the total Scope 3 categories, followed by upstream transportation, fuel and energy-related activities, and downstream transportation.

GHG EMISSIONS

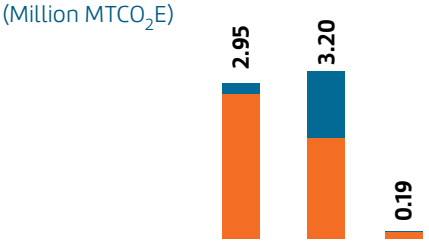
(Million $MTCO_2E$)



	FY21	FY22	FY23
Scope 1	4.14	4.57	4.72
Scope 2	1.12	1.39	1.62
Emissions Intensity ($MTCO_2e$/₹ Revenue)	424.7	285.8	236.3

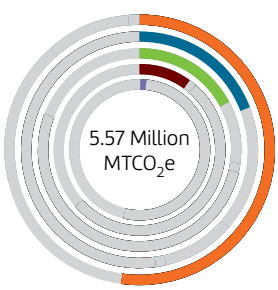
BUSINESS-WISE ENERGY CONSUMPTION FY2022-23

(Million $MTCO_2E$)



	Viscose	Chemicals	Textiles and Insulators
Scope 1	2.74	1.91	0.07
Scope 2	0.21	1.29	0.12

SCOPE 3 FY2022-23



Purchase goods and services	52%
Upstream transportation and distribution	19%
Fuel and energy related activities	17%
Downstream transportation and distribution	10%
Other category*	2%

*Other Category includes -Capital goods and services, Waste generated in Operations, Business travel and Employee commuting which contributes to <1% to the total Scope 3 emissions

OUR TARGETS

Business	Focus Area	Target	Target Year	Progress
Chemicals	GHG Emission (Scope 1 and 2) in the main product	30% reduction	2030	Initiatives like exploration of energy-efficient technologies and improving operational efficiencies and the share of renewable and alternative energy are in progress.
VSF	GHG Emission Intensity	50% reduction	2030	Grasim's VSF business is in the process of developing a roadmap to reduce GHG emissions led by specified targets.
	Net Zero emissions		2040	

OUR INITIATIVES

We have undertaken several initiatives to reduce Scope 1 emissions, focusing on decreasing our steam consumption, which utilises a significant amount of energy. To achieve this, we enhanced the steam-to-fuel ratio of the boiler as well as increased the number of stages of evaporators, thereby increasing the evaporation efficiency and reducing the steam economy.

We also took measures to understand the heating requirements for our processes. This involved undertaking a pinch analysis to know how waste hot streams can be utilised for heating process fluids. The utilisation of waste heat for pre-heating purposes further reduced our steam consumption. We replaced the old economiser with a higher heat transfer area and efficiency to extract more heat from gases. Such interventions have helped reduce our energy requirements.

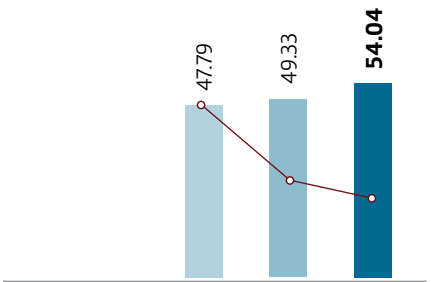
In addition, we implemented strategies such as using scrubber water for pre-heating and installing heat recovery systems which include recycling scrubber water for Desulph bath heating, optimising dryer inlet conveyor speed, checking and changing dryer steam traps, and improving fibre opening in the dryer, installation of PRS system at the steam inlet of the Fibre dye house etc. Such measures have resulted in significant annual steam savings of 1.5 tonnes per day.

Various initiatives have been undertaken to reduce Scope 2 emissions and improve energy efficiency. These include installing variable frequency drives (VFDs) to achieve power reduction, utilising renewable energy sources, replacing inefficient equipment with high-energy-efficient alternatives, replacement of conventional lights with LED lights, optimising compressed air consumption, implementing steam heating instead of electrical heating, employing VFDs for energy savings, upgrading motors to improve efficiency, and making necessary modifications to enhance energy efficiency etc. Such interventions have resulted in total savings of 25,33,498 kWh power units for the Chemicals division.

WATER

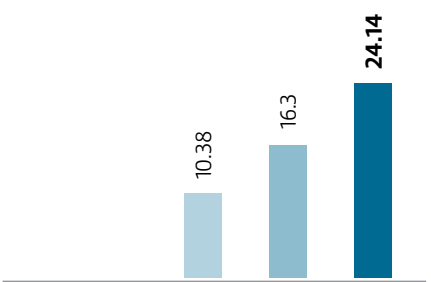
Responsible water consumption and conservation continue to remain our top priority. We have a robust monitoring mechanism for effectively tracking and reporting water consumption. We primarily depend on groundwater and municipal water to meet our needs. The deployment of effective water recycling and reuse mechanisms is helping us to reduce our dependency on freshwater withdrawal. In FY2022-23, we withdrew 54.04 million cubic meters. Recycled water constitutes 46% of our total water consumption in the reporting year.

WATER WITHDRAWAL
(Million cubic meter)



	FY21	FY22	FY23
Water Withdrawal	47.79	49.33	54.04
Water Withdrawal Intensity (m^3/₹ Revenue)	3858.4	2365.2	2013.4

WATER RECYCLED
(Million cubic meter)



BUSINESSWISE TOTAL WATER WITHDRAWN FY2022-23
(Million cubic meter)

TOTAL
54.04 million m^3

Viscose	38.96
Chemicals	12.45
Textiles & Insulators	2.63

OUR TARGETS

Focus Area	Description	Business	Target	Target Year	Baseline year	FY 23 Status
Water Management	Reduction in water intensity	VSF	50%	2025	2015	The VSF business has reduced water consumption by nearly 55% by the end of FY2022-23.
	Reduction in effluent discharge and maximise water recovery	Textiles	-	-	2017	The quantity of treated water has increased from 4% in FY2016-17 to 57% in FY2022-23.

OUR INITIATIVES

We are taking concerted steps to mitigate water consumption in plants located in water-stressed areas. We have installed RO systems in our plants and have devised a plan to implement Zero Liquid Discharge (ZLD) systems in our chemicals business plants. Despite the higher water requirements in our textiles business operations, two out of three textiles' sites: Jayshree Textiles (ZLD being commissioned) and Vikram Woollen has ZLD. These installations aim to minimise the amount of water withdrawn from external sources. Additionally, we have planned to enhance the recycling capacity of our Kolhapur plant from 50% to 75%.

In addition, we are utilising vapor condensates in place of soft water for product washing, thereby reducing our freshwater consumption. Across our business, 9 sites have achieved Zero Liquid Discharge, out of which 6 are in the Chemicals business, 2 in the Textiles business (1 under commissioning) and 1 in the VSF business.

Way Forward

Our business model has always embraced the need to evolve and contribute to the changing needs of our customers, communities and other stakeholders. We are conscious of our responsibility to contribute to global decarbonisation and enhancing the sustainability of our offerings and operational processes. Our commitment to realising the potential of a low-carbon economy further deepens with the publication of the inaugural TCFD report. Identifying and managing climate-related risks and optimising our efforts to capitalise on related opportunities will continue to be a key strategic focus for Grasim. Our sustainability efforts are an integral part of our business strategy, and we strive to continuously improve and meet the demands of a rapidly changing world.

Based on our comprehensive analysis of physical and transition risk scenarios, we have gained valuable insights into the challenges and areas that require immediate attention. Looking ahead, our goal is to further enhance our understanding by conducting a thorough assessment of the financial implications associated with risks and opportunities. This will enable us to strengthen our alignment with the recommendations set forth by TCFD. Additionally, we are committed to enhancing our data management mechanisms and making more informed assumptions to gain deeper insights and improve the accuracy of our projections regarding climate emissions.

We will continue to invest in cutting-edge low-carbon technologies and expand the sourcing and use of renewable energy. Our decarbonisation goals and efforts will continue to lead with the purpose of enhancing the long-term sustainability and wellbeing of people and the planet.

TCFD Mapping Index

TCFD Pillar	Description	Disclosure	Section Reference	Page #
Governance	Disclosure of the organisation's governance of climate-related risks and opportunities.	Board's oversight of climate-related risks and opportunities.	Governance - Board Oversight	10
		Management's role in assessing and managing climate-related risks and opportunities.	Governance - Management Oversight	11
Strategy	Disclosures of material information pertaining to actual and potential climate risk related impacts and opportunities and how it affects the organisation's businesses, strategy and financial planning	The organisation's short, medium and long term climate-related risks and opportunities.	Strategy – Transition Risks, Physical Risks, Climate-related Opportunities	13, 14, 20, 22
		The impact of climate-related risks and opportunities on the organisation's business, strategy and financial planning.	Strategy – Transition Risks and Embracing sustainability: A journey towards decarbonization. Physical Risks and Physical Risk Resilience, Climate-related Opportunities and Our Sustainable Products	15-19, 21-25
		Resilience of the organisation's strategy, considering various climate-related scenarios, including a 2°C or lower scenario.	Strategy - Transition Risk Scenario Analysis, Embracing sustainability: A journey towards decarbonization, Physical Risks Scenario Analysis, Physical Risk Resilience	14-21
Risk Management	Disclosures on the process of identification, assessment and management of climate-related risks by the Company.	Processes for identifying and assessing climate-related risks.	Risk Management - The approach and process to identify and assess climate-related risks; Strategy- Our Climate-related Risks and Opportunities	13, 22, 27, 28
		Processes for managing climate-related risks.	Risk Management – Monitoring and Managing Climate risk	29
		Processes to identify, assess and manage climate-related risks that are integrated into the organisation's overall risk management.	Risk Management – Monitoring and Managing Climate risk	29
Metrics & Targets	Disclosures of the metrics and targets that guide the assessment and management of climate-related risks and opportunities that can be considered material to the Company.	Metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.	Metrics and Targets	31, 33, 35
		Scope 1, Scope 2 and, if appropriate, Scope 3 GHG emissions and the related risks.	Metrics and Targets – Energy Consumption and GHG Emissions	31, 33
		Organisational targets for managing climate-related risks, and opportunities and performance against targets.	Metrics and Targets	31, 33, 35

Abbreviations

CBAM: Carbon Border Adjustment Mechanism

EBITDA: Earnings Before Interest, Taxes, Depreciation, and Amortisation

ESG: Environment, Social and Governance

ETP: Effluent Treatment Plant

EU-BAT: European Union Best Available Technology

EV: Electrical Vehicle

GHG: Greenhouse Gas

IEA: International Energy Agency

IPCC: Intergovernmental Panel on Climate Change (IPCC)

KRA: Key Responsibility Area

MLD: Minimal liquid discharge

MMCF: Man Made Cellulosic Fibre

NZE: Net-Zero Emissions

PAT: Profit After Tax

PVC: Polyvinyl Chloride

R&D: Research & Development

RCP: Representative Concentration Pathways

RCS: Recycled Claimed Standard

RE: Renewable Energy

RMSC: Risk Management and Sustainability Committee

RO: Reverse Osmosis

SOP: Standard Operating Procedure

SPOC: Single Point of Contact

SSP: Shared Socioeconomic Pathway

TCFD: Task force on Climate-related Financial Disclosures

VFDs: Variable Frequency Drives

VFY: Viscose Filament Yarn

VSF: Viscose Staple Fibre

WBCSD: World Business Council for Sustainable Development

WRI: World Resource Institute

ZLD: Zero Liquid Discharge

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